

RECEIVED

OCT 10 2014

GENERAL NPDES PERMIT FOR RESIDUAL
AQUATIC PESTICIDE DISCHARGES FROM
ALGAE AND AQUATIC WEED CONTROL APPLICATIONS

DIVISION OF WATER QUALITY
ORDER NO. 2013-0002-DWQ
NPDES NO. CAG990005

Attachment E – Notice of Intent

SEP 25 2014

WATER QUALITY ORDER NO. 2013-0002-DWQ
GENERAL PERMIT NO. CAG990005

STATEWIDE GENERAL NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
(NPDES) PERMIT FOR RESIDUAL AQUATIC PESTICIDE DISCHARGES TO WATERS OF
THE UNITED STATES FROM ALGAE AND AQUATIC WEED CONTROL APPLICATIONS

I. NOTICE OF INTENT STATUS (see Instructions)

Mark only one item	A. <input type="checkbox"/> New Applicator	B. <input checked="" type="checkbox"/> Change of Information: WDID# <u>4A567300005</u>
	C. <input type="checkbox"/> Change of ownership or responsibility: WDID# _____	

II. DISCHARGER INFORMATION

A. Name Ventura County Watershed Protection District			
B. Mailing Address 800 South Victoria Avenue			
C. City Ventura	D. County Ventura	E. State CA	F. Zip 93009-1610
G. Contact Person Karl Novak	H. E-mail address karl.novak@ventura.org	I. Title Deputy Director, Operations & Maintenance	J. Phone (805) 672-2106

III. BILLING ADDRESS (Enter Information only if different from Section II above)

A. Name Mariann Kovats			
B. Mailing Address Ventura County Public Works - Accounts Payable, 800 South Victoria Avenue			
C. City Ventura	D. County Ventura	E. State CA	F. Zip 93009-1600
G. E-mail address mariann.kovats@ventura.org	H. Title Accounts Payable Supervisor	I. Phone (805) 654-2320	

IV. RECEIVING WATER INFORMATION

A. Algaecide and aquatic herbicides are used to treat (check all that apply):

1. Canals, ditches, or other constructed conveyance facilities owned and controlled by Discharger.
Name of the conveyance system: Ventura County Watershed Protection District flood control facilities

2. Canals, ditches, or other constructed conveyance facilities owned and controlled by an entity other than the Discharger.
Owner's name: Multiple potential public and private land owners, depending on project.
Name of the conveyance system: _____

3. Directly to river, lake, creek, stream, bay, ocean, etc.
Name of water body: All Waters of the United States within Ventura County, including Calleguas Creek and tributaries, Santa Clara River and tributaries, Ventura River and tributaries, Malibu Creek tributaries, and Pacific Ocean tributaries (map in APAP).

B. Regional Water Quality Control Board(s) where treatment areas are located
(REGION 1, 2, 3, 4, 5, 6, 7, 8, or 9): Region 4
(List all regions where algaecide and aquatic herbicide application is proposed.)

V. ALGAECIDE AND AQUATIC HERBICIDE APPLICATION INFORMATION

A. Target Organisms: Surface annual and perennial weeds (typically broad leaf weeds and grasses), Arundo donax (giant reed) and other invasives.

B. Algaecide and Aquatic Herbicide Used: List Name and Active ingredients
Glyphosate-based aquatic herbicide products (e.g. Aquamaster, Rodeo). Active ingredient is glyphosate, N-(phosphonomethyl)glycine in the form of its isopropylamine salt.
Imazapyr-based aquatic herbicide products (e.g. Habitat). Active ingredient is imazapyr, isopropylamine salt of Imazapyr (2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1H-imidazol-2-yl]-3-pyridinecarboxylic acid).

C. Period of Application: Start Date January 1st* End Date December 31st
* Note: Applications of herbicide are made as needed throughout the calendar year. Imazapyr use is expected to begin in November, 2014

D. Types of Adjuvants Used: Non-ionic adjuvant approved for aquatic use (e.g. Magnify)

VI. AQUATIC PESTICIDE APPLICATION PLAN

Has an Aquatic Pesticide Application Plan been prepared and is the applicator familiar with its contents?
 Yes No

If not, when will it be prepared? _____

VII. NOTIFICATION

Have potentially affected public and governmental agencies been notified? Yes No

VIII. FEE

Have you included payment of the filing fee (for first-time enrollees only) with this submittal?
 YES NO NA

IX. CERTIFICATION

"I certify under penalty of law that this document and all attachments were prepared under my direction and supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment. Additionally, I certify that the provisions of the General Permit, including developing and implementing a monitoring program, will be complied with."

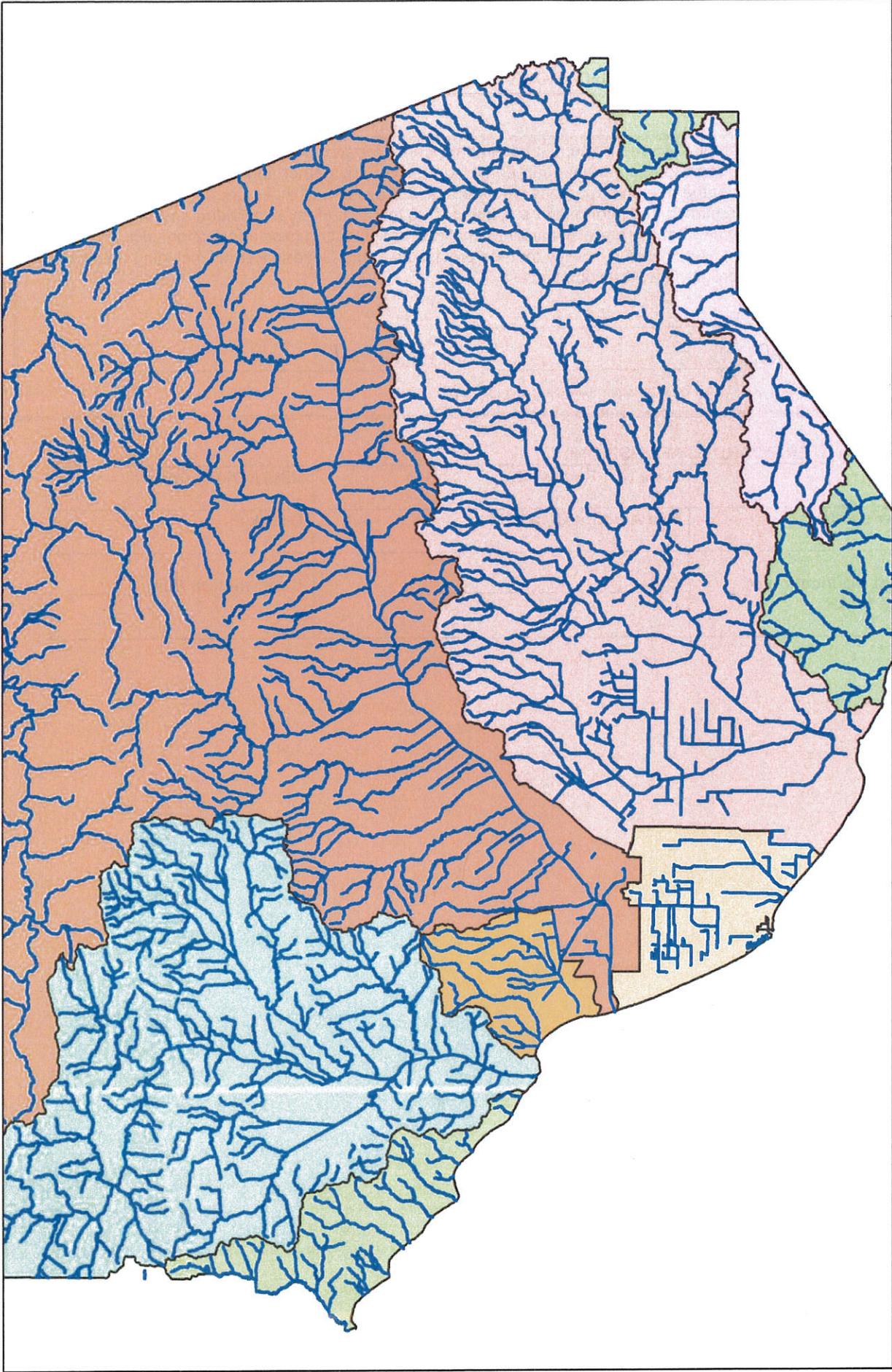
A. Printed Name: Tully Clifford

B. Signature:  Date: 5/25/2014

C. Title: Director, Ventura County Watershed Protection District

XI. FOR STATE WATER BOARD STAFF USE ONLY

WDID:	Date NOI Received:	Date NOI Processed:
Case Handler's Initial:	Fee Amount Received: \$	Check #:
<input type="checkbox"/> Lyris List Notification of Posting of APAP	Date _____	Confirmation Sent _____



1 inch = 5 miles

10 Miles

0

5

10

County of Ventura Potential Aquatic Pesticide Application Sites

- Legend**
- Waters of the United States
 - Malibu Creek
 - Calleguas Creek
 - Ventura Coastal
 - Santa Clara River
 - Oxnard Coastal
 - Other

SEPTEMBER 2014

Ventura County
Watershed Protection District

Aquatic Pesticides Application Plan (Revised)

Prepared by:

VENTURA COUNTY WATERSHED
PROTECTION DISTRICT

TABLE OF CONTENTS

1	Background	1
2	Water System to which Aquatic Herbicides are Applied	3
2.1	Ventura River Watershed.....	3
2.2	Santa Clara River Watershed	4
2.3	Calleguas Creek Watershed	4
2.4	Malibu Creek Watershed	5
2.5	Coastal Watersheds.....	5
3	Application/Treatment Areas.....	5
4	Need for Control Measures and Description of Targeted Weeds	7
5	Aquatic Herbicide Products, Adjuvants, and Application Methods	7
6	Aquatic Herbicide Use Factors	9
7	Application Rate Determination and Application Logs.....	11
8	Water Quality and Designated Use Impacts	11
	Best management practices are in place to prevent designated use impacts as the result of District applications of aquatic herbicide.	11
8.1	Receiving Water Limitations	11
8.2	Aquatic Impacts	12
9	Monitoring Program.....	13
9.1	Logical Framework.....	14
9.2	Monitoring Approach.....	15
9.3	Representative Monitoring Site	16
9.4	Sample Collection.....	18
9.5	Quality Assurance / Quality Control (QA/QC)	23
10	Recordkeeping	24
10.1	Monitoring Records Retention.....	24
10.2	Annual Information.....	24
11	Reporting.....	25
11.1	Annual Report.....	25
11.2	Twenty-Four Hour (Oral) and Five Day (Written) Reports.....	26
11.3	Notifications.....	27
12	Current and Planned BMPs.....	28
12.1	Certification, Pesticide Labels, and Permits	28
12.2	Notification Requirements	28

12.3	Preliminary Site Evaluations.....	28
12.4	Secondary Site Evaluations and Pre-Treatment Assessment.....	28
12.5	BMPs Implemented Prior to Treatment.....	29
12.6	Post Treatment Assessment	29
13	Evaluation of Other Potential BMPs.....	29
14	References	30

LIST OF TABLES

Table 1 - Logical Framework Components	14
Table 2 - Field Sampling Checklist	19
Table 3 - Contact List	20
Table 4 - Constituents and Sampling Parameters	22
Table 5 - QA/QC Sample Type and Data Quality Objective.....	24

LIST OF FIGURES

Figure 1 – Potential Aquatic Herbicide Application Sites (Waters of the United States within Ventura County).....	6
Figure 2 – Example Aquatic Pesticide Application Monitoring Site	17
Figure 3 - Doris Drain Monitoring Site	18

APPENDICES

A	Field Forms
B	Ventura Countywide Stormwater Quality Management Program Application Protocol
C	Aquatic Herbicide Application Sites and Beneficial Uses

1 Background

On 12 March 2001, the Ninth Circuit Court of Appeals ruled that discharges of pollutants from the use of aquatic pesticides to waters of the United States require coverage under an NPDES permit. Consequently, the State Water Resources Control Board (SWRCB) developed an Emergency Aquatic Pesticide Permit (Order No. 2001-12-DWQ) to cover short-term seasonal discharges by public entities of pollutants associated with the application of aquatic pesticide for resource or pest management to waters of the United States. An updated version of the Aquatic Pesticide Permit for the control of aquatic weeds (General Permit No. CAG990005) was completed in 2004 (Order No. 2004-0009-DWQ) and then again in 2013 (Order No. 2013-0002-DWQ). The basic requirements of 2013-0002-DWQ (Order) include the following:

1. The applicator must follow all Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) pesticide label instructions and any Restricted Material Use Permits issued by a County Agricultural Commissioner;
2. The discharger must be licensed by the California Department of Pesticide Regulation (DPR) if licensing is required for the application project;
3. Herbicides and adjuvants must be labeled for aquatic use;
4. Discharges of residual¹ algaecides² and aquatic herbicides and their degradation byproducts are not authorized to waters of the United States that are impaired by the same active ingredients and their degradation byproducts;
5. The discharger must comply with effluent and receiving water limitations and must develop and implement an Aquatic Pesticides Application Plan (APAP);
6. The discharger must comply with monitoring and reporting requirements.

An APAP is a comprehensive plan developed by the discharger that describes the pesticide application program and must contain the following elements sufficient to address each proposed treatment area:

1. Description of the water system to which algaecides and aquatic herbicides are being applied;
2. Description of the treatment area in the water system;
3. Description of types of weed(s) and algae that are being controlled and why;
4. Algaecide and aquatic herbicide products or types of algaecides and aquatic herbicides expected to be used and if known their degradation byproducts, the method in which they are applied, and if applicable, the adjuvants and surfactants used;
5. Discussion of the factors influencing the decision to select algaecide and aquatic herbicide applications for algae and weed control;

¹ Defined in the Permit as those portions of the aquatic herbicide that remain in the water after the application and its intended purpose (injury or elimination of targeted pests) have been completed.

² The Ventura County Watershed Protection District does not apply algaecides.

6. If applicable³, list the gates or control structures to be used to control the extent of receiving waters potentially affected by algaecide and aquatic herbicide application and provide an inspection schedule of those gates or control structures to ensure they are not leaking;
7. If the Discharger has been granted a short-term or seasonal exception under State Water Board *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays,* and Estuaries of California* (Policy) section 5.3 from meeting acrolein and copper receiving water limitations, provide the beginning and ending dates of the exception period, and justification for the needed time for the exception. If algaecide and aquatic herbicide applications occur outside of the exception period, describe plans to ensure that receiving water criteria are not exceeded because the Dischargers must comply with the acrolein and copper receiving water limitations for all applications that occur outside of the exception period;
8. Description of monitoring program;
9. Description of procedures used to prevent sample contamination from persons, equipment, and vehicles associated with algaecide and aquatic herbicide application;
10. Description of the BMPs to be implemented. The BMPs shall include, at the minimum:
 - a. Measures to prevent algaecide and aquatic herbicide spill and for spill containment during the event of a spill;
 - b. Measures to ensure that only an appropriate rate of application consistent with product label requirements is applied for the targeted weeds or algae;
 - c. The Discharger's plan in educating its staff and algaecide and aquatic herbicide applicators on how to avoid any potential adverse effects* from the algaecide and aquatic herbicide applications;
 - d. Discussion on planning and coordination with nearby farmers and agencies with water rights diversion so that beneficial uses of the water (irrigation, drinking water supply, domestic stock water, etc.) are not impacted during the treatment period; and
 - e. A description of measures that will be used for preventing fish kill when algaecides and aquatic herbicides will be used for algae and aquatic weed controls.
11. Examination of Possible Alternatives. Dischargers should examine the alternatives to algaecide and aquatic herbicide use to reduce the need for applying algaecides and aquatic herbicides. Such methods include:
 - a. Evaluating the following management options, in which the impact to water quality, impact to non-target organisms including plants, algaecide and aquatic resistance, feasibility, and cost effectiveness should be considered:
 - i. No action;
 - ii. Prevention;

³ Not applicable for the Ventura County Watershed Protection District (District)].

- iii. Mechanical or physical methods;
- iv. Cultural methods;
- v. Biological control agents; and
- vi. Algaecides and aquatic herbicides;

If there are no alternatives to algaecides and aquatic herbicides, Dischargers shall use the minimum amount of algaecides and aquatic herbicides that is necessary to have an effective control program and is consistent with the algaecide and aquatic herbicide product label requirements.

- a. Using the least intrusive method of algaecide and aquatic herbicide application; and
- b. Applying a decision matrix concept to the choice of the most appropriate formulation.

The APAP described in the following pages addresses all of the applicable above-mentioned requirements. This APAP is proposed by the Ventura County Watershed Protection District (District).

2 Water System to which Aquatic Herbicides are Applied

Ventura County is characterized by a dry coastal climate, seasonal precipitation, and a large number of historically ephemeral streams. Relative to the rest of Southern California, a large amount of open space and agricultural land remains intact throughout the area. For many watercourses in Ventura County, water is only present during the winter and spring due to runoff from rain events. By the fall, flows have decreased substantially and aquatic habitats are either absent or present in small isolated locations. However, there are drainages with perennial flows due to natural spring and bank seepage, urban runoff, agricultural return flows, industrial discharges, and wastewater discharges.

The District applies aquatic herbicide to District facilities (channels, levees, debris basins etc.) for control of aquatic weeds for flood control and facilities maintenance purposes. The District also applies aquatic herbicide to invasive plants for removal, control, and ecosystem restoration within and outside of District facilities, depending on project (e.g. grant-funded projects, partnerships with other agencies etc.) Aquatic herbicide is used even though many of the District facilities and application areas are non-perennial and are often dry at the time of application. The District applies aquatic herbicide to Waters of the U.S. within the following hydrological units in Ventura County: Ventura River Watershed, Santa Clara River Watershed, Calleguas Creek Watershed, Malibu Creek Watershed, and portions of several smaller coastal watersheds. These watersheds are described below.

2.1 Ventura River Watershed

The 223 square mile Ventura River watershed contains diverse terrain, ranging from rugged mountains covered in chaparral in the upper areas to relatively flat valleys in the lower reaches. Almost half of the watershed is within the Los Padres National Forest. Most of the rivers in the system have natural channel beds. The Ventura River is the primary watercourse within the

watershed, with several major tributaries including Matilija Creek. The Matilija Creek subwatershed is about 55 square miles in area, about ninety percent of which is nearly pristine wilderness.

Most of the land in the Ventura River Watershed is undeveloped open space. Residential areas account for the largest proportion of developed land in the watershed, while a smaller but significant amount of land is used for commercial, industrial, or agricultural purposes. There are pockets of urbanized areas, including the cities of Ojai and Ventura and the unincorporated communities of Oak View, Mira Monte, Matilija Canyon, Live Oak Acres, Meiners Oaks, and Casitas Springs. Human activities occurring outside urban areas that impact watershed conditions include grazing and livestock, agriculture, oil production and recreation.

2.2 Santa Clara River Watershed

The Santa Clara River drains a total area of slightly more than 1600 square miles. The river flows generally westward from its headwaters in Los Angeles County to its junction with Sespe Creek in Fillmore, then southwest to the Pacific Ocean. Approximately 60 percent of the watershed is located in Ventura County and 40 percent in Los Angeles County. Most of the watershed is comprised of mountainous or hilly terrain, with some peaks reaching above 8,000 feet in altitude. The remaining land areas are comprised primarily of valley floor and coastal plain.

Most of the drainage area comprises undeveloped open space, including portions of the Los Padres National Forest and the Sespe Wilderness. Most of the developed lands within the watershed are used for agriculture, primarily in the floodplain and foothill areas near the Santa Clara River. Area farmers harvest oranges, lemons, avocados, and a variety of row crops. Residential, commercial, and industrial land uses occur primarily in the cities of Santa Paula, Fillmore, Oxnard, and Ventura. The largest of these cities is Oxnard, with a population of more than 200,000 people.

2.3 Calleguas Creek Watershed

The Calleguas Creek Watershed is located almost entirely in southern Ventura County, although the easternmost end of the watershed lies in western Los Angeles County. The watershed is approximately 30 miles long and 14 miles wide, with a drainage area of about 344 square miles. Surface water flow is discharged to Mugu Lagoon through Calleguas Creek, Revolon Slough, and the southwestern Oxnard Plain. Most of the channels in this watershed have been altered, and many have been completely or partially lined with concrete and riprap. The watershed contains the cities of Moorpark, Simi Valley, Camarillo, and Thousand Oaks, as well as a small portion of Oxnard.

About half of the watershed comprises undeveloped open space. Agricultural uses occupy about one fourth of the total drainage area, and urban areas occupy most of the remaining fourth. The primary crops grown in this area are lemons, avocados, strawberries, peppers and a variety of other row crops. Avocado and citrus groves tend to exist in the foothill areas, while the Oxnard plain produces mostly row crops. Residential development accounts for about two thirds of the urban areas, with the remainder of urban lands used for transportation/utilities, industrial, and commercial activity.

2.4 Malibu Creek Watershed

Only a small portion of the Malibu Creek Watershed lies within Ventura County, much of which consists of undeveloped open space situated in the headwaters of the drainage area. Located about 35 miles west of Los Angeles, the watershed extends from the Santa Monica Mountains and adjacent Simi Hills to the Pacific Coast at Santa Monica Bay. Several creeks and lakes are located in the upper portions of the watershed which ultimately drain into Malibu Creek. Flows from the watershed drain into Malibu Lagoon and ultimately into Santa Monica Bay when the Lagoon is breached.

Approximately 80% of the land in Malibu Creek Watershed is undeveloped. The developed land is primarily occupied by residential uses, although some commercial and industrial activity also occurs. Only a small amount of land is used for agriculture in this watershed, due to large portions of land set aside for parks and also because of the very steep slopes present in much of the region.

2.5 Coastal Watersheds

Several small watersheds discharge to the Pacific Ocean. These watersheds can include commercial, residential, industrial, and open space land uses and are typically located near the coast in the cities and unincorporated county areas near Ventura, Oxnard, and Port Hueneme.

3 Application/Treatment Areas

The District is including all Waters of the U.S within Ventura County as potential application sites, although typically the District only applies aquatic herbicide routinely to vegetation in District facilities, including drains, channels, levees, debris basins, and stream banks throughout Ventura County. Aquatic herbicide is also applied to District facilities and public and private lands within specific project areas to target invasive plants such as giant reed (*Arundo donax*) and castor bean (*Ricinus communis*). Invasive plant removal is often grant funded and the area treated is specific to the project. These projects are governed by comprehensive documents and permits that are reviewed by multiple state and federal agencies (e.g. Department of Fish and Wildlife, State Water Resources Control Board, Army Corp of Engineers, U.S. Fish and Wildlife Service etc.)

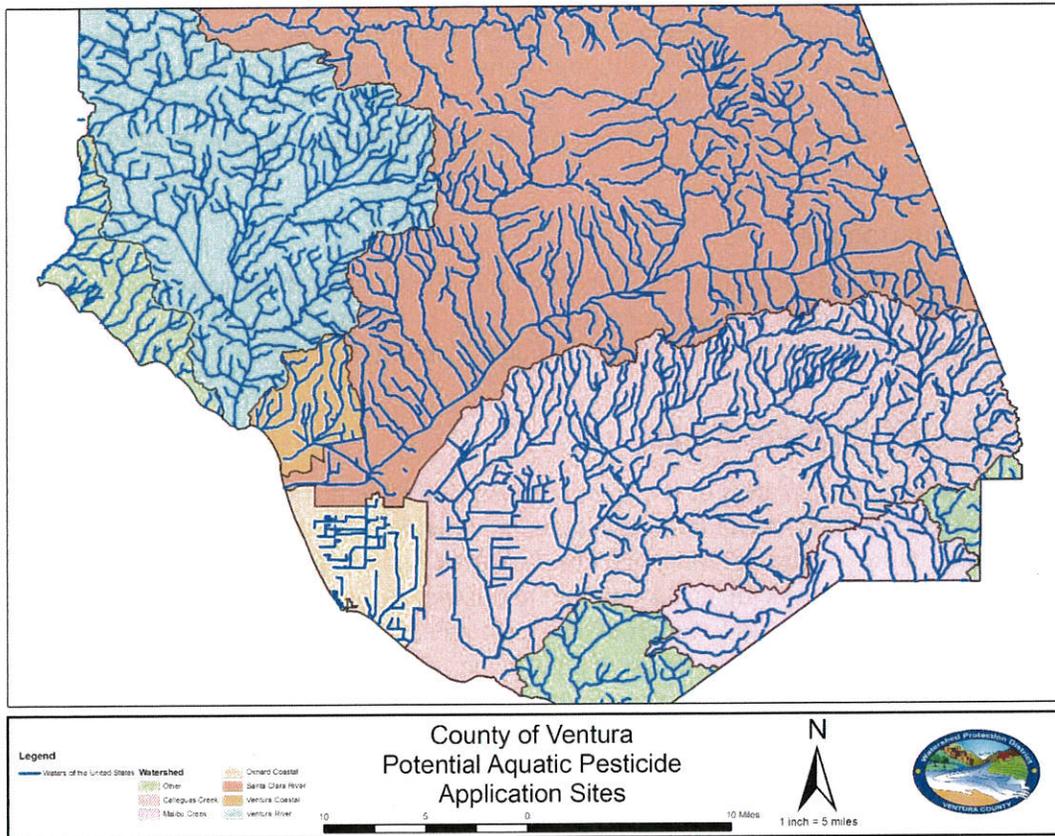
A map showing the waterbodies to which the District may potentially apply aquatic herbicide is shown in Figure 1. A list of Waters of the U.S. is included in Appendix C. Application areas within District facilities are typically targeted based on their capacity to drain storm water flow or to meet regulatory permit requirements and include natural and altered channels and ephemeral and perennial waterbodies.

Applications are made to (low, mid, and high velocity) flowing waters, as well as channels that may be ponded or dry at the time of application, but are treated as if water was present and flowing in order to ensure water quality is protected when water does flow. Aquatic herbicide is used in all channel treatments, whether water is present or not. The District does not apply aquatic herbicide to non-flowing waters such as lakes or ponds, however ponded water may occur within an application area, depending on weather conditions and flow regime. Herbicide

application areas are surrounded by a variety of land use types, including urban, industrial, commercial, and agriculture.

Aquatic herbicide is applied according to the label and all applicable manufacturer instructions. Applications are made to limit the potential for herbicide residue in the water. Any residue flows downstream through the channels, tributaries, and main stems towards the Pacific Ocean.

Figure 1 – Potential Aquatic Herbicide Application Sites (Waters of the United States within Ventura County)



The aquatic herbicides used by the District (predominantly glyphosate with project specific imazapyr use) are only effective when applied to the leaf or freshly cut stalk surfaces of target plants. Therefore, the District targets aquatic herbicide applications only directly to live vegetation. Only incidental contact of aquatic herbicide with the water body being treated may occur during applications (with the exception of certain projects which prohibit all contact). In other words, the District does not attempt to treat nuisance vegetation by applying aquatic herbicide directly to water bodies. Therefore, for this program, the treatment area is the same as the application area.

4 Need for Control Measures and Description of Targeted Weeds

Ventura County relies on its channels and debris basins to divert stormwater to prevent flooding. In order for District facilities to function correctly and safely transport stormwater away from urban areas, channels must be kept clear of any vegetation that could cause damage to District facilities, reduce capacity, and/or obstruct the flow of water. Vegetation has the potential to interfere with the structural integrity of channel banks and levees, including breaking up fill and concrete, and has the potential to cause drain blockages which can result in flooding, property damage, and threaten life. Invasive non-native plants consume large quantities of water, displace native vegetation and wildlife, disperse readily during floods, and exacerbate flooding, erosion, and fire intensity. Vegetation is also removed or reduced by herbicide in a 15-foot wide zone at the base of any bank protection (e.g. concrete, riprap) to provide an unobstructed view of the toe of the slope to allow for visual inspection. Deposition and accumulation of silt in channels leads to growth of aquatic vegetation like broad leaf weeds and grasses, which in turn can cause a buildup of additional sediment. The District currently applies aquatic herbicide to remove these weeds and prevent the growth of perennial woody vegetation in order to protect and maintain channel capacity.

In addition to aquatic herbicide applications for the purpose of maintaining hydraulic capacity, the District uses aquatic herbicide as a component of its riparian habitat restoration program, which strives to mitigate the environmental impacts of capital improvement projects. At mitigation sites, aquatic applications are used to eradicate non-native invasive species such as giant cane (*Arundo donax*) and castor bean (*Ricinus communis*). This helps promote native species establishment while reducing flood and fire hazards. For these projects, aquatic herbicide is used to spot treat target species within the mitigation sites, however the sites are typically dry at the time of application

Aquatic herbicide applications occur throughout the year. Applications are made at a frequency to control vegetation at a level that maintains the hydraulic capacity of the application site and/or controls the growth of invasive plants, usually no more than two or four times per year, respectively. The application timing and frequency at a given site may vary based on seasonal weather patterns, species present, Department of Fish and Wildlife or other environmental permit restrictions, and availability of application crews.

5 Aquatic Herbicide Products, Adjuvants, and Application Methods

The only herbicide used by the District for routine maintenance within drainage channels in Ventura County is non-selective, glyphosate-based aquatic herbicide (e.g. Aquamaster, Rodeo etc.), which is applied throughout the county to control aquatic weeds, grasses, and broad leaf weeds. Glyphosate is a non-residual broad-spectrum, systemic, post-emergence herbicide that is absorbed into plant cells and is translocated throughout the plant. Glyphosate inhibits enzymes required by the plant for the biosynthesis of essential aromatic amino acids which are needed by plants to generate proteins, growth promoters and inhibitors, phenolics, and lignin.

Visible effects of glyphosate begin with gradual wilting and yellowing of the plant and progress to complete browning of above ground growth and failing of the root systems. The effects usually occur slowly, within two to four days for annual weeds and up to seven days or more for

perennial weeds. Visible effects may be delayed during periods of extremely cool or cloudy weather.

Glyphosate is only effective through direct application to foliage or direct application to the freshly cut surface of plant stalks (cut-and-daub method) due to its strong attraction to soil and sediment. Glyphosate sprayed onto soil or water will be quickly adsorbed to the soil and sediment and become unavailable for uptake by the plant, therefore it does not work well on submerged or mostly submerged foliage. Microbial action in soil is the main pathway for glyphosate decomposition and so the rates of glyphosate breakdown are affected by the factors that affect this activity. Glyphosate is of limited solubility in common organic solvents but is highly soluble in both water and fat, which indicate that it has a low tendency for bioaccumulation.

In special cases (typically grant funded invasive plant removal projects), the District applies a combination of glyphosate and imazapyr. Imazapyr is an approved aquatic herbicide that has been shown by others in the industry to be more effective than glyphosate, reducing the number of times retreatment is needed and the overall quantity of herbicides applied. This also lessens the impact to other plants and wildlife by reducing the number of times workers will be travelling through the field, potentially disrupting wildlife. Instead of a full 5 years to kill giant reed, it can be achieved sooner.

Imazapyr is a systemic, non-selective, pre- and post-emergent herbicide used for the control of a broad range of terrestrial and aquatic weeds. It controls plant growth by preventing the synthesis of branched-chain amino acids. Imazapyr is an anionic, organic acid that is non-volatile and is both persistent and mobile in soil. Commercial formulations contain either imazapyr acid or the imazapyr isopropylamine salt, both of which are dissolved in a water solution.

Imazapyr is mainly in anionic form at typical environmental pH levels, and the behavior of the acid and salt forms are expected to be similar. Laboratory studies show imazapyr is essentially stable to hydrolysis, aerobic and anaerobic soil degradation, as well as aerobic and anaerobic aquatic metabolism. Field dissipation study observations are consistent with imazapyr's intrinsic ability to persist in soils and move via runoff to surface water and to leach to groundwater. Upon direct application, or indirect release into surface water, photolysis is the only identified mechanism for imazapyr degradation in the environment. The half-life of imazapyr is approximately 3 to 5 days in surface water. Imazapyr is part of the imidazolinone chemical class. The major identified metabolites were pyridine hydroxy-dicarboxylic acid, pyridine dicarboxylic acid, and nicotinic acid. Under laboratory aerobic aquatic conditions, the aerobic aquatic metabolism half-lives for hydroxy-dicarboxylic acid and pyridine dicarboxylic acid were in the range of 3 to 8 days in two different sediment/water systems. Metabolites hydroxy-dicarboxylic acid and pyridine dicarboxylic acid are expected to be more polar, thus more rapidly excreted than imazapyr, and no more toxic than the parent compound. Additionally, pyridine hydroxy-dicarboxylic acid is considered to be less stable than the parent compound. Nicotinic acid is a possible neurotoxin at high dose levels, but there is no concern for low exposures. Nicotinic acid (also called Niacin and referred to as Vitamin B3) is considered an essential nutrient. Imazapyr is not expected to bioaccumulate in aquatic organisms because it exists as an anion at typical environmental pHs.

The District does not typically apply imazapyr within 25 feet of surface water.

For foliar applications, the District uses aquatic-approved non-ionic surfactant in conjunction with the aquatic herbicide(s) to control the growth of aquatic plants. MAGNIFY is a water soluble sucrose-based activator/penetrant used by the District. It is formulated with ammonium salts, non-ionic surfactants and anti-foaming agents. The active ingredients (51.15%) are alkyl polyglycoside (seen by the targeted plant as a food source enhancing translocation resulting in faster and more complete weed control), and ammonium sulfate and ammonium nitrate (prevent calcium deactivation of glyphosate and act as stimulants to increase weed metabolism, enhancing speed and completeness of control). Magnify has shown no phytotoxicity when used with selective herbicides and was selected by the District as a safer alternative adjuvant to nonylphenol. The District does not use surfactants for cut and daub applications.

The method and extent of spraying varies based on site specific conditions. In general for routine maintenance, glyphosate-based aquatic herbicide is applied to channel slopes and up to 15 feet from the toe towards the center of District facilities using a boom spray. If a boom spray cannot be used (e.g. due to space restrictions, the need to avoid desirable plants, distances greater than the reach of the boom, etc.), the District will use hand sprayers connected to spray trucks. Only vegetative material is sprayed; herbicide is not applied to open water or bare earth. Back pack herbicide spraying is only used to treat otherwise inaccessible areas along channels or in basins. This application technique is primarily used for invasive species removal for mitigation projects. Cut and daub applications typically use sponges connected to wands in order to apply the herbicide directly to the freshly cut stump and avoid runoff that could occur if other methods were employed.

The lowest effective concentration is used by the District for all aquatic applications. A maximum concentration of 1% glyphosate-based aquatic herbicide product is utilized for foliar applications, whether applied by boom, hand held hose (truck), or back pack sprayer. Cut and daub applications usually utilize the product at full strength, in order to ensure effective treatment of the targeted vegetation. Intermediate concentrations are sometimes used for mitigation and restoration (invasive plant removal) projects.

6 Aquatic Herbicide Use Factors

Multiple approaches are available for dealing with aquatic weeds including: no action, prevention, mechanical or physical methods, cultural methods, biological control agents, and aquatic herbicides. These methods have been evaluated for use in Ventura County and are used when and where appropriate. Aquatic weeds can block flood control channels causing flooding, property damage, and threaten life. For these reasons, action must be taken to control aquatic weed growth.

1. Most preventative measures, such as controlling water depth and bank slope, are not applicable to District facilities in Ventura County due to flood control requirements. Some channels have steep banks lined with concrete which reduces but does not eliminate the need for aquatic weed treatment at these locations; however there are many waterways where these measures are not appropriate.

2. When appropriate, the District removes undesirable plants in channel and basin bottoms by mechanical means (i.e. disking, mowing, or hydroaxe) or by hand crews. Disking and mowing are common weed control methods for basin and channel bottoms during the summer and fall when basins are dry enough for equipment. However, when water is present, mechanical removal of weeds is not appropriate and is prohibited by the environmental permits issued to the District. In some areas, access to channels with heavy equipment for weed removal is restricted/prohibited by regulatory agencies such as the Army Corps of Engineers, California Department of Fish and Wildlife, and U.S. Fish and Wildlife Service, etc. Hand crews are periodically used to remove trash and weeds from channels and drains when appropriate. Physical weed removal is costly and potentially destructive to the environment, resulting in habitat and water quality degradation and increased turbidity.
3. Cultural methods such as fertilization, dyes, draw downs and benthic barriers are inappropriate techniques for District facilities as they are designed for use in ponds and/or for treating submerged vegetation and algae and not for flowing or dry channels and emergent vegetation.
4. There are two types of biological control agents available for aquatic weed control in California, however neither is appropriate for use in Ventura County (<http://wric.ucdavis.edu/information/aquatic/biocontrol.htm>). The functionally sterile triploid grass carp (*Ctenophyllum idealla*) has had limited success in controlling filamentous algae and most submersed aquatic plants, however, it is non-native and is currently restricted to three counties in Southern California (Imperial, Riverside, and San Bernardino) by the California Department of Fish & Game. The other biological control agent is a weevil to target water hyacinth, but it is thought to have had little impact and water hyacinth is not common in Ventura County. The potential for interaction between biological control agents and other species in Ventura County is also of concern.
5. Bank stabilization reduces erosion, thus decreasing the total amount of silt that may erode into the channel, reducing the available substrate for aquatic weed growth. Bank stabilization is currently used at some locations.
6. Other herbicides have also been evaluated for use. However, no alternatives have been discovered that have been proven to provide the same level of effectiveness as glyphosate at a comparable cost and with minimal environmental impacts, which is why glyphosate is usually the only herbicide used by the District for treatments. Occasionally a specific project will warrant the use of imazapyr in addition to glyphosate for a more efficient treatment, however the benefits of the greater efficiency are carefully balanced against the potential for a higher environmental impact when deciding to use imazapyr. Alternative herbicides investigated are generally more toxic to non-target species and have some or all of the following limitations:
 - a. Higher handling hazard;
 - b. Less effective at controlling target weeds;
 - c. Use restrictions;
 - d. Not legal for use by the District;
 - e. Lack of translocation resulting in lowered long-term effectiveness;

- f. Potential negative impacts upon surrounding crops or the environment; and/or are
- g. Cost-prohibitive.

7 Application Rate Determination and Application Logs

Aquatic herbicide applications are made in a manner consistent with all product label instructions and Material Safety Data Sheets (MSDS). Applications are made directly to live target vegetation, which are treated until wet, but not to the point of run-off. The aquatic herbicide concentration used is generally the lowest percentage of the range specified by the product label for each type of application.

An application log must be maintained for each aquatic herbicide application and include the date and location of application; name of applicator; type and amount of aquatic herbicide used; application details including flow and level of water body, time application started and stopped, and aquatic herbicide application rate and concentration; visual monitoring assessment; and certification that applicator(s) followed the APAP.

8 Water Quality and Designated Use Impacts

Best management practices are in place to prevent designated use impacts as the result of District applications of aquatic herbicide.

8.1 Receiving Water Limitations

The discharge of residual aquatic herbicides must meet applicable water quality standards including those stated in the General Permit (List # 1-8 below) and Los Angeles Region Basin Plan (List # 9 below):

1. The instantaneous maximum receiving water limitation outside the treatment area for glyphosate in waters with a MUN⁴ designated beneficial use is the U.S. EPA MCL, 700 µg/L.
2. The receiving water instantaneous maximum monitoring trigger outside the treatment area for imazapyr in waters of the U.S. is 11.2 mg/L, based on the U.S. EPA Office of Pesticides Ecotoxicity Database.
3. Floating material may not be present in amounts that cause nuisance or adversely affect beneficial uses.
4. Settleable substances may not be present in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses.
5. Suspended material may not be present in concentrations that cause nuisance or adversely affect beneficial uses.
6. Taste- or odor-producing substances may not be present in concentrations that impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin, or that

⁴ Most of the reaches to which the District applies aquatic herbicide are designated existing, potential, or intermittent MUN.

cause nuisance, or otherwise adversely affect beneficial uses or domestic or municipal water supplies.

7. Toxic pollutants may not be present in the water column, sediments, or biota in concentrations that adversely affect beneficial uses; that produce detrimental response in human, plant, animal, or aquatic life; or that bioaccumulate in aquatic resources at levels which are harmful to human health.
8. Esthetically undesirable discoloration may not be present.
9. Aquatic communities and populations, including vertebrates, invertebrates, and non-target plant species may not be degraded.
10. At a minimum, no single determination of dissolved oxygen shall be below 5.0 mg/L, except when natural conditions cause lesser concentrations. Dissolved oxygen shall not be depressed below the following limits for the stated designated beneficial uses as a result of waste discharges: 6 mg/L for COLD, and 7 mg/L for COLD and SPWN.

8.2 Aquatic Impacts

There is a low overall risk to aquatic resources, including water quality and beneficial uses, from the District's application of aquatic herbicide (predominantly glyphosate) to District flood control facilities and other Waters of the U.S. Along most maintained drainages, effects are expected to be minor because water is generally not present during maintenance. Areas subject to imazapyr use receive additional protection through the BMPs and guidelines outlined in the project plans, which typically place even greater restrictions and safeguards over the use of imazapyr than does the product label (e.g. no use of imazapyr within 25 feet of a water body). Any effects would be of low magnitude and frequency. Typical beneficial uses in the rivers and creeks of the County include: municipal and domestic supply, groundwater recharge, agricultural supply, wildlife habitat, cold freshwater habitat, warm freshwater habitat, and water contact recreation.

In general, plants provide erosion control, temperature modulation, water storage, energy exchange, microhabitats and cover for wildlife, food sources for invertebrates and vertebrates, and form the basis of ecosystems. However, invasive plants such as giant reed are detrimental to Ventura County ecosystems, and the design of most District flood control facilities does not include capacity for vegetation growth on channel and basin bottoms and banks. Therefore, the removal of invasive plants and the maintenance of vegetation at artificially low levels within District facilities is essential for the ecosystem and facilities' proper function and operation, respectively. In District facilities, the ongoing vegetation management means that the wetland and riparian species that are able to colonize flood control facilities are primarily annual non-native aggressive and opportunistic plants, with short life cycles and periods of development that provide poor quality habitat and limited ecosystem functionality.

Much of the District's application of aquatic herbicide occurs at District facilities when water is not present, resulting in no adverse impacts to designated uses or water quality. For sites where water is present, the following impacts⁵ may occur:

⁵ The relative risk of known and potential impacts to water quality are low but equal and so are not ranked in terms of relative risk.

1. Weed removal can reduce the amount of shade on surface water which can increase surface water temperatures, stimulating algal growth which reduces dissolved oxygen and harms aquatic organisms. However, most facilities are maintained so that only early seral, low-growing herbaceous vegetation may establish. Trees and large shrubs are actively precluded from establishing because they compromise the structural integrity of the facilities. Therefore, most facilities already lack shade and the vegetation removed does not generally create a dense canopy with a shading effect. This may cause minor effects to beneficial uses related to habitat.
2. Decaying plant matter can lower dissolved oxygen levels in the water, which can affect the respiration ability of other aquatic organisms. The District treats vegetation when needed to help prevent this potential impact. This may cause minor effects to beneficial uses related to habitat.
3. Removal of vegetation from channel and basin bottoms exposes bare dirt to possible erosion during subsequent winter flows, which may cause an increase in the wash and bed loads of the drainage at and below the affected reach. The amount of material eroded depends on the velocity of the flows and its inherent capability to convey sediment. Increased amounts of sediment and resulting turbidity may have a marginal, short-term adverse effect on surface water quality and habitat in downstream environments. Some erosion related sediment occurs naturally in all watersheds in the County. Since the roots of giant reed are not removed, this impact is unlikely to affect water quality in and downstream of giant reed removal project areas.
4. Improper application or spills of aquatic herbicide could lead to designated use impacts related to habitat, water supply, and recreation through exceedances of the MUN water quality objective (700 µg/L) for glyphosate and/or the instantaneous maximum monitoring trigger (11.2 mg/L) for imazapyr. However, this risk is minimized through the use of the best management practices (BMPs) described in Section 12 and 13 below and in the attached Ventura Countywide Stormwater Quality Management Program Application Protocol (Appendix B), or most recent update.

9 Monitoring Program

In this section, all aspects of the monitoring program are discussed in detail, including: overall approach, site selection, sampling procedures, quality assurance/quality control (QA/QC), reporting, and monitoring site descriptions. The District must comply with the Monitoring and Reporting Program (MRP), which is detailed in Attachment C of the Order. The MRP addresses two key questions:

1. Does the residual algaecides and aquatic herbicides discharge cause an exceedance of receiving water limitations?
2. Does the discharge of residual algaecides and aquatic herbicides, including active ingredients, inert ingredients, and degradation byproducts, in any combination cause or contribute to an exceedance of the “no toxics in toxic amount” narrative toxicity objective?

The goals of the MRP as stated in Section VII.A of Attachment D of the Order are to:

1. Identify and characterize aquatic herbicide application projects conducted by the discharger;
2. Determine compliance with the receiving water limitations and other requirements specified in this General Permit;
3. Measure and improve the effectiveness of the APAP;
4. Support the development, implementation, and effectiveness of BMPs;
5. Assess the chemical, physical, and biological impacts on receiving waters resulting from aquatic herbicide applications;
6. Assess the overall health and evaluate long-term trends in receiving water quality;
7. Demonstrate that water quality of the receiving waters following completion of resource or weed management projects are equivalent to pre-application conditions;
8. Ensure that projects that are monitored are representative of all aquatic herbicides and application methods used by the discharger.

9.1 Logical Framework

The Order requires that a logical framework be used to develop an effective monitoring program. The required components of the framework are included in this APAP and their location is summarized in the table below.

Table 1 - Logical Framework Components

Logical Framework Requirement	Section Number
Basic geographic and hydrographic features of the area, particularly application points and the pathways(s) of residue flows.	2, 3
Algaecides and aquatic herbicides application practices and how they are distributed in space and time.	3, 4, 7
Relevant knowledge about the transport, fates, and effects of algaecides and aquatic herbicides, including best- and worst-case scenarios.	5
Description of the designated beneficial uses in each water body.	Appendix C
Relevant knowledge about the action of cumulative and indirect effects.	5
Mechanisms through which algaecides and aquatic herbicides applications could lead to designated use impacts, given the basic features of the area.	8
Known and potential impacts of algaecides and aquatic herbicides applications on water quality, ranked in terms of relative risk, based on factors such as magnitude, frequency and duration.	8
Sufficient number of sampling areas to assess the entire Discharger's or Coalition's area of influence.	9
A description of sampling methods and a sampling schedule.	9
Receiving water conditions at the time of water quality sampling	9

9.2 Monitoring Approach

Glyphosate

Monitoring shall be conducted in compliance with the Aquatic Pesticides Permit, which requires monitoring for glyphosate during one application event per calendar year at one monitoring site for each environmental setting, i.e. flowing and non-flowing waters (see section 9.3). Since glyphosate is commonly used in agricultural as well as residential areas, background concentrations may exist prior to, or after, an application event by the District. To check for non-District sources, the application site selected for monitoring may be sampled in additional (non-Permit required) locations. For flowing water, the three permit required samples plus two optional samples will typically be collected at the representative monitoring site according to the following:

- Pre-event background monitoring – Collect sample upstream of the application area at the time of the application event or in the application area just prior to (up to 24 hours in advance of) the application event.
- Event monitoring – Collect sample immediately downstream of the treatment area in flowing waters or immediately outside of the treatment area in non-flowing waters, immediately after the application event, but after sufficient time has elapsed such that treated water would have exited the treatment area.
- Post-event background monitoring (optional) – Collect sample upstream of the application area within one week after the application event.
- Post-event treatment area monitoring - Sample within the treatment area within one week after the application event.
- Post-event downstream monitoring (optional) - Sample immediately downstream of the treatment area within one week after the application event.

For non-flowing waters, a minimum of the three required samples (pre-event background, event, and post-event treatment area) will be collected at the representative monitoring site per the requirements of the Permit. If the application area does not completely overlap the water body (i.e. if the ponded water extends above or below the application area, then a post-event background monitoring sample and/or a post-event downstream monitoring sample may be collected, as applicable. Monitoring shall be conducted for one application event per calendar year at the selected monitoring site (see section 9.3).

Additionally, background data shall be collected at the three District Mass Emission monitoring stations located on the Ventura River, the Santa Clara River, and Calleguas Creek. Glyphosate is on the list of constituents currently being monitored in receiving water samples during dry and wet weather events. The results of these data shall be reviewed during the production of the annual report. See the Ventura Countywide Stormwater Monitoring Program's "*Stormwater Program: Water Quality Monitoring Standard Operating Procedures 2009 - 2014*" from April 2011, or most recent update, for details regarding Mass Emission station monitoring.

Imazapyr

The Aquatic Pesticides Permit requires monitoring for imazapyr at a representative monitoring site (see Section 9.3) during six application events for each environmental setting (i.e. flowing and non-flowing waters) per calendar year. If fewer than six application events occur in a calendar year, then each event will be monitored. However, as allowed by the Permit, if six consecutive sampling events show concentrations that are less than the receiving water limitation/trigger for the active ingredient in a specific environmental setting, sampling will be reduced to one application event per year for that active ingredient in that environmental setting.

Since there is the potential for imazapyr to be present in background concentrations due to application activities outside of the control of the District (e.g. by other agencies), the District will perform additional water quality monitoring (as needed) to determine if background concentrations exist prior to the District's application. For flowing water, the three permit required samples plus two optional samples will typically be collected at the representative monitoring site according to the following:

- Pre-event background monitoring (flowing and non-flowing waters) – Collect sample upstream of the application area at the time of the application event or in the application area just prior to (up to 24 hours in advance of) the application event.
- Event monitoring (flowing and non-flowing waters) – Collect sample immediately downstream of the treatment area in flowing waters or immediately outside of the treatment area in non-flowing waters, immediately after the application event, but after sufficient time has elapsed such that treated water would have exited the treatment area.
- Post-event background monitoring (optional) – Collect sample upstream of the application area within one week after the application event.
- Post-event treatment area monitoring (flowing and non-flowing waters) – Sample within the treatment area within one week after the application event.
- Post-event downstream monitoring (optional) – Sample immediately downstream of the treatment area within one week after the application event.

For non-flowing waters, a minimum of the three required samples (pre-event background, event, and post-event treatment area) will be collected at the representative monitoring site per the requirements of the Permit. If the application area does not completely overlap the water body (i.e. if the ponded water extends above or below the application area), then a post-event background monitoring sample and/or a post-event downstream monitoring sample may be collected, as applicable.

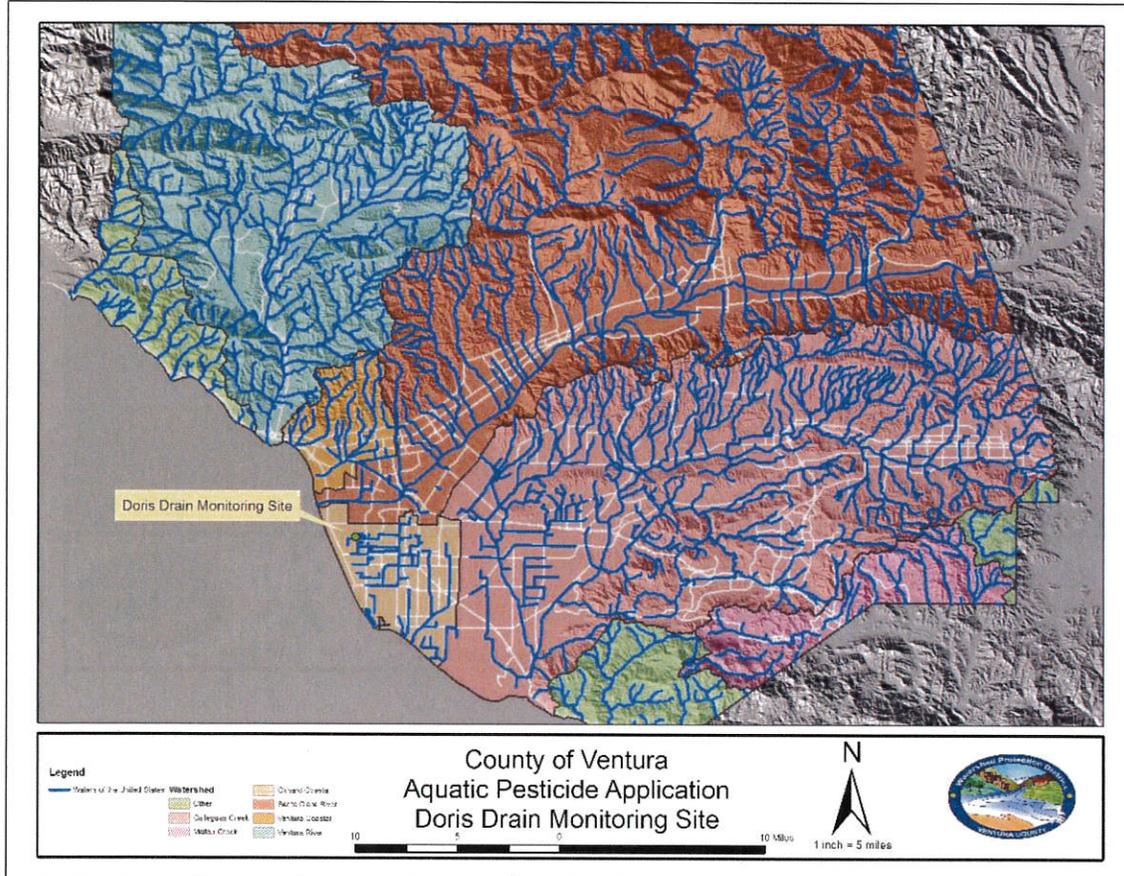
9.3 Representative Monitoring Site

The General Permit requires annual water quality sampling at one application site during one application event per Discharger (per environmental setting) when glyphosate is used for aquatic weed management and six⁶ application events per environmental setting per discharger when

⁶ If six consecutive sampling events show concentrations that are less than the receiving water limitation/trigger for the active ingredient in a specific environmental setting, sampling will be reduced to one application event per year for that active ingredient in that environmental setting, as allowed by the Permit.

imazapyr is used. Many of the District’s applications of “aquatic” herbicides are made to District facilities that are dry at the time of application. The District will select one or more aquatic herbicide application sites for monitoring each year. The aquatic herbicide monitoring sites will be selected based on their being representative of the application activity, the flow regime at the time of application/monitoring, site accessibility, application schedule, and field safety.

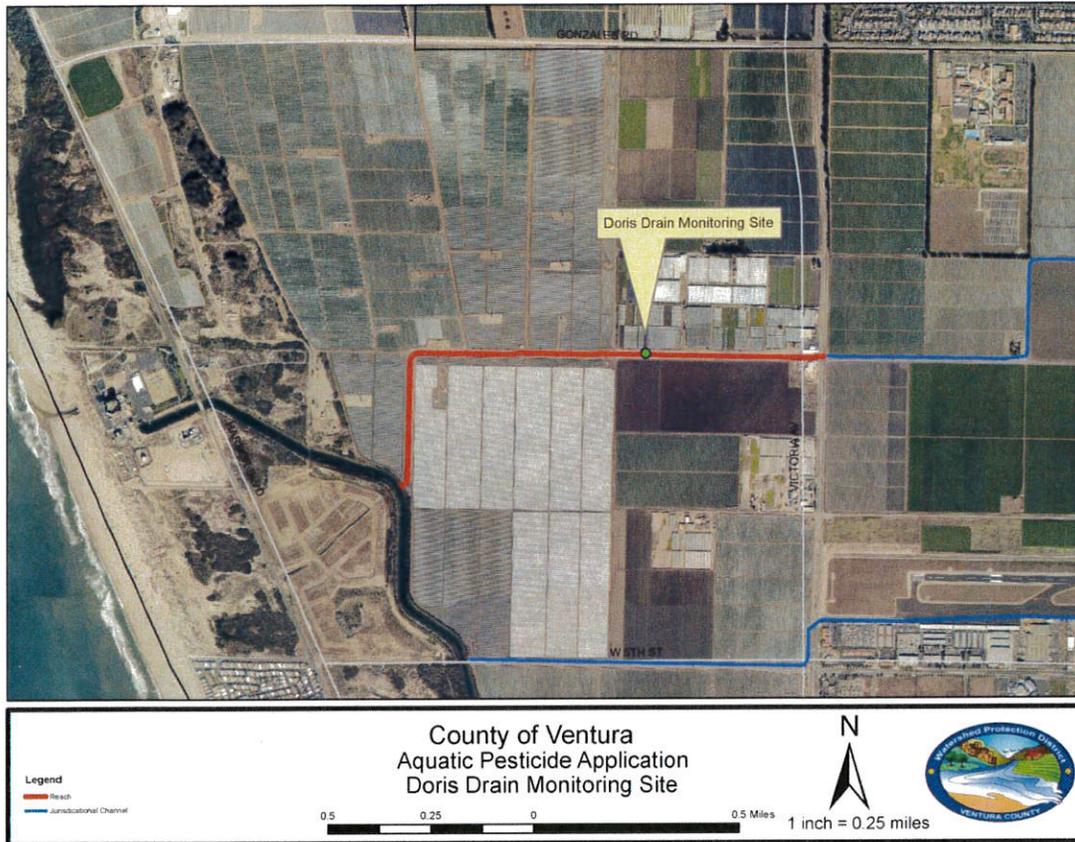
Figure 2 – Example Aquatic Pesticide Application Monitoring Site



An example monitoring site: Doris Drain

Doris Drain represents the routine applications of glyphosate performed by the District. Flow is perennial and aquatic herbicide application is typically conducted using the truck boom and/or hand sprayers connected to spray trucks. The Doris Drain monitoring site is located west of the intersection of Doris Road and Victoria Avenue. See Figure 4.

Figure 3 - Doris Drain Monitoring Site



9.4 Sample Collection

Sampling Event Scheduling

Since monitoring is dependent on time of pesticide application, notification and scheduling are necessary in order to prepare for these monitoring events. The District usually applies pesticide at least once a year during the summer months. Additional treatments are made on an as-needed basis. The District Operations & Maintenance (O&M) staff shall notify the field sampling crew as early as possible of planned pesticide applications to the selected monitoring site. When applying pesticide, the District shall fill out a Pesticide Application Field Log sheet in addition to the Monthly Pesticide Use Report required by the Department of Pesticide Regulation (both forms are included in Appendix A of this document).

Sampling Preparation and Logistics

The following equipment preparation and maintenance activities shall be performed in preparation for each monitoring event. The field crew shall inventory field equipment and replace items as necessary. A checklist of necessary field equipment is listed in Table 3.

Table 2 - Field Sampling Checklist

Equipment	
	Grab Sample Bottles and Labels
	Expandable Grab Sampling Pole (if needed)
	Wading Boots
	Pencils (2) and Permanent Markers (2)
	Powder-free Nitrile Gloves (2)
	Digital Camera
	GPS Unit
	Cooler and Ice
	First Aid Kit
	Water for Field Blanks
	Cellular Phone
	Field Meters (pH, Conductivity, Temp, DO, Turbidity)
Documents	
	APAP
	Area Map (i.e. Thomas Guide)
	Field Log Forms
	Chain of Custody Forms

Bottles shall be obtained from the laboratory prior to each monitoring event. Bottle orders shall include grab sample bottles and labels, and blank water for field blank generation. Sample bottle labels shall be filled out and applied to sample bottles prior to collecting samples. COCs will be supplied by the District (Appendix A). Coolers will be supplied by the District or the laboratory, as needed.

Field personnel shall have a cellular phone or other means of remote communication. This is important for safety as well as for general communication. The field crew shall always have the project contact list in their possession while in the field (Table 4).

Table 3 - Contact List

Name	Organization	Phone	Email Address
Arne Anselm	District (Stormwater Resources Manager)	805-654-3942 805-218-4522 cell	arne.anselm@ventura.org
Kelly Hahs	District (Water Resources Specialist)	805-658-4375 805-701-1689 cell	kelly.hahs@ventura.org
Bill Carey	District (Water Resources Specialist)	805-662-6835 805-701-6547 cell	wb.carey@ventura.org
Bram Sercu	District (Water Resources Specialist)	805-654-5142 805-223-1006 cell	bram.sercu@ventura.org
Dennis Kanthack	District (Restoration Coordinator)	805-650-4083	dennis.kanthack@ventura.org
Roger Boross	District Zone 3 & 4 (Superintendent)	805-378-3033 805-443-4505 cell	roger.boross@ventura.org
Mike Horn	District Zone 3 & 4 (Supervisor)	805-378-3033 805-443-4506 cell	mike.horn@ventura.org
Rick Cadena	District Zone 3 & 4 (Supervisor)	805-378-3033 805-443-4504 cell	richard.cadena@ventura.org
John Lagomarsino	District Zone 1 & 2 (Superintendent)	805-672-2114 805-443-4503 cell	john.lagomarsino@ventura.org
David McCarthy	District Zone 1 & 2 (Supervisor)	805-672-2115 805-320-5970 cell	david.mccarthy@ventura.org
William DuFrain	District Zone 1 & 2 (Supervisor)	805-672-2113 805-320-5971 cell	william.dufrain@ventura.org
Hai Van Nguyen	Weck Laboratories (Project Manager)	626-336-2139	haivan.nguyen@wecklabs.com
Roxanne Golich	North Coast Laboratories	707-822-4649 707-845-2664 cell	rgolich@northcoastlabs.com

Field Safety

Safety is a primary concern. If for any reason sample collection appears unsafe, the sampling event shall be delayed or canceled. Sampling crews shall always consist of a minimum of two people. In general, sampling personnel shall be aware of their surroundings (including maintaining a safe distance as the aquatic herbicide is applied), stay together, and remain watchful of one another. Personnel must pay careful attention to footing during all sample collection activities. Additionally, personnel should familiarize themselves with the location of local hospitals, in case a medical problem occurs while working in the field. All sampling crews shall have immediate access to a first aid kit while working in the field.

Sampling Protocol

For routine District operations, (e.g, application of glyphosate to vegetation within District’s flood control facilities), water quality sampling activities shall be performed by trained District staff (e.g. Water & Environmental Resources Section) or qualified consultant. Since sample collection is required just prior to and following herbicide application, District O&M shall notify Stormwater Resources staff (see Table 4) of the time and date for planned application events at the selected monitoring site, with sufficient advance notice (at least one week prior to planned application).

For non-routine District operations involving imazapyr, (e.g, for invasive plant removal at mitigation/restoration sites), water quality sampling activities shall be performed by trained District staff (e.g. Water & Environmental Resources Section) or qualified consultant. Since sample collection is required just prior to and following herbicide application, the Project Manager (or their designee) for the mitigation/restoration project shall notify the Stormwater Resources crew (see Table 4) of the time and date for planned application events at the intended application area, with sufficient advance notice (at least one week prior to planned application).

During each monitoring site visit the sampling crew shall record visual observations of receiving water conditions, including the presence or absence of floating or suspended matter; discoloration; bottom deposits; aquatic life; visible films, sheens, or coatings; fungi, slimes, or objectionable growths; and potential nuisance conditions. Weather conditions (fog, rain, wind, etc.) and any other relevant information shall also be recorded. Digital pictures and GPS coordinates shall be recorded. Visual observations shall be recorded in the Monitoring Field Log (see Appendix A).

For this project, the preferred method for grab sample collection is direct submersion of sample bottles at a depth of three feet below the surface of the water body or at mid water column depth if the depth is less than three feet. However, due to monitoring site configuration and safety concerns, direct filling of sample bottles may not always be possible. Monitoring site configuration will dictate grab sample collection technique.

Water quality analyses required for this program are shown in Table 5 (note: imazapyr and/or glyphosate analyses are only required when that particular herbicide is being used during the application event). Water quality samples for glyphosate analysis shall be conducted at a laboratory certified for such analyses by the California Department of Public Health in accordance with California Water Code section 13176. Imazapyr does not have an EPA approved method at this time, therefore they cannot be certified for imazapyr analysis however laboratories conduct their own internal quality assurance/quality control programs to ensure that the data they are delivering is of an acceptable standard. In addition, field measurements for conductivity, water temperature, pH, dissolved oxygen, and turbidity shall be recorded at the time of water quality sample collection using field meters calibrated according to manufacturer's instructions. All field meters and equipment shall be maintained, serviced, and calibrated at appropriate intervals specified by the manufacturer. Calibration records shall be maintained in the District's Water Quality Section field equipment calibration logbook and/or on the monitoring field log sheet.

Table 4 - Constituents and Sampling Parameters

Constituent	Analytical Method	Sample Container	Preservative	Maximum Hold Time	Reporting Limit
Glyphosate	EPA 547	125 ml Amber Glass; or 2 x 40 ml Amber VOAs	4 °C	14 days	≤ 5 µg/L (lab specific)
Imazapyr	NCL ME 326 – HPLC-MS/MS ⁷	1 x 40 ml amber VOA	<6 °C	7 days	1 µg/L (lab specific)
Turbidity	Field Meter ⁸	N/A	None	Field	N/A
Conductivity	Field Meter ⁹	N/A	None	Field	N/A
Dissolved Oxygen	Field Meter ⁷	N/A	None	Field	N/A
Temperature	Field Meter ⁷	N/A	None	Field	N/A
pH	Field Meter ¹⁰	N/A	None	Field	N/A

Clean Sample Collection Procedures

“Clean sampling” techniques are required to collect and handle water samples in a way that results in neither contamination, loss, nor change in the chemical form of the constituents of interest. Samples shall be collected using rigorous protocols summarized below:

1. Samples are collected only into rigorously pre-cleaned sample bottles.
2. At least two persons, wearing clean, powder-free nitrile gloves at all times when handling samples, are required on a sampling crew.
3. Clean, powder-free nitrile gloves are changed whenever something not known to be clean has been touched.
4. Clean techniques must be employed whenever handling containers or equipment used for collection of samples.

To reduce potential sample contamination, sample collection personnel must adhere to the following rules at all times while collecting or handling samples:

1. No smoking.
2. Wear clean, powder-free, nitrile or similar surgical-quality gloves when handling sample containers.
3. Never sample near a running vehicle. Do not park vehicles in immediate sample collection area (even non-running vehicles).
4. Minimize the amount of time any sample container is left open.
5. Do not set lids down where they may accumulate contaminants.

⁷ There is not an EPA approved method for imazapyr analysis at this time. Laboratories have developed their own methods for analysis. A different method/laboratory may be substituted for the one listed here, in which case there may be alternative sample collection, handling, and preservation requirements.

⁸ Hach 2100P or similar

⁹ YSI 85 or similar

¹⁰ Beckman-Coulter 255 or 410 or similar

6. Prevent foreign material (blowing dust, leaves, etc.) from entering any open sample container.
7. Never touch the inside surfaces of sample bottles or lids, even with gloved hands.
8. Face into the flowing body of water.

Shipment of Samples

Samples requiring analysis at an analytical laboratory shall be delivered to the laboratory for analysis as quickly as possible in order to ensure that holding times are not exceeded. Chain-of-custody (COC) forms shall be filled out for all samples submitted to the laboratory. Sample date, sample location, and analysis requested shall be noted on each COC. Additionally, QA/QC analysis specified in Table 6 shall be noted on the COC. A blank COC form is included in Appendix A.

9.5 Quality Assurance / Quality Control (QA/QC)

Field QA/QC Samples

Field QA/QC is conducted in compliance with 40 CFR 136 which refers to the method for QA/QC requirements. The method for glyphosate states "Field blanks must be analyzed to determine that sampling and storage procedures have prevented contamination" and describes field blanks as "Reagent water placed in a sample container in the laboratory and treated as a sample in all respects, including exposure to sampling site conditions, storage, preservation and all analytical procedures." The field crew shall use blank water provided by the analytical laboratory to fill a sample container according to standard procedures. One field blank sample will be collected for glyphosate analysis during each monitoring event, but will only be analyzed if one or more of the environmental samples collected during the event contain levels of glyphosate above 70 µg/L (10% of the MCL). The field blank will be collected at the downstream monitoring site during the application visit and from within the treatment area during the follow up visit.

According to the analytical method for glyphosate, field duplicate analysis is optional and defined as "Two separate samples collected at the same time and place under identical circumstances and treated exactly the same throughout field and laboratory procedures." Field duplicates provide a measure of the variability (precision) associated with sample collection, preservation and storage, as well as with laboratory procedures. One field duplicate sample will be collected for glyphosate analysis immediately prior to the collection of the downstream environmental grab sample during the first year of the new General Permit and every five years thereafter to ensure that current protocols provide quality samples, unless the field duplicate has an RPD >25% and laboratory QA/QC meets requirements, then a field duplicate will be collected the following year.

Laboratory QA/QC Samples

Laboratory quality control samples shall be analyzed in compliance with method requirements and laboratory QA/QC protocols. This includes the use of laboratory control standards (LCS), matrix spikes and matrix spike duplicates (MS/MSDs). Quality control sample results will be

used for data evaluation and interpretation. Data quality objectives (DQO) for glyphosate analysis shall be the stricter of the limits below or those set by the laboratory.

Table 5 - QA/QC Sample Type and Data Quality Objective

QA/QC Sample Type	DQO
Method Blank	< Reporting Limit
Laboratory Control Sample (LCS) recovery	50 – 150 %
MS/MSD recovery	50 – 150 %
MS/MSD relative percent difference (MSRPD)	25 %
Laboratory duplicate	25%

The chain of custody will include a note requesting the laboratory to perform MS/MSD analyses using the submitted samples, whenever possible. MS/MSD analyses are internal (laboratory performed) QA/QC checks for both precision and accuracy. No special sample collection considerations are required; however additional sample volume may be required.

Laboratory duplicate analysis shall be performed in accordance with method requirements and the laboratory's QA/QC manual.

Field Meter Calibration

All field meters and equipment shall be maintained, serviced, and calibrated at appropriate intervals specified by the manufacturer. Calibration records shall be maintained in the District Water Quality Section field equipment calibration logbook.

10 Recordkeeping

10.1 Monitoring Records Retention

The District shall retain for a period of at least three (3) years from the date of the sample, all records of monitoring information, including all calibration and maintenance records; date, exact place, and time of sampling or measurements; individual(s) who performed the sampling or measurements; dates the analyses were performed; individual(s) who performed the analyses; analytical techniques or methods used; and the results of such analyses.

10.2 Annual Information

Information for each reporting (calendar) year shall be completed and maintained annually and be made available to the State Water Resources Control Board (SWRCB) Deputy Director (Deputy Director) or Los Angeles Regional Water Quality Control Board (RWQCB) Executive Officer (Executive Officer), on request. The following information shall be completed annually:

1. Executive summary (discuss compliance/violation status with Order and effectiveness of APAP in reducing/preventing the discharge of pollutants associated with aquatic herbicide applications);
2. Monitoring data summary (identify water quality improvement/degradation resulting from aquatic herbicide application, if appropriate, and recommendations for

improvements to the APAP [including proposed best management practices (BMPs)] and monitoring program based on the monitoring results. Compare all receiving water monitoring data to receiving water limitations and receiving water monitoring triggers);

3. Identify BMPs currently in use and discuss their effectiveness in meeting the Order requirements;
4. Discuss BMP modifications addressing any violations of the Order;
5. A map showing the location of each treatment area;
6. Types and amounts of aquatic herbicide used at each application event;
7. Information on surface area and/or volume of treatment areas and any other information used to calculate dosage, concentration, and quantity of each algaecide and aquatic herbicide used;
8. Sampling results (indicate the name of the sampling agency or organization, detailed sampling location information (including latitude and longitude or township/range/section if available), detailed map or description of each sampling area (address, cross roads, etc.), collection date, name of constituent/parameter and its concentration detected, minimum levels, method detection limits for each constituent analysis, name or description of water body sampled, and a comparison with applicable water quality standards, description of analytical QA/QC plan. Sampling results shall be tabulated so that they are readily discernible); and
9. Summary of algaecide and aquatic herbicide application log.

11 Reporting

All reports shall be submitted to the Deputy Director and the Executive Officer. Submitted reports shall comply with the provisions of Attachment B “Standard Provisions” and Attachment C “Monitoring and Reporting Program” of the General Permit.

11.1 Annual Report

The District shall submit a calendar year annual report to the Deputy Director and the Executive Officer no later than March 1 of the following year. As further described in section C of Attachment C, the Annual Report shall contain the following:

1. An executive summary discussing compliance or violation of this General Permit and the effectiveness of the APAP; and
2. A summary of monitoring data, including the identification of water quality improvements or degradation as a result of the algaecide or aquatic pesticide application.
 - a. Monitoring data must include the laboratory conducting the analysis, method detection level (MDL) and reporting limit (RL).

The report shall be submitted to the following addresses:

Executive Officer, or
Augustine Anijielo, c/o Gensen Kai
Regional Water Quality Control Board - L.A.
320 West 4th Street, Suite 200
Los Angeles, CA 90013

Deputy Director, or
Russell Norman
State Water Resources Control Board
NPDES Unit
1001 I Street, 15th Floor
Sacramento, CA 95814

All reports shall be signed by a principal executive officer, ranking elected official, or duly authorized representative as described in section B "Signatory and Certification Requirements" of Attachment B "Standard Provisions." Any person signing a document submitted to the RWQCB shall complete the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

11.2 Twenty-Four Hour (Oral) and Five Day (Written) Reports

Noncompliance that may endanger health or the environment must be reported to the SWRCB and RWQCB orally within 24 hours from the time that the District becomes aware of the circumstances. The oral report must include:

1. The caller's name and phone number;
2. Applicator name, mailing address, and Waste Discharge Identification (WDID) Number (4A567300005);
3. Name and telephone number of a contact person;
4. How and when the District became aware of the noncompliance;
5. A description of the noncompliance identified, including location and USEPA pesticide registration number(s) of the product (s) applied in the area; and
6. The steps taken/to be taken to correct, repair, remedy, cleanup, or otherwise address any adverse effects.

A written submission is required within five days of the time that the District becomes aware of the noncompliance (unless waived on a case-by case basis by SWRCB or RWQCB staff) and shall include:

1. The information required by the 24 hour report, the date and time the report was made and any instructions received during the 24 hour report;

2. Description of the noncompliance and its cause, including exact date and time and species affected, estimated number of individual and approximate size of dead or distressed organisms (other than the pests to be eliminated);
3. Location of incident, including the names of any waters affected and appearance of those waters (sheen, color, clarity etc);
4. Magnitude and scope of the affected area (e.g. aquatic square area or total stream distance affected);
5. Aquatic herbicide application rate, intended use site (e.g. banks, above, or direct to water), method of application, name of aquatic herbicide product, description of aquatic herbicide ingredients, and U.S. EPA registration number;
6. Description of the habitat and circumstances under which the noncompliance activity occurred (including any available ambient water data for aquatic herbicides applied);
7. Any laboratory tests performed and timing of tests (provide a summary of the test results within five days after they become available);
8. If applicable, explain why the District believes the noncompliance could not have been caused by exposure to the aquatic herbicides from a District application; and
9. Actions to be taken to prevent recurrence of adverse incidents.

Section F of Attachment C lists the information required to be reported for both the 24 hour oral and five-day written reports.

11.3 Notifications

Public Notification

Every calendar year, potentially affected public agencies must be notified at least 15 days prior to the first application of aquatic herbicide. The notification shall also be posted at: www.vcwatershed.org → Services Tab → Herbicide Calendar. The calendar includes non-aquatic sites. The direct link is:

http://portal.countyofventura.org/portal/page/portal/PUBLIC_WORKS/Watershed_Protection_District/Services/Herbicide%20Brush%20and%20Weed%20control%20maintenance.

Notification shall include a statement of the intent to apply aquatic herbicide, the name of the aquatic herbicide, purpose of use, general time period and locations of expected use, any water use restrictions or precautions during treatment, and a phone number that interested persons may call to obtain additional information.

Application Schedule

The most current application schedule must be provided to all persons who request it with information about whether the schedule is subject to change, as well as a phone number or specific contact information for additional application information. Information may be made available by electronic means, including posting prominently on a well-known website.

12 Current and Planned BMPs

BMPs currently employed or being implemented are presented in this section. For additional detail regarding pesticide application protocols, see the 2009 Ventura Countywide Stormwater Quality Management Program Application Protocol (Appendix B) or most recent update.

12.1 Certification, Pesticide Labels, and Permits

Personnel that make aquatic applications operate following the application protocols as written in the Ventura County Application Protocol for Pesticides, Fertilizers, and Herbicides, in compliance with the Ventura Countywide Municipal Separate Storm Sewer System NPDES Permit. Pesticide use is consistent with the pesticide label instructions and any applicable Use Permits. A Qualified Applicator Certificate Holder (QAC) must be physically present and available on-site (within the location) to directly manage and control the application of any pesticide by supervising others. The certificate is issued by the California Department of Pesticide Regulation. The QAC manages and controls the application of pesticides, herbicides, and fertilizers through various verbal channels including direct interaction, telephones, cellular phones, 800 mhz phones, and radios. All certified applicators are required to stay current on pesticide issues through continuing training. Training covers such topics as safe application techniques, environmental protection, proper use of application equipment, applicable laws and regulations, and specifics about the use of aquatic and non-aquatic herbicides that are used.

12.2 Notification Requirements

The District maintains monthly aquatic herbicide application logs, which are completed when water is present at an application site. These logs are to be submitted with the annual report to the State Water Resources Control Board with the annual report, due March 15th. The District also maintains monthly pesticide use reports (PURs) which document the amounts and locations of all (including non-aquatic) District pesticide applications. The PURs are submitted to the Ventura County Agricultural Commissioner, who then submits the data to the California Department of Pesticide Regulation. An open line of communication exists with the Ventura County Department of Agriculture regarding what, why, and how different products are used.

12.3 Preliminary Site Evaluations

These are used to determine areas in need of a treatment, location of a treatment site (site suitability), and to identify some of the precautions to be used for a particular type of treatment. The District considers the different treatment options on an ongoing basis. Pest type and growth stage are also considered in order to help determine the treatment type. This greatly increases the likelihood of achieving a high level of control.

12.4 Secondary Site Evaluations and Pre-Treatment Assessment

Some of the factors considered are weed species present, growth stage weed location, and weed density. These are used to help determine such things as the appropriate mechanical control measure, aquatic herbicide use and application rate, and number of treatment sites needed.

12.5 BMPs Implemented Prior to Treatment

Prior to application the District shall check daily weather forecasts to schedule and/or modify the application. If it is raining, or more than 0.25" of rain is forecast within 24 hours after a proposed aquatic herbicide application, the application is canceled. If the wind is high enough to cause significant drift at the start of or during aquatic herbicide application, the application is either delayed or canceled. If conditions become dusty during a application event, the event will be delayed (since dust hinders control). Low-pressures and special nozzles will be used, as needed, to help control drift.

12.6 Post Treatment Assessment

The evaluation of efficacy is routine, normally starting about one week after application season begins and continuing through the end of the application season. If a treatment is deemed hazardous or ineffective, the District will make corrective changes, eliminate that treatment type from a given area, or totally eliminate a certain type of treatment from the pest control program.

13 Evaluation of Other Potential BMPs

Several alternative measures have been investigated, as described in a previous section of this document. To date, no acceptable alternatives have been identified. In keeping with adaptive management strategy, the District shall continue to track and consider potential alternative control measures. In order to maintain current applicator licenses, District applicators regularly attend seminars and trade shows. This continued education allows applicators to stay informed regarding the latest technologies and practices including potential future BMPs.

14 References

State Water Resources Control Board (SWRCB), 2013, Water Quality Order No. 2013-0002-DWQ, *Statewide General National Pollutant Discharge Elimination System Permit For Residual Aquatic Pesticide Discharges To Waters of the United States From Algae And Aquatic Weed Control* (General Permit No. CAG990005)

Ventura Countywide Stormwater Quality Management Program, Application Protocol - Pesticides, Fertilizers, and Herbicides, amended October 15, 2009.

APPENDIX A - FIELD FORMS

Aquatic Herbicide Monitoring Program
Monitoring Field Log

Field Crew: _____

Date: _____

Monitoring Location/ Sample Time	Samples Collected/ Photos/ Turbidity	Dissolved Oxygen/ Water Temp	Conductivity (umhos/cm) (µS)	Salinity (ppt) pH	OBSERVATIONS (circle and provide description if applicable)	Comments
Doris Upstream N 34° 12' 30.7" W 119° 13' 17.1" Altitude: _____ Time: _____ AM/PM Serial Numbers (Meter/No.): _____/_____ _____/_____ _____/_____	Samples: Glyphosate <input type="checkbox"/> Imazapyr <input type="checkbox"/> Photos: _____ Upstream <input type="checkbox"/> Downstream <input type="checkbox"/> Turbidity: 1 _____ 2 _____ 3 _____ Average: _____	% mg/L °C/F	Electrical Conductivity Specific Conductance	ppt pH Units	Weather: Clear / Partly Cloudy / Overcast / Other _____ Wind: _____ Water Clarity: Clear / Cloudy / Milky / Muddy / Other _____ Water Color: Clear / Brown / Red / Green / Other _____ Visible Films/Sheens/Coatings: Yes / No _____ Floating/Suspended Matter (Algae, Trash etc) : _____ Bottom Deposits: Yes / No _____ Aquatic Life: Yes / No _____ Fungi/Slimes/Objectionable Growth: Yes / No _____ Potential Nuisance Conditions: Yes / No _____	
Doris @ Treatment N 34° 12' 30.6" W 119° 13' 19.1" Altitude: _____ Time: _____ AM/PM Serial Numbers (Meter/No.): _____/_____ _____/_____ _____/_____	Samples: Glyphosate <input type="checkbox"/> Imazapyr <input type="checkbox"/> Photos: _____ Upstream <input type="checkbox"/> Downstream <input type="checkbox"/> Turbidity: 1 _____ 2 _____ 3 _____ Average: _____	% mg/L °C/F	Electrical Conductivity Specific Conductance	ppt pH Units	Weather: Clear / Partly Cloudy / Overcast / Other _____ Wind: _____ Water Clarity: Clear / Cloudy / Milky / Muddy / Other _____ Water Color: Clear / Brown / Red / Green / Other _____ Visible Films/Sheens/Coatings: Yes / No _____ Floating/Suspended Matter (Algae, Trash etc) : _____ Bottom Deposits: Yes / No _____ Aquatic Life: Yes / No _____ Fungi/Slimes/Objectionable Growth: Yes / No _____ Potential Nuisance Conditions: Yes / No _____	
Doris Downstream N 34° 12' 30.1" W 119° 13' 21.8" Altitude: _____ Time: _____ AM/PM Serial Numbers (Meter/No.): _____/_____ _____/_____ _____/_____	Samples: Glyphosate <input type="checkbox"/> Imazapyr <input type="checkbox"/> Photos: _____ Upstream <input type="checkbox"/> Downstream <input type="checkbox"/> Turbidity: 1 _____ 2 _____ 3 _____ Average: _____	% mg/L °C/F	Electrical Conductivity Specific Conductance	ppt pH Units	Weather: Clear / Partly Cloudy / Overcast / Other _____ Wind: _____ Water Clarity: Clear / Cloudy / Milky / Muddy / Other _____ Water Color: Clear / Brown / Red / Green / Other _____ Visible Films/Sheens/Coatings: Yes / No _____ Floating/Suspended Matter (Algae, Trash etc) : _____ Bottom Deposits: Yes / No _____ Aquatic Life: Yes / No _____ Fungi/Slimes/Objectionable Growth: Yes / No _____ Potential Nuisance Conditions: Yes / No _____	

Note: Boundary of observation is stated in guidelines as the "treatment area"



Chain of Custody Record
 Ventura County Watershed Protection District
 Aquatic Pesticide Monitoring

Grab Samples

Sampling Date: _____ Sample Event: Aquatic Pesticides YYYY
 Sampling Team: _____

SAMPLE ID	DATE/TIME COLLECTED	Glyphosate (EPA 547)	Imazapyr (NCL ME 326 - HPLC-MS/MS)												NOTES
Doris Upstream															upstream
Doris Downstream															downstream
Doris @ Treatment															in treatment area

Relinquished Printed Name _____
 Signature _____
 Affiliation _____ Date/Time _____

Received Printed Name _____
 Signature _____
 Affiliation _____ Date/Time _____

Other Notes: Please perform MS/MSD analyses using submitted samples, when possible.

**APPENDIX B - VENTURA COUNTYWIDE STORMWATER QUALITY
MANAGEMENT PROGRAM PESTICIDES APPLICATION PROTOCOL**

APPLICATION PROTOCOL PESTICIDES, FERTILIZERS, AND HERBICIDES

1 Ventura County Watershed Protection District NPDES Stormwater Permit

The purpose of this standard operating procedure (SOP) is to define an application protocol for the routine and non-routine application of pesticides, fertilizers, and herbicides (including pre-emergents). This SOP provides a comprehensive policy to comply with the Ventura County Permit (CAS004002), a guidance to provide for consistent implementation countywide for Ventura County Watershed Protection District (VCWPD), the County of Ventura, the Cities of Camarillo, Fillmore, Moorpark, Ojai, Oxnard, Port Hueneme, San Buenaventura, Santa Paula, Simi Valley, and Thousand Oaks (referred to separately as Co-permittees), and a method for reducing runoff of pesticides, fertilizers, and herbicides to the storm drain system. This protocol was amended to reflect new requirements in the May 7, 2009 Ventura County Municipal Stormwater Permit, Order No. 09-0057.

2 Scope

The scope of this application protocol is to focus on preventing pesticides, fertilizers, and herbicides from entering the storm drain system and discharging to receiving waters. This protocol is applicable to 1) the outdoor use of pesticides, herbicides, and fertilizers; 2) the use of pesticides and fertilizers where the materials may come into contact with precipitation; 3) the use of pesticides, herbicides, and fertilizers where these materials may come into contact with runoff (natural or induces); and 4) the use of pesticides, herbicides, or fertilizers anywhere where they may be directly or indirectly discharged to a storm drainage system.

This protocol is applicable to any Co-permittee staff and contracted services that apply pesticides, fertilizers, or herbicides. Such staff commonly include park, public works, purchasing, building/grounds maintenance, hazardous materials, and pesticide application staff.

This protocol is not applicable to the indoor use of pesticides, herbicides or fertilizers, but is applicable to the consequential outdoor handling, mixing, transport, or disposal of materials related to indoor use. This protocol does not apply when another NPDES permit and/or abatement orders are in effect at the selected site.

Furthermore, this protocol is not intended to replace federal or state requirements or provide complete directions for applying, handling, transporting, mixing, or storing pesticides, fertilizers, or herbicides. Consult federal and state requirements for this additional information. Use information for each pesticide, fertilizer, or herbicide can be found on the manufacturer's label. Additional safety information can be found in chemical-specific material safety data sheets (MSDSs).

3 Definitions

Application – means the use of the product as a fumigant, direct surface spray, treatment, drench, injection, incorporation, side-dressing, pre-emergent, furrowed spread, or broadcast agent.

California Department of Pesticide Regulation (CDPR) – The state agency responsible for regulating the use of pesticides in California.

Direct On-site Supervision – A QAC (or QAL, if services contracted) is physically present and available, on-site (within the location as specified in the Monthly Summary Pesticide Use Report Form located on the California Department of Pesticide Regulation website:

<http://www.cdpr.ca.gov/docs/pur/forms/enf060.pdf>) to directly manage and control the application (of any pesticide, herbicide, or fertilizer) by supervising others. The QAC or QAL manages and controls the application of pesticides, herbicides, and fertilizers through available verbal communication to include direct interaction, telephones, cellular phones, 800 mhz phones, and radios.

Feasible – means capable of being accomplished in a successful manner, within a reasonable period of time, taking into account economic, environmental, social, and technological factors.

Forecasted Storm Event – A weather event predicted to commence within the next 24-hour time window, where at least 0.25 inches of rain or more is forecasted to fall.

Herbicide – A common pesticide focused on killing weeds and other plants that grow where they are not wanted.

Integrated Pest Management (IPM) – means a sustainable approach to managing pests by combining biological, cultural, physical and chemical tools in a way that minimizes economic, health, and environmental risks.

Manufacturer's Label – The main source of information on how to use the product correctly, safely, and legally. The main sections of a label are: common name and brand name, active ingredient, EPA registration number, signal words, first aid, directions for use, and storage/disposal.

Material Safety Data Sheets (MSDSs) – An information sheet provided by a chemical manufacturer describing chemical qualities, hazards, safety precautions, and emergency procedures to be followed in case of a spill, fire, or other emergency.

Non-Routine Application – A non-scheduled application to include a “one-time” or an “emergency” use of pesticides, herbicides, and fertilizers.

Notice of Intent (NOI) for Pesticide Usage – An oral or written notification submitted prior to the use of a restricted use pesticide, pursuant to a permit.

Pesticide – Defined by the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) as “...any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any insects, rodents, nematodes, fungi, weeds, or any other forms of life declared to be pests, and any substance or mixture of substances intended for use as a plant regulator, defoliant, or desiccant.”

Qualified Applicator Certificate Holder (QAC) – Any person who has successfully passed the California State Pesticide Laws and Regulations exam, and qualified in one or more pest control categories and may therefore apply restricted materials, supervise pesticide application, but who is not entitled to supervise the operations of a pest control business.

Qualified Applicator License Holder (QAL) – Any person who has successfully passed the California State Pesticide Laws and Regulations exam, and qualified in one or more pest control categories and may therefore apply restricted materials and supervise the pesticide application/operations made by a licensed pest control business.

Routine Application – A scheduled (weekly, quarterly, annually, etc.) use of a pesticide, herbicide, or fertilizer to attain a specific goal.

Signal Word – Defines approximately how hazardous a pesticide could be to people by using descriptors such as: **DANGER, WARNING, CAUTION, or DANGER-POISON.**

Storm Event – A weather event that produces more than .25 inch of precipitation.

Use - means any pesticide related activity including:

- a. Pre-application to include arranging for application, mixing, loading, and making necessary preparations for application;
- b. Application of the pesticide; and
- c. Post-application activities – control of the treated area, management of the treated area, transportation, storage, disposal of excess pesticides, equipment wash, containers, and cleaning of equipment.

Use does not include emergency responders, commercial transportation, manufacturing, formulating, or packaging.

4 Responsibilities

4.1 Co-permittees

Co-permittees shall:

- a. Designate a QAC or QAL holder, to provide advice and assistance in all matters related to pesticide usage, disposal of products, and safety.
- b. Provide pesticide applicators (including contracted businesses) with appropriate record keeping forms to document pesticide use
<http://www.cdpr.ca.gov/docs/enforce/prenffrm/enf060.pdf> (Attachment A).

- c. Annually verify that the purchasing, storing, mixing, loading, and safety tasks for pesticide, fertilizer, and herbicide use are in accordance with this protocol, applicable laws, and regulations including the current and valid QAC/QAL certifications.
- d. Verify that no banned or unregistered pesticide is stored or applied.
- e. Request landscapers to implement procedures to encourage the retention and planting of native vegetation to reduce water, pesticide and fertilizer needs.
- f. Coordinate annual refresher training courses for all pesticide handlers to meet the continuing education requirements.

4.2 Pesticide applicators

Pesticide applicators shall:

- a. Be certified as or under the direct on-site supervision of, a QAC or QAL holder and be properly trained to start work with pesticides, fertilizers, and/or herbicides.
- b. Follow manufacturer's label instructions and this SOP. When such instruction is in conflict with this SOP, the label instructions will be followed.
- c. Ensure that no banned or unregistered pesticide is stored or applied.
- d. Follow the policies and procedures established in this application protocol.
- e. Report any unsafe work practices to their respective supervisors

4.3 Integrated Pest Management Program (IPM)

Co-Permittees and Pesticide applicators shall implement an IPM program by May 7, 2010 that includes the following:

- a. Pesticides are used only if monitoring indicates they are needed according to established guidelines.
- b. Treatment is made with the goal of removing only the target organism.
- c. Pest controls are selected and applied in a manner that minimizes risks to human health, beneficial, non- target organisms, and the environment.
- d. Its use of pesticides, including Organophosphates and Pyrethroids do not threaten water quality.
- e. Partner with other agencies and organizations to encourage the use of IPM.
- f. Adopt and verifiably implement policies, procedures, and/or ordinances requiring the minimization of pesticide use and encouraging the use of IPM techniques (including beneficial insects) in the Permittees' overall operations and on municipal property.
- g. Policies, procedures, and ordinances shall include commitments and timelines to reduce the use of pesticides that cause impairment of surface waters by implementing the following procedures:
 - i. Quantify pesticide use by its staff and hired contractors.
 - ii. Prepare and annually update an inventory of pesticides used by all internal departments, divisions, and other operational units.
 - iii. Demonstrate reductions in pesticide use.

5 Environmental Conditions

Environmental conditions (weather and site conditions) required for application of pesticides, fertilizers, and herbicides is dependent upon label and Ventura County Stormwater Permit requirements. Site conditions are determined by visually (V) observing the area for situations or

by collecting information from recognized weather forecasting (F) organizations. For example, storm events can be tracked by using any Internet web link that forecasts rainfall (e.g. www.weather.com).

The following table is provided as a guide to applicators where weather or site conditions may impact the application of the pesticide, fertilizer, or herbicide. Weather/Site conditions must be verified for all listed conditions. Forecasting may be used for other weather/site conditions, but is necessary to establish a 24-hour timeframe prior to actual rainfall. A "Yes" indicates the weather/site conditions where application of pesticides, fertilizers, and herbicides may occur. A "No" indicates weather/site conditions where application of pesticides, fertilizers, and herbicides may not occur.

Weather/Site Conditions	Form of Determining Weather/Site Conditions	Routine Application	Non-Routine Application
Wind-free (sufficient to avoid spray drift from point of application)	V	Yes	Yes
Storm events (see definition)	V	No	No
Within one day of a forecasted storm event (see definition) > 0.25 inches	V, F	No*	No
After a storm event where water is leaching or running	V	No	No
Water is running off-site	V	No	No
Rising groundwater	V	No	No
Ground is saturated	V	No	No

* Except for application of pre-emergents.

6 Pollution Prevention and Spill Control

Irrigation canals, open trenches, surface waters, wetlands, designated 303(d) waterbodies, and groundwater sources should be noted and application shall be made to prevent contamination of these areas.

In the event that pesticides, fertilizers, and/or herbicides not intended for water application are inadvertently sprayed or spilled into the water sources listed above, the following steps are to be taken:

- a. Stop all pesticide applications and assess the situation.
- b. Prevent further contamination of water sources by using control measures such as storm drain inlet protection, absorbent materials, sandbags, or trenching.

- c. Mark the area where the spill or overspray occurred.
- d. Contact the environmental coordinator in your jurisdiction
- e. Report the spill to the appropriate department for clean up.
- f. Contact governmental agency of reportable quantities.

7 Aquatic Pesticide Application

For control of pests and weeds in open water, storm drainage system, and flood control channel areas, only those materials specifically designed and registered for direct water application may be used. Directions on the labels must be followed as well as evaluating the application for the potential to harm the environment. Currently, the following is required prior to applying an aquatic pesticide.

- a. Coverage is obtained and compliance is achieved under Water Quality Order No. 2013-0002-DWQ – Aquatic Pesticide NPDES Permit. For copy of the permit visit the State Water Resources Control Board web site at:
http://www.waterboards.ca.gov/water_issues/programs/npdes/aquatic.shtml.
- b. Directions on the label are followed.
- c. The application site is evaluated prior to application for the potential of the pesticide to harm the environment.

8 Training and Documentation

8.1 QAC and QAL Requirements

Each Co-permittee will only use staff (including contracted businesses) that are under the direct on-site supervision of a QAC/QAL holder. The QAC/QAL must possess a valid and current certification. The applicator is responsible for following any federal and state requirements as well as all label requirements and reviewing the MSDS prior to use.

8.2 Training

Each person who applies pesticides, fertilizers, or herbicides must be trained for the following:

- a. Appropriate application of the pesticide, fertilizer, or herbicide.
- b. Application laws and regulations
- c. Affects application may have on stormwater quality management
- d. The type of chemical and the immediate and long term hazards resulting from exposure
- e. The MSDS information
- f. Safety procedures
- g. Emergency spill information
- h. Use of protective equipment
- i. Cleanup procedures
- j. Disposal procedures

9 Storage Facilities

Co-permittees will adopt a purchase, storage, and disposal policy such that all pesticides, fertilizers, and herbicides are under the control of a QAC/QAL holder. Pesticide storage facilities

shall meet regulatory requirements to prevent releases into the surrounding environment, waterbodies, or be exposed to stormwater and protect the safety of personnel working within such facilities. These pesticides storage facilities shall be locked/secured when not in use. All doors/entrances to the facilities shall be posted with appropriate warning signs (as specified in the California Department of Pesticide Regulations, see references). All signs shall be legible at a minimum distance of 25 feet from any direction.

Pesticide containers should not be stored on the floor or bare ground. No floor drains, which empty into storm drains, are permitted within the storage facility. All pesticides in a storage facility shall either be in the original container, or the service container. Secondary containment is recommended, but not mandatory. All containers will have a copy of the product label attached.

Open bags of pesticides must be enclosed in a secondary container (a closed heavy plastic bag, or can with a tight lid), to prevent exposure or spillage. If the original pesticide containers are metal and are in a state of rust or deterioration, properly labeled plastic or metal secondary containers shall be provided to prevent accidental leakage.

10 Decontamination/Disposal

Each Co-permittee will adopt a decontamination and disposal procedure that is managed by a QAC/QAL and meets the following minimum requirements. Liquids produced during the decontamination process shall be handled according to federal and state requirements and managed to reduce exposure to stormwater and from entering the storm drain system or surface waters.

10.1 Cleanup

Containers used to apply pesticides, fertilizers, or herbicides of 28 gallons or less must be triple rinsed after each use. Containers sent back to the manufacturer will follow manufacturer's recommendations or State and Federal guidelines for transporting. The triple-rinse procedures will consist of the following:

- a. Use $\frac{1}{4}$ the container volume for containers less than 5 gallons and $\frac{1}{5}$ the container volume for containers greater than 5 gallons.
- b. Place rinse medium in the container, securely close, agitate.
- c. Drain rinse solution into tank mix. Allow draining 30 seconds.
- d. Repeat steps b. and c. a minimum of two times; or
- e. Invert emptied container over a nozzle located in the opening of the mix tank that is capable of rinsing all inner surfaces of the container.

For further information, please visit the web site for the California Department of Pesticide Regulations listed in Section 10 of this SOP.

10.2 Disposal

Pesticide, fertilizer, and herbicide waste includes leftover chemicals and chemical container rinsates. All pesticide waste shall be treated as hazardous waste. Minimization of pesticide waste

is a high priority for the pesticide user. If waste is stored before removal, it should be stored in an area that is not exposed to stormwater, stormwater runoff, or surface water.

10.3 Storage

Storage of pesticides, fertilizers, and herbicides should be in accordance with requirements as specified in the manufacturer's instructions or California Department of Pesticide Regulations (see References) if the instructions from the manufacturer are not provided.

11 References

11.1 Regulations

- a. Ventura County NPDES Permit CAS004002 (Order No. 09-0057)
- b. Title 3 CCR, Pesticide and Control Operations Section 6674, 6700-6900 (CalEPA)
- c. Uniform Fire Code, Pesticide Storage and Display
- d. 40 CFR Regulations of Pesticides sections 165.1-180 (www.usepa.gov)
- e. State Water Resources Control Board Statewide General NPDES Permit for the Residual Aquatic Pesticide Discharges to Waters of the United States from Algae and Aquatic Weed Control Applications; General Permit No. CAG990005 – Water Quality Order No. 2013-0002-DWQ
- f. State Water Resources Control Board Statewide NPDES Permit for Biological and Residual Pesticide Discharges to Waters of the United States from Vector Control Applications; General Permit No. CAG990004 – Water Quality Order No. 2012-0003-DWQ.

11.2 Web Sites

- a. California Department of Pesticide Regulation - www.cdpr.ca.gov
- b. Weather tracking – www.weather.com
- c. California Environmental Protection Agency (CalEPA) – www.calepa.ca.gov
- d. State Water Resources Control Board – Aquatic Pesticide Permits - http://www.waterboards.ca.gov/water_issues/programs/npdes/aquatic.shtml

**ATTACHMENT A (TO APPENDIX B) - CALIFORNIA DEPARTMENT OF
PESTICIDE REGULATION MONTHLY SUMMARY PESTICIDE USE
REPORT TEMPLATE (DPR-ENF-060)**

GENERAL INFORMATION FOR COMPLETING THE MONTHLY SUMMARY PESTICIDE USE REPORT

(Page 2 of 2)

Reporting Requirements

Reporting of all pesticide applications including spray adjuvants and plant growth regulators, is required by:

1. Landscape maintenance gardener pest control businesses, agricultural pest control businesses performing residential work, and structural pest control businesses.
2. Public agencies, pest control businesses and property operators who apply pesticides for agricultural use other than for the production of an agricultural commodity. These uses include applications for the production of poultry, fish, and apiary. Pest control businesses must report uses for the production of livestock. Also, uses on golf courses, parks, rights-of-way, cemeteries, forests, ditches, fence lines, etc. must be reported.
3. Persons who use restricted materials for uses other than the production of an agricultural commodity.
4. Persons who use a pesticide for industrial post-harvest commodity treatments.
5. Persons who use a Ground Water Protection pesticide, listed in Title 3, California Code of Regulations, section 6800(b) for any outdoor, institutional or industrial use.

Report Filing Deadlines

Submit two (2) copies of this report to the county agricultural commissioner by the 10th of the month, following the month in which the work was performed. Reports may be hand-delivered or mailed, the postmark serving as the date of delivery. Retain a copy for your records.

For each month when no pest control work has been performed, licensed pest control businesses must submit a use report by the 10th day of the following month to the county agricultural commissioner in counties where they are registered. The use report must indicate that no pest control work was performed.

SPECIFIC INSTRUCTIONS FOR COMPLETING THE FACE PAGE

The operator/firm information should be filled out completely, including the address, ZIP code, and telephone number.

Identify the Operator Identification/Restricted Material Permit Number, if applicable.

Enter the name of the county where the pesticide(s) was applied.

Indicate the county number where the product(s) was applied. The county number is available from the county agricultural commissioner's office. A separate report must be filed for each county where pesticides were applied.

Enter the month and year in which the applications were made.

Enter the total number of applications (i.e., the total of column D below) made during the month.

In Column A, enter both the manufacturer and brand name of the product.

In Column B, enter the "EPA Registration Number" or "California Registration Number" that appears on the pesticide label, including alpha codes, if any (AA, ZA, ZB, etc.). Do not use the "EPA Establishment Number" (Est. No.).

In Column C, indicate the total amount of product used as formulated and packaged by the manufacturer. Do not report the total mixture after dilution. Check only one unit of measure. If necessary, decimals and fractions may be used.

In Column D, indicate the total number of applications for each pesticide used during the reporting month. Each separate site (home, apartment complex, building, right-of-way, grain silo, etc.) should be counted as one application. For tank mixes, each represented pesticide should be credited with one application.

In Column E, if the use of the product is structural, landscape, right-of-way, vertebrate, public health, commodity fumigation (nonfood/nonfeed) or regulatory, enter the appropriate code number. Leave Columns F and G blank.

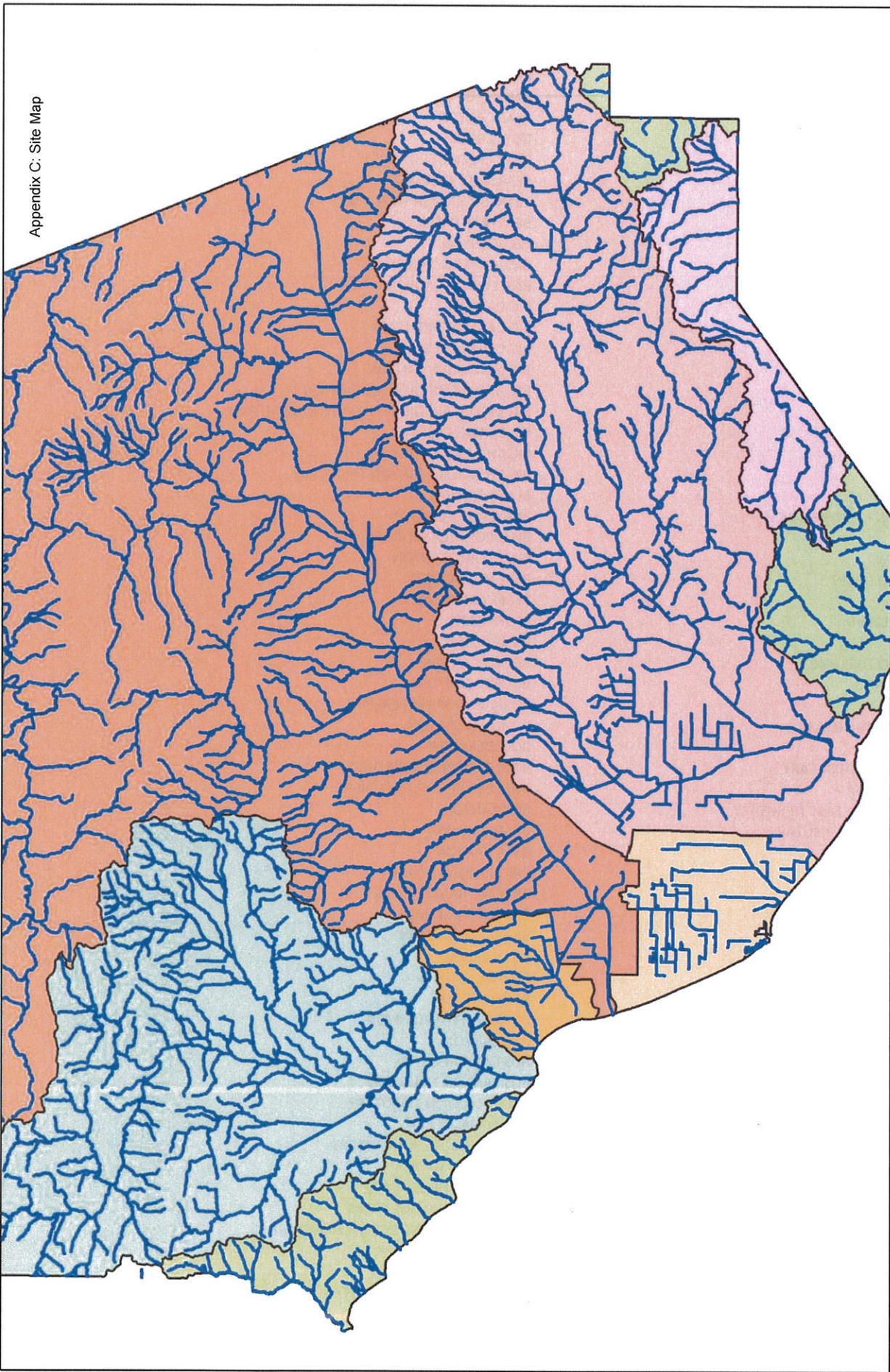
In Column F, if use of the product is not included in one of the number coded categories that are identified in column E, such as food/feed commodity fumigations, seed treatment, noncrop fencelines or ditch banks, etc., enter the commodity or site treated. Leave Column E blank.

Do not enter vertebrate pest control work in production areas such as orchards or other crop areas. This work should be reported on the Production Agriculture Monthly Pesticide Use Report.

In Column G, if use of the product is not included in one of the number-coded categories that are identified in Column E, enter the amount treated and the appropriate unit of measure (acres, pounds, square feet, tons, etc.). If you have a different measure, describe it fully and enter the amount treated. Leave Column E blank.

Enter the name of the person responsible for completing the information, and date the report. This could be a licensee, a manager, the person who applied the pesticide, a bookkeeper, etc.

**APPENDIX C - AQUATIC HERBICIDE APPLICATION SITE
INVENTORY AND BENEFICIAL USES**



County of Ventura Potential Aquatic Pesticide Application Sites

- Legend**
- Waters of the United States
 - Watershed
 - Onward Coastal
 - Santa Clara River
 - Ventura Coastal
 - Colleguas Creek
 - Malibu Creek
 - Other

A STREET DRAIN
 ABADI CREEK
 ABADI CREEK TRIBUTARY
 ADAMS BARRANCA
 ADAMS CANYON
 ADAMS CANYON EAST FORK
 ADAMS CANYON TRIBUTARY
 ADOBE CREEK
 AGGEN ROAD DRAIN
 AGUA BLANCA CREEK
 AGUA BLANCA CREEK TRIBUTARY
 ALAMO CREEK
 ALAMOS CANYON
 ALDER CREEK
 ALDER CREEK TRIBUTARY
 ALISO CANYON
 ALISO CANYON WEST FORK
 ALISO STREET DRAIN
 AMARGOSA CREEK
 ANACAPA DRAIN
 ANLAUF CANYON
 ANLAUF CANYON NORTH BRANCH
 ANT CANYON
 APACHE CANYON
 APPLETON ROAD DRAIN
 ARNEILL DRAIN
 ARNOLD ROAD DRAIN
 ARRASTRA FLAT CREEK
 ARROYO CANEJO TRIBUTARY
 ARROYO COLORADO
 ARROYO CONEJO
 ARROYO CONEJO TRIBUTARY
 ARROYO LAS POSAS
 ARROYO LAS POSAS TRIBUTARY
 ARROYO SANTA ROSA
 ARROYO SANTA ROSA EAST TRIBUTARY
 ARROYO SANTA ROSA TRIBUTARY
 ARROYO SIMI
 ARROYO SIMI TRIBUTARY
 ARUNDELL BARRANCA
 ARUNDELL BARRANCA TRIBUTARY
 ARUNDELL CANYON
 ARUNDELL CANYON TRIBUTARY
 AUTO CENTER DRAIN
 AYERS CREEK
 AYERS CREEK TRIBUTARY
 BALCOM CANYON
 BALCOM CANYON EAST TRIBUTARY
 BALCOM CANYON TRIBUTARY
 BALCOM CANYON WASH
 BALDY CANYON
 BALDY CANYON TRIBUTARY
 BALLINGER CANYON
 BALLINGER CANYON WASH
 BARBARA DRIVE DRAIN
 BARSDALE DITCH
 BARLOW BARRANCA
 BASOLO DITCH
 CAMPUS ROAD CANYON TRIBUTARY
 BASOLO DITCH CREEK
 BASOLO DITCH WEST TRIBUTARY
 BEAR CANYON
 BEAR CREEK
 BEAR CREEK TRIBUTARY
 BEARDSLEY CHANNEL
 BEARDSLEY WASH TRIBUTARY
 BEARTRAP CREEK
 BELL CANYON
 BELL CANYON TRIBUTARY
 BERYLWOOD CANYON
 BIG CANYON
 BIG CANYON TRIBUTARY
 BIG CEDAR CREEK
 BIG MOUNTAIN CANYON
 BIG MOUNTAIN OIL FIELD CANYON
 BIG MOUNTAIN OIL FIELD CANYON TRIBUTARY
 BIG SPRING CREEK
 BIG SYCAMORE CANYON
 BIG SYCAMORE CANYON TRIBUTARY
 BLACK CANYON
 BLANCHARD CANYON
 BLUE POINT CAMP CREEK
 BLUE POINT CANYON
 BLUE ROCK CREEK
 BLUFF CAMP CREEK
 BLUFF CREEK
 BONEY CREEK
 BOONE CANYON
 BOOSEY CANYON
 BORRACHO SPRING CREEK
 BOULDER CANYON
 BOULDER CREEK
 BOULDER CREEK TRIBUTARY
 BOULDER CREEK-LORD CREEK
 BOX CANYON
 BRADLEY WASH
 BREA CANYON
 BRIGGS ROAD DRAIN
 BROOME RANCH CREEK
 BROWN BARRANCA
 BRUBAKER CANYON
 BUCK CREEK
 BURGESS CANYON
 BURRO CREEK
 BURROW FLATS CANYON
 BUS CANYON
 BUS CANYON DRAIN
 BUS CANYON TRIBUTARY
 CACHE CANYON TRIBUTARY
 CALLEGUAS CREEK
 CALLEGUAS CREEK TRIBUTARY
 CALUMET CANYON
 CAMARILLO HILLS DRAIN
 CAMARILLO SPRINGS CREEK
 CAMARILLO SPRINGS CREEK TRIBUTARY
 CAMP BARTLETT CREEK
 CAMPUS ROAD CANYON
 CONEJO PARK CREEK TRIBUTARY

CAMROSA DRAIN
 CANADA DE ALISO
 CANADA DE LAS ENCINAS
 CANADA DE RODRIGUEZ
 CANADA DE RODRIGUEZ TRIBUTARY
 CANADA DE SAN JOAQUIN
 CANADA DE SAN JOAQUIN TRIBUTARY
 CANADA DEL DIABLO
 CANADA DEL DIABLO TRIBUTARY
 CANADA LARGA
 CANADA LARGA TRIBUTARY
 CANADA SECA
 CANADA SECA TRIBUTARY
 CANTON CANYON
 CASITAS CREEK
 CASITAS CREEK TRIBUTARY
 CASTANO CHANNEL
 CASTANO CHANNEL TRIBUTARY
 CASTANO TRIBUTARY
 CASTLE CANYON
 CASTRO-WILLAMS DRAIN
 CATHARINA CREEK
 CATHARINA CREEK TRIBUTARY
 CAVIN ROAD DRAIN
 CAWELTI ROAD DITCH
 CEDAR CREEK
 CENTENNIAL CREEK
 CENTRAL AVENUE DRAIN
 CENTRAL LOMA VISTA DRAIN
 CENTRAL OXNARD DRAIN
 CENTRAL OXNARD DRAIN - COLONIA EXT
 CENTRAL OXNARD DRAIN TRIBUTARY
 CENTRAL WOOLEY ROAD DRAIN
 CHAPARRAL ROAD DRAIN
 CHATSWORTH DRAIN
 CHEESEBORO CANYON
 CHERRY CREEK
 CHERRY CREEK TRIBUTARY
 CHISMAHOO CREEK
 CHIVO CANYON
 CHIVO CANYON TRIBUTARY
 CHORO GRANDE CANYON
 CHUCHUPATE CREEK
 CIENEGA CAMP CREEK
 CLARK BARRANCA
 COASTAL TRIBUTARY
 COBBLESTONE SPRING CREEK
 COCHE CANYON
 COLDWATER CANYON
 COLDWATER FORK HOT SPRINGS CANYON
 COLLEGE CREEK
 COLT STREET DRAIN
 CONDOR VIEW CREEK
 CONEJO CREEK
 CONEJO CREEK TRIBUTARY
 CONEJO MOUNTAIN CREEK
 CONEJO PARK CREEK
 EAST FORK HALL CANYON
 EAST FORK HAPPY CAMP SPRINGS
 CONEJO SUMMIT CREEK
 COOPER CANYON
 CORRAL CANYON
 COUNTY LINE CANYON
 COYOTE CANYON
 COYOTE CANYON TRIBUTARY
 COYOTE CREEK
 COYOTE CREEK TRIBUTARY
 COYOTE CREEK_CASITAS
 COZY DEL CANYON
 COZY DELL CANYON
 COZY DELL TRIBUTARY
 CRESTVIEW DRAIN
 CROOKED CREEK
 CUMMINGS ROAD DRAIN
 CUYAMA RIVER
 DAYTON CANYON
 DEAD HORSE CREEK
 DEAL CANYON
 DEER CANYON
 DEER CANYON TRIBUTARY
 DEER PARK CANYON
 DEL NORTE DRAIN
 DEL NORTE DRAIN TRIBUTARY
 DENNISON PARK CREEK
 DENNISON ROAD TRIBUTARY
 DENT DRAIN
 DERRYDALE CREEK
 DEVIL CANYON
 DEVILS HEART CANYON
 DEVILS POTRERO CREEK
 DOMINGUEZ CANYON
 DONLON DRAIN
 DORIS DRAIN
 DORIS DRAIN TRIBUTARY
 DOUGH FLAT CREEK
 DOUGH FLAT CREEK TRIBUTARY
 DOUGLAS DRAIN
 DRIPPING SPRINGS TRIBUTARY (ALDER CREEK)
 DRON CREEK
 DRY CANYON
 DRY CANYON EAST LATERAL
 DRY CANYON TRIBUTARY
 DRY CANYON WEST FORK
 E STREET DRAIN
 EAST CAMARILLO DRAIN
 EAST CAMARILLO DRAIN TRIBUTARY
 EAST CASITAS PASS CREEK
 EAST FORK ADAMS CANYON
 EAST FORK ALAMO CREEK
 EAST FORK ALAMOS CANYON
 EAST FORK ALDER CREEK
 EAST FORK ARROYO SEQUIT
 EAST FORK COYOTE CREEK
 EAST FORK FAIRVIEW CANYON
 EAST FORK GILLIBRAND CANYON
 EAST FORK GRIDLEY CANYON
 ERRINGER CANYON
 ERRINGER DRAIN

EAST FORK HOME ACRES CREEK	ERRINGER ROAD DRAIN
EAST FORK HONDA BARRANCA	EUREKA CANYON
EAST FORK LA JOLLA CANYON	EUREKA CANYON (TAPO)
EAST FORK LION CREEK	EUREKA CANYON TRIBUTARY
EAST FORK LORD CREEK	FAGAN CANYON
EAST FORK MARR DIVERSION	FAIRVIEW CANYON
EAST FORK MEIER CANYON	FERNDALE CREEK
EAST FORK MT. PINOS CREEK	FERRO DITCH
EAST FORK OXNARD INDUSTRIAL DRAIN	FIFTH STREET DRAIN
EAST FORK OXNARD WEST DRAIN TRIBUTARY	FISH CREEK
EAST FORK PADRE JUAN CANYON	FISHBOWLS CREEK
EAST FORK POLE CREEK	FOOTHILL DRAIN
EAST FORK SALT MARSH CANYON	FOSTER PARK CREEK
EAST FORK SANTA PAULA CREEK	FOUR FORK CREEK
EAST FORK SCHOOLHOUSE CANYON	FOURFORK CREEK
EAST FORK SENIOR CANYON	FOURFORK CREEK TRIBUTARY
EAST FORK SENIOR CANYON TRIBUTARY	FOX BARRANCA
EAST FORK SEYMOUR CREEK	FOX BARRANCA
EAST FORK STRATHERN CANYON	FOX CANYON BARRANCA
EAST FORK STRATHERN CANYON TRIBUTARY	FRANKLIN BARRANCA
EAST FORK TAPO CANYON	FRAZIER CREEK
EAST FORK THATCHER CREEK	FRAZIER CREEK TRIBUTARY
EAST FORK TRIPAS CANYON	FRAZIER FORK SEYMOUR CREEK
EAST FORK TRIPAS CANYON TRIBUTARY	FRAZIER MINE CREEK
EAST FORK WAGON ROAD CANYON	FRAZIER MOUNTAIN CREEK
EAST FORK WAGON ROAD CANYON TRIBUTARY	FRAZIER WASH
EAST FORK WHEELER CANYON	FRESNO CANYON
EAST FORK WILEY CANYON	FRESNO CANYON TRIBUTARY
EAST FORK WILEY CANYON TRIBUTARY	FREY CANYON
EAST FORK WOOD CANYON	GABBERT CANYON
EAST HOPPER CANYON	GABBERT CANYON TRIBUTARY
EAST LAS VIRGENES CANYON	GATES CANYON
EAST LAS VIRGENES CREEK	GILL BARRANCA
EAST LATERIAL STOCKTON ROAD DRAIN	GILLIBRAND CANYON TRIBUTARY
EAST LEWIS ROAD DRAIN	GILLIBRAND CANYON
EAST LIVE OAK TRIBUTARY TO RANCHO MATILIJIA DIV	GILLIBRAND CANYON TRIBUTARY
EAST LOS ROBLES DRAIN TRIBUTARY	GLEN ELLEN DRIVE DRAIN
EAST OJAI DRAIN	GODWIN CANYON
EAST ONDULANDO DRAIN	GOLD DUST CREEK
EAST TRIBUTARY MEIER CANYON	GRADE VALLEY CREEK
EAST TRIBUTARY STOCKTON ROAD DRAIN	GRIDLEY CANYON
EAST TRIBUTARY TAPO CANYON	GRIDLEY CANYON TRIBUTARY
ECHO FALLS CANYON	GRIMES CANYON
EDGEMORE DRAIN	GRIMES CANYON TRIBUTARY
EDISON DRAIN	GRIMES CANYON WASH
EDISON DRAIN WEST	GROVES PLACE DRAIN
EDWARDS CANYON	GROVES PLACE DRAIN TRIBUTARY
EL RANCHO DRAIN	GUADALASCA DRAIN
EL RIO DRAIN	GUADALASCA TRIBUTARY
ELEANOR CREEK	GUADALASCA CREEK
ELLSWORTH BARRANCA	HAINES BARRANCA
ELLSWORTH CANYON	HALFWAY SPRING CANYON
ELM CREEK	HALL CANYON
EPWORTH DRAIN	HALL CANYON TRIBUTARY
EPWORTH DRAIN EAST	HAMMOND CANYON
ERBES ROAD DRAIN	HAMMOND CANYON TRIBUTARY
HAMPTON CANYON	KEEFE DITCH
HAPPY CAMP CANYON	KEEFE DITCH NORTH FORK
HAPPY CAMP CANYON TRIBUTARY	KENNEDY CANYON

HAPPY CAMP SPRINGS
 HAPPY VALLEY DRAIN
 HAPPY VALLEY DRAIN SOUTH
 HAPPY VALLEY DRAIN TRIBUTARY
 HAPPY VALLEY DRAIN V
 HARMON BARRANCA
 HARRIS MINE CREEK
 HEMLOCK STREET DRAIN
 HERMITAGE WASH
 HIALEAH SPRINGS CANYON
 HIALEAH SPRINGS CANYON
 HIDDEN VALLEY CREEK
 HIDDEN VALLEY CREEK TRIBUTARY
 HILL CANYON
 HILL CANYON TRIBUTARY
 HILL STREET DRAIN
 HILLTOP LANE DRAIN
 HINES PEAK CREEK
 HOLE-IN-THE-WALL CREEK
 HOLIDAY CAMP CANYON
 HOLSER CANYON
 HOME ACRES DRAIN
 HONDA BARRANCA
 HONDA BARRANCA TRIBUTARY
 HOPPER CANYON
 HOPPER CANYON TRIBUTARY
 HOPPER MOUNTAIN CREEK
 HOPPER MOUNTAIN CREEK TRIBUTARY
 HOPPER RANCH CREEK
 HOT SPRINGS CANYON CREEK
 HOWARD CREEK
 HOWARD CREEK TRIBUTARY
 HOWELL CANYON
 HUENEME DRAIN
 HUENEME TRIB OXNARD IND
 HUMMINGBIRD CREEK
 HUMMINGBIRD TRIBUTARY
 HUNT WASH
 HUNT WASH CREEK
 HUNT WASH TRIBUTARY
 HWY 101 EAST DRAIN
 HWY 101 WEST DRAIN
 HWY 126 WEST DRAIN
 IRON TROUGH CANYON
 IRON TROUGH CANYON WEST DRAIN
 J STREET DRAIN
 JACKSON CANYON
 JAVON CANYON
 JAVON CANYON TRIBUTARY
 JEPSON WASH
 JOHNSTON RIDGE TRIBUTARY HOT SPRINGS CANYON
 KADOTA FIG DRAIN
 KADOTA FIG DRAIN TRIBUTARY
 KALORAMA DRAIN
 KALORAMA DRAIN TRIBUTARY
 LITTLE CHIVO CANYON
 LITTLE ECHO FALLS CANYON
 LITTLE HAPPY CAMP CANYON
 LITTLE HAPPY CAMP CANYON TRIBUTARY
 KENNY GROVE CREEK
 KINGS CAMP CREEK
 KINGS CAMP CREEK TRIBUTARY
 KNOLLS PARK CREEK
 KNOLLS PARK DRAIN
 KOENIGSTEIN ROAD CREEK
 KOENIGSTEIN ROAD WASH
 LA BROCHE CANYON
 LA CONCHITA CREEK
 LA JOLLA CANYON
 LA JOLLA CANYON TRIBUTARY
 LA JOLLA VALLEY CREEK
 LADERA CREEK
 LADYBUG CREEK
 LAGUNA CREEK
 LAKE BARD OVERFLOW
 LAKE CANYON
 LAKE CASITAS TRIBUTARY
 LAKE ELEANOR CREEK
 LANG CREEK
 LANG CREEK TRIBUTARY
 LAS LLAJAS CANYON
 LAS LLAJAS TRIBUTARY
 LAS POSAS ESTATES DRAIN
 LAS POSAS ESTATES DRAIN
 LAS POSAS ESTATES DRAIN DIVERSION
 LAS POSAS ESTATES DRAIN TRIBUTARY
 LAS POSAS ESTATES DRAIN-SOUTH
 LAS POSAS ESTATES TRIBUTARY
 LAS POSAS ROAD DRAIN
 LAS POSAS ROAD DRAIN TRIBUTARY
 LAS POSAS ROAD TRIBUTARY
 LAS SAUCES CREEK
 LAS VIRGENES CREEK
 LAS VIRGENES CREEK TRIBUTARY
 LASKEY MESA EAST
 LASKEY MESA WEST
 LASOSCO CREEK
 LAST CHANCE CREEK
 LATERAL C NYELAND DRAIN
 LECHIER CANYON
 LEON CANYON
 LEON CANYON TRIBUTARