2015-2016 Annual Report
Introduction

Strategic Program Preferences – Priority Areas – Priority Conservation Concerns

Board of Directors – Staff – Contact Information

2015 - 2016 Program Summaries and Outcomes

The following information is deemed truthful and accurate to the best of our knowledge. This document is not to be used during an audit. For audit records please contact the District.
INTRODUCTION

The Ventura County Resource Conservation District (RCD) serves as liaison for natural resource conservation between local landowners, regulatory agencies, and municipalities.

We have the authority to carry out our goals and objectives as a Special District organized under the California Public Resources Code Division 9.

Priority issues include preservation of Agriculture, open space advocacy, outreach and education on water resources, watershed protection, watershed restoration, control and/or eradication of invasive species, evaluating the potential impacts of loss of wildlife habitat, and maintaining air quality.

The Mission of the RCD is to collaborate with landowners, government agencies, and other willing partners to facilitate the conservation, sustainability and restoration of Ventura County’s natural resources.

Our function is:
To make available technical, financial, and educational resources, whatever their source, and focus or coordinate them so that they meet the needs of the local land managers for the conservation of soil, water and related natural resources.

The District Board, comprised of local landowner volunteers, dedicates their personal time to represent the community on natural resource concerns.

The District is funded by grants, fee for service programs, and contributions.
STRATEGIC PROGRAM PREFERENCES

Agriculture preservation and conservation
Water quality and efficiency
Watershed Planning and Management
Monitoring and evaluation of conservation projects
Conservation planning
Programmatic permit coordination and development
Coordination of urban/rural interface
Education and Outreach

PRIORITY AREAS

Ventura County Agricultural Land
Ventura River Watershed
Santa Clara River Watershed
Calleguas Creek Watershed
Coastal Watersheds
Malibu Creek

PRIORITY CONSERVATION CONCERNS

Agricultural resources
Grazing resources
Livestock Management
Water Resources: conservation and quality
Soil Resources: conservation and erosion control
Habitat Resources: conservation and restoration
Flooding Hazards: stream bank conservation and invasive plant removal
Wildfire Hazards: fuel loading
Urban and Rural interface
BOARD OF DIRECTORS

Mark Mooring, President
Doug Nelson, Vice President
Kevin Cannon, Treasurer
    Bud Sloan
    Mike Richardson
    Margaret Ludington
    Merril Berge

RCD STAFF

Martin Melvin, Executive Officer
Debra Gillis, Director of Finance and Operations
    Vic Akundzadeh, Irrigation Program
    Dana Bogdanich, Environmental Specialist
    Jamie Whiteford, BMP Specialist
    Caitlyn Teague, Water Quality Specialist

CONTACT INFORMATION

Mailing: P.O. Box 147
Office: 3380 Somis Road
       Somis CA 93066
       805-764-5130

WWW.CONSERVEVENTURA.ORG

The Resource Conservation District Ventura County prohibits discrimination in all its programs and activities on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, sexual orientation, marital or family status or any other protected classes. The Resource Conservation District Ventura County is an equal opportunity provider and employer.
Overview

The Storm Water Quality Program (SWQP) was created in 2012 to assist land and livestock owners with improving the environmental quality of storm-generated runoff emanating from their property.

Assistance begins with a property visit to evaluate site-specific parameters including: soil type and health, topography and relief, facilities and design, and land and livestock management practices. This assessment yields an assortment of biological, structural, and managerial recommendations (Table 1) which are then reported to the owner.

Results

Over the past three years, the Storm Water Quality Program has assisted about a dozen landowners and/or facility managers representing over 800 acres of property and nearly 500 livestock animals. A general lack of manure management practices was common among all sites, resulting in a disproportionately high number of recommendations designed to address manure-related impacts to storm water quality (Figure 1).

In addition, the SWQP has worked with the horse and livestock community in the Ventura River Watershed to help create the Horse & Livestock Watershed Alliance. This community-led organization has been instrumental in working with the Water Board to develop a practical implementation plan to meet the Ventura River Watershed’s Algae Total Maximum Daily Load (TMDL) Goal for Horses and Livestock.

Table 1: Examples of Best Management Practices (BMPs) and/or Livestock & Land Practices offered as recommendations following SWQP site visits. BMPs are from either the Natural Resources Conservation Service (NRCS) or Northern California’s Livestock and Land Program.

<table>
<thead>
<tr>
<th>BMP</th>
<th>NRCS Practice</th>
<th>Livestock &amp; Land Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>194</td>
<td>Vegetative Buffer Strip</td>
<td>Manure Management</td>
</tr>
<tr>
<td>327</td>
<td>Conservation Cover</td>
<td>Manure Bunker</td>
</tr>
<tr>
<td>342</td>
<td>Critical Area Planting</td>
<td>Impermeable surface below</td>
</tr>
<tr>
<td>362</td>
<td>Diversion</td>
<td>Cover Manure prior to rain events</td>
</tr>
<tr>
<td>382</td>
<td>Fence</td>
<td>Compost</td>
</tr>
<tr>
<td>393</td>
<td>Filter Strip</td>
<td>Divert water from manure</td>
</tr>
<tr>
<td>412</td>
<td>Grassed Waterway</td>
<td>Fence off waterways</td>
</tr>
<tr>
<td>484</td>
<td>Straw Mulch</td>
<td>Gutters &amp; downspouts</td>
</tr>
<tr>
<td>528</td>
<td>Proper Grazing Use</td>
<td>Rotational Grazing</td>
</tr>
<tr>
<td>558</td>
<td>Runoff Roof Structure</td>
<td>Dryland Pasture</td>
</tr>
<tr>
<td>570</td>
<td>Storm Water Runoff Control</td>
<td>Pasture Management</td>
</tr>
<tr>
<td>Drawing</td>
<td>Waterbar</td>
<td>Nitrate Test Strips to check runoff</td>
</tr>
</tbody>
</table>
Ventura County has close to 200,000 acres of grazing land and over 2,400 farms, many of which house a variety of livestock (Chart 1). To date, SWQP site visits have resulted in the potential mitigation of nearly 3,000 tons of manure from the Ventura River. This is equivalent to almost 230 tons of respirable carbon and 50 tons of macronutrient pollutants (Graph 1).

**Discussion**

While the SWQP has provided guidelines to help mitigate many properties in Ventura County, a comparison of current load mitigations achieved by the SWQP to the potential load reductions county wide (Graph 2) indicate significant reductions remain.

It is noteworthy that agriculturally related practices such as grassed waterways were absent on many properties. This indicates that quantifying nutrient reductions alone underestimates the environmental benefits of the SWQP as it does not capture loadings of soil borne agrochemical pollutants.

**Conclusions**

The SWQP has raised awareness concerning manure management throughout Ventura County and helped landowners implement best management practices to improve the quality of runoff generated on their property.
Projections indicate that the SWQP could provide substantial additional water quality benefits. It is likely that expanding this program to include incentives would expedite adoption of SWQP recommended best management practices and hasten the attainment of water quality objectives throughout the county.
Overview

The purpose of the Mobile Irrigation Lab (MIL) is to evaluate the irrigation efficiency of agricultural operations and recommend improvements that will correct inefficiencies. The goal of the MIL program is to protect environmental quality by offering growers practical water management options. To accomplish this, MIL staff tailor comprehensive irrigation reports for growers incorporating both irrigation system measurements and field observations. Since the first evaluation in 2008, MIL staff have completed about 260 irrigation evaluations representing almost 5,200 acres of irrigated cropland in Ventura County (Figure 1).

Results

An evaluation of MIL metrics such as the number of growers assisted, the number of irrigation evaluations performed, and the irrigated acreage evaluated indicates that the MIL program has grown steadily since its implementation eight years ago. At the end of 2015, the majority of analyses have occurred within the Calleguas Creek Watershed, reflecting the large degree of environmental impacts within this area (Figure 2).

Using the Low-Quarter Distribution Uniformity (lqDU) protocol developed by Irrigation Training and Research Center (ITRC) faculty at Cal Poly SLO, MIL staff have determined that the average lqDU of irrigation systems within Ventura County watersheds is about 0.74, a value somewhat lower than that of the industry standard.

A comparison of the average lqDU value for all of Ventura County watersheds (0.74) to the industry standard (0.85) indicates that if growers were to follow MIL staff recommendations, they could reduce their water consumption by over 4 inches per acre, a cumulative sum of more than 1600 acre-feet (AF) (Figure 3). Extrapolating this value throughout the county indicates that over 30,000 AF of irrigation water is recoverable.
A review of projects where MIL recommendations were implemented indicate this estimate of recoverable water is conservative. Following improvements, the average lqDU for these systems exceeded industry standards (i.e., 0.89 versus 0.85), and water consumption reductions averaged 8 inches per acre (versus 4 inches per acre).

**Discussion**

Inefficient irrigation practices have numerous environmental impacts (Table 1). Thus, irrigation evaluations are often required by local, regional, and state-wide environmental agencies. These numerous impacts imply that quantifying the benefits of the MIL program by water savings aloneunderestimates the program’s value.

To address these larger impacts, MIL staff survey and review crop, soil, nutrient, and pesticide Best Management Practices (BMP’s) with growers. A partial list of BMPs recommended for water conservation and nutrient management is provided in Table 2.

Interestingly, the average lqDU value of irrigation systems evaluated over the past four years of the program has been below the County average, implying that irrigators with system deficiencies are actively seeking MIL services. This is likely due to several factors including the ongoing drought and the availability of an incentives program to help growers defray the cost of implementing MIL recommendations.

