



Sustainable Conservation

Creating a Statewide Program for Voluntary Restoration on Private Lands



PROMOTING STATEWIDE PERMIT COORDINATION
OCTOBER 2011

Creating a Statewide Program for Voluntary Restoration on Private Lands



PROMOTING STATEWIDE PERMIT COORDINATION
OCTOBER 2011



Contents

Letter From Executive Director	6
Executive Summary	8
BASIC MECHANICS OF COORDINATED PERMITTING	8
ACCOMPLISHMENTS	9
ASSESSMENTS, FINDINGS, AND RECOMMENDATIONS	10
Introduction	16
COMPREHENSIVE ASSESSMENT OF PARTNERS IN RESTORATION PROGRAMS	16
Findings and Recommendations	24
Parallel Efforts and Related Reports	48
Analyzing Annual Report Data to Evaluate Implementation of Partners in Restoration Programs	52
Summary	62
APPENDIX ONE	64
Data from Partners in Restoration Annual Reports	
APPENDIX TWO	76
Partners in Restoration Survey Questionnaire	
APPENDIX THREE	78
Acronyms and Names	
APPENDIX FOUR	80
NRCS Conservation Practices	
APPENDIX FIVE	82
Analysis of Stakeholder Survey and In-depth Interviews	

Letter From Executive Director

California is home to an unparalleled range of landscapes, many of them unique to this state. Traveling south to north or east to west in California, one passes through an immense spectrum of natural beauty and biological diversity which adds immeasurably to the quality of life of 37 million Californians by providing clean air and water, wildlife habitat, recreation, view sheds and a host of other tangible and intangible benefits. Many of our state's most valued natural resources are found on privately-owned land, much of it agricultural or grazing land, which provides food, fiber, economic opportunity, and aesthetic and habitat value throughout the state.

The people of California, recognizing both the value of the state's ecological wealth and the threats it faces due to population growth and accompanying pressures, have enacted a range of environmental laws, and funded environmental protection through voter-approved bond acts. Environmental quality in the state has improved but much remains to be done. Public health, recreation, economic development, and overall quality of life are not only compatible with but dependent on the continued vigorous pursuit of our statewide environmental goals.

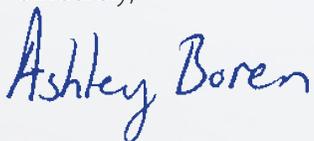
With this report, Sustainable Conservation makes a set of recommendations that would result in the acceleration of restoration on private lands and a significant improvement in water quality and the health of California fisheries. The recommendations, based on 15 years of experience promoting small-scale erosion control and restoration projects on agricultural lands, calls for a broad public-private partnership to steward California's natural resources by creating incentives and removing barriers for private landowners who want to improve environmental conditions on their properties. Our recommendations include making the process of obtaining permits for restoration work easier. By making the process easier, we will enable the state to more effectively partner with private landowners and other

stakeholders to meet the state's water quality and species recovery goals. With 50% of California privately owned, we simply cannot achieve the statutory requirements for water quality and species recovery, much less the environmental goals underpinning them, without extensive participation by private landowners. However, we are not going to be able to engage California's private landowners if the process of obtaining the necessary permits to do restoration projects continues to be as costly, burdensome, and time-consuming as it is now.

This report presents an ambitious set of proposals that, if implemented, will provide private landowners and their partners with a framework for programmatic permitting of small-scale riparian restoration projects that could be implemented throughout the state. While our current focus is on achieving water quality and fish habitat improvements, we see our proposal as generating benefits to whole riparian systems.

Sustainable Conservation is predicated on the need for, and the demonstrable effectiveness of, collaboration in solving environmental problems in a truly sustainable way. We know from our experience that there is pent-up demand on the part of landowners for a process that allows them to partner in restoring their lands. Our hope is that the recommendations in this report will move California towards a more rational, inclusive, and effective approach to the restoration of its vitally important riparian systems.

Sincerely,



Ashley Boren

Executive Director

Executive Summary

The Partners in Restoration (PIR) Program provides programmatic permitting, technical assistance, and cost-share funding to private and public landowners seeking to implement voluntary small-scale erosion control and habitat enhancement projects across California. Since 1996, Sustainable Conservation has partnered with the federal Natural Resources Conservation Service (NRCS), local Resource Conservation Districts (RCDs), and regulatory agencies to design and implement PIR programs on the countywide or watershed level¹.

The partnership was created in response to the fact that the time, cost, and complexity of navigating environmentally beneficial projects through the permit process at the federal, State, and local levels of government was too daunting for private landowners wishing to pursue restoration work. The regulations developed to implement the environmental laws were creating disincentives to landowners who wished to restore natural resources on their lands, and were therefore having the unintended consequence of impeding the achievement of the goals for which the laws were enacted.

BASIC MECHANICS OF COORDINATED PERMITTING FOR RESTORATION ON PRIVATE LANDS

Historically, PIR programs have been initiated by RCDs to enable farmers and ranchers to adopt conservation practices on their private lands. The RCDs collaborate with NRCS to tailor conservation practices drawn from NRCS' standardized technical guide to the specific needs of landowners within a prescribed geographic area, i.e., a watershed or a county served by the RCD. Sustainable Conservation supports RCDs by drafting technical documents and environmental protection measures corresponding to the selected conservation practices, and the RCDs in turn send these documents to the agencies so regulators can authorize the implementation of the conservation practices with programmatic permits that apply to the prescribed area. In turn, federal, State, and local agencies utilize the regulatory documents drafted by Sustainable Conservation to write the permits that they issue to the RCDs.

In many cases, this collaborative process is enabled by Sustainable Conservation serving as a neutral facilitator, negotiator, and honest broker. Once the agencies issue the permits and the RCDs have the permit packages in hand, the RCDs enroll landowners into the voluntary restoration program, and the landowners agree to the terms and conditions of the permits and environmental protection measures in exchange for the convenience of having their restoration projects covered by the programmatic permits. The conservation practices are installed on private properties and paid for with funds derived from multiple sources.

¹ In this report, a PIR program (lower case "p") refers to a single program established at a countywide, regional, or watershed level, and administered by one or more RCDs (past, present, and future). In contrast, the PIR Program (upper case "P") refers to both the sum total of all the countywide- and watershed-based programs established by NRCS, the RCDs, and Sustainable Conservation since 1996.



ACCOMPLISHMENTS

To date, a total of 227 individual restoration projects have been completed under eight PIR programs covering all or portions of eight counties. In 2011, three more PIR programs are expected to be implemented across four counties in California's Central Coast region. All ongoing and planned programs comply with detailed and rigorous environmental protection measures that the partners have collectively developed for the permits issued by federal, State, and local agencies.

“We have utilized PIR for almost all of our implementation projects. It has been an essential component for our on-the-ground restoration...We turn people away, the demand (for the PIR program) is so high.”

— Karen Christensen, Executive Director, RCD Santa Cruz County

ASSESSMENT, FINDINGS, AND RECOMMENDATIONS

Despite the broad popularity of PIR among all stakeholder groups, the individual programs have become more difficult and expensive to establish over the years, rather than easier and cheaper as might have been expected. To understand why, and to set the stage for the next generation of voluntary restoration projects, Sustainable Conservation prepared this comprehensive assessment of the PIR Program with generous support from the James Irvine Foundation and the Compton Foundation.

The Program Assessment takes stock of the accomplishments, shortcomings, and lessons learned during the life of the PIR Program, and provides stakeholders with an opportunity to update and advance the programmatic permitting for the next generation of voluntary restoration projects. This report was written for, and is intended for use by, the broadest possible audience – land stewards, rural communities, policy-makers, resource agencies, regulators, scientists, foundations, environmental groups, and members of the public.

The report contains seven *Findings* drawn from a three-part research effort performed by Sustainable Conservation that included: (i) an analysis of data from all available annual reports issued by NRCS/RCDs for active or completed PIR programs; (ii) a detailed survey of 50 key stakeholders; and (iii) in-depth interviews conducted with 11 program experts. In addition, the report contains 10 *Recommendations* prepared by synthesizing and distilling the observations and suggestions collected through the aforementioned analysis, detailed survey, and in-depth interviews (including the observations of employees at Sustainable Conservation, past and present).

The results of this Program Assessment lead Sustainable Conservation to advocate for a statewide approach to boost the number and geographical distribution of small-scale restoration projects across California – projects that could collectively improve environmental conditions on farms, ranches, timberlands, and protected areas; improve water quality and the vitality of our waterways; and aid in the recovery of salmon and steelhead populations, migratory birds, and other sensitive species.



The findings and recommendations are summarized below.

FINDING #1: Establishing and Implementing PIR Programs Has Become Increasingly Difficult and Costly

RECOMMENDATION #1: Establish Programmatic Permits for Restoration and Erosion Control Projects on a Statewide and Multi-regional Basis

*Sustainable Conservation recommends shifting the programmatic permitting of small-scale erosion control and habitat enhancement projects on private lands away from a countywide and watershed level and **toward** a statewide and multi-regional level. This will require engaging with leaders at State and federal agencies to seek their high-level support.*

Under this permitting arrangement, State regulatory agencies would issue statewide programmatic permits that they would “tier-down” to their regional offices, which would adapt and supplement the permits to address regional issues and specific species and habitat protection needs; and the districts and field offices of the federal regulatory agencies would issue regional permits and programmatic authorizations that would be systematically linked to the State permits.

Statewide permits issued by the California Department of Fish and Game (DFG) and the State Water Resource Control Board (State Water Board) would potentially be held by the California Association of RCDs (CARCD). Once the permits are tiered-down to regional offices, they would be used by the RCDs for implementation of regional restoration and erosion control programs.

FINDING #2: The Number and Types of Conservation Practices Selected by the RCDs and NRCS Affect the Course and Outcome of the Regulatory Approval Process

RECOMMENDATION #2: Select a Core Set of Conservation Practices and Environmental Protection Measures for Statewide and Multi-regional Programmatic Permitting

Sustainable Conservation recommends selecting a core set of broadly accepted, science-based conservation practices and environmental protection measures for statewide and multi-regional programmatic permitting. On the ground, these practices will be employed as needed in small-scale restoration projects implemented under programmatic permits, consistent with all regional requirements and conditions.

To implement this recommendation, Sustainable Conservation recommends establishing and convening an ad hoc technical advisory committee (TAC) to screen and select the core set of conservation practices, and formulate the corresponding environmental protection measures that draw from the many years of collaboration and negotiation between Sustainable Conservation, PIR program sponsors and the regulatory agencies. The TAC should include scientists and conservation practitioners from NRCS and the RCDs, restoration ecologists from the public and private sectors, and monitoring experts from agencies, non-governmental organizations (NGOs), and scientific consortia.

RECOMMENDATION #3: Write and Negotiate Long-term (at least 10-year), Statewide and Multi-regional Programmatic Permits for Restoration and Erosion Control Projects

Sustainable Conservation recommends writing and negotiating long-term (at least 10-year) programmatic permits that can be tiered-down, and administered by, the regional offices, field offices, and districts of federal and State agencies. The minimum 10-year term of the permits will create certainty, efficiency, and stability for the statewide and multi-regional programs. The following agencies and organizations will have important regulatory and/or non-regulatory roles:

Federal Agencies

U.S. Army Corps of Engineers
U.S. Department of Agriculture – Natural Resources Conservation Service
National Oceanic and Atmospheric Administration – NOAA Fisheries
U.S. Environmental Protection Agency
U.S. Fish and Wildlife Service

State Agencies

California Association of RCDs and Resource Conservation Districts
California Department of Conservation
California Department of Fish and Game
California State Office of Historic Preservation
California State Water Resource Control Board
California Regional Water Quality Control Boards
California Coastal Commission

Local and Regional Organizations

California State Association of Counties
League of California Cities
Regional Council of Rural Counties



RECOMMENDATION #4: Engage with Local Leaders to Allow Functionally Equivalent Environmental Protection Measures in State and Federal Programmatic Permits and Authorizations to Constitute Compliance with Local Ordinances

Sustainable Conservation recommends engaging with the California State Association of Counties (CSAC), the League of California Cities, and the Regional Council of Rural Counties (RCRC) to develop mechanisms for allowing environmental protection measures in State and Federal Programmatic Permits and Authorizations that provide functional equivalents to the requirements of local environmental protection ordinances to constitute compliance with those ordinances.

FINDING #3: NRCS' Federal Nexus Policy Leaves up to 50% of the PIR Projects Lacking Programmatic Permit Coverage under the Federal Endangered Species Act (ESA) and the National Historic Preservation Act (NHPA)

RECOMMENDATION #5: Leaders of Federal Agencies Should Explore All Options for Providing Programmatic Permit Coverage Under the federal ESA and NHPA

Sustainable Conservation recommends that, because statewide and multi-regional restoration programs cannot be established without a federal nexus for programmatic permitting, leaders of federal agencies collaborate and explore all options for providing comprehensive, programmatic permit coverage under the ESA and NHPA.

FINDING #4: Landowners Improving Habitat Under Programmatic Permits Face Potential Post-project ESA Concerns

RECOMMENDATION #6: Integrate Federal and State Safe Harbor Agreements (SHAs) into Programmatic Permits

Sustainable Conservation recommends engaging with DFG, FWS, and NOAA Fisheries Service to develop a process whereby SHAs for federally and State-listed species would be readily available to landowners initiating voluntary restoration and erosion control projects.

FINDING #5: The PIR Program Lacks Consistent Standards for Monitoring and Annual Reporting

RECOMMENDATION #7: Develop and Adopt Consistent Standards for Monitoring and Annual Reporting to Comply with Programmatic Permits

Sustainable Conservation recommends developing and adopting consistent standards for monitoring and annual reporting to: (i) better document the environmental outcomes and accomplishments of restoration and erosion control projects authorized under programmatic

permits; (ii) ensure compliance with all environmental protection measures contained in the programmatic permits and authorizations; (iii) provide information needed for the “adaptive management” of ongoing projects and programs; and (iv) create comparable metrics across restoration programs. These standards should be developed by the TAC referenced in **Recommendation #2** and take advantage of monitoring protocols already developed by agencies, NGOs, and scientific consortia.

FINDING #6: Limited Funding Constrains Restoration Programs from Greater Success

RECOMMENDATION #8: Demonstrate how Programmatic Permits help Federal and State Agencies Achieve Environmental Goals, and Give the Agencies a Reason to Invest in Voluntary Restoration Programs

Sustainable Conservation recommends shifting away from an opportunistic approach to project selection under restoration programs and toward a strategic approach where incentives are provided to landowners whose holdings suffer the greatest impairments and/or possess the greatest restoration potential. Sustainable Conservation also recommends making a stronger link between restoration programs and the implementation of federal and State initiatives aimed at improving water quality, and contributing to the recovery of salmon and steelhead populations, migratory birds, and other sensitive species. Federal and State agencies will then have a greater reason to engage in these programs, and to invest human capital and restoration dollars.

FINDING #7: Capacity Constraints at RCDs Limit the Establishment and Implementation of Restoration and Erosion Control Programs

RECOMMENDATION #9: Increase the Institutional Capacity of RCDs to Establish and Implement Restoration and Erosion Control Programs

*Sustainable Conservation recommends strengthening the institutional capacity of RCDs to establish and implement restoration and erosion control programs under statewide and multi-regional programmatic permits. This will necessitate greater strategic coordination among public and private stakeholders, and the leveraging of their collective financial resources. While the role of RCDs in statewide and multi-regional programmatic permits is outlined in **Recommendation#1**, this recommendation focuses on building the institutional capacity of RCDs to lead and administer restoration programs locally, and to simultaneously increase the profile, effectiveness, and durability of RCDs over the long term.*



RECOMMENDATION #10: Explore ways for Public and Private Parties (in Addition to Farmers and Ranchers) to Use the Programmatic Permits Held by the RCDs

*Sustainable Conservation recommends exploring ways for private and public parties (in addition to farmers and ranchers) to use the programmatic permits and authorizations held by the RCDs. Under this concept, land trusts, municipalities, timber companies, and utilities could utilize the programmatic permits and authorizations held by RCDs through fee-for-service contracts, and this revenue could be used by RCDs to hire and train new employees (per **Recommendation #10**).*

*In consultation with the RCDs and the regulatory agencies, these parties would design and install restoration projects on their holdings to improve water quality and recover populations of salmon and steelhead, migratory birds, and other sensitive species. All such projects would conform to the permit conditions and environmental protection measures of the programmatic permits.. Conceivably, these parties could use their own funding and technically trained personnel to perform surveys, design and install restoration projects, and conduct monitoring per **Recommendation #8**. Alternatively, these parties could simply pay trained personnel from the RCDs to perform these services.*

Sustainable Conservation would collaborate with RCDs and these new program partners to align our collective programs, pursue joint fundraising opportunities, hire new staff, expand the reach of restoration programs, and leverage and strengthen available technical skills to ensure the highest quality of restoration design, project installment, monitoring, and adaptive management.



Introduction

COMPREHENSIVE ASSESSMENT OF PARTNERS IN RESTORATION (PIR) PROGRAMS

Drainage from agricultural and other rural landscapes is a major source of pollution in California's waterways. When soil erodes and washes into creeks and rivers, we waste topsoil, our most valuable agricultural asset. The sedimentation of coastal rivers and inland tributaries that have historically supported salmonids drastically decreases egg survival, foraging success, and juvenile growth, and increases injury to these fishes². This problem is extreme in northern California where ~59% of the watersheds are impaired by sediment.

The scientific literature is full of studies that experimentally and empirically characterize the detrimental impacts of fine sediment on salmonids³. In addition, sedimentation alters the flow of waterways, increases the risk of flooding, and introduces into the aquatic ecosystem fertilizers, herbicides, and pesticides whose particles are bound to soil particles. In addition to harming or killing populations of fish and wildlife, these pollutants foul drinking water supplies and groundwater aquifers.

Many landowners would like to protect and restore the waterways that cross their properties, but they face a number of daunting challenges: (i) the complexity of complying with regulatory requirements at the federal, State, and local levels; (ii) the time and cost of interacting with regulatory agencies; and (iii) the scarcity of affordable technical assistance for project design, installation, and maintenance. The regulations designed to prevent careless intrusions into waterways that damage the functions and values of streams and adversely affect fish and wildlife can also prevent careful intrusions into these same waterways to reverse environmental degradation resulting from eroding stream banks and rural roads, the failure of culverts, and the spread of invasive weeds.

When regulations create disincentives for landowners who wish to restore natural resources on their lands, many conservation opportunities are lost, and the degradation of our agricultural landscapes, timberlands, and biological resources continues unabated. This conundrum is especially relevant to those who have set goals for improving water quality and recovering imperiled species because 50% of California's land base is privately held (Fig. 1), and the State's unique ecosystems encompass complicated mosaics of private and public lands. The fate of our natural resources and the economies that depend on them is inextricably linked to the way the management of aquatic and terrestrial resources is coordinated across these private and public lands.

² Salmonid: Fish of the family Salmonidae, including trout, salmon, chars, grayling, and whitefish. In general usage, the term most often refers to salmon, trout, and chars. <http://nrd.colvilletribes.com/obmep/glossary.htm>

³ <http://www.calsalmon.org/index.php/tools/limiting-factors/limiting-factors-sediment.html>

In 1996, Sustainable Conservation responded to this situation by collaborating with the Natural Resources Conservation Service (NRCS) and the RCD of Monterey County to launch the first permit coordination program at Elkhorn Slough⁴. This inaugural PIR program provided willing landowners with a straightforward process for obtaining regulatory permits for voluntary erosion control and habitat enhancement projects on farmlands surrounding Elkhorn Slough. From 1998-2003, 37 projects were installed that prevented ~57,000 tons of sediment from entering the Slough, its tributaries, and the Monterey Bay National Marine Sanctuary.

Since then, 15 more PIR programs were proposed or established where local RCDs expressed a strong interest – first on a watershed scale, then later on a countywide scale. Typically, Sustainable Conservation collaborated with NRCS and local RCDs to identify and select conservation practices appropriate for a given watershed and agricultural community. In addition, Sustainable Conservation served as a neutral facilitator, negotiator, and honest broker to help establish the PIR programs; and drafted the technical documents that NRCS and the RCDs submitted to the regulatory agencies (that were then utilized by the agencies to prepare programmatic permits and authorizations). Four of these PIR programs (associated with the counties of Alameda, Lake, Ventura, and Yolo) were developed with only minimal assistance from Sustainable Conservation (see **Figure 2** and **Table 1**).

“[The PIR program] has allowed us to sync our funding programs more effectively with NRCS which provide for added incentive to conduct environmental work. Landowners also seek out our permit program with the hope their privately funded projects may qualify.”

– Nancy Scolari, Executive Director, Marin RCD

⁴ Elkhorn Slough, located on California’s Central Coast, is the second largest tract of tidal salt marsh remaining in the State. The slough supports an abundance and diversity of fish and wildlife, and the uplands surrounding the slough include freshwater wetlands, coastal prairie and maritime chaparral. The federal government designated areas of Elkhorn Slough as part of the Monterey Bay National Marine Sanctuary and as a National Estuarine Research Reserve; and the State designated parts of Elkhorn Slough as a State Ecological Reserve and Wildlife Management Area. <http://www.elkhornslough.org/conservation/why.htm>

FIGURE 1. MAP OF PRIVATE LANDS IN CALIFORNIA

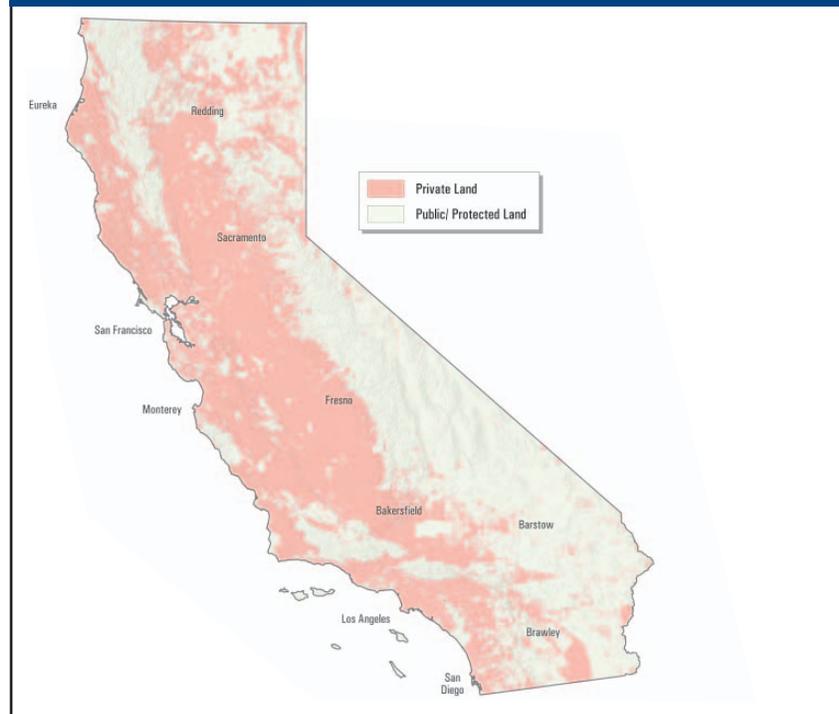
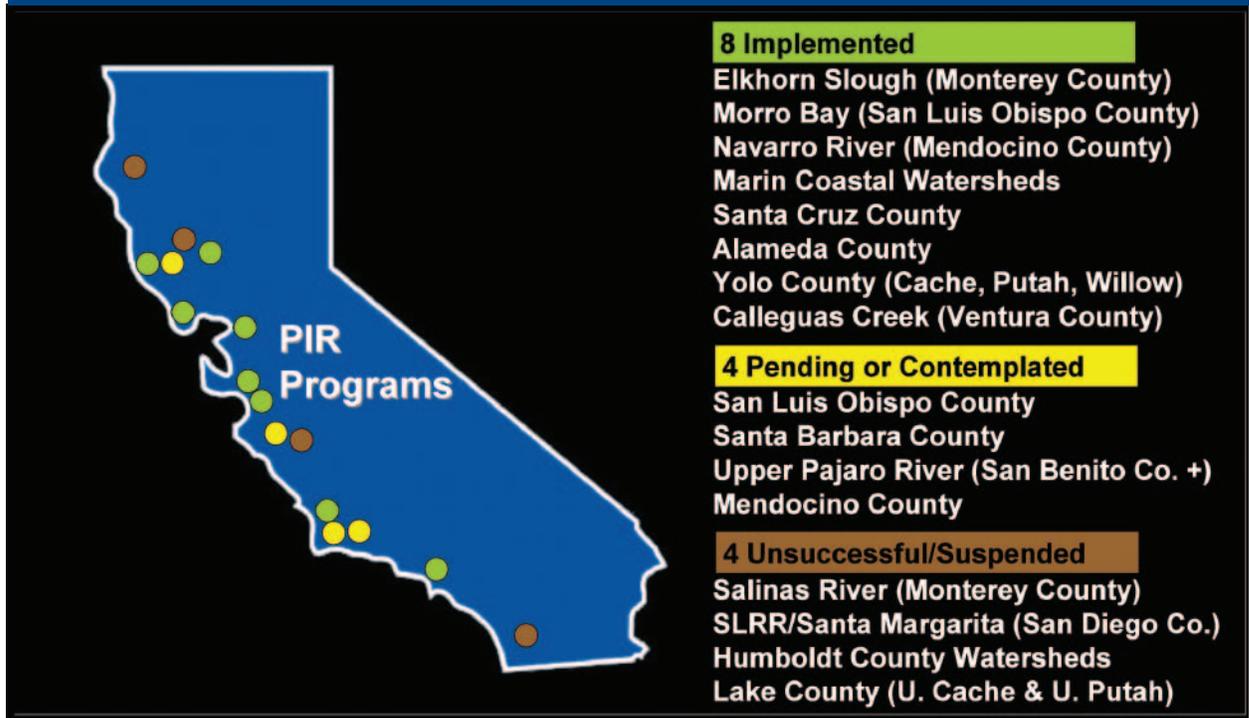


FIGURE 2. GEOGRAPHIC LOCATIONS OF ALL THE PIR PROGRAMS ESTABLISHED, IMPLEMENTED, OR ATTEMPTED



To date, a total of 227 individual restoration projects have been completed under eight PIR programs covering all or portions of eight counties. Together, these projects have: (i) prevented ~200,000 tons of sediment from entering waterways; (ii) enhanced or restored more than 17 miles of riparian forest; and (iii) re-opened more than 20 miles of spawning and rearing habitat for salmon and steelhead where access had been blocked for years by structural barriers.

While the PIR Program has overcome regulatory barriers to voluntary restoration, it has also addressed philosophical barriers between people, and fostered trust among rural landowners, RCDs, and regulatory agencies. RCDs have always been able to recruit and encourage rural landowners to perform conservation work, and the PIR methodology builds upon these existing relationships. Importantly, the PIR Program has demonstrated that by removing the barriers of time, cost, and complexity related to the regulatory review of voluntary restoration projects, the design and implementation of these projects can be accelerated. As a result, these small-scale projects can collectively add up to tremendous environmental improvements across watersheds and bioregions.

TABLE 1. STATUS OF PIR PROGRAMS, 1996-2010⁵

PROGRAM	PARTNERS	STATUS
EXPIRED		
Elkhorn Slough Watershed (Monterey County)	RCD, NRCS, Sustainable Conservation	Implemented 1998-2003
Morro Bay Watershed (San Luis Obispo County)	RCD, NRCS, Sustainable Conservation	Implemented 2002-2008
Calleguas Creek Watershed (Ventura County)	RCD, NRCS	Implemented only in 2010, expired 2010-2011
ACTIVE		
Navarro River Watershed (Mendocino County)	RCD, NRCS, Sustainable Conservation	Implemented 2003-
Marin Coastal Watersheds (Marin County)	RCD, NRCS, Sustainable Conservation	Implemented 2004-
Santa Cruz County	RCD, NRCS, Sustainable Conservation	Implemented 2005-
Alameda County	RCD, NRCS	Implemented 2006-
Cache, Putah, and Willow Creek Watersheds (Yolo County)	RCD, NRCS	Implemented 2007-
PENDING		
San Luis Obispo County	RCD, NRCS, Sustainable Conservation	Establishment expected 2011-
Santa Barbara County	RCD, NRCS, Sustainable Conservation	Establishment expected 2011-
Upper Pajaro River Watershed (San Benito and Santa Clara counties)	RCD, NRCS, Sustainable Conservation	Establishment expected 2011-
PROPOSED		
Mendocino County	RCD, NRCS, Sustainable Conservation	Establishment TBD
NOT IMPLEMENTED		
Salinas River Watershed (Monterey County)	RCD, NRCS, Sustainable Conservation	Permits expired 2008
NOT ESTABLISHED		
San Luis Rey and Santa Margarita River Watersheds (San Diego County)	RCD, NRCS, Sustainable Conservation	Permit package not finished
Humboldt County	RCD, NRCS, Sustainable Conservation	Permit package not finished
Upper Cache and Putah Creek Watersheds (Lake County)	RCD, NRCS, Sustainable Conservation	Permit package not finished

⁵ Programmatic permits and authorizations for the active PIR programs expire after five or 10 years. The Navarro River Watershed, Coastal Marin County Watersheds and Santa Cruz County PIR programs all have expired or expiring permits, and are currently in the renewal process.

“The relationship building was extremely valuable. We expanded our network dramatically and collaborated on valuable projects that we otherwise would not have undertaken. We also secured some funding opportunities through the network that would have passed us by.”

– Mark Silberstein, Executive Director, Elkhorn Slough Foundation

While partners for individual PIR programs closely coordinate their activities among themselves, no agency or organization ever envisioned or wrote a “master plan” for an overarching PIR Program, under which all individual PIR programs would operate and interact. Geographic priorities were never identified, nor were consistent standards for post-project monitoring and annual reporting ever articulated or established. Moreover, the program has not been part of federal and State efforts to improve water quality and recover populations of salmon and steelhead, migratory birds, and other sensitive species. To date, PIR programs have been more opportunistic than strategic, and there has been great variation in the way the programs have been designed and implemented, and in the way results have been documented and reported. Nevertheless, viewed broadly, the PIR Program has emerged as one of the most extensive fully permitted private lands restoration programs in State history.

Even as PIR partners have continued building the program – achieving notable results in selected coastal counties – PIR programs scaled to watersheds and individual counties have become increasingly complex and costly to establish and implement. Today, the PIR Program faces a number of significant challenges that prevent the programmatic permitting approaches from realizing their full promise.

The cost of coordinating federal, State, and local permitting for a single PIR program scaled to a watershed or individual county can now be expected to require as long as five years, and as much as \$500,000. One of the primary reasons for this is the need to start the permitting process from scratch for each program. When PIR programs in different counties are compared, they are strikingly similar in terms of structure and content, and the regulatory requirements imposed by the agencies are functionally equivalent. However, the entire regulatory process needs to be undertaken for each new program, despite being largely repetitious.

For example, the Mitigated Negative Declarations produced for each PIR program in compliance with the California Environmental Quality Act (CEQA) are almost identical; yet these lengthy formal documents must be produced anew for each program, and the cost and complexity of doing so are onerous for the RCDs and the landowners they represent, as well as for Sustainable Conservation (which has produced numerous CEQA documents for the RCDs).



Overall, the CEQA requirements have caused great strain for each new PIR program, and it has become increasingly difficult to find an organization willing to serve as “lead agency” for CEQA. This one factor has contributed greatly to the escalating costs of establishing PIR and other programmatically permitted restoration and erosion control programs.

As profiled in this report, several PIR programs have been very successful, but others, for a variety of reasons, were not fully utilized, or were not implemented at all. Sustainable Conservation’s informal goal for each PIR program to implement a total of at least 25 projects during the first five years of program implementation has been met in only three cases – Elkhorn Slough, Santa Cruz County, and the Marin Coastal Watersheds. When it comes to restoring ecological processes, improving water quality, and contributing to the recovery of imperiled species through the cumulative implementation of numerous small-scale projects, the PIR Program has proved to be a promising and regionally successful methodology. However, from a statewide perspective, the program has not reached its full potential.

The results of our Program Assessment, together with our experience in developing this important restoration program, lead us to advocate a new direction to focus on creating statewide and multiregional programmatic permits for small-scale restoration and erosion control projects. If implemented, the recommendations could greatly boost the number and geographical distribution of small-scale restoration projects across California – projects that could collectively improve environmental conditions on farms, ranches, timberlands, and protected areas; improve water quality and the vitality of our waterways; and aid in the recovery of salmon and steelhead populations, migratory birds, and other sensitive species.

The need for a statewide and multi-regional restoration program based on widely accepted erosion control and habitat enhancement practices is clear. The 2002 Clean Water Act (CWA) section 303(d) list issued by the State includes a total of 16,953 miles of rivers and streams that are impaired by sediment within a total of 152 waterbodies.⁶

“The program has been a tremendous success, improving project design and implementation; increasing knowledge of all practitioners in the program; educating landowners; and improving relationships between all involved.”

– Leslie Ferguson, Water Resources Control Engineer, San Francisco Bay Water Quality Control Board

⁶ California Agriculture 58(3):149-153. DOI: 10.3733/ca.v058n03p149. July-September 2004. <http://californiaagriculture.ucanr.org/landingpage.cfm?article=ca.v058n03p149&fulltext=yes>



The State's effort to control erosion and sedimentation remains modest compared to the enormous challenge documented by the 303(d) list. Expanding opportunities for restoration and erosion control projects on private lands by creating programmatic permits could contribute greatly to the State's efforts. A greatly expanded program that goes beyond coastal counties to address erosion on private properties encompassed by the Bay/Delta, the Sacramento Valley, the San Joaquin Valley, and the Sierra could yield dramatic results.

From a biodiversity perspective, 10 species of salmon and steelhead in California are now listed as threatened or endangered, and many scientists believe Central California Coast coho salmon are spiraling toward extinction. NOAA Fisheries Service is in the process of releasing recovery plans for these fish populations. Among other stressors, scientists have identified excessive sedimentation as a primary cause of population declines. That means the erosion control measures used to advance the goals of improving water quality under the CWA could be further tailored to promote the recovery of salmon and steelhead populations.

Strengthening and expanding the opportunities for restoration projects statewide will necessitate greater involvement by federal agencies such as NRCS, the U.S. Army Corps of Engineers (Corps), the federal Fish and Wildlife Service (FWS), and the National Oceanic and Atmospheric Administration (NOAA Fisheries Service) along with State agencies such as the California Coastal Commission, the Department of Fish and Game (DFG), the State Water Resources Control Board (State Water Board), and the Regional Water Boards. Since



local ordinances remain a significant regulatory obstacle for which no statewide or regional programmatic permitting solution has ever been attempted, initiatives must also be undertaken to make permitting for restoration projects more efficient and effective at the municipal level.

Several RCDs have demonstrated how they can effectively catalyze sophisticated, voluntary restoration actions across entire watersheds and counties, and we propose strategizing with them and the California Association of Resource Conservation Districts (CARCDs) to further increase their capacity, and to build the strength of RCDs in areas where restoration opportunities are great and landowner interest is high, but where the capacity of RCDs serving those areas is relatively limited. Furthermore, we propose exploring ways to make the programmatic permits held by the RCDs available on a fee-for-service basis to land trusts, conservancies, companies, and municipal agencies who hold and manage large tracts of farmlands, forests, and rangelands.

After 15 productive years spent developing PIR programs in 13 California counties, Sustainable Conservation has concluded that the number of small-scale restoration projects voluntarily installed on private lands can be greatly increased, and that these projects can be installed under a systematic, environmentally sound program that meets all applicable laws and regulations. At the same time, we have concluded that significant refinements need to be made to the PIR methodology so that it can enable and facilitate the next generation of voluntary restoration programs.

Findings and Recommendations

FINDING #1: Establishing and Implementing PIR Programs Has Become Increasingly Difficult and Costly

Individual PIR programs require several years and hundreds of thousands of dollars to establish, but the permitting procedures used by regulatory agencies are largely repetitious from one program to another in terms of structure and content. The RCDs propose similar conservation practices, regulatory agencies typically review the conservation practices encompassed by PIR programs in the same manner as they would proposed developments that cause environmental damage (see **Recommendation #2**), and, after lengthy negotiations, the agencies issue similar permits with familiar permit conditions.

Today, the establishment of each PIR program is hampered by a variety of circumstances (e.g., financial, political, regulatory, or technical) – some that are unique to a given program, and some that are common across all programs. To date, all PIR programs have been established in California’s coastal counties, with the exception of one established in the Central Valley (Yolo County). Yet the overwhelming need and desire to improve the quality of surface water and wildlife habitat – and the corresponding willingness of landowners across the State to do so – clearly indicates that *thousands* of restoration projects could be, and should be, installed on private and public lands across California in the coming decade.

RECOMMENDATION #1: Establish Programmatic Permits for Restoration and Erosion Control Projects on a Statewide and Multi-regional Basis

Sustainable Conservation recommends shifting the programmatic permitting of small-scale erosion control and habitat enhancement projects on private lands *away* from a countywide and watershed level and *toward* a statewide and multi-regional level. This will require engaging with leaders at State and federal agencies to seek their high-level support for statewide and multi-regional programmatic permits.

Statewide permits issued by DFG and the State Water Board would be held by CARCD. State regulatory agencies would issue statewide programmatic permits that would be tiered-down to regional offices, which would adapt and supplement the permits to address regional issues and specific species and habitat protection needs. Federal regulatory agencies would issue regional programmatic permits and authorizations that would be systematically linked to the State permits. These permits would be used by the local RCDs and their partners for implementation of restoration and erosion control projects.

Specifically, DFG would prepare a statewide Lake and Streambed Alteration Agreement (LSAA), per §1600 of the State Fish and Game Code, and then tier-down the statewide LSAA to its regional offices, which would add modifications to address habitat and other resource



“Over time the RCD has learned what kinds of project designs we will accept and now they pre-screen projects and ask for changes without submitting the projects. At this point, I rarely have a project submitted that is not acceptable.”

– Leslie Ferguson, Water Resources Control Engineer, San Francisco Bay Water Quality Control Board

protection requirements specific to each office’s jurisdiction. Likewise, the State Water Board would prepare a statewide Water Quality Certification, per §401 of the federal CWA, and, in partnership with the Regional Water Boards, tier-down the statewide Water Quality Certification to the regional level to address regional issues and concerns.

The statewide permits would be linked to the regional permits and authorizations issued by the districts and field offices of federal agencies. For example, each Corps District would issue a Regional General Permit (RGP), per CWA §404, for the geographic area encompassed by the boundaries of the District, and, per §7 of the federal Endangered Species Act (ESA), FWS and NOAA Fisheries Service Field Offices would consult with the Corps and issue programmatic Biological Opinions (BOs) for each RGP.

In 2006, NOAA Fisheries Service (Santa Rosa Field Office) issued to the Corps (San Francisco District) a programmatic BO for restoration of fisheries habitat authorized by the NOAA Restoration Center. Then, in 2010, the San Francisco Corps District issued the District-wide RGP #12 to authorize implementation of DFG’s Fisheries Restoration Grant Program, and the Santa Rosa Field Office of NOAA Fisheries Service issued to the Corps a programmatic BO for RGP #12. These programmatic permits both advance the goals of the existing PIR Program, and serve as excellent models for broad, federal programmatic permitting⁷.

⁷ The 2006 NMFS Programmatic B.O. for Fisheries Restoration Projects within the Santa Rosa Field Office was issued by the NMFS Protected Resources Division and the NOAA Restoration Center in collaboration with California Coastal Conservancy, RCD-Santa Cruz County, Alnus Ecological, Sustainable Conservation. The B.O. covers restoration activities within portions of the following counties encompassed by the jurisdictional boundaries of that Field Office: Marin, Mendocino, Monterey, Napa, San Benito, San Francisco, San Luis Obispo, San Mateo, Santa Clara, Santa Cruz, Solano, and Sonoma. http://swr.nmfs.noaa.gov/sr/Corps_and_NOAA_RC_restoration_projects_biological_opinion%20062106.pdf

The 2010 Department of the Army Regional General Permit for the California Department of Fish and Game’s Fisheries Restoration Grant Program authorizes minor discharges of fill material (i.e., clean earth, gravel, rock, and wood) associated with anadromous salmonid habitat restoration projects specifically funded and/or authorized under DFG’s said program within the following coastal counties governed by the San Francisco Corps District: Alameda, Contra Costa, Del Norte, Humboldt, Marin, Mendocino, Monterey, Napa, San Benito, San Francisco, San Luis Obispo, San Mateo, Santa Clara, Santa Cruz, Siskiyou, Solano, Sonoma, and Trinity. NOAA Fisheries Service and FWS responded, respectively, with a programmatic B.O. and an informal consultation letter which served to authorize the Corps’ RGP #12 for DFG’s Fisheries Restoration Program. <http://www.spn.usace.army.mil/regulatory/RGP/RGP12-2010-revised.pdf>

There is a relatively strong alignment between the jurisdictional boundaries of the six regional offices of DFG and the nine regional offices of the Regional Water Boards. Therefore, regional programmatic permits could be established using some amalgamation of these jurisdictional boundaries. On the federal side, the jurisdictional boundaries of the Corps' South Pacific Division and FWS' Pacific Southwest Region extend far beyond the confines of California. However, within the State, the jurisdictional boundaries of the districts and field offices of the Corps, FWS, and NOAA Fisheries Service conform somewhat to the jurisdictional boundaries of the State agencies referenced above.

At the regional level, individual RCDs or clusters of RCDs would have access to the permits and authorizations issued by the State regulatory agencies and the districts and field offices of the federal regulatory agencies. Moreover, the regional entities would administer the implementation of restoration and erosion control projects under the programmatic permits in partnership with the regulatory agencies to ensure: (i) maximum environmental gains are made; (ii) private property rights are respected; and (iii) all permits, authorizations, and environmental protection measures are minded.

By establishing regional entities for the restoration of private and public lands, the RCDs would help unify the watershed management efforts of the State, and improve the position of RCDs toward securing Watershed Coordinator Grants offered by DOC⁸.

Potential options for creating regional administrative entities:

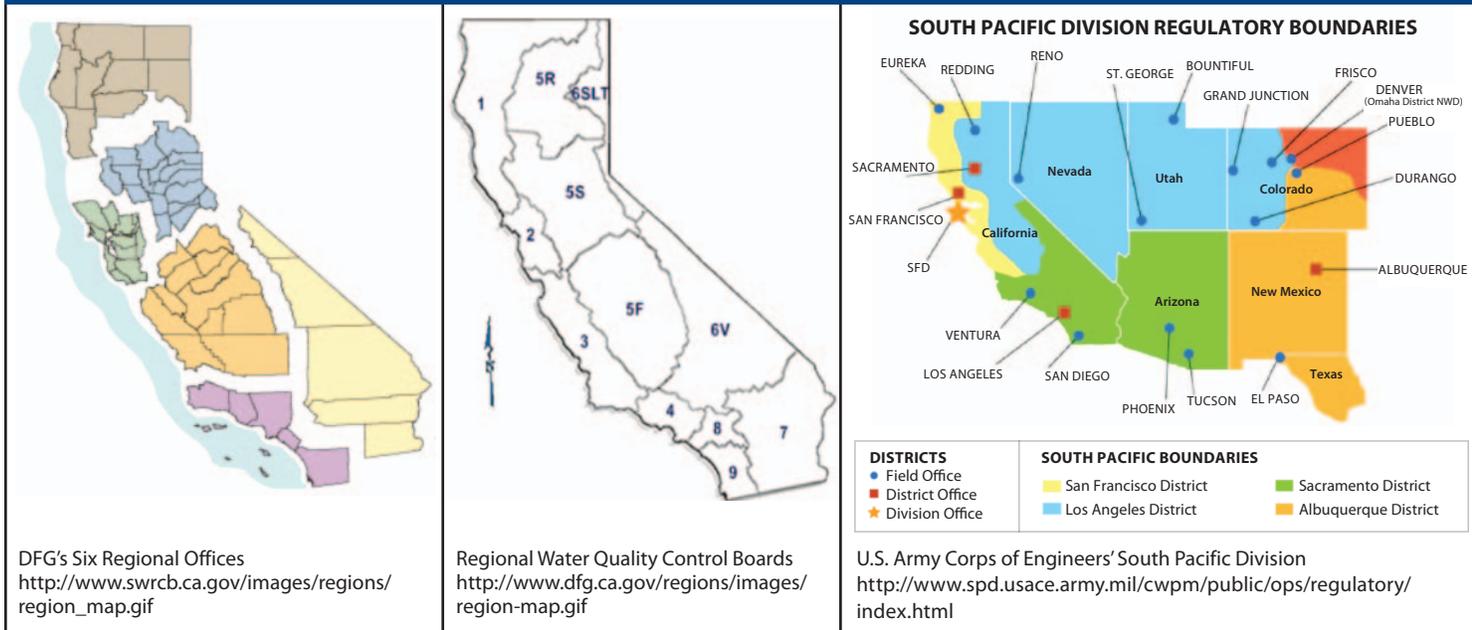
(i) CARCD would apply for, and hold, statewide programmatic permits and authorizations issued by the State agencies. It would then assist RCDs to implement restoration and erosion control projects, and to comply with the regional versions of these statewide permits once DFG and the State Water Board tier these permits to DFG's Regional Offices and the Regional Water Boards, respectively.

(ii) Clusters of individual RCDs within a specific geographic region would designate a "lead regional RCD" to administer and ensure compliance with the statewide permits and authorizations issued by the federal, State, and local agencies for that region, and would formalize this arrangement with a memorandum of understanding (MOU).

(iii) Clusters of individual RCDs within a specific geographic region would form a joint powers authority (JPA) to hold the permits issued by the federal, State, and local agencies for that region.

⁸ Details on DOC's Watershed Program at <http://www.conservation.ca.gov/dlrp/wp/Pages/Index.aspx>. The state Public Resources Code (Division 9) outlines the structures, powers, and authorities of RCDs under state law; and provides for state-level support of RCDs through the DOC. The Department does not have regulatory oversight of RCDs, rather, it serves RCDs by providing training, technical assistance through education, and some financial assistance through competitive grant awards.

FIGURE 3. JURISDICTIONAL BOUNDARIES OF DFG, THE REGIONAL WATER BOARDS, AND THE CORPS' SOUTH PACIFIC DIVISION



Central to the statewide and multi-regional programmatic permits would be a core set of conservation practices for erosion control and habitat enhancement that would be conditioned by detailed and rigorous environmental protection measures, and tied to standardized monitoring and reporting protocols. These practices, measures, and protocols would be identified and integrated by scientists and conservation practitioners from NRCS and the RCDs, restoration ecologists from the public and private sectors, and monitoring experts from agencies, non-governmental organizations (NGOs), and scientific consortia (See **Recommendation #2**).

Importantly, such a program would help landowners and municipalities achieve targeted, instream reductions in nutrients, sediment, and temperature as mandated by the Regional Water Boards and the U.S. Environmental Protection Agency (EPA) via Total Maximum Daily Load (TMDL) allocations⁹. The agencies have set, and will continue to set, compliance schedules for achieving these pollutant load reductions on specific stream segments that drain vital agricultural landscapes across California. However, the agencies have not prescribed how landowners should achieve these load reductions, nor is it likely that rural landowners would want the agencies to do so.

⁹ According to the State Water Board's website, "Based on the current 303(d) list with over 1,883 water body/pollutant combinations, the State Board estimates that the total number of TMDLs needed is over 400. The Regional Boards are currently engaged in developing over 120 TMDLs, many addressing multiple pollutants." http://www.swrcb.ca.gov/water_issues/programs/tmdl/303d_lists.shtml

Facilitating the voluntary restoration of private and public lands constitutes the most promising route toward TMDL compliance for landowners and municipalities. In the absence of an aggressive statewide and multi-regional restoration effort, landowners and municipalities may not be able to achieve pollutant load reductions and meet compliance schedules set by the Regional Water Boards and EPA. The existing collection of individual PIR programs, located predominantly in coastal counties, cannot deliver the results needed to control and eliminate the sources of pollutants from watersheds across the State, and the conventional practice of permitting small-scale erosion control and habitat enhancement projects one-by-one is no match for the daunting TMDL targets and timetables.

A statewide and multi-regional restoration and erosion control program would also support recovery plans for species listed as threatened or endangered by FWS and NOAA Fisheries Service under the ESA – particularly those dependent on aquatic and riparian habitat. Such a program could also benefit other sensitive species that have not been listed under the ESA.

NOAA Fisheries Service is issuing recovery plans for all threatened and endangered salmon and steelhead populations in California, including the California Central Coast coho salmon, Southern California steelhead, Central Valley spring-run Chinook salmon, Central Valley winter-run Chinook salmon, and Central Valley steelhead.¹⁰ These recovery plans recommend developing and implementing watershed-wide sediment management plans, coordinating programmatic permits for the implementation of recovery actions that contribute to the recovery of listed fish, and spending restoration funds in priority watersheds¹¹.

The core set of erosion control and habitat enhancement practices proposed for statewide and multi-regional programmatic permitting would contribute to the success of these recovery plans for salmon and steelhead, and dramatically improve habitat conditions for migratory birds such as the Southwestern willow flycatcher and the Least Bell's vireo. In this way, restoration in California could be linked and leveraged with the international Partners in Flight (PIF) program designed to benefit migratory birds. Other sensitive species that would also benefit include the California red-legged frog, and the California tiger salamander (See **Figure #4**).

¹⁰ http://swr.nmfs.noaa.gov/recovery/Coho_Recovery_Plan_031810.htm
<http://swr.nmfs.noaa.gov/recovery/centralvalleyplan.htm>

¹¹ Pacific Coastal Salmon Recovery Fund; www.nwr.noaa.gov/Salmon-Recovery-Planning/PCSRF/
NOAA Fisheries Service Habitat Restoration Partnerships grant program;
http://www.nmfs.noaa.gov/habitat/restoration/projects_programs/crp/partners_funding/natregpart.html

FIGURE 4. AN EXPANDED RESTORATION PROGRAM WOULD CONTRIBUTE TO THE RECOVERY OF SALMON AND STEELHEAD, AND WOULD BENEFIT A DIVERSITY OF OTHER AQUATIC AND TERRESTRIAL SPECIES



Coho salmon (*Oncorhynchus kisutch*)
Morgan Bond



Steelhead trout (*Oncorhynchus mykiss*)
Michael Sullivan, VC Reporter



Southwestern willow flycatcher (*Empidonax traillii extimus*)
USGS (photographer unknown)



Least bell's vireo (*Vireo bellii pusillus*)
USGS (photographer unknown)



California red-legged frog (*Rana draytonii*)
Gary Fellers, USGS



California tiger salamander (*Ambystoma californiense*)
Gary Nafis

FINDING #2: The Number and Types of Conservation Practices Selected by the RCDs and NRCS Affect the Course and Outcome of the Regulatory Approval Process

NRCS prepares and issues conservation practice standards containing information on why and where to apply the conservation practices, and the agency sets forth minimum quality criteria that must be met for each practice to achieve its intended purpose(s). NRCS has assembled these conservation practice standards in its *Field Office Technical Guide* (FOTG), and the FOTG has served as the technical foundation for the PIR Program, guiding the design and installation of the conservation practices¹².

Sustainable Conservation's Program Assessment reveals that RCDs and NRCS have sought permits and authorization for many more conservation practices than were regularly used during the course of implementing individual PIR programs. In addition, we found that some regulators, conservation practitioners, and environmental organizations view certain facets of the FOTG as not fully consistent with contemporary principles of restoration ecology.

Some conservation practices contained in the FOTG may not be suitable for a programmatically permitted restoration program, even though they may prove valuable to landowners toward achieving operations and maintenance (O&M) goals. For example, removing woody debris, sand bars, and native willow stands for conventional flood control and channel maintenance under the Clearing and Snagging practice (FOTG conservation practice code #326) can destabilize the streambed and reduce vital vegetative cover and shading for fish and wildlife. Also, O&M practices, such as those addressing dairy waste management and installation of irrigation infrastructure, have not been favorably received by regulatory agencies as part of a programmatically permitted restoration program. Adding such a conservation practice to a PIR program inevitably raises concerns at the regulatory agencies, complicates and delays the review and approval process for programmatic permits, and creates the need for more elaborate environmental protection measures.

RECOMMENDATION #1: Select a Core Set of Conservation Practices and Environmental Protection Measures for Statewide and Multi-regional Programmatic Permitting

Sustainable Conservation recommends selecting a core set of broadly accepted, science-based conservation practices and environmental protection measures for statewide and multi-regional programmatic permitting. We expect that these practices will meet the majority of, though not all, restoration and erosion control needs of landowners and their local RCD and other partners, and will have the full support of the regulatory agencies. On the ground, the practices appropriate to the particulars of the location and condition of a site will be selected from this core set for use in individual small-scale restoration projects.

¹² <http://www.nrcs.usda.gov/technical/Standards/nhcp.html>



To implement this recommendation, Sustainable Conservation recommends establishing and convening an ad hoc technical advisory committee (TAC) to screen and select the core set of conservation practices, and to formulate the corresponding environmental protection measures that draw from the many years of collaboration and negotiation between PIR program sponsors and the regulatory agencies. The TAC should include scientists and conservation practitioners from NRCS and the RCDs, restoration ecologists from the public and private sectors, and monitoring experts from agencies, non-governmental organizations (NGOs), and scientific consortia.

TABLE 4: KEY CONSERVATION PRACTICES IDENTIFIED BY STAKEHOLDERS

CONSERVATION PRACTICE (SHADING INDICATES HIGH SCORES IN ANNUAL REPORTS AND THE STAKEHOLDER SURVEY)	MOST FREQUENTLY INSTALLED CONSERVATION PRACTICES (ANNUAL REPORTS)	MOST WIDELY APPLICABLE AND COST-EFFECTIVE CONSERVATION PRACTICES (STAKEHOLDER SURVEY)
Access Road (560)	X	
Critical Area Planting (342)	X	X
Grade Stabilization Structure (410)	X	
Lined Waterway or Outlet (468)	X	
Restoration and Management of Rare or Declining Habitats (643)	X	X
Spring Development (574)	X	
Streambank and Shoreline Protection (580)	X	X
Stream Habitat Improvement and Management (395)	X	X
Structure for Water Control (587)	X	
Water & Sediment Control Basin (638)	X	

Sustainable Conservation’s Program Assessment provides solid support for the idea that a core set of conservation practices (~10) can address the vast majority of landowner needs for erosion control and habitat enhancement while minimizing potential adverse environmental impacts and expediting permits and authorizations. The Program Assessment revealed which conservation practices were frequently employed and listed by at least 60% of survey respondents as the most widely applicable and cost effective. The four practices meeting these two criteria are listed below, and are shaded gray in Table 4:

- Critical Area Planting (FOTG practice code #342)
- Restoration and Management of Rare or Declining Habitats (FOTG #643)
- Streambank and Shoreline Protection (biotechnical erosion control) (FOTG #580)
- Stream Habitat Improvement and Management (FOTG #395)¹³

¹³ NRCS’ conservation practice #395 (Stream Habitat Improvement and Management) can be used to accommodate the instream installation of large woody debris to increase the complexity of riparian habitat for the recovery of salmon and steelhead populations.

Sustainable Conservation recommends that the TAC also consider for the core set of conservation practices the following four practices – three of which (FOTG #s 560, 597, and 638) were listed in the annual reports we reviewed as the frequently installed

Access Road (controlling erosion on rural roads) (FOTG #560)

Fish Passage (FOTG #396)¹⁴

Structure for Water Control (culvert replacement) (FOTG #587)

Water and Sediment Control Basin (FOTG #638)

Furthermore, Sustainable Conservation recommends that the TAC consider adding techniques from DFG's *California Salmonid Stream Habitat Restoration Manual* and Weaver & Hagans' *Handbook for Forest and Ranch Roads* to the core set of conservation practices¹⁵. The *Restoration Manual* contains recent scientific understandings about riparian processes and stream ecology, and includes chapters on fish passage evaluation at stream crossings, guidance on controlling erosion and sedimentation, and methods for restoring riparian habitat. The *Handbook* includes sound methods for properly planning, designing, and maintaining rural roads, as well as reconstructing or closing rural roads that were poorly conceived and constructed. Integrating these techniques into the core set of conservation practice descriptions would strengthen the focus of restoration programs, and give DFG and the Regional Water Boards a greater stake in the direction of statewide restoration and erosion control efforts.¹⁶

RECOMMENDATION #3: Write and Negotiate Long-term (at least 10-year), Statewide and Multi-regional Programmatic Permits for Restoration and Erosion Control Projects

Sustainable Conservation recommends writing and negotiating long-term (at least 10-year) programmatic permits that can be “tiered-down” and administered by the regional offices, field offices, and districts of federal and State agencies. The minimum 10-year term of the permits will create a level of certainty, efficiency, and stability for restoration efforts not afforded by 5-year permits historically issued to PIR programs (see Table 5).

¹⁴ Several fish passage projects have been implemented under NRCS' Fish Passage conservation practice (FOTG #396). A greater emphasis on fish passage projects could contribute more significantly to the recovery of anadromous fishes, especially if the Fish Passage practice is used in combination with Stream Habitat Improvement and Management (FOTG #395).

¹⁵ California Salmonid Stream Habitat Restoration Manual; 3rd Edition, 1998, with revisions and additions through April 2009. <http://www.dfg.ca.gov/fish/Resources/HabitatManual.asp>
Weaver, W.E. and D.K. Hagans. 1994. Handbook for Forest and Ranch Roads, A Guide for Planning, Designing, Constructing, Reconstructing, Maintaining and Closing Wildland Roads. http://www.krisweb.com/biblio/gen_mcrd_weaveretal_1994_handbook.pdf

¹⁶ There is precedent for supplementing the FOTG's conservation practices with design specifications drawn from DFG's restoration manual. For example, in one of the successful PIR programs, the RCD did exactly this for three FOTG conservation practices: Access Road, Structure for Water Control, and Critical Area Planting.



RECOMMENDATION #4: Engage with Local Leaders to Allow Functionally Equivalent Environmental Protection Measures in State and Federal Programmatic Permits and Authorizations to Constitute Compliance with Local Ordinances

Sustainable Conservation recommends engaging with the California State Association of Counties (CSAC), the League of California Cities, and the Regional Council of Rural Counties (RCRC) to develop mechanisms for allowing environmental protection measures in State and federal programmatic permits and authorizations that provide functional equivalents to the requirements of local environmental protection ordinances to constitute compliance with those ordinances. Some counties have issued consistency determinations for the Partners in Restoration program certifying that the state and federally permitted Partners in Restoration program has been designed such that it meets all local ordinances (Table 6). However, some counties with extensive environmental ordinances have not been receptive to PIR programs, even if the programs are being simultaneously permitted and authorized by federal and State agencies. While local ordinances are enacted to address local concerns and priorities, situations exist in which compliance with the requirements for the federal and State permits and authorizations largely duplicates compliance with the local ordinances. Examples have included local ordinances addressing encroachment, grading, and riparian protection.

Potential options for complying with local ordinances include:

- (i) Document where and how compliance with federal and State regulations through programmatic permits provides functional equivalence to compliance with local ordinances, and use this as the basis for a tiered permitting framework that allows programmatic permits to constitute local compliance where applicable, while also continuing to require independent project compliance with those local ordinances for which federal and State regulations do not provide a functional equivalent; or
- (ii) Municipalities could prepare “master permits for environmental enhancement projects” that bundle and integrate applicable local ordinances, and prescribe terms and conditions for the installation of conservation practices under restoration projects.¹⁷

¹⁷ The Planning Department for the County of Santa Cruz County prepared a Master Permit for Environmental Enhancement Projects that bundled and integrated 12 County regulations drawn from the County General Plan and the Local Coastal Program, and authorized 15 conservation practices drawn from NRCS’ FOTG.
<http://sccounty01.co.santa-cruz.ca.us/Planning/plnmeetings/PLNSupMaterial/PC/agendas/2010/20100728/009.pdf>

TABLE 5. REGULATORY/NON-REGULATORY FRAMEWORK FOR STATEWIDE AND MULTI-REGIONAL

APPLICABLE STATUTE	AGENCY/AGENCIES	PROGRAMMATIC AUTHORIZATION NEEDED FOR STATEWIDE/MULTI-REGIONAL RESTORATION AND EROSION CONTROL EFFORTS
CA Environmental Quality Act (CEQA)	DFG/State Water Board/Department of Conservation (DOC)	Statewide/multi-regional Mitigated Negative Declaration (MND)
Federal Clean Water Act (CWA) §401 (delegated to State)	State Water Board/ Regional Water Boards/EPA	Statewide/multi-regional Water Quality Certification
<ul style="list-style-type: none"> • CA Fish and Game Code §1600; • CA Endangered Species Act (CESA) 	DFG	Statewide/multi-regional Lake and Streambed Alteration Agreement, and CESA Consistency Determination
National Historic Preservation Act (NHPA) §106	California State Office of Historic Preservation (SHPO)	Statewide/multi-regional consultations
<ul style="list-style-type: none"> • CA Coastal Act; • Federal Coastal Zone Management Act (CZMA) 	California Coastal Commission	Statewide/multi-regional Consistency Determination
CWA §404	Corps/EPA	Statewide/multi-regional Regional General Permit (RGP)
<ul style="list-style-type: none"> • CESA; • Federal Endangered Species Act (ESA) §7 	DFG/FWS/NOAA Fisheries Service	Integrate State and Federal Safe Harbor Agreements (SHAs) at the request of landowners participating in restoration and erosion control projects
ESA §7	FWS	Statewide/multi-regional consultation and Biological Opinions (BOs)
ESA §7	NOAA Fisheries Service (Restoration Center and Southwest Region)	Statewide/multi-regional consultation and BOs
County ordinances (e.g., grading, encroachment, riparian protection)	County planning and public works departments	Engage with local leaders to allow functionally equivalent environmental protection measures in State and federal programmatic permits and authorizations to constitute compliance with local ordinances
CWA §303 and §319 (Non-point Source Pollution Prevention Program)	State Water Board/ Regional Water Boards/EPA	Collaborate with RCDs to fund implementation of projects under the statewide and multi-regional programmatic permits.



PROGRAMMATIC PERMITS

PRECEDENT FOR PROGRAMMATIC AUTHORIZATION

MND for DFG’s Fisheries Restoration Grant Program

2007 General Water Quality Certification for Small Restoration Projects

MOA for PIR programs within counties previously encompassed by DFG Region 3

NRCS’ State-level agreement with SHPO

Consistency Determinations for PIR programs, 1998-2007

- RGPs for previous PIR programs;
- RGP #12 [SF Corps District] *Regional General Permit for DFG’s Fisheries Restoration Grant Program* (2010);
- RGP #41 [LA Corps District] *Removal of Invasive, Exotic Plants* (2009)

Natural Communities Conservation Planning (NCCP) Program

FWS’ BO with NRCS for Sacramento Valley Farm Bill programs/FOTG
FWS’ BO for FWS Partners for Wildlife Program

Final BO and Essential Fish Habitat Consultation for the SF Corps District’s *RGP for DFG’s Fisheries Restoration Grant Program* (2010)
BO for SF Corps District for Fisheries Restoration Projects

Santa Barbara County
(exemption)
San Luis Obispo County (exemption)
Santa Cruz County (*Master Permit for Environmental Enhancement Projects*)

Funding for “priority” restoration projects on “impaired” waterways to improve water quality

TABLE 6. COUNTY ORDINANCE COMPLIANCE UNDER PARTNERS IN RESTORATION PROGRAM

PIR PROGRAM	COUNTY ORDINANCE COMPLIANCE	COASTAL ZONE PERMIT COMPLIANCE
Alameda County	Exemption (Grading, Watercourse Protection)	Not in Coastal Zone
Cache, Putah, Willow Creek Watersheds (Yolo County)	Waiver (Grading)	Not in Coastal Zone
Calleguas Creek Watershed	Program Permit (Watercourse Protection, Encroachment)	Coastal Zone excluded, Negative Determination ND-099-05
Elkhorn Slough Watershed	Exemption (Grading, Watercourse Protection)	Consistency Determination CD-051-98
Humboldt County	Exemption (Grading, Streamside Management)	Consistency Determination CD-085-06
Marin Coastal Watersheds	Exemption (all County ordinances)	Coastal Development Permit
Mendocino County	No applicable ordinances	Coastal Zone excluded
Morro Bay Watershed	Exemption (all County ordinances)	Consistency Determination CD-036-03
Navarro River Watershed	No applicable ordinances	Coastal Zone excluded
Salinas River Watershed	Exemption (Grading, Erosion Control)	Consistency Determination CD-096-01, Negative Determination ND-076-07
San Luis Obispo County	Exemption (Land Use, Construction)	Consistency Determination
San Luis Rey & Santa Margarita River Watersheds	Individual Project Permitting	Coastal Zone excluded
Santa Barbara County	Exemption (Grading, Land Use)	Coastal Zone currently excluded
Santa Cruz County	Master Permit (Riparian Protection, Grading, Biotic, Tree Removal, Encroachment)	Coastal Development Permit
Upper Cache & Putah Creek Watersheds (Lake County)	Waiver (Grading)	Not in Coastal Zone
Upper Pajaro River Watershed	Individual Project Permitting	Not in Coastal Zone



FINDING #3: NRCS' Federal Nexus Policy Leaves Up to 50% of the PIR Projects Lacking Programmatic Permit Coverage Under the Federal Endangered Species Act (ESA) and National Historic Preservation Act (NHPA)

Historically, NRCS distinguished itself as the federal government's leader of the PIR Program. NRCS led the establishment of PIR programs for the Elkhorn Slough and Morro Bay watersheds, and served as lead federal agency for all contemporary PIR programs until several years ago. As a non-regulatory agency, NRCS enjoys good relations with landowners and RCDs, and serves as the conduit for the disbursement of federal Farm Bill dollars to landowners, RCDs, states, and non-governmental organizations.

Federal permits and authorizations for PIR programs were typically secured through the following five-step process:

(i) NRCS, RCDs, and Sustainable Conservation adapted the FOTG's conservation practices to the needs of landowners and the ecological impairments within specific geographic areas.

(ii) These same partners crafted environmental protection measures corresponding with the selected conservation practices, and drafted Biological Assessments (BAs) that profiled the potentially affected species within the geographic areas; the partners then submitted these BAs to FWS and NOAA Fisheries Service for review.

(iii) RCDs prepared applications that were submitted to the applicable Corps District for a Department of the Army Permit under CWA §404 that would allow certain discharges of dredged fill or fill material into "waters of the United States" associated with certain conservation practices.

(iv) Corps Districts consulted with the applicable Field Offices of FWS and NOAA Fisheries Service under ESA §7 to ensure the discharges to be authorized by the Corps were not likely to jeopardize the continued existence of listed species, or destroy or adversely modify the critical habitat for these species. NRCS participated in this same consultation process because, within the context of the ESA, it was a "federal agency that was authorizing, funding, or carrying-out a project or an action"¹⁸. In addition, the Corps and NRCS consulted with California's State Office of Historic Preservation (SHPO) under §106 of the NHPA for potential effects to cultural resources.

¹⁸ Under ESA §7(a)(2) each federal agency must ensure that "any action authorized, funded, or carried out by such agency" is not likely to jeopardize the continued existence of any endangered or threatened species, or result in the destruction or adverse modification of habitat of such species. NRCS' act of providing federal cost-share funding to PIR projects, and the Corps' act of issuing a federal permit are considered federal actions. <http://www.mrsc.org/Subjects/Environment/esa/esa-bioass.aspx#Section>

This junction of the permitting processes, where federal agencies funded, authorized, or proposed projects or actions that triggered consultations with FWS, NOAA Fisheries Service, and SHPO comprised the *federal nexus* that afforded landowners and RCDs with programmatic authorization and incidental take coverage for potential effects to listed species, and a process for protecting cultural resources associated with voluntary restoration work under PIR programs.

(v) FWS and NOAA Fisheries Service then issued Biological Opinions (BOs) based on the BAs to confirm that while the projects implemented under the PIR programs were likely (or, in some cases, not likely) to affect listed species, the PIR programs would not jeopardize the continued existence of the listed species.

The NRCS federal nexus was not the only one created for the PIR Program. The Corps also established a federal nexus by issuing a programmatic Department of the Army Permit. In practice, however, the significance of the federal nexus established by the Corps to the functioning of PIR programs was considered minimal because NRCS had already established a comprehensive federal nexus for the Program.

In November 2007, NRCS began reviewing its role under the PIR Program. While written guidance or a policy directive was never issued, it became clear by May 2008 that NRCS had decided that henceforth it would serve as lead federal agency *only* for projects for which it supplied federal cost-share funding (i.e., Farm Bill funds). NRCS considers its funding of these projects to be the only federal action being taken that establishes a federal nexus for consultation with FWS, NOAA Fisheries Service, and SHPO. Given that NRCS provides cost-share dollars for only about half of the restoration projects historically eligible¹⁹ for the PIR Program, up to 50% of the proposed restoration projects that would have once received programmatic permit coverage through NRCS' comprehensive federal nexus will now not be covered by programmatic permits or authorizations.

Unless NRCS decides to provide federal cost-share funding to all restoration projects, or another federal agency steps forward to serve as lead federal agency for the eligible PIR projects that do not receive cost-share funding from NRCS, RCDs will be faced with the daunting task of either seeking assistance from other federal agencies (e.g., the Corps, EPA) to establish a federal nexus as a route to programmatic permitting, or seeking permits on a

¹⁹ In this instance, a restoration project is deemed "eligible" for programmatic permitting under the PIR Program if it is designed to achieve restoration goals while also adhering to size limitations, environmental protection measures, and interagency permit conditions.



project-by-project basis.²⁰ This is the *status quo ante* that the PIR methodology was originally intended to overcome.

RECOMMENDATION #5: Leaders of Federal Agencies Should Explore All Options for Providing Programmatic Permit Coverage Under the federal ESA and NHPA

Sustainable Conservation recommends that leaders of federal agencies collaborate and explore all options for providing comprehensive, programmatic permit coverage under the federal ESA and NHPA, since statewide and multi-regional programmatic authorizations cannot be established without a federal nexus.

Potential options:

- (i) NRCS could extend some level of federal cost-share funding to all eligible restoration projects for which it provides technical assistance and/or conservation planning;
- (ii) A different federal agency (e.g., the Corps, EPA) could step forward and serve as the lead for all eligible restoration projects not receiving federal cost-share funding from NRCS. This agency would initiate consultations with FWS and NOAA Fisheries Service under ESA §7, and with SHPO under NHPA §106, and therefore provide programmatic permit coverage to landowners for all projects not funded by NRCS.
- (iii) NRCS and another federal agency could serve as joint federal lead agencies. If the Corps would agree to accept this role, NRCS would serve as the lead federal agency for projects it supports with federal cost-share funding, while the applicable Corps District (based in Sacramento, San Francisco, or Los Angeles) would serve as the lead federal agency for projects that do not receive federal cost-share funding from NRCS *but do* require Department of the Army Permits. It would then be the joint responsibility of the federal lead agencies to consult with FWS, NOAA Fisheries Service, and SHPO to achieve programmatic permit coverage under ESA and the NHPA.

²⁰ NRCS suggested, but has not pursued, an approach whereby RCDs secure programmatic permitting for voluntary restoration projects by preparing General Conservation Plans (GCPs) under ESA §10. http://training.fws.gov/EC/Resources/HCP/Policies_and_Regulations/21-Final_GCP--Signed.pdf. Theoretically, RCDs could secure programmatic permitting by intentionally and unnecessarily designing them to discharge of dredged or fill material into waters of the U.S. (regulated by the Corps under CWA §404). The Corps would require RCDs to submit permit applications for these discharges, and the Corps' posting of the application as a Public Notice would establish a federal nexus, triggering Corps consultations with FWS and NOAA Fisheries Service under ESA §7 and with SHPO under NHPA. This tactic has been employed by developers to secure authorizations under ESA §7 instead of a more complex and expensive ESA §10 process requiring the preparation of a Habitat Conservation Plan. However, this approach is not consistent with the goals and spirit of restoration programs to both avoid negative environmental effects, and to maximize positive environmental outcomes.

Under this option, it might be difficult to cover eligible restoration projects that neither receive federal cost-share funding from NRCS nor require Department of the Army Permits (e.g. the project site lies entirely outside the waters of the United States). Consequently, the programmatic permits for a statewide restoration program might need to leave such “upland/terrestrial” projects behind and focus on advancing voluntary restoration projects within the jurisdiction of the Corps.

If, under an alternate scenario, EPA agreed to accept the role, NRCS would serve as the lead federal agency for projects it is supporting with federal cost-share funding, while EPA Region 9 (based in San Francisco) would serve as the lead federal agency for projects that do not receive federal cost-share funding from NRCS, but do intersect with one or more of EPA’s regulatory or non-regulatory programs.

Compared to the previous scenario, in which the Corps establishes a federal nexus for non-NRCS funded projects within its jurisdiction through its permitting function, the federal nexus established by EPA would be less obvious because EPA has delegated most of its permit-writing functions under the CWA to the State of California. However, EPA retains the authority to approve or deny the State’s proposed water quality standards and TMDLs (a regulatory action), and provides federal funding to the State Water Board and Regional Water Boards to advance and administer watershed protection programs (a non-regulatory action). Within these regulatory and non-regulatory actions, there may be a federal nexus that EPA could establish to serve as a joint lead federal agency for programmatic restoration permitting.

FINDING #4: Landowners Improving Habitat Under Programmatic Permits Face Potential Post-project ESA Concerns

Currently, if a landowner implements a restoration project that attracts fish or wildlife species that are listed under ESA and/or the California Endangered Species Act (CESA), the landowner is potentially subject to “take” penalties if an animal is harmed or killed as a result of normal land-use practices. While it is unlikely that regulatory agencies will impose these penalties, given their goal of working constructively with landowners, the mere possibility of potential enforcement action causes concern to some landowners who wish to restore their properties. The federal and State Safe Harbor Agreement (SHA) programs address this concern by not penalizing good land stewards who expand and maintain habitat for imperiled species – even if the habitat is expanded and/or maintained only temporarily and eventually returned to “baseline conditions.” However, to date, the SHA programs have not been applied in conjunction with PIR programs.



RECOMMENDATION #6: Integrate Federal and State Safe Harbor Agreements (SHAs) into Programmatic Permits

Sustainable Conservation recommends engaging with DFG, FWS, and NOAA Fisheries Service to develop a process whereby SHAs for federally and State-listed species would be readily available to landowners utilizing programmatic permits. Integrating SHAs as a standard option for landowners would provide property owners with assurances that their efforts will not lead to regulatory burdens. This could increase the success of recovery plans for listed species and attract additional landowners to enroll in voluntary restoration programs.

To implement this recommendation, FWS and NOAA Fisheries Service would need to modify their current SHA models, which routinely require the investment of a great deal of time (sometimes years) to reach final agreements, and instead develop a standard SHA provision for landowners undertaking restoration projects. For its part, DFG is beginning to implement the new State SHA Program Act, signed into law in 2009 under its Voluntary Local Program through CESA, and the agency may be amenable to a proposal for small-scale SHA applications ²¹.

FINDING #5: The PIR Program Lacks Consistent Standards for Monitoring and Annual Reporting

While partners for individual PIR programs closely coordinate their activities among themselves, no agency or organization ever envisioned or wrote a “master plan” for an overarching PIR Program under which all individual PIR programs would operate and interact. Geographic priorities were never identified, nor were consistent standards for monitoring and annual reporting ever articulated or established. As a result, protocols for establishing metrics, monitoring outcomes, and reporting results vary from one PIR program to the next, and depend upon the number of trained people available to perform this work within each RCD and NRCS field office.

For instance, sediment retained on-site and length of road treated for drainage improvements are crucial tools for measuring the effect of PIR programs, but these metrics are not evaluated for all PIR programs. Similarly, guidelines have not been specified for measuring linear feet of stream length enhanced or restored, and the RCDs are left to their own devices on how to evaluate this metric and report results. Metrics for PIR programs could be improved by the installation and use of more photo-points for visual monitoring; reporting on the presence and location of special status species; the disclosure of project costs and estimates of job creation, and comparisons between the estimated and actual schedules for project implementation.

²¹ In 2009, SB 448 (Pavley) established the California State Safe Harbor Agreement Program Act for DFG to administer under CESA as a complement to the federal SHA program administered by FWS under the federal ESA. The two programs share the goal of encouraging landowners to enhance habitat for threatened and endangered wildlife while maintaining viable agricultural operations.

Establishing and following consistent standards for monitoring and annual reporting will allow RCDs and NRCS to more accurately document the outcomes of their restoration work (e.g., changes in the acreage of riparian forest and in the abundance and diversity of bird populations in addition to the tons of soil retained and sediment prevented). Such documentation will provide a more comprehensive picture of what is being accomplished under voluntary restoration programs, and may lead to increased investments from agencies, NGOs, and foundations that see their environmental goals being achieved with statewide and multi-regional programmatic permitting of restoration projects.

“There’s always an interest in statewide consistency, coordination, collaboration – not having our processes look radically different from one county to another.”

– Serge Glushkoff, Environmental Scientist, DFG

RECOMMENDATION #7: Develop and Adopt Consistent Standards for Monitoring and Annual Reporting to Comply with Programmatic Permits

Sustainable Conservation recommends developing and adopting consistent standards for monitoring and annual reporting to: (i) better document the environmental outcomes and accomplishments of each program; (ii) ensure compliance with all environmental protection measures contained in the programmatic permits and authorizations; (iii) provide information needed for the “adaptive management” of ongoing projects and programs; and (iv) create comparable metrics across restoration programs. These standards should be developed by the TAC referenced in **Recommendation #2** and take advantage of monitoring protocols already developed by agencies, NGOs, and scientific consortia.

The standards should be scientifically valid, straightforward, practical, and provide performance measures for each project. Data should include site location and descriptions about changing site conditions including: survival rates for plants used for re-vegetation, tons of soil retained/ sedimentation prevented, acreage of habitat enhanced or restored, linear miles of road treatment completed, linear miles of stream opened for passage and spawning of migratory fish, changes in the abundance and diversity of bird populations, and the estimated number of jobs created by each program or project. However, the TAC should develop standards that are sensitive to the disclosure of the names and addresses of private property owners voluntarily participating in restoration and erosion control projects where such disclosure is not required.²²

²² The monitoring and reporting of landowner compliance with the programmatic permits has been a sensitive issue within NRCS, and between NRCS and regulatory agencies. This sensitivity reflects a perceived conflict between the trusting relationship NRCS has with landowners, and the statutory obligations of regulatory agencies to ensure adherence with the terms and conditions of permits and authorizations. However, during the course of research for this assessment, Sustainable Conservation did not discover a single report of non-compliance by a landowner.



Reporting requirements for RCDs and NRCS should be clear and should ensure that metrics are as consistent as possible. This would provide basic data to the State Water Board, Regional Water Boards, EPA, and scientific consortia for incorporation into more sophisticated monitoring programs that are used to measure the status and trends of aquatic ecosystems across California. However, the effort expended to monitor voluntary restoration projects should not exceed the modest scale of the work involved, and monitoring requirements should not require technical skills beyond those possessed by staff at the RCDs and NRCS.²³

RCDs and NRCS should consider collaborating with the TAC to standardize monitoring and reporting activities through a web-based data system for an expanded restoration program. Such an approach could be designed to protect the privacy of landowners, foster the consistency and centralization of data from restoration programs, and allow for data collected under restoration programs to be compared with data being collected on the same watersheds by other parties. Such a system would enable improved mapping and analysis of data using Geographic Information Systems (GIS). This information could be stored within CERES (the California Environmental Resources Evaluation System administered by the California Natural Resources Agency) and/or within ICE (the Information Center for the Environment administered by U.C. Davis), and linked to the websites of the RCDs and other restoration partners²⁴.

FINDING #6: Limited Funding Constrains Restoration Programs from Greater Success

The cost of developing and implementing PIR programs has become a major barrier that limits the ability of RCDs, NRCS and Sustainable Conservation to advance the program further. Moreover, given that most programmatic permits authorizing PIR programs expire after five years, and must then be renegotiated before they can be renewed, high transaction costs and limited workforce capacity will continue to be major impediments to increasing the scope and scale of restoration work.

RECOMMENDATION #8: Demonstrate How Programmatic Permits Help Federal and State Agencies Achieve Environmental Goals, and Give the Agencies a Reason to Invest in Voluntary Restoration Programs

Sustainable Conservation recommends shifting away from an opportunistic approach to site selection under restoration programs and toward a strategic approach where incentives are provided to landowners whose holdings suffer the greatest impairments and/or possess the greatest restoration potential. Sustainable Conservation also recommends making a stronger link between restoration projects and the implementation of federal and State initiatives

²³ Until recently, Regional Water Boards routinely required turbidity monitoring under their CWA §401 Water Quality Certifications based on nephelometric turbidity units (NTUs) (i.e., the cloudiness of the water column); however, RCDs and NRCS are typically not accustomed to measuring NTUs.

²⁴ <http://www.ceres.ca.gov/>; <http://ice.ucdavis.edu/>

aimed at improving water quality and contributing to the recovery of salmon and steelhead populations, migratory birds, and other sensitive species. Federal and State agencies will then have a greater reason to engage in these programs, and to invest human capital and restoration dollars.

Potential federal and State funding sources include:

- (i) The non-point source pollution prevention program authorized under CWA §319 and designed, in part, to decrease pollutant loads in impaired water bodies per CWA §303(d) and the TMDL program²⁵;
- (ii) Federal, State, and international programs for the recovery of salmon and steelhead, migratory birds, and other candidate and listed species under ESA and CESA; and
- (iii) Payments to landowners for “ecosystem services” generated by restored streams and riparian forests that help municipalities and utilities achieve environmental goals and regulatory targets set by federal and State agencies²⁶.

FINDING #7: Capacity Constraints at RCDs Limit the Establishment and Implementation of Restoration and Erosion Control Programs

A core assumption of the PIR methodology is that RCDs have the capacity to take the lead in the establishment and implementation of voluntary restoration programs (in concert with NRCS and Sustainable Conservation). However, many RCDs lack the financial, staff, and technical capacity to serve this role in geographic regions where the environmental need is great and landowner demand might be strong. This lack of capacity at the local level has impeded the reach and success of the PIR Program overall. Such constraints at RCDs are often mirrored in the field offices of the NRCS.

At the same time, land trusts with large fee title and easement holdings and timber companies that are transitioning their operations toward sustainable practices in watersheds critical to the recovery of salmon and steelhead populations in many cases wish to pursue small-scale erosion control and habitat enhancement projects on their properties. Other entities potentially interested in access to programmatic permits for voluntary restoration projects include municipal districts and utilities charged with protecting open space, regional parks, and watersheds.

²⁵ http://www.swrcb.ca.gov/water_issues/programs/grants_loans/319h/index.shtml#2011nps

²⁶ An Oregon water resources agency paid farmers competitive rates for using their land to restore 35 miles of 150-foot-wide stream buffers in the Tualatin River basin as a means to reduce instream temperatures (per a State-mandated TMDL) and to advance the recovery salmon populations. The agency thereby avoided the need to invest \$60+ million in technological upgrades to wastewater infrastructure. (Willamette Partnership <http://willamettepartnership.org/about-markets>)



RECOMMENDATION #9: Increase the Institutional Capacity of RCDs to Establish and Implement Restoration and Erosion Control Programs

Sustainable Conservation recommends strengthening the institutional capacity of RCDs to establish and implement individual restoration programs under statewide and multi-regional programmatic permits. This will necessitate greater strategic coordination among public and private stakeholders, and the leveraging of their collective financial resources. While the role of RCDs in a statewide and multi-regional restoration effort is outlined in **Recommendation #1**, this recommendation focuses on building the institutional capacity of RCDs to lead and administer restoration programs on a regional basis, and to simultaneously increase the profile, effectiveness, and durability of RCDs over the long-term.

California's 103 RCDs cover a large portion of the state, and their enduring relationships with agricultural communities make them essential stakeholders in the restoration of natural resources on private lands. While some RCDs have emerged as undisputed leaders in the conservation realm, others have not gained enough capacity to lead and manage complex restoration programs.

“The RCD has been able to participate in watershed scale restoration. We have brought in more funding to the watershed and recruited more landowners to participate in restoration, and have built excellent relationships with agency staff.”

— Patty Madigan, Conservation Programs Director, Mendocino County RCD

Building and maintaining capacity at the RCDs will require an increase in the size of the workforce at RCDs, and rigorous technical training for both new and existing employees. Historically, NRCS provided RCDs with technical assistance for specific projects and technical training services, which RCDs have leveraged into successful conservation programs. The proposed expansion of the RCDs' role in restoration programs would create an even greater demand for technical assistance and training services (and require a corresponding increase in capacity) from NRCS. This scenario envisions that some RCDs will continue including private restoration consultants on their existing restoration program teams (as has been done successfully by the RCDs of Marin and Mendocino counties).

Training programs could increase the ability of RCD personnel to: (i) become certified U.S. Department of Agriculture (USDA)-NRCS Technical Service Providers; (ii) attract and manage funding for the planning and implementation of restoration projects; (iii) assist resource agencies with site assessment and surveys for biological and cultural resources; (iv) design,

implement, and supervise restoration projects; (v) catalyze projects that link the restoration private and public lands with the protection of wildlife migration corridors; and (vi) collaborate with agencies and universities on designing monitoring programs appropriate for the scale and uniqueness of voluntary restoration activities. This capacity building should be done in collaboration with scientists and conservation practitioners from NRCS and the RCDs, restoration ecologists from the public and private sectors, and monitoring experts from agencies, NGOs, and scientific consortia (see **Recommendations #2 and #9**).

RECOMMENDATION #10: Explore Ways for Public and Private Parties (in Addition to Farmers and Ranchers) to Use the Programmatic Permits Held by the RCDs

Sustainable Conservation recommends exploring ways for private and public parties (in addition to farmers and ranchers) to use the programmatic permits and authorizations held by the RCDs. Land trusts, municipalities, timber companies, and utilities could utilize the programmatic permits and authorizations held by RCDs through fee-for-service contracts, and this revenue could be used by RCDs to hire and train new employees (per **Recommendation #11**).

In consultation with the RCDs and the regulatory agencies, these entities would design and install restoration projects on their holdings to improve water quality and recover populations of salmon and steelhead, migratory birds, and other sensitive species²⁷. All such projects would conform to the permit conditions and environmental protection measures required by the programmatic permits. Conceivably, these parties could use their own funding and technically trained personnel to perform surveys, design and install restoration projects, and conduct monitoring per **Recommendation #9**. Alternatively, these parties could simply pay trained personnel from the RCDs to perform these services.

Sustainable Conservation would collaborate with RCDs and these new program partners to align collective programs, pursue joint fundraising opportunities, hire new staff, expand the reach of restoration programs, and leverage and strengthen available technical skills to ensure the highest quality of restoration design, project installment, monitoring, and adaptive management.

²⁷ In partnership with NRCS and the RCDs representing Coastal San Luis and Upper Salinas-Las Tablas, Sustainable Conservation incorporated this approach into the programmatic permitting framework for the pending PIR program for San Luis Obispo County. Farmers, ranchers, land trusts, public land managers, and any other party who wishes to pursue voluntary restoration projects that yield positive environmental effects are invited to utilize the programmatic permits. The early implementation work currently underway at the Fiscalini Ranch Preserve exemplifies this approach (<http://www.ffrpcambria.org/>). Elsewhere, the County of San Luis Obispo is contemplating restoration projects under the PIR program on creeks within the City of San Luis Obispo where the County may bring to bear its own technical expertise in collaboration with the RCD.



Parallel Efforts and Related Reports

In the last decade, progress has been made in addressing some of the regulatory barriers to restoration on private lands. Stakeholder groups like the California Roundtable on Agriculture and the Environment and the California Rangeland Trust have pointed out that California's landowners have an important role to play in achieving our statewide environmental goals. These groups have been working to encourage their constituents to become good stewards of the land, but in so doing they learned and shed light on landowners' frustrations and financial constraints when faced with the local, state and federal regulatory permitting process. Having heard these concerns, the California Resources Agency convened a taskforce in 2002 that released "Removing Barriers to Restoration," a report to the Secretary that laid out a set of recommendations, some of which were implemented. For example, voluntary restoration projects less than five acres are now exempt from CEQA review.

Below is a summary of these parallel efforts and related reports that have moved California closer to private landowners who wish to be good stewards of their land. There is more work to be done, much of which is described in this report, that could truly amplify these and other efforts.

California Roundtable on Agriculture and the Environment (CRAE)

In November 2010, CRAE released a report entitled *Permitting Restoration: Helping Agricultural Land Stewards Succeed in Meeting California Regulatory Requirements for Environmental Restoration Projects*.²⁸ This report summarizes six challenges faced by land stewards seeking approval for environmental restoration projects, and offers four major recommendations (with multiple elements) for overcoming the six challenges. Several key themes and points made by the CRAE report are echoed and reinforced in the findings and recommendations contained in the Program Assessment report prepared by Sustainable Conservation.

California Rangeland Conservation Coalition (CRCC)

In 2008, the CRCC surveyed NRCS, RCDs, and other stakeholders involved in restoration programs regarding "permitting challenges" to implementation of voluntary conservation projects on private lands. A report, *California Restoration and Enhancement Permitting*, was issued by CRCC and Assemblymember Guy Houston's office. Survey respondents identified a lack of funding, difficulties with the permitting process, and staffing limitations as the key barriers to successfully implementing restoration projects. CRCC's efforts to address these issues continue today.

²⁸ http://foodsystemalliance.org/uploads/Permitting_Restoration.pdf
http://foodsystemalliance.org/crae/category/environmental_regulation/



Sustainable Conservation

In 2001, Sustainable Conservation conducted in-depth interviews with representatives from NRCS, RCDs, and other watershed restoration practitioners. An internal report was prepared entitled *Statewide Survey for the Expansion of the Partners in Restoration Program*. With this survey, Sustainable Conservation and NRCS sought to bring the PIR program to 15 additional watersheds over the following three years. The watersheds were to be screened and selected using a set of “critical watershed characteristics.” The report forecast opportunities for further innovations in permitting and economies of scale, and identified 14 areas that were “ready to move forward with some type of permit coordination program today.” An additional 12 areas were identified where programs were “likely to be ready to move forward in three to five years.” The origins of the Yolo County PIR program, as well as the pending PIR programs for the counties of San Luis Obispo and Santa Barbara, can be traced back to this survey.

California Resources Agency (Task Force to the Secretary for Resources)

In 2002, the California Resources Agency convened a task force comprised of representatives from landowner groups, State agencies, and the restoration community to provide guidance to State government to more effectively support voluntary, proactive restoration, and habitat enhancement efforts. The task force’s final report, *Removing Barriers to Restoration*,²⁹ included 10 recommendations – some of which were implemented. The recommendations are summarized below:

1. Create a Categorical Exemption under CEQA for Small-scale Restoration Projects:

This recommendation was implemented in 2002, with the inclusion of a new Categorical Exemption to the CEQA Guidelines (section 15333, Small Habitat Restoration Projects). However, this did not provide the desired regulatory relief because exemptions were afforded only to individual restoration *projects* rather than restoration *programs*, so programs are still subject to extensive CEQA review.

2. Create a Permit Assistance Center to Aid Landowners Doing Voluntary Conservation Projects:

This recommendation was not implemented.

3. Develop a Regional Pilot Technical Review Team for Large-scale Restoration

Projects: Although technical review teams have been assembled in selected locations, this recommendation has not been broadly implemented. The Integrated Watershed Restoration Program (IWRP)³⁰ in Santa Cruz County and the PIR program for the Marin Coastal Watersheds have successfully implemented projects with the guidance of technical review teams.

²⁹ <http://resources.ca.gov/publications/Barriers2002-full.pdf>

³⁰ <http://iwrp.rcdsantacruz.org>

4. Assist the Expansion of Watershed-based Permit Coordination Programs: Since 2001, Sustainable Conservation, the NRCS, and RCDs have worked to expand the PIR permit coordination program, and other organizations such as those listed above (e.g., CRAE, CRCC) are working toward this goal. As referenced in **Recommendation #1**, DOC is administering the Watershed Coordinator Grant Program using bond money from Proposition 50. Under this program, DOC funds watershed coordinator positions for three-year periods, and the funding is available to NGOs, local governments, and special districts³¹.

5. Develop a State-recommended Watershed Planning Guide: This recommendation was not implemented.

6. Implement a Pilot Project to Develop a Program EIR in Conjunction with a Watershed Plan: It appears this recommendation was not implemented, but CEQA remains a barrier to voluntary restoration, so Sustainable Conservation formulated **Recommendation #6** in this new Program Assessment to address this ongoing barrier.

7. County Ordinance to Indemnify Landowners Performing Conservation Work: This recommendation was not implemented. County permitting and indemnification issues remain significant barriers to restoration programs. Although some counties have provided exemptions for restoration programs such as PIR, many do not, and the process of obtaining individual project permits for encroachment, right-of-way, grading, and other county ordinances can be onerous.

8. Enable Advance or Expedited Payments for Government Funding of Restoration Projects: This recommendation was not implemented.

9. Develop Mechanisms to Pay Environmental Review and Permit Fees for Restoration Projects: This recommendation was not implemented. Certifying a CEQA document such as an MND currently costs State and county governments approximately \$2,000 in fees. In addition, DFG currently charges \$200 per project for work requiring a Section 1600 Lake and Streambed Alteration Agreement, and could potentially charge much more – up to \$4000. Though it does not currently authorize programs such as PIR under §1600, if DFG were to authorize PIR programmatically, a base fee of \$2400 plus up to \$4000 for each project could be charged³². The Regional Water Boards require fees to issue CWA §401 Water Quality Certifications and county agencies generally require fees for compliance with grading and other ordinances. Altogether, costs for environmental review and permitting can be daunting for restoration proponents.

³¹ http://www.conservation.ca.gov/dlrp/wp/grants/Pages/wcgp_forms.aspx

³² <http://www.dfg.ca.gov/habcon/1600/forms.html>



10. Support Safe Harbor Program: In 2009, this recommendation was supported with the passage of SB 448, the California State Safe Harbor Agreement Program Act. The new law – paralleling the federal Safe Harbor program implemented by FWS and NOAA Fisheries under Section 10(1)(a) of the ESA – encourages landowners to voluntarily manage habitat on their lands for special status species by means of State Safe Harbor Agreements approved by DFG. The agreements are intended to benefit endangered, threatened, or candidate species while shielding landowners from regulatory liability if a listed species is accidentally “taken” as part of normal farming practices.



Analyzing Annual Report Data to Evaluate Implementation of

In the first phase of Sustainable Conservation's Program Assessment, we collected and analyzed key data from twelve PIR programs (expired, active, not implemented, and not established), three PIR programs pending in 2011 (San Luis Obispo County, Santa Barbara County, and the Upper Pajaro River Watershed), and one additional countywide program being proposed by the Mendocino County RCD.

Sustainable Conservation obtained the data primarily from PIR project monitoring reports submitted annually to the regulatory agencies by the RCDs (in collaboration with NRCS) through 2010. Additional data related to the costs of developing the PIR programs were obtained from accounting records archived by Sustainable Conservation and from talks with personnel from RCDs and NRCS in 2008-10. The data were compiled in a spreadsheet listing the following information for each PIR program (see **Appendix One**):

1. Watersheds or sub-watersheds and total acres of land covered by the programs
2. Dates and status of the programs
3. Time and estimated cost to develop the programs
4. Approximate number of projects completed annually prior to PIR (under individual permits)
5. Number of projects completed by year under the programs
6. Conservation practices authorized, installed, and used regularly
7. Estimated tons of sediment reduced by project implementation
8. Acreage of habitat or stream length enhanced or restored
9. Other measures of success (e.g. miles of stream made accessible for migratory fish)
10. Number of landowners who have directly benefited from the program

ANNUAL REPORTS

Each spring, the RCDs are required to submit reports to the appropriate federal, State, and local agencies documenting the work they have conducted under the PIR program during the previous year. At a minimum, the reports must contain basic descriptive information about the projects that have been installed, their purpose/s, the conservation practices or techniques employed, and photo evidence of the before-and-after conditions at each site. Quantitative data were variable, but in most cases included the area or dimensions of the project(s), and the volume of material to be removed (cut) or filled. Some programs estimated the volume of sedimentation avoided for each project. Any special status species or their habitats potentially affected by construction were also usually noted.

As the only practical mechanism for tracking and analyzing project construction under the PIR programs, the annual reports provide crucial data for the regulatory agencies, for self-assessment by the RCDs and NRCS, and for others attempting to assess the methods and

Partners in Restoration Programs



effectiveness of small-scale erosion control and habitat enhancement projects installed on private lands. However, guidelines stating the parameters to be reported, and instructions for determining these parameters in order to ensure consistency, were not incorporated into the PIR program at its outset. As a result, annual reports vary widely in quality and depth, and the data reported are inconsistent. Basic information such as *tons of sedimentation avoided* as a result of project implementation is not always reported; photo quality can vary, and sometimes photo documentation is not illustrative of site conditions and restoration actions.

Some RCDs do an exemplary job of reporting, providing thorough follow-up not only on the most recent year's work, but also on the status of projects installed in previous years. This allows for a detailed assessment of all projects completed for the PIR program, or completed within a given drainage. Other RCDs would benefit greatly from a clear set of guidelines and expectations for the annual reporting process. In addition, as referenced above in **Recommendation #9**, Sustainable Conservation recommends that the annual reports – with sensitive private property information removed – be made available to the public through a centralized website and linked to the websites of RCD.

NARRATIVE FOR PIR DATA TABLE (APPENDIX ONE)

1. Watersheds or sub-watersheds and total acres of land covered by the programs: The eight PIR programs that have reached the implementation phase (excluding expired programs) currently provide programmatic permit coverage for a total land area of 1.2 million acres in 22 drainages (**Table 7**). The three forthcoming programs plus the one proposed for Mendocino County will provide programmatic permit coverage to an additional 3.2 million acres in 23 drainages (see **Appendix One**).

2. Dates and status of the programs: Of the 16 PIR programs developed since the mid-1990s, three have expired or are expiring; five are active; four were either never completed or not implemented; and four are currently in development, as summarized in **Table 1**.

3. Time and estimated cost to develop the programs One PIR program reached the implementation phase in less than two years, the average is roughly three years, and the three pending PIR programs (San Luis Obispo County, Santa Barbara County, and the Upper Pajaro River Watershed) will require at least five years to establish. So far, total costs for the three primary program partners (RCDs, NRCS, and Sustainable Conservation) to establish each PIR program have averaged more than \$300,000, with a range of \$150,000-450,000.

TABLE 7. DRAINAGES COVERED BY PIR PROGRAMS³³

PIR PROGRAM	DRAINAGES COVERED	STATUS
Elkhorn Slough Watershed	Elkhorn Slough Moro Cojo Slough	Expired 2003
Morro Bay Watershed	Toro Creek Morro Creek Chorro Creek Islay Creek	Expired 2008
Calleguas Creek Watershed	Calleguas Creek Conejo Creek Revolon Slough	Expiring 2010-2011
Navarro River Watershed	Navarro River, North Fork Navarro River Indian Creek Anderson Creek Rancheria Creek	Active
Marin Coastal Watersheds	Lagunitas Creek Walker Creek Stemple Creek Tomales Bay small tributaries Pt. Reyes National Park streams	Active
Santa Cruz County	Waddell Creek Scott Creek Small North Coast streams San Lorenzo River and tributaries Soquel Creek Aptos Creek Lower Pajaro River	Active
Alameda County	Upper Alameda Creek San Lorenzo Creek	Active
Cache, Putah, Willow Creek Watersheds (Yolo County)	Lower Cache Creek Putah Creek Willow Creek	Active

³³ This list of drainages is not exhaustive, but represents the key watersheds within each of the PIR programs.



PIR PROGRAM	DRAINAGES COVERED	STATUS
San Luis Obispo County	Upper Salinas River Carrizo Plain San Luis Obispo Creek Arroyo Grande Creek Santa Maria River and tributaries	Pending
Santa Barbara County	Santa Maria River and tributaries San Antonio Creek Santa Ynez River Jalama Creek South Coast Streams	Pending
Upper Pajaro River Watershed	Uvas Creek Llagas Creek Upper Pajaro River and tributaries Pacheco Creek San Benito River and tributaries	Pending
Mendocino County	Ten Mile River Noyo River Big River Albion River Navarro River Garcia River N. Fork Gualala River Russian River	Proposed
Salinas River Watershed	--	Not implemented
San Luis Rey & Santa Margarita rivers	--	Not established
Humboldt County	--	Not established
Upper Cache & Putah Creek Watersheds (Lake County)	--	Not established

4. Number of restoration projects installed annually before PIR programs: Prior to the availability of programmatic permits under PIR programs, RCDs installed an average of only *one* PIR-type restoration project per program, per year. In some locations, due to the difficulties we examine in this report, no projects requiring multiple regulatory permits or authorizations were installed. Once PIR programs were established, however, RCDs installed an average of *five* PIR restoration projects per program, per year – clearly a significant increase (see **Table 8**).

TABLE 8. RESTORATION PROJECTS INSTALLED BEFORE/AFTER PIR PROGRAMMATIC PERMITS³⁴		
PIR PROGRAM	AVERAGE # OF PROJECTS INSTALLED ANNUALLY BEFORE PIR PROGRAMS	AVERAGE # OF PROJECTS INSTALLED ANNUALLY AFTER PIR PROGRAMS
Elkhorn Slough Watershed	0	8
Morro Bay Watershed	0	4
Calleguas Creek Watershed	0	0 ^a
Navarro River Watershed	1	3
Marin Coastal Watersheds	3	5
Santa Cruz County	2	10
Alameda County	2	4
Cache, Putah, Willow Creek Watersheds (Yolo County)	No data	5
San Luis Obispo County	2 ^b	Pending
Santa Barbara County	0	Pending
Upper Pajaro River Watershed	0	Pending
Mendocino County	4	Proposed
Salinas River Watershed	0	Not implemented
San Luis Rey & Santa Margarita River Watersheds	0	Not established
Humboldt County	No data	Not established
Upper Cache & Putah Creek Watersheds (Lake County)	0	Not established
AVERAGE	1	5 (WHERE PIR PROGRAMS WERE IMPLEMENTED)

³⁴ The Data Table in Appendix One enumerates the *actual* number of restoration projects installed annually during the life of each PIR program. Table 7 aggregates these actual numbers into the *average* number of projects installed annually during the life of each PIR program.

^a Only two projects were installed in 2010.

^b This number does not include the average of four projects per year completed under the Morro Bay PIR program.



5. Number of projects installed under PIR programs: More than 227 projects³⁵ have been installed under the PIR Program during its 13-year span (1998-2010). RCDs installed an average of five projects per program per year, with RCD-Santa Cruz County leading the way with a total of 58 projects installed in six years – an average of nearly 10 projects per year.

6. Conservation practices authorized, installed, and used regularly: Each PIR program contains conservation practices, or types of work, tailored to the needs of landowners in a specific geographical area that are proposed by the RCD and NRCS and approved by regulatory agencies. The proposed practices vary significantly from one PIR program to the next. Each additional practice added to a PIR program allows RCDs and landowners to install a broader range of restoration projects, but this also makes the interagency regulatory review and approval process more complex and time-consuming.

The largest number of practices (24) was proposed for the countywide PIR program for Humboldt County, and the fewest number of practices (2) was proposed for the watershed-specific PIR program in Yolo County.

The number of practices actually installed is considerably smaller, averaging seven per PIR program, while the number of practices used regularly³⁶ averages four per PIR program, with a maximum of 10 practices used regularly by the PIR program for the Marin County Coastal Watersheds, and only one practice used regularly by the PIR program for Morro Bay (see **Table 9**). An average of 13 conservation practices were proposed and authorized for the 16 PIR programs that were established, and a combined total of 18 conservation practices were used regularly by all the PIR programs. When redundant and/or narrow practices are excluded from this list, roughly 10 practices emerge, focused on enhancing streams and riparian habitat; controlling erosion on farms, fields, slopes, and roads; stabilizing streambanks; replacing poorly designed or degraded culverts; and replacing invasive weeds with native vegetation. See **Recommendation #2** and **Table #4**.

7. Estimated tons of sedimentation reduced by project implementation: Tons of soil retained onsite (also referred to as sedimentation avoided) is the key metric used to estimate the effectiveness of erosion control efforts under PIR programs. Generally, trained personnel from NRCS estimate the amount of sediment expected to be retained onsite for each restoration project implemented. The PIR Program as a whole has prevented ~200,000 tons of sediment from entering streams and wetlands, and the eight implemented PIR programs retained onsite an average of over 6,000 total tons of sediment each year. The successful PIR program for the Elkhorn Slough Watershed alone annually retained onsite over 11,000 tons of sediment³⁷. See **Table 10**.

³⁵ Morro Bay Watershed PIR projects were not reported in 2008.

³⁶ The number of practices used regularly is an interpretation made by Sustainable Conservation based on the data, in which a break point was determined between practices used frequently and infrequently, rarely or not at all.

³⁷ Estimated total includes projects implemented under other, non-PIR programs as part of the Elkhorn Slough Watershed Project, and is not comparable to other PIR program sediment reduction data.

TABLE 9. CONSERVATION PRACTICES BY PIR PROGRAM			
PIR PROGRAM	NUMBER OF CONSERVATION PRACTICES AUTHORIZED	NUMBER OF CONSERVATION PRACTICES USED	NUMBER OF CONSERVATION PRACTICES USED REGULARLY
Elkhorn Slough Watershed	10	9	5
Morro Bay Watershed	15	6	1
Calleguas Creek Watershed	14	4	0 ^a
Navarro River Watershed	8	4	3
Marin Coastal Watersheds	16	15	10
Santa Cruz County	15	12	5
Alameda County	18	6	3
Cache, Putah, Willow Creek Watersheds (Yolo County)	2	2	2
San Luis Obispo County	18	-	Pending
Santa Barbara County	18	-	Pending
Upper Pajaro River Watershed	15	-	Pending
Mendocino County	9	-	Proposed
Salinas River Watershed	16	-	Not implemented
San Luis Rey & Santa Margarita River Watersheds	11	-	Not completed
Humboldt County	24	-	Not established
Upper Cache & Putah Creek Watersheds (Lake County)	7	-	Not established
AVERAGE PER PROGRAM	13	7	4

^a Only two projects were installed under the PIR program for Calleguas Creek Watershed, so the number of conservation practices used regularly is not applicable.



Placing the sediment reduction figures achieved by PIR programs in context, we compared the annual numbers for two watershed-based PIR programs, Morro Bay and Navarro River, with the TMDL targets for sediment reduction set by the Regional Water Boards of the Central Coast and the North Coast, respectively. The estimated annual average sediment reduction achieved by the two PIR programs comprised ~6 % of the overall TMDL reduction target for each watershed.³⁸ This is a significant contribution toward compliance with the TMDLs, particularly considering that erosion from other land-use activities, e.g., timber harvest and residential development, is encompassed by the TMDL targets, but is not addressed by the PIR programs. Still, with almost 17,000 miles waterways listed as “impaired” by the State, much more erosion-control work needs to be done to achieve the TMDL targets, and to restore ecosystem health.

TABLE 10. SEDIMENT REDUCTION RESULTS FROM PIR PROJECTS		
PIR PROGRAM	ESTIMATED ANNUAL SEDIMENT REDUCTION	ESTIMATED TOTAL SEDIMENT REDUCTION ACHIEVED
Elkhorn Slough Watershed	11,333 tons/year	68,000 tons
Morro Bay Watershed	2,224 tons/year	13,346 tons
Calleguas Creek Watershed	No sediment data available	No sediment data available
Navarro River Watershed	9,758 tons/year	68,309 tons
Marin Coastal Watersheds	3,221 tons/year	16,109 tons
Santa Cruz County	3,448 tons/year	14,519 tons
Alameda County	6,220 tons/year	18,660 tons
Cache, Putah, and Willow Creek Watersheds (Yolo County)	No sediment data available	No sediment data available
PROGRAM TOTAL	AVERAGE=6226 TONS/YEAR/ PROGRAM	TOTAL ≥198,943 TONS

³⁸ The Central Coast Regional Water Quality Control Board’s 2002 TMDL for the Morro Bay watershed (including the Chorro Creek and Los Osos Creek watersheds) states that sediment reduction of approximately 35,000 tons per year from current rates is needed to obtain compliance with the TMDL target for sediment (69,770 tons/yr. current total sediment yield – 34,885 tons/yr. [50% prescribed reduction] = 34,885 tons/yr., and 2,224 tons/yr. is 6% of this amount). The U.S. EPA’s 2000 TMDL for the Navarro River watershed states that sediment reduction of approximately 152,000 tons per year from current rates is needed to obtain compliance with the TMDL target for sediment (775 tons/sq.mi./yr. current anthropogenic sediment yield - 293 tons/sq.mi./yr. allowable = 482 tons/sq.mi./yr., and 482 tons/sq.mi./yr. x 315 sq.mi. watershed area = 152,000 tons/yr., and 9758 tons/yr. is 6% of this amount).

8. Acreage of habitat or stream length enhanced or restored: Comparing the figures reported by different RCDs for total area restored by PIR projects, including estimates for acreage and stream length, is difficult due to variations in methodology for measuring results, and inconsistencies in reporting results. Without consistent standards for monitoring and annual reporting under PIR programs, the numbers reported in the PIR program annual reports cannot be easily compared.

For example, guidance is needed about whether a project installed during two years on 1000 feet of stream (on one side of the channel) should be reported as “1000 feet of restored streambank” or “2000 feet restored streambank” (assuming treatments on the same site differ in each of the two years). Similarly, guidance is needed about whether restoration projects installed on adjacent streambanks should be reported as double the amount of restored stream length in contrast to a previous scenario where a restoration project is only installed on one streambank. Further guidance is needed on whether to report the areal extent of restoration in terms of stream length or acreage, or some combination of the two.

In the Program Assessment we analyzed the available data and calculated estimates for the total area restored under the PIR Program, while taking into account these variations in reporting to the extent possible. Our estimates indicate that the PIR Program has restored and enhanced a relatively small extent of riparian habitat (17 linear miles) and other habitat (169 acres). However, in small watersheds, or where environmental conditions are generally good except for certain localized problems (e.g., failed culverts, impassible barriers, landslides, and displacement of native vegetation with invasive weeds), targeted restoration can improve ecosystem health well beyond the site of a given PIR project. The cumulative beneficial effects resulting from the installation of multiple small projects can be potentially significant, and it is likely that this restoration work would not be done without the PIR programs in place. The need now is to expand restoration and erosion control efforts so the acres and linear miles of treated habitat, and the corresponding beneficial effects, can be dramatically increased. See **Table 11**.

9. Linear miles of stream opened for passage and spawning of migratory fish: Given the limited metrics established for PIR programs, few additional measures of success have been documented beyond those described above in #8. The metric for miles of stream opened for passage and spawning of migratory fish has been addressed by the PIR program for Santa Cruz County. The RCD of Santa Cruz County reports that stream restoration projects under its PIR program have restored access to more than 20 miles of high quality steelhead spawning and rearing habitat on Corralitos Creek and its tributaries. Data regarding the presence of fish in this newly accessible habitat, or changes in fish populations, have not been collected by State or federal agencies, but anecdotal evidence suggests that fish are returning to formerly occupied stream reaches following the installation of PIR projects³⁹. Similar anecdotal evidence of the return of steelhead to formerly occupied reaches of stream habitat following restoration work is available from the Marin County RCD for its PIR program.

³⁹ <http://www.suscon.org/highlights/imperiledFish.php>

TABLE 11. RESTORATION RESULTS BY PIR PROGRAM IN ACRES AND LINEAR FEET

PIR PROGRAM	ESTIMATED TOTAL ACRES RESTORED	ESTIMATED TOTAL STREAM LENGTH ENHANCED/RESTORED	ESTIMATED MILES OF STREAM OPENED FOR PASSAGE AND SPAWNING OF MIGRATORY FISH
Elkhorn Slough Watershed	13.5 acres	21,300 linear feet	0
Morro Bay Watershed	No data	18,600 linear feet	0
Calleguas Creek Watershed	16.5 acres	No data	0
Navarro River Watershed	No data	3,300 linear feet	0
Marin Coastal Watersheds	No data	35,200 linear feet	0
Santa Cruz County	47.0 acres	11,320 linear feet	20.4 miles
Alameda County	4.7 acres	No data	0
Cache, Putah, Willow Creek Watersheds (Yolo County)	103 acres	No data	0
PROGRAM TOTAL	185 ACRES	91,823 LINEAR FEET (17.4 MILES)	20.4 MILES

Further north, the Marin County RCD partnered with PRBO Conservation Science to gather data on the diversity of bird species at 15 of its restoration sites in Marin County, including sites where PIR projects were installed. The data indicate a statistically significant increase in the number of bird species present following installation of restoration projects. Unfortunately, a metric for “bird response” was not included in historical PIR programs, and should be captured by the consistent standards for monitoring and annual reporting outlined by **Recommendation #9**.

10. Number of landowners who have directly benefited from the program: Roughly 300 individual landowners have benefited from their involvement with the PIR program through the installation of restoration projects.



Summary

The Partners in Restoration Program is a powerful model for how to accelerate voluntary restoration on private lands. Its popularity and success in addressing the challenging environmental problems of water quality and the loss of habitat in many counties will have lasting result. However, the pressures on California's resources and natural beauty coupled with the impacts from past land use practices are at a scale that require us to move beyond a county by county program to a statewide effort.

This report sets out our recommendations for how to expand restoration and erosion control projects statewide by creating statewide programmatic permits that would tier- down to multiple regions. Such an effort could unleash the power of millions of landowners as partners in helping to improve our state's water quality, put salmon on a path to recovery, restore rivers, streams and wetlands, prevent flooding of vulnerable communities, and bring back many of our most cherished birds. Achieving this vision will take commitment from local, state and federal agencies to partner with the environmental and conservation community, landowner groups, and restoration specialists to build a robust foundation based on programmatic permits. Together with improved capacity to administer restoration programs, we believe some of our most important and challenging statewide environmental goals can be achieved.



Data from Partners in Restoration Program Annual Reports

	PIR PROGRAM PROGRAM ACREAGE DRAINAGES COVERED	DATES AND OUTCOME	YEARS AND ESTIMATED COST REQUIRED TO DEVELOP PROGRAM	NUMBER OF PROJECTS INSTALLED PRIOR TO PIR UNDER INDIVIDUAL PROJECT PERMITS	NUMBER OF NRCS CONSERVATION PRACTICES (SEE CODES BELOW TABLE) APPROVED, INSTALLED, COMMONLY IMPLEMENTED (IN BOLD)
EXPIRED PROGRAMS					
1	Elkhorn Slough Watershed (Monterey County) Program Area= 45,000 acres Elkhorn Slough Moro Cojo Slough	Implementation 1998-2003 Expired 2003	4 yrs, \$15,000 NRCS \$174,000 Sustainable Conservation TOTAL ESTIMATED COST= ~\$189,000	0	10 practices authorized 9 implemented: 638=28 342=23 584=17 580=8 410=5 620=4 393=3 350=2 412=1
2	Morro Bay Watershed (San Luis Obispo County) Program Area= 48,000 acres Toro Creek Morro Creek Chorro Creek Islay Creek	Implementation 2002-2008 Expired 2008	2 years, \$323,000 Sustainable Conservation TOTAL ESTIMATED COST= ~\$400,000	0	15 practices authorized 6 implemented: 326=20 580=3 204=2 342=2 322=1 410=1
ACTIVE PROGRAMS					
3	Navarro River Watershed (Mendocino County) Program Area= ~100,000 acres Navarro River North Fork Navarro River Indian Creek Anderson Creek Rancheria Creek	Implementation 2002- Active, (Program implementation by Pacific Watershed Assoc.)	2 years, \$40,000 RCD \$35,000 NRCS \$222,000 Sustainable Conservation TOTAL ESTIMATED COST= ~\$300,000	1	8 practices authorized 4 implemented: 587=15 580=10 560=6 342=3

	NUMBER OF PROJECTS COMPLETED UNDER PIR	ESTIMATED TONS OF SEDIMENT REDUCED BY PROJECT IMPLEMENTATION	ACREAGE OF HABITAT OR STREAM LENGTH ENHANCED OR RESTORED	OTHER MEASURES OF SUCCESS (BIRD POPULATION DATA, FISH COUNTS, ETC.)	NUMBER OF LANDOWNERS WHO HAVE DIRECTLY BENEFITED FROM PIR	OTHER FUNDS LEVERAGED FOR PIR PROJECTS OR PROGRAM DEVELOPMENT
	1998=16 1999=9 2000=2 2001=5 2002=9 2003=4 TOTAL= 45 projects AVG=7.5/year	1998=12,067 1999=9330 2000=12,271 2001=7626 2002=No data 2003=No data TOTAL= 68,000 tons ¹ AVG= 11,333 tons/yr	1998= 10,646, 9.4 1999= 3,317, 1.9 2000= 1,531, 0.8 2001= 4,728, 0.8 2002= NO DATA 2003= 1045, 1.1 TOTAL= 21,267 linear ft, 13.5 ac.	No data	TOTAL= ~40 landowners (NRCS estimate; no annual data available)	No data
	2002=1 2003=4 2004=5 2005=5 2006=5 2007=5 2008=no data 2009=0 TOTAL= 25 projects AVG=4.2/year	2002=50 2003=4900 2004=6400 2005=1569 2006=261 2007=166 2008=no data 2009=0 TOTAL= 13,346 tons AVG=2,224 tons/yr	2002=0 2003=2900 2004=60 2005=6500 2006=4575 2007=4575 2008=no data 2009=0 TOTAL= 18,610 linear ft.	No data	2002=1 2003=3 2004=4 2005=4 2006=4 2007=4 2008=no data 2009=0 TOTAL= 23 landowners	No data
	2003=1 2004=6 2005=4 2006=5 2007=0 2008=3 2009=6 2010=2 TOTAL= 27 projects AVG=3.4/year	2003=No data 2004=No data 2005=No data 2006=No data 2007=No data 2008=No data 2009=6,589 2010=3,020 TOTAL=68,309 tons (60,409 tons road, 7900 tons stream) AVG= 8,539 tons/yr	2003=400 2004=885 2005=855 2006=700 2007=0 2008=500 2009=700 2010=no data TOTAL=4040 linear feet	No data	2003=1 2004=6 2005=2 2006=3 2007=0 2008=4 2009=9 2010=2 TOTAL= 27 landowners	\$35,000 NRCS \$30,000 SCC \$5000 RCD \$5000 County

	PIR PROGRAM PROGRAM ACREAGE DRAINAGES COVERED	DATES AND OUTCOME	YEARS AND ESTIMATED COST REQUIRED TO DEVELOP PROGRAM	NUMBER OF PROJECTS INSTALLED PRIOR TO PIR UNDER INDIVIDUAL PROJECT PERMITS	NUMBER OF NRCS CONSERVATION PRACTICES (SEE CODES BELOW TABLE) APPROVED, INSTALLED, COMMONLY IMPLEMENTED (IN BOLD)
4	Coastal Marin County Watersheds Program Area= 148,000 acres Lagunitas Creek Walker Creek Stemple Creek Tomales Bay small tributaries Pt. Reyes NP streams	Implementation 2004- Active	3 years, \$60,000 RCD \$206,000 Sustainable Conservation TOTAL ESTIMATED COST= ~\$300,000	3	16 practices authorized 15 implemented: 342=17 516=15 580=12 574=10 575=9 410=8 468=7 560=6 350, 412=5 382, 584=3 587, 620=2 395=1
5	Santa Cruz County Program Area= 260,000 acres Waddell Creek Scotts Creek Small N. Coast streams San Lorenzo River Soquel Creek Aptos Creek Lower Pajaro River	Implementation 2005- Active	3-4 years, \$117,500 RCD/NRCS \$240,000 Sustainable Conservation TOTAL ESTIMATED COST= \$357,000	2.4	15 practices authorized 12 implemented: 643=24 342=18 560=13 587=13 395=11 580=4 350=3 412=3 500=2 638, 410, 396=1
6	Alameda County Program Area= 235,000 acres Upper Alameda Creek San Lorenzo Creek	Implementation 2006- Active	3 years, TOTAL ESTIMATED COST= ~\$150,000	2	18 practices authorized 6 implemented: 378=10 500=10 342=10 410=4 587=3 395=1

	NUMBER OF PROJECTS COMPLETED UNDER PIR	ESTIMATED TONS OF SEDIMENT REDUCED BY PROJECT IMPLEMENTATION	ACREAGE OF HABITAT OR STREAM LENGTH ENHANCED OR RESTORED	OTHER MEASURES OF SUCCESS (BIRD POPULATION DATA, FISH COUNTS, ETC.)	NUMBER OF LANDOWNERS WHO HAVE DIRECTLY BENEFITED FROM PIR	OTHER FUNDS LEVERAGED FOR PIR PROJECTS OR PROGRAM DEVELOPMENT
	2004=3 2005=13 2006=11 2007=4 2008=3 2009=0 2010=0 TOTAL=34 projects AVG=4.9/year	2004=5415 2005=425 2006=6025 2007=1144 2008=3100 2009=0 2010=0 TOTAL=16,109 tons AVG=2,685 tons/yr	2004= 2,065 2005= 3,780 2006= 12,375 2007= 2,600 2008= 14,366 2009=0 2010=0 TOTAL=35,186 linear ft.	Fish pop. benefits, bird pop. benefits (no data provided)	TOTAL= ~30 landowners	\$498,000 landowners \$2.35M State Board \$600,000 Coastal Conservancy \$21,000 FWS \$216,000 NRCS \$187,000 DFG TOTAL=\$3.8 million
	2005=2 2006=7 2007=17 2008=20 2009=7 2010=5 TOTAL=58 AVG=9.7/yr	2005=1040 2006=5700 2007=6126 2008=927 2009=726 TOTAL= 14,519 tons AVG= 2,904 tons/yr	2005=1040, 4.5 2006=1630, 7.6 2007=3000, 18.4 2008= 5500, 12.6 2009= 150, 4.3 TOTAL=11,320 linear ft., 47.4 ac.	Fish passage mi. <i>restored/opened</i> 2007=3 mi. 2008=16 mi. 2009=1.3 mi. TOTAL=20.4 mi.	TOTAL= ~150 landowners (~280 landowners including projects benefiting multi-unit residences or numerous landowners)	\$4.5 million State \$70,000 federal
	2006=4 2007=3 2008=5 2009=0 2010=8 TOTAL=20 AVG=4/year	2006=5442 cy 2007=212.5 cy 2008=13,005 cy 2009=0 TOTAL= 18,660 cy AVG= 4,665 cy/yr	2006=1.4 ac. 2007=0.8 ac. 2008=2.5 ac. 2009=0 TOTAL=4.7 ac.	No data	2006=3 2007=3 2008=3 2009=0 TOTAL= 9 landowners	No data

	PIR PROGRAM PROGRAM ACREAGE DRAINAGES COVERED	DATES AND OUTCOME	YEARS AND ESTIMATED COST REQUIRED TO DEVELOP PROGRAM	NUMBER OF PROJECTS INSTALLED PRIOR TO PIR UNDER INDIVIDUAL PROJECT PERMITS	NUMBER OF NRCS CONSERVATION PRACTICES (SEE CODES BELOW TABLE) APPROVED, INSTALLED, COMMONLY IMPLEMENTED (IN BOLD)
7	Cache, Putah & Willow Creek Watersheds (Yolo County) Program Area= ~500,000 acres Cache Creek Putah Creek Willow Creek	Implementation 2007- Active	2 years, \$50,000 NRCS/RCD \$250,000 Sustainable Conservation TOTAL ESTIMATED COST= ~\$300,000	No data	2 practices authorized 2 implemented: 643=15 580=5
8	Calleguas Creek Watershed (Ventura County) Program Area= 218,000 acres Calleguas Creek Conejo Creek Revolon Slough	2005-2010 Program not implemented until 2010	3 years, TOTAL ESTIMATED COST= ~\$1 million +	0	14 practices authorized 4 implemented: 620=2 342=2 580-1 362=1
PENDING PROGRAMS					
9	San Luis Obispo County Program Area= ~1.7 million acres Upper Salinas River Carrizo Plain Morro Bay streams San Luis Obispo Creek Arroyo Grande Creek Santa Maria River	2006- Pending	5 years, \$356,000 Sustainable Conservation TOTAL ESTIMATED COST= ~\$500,000	6	18 practices authorized Program pending

	NUMBER OF PROJECTS COMPLETED UNDER PIR	ESTIMATED TONS OF SEDIMENT REDUCED BY PROJECT IMPLEMENTATION	ACREAGE OF HABITAT OR STREAM LENGTH ENHANCED OR RESTORED	OTHER MEASURES OF SUCCESS (BIRD POPULATION DATA, FISH COUNTS, ETC.)	NUMBER OF LANDOWNERS WHO HAVE DIRECTLY BENEFITED FROM PIR	OTHER FUNDS LEVERAGED FOR PIR PROJECTS OR PROGRAM DEVELOPMENT
	2007=11 2008=3 2009=2 TOTAL=16 AVG=5.3/year	2007=No data 2008=No data 2009=No data TOTAL= No data	2007=44.1 ac. 2008=43.6 ac. 2009=1400 ft, 15.25 ac. TOTAL=103 ac., 1400 linear ft.	No data	2007=11 2008=3 2009=2 TOTAL= 16 landowners	No data
	2006=0 2007=0 2008=0 2009=0 2010=2 TOTAL= 2 projects AVG=0/year	No data	2010=16.5 acres, 200 ft. TOTAL=16.5 acres, 200 linear ft.	No data	2010=2 TOTAL= 2 landowners	\$50,000
	Pending	Pending	Pending	Pending	Pending	\$233,000 NFWF \$100,000 SCC TOTAL= \$333,000

	PIR PROGRAM PROGRAM ACREAGE DRAINAGES COVERED	DATES AND OUTCOME	YEARS AND ESTIMATED COST REQUIRED TO DEVELOP PROGRAM	NUMBER OF PROJECTS INSTALLED PRIOR TO PIR UNDER INDIVIDUAL PROJECT PERMITS	NUMBER OF NRCS CONSERVATION PRACTICES (SEE CODES BELOW TABLE) APPROVED, INSTALLED, COMMONLY IMPLEMENTED (IN BOLD)
10	Santa Barbara County Program Area= ~750,000 acres Santa Maria River San Antonio Creek Santa Ynez River Jalama Creek South Coast streams	2006- Pending	5 years, \$356,000 Sustainable Conservation TOTAL ESTIMATED COST= ~\$500,000	0	18 practices authorized Program pending
11	Upper Pajaro River Watershed (San Benito & Santa Clara Counties) Program Area= ~500,000 acres Upper Pajaro River Uvas Creek Llagas Creek Pacheco Creek San Benito River	2007- Pending	4 years, \$300,000 Sustainable Conservation TOTAL ESTIMATED COST= ~\$400,000	0	15 practices authorized Program pending
PROPOSED PROGRAM					
12	Mendocino County Program Area= ~300,000 acres Ten Mile River Noyo River Big River Albion River Navarro River Garcia River N. Fork Gualala River Russian River	2006- Program proposed, implementation TBA	5 years, \$40,000 RCD \$35,000 NRCS TOTAL ESTIMATED COST= ~\$100,000	4	9 practices authorized Proposed program

	NUMBER OF PROJECTS COMPLETED UNDER PIR	ESTIMATED TONS OF SEDIMENT REDUCED BY PROJECT IMPLEMENTATION	ACREAGE OF HABITAT OR STREAM LENGTH ENHANCED OR RESTORED	OTHER MEASURES OF SUCCESS (BIRD POPULATION DATA, FISH COUNTS, ETC.)	NUMBER OF LANDOWNERS WHO HAVE DIRECTLY BENEFITED FROM PIR	OTHER FUNDS LEVERAGED FOR PIR PROJECTS OR PROGRAM DEVELOPMENT
	Pending	Pending	Pending	Pending	Pending	\$233,000 NFWF \$100,000 SCC TOTAL= \$333,000
	Pending	Pending	Pending	Pending	Pending	\$105,000 Packard \$25,000 Irvine \$15,000 MPF TOTAL= \$145,000
	Proposed	Proposed	Proposed	Proposed	Proposed	\$50,000 State Coastal Conservancy

	PIR PROGRAM PROGRAM ACREAGE DRAINAGES COVERED	DATES AND OUTCOME	YEARS AND ESTIMATED COST REQUIRED TO DEVELOP PROGRAM	NUMBER OF PROJECTS INSTALLED PRIOR TO PIR UNDER INDIVIDUAL PROJECT PERMITS	NUMBER OF NRCS CONSERVATION PRACTICES (SEE CODES BELOW TABLE) APPROVED, INSTALLED, COMMONLY IMPLEMENTED (IN BOLD)
PROGRAM NOT IMPLEMENTED					
13	Salinas River Watershed (Monterey County) Program Area= ~2 million acres Salinas River Arroyo Seco River Nacimiento River San Antonio River	2003-2008 Program not implemented, expired 2008	3 years, \$317,000 Sustainable Conservation TOTAL ESTIMATED COST= ~\$400,000	0	16 practices authorized No projects implemented
PROGRAMS NOT COMPLETED					
14	San Luis Rey & Santa Margarita River Watersheds (San Diego County) Program Area= 134,000 acres San Luis Rey River Santa Margarita River	2003-2008 Program not completed	6 years, \$223,000 Sustainable Conservation TOTAL ESTIMATED COST= ~\$275,000	0	11 practices authorized Not completed
15	Humboldt County Program Area= ~300,000 acres Klamath River Trinity River Redwood Creek Mad River Freshwater Creek Jacoby Creek Elk River Eureka Plain Eel River Van Duzen River Cape Mendocino streams Mattole River	2006- Program not completed	4 years, \$444,000 Sustainable Conservation TOTAL ESTIMATED COST= ~\$500,000	No data	24 practices authorized Not completed

	NUMBER OF PROJECTS COMPLETED UNDER PIR	ESTIMATED TONS OF SEDIMENT REDUCED BY PROJECT IMPLEMENTATION	ACREAGE OF HABITAT OR STREAM LENGTH ENHANCED OR RESTORED	OTHER MEASURES OF SUCCESS (BIRD POPULATION DATA, FISH COUNTS, ETC.)	NUMBER OF LANDOWNERS WHO HAVE DIRECTLY BENEFITED FROM PIR	OTHER FUNDS LEVERAGED FOR PIR PROJECTS OR PROGRAM DEVELOPMENT
	0 No projects implemented	0 No projects implemented	0 No projects implemented	0 No projects implemented	0 No projects implemented	No data
	Not completed	Not completed	Not completed	Not completed	Not completed	Not completed
	0 Not completed	0 Not completed	0 Not completed	0 Not completed	0 Not completed	Not completed

	PIR PROGRAM PROGRAM ACREAGE DRAINAGES COVERED	DATES AND OUTCOME	YEARS AND ESTIMATED COST REQUIRED TO DEVELOP PROGRAM	NUMBER OF PROJECTS INSTALLED PRIOR TO PIR UNDER INDIVIDUAL PROJECT PERMITS	NUMBER OF NRCS CONSERVATION PRACTICES (SEE CODES BELOW TABLE) APPROVED, INSTALLED, COMMONLY IMPLEMENTED (IN BOLD)
16	Upper Cache & Putah Creek Watersheds (Lake County) Program Area= 610,000 acres Upper Cache Creek Upper Putah Creek	2006- Program not completed	3 years, \$10,000 RCD \$257,000 Sustainable Conservation TOTAL ESTIMATED COST= ~\$300,000	0	7 practices authorized Not completed
	SUM TOTAL 1998-2010 16 PIR PROGRAMS Total Program Area: active & expired programs = 1,554,000 acres in 31 drainages; pending/proposed programs = 3,300,000 acres in 23 drainages	--	Average time to develop PIR= 3.5 years/program TOTAL ESTIMATED COST= ~\$6,000,000 Average=~\$373,000 per program	Avg.=1.3 projects/yr (individually permitted projects)	--

NRCS Conservation Practice Codes

638=Water and Sediment Control Basin

342=Critical Area Planting

584=Channel Stabilization

580=Streambank and Shoreline Protection

410=Grade Stabilization Structure

620=Underground Outlet

393=Filter Strip

350=Sediment Basin

412=Grassed Waterway

326=Clearing and Snagging

204=Stream Corridor Improvement

322=Channel bank Vegetation

587=Structure for Water Control

516=Pipeline

574=Spring Development

¹ Estimated total includes projects implemented under other, non-PIR programs as part of Elkhorn Slough Watershed Project and is not comparable to other PIR program sediment reduction data.

NUMBER OF PROJECTS COMPLETED UNDER PIR	ESTIMATED TONS OF SEDIMENT REDUCED BY PROJECT IMPLEMENTATION	ACREAGE OF HABITAT OR STREAM LENGTH ENHANCED OR RESTORED	OTHER MEASURES OF SUCCESS (BIRD POPULATION DATA, FISH COUNTS, ETC.)	NUMBER OF LANDOWNERS WHO HAVE DIRECTLY BENEFITED FROM PIR	OTHER FUNDS LEVERAGED FOR PIR PROJECTS OR PROGRAM DEVELOPMENT
Not completed	Not completed	Not completed	Not completed	Not completed	\$50,000 NFWF

227 projects in 13 years 4.9 projects/yr (where PIR has been implemented)	TOTAL=198,943+ tons 16,579 tons/yr program-wide	TOTAL=92,000 linear ft, 168.6 acres Program-wide	20+ mi. access to fish spawning/ rearing habitat program-wide	425+ landowners program-wide	
--	--	---	--	------------------------------	--

575=Animal Trails and Walkways
468=Lined Waterway or Outlet
560=Access Road
382=Fence

395=Stream Habitat Improvement and Management
643=Restoration and Management of Rare or Declining Habitats
500=Obstruction Removal
378=Pond

1. What has been your role with Partners in Restoration (PIR) permit coordination programs in California? Please Note: The term “PIR program” is used interchangeably in this survey to refer to both the entire program encompassing its methodology, all its participants, and individual PIR watersheds or counties; as well as to PIR programs covering specific geographical areas.
2. Please identify the PIR program/s where you have played a role – check all that apply.
3. What has been your impression of the way individual PIR programs are DEVELOPED? Here, the term “developed” encompasses all activities needed to formulate PIR programs – from the way NRCS and the RCDs identify and tailor conservation practices to the agricultural communities they serve, to the way Sustainable Conservation drafts regulatory documents for interagency review and approval, and the way stakeholders collaborate and negotiate the terms and conditions of programmatic permits and authorizations.
4. What has been your impression of the way individual PIR programs are IMPLEMENTED? Here, the term “implemented” encompasses all activities needed to execute PIR programs on-the-ground – from the way NRCS, RCDs, and landowners install conservation practices and comply with permits and authorizations; to the way regulatory agencies honor the agreements they’ve struck with permit holders; and the way the conservation practices affect the integrity of the soil, the quality of the water, and the health of indigenous plants and animals.
5. What has been your overall impression of Sustainable Conservation as a PIR program partner?
6. Has the PIR program SIGNIFICANTLY boosted the implementation of restoration projects? Here, the term “significantly” means that the number of projects implemented WITH PIR programs clearly exceeds the number implemented WITHOUT PIR programs.
7. Does the EXISTING methodology for the PIR program hold promise for boosting the number of restoration projects implemented in the FUTURE given changing environmental conditions, evolving case law and regulatory programs, and an uncertain economic and political climate?
8. Is the time spent developing PIR programs justified by the number of projects implemented (or expected to be implemented) under the programs?
9. Are there any restoration programs that have been permitted on a programmatic scale in California that are equal to, or more effective, than PIR in advancing voluntary conservation on private lands, or that provide an alternative model for PIR?
10. Were there other benefits, perhaps unexpected, that arose from developing and implementing the PIR program?
11. Were there problems, perhaps unexpected, that arose from developing and implementing the PIR program?
12. Historically, conservation practices detailed in NRCS’ Field Office Technical Guide (FOTG) have served as the centerpiece of PIR programs. If you are familiar with the FOTG, how satisfied are you with this technical guide?



13. What conservation practices available under PIR programs are the most effective and widely applicable? Selected practices are listed below with their corresponding numerical codes – please check all that apply.
14. If you can recommend the use of any additional conservation manuals or technical guides for the design and implementation of restoration projects in California, please list them below:
15. A strong, detailed set of environmental protection and mitigation measures is a fundamental part of the PIR program. In your experience with PIR program DEVELOPMENT, how strong have these specified measures been?
16. In your experience with PIR program IMPLEMENTATION, how closely have the environmental protection and mitigation measures been followed?
17. Are post-project monitoring efforts under PIR programs useful toward measuring performance, or providing a basis for adaptive management?
18. What data should be collected during post-project monitoring exercises?
19. What funding sources should be tapped to support post-project monitoring?
20. How should “success” be defined for restoration projects implemented under PIR programs? Please check all that apply.
21. For how many years should post-project monitoring be conducted?
22. Assuming that more money spent on post-project monitoring means less money will be spent on designing and implementing conservation practices, what level of priority should be assigned to post-project monitoring?
23. What recommendations do you have for improving and promoting the PIR program?
24. What recommendations do you have for encouraging restoration on private lands using something other than the existing PIR methodology?
25. Has your relationship with people at regulatory agencies changed during the course of the PIR program?
26. When your programmatic permits and authorizations expire, do you expect to renew them?
27. What consulting firms, non-profit organizations, or other entities have the expertise to provide technical assistance for designing, permitting, implementing, and monitoring restoration projects?
28. Has the PIR program contributed to the success of your organization?
29. Has the PIR program helped your agency fulfill its mission and mandates?
30. PIR program partners spend a great deal of time “up-front” crafting a permit package so the workloads of interagency regulators can be reduced in the long-run. Where restoration work is underway in your jurisdiction, how has your workload been affected WITH PIR programs in place (compared to your workload WITHOUT PIR programs)?
31. Has the time you have spent on PIR programs been worth the actual or potential environmental gains?
32. Has your relationship with people at RCDs changed during the course of the PIR program?
33. Has your relationship with people at NRCS changed during the course of the PIR program?

APPENDIX THREE Acronyms and Names

BO	Biological Opinion
CARCD	California Association of Resource Conservation Districts
CEMAR	Center for Ecosystem Management and Restoration
CEQA	California Environmental Quality Act
CERES	California Environmental Resources Evaluation System
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
Corps	U.S. Army Corps of Engineers
CRAE	California Roundtable on Agriculture and the Environment
CRCC	California Rangeland Conservation Coalition
CSAC	California State Association of Counties
CWA	Clean Water Act of 1972
DFG	California Department of Fish and Game
DOC	California Department of Conservation
EIR	Environmental Impact Report
EPA	U.S. Environmental Protection Agency
EQIP	Environmental Quality Incentives Program
ESA	Endangered Species Act
F&G Code	California Fish and Game Code
FOTG	Field Office Technical Guide
FWS	U.S. Fish and Wildlife Service
GIS	Geographic Information Systems
HCP	Habitat Conservation Plan
ICE	Information Center for the Environment (UC Davis)



IWRP	Integrated Watershed Restoration Program
LSAA	Lake and Streambed Alteration Agreement
MND	Mitigated Negative Declaration
MOA/MOU	Memorandum of Agreement/Memorandum of Understanding
NGO	Non-governmental Organization
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NRCS	Natural Resources Conservation Service
NTU	Nephelometric Turbidity Unit
O&M	Operations and Maintenance
PIR	Partners in Restoration permit coordination program
PRBO	Point Reyes Bird Observatory Conservation Science
RCD	Resource Conservation District
RGP	Regional General Permit
SCCWRP	Southern California Coastal Water Research Project
SFEI	San Francisco Estuary Institute
SHA	Safe Harbor Agreement
SHPO	State Historic Preservation Act
TAC	Technical Advisory Committee
TMDL	Total Daily Maximum Load
USDA	U.S. Department of Agriculture
WHIP	Wildlife Habitat Incentives Program

CONSERVATION PRACTICES (WITH NRCS FOTG CODES)

Access Road = 560

Animal Trails and Walkways = 575

Channel Bank Vegetation = 322

Channel Stabilization = 584

Clearing and Snagging = 326

Critical Area Planting = 342

Fence = 382

Filter Strip = 393

Grade Stabilization Structure = 410

Grassed Waterway = 412

Lined Waterway or Outlet = 468

Obstruction Removal = 500

Pipeline = 516

Pond = 378

Restoration and Management of Rare or Declining Habitats = 643

Sediment Basin = 350

Spring Development = 574

Streambank and Shoreline Protection = 580

Stream Corridor Improvement = 204 (not listed as of August 2010)

Stream Habitat Improvement and Management = 395

Structure for Water Control = 587

Underground Outlet = 620

Water and Sediment Control Basin = 638

See all the NRCS Conservation Practices at: www.nrcs.usda.gov/technical/Standards/nhcp.html



We surveyed key stakeholders involved in the establishment and implementation of PIR programs and other programmatic restoration efforts in California, and conducted in-depth interviews with a subset of these stakeholders. During the summer of 2009, we sent the electronic survey to 63 individuals via Survey Monkey, and 49 completed surveys were returned (a 78% response rate). Please see **Appendix Two** for the complete survey.

During 2009-2010, we interviewed eleven experts from NRCS, the RCDs, and regulatory agencies throughout California. We explored both the lessons learned through the PIR Program, and the adjustments that are needed if programmatic permitting for voluntary restoration is going to survive and thrive.

The survey comprised 33 questions, including yes-no, graduated multiple-choice, and requests for narrative input, eliciting both quantitative and qualitative information. Respondents included representatives of eight NRCS offices; eleven RCDs; regulatory experts from agencies at the federal (four), State (three), and local level; agricultural organizations, environmental NGOs, and former technical staff from Sustainable Conservation. The level of experience held by respondents extended to all 16 PIR programs established, implemented, or proposed since the PIR Program started in 1996.

Survey respondents and interviewees represented a diversity of roles and viewpoints, with expertise in regulatory programs, restoration ecology and voluntary restoration of private lands. Their thoughts provided a wealth of insights, compelling observations, and useful recommendations – grouped below under the applicable Recommendations. We synthesized the diversity of viewpoints of respondents and took great care to preserve their confidentiality. The quotations found in this Program Assessment report were incorporated to accent overarching themes, and were used by permission of the respondents.

RECOMMENDATION #1: Establish Programmatic Permits for Restoration and Erosion Control Projects on a Statewide and Multi-regional Basis

The majority of survey respondents believe the investment in time and money needed to build a PIR Program is worthwhile. However, concerns were expressed about the growing cost of designing PIR programs and securing programmatic permits. Survey responses reveal broad support among representatives from NRCS, the RCDs, and regulatory agencies to scale permitting of restoration projects *from* the countywide and watershed level *to* a statewide and multi-regional level, although they recognized the difficulty in achieving this goal given the diversity of the State's biological and cultural resources, geography, hydrology, and land use practices. And while there are good reasons to strengthen the link between the voluntary restoration efforts and the regulatory mandates of federal and State agencies, it is necessary to maintain the Program's clear non-regulatory approach in order to remain attractive to farmers, ranchers, and rural communities.



RCD personnel support the scaling-up of programmatic permits for voluntary restoration projects, noting the great cost of developing programmatic permits at the countywide or watershed scale – particularly for RCDs that are only minimally funded and those that lack tax revenues. Furthermore, a scaled-up program will: (i) raise restoration standards and integrate training and information exchange across geographical regions; (ii) reinforce the environmental gains of already successful PIR programs; and (iii) in underserved regions, transform restoration projects from the unpermitted, do-it-yourself realm into projects that are designed and installed through a comprehensive, science-based, restoration program.

For the most part, interagency personnel strongly support the scaling-up of programmatic permits, and some survey respondents thought their agencies needed to do more to advance regulatory coordination initiatives. Respondents agreed that high-level support from interagency leaders will be crucial for achieving this goal. One respondent concluded that establishing and implementing PIR programs must be made “increasingly more efficient from the agency staff perspective,” and this could be accomplished by “obtaining solid support from the top of each agency, resulting in directives to agency staff. . .”

At the same time, several regulators expressed concern that programmatic permits generated for several previous PIR programs were not fully utilized by RCDs and landowners, and this underutilization wasted the time, effort, and goodwill that regulators invested in the establishment of PIR programs. The agencies seem quite willing to collaborate on programmatic permits for PIR programs if a sufficient number of restoration projects are installed, and if these projects can contribute toward achieving interagency goals and mandates (e.g. pollutant load reductions, the recovery of salmon and steelhead).

The Costs and Benefits of Establishing and Implementing PIR Programs

Assuming that stewardship-minded stakeholders will continue to pursue restoration projects on private lands, PIR programs should result in an overall decrease in the workload of resource and regulatory agencies. The PIR methodology of programmatic permitting front loads the timing of the regulatory review and approval process, and it encourages more intensive coordination and communication among stakeholders than traditional, case-by-case permitting. When stakeholders fail to engage and invest in the collaborative PIR process, and unpredictable demands or inconsistent decisions are made, then PIR programs truly do become bogged down, and this translates into hefty transaction costs for all concerned.

Perceptions regarding the *establishment* of PIR programs were generally strong (e.g., identifying conservation practices, negotiating the requirements of the permits and authorizations, navigating the interagency review and approval process). Seventy-one percent of the respondents viewed the establishment of PIR programs as positive or acceptable. Sustainable Conservation received a 76 percent favorable rating (very positive or positive) from those who expressed an opinion about our role in the PIR process.

Perceptions regarding the *implementation* of PIR programs were similar (e.g., project installation, monitoring and reporting). Seventy-three percent of the respondents viewed PIR implementation as very positive or positive. These numbers indicate broad support for the PIR Program for its ultimate and overriding goal – the installation of conservation practices to control erosion and enhance riparian and wetland habitat.

The Effectiveness of PIR Programs

More than 75% of respondents stated that the time they spent on establishing PIR programs was somewhat or fully justified, and more than 90% stated that the PIR methodology had promise for boosting the number of restoration projects in the future. Only 8 % stated that the PIR methodology was not promising.

Sixty-two percent of respondents reported that there were *unintended benefits* to be gained beyond programmatic permitting (e.g., multi-stakeholder camaraderie and the unification of landowners and regulators), while 54 % noted *unintended problems* resulting from this same work. This apparent contradiction may reflect the dynamic and unpredictable consequences of such a unique restoration methodology.

Sixty percent of the representatives from NRCS and the RCDs reported that the PIR process *somewhat* or *greatly* improved their relationships with representatives from regulatory agencies, while 34 % reported no change, and only 6 % reported that these relationships deteriorated under the PIR process. Forty percent of regulators reported improved relationships with representatives from NRCS and the RCDs, while ~50% reported no change to these relationships, and ~10 % reported that these relationships deteriorated under the PIR process.

One State regulator opined that programmatic permitting at the countywide and watershed-level amounted to a “fatal flaw” in the PIR methodology, and instead called for the crafting of statewide permitting frameworks with agency staff in Sacramento that could be tiered to specific geographic regions. Two respondents wrote that the PIR process could be strengthened and made more comprehensive by obtaining solid support and directives from high-level officials at federal and State agencies, and two others suggested preparing standardized Memoranda of Agreement, Memoranda of Understanding, and CEQA templates so the PIR program could be authorized on a statewide or regional scale (rather than county-by-county), and then tiered to specific geographic areas.

A State regulator wrote that, “Permit streamlining should not be a method for reducing agency oversight, but rather a program to secure acceptable timeframes for review and an acceptable review process.” Another respondent considered the existing PIR model “workable,” but welcomed programmatic permitting at a regional or larger scale.



One respondent observed that the process of establishing PIR programs is becoming more, rather than less, time consuming; and concluded that replicating the program in its current form might not be worthwhile. This same respondent witnessed significant strengthening in the relationships between regulatory staff and representatives from NRCS and the RCDs, but lamented that these relationships were sometimes short-lived due to staff turnover.

One respondent wrote that the PIR program significantly increased the completion of projects that required permits (versus those projects that do not affect sensitive resources and do not require permits). This same respondent observed that public interest and scrutiny of restoration projects on private lands were increasing just as the PIR program was established, and the fact that the PIR methodology demonstrated that good restoration projects were being implemented in compliance with regulatory requirements was a major accomplishment (symbolically and substantively).

While one respondent predicted, “it will be years before the invested time pays dividends in environmental conditions,” others concluded that benefits already achieved through implementation outweighed the costs of program establishment. One respondent wrote that the time spent upfront to establish the program made the dozen or so projects implemented in the first year “expensive,” but that the PIR program had “paid for itself” by the end of its third season of implementation.

Several respondents explained how efficiencies achieved in one phase of the PIR program reverberate positively throughout other aspects of the decision-making process for conservation work. One person detailed how s/he spent less time on projects under the PIR program, and could use the time savings toward achieving multiple purposes: “I can prioritize my workload and know what deadlines I have to meet yearly as compared to projects coming in randomly; my (pre- and post-project) inspections occur over a shorter period of time and the time is efficiently scheduled by the RCD; I . . . participate with the design team for complex projects, and closely review these projects. The end result is much time less spent, better projects and much better working relationships.”

A representative from NRCS said the agency spends *more time* on the installation of PIR-type projects *with* the PIR Program than *without* the PIR Program, but *more significant* restoration projects are done as a result of the PIR Program. Moreover, when viewed together, all the projects installed by individual landowners add up to more than the sum of their parts. One respondent wrote, “Collectively we have accomplished watershed-scale restoration by doing [projects] targeted to small-scale restoration goals. It’s a great partnership with much more potential.” A State regulator wrote that landowners appreciated that they were not required to apply for individual permits, and concluded that the landowners “would not pursue many of these projects without this program.”

One respondent recommended program proponents talk with the regulatory agencies as early as possible so the permitting documents can be properly framed. A regulator cautioned not to wait to submit final versions of environmental documents – better to provide key information for agency review early in the process and in draft form. The writer went on suggest that program proponents describe the types of projects and the potentially affected species so that this information can then be incorporated early into environmental protection measures.

One respondent urged all the agencies – especially DFG, FWS, and NRCS – to be clear about their goals, positions, expectations and interpretations, and wrote that the entire PIR program is undermined when “cooperation depends on who is sitting in a particular chair.” This sentiment was echoed by comments received about staff turnover.

One respondent suggested evaluating whether or not regulatory barriers were indeed thwarting restoration actions, or whether something else was the cause, e.g. lack of funding, expertise, or interest. Other respondents, assuming regulatory barriers are the problem, suggested the following refinements to the way permits are coordinated for PIR programs:

- Regulatory agencies should dedicate staff to reviewing and approving permit applications under PIR programs. Arrangements could be made similar to what Caltrans and the San Francisco Public Utilities Commission has done to pay for staff positions at regulatory agencies so the review and approval of infrastructure proposals can be fast-tracked (it’s not clear what agency would cover these costs for a scaled-up PIR Program);
- Coordinate the permits more closely and link them to the TMDL process.
- Secure funding and target expenditures to meet specific goals for ecosystem restoration.
- Secure early support for PIR programs from local decision-makers (elected officials and municipal employees).
- Identify early adopters for the first phase of implementation.
- Establish a “task force” or “team” to define mutual goals and review potential projects.

One respondent was “dismayed” by the State’s perceived lack of consistency from one region to another (singling out DFG) – especially regarding fees the agency charges for permits. One respondent took little solace when the agencies (presumably referring to federal or State regulators) “stuck to their agreements,” because in some cases, “the agreements are so draconian as to be unworkable.” Still another respondent observed that even if consistency was achieved across field offices, districts and regional offices of federal and State agencies, a local agency could easily “stall the whole process” by withholding approval of a PIR program or project under a local ordinance. Finally, a respondent wrote that s/he detected “differences in interpretation of jurisdiction” amongst agencies (presumably within agencies and across agencies), and cited staff turnover as a key contributor to this problem.



Five respondents considered the perspective of landowners in the context of the PIR methodology. One RCD representative wrote that the PIR program was “even more attractive to landowners” in today’s world, and that the RCD would expect “more participation rather than less” in the future. Another RCD representative wrote, “There is always potential for boosting the numbers if the process is both economically viable and expeditious. Landowners often are afraid of the cumbersome aspects of these projects. If and when funding was available to supplement the costs, this would certainly enhance the efficacy.” Another writer re-affirmed the importance of restoring habitat on private farmlands, but suggested exploring *fuel reduction* practices on private lands to manage fire more holistically. Two respondents submitted conflicting viewpoints – one thought more direct contact between landowners and agencies should be encouraged to build collaboration and cooperation, while the other favored “shielding landowners from direct contact with agency staff.”

The following is a synthesis of suggestions for enhancing landowner engagement and interagency coordination:

- Provide landowners with information about how environmental degradation affects their economic bottom line, e.g. the hidden costs of encroaching on floodplains (for flood control, road construction and crop production).
- Provide landowners with funding and tax incentives for maintaining and restoring biological diversity and ecosystem functions.
- Focus outreach to key landowners about the recovery of listed species.
- Link restoration programs with environmental curricula in schools.
- Partner with green label certification programs to help market goods from lands where products are raised sustainably.

Outreach and Promotion of the PIR Program

Two respondents advised Sustainable Conservation to be more aggressive toward promoting the PIR Program among agricultural, conservation, and regulatory communities; and to encourage enrollment of landowners through peer networks and by making “a big deal of those involved in the projects through the media.” Detailed prescriptions for these goals were suggested by several respondents, and are synthesized as follows:

- Perform upfront outreach to agricultural leaders, agency representatives, political leaders and environmental groups to discuss the scope and context of the program.
- In addition to preparing printed brochures to advertise PIR programs, Sustainable Conservation should broadcast electronic versions for the brochures.
- Resource and regulatory agencies should include the PIR program brochure (printed and electronic) in their outreach materials.
- Scale up the brochures into posters for placement at businesses frequented by potential enrollees; e.g. feed & tack stores, coffee shops, hardware stores.

-
- Create a promotional video about the PIR program narrated by a prominent landowner.
 - Broadcast the video widely, send DVD copies to contacts in the agricultural and environmental communities, and post the DVD on the websites of RCDs, CARCD, NRCS, and Sustainable Conservation.
 - Broadcast messages through social media networks and blogs.
 - Build support for PIR programs in the agricultural community by tapping into the leadership of agricultural associations, including winegrape growers, local chapters of the Farm Bureau, and local chapters of the State Grange.

RECOMMENDATION #2: Select a Core Set of Conservation Practices and Environmental Protection Measures for Statewide and Multi-regional Programmatic Permitting

Some NRCS representatives stated that their Field Office Technical Guide (FOTG) must be utilized, and its designs and specifications closely followed, in order for the resulting restoration projects to be eligible for their agency's cost-share funding.

Some representatives from NRCS and the RCDs favored the idea of selecting a core set of conservation practices for programmatic permitting under the PIR Program, but others did not. For those supporting the idea, suggestions were made for focusing on aquatic habitats (streams, wetlands, and ponds) which would generally fall within Corps jurisdiction and thereby trigger the federal nexus for ESA and SHPO consultations and programmatic coverage. A number of RCDs have already adopted an approach of carefully tailoring their programs to include the minimum number of practices to both meet the needs of landowners and to secure the approval of programmatic permits. Others want the broadest set of practices available to them, and even envision expanding the practices they currently offer.

Regulators supported the proposal to tailor a set of core conservation practices for a statewide or multi-regional PIR program. Moreover, regulators applauded a renewed focus on *restoration* under the PIR Program, and welcomed the opportunity to work with landowners toward improving the health of riparian ecosystems, e.g., installing natural structures to rebuild complex instream habitat for the recovery of salmon and steelhead populations. Conversely, one respondent accepted the idea of programmatic permitting for conservation practices aimed more toward improving farmland infrastructure than restoring natural resources as long as practitioners adhered to all the environmental protection measures, but the respondent suggested categorizing these practices as "operations and maintenance" and not "restoration."

Some regulators supported the incorporation of the DFG Salmonid Stream and Habitat Restoration Manual and other technical guides into the PIR Program, noting that some project design standards in the FOTG are no longer fully consistent with contemporary principles of restoration ecology. There was understanding that for projects catalyzed by NRCS funds, the FOTG standards must be explicitly followed. However, for all non-NRCS funded projects, there



may be flexibility to combine design features of the FOTG conservation practices with DFG's technical specifications for restoration projects.

Survey responses, both quantitative and narrative, provide strong evidence that a core set of conservation practices (10 ±) can be selected for a statewide/multi-regional PIR Program – meeting most landowner needs for erosion control and habitat restoration, while also reducing the complexity of the program. We found strong support for both continued reliance on NRCS' FOTG as the program's primary technical manual and the proposal to supplement the FOTG with other, restoration-specific manuals. Asked to specify the widely applicable and cost-effective conservation practices for the PIR program, survey respondents listed a total of 23 standard practices. Six practices had the broadest support – listed by at least 60 % of all respondents:

- Critical Area Planting (FOTG code #342⁴⁰)
- Stream Habitat Improvement and Management (395)
- Restoration and Management of Declining Habitats (643)
- Stream Corridor Improvement (204)
- Channel Bank Vegetation (322)
- Streambank Protection (580)

One respondent thought her/his PIR program suffered from an overly large scope – in terms of both geographical scale and the number of conservation practices encompassed. The resulting countywide program was deemed “unwieldy” because all the regulatory agencies had difficulty reaching consensus on programmatic permits for such a broad program. As program proponents added more and more conservation practices during the establishment phase, the regulatory agencies responded with additional terms and conditions, and ultimately the focus of the program was blurred. As time passed, there was growing uncertainty about how the program could be used and who, ultimately, would be the beneficiaries.

A RCD representative noted that, “the details and coordination with NRCS and other relevant regulatory agencies can be problematic. My recommendations are to narrow the most likely conservation practices needed in a county to half a dozen or so, and work on a programmatic permit (i.e. don't be overly expansive if you really don't need to be).” A representative from another RCD expressed interest in “paring down the program to certain critical practices” where the need is great. Several other respondents offered specific feedback on some of NRCS' conservation practices, and the following is a synthesis of those comments:

Clearing and Snagging (conservation practice #326): A RCD representative wrote that field personnel favored using Clearing and Snagging on a case-by-case basis to remove obstructions to stream flow. A State regulator observed that Clearing and Snagging may be

⁴⁰ See the practice descriptions at: <http://www.nrcs.usda.gov/technical/Standards/nhcp.html>

necessary to promote certain ecological benefits, i.e. improving flow in a stream with heavy willow growth, but also expressed great caution about this practice. Fish and many other aquatic species need complex instream habitat, beneficial microhabitats, and vegetation cover from predators (less than 1 meter above the stream, otherwise it serves as a perch for predatory birds). A federal regulator wrote that Clearing and Snagging is not a restoration action and will not be permitted programmatically in future PIR programs.

Grade Stabilization (#410) and Channel Stabilization (#584): One respondent noted that these practices “are so broad they had to be conditioned a lot” (by regulators). Another respondent wrote that the practices must be designed to facilitate passage of salmonids in fish-bearing streams, or systems occupied by other species of concern. Grade stabilization structures and channel stabilization projects frequently create barriers to passage, and these projects must incorporate standards from DFG or NOAA Fisheries. A federal regulator wrote that installation of grade stabilization structures is not a restoration action and will not be permitted programmatically in future PIR programs.

Spring Development (#574): Two respondents raised concerns about the need for, and the ecological effects of, Spring Development, where flow from springs is routed to watering troughs for cattle. One respondent thought there was no information on how much water was re-routed, the timing, and under what conditions the practice might not be utilized (if any).

Streambank Protection (#580): Respondents noted that this type of work should be limited to biotechnical methods in order to be considered “restoration.” Non-biotechnical methods involving bank armoring with concrete or rock riprap may sometimes be necessary on agricultural lands, but *should not* be considered restoration. The amount of sediment produced by the eroding banks rarely merits a fully rip-rapped bank, and other erosion control methods are available to address bank failures while allowing reestablishment of native riparian vegetation. Streambank projects should not use excessive toe rock.

Several cautionary points were made that bank stabilization practices could displace riparian habitat and alter the geomorphology (shape and function) of streams and rivers. One respondent stated that increased stability of a stream channel is not necessarily ecologically beneficial if it prevents a stream from reaching a dynamic equilibrium. In short, streambank stability is not always “good,” and erosion of the stream environment is not always “bad.”⁴¹

⁴¹ Streambank erosion and channel instability results from the meandering of creeks and rivers as the channel dissipates the energy of flows and flood events. In turn, streambank erosion releases cobbles and gravels that can be essential to the successful spawning of fish populations. The problem with erosion, sedimentation and streambank stability stems from whether erosion and sedimentation rates exceed the normal range of variability due to human activities. This can cause the washing away of riparian forest and valuable agricultural land, and the smothering and cementing in fine sediment of instream gravels needed for fish spawning and rearing.



On the Technical Manuals Used for PIR

Currently, the conservation practices detailed in the FOTG comprise the technical core of the PIR Program. As one respondent noted, “The FOTG is key because that is what the NRCS field staff know and are trained to work with. They know its language and are therefore able to communicate with agency staff in a very comfortable and knowledgeable way.” Over 25 comments specifically addressed some aspect of the FOTG’s conservation practices, while an additional 10 comments addressed the idea of “restoration” in the context of the PIR program methodology.

In their quantitative responses, respondents indicated strong support for continued reliance on NRCS’ FOTG as the technical manual for the PIR Program. Of those familiar with the manual, 83 % reported that they were *satisfied* or *very satisfied* with the FOTG. At the same time, a number of narrative responses indicated support for supplementing the FOTG with restoration-specific manuals – particularly the *California Salmonid Stream Habitat Restoration Manual* produced and updated regularly by DFG.

One set of comments addressed the notion that the FOTG’s conservation practices are “outdated” and not consistent with practices emerging from the realm of restoration ecology. One non-governmental scientist wrote that, “There are many river restoration techniques recommended in the [FOTG] guide that are now quite outdated and almost impossible to permit.” Two respondents wrote that the national FOTG conservation practices were not necessarily applicable to the restoration needs of listed salmon and steelhead in California, and recommended that the conservation practices be “reconciled with standard anadromous fisheries habitat restoration methods.” Other respondents raised concerns that the conservation practices could have short- and long-term adverse effects on the environment, particularly on water quality and quantity, slope stability, and biological resources. One practitioner wrote that the FOTG should increase the emphasis on using native plants for re-vegetation projects.

Several respondents thought the over-arching practices detailed in the FOTG are acceptable, but that successful implementation of these practices required a strong level of local interpretation and experience. Practitioners wrote, “the NRCS manual frequently gives a range of designs/practices, and some of the practices as described in the manual are not adequately designed to protect the environment,” e.g. bank armoring, riparian vegetation removal, and grade control structures that “perpetuate watershed-wide problems.” One State regulator expressed confidence in her/his local NRCS and RCD to “make the appropriate adjustments,” but a federal regulator favored the modernization or elimination of these practices.

A RCD representative wrote that, “the additional specifications that must be followed due to NRCS guidelines are onerous or not applicable to a project, which can make it difficult to work

with that project in a PIR setting.” A representative from a different RCD did not object to NRCS’ standards and specifications, but concluded that, “there are many projects that would not qualify as official FOTG practices that may be cheaper, more feasible for cooperators, [and] beneficial to the environment – but that do not qualify as formal practices and thus cannot be used.”

The other set of comments suggested reinforcing “restoration” as the primary goal for PIR programs (versus practices designed to upgrade infrastructure on farms or ranches, or maintain stream corridors for flood control). One person wrote that, “The program will need to change . . . particularly in regard to what is considered a restoration project. The majority of the projects are those that have a lot of community buy-in,” but might not be designed to address the key stressor or limiting factor that is preventing the recovery of natural habitat or the populations of imperiled species, e.g. “riparian buffers, solutions to water depletion, etc.”

On the Strength of Environmental Protection Measures

Detailed and rigorous sets of environmental protection measures are incorporated into each PIR program to guide the design and installation of restoration projects. Seventy percent of survey respondents found the environmental protection measures to be *strong* or *very strong*, while 20% found the measures to be *adequate*, and 10% found them to be *weak*.

Regarding the adherence to these measures during the installation of restoration projects, 55% of survey respondents reported that the measures were followed *closely*, 40% reported that the measures are followed *adequately*, and 6% reported that the measures were followed *inadequately* or *not at all*.

Two respondents wrote that “strength” was not the optimal criteria for rating the measures. Instead, one respondent recommended making measures “clear, well defined, practical, science-based, mutually agreeable and verifiable,” while the other respondent recommended making measures “adequate” and “realistic.”

One writer recommended establishing “design and review teams” to ensure that restoration projects are properly designed and that environmental protection measures are followed. Indeed, such teams have been established under some PIR programs involving representatives from NRCS, RCDs, and federal and State regulatory agencies. One NRCS representative declared that the permitting process made her/him more aware of regulatory issues surrounding projects on private land, and therefore more careful and thorough in planning and reviewing restoration projects.



RECOMMENDATION #3: Write and Negotiate Long-term (at least 10-year) Statewide and Multi-regional Programmatic Permits for Restoration and Erosion Control Projects

RECOMMENDATION #4: Engage with Local Leaders to Allow Functionally Equivalent Environmental Protection Measures in State and Federal Programmatic Permits and Authorizations to Constitute Compliance with Local Ordinances

Regulators observed that permitting barriers at the county level might persist even if programmatic permits and authorizations are established at the statewide and multi-regional level. Counties with extensive environmental ordinances might not be receptive to PIR programs even if they are being simultaneously authorized by federal and State agencies, a scenario experienced in Santa Cruz, San Diego, Santa Barbara, and Santa Clara counties.

Two respondents recommended that program proponents increase outreach to local agencies and officials, perhaps even before engaging federal or State agencies, so local officials have a significant role and stake in the process, and are more motivated toward aligning local permitting with permitting on the federal and State levels. “The local agency (county) was the most challenging to deal with,” wrote one respondent. “However, in hindsight, it really is not that surprising. Local governments are sovereign and they certainly view themselves as such. Any perception that an entity is coming in from the outside and trying to impact their local vision of community is understandably met with suspicion (more in some counties than in others in California).”

The several suggestions for overcoming local permitting barriers included: (i) engaging the California State Association of Counties for assistance in facilitating county-to-county communication and cross border environmental planning and restoration; (ii) providing counties with templates for exempting conservation practices from local ordinances (e.g., encroachment, grading, riparian protection) as long as PIR programs incorporate and adhere to *functionally equivalent* environmental protection measures that are prepared to address federal and State regulations.

RECOMMENDATION #5: Leaders of Federal Agencies Should Explore All Options for Providing Programmatic Permit Coverage Under the Federal Endangered Species Act (ESA) and National Historic Preservation Act (NHPA)

The NRCS’ *federal nexus* policy eliminated the lead federal agency role of NRCS, and therefore programmatic permit coverage under the ESA and NHPA/SHPO, for all PIR projects not receiving some level of federal funding assistance from NRCS. This is problematic as a number of landowners do not seek or expect funding assistance from NRCS to install voluntary restoration projects that require interagency permitting, yet these landowners wish to use the programmatic permits and authorizations negotiated under PIR programs.

The federal nexus issue attracted considerable attention from survey respondents, and has emerged as perhaps the greatest potential barrier for scaling-up the PIR Program for the next generation of voluntary restoration projects. One respondent expressed concern that NRCS changed the terms of engagement in the midst of negotiations for their program. Another respondent concluded that equating a federal action only with “federally funded projects... significantly reduced our ability to make PIR work well in our county,” and a third respondent expressed “disappointment in NRCS leadership,” while lamenting that “it will be less of a partnership with NRCS as we move forward...” One respondent accepted NRCS’ position, and recommended looking for another federal partner to serve as the lead federal agency for that PIR program.

Representatives from NRCS, RCDs, and regulatory agencies indicated a need to find a more favorable solution to the federal nexus issue than simply conceding that projects not funded by the NRCS cannot be covered by the PIR Program. The lack of a federal nexus leaves many RCDs and landowners in the same bind they would face in the absence of a PIR program – on their own to secure authorizations for each voluntary restoration project from FWS, NOAA Fisheries Service, and SHPO. RCDs cannot secure programmatic permit coverage in a cost-effective way for voluntary restoration projects that do not receive cost-share funding from NRCS.

RECOMMENDATION #6: Integrate Federal and State Safe Harbor Agreements (SHAs) into Programmatic Permits

This recommendation was not part of the survey questions, and was not discussed at any length during the interview process. However, stakeholders including NRCS and Sustainable Conservation agree that Safe Harbor Agreements (SHAs) should be made routinely available to landowners who are implementing voluntary restoration projects that have the potential of attracting special status species.

RECOMMENDATION #7: Develop and Adopt Consistent Standards for Monitoring and Annual Reporting to Comply with Programmatic Permits

Metrics are critical to measuring the performance of PIR programs, and for attracting investments for their establishment and implementation. At a minimum, program partners should continue documenting outcomes resulting from the installation of conservation practices and generally accepted as indicators of increased ecological health, e.g. estimates of soil retained on-site, decreases in sedimentation rates and volumes, extent of invasive weeds cleared and replaced by native vegetation, and changes in the extent of riparian canopy.



One respondent thought qualified researchers should collect monitoring data and evaluate the effectiveness of representative projects in a stratified set of project settings while another respondent recommended partnering with universities to design voluntary monitoring programs that can be implemented by trained non-scientists.⁴² Regulators suggested standardizing and simplifying monitoring and reporting activities through a web-based data system that fosters consistency across all PIR programs. More extensive, watershed monitoring may be warranted where many projects are installed in a given geographic region, but this should be pursued by monitoring experts from agencies, NGOs, and scientific consortia.

Ninety percent of survey respondents agreed that monitoring efforts following project installation are *useful* or *very useful*, but disagreed about the duration of this monitoring – 42% recommended 5 or more years, 31% recommended 3-4 years, and 27% recommended 1-2 years. When asked to prioritize monitoring against other project tasks – assuming that money spent on monitoring meant that less money would be spent for project design and implementation – 50% of survey respondents gave monitoring a *high priority*, while 33% gave monitoring a *medium priority*.

Respondents stressed the need for monitoring under PIR programs to be feasible and not burdensome for landowners and RCDs, and recommended: (i) collecting environmental data at the same level of detail as was required to determine the problem; (ii) tailoring the complexity and intensity of monitoring protocols to the technical and workforce capacities of program partners; (iii) basing monitoring on *success criteria* and *effectiveness* rather than duration; (iv) focusing monitoring efforts to determine whether adaptive management is warranted; (v) distinguishing between the *voluntary restoration* of impaired sites on private lands under PIR programs and the *required restoration* of sites under regulatory programs that require developers and public agencies to *mitigate* the environmental damage caused by their projects; and (vi) ensuring that funds are requested in grant proposals to allow for credible monitoring exercises and for the maintenance and implementation of contingency measures on projects requiring adaptive management.

Defining and Measuring “Success” for Projects and Programs

Ninety-five percent of survey respondents defined “success” as *increased engagement of landowners in voluntary restoration*, followed by *controlling erosion* (86%), *recovery of riparian forests, woodlands and grasslands* (84%), *decreased sedimentation* (81%), *control of invasive vegetation* (67%), and improvements streams and natural habitats including *temperature*, *channel stability*, and *connectivity* (each 65%).

One respondent observed that decreases in stream temperatures, and increases in the abundance and diversity of special status species, might be difficult to measure and attribute

⁴² www.epa.gov/owow/monitoring/volunteer/newsletter/volmon20no1.pdf

to the installation of PIR projects. Another respondent noted that implementation of PIR programs may “support” the recovery of riparian forests, improvements in water quality and fish habitat, and the maintenance of species richness, but s/he questioned whether these results could be demonstrated in a given area.

Suggested Metrics for Measuring Success

One respondent wrote that the collective monitoring program for PIR projects needs to answer the question, “Is your project working?” Three respondents stressed the need to clearly establish goals for both the restoration and monitoring programs, and to link these goals together. One respondent wrote that monitoring should be “scaled” to the magnitude of the project, or the potential risk associated with project. Finally, one respondent observed that until a restoration project has “weathered” a bit, it is not complete, and that most projects “need a little tweaking.” The following list synthesizes potential monitoring elements offered by survey respondents:

Specific data to be collected:

- Cost of the project and the return on investment;
- Reduction in erosion/sedimentation rates;
- Volume of soil retained onsite or captured in basins;
- Maintenance needs for adaptive management;
- Ongoing maintenance and management costs;
- Survival rates and % coverage of native vegetation installed;
- Response of bird populations to restoration actions;
- Photo points for meaningful, long-term monitoring;
- Physical responses of streams using cross-sections and topographic data;
- Recruitment/recovery of suitable fish habitat (potential surrogate for measuring fish populations);
- “Ecosystem functions”;
- Connectivity of aquatic and terrestrial landscapes, including data on the maintenance and restoration of fish and wildlife migration corridors;
- A representative sample of projects from each PIR program to provide longitudinal monitoring;
- Presence of listed species in the project area, and avoidance measures taken to prevent injury or mortality to individuals (including follow-up surveys to determine whether the species re-occupies the site following restoration work); and
- Contact information for key individuals who have contributed to the planning, design, and installation of the project.

Performance and Compliance Monitoring

Survey respondents drew a distinction between *performance* monitoring (verifying that the



project functions as designed and resolves the resource problem) and *compliance* monitoring (adherence by permit holders and landowners/operators to the program's environmental protection measures and required permit conditions).

Regarding performance monitoring, one respondent recommended developing a monitoring program for conservation practices that was scientifically peer-reviewed. Such a program could be used to: quantify the outcomes of restoration projects; justify investments in conservation practices; adjust the features of the project to improve its performance (i.e., *adaptive management*); and leverage the results from successful projects to attract future funding. Regarding compliance monitoring, a federal regulator raised concerns that violations of ESA were not being reported "when they are known to occur" and wrote that the burden fell upon her/his agency to compare annual reports to determine whether or not landowners were dropped from programmatic permit coverage.

According to one respondent who was leading a PIR program, the two aspects of monitoring collided in a frustrating fashion when NRCS' confidentiality requirements with landowners "stymied" the mapping, tracking, and follow-up inspections of the projects." This same respondent said NRCS' stance constituted a "significant weakness" in the PIR methodology, and "prevents fully benefitting from the longer-term outcomes of the public investment."

Two respondents noted that, regardless of NRCS' confidentiality requirements, the regulatory agencies did not have the time or workforce to monitor the outcomes of project installation anyway, so even if permit holders or landowners/operators failed to comply with the permits, the agencies would have no way of knowing because of staffing constraints. Another respondent thought this perceived gap in compliance monitoring could be filled by NRCS and the RCDs because they possess the necessary credibility for post-project monitoring.

From Sustainable Conservation's perspective, *intentional* non-compliance is unlikely because enrollees in voluntary PIR programs are almost always interested in good stewardship of natural resources. Landowners who are poor stewards of the land are not likely to enroll in the PIR program. Moreover, all the up-front environmental protection measures built into the program specifically include procedures designed to prevent *accidental* non-compliance. Unfortunately, the strong emotions and controversy surrounding this issue have fueled disagreements among the stakeholders, and have impeded the permit coordination process.

RECOMMENDATION #8: Demonstrate How Programmatic Permits Help Federal and State Agencies Achieve Environmental Goals, and Give the Agencies a Reason to Invest in Voluntary Restoration Programs

When we asked whether the PIR Program contributed to the success of their organization and/or helped their agency fulfill its mission and mandates, 86% of representatives from NRCS and

the RCDs answered affirmatively, as did 93% of representatives from regulatory agencies. One RCD representative observed that NRCS could more fully recognize how much the PIR Program complements the environmental goals of Farm Bill programs, e.g., the Environmental Quality Incentives Program (EQIP), and the Wildlife Habitat Incentives Program (WHIP).

Regulators observed that the PIR Program can help achieve environmental goals, such as the sediment and nutrient reduction targets specified by TMDLs, and recovery goals for special status species. They recommended focusing the conservation practices on restoring riparian corridors and rebuilding complex instream habitat, and supplementing conservation practices from NRCS' FOTG with restoration-specific manuals.

Some regulators stated that the PIR Program has not reduced the amount of time they spend on permitting restoration projects, and has therefore not met their expectations. Representatives from the Regional Water Boards observed that programmatic permitting processes reduce the amount of fees that they can collect for issuing permits, and this reduces the revenue for their fee-based environmental programs. This tradeoff is only justified financially if PIR programs improve "beneficial uses" designated by the State's Basin Plans, and contribute toward the achievement of water quality goals and TMDL targets.

RECOMMENDATION #9: Increase the Institutional Capacity of RCDs to Establish and Implement Restoration and Erosion Control Programs

Heavy Workloads, Chronic Understaffing, and Capacity Constraints

Several respondents expressed concern with the heavy workloads, chronic understaffing, and capacity constraints experienced by all stakeholders in the PIR Program. While "funding" was suggested as a remedy for this problem, one respondent argued that the "mentality" of certain agencies was an additional factor in limiting the successful establishment of PIR programs.

Unfortunately, when one or more stakeholders are not engaged in the permit coordination process, issues and agreements that were thought to be settled need to be revisited, sometimes continually, and this penalizes the stakeholders who invest in the entirety of the process, and can doom the establishment of PIR programs.

One respondent suggested that successful PIR programs could be successfully run despite capacity constraints at RCDs if Sustainable Conservation augmented the work of RCDs with administrative and technical contributions. Another respondent noted, "Sustainable Conservation provides an important role to the PIR program in that it is an objective ... third-party mediator between the stakeholders." Three respondents advised Sustainable Conservation to take a more constrained and neutral role in the future, saying the organization "cannot be seen as an outsider directing a process" and should not be involved in PIR "unless proven staff are available to assist cooperators (participating landowners)."



The Effects of Personnel Changes and Staff Turnover

Given collaboration is the central feature of the PIR methodology, and that stakeholders must constantly balance the complex issues surrounding the restoration of private lands, PIR programs are especially vulnerable to changes in personnel and staff turnover. Nevertheless, staff turnover is a permanent factor in any extended negotiation process, and success requires the stakeholders to effectively manage the turnover and succession processes. Unfortunately, historically, stakeholders in the PIR Program have struggled to ensure consistency between outgoing and incoming personnel.

Several survey respondents cited “staff turnover” at the regulatory agencies, NRCS, RCDs and Sustainable Conservation as a critical problem, and one person wrote that “personnel changes were a huge hindrance, because decisions were based on the individual rather than clear agency policy.” The disruption caused by turnover was greatly amplified if an organization’s incoming representative articulated a different position than the outgoing representative, or if the outgoing representative was not replaced and the organization consequently disappeared from the PIR process altogether.

One respondent wrote that even though her/his PIR program was relatively straightforward, most representatives from agencies were not familiar with the PIR methodology, and staff turnover made “re-educating different staff members...incredibly difficult.” Other respondents alluded to the “significant delays” and complications caused by changes in agency staff and jurisdiction, and the constant need for stakeholders to build and maintain trust and to ensure their concerns were being addressed during “additional rounds” of the PIR process.

One respondent concluded that the “learning curve for RCD/NRCS staff in each county” was a reason that PIR programs have not become easier to design and implement over time. Another respondent reported that their PIR program “completely stalled with a personnel change in NRCS,” leading to a “very disheartening” final outcome. One respondent expressed appreciation for Sustainable Conservation’s “leadership, organization and guidance,” but wrote that staffing changes at Sustainable Conservation were a “problem due to loss of project history, and [the] need to develop new relationships.” Still another respondent reported that their PIR program was hindered by simultaneous changes in staffing at NRCS and Sustainable Conservation.

Building Capacity at RCDs and Expanding the Scope and Effect of the PIR Program

NRCS and the RCDs recognize that establishing and implementing PIR programs requires significant administrative and technical expertise, and that only a few high-performing RCDs have emerged as leaders of successful PIR programs. NRCS personnel expressed a need for a stronger endorsement from their own agency for the PIR Program so they have the opportunity to devote greater time and resources to coordinating permits and catalyzing the

restoration of private lands. NRCS could also help build the capacity of RCDs by making their technical training courses more available to RCD personnel and at a lower cost, and RCDs, especially neighboring RCDs, could do more toward information sharing, cross-training, and collaborative fundraising.

RECOMMENDATION #10: Explore Ways for Public and Private Parties (in Addition to Farmers and Ranchers) to Use the Programmatic Permits Held by the RCDs

To broaden their value as stakeholders, and to adapt to the funding and regulatory realities of the 21st century, RCDs could do more to market their collaborative and technical skills, and their ability to provide the keys, through landowner relationships, to restoring off-limits private properties across California. RCDs could also do more to add innovation to their traditional programs, e.g., working with municipal agencies and landowners to restore streamside properties in rural and suburban areas.

Innovation has been a hallmark of the PIR program for the Marin Coastal Watersheds where stakeholders established a multi-party, interdisciplinary team that met periodically to review and refine the design of restoration projects. Their review is based upon the applicability of conservation practices, hydrology, structural stability, fluvial geomorphology, and protection of aquatic and riparian habitat. One respondent noted the unique role that a trusted restoration consulting firm plays in the Marin Coastal Watersheds program, although the cost of such an arrangement would be beyond the budget for most PIR programs.

One potential source of revenue that could be invested in RCDs to build their capacity while also expanding the scope and effect of PIR programs could be fee-for-service contracts that RCDs could sign with other organizations and businesses for “access” to the coveted permit packages. These parties include land trusts and conservancies with farming and ranching assets, and private timber companies who are managing their forests for sustainability. Key representatives from these parties expressed great interest in using the programmatic permits and authorizations secured by RCDs under the PIR permit coordination process to expedite installation of small-scale restoration projects that they would design and install at their own expense.



Land trusts, conservancies, and timber companies often possess the technical expertise and funding to perform biological surveys, design and install restoration projects, and monitor environmental outcomes, but they often do not hold the necessary permits to perform this environmental work. In addition to linking and leveraging the efforts between NRCS, RCDs, land trusts, and timber companies for the improved stewardship of “working” agricultural and timber lands, and the improved management of watersheds and ecosystems; engaging these parties in the PIR Program could also supplement the technical services provided by the NRCS, and stretch federal Farm Bill dollars.

NRCS personnel and regulators expressed solid support for a more expansive use of the programmatic permits obtained by the RCDs under PIR programs. Some concern was expressed by NRCS about incorporating into PIR programs the project ranking criteria of other agencies and organizations. Also, one NRCS representative preferred PIR programs remain more opportunistic in structure, where watershed segments, restoration sites, and restoration projects are not targeted or ranked.



Sustainable Conservation

98 Battery Street, Suite 302

San Francisco, CA 94111

Phone: (415) 977-0380

Email: suscon@suscon.org

www.suscon.org