**Conclusion**

The MIL program has achieved success because of the relationship the Resource Conservation District (RCD) has cultivated with both growers and regulators.

For Ventura County to remedy its recurring water issues, continued support of the MIL program and further investments in irrigation efficiencies through grower incentives should be a component of any broader water management plan.
Invasive Plant Removal Programmatic Permits

Overview

The programmatic permit program is designed to reduce the cost and implementation time of projects seeking to remove invasive plants from the Calleguas Creek and Upper Santa Clara River watersheds.

Resource Conservation District (RCD) staff liaison with landowners and regulatory agencies (Table 1), securing work permits and supervising projects, thereby shortening the total time needed for project completion.

While a wide assortment of invasive plants are found throughout both watersheds, the program targets arundo (Arundo donax) and tamarisk (Tamarix spp) for removal because of the immense threat they pose to the riparian ecosystem (Table 2).

Results

The Calleguas Creek Arundo/Tamarisk Removal Program (CCARP) has facilitated the removal of over 6.5 acres of arundo and tamarisk, representing about 57 tons of biomass.

Surveys of the watershed indicate that several subwatersheds within the larger Calleguas Creek Watershed area contain stands of arundo and/or tamarisk at different levels of abundance (Figure 1). While the Calleguas Creek subwatershed contains the highest acreage of arundo and tamarisk, the relative percent of non-natives to natives within each subwatershed is similar (Graph 1).

The Santa Clara Arundo/Tamarisk Removal Program (SCARP) focuses on removing non-natives from the upper reaches and tributaries of the Santa Clara River within Los Angeles County (Figure 2). This is meant to ease removal of these invasives from the lower watershed by eliminating repopulation due to stand relocation during storms.

Regulatory Permitting Agencies

<table>
<thead>
<tr>
<th>Agency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ventura County Public Works Department</td>
</tr>
<tr>
<td>Los Angeles Regional Water Quality Control Board</td>
</tr>
<tr>
<td>California Department of Fish and Wildlife</td>
</tr>
<tr>
<td>US Army Corps of Engineers</td>
</tr>
<tr>
<td>US Fish and Wildlife Service</td>
</tr>
</tbody>
</table>

Table 1: Agencies with whom the RCD coordinates permitting and project requirements via the programmatic permit program.

Invasive Plant Riparian Impacts include...

<table>
<thead>
<tr>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>degraded water quality</td>
</tr>
<tr>
<td>diminished water supply</td>
</tr>
<tr>
<td>increased flooding risk</td>
</tr>
<tr>
<td>increased streambank erosion</td>
</tr>
<tr>
<td>increased fire hazards</td>
</tr>
<tr>
<td>reduced native habitats</td>
</tr>
<tr>
<td>decreased native wildlife abundance</td>
</tr>
<tr>
<td>risks to threatened and endangered species</td>
</tr>
</tbody>
</table>

Table 2: Partial list of environmental impacts that non-native plants have upon the riparian community.
Invasive Plant Removal Programmatic Permits

Figure 1: Abundance of arundo and tamarisk within the reaches and tributaries of the Calleguas Creek watershed.

Graph 1: Acreage of arundo and tamarisk within individual subwatersheds of the Calleguas Creek watershed.
Although work on non-native plant removal has focused on the upper section of the Santa Clara River, the entire river is at risk since 44% of the 400 plant species within the Santa Clara River are not native (Figure 3).

With respect to arundo and tamarisk, over 44 acres, or about 457 tons, of these plants have been removed from the upper Santa Clara River watershed. Most of this removal has occurred within Reach 6, the most heavily inundated reach within the watershed (Graph 2).

**Discussion**

Both CCARP and SCARP has led to the removal of arundo and tamarisk from watersheds within Ventura County. While significant tonnage of both have been removed, their exceptional fecundity predicts a return to similar densities if complete eradication is not achieved.

While the cost of the permitting process is substantial, the threat arundo and tamarisk pose to both the riparian communities and the larger watershed ecosystem must be considered when quantifying the beneficial impacts of the programmatic permit program.

**Conclusion**

The Resource Conservation District has successfully applied the programmatic permit program towards invasive plant removal within both the Calleguas Creek and the Santa Clara River watersheds. The programmatic permit program provides landowners a streamlined mechanism to expedite removal of non-native plants from riparian communities in an environmental sensitive way, thereby protecting the health of not only the reaches and tributaries, but that of the greater watershed too.

**Figure 2:** Map of the Santa Clara River and its watershed showing its separation in to its upper (Los Angeles County) and lower (Ventura County) reaches.

**Figure 3:** Diversity and relative distribution of non-native plant types within the upper reaches and tributaries of the Santa Clara River.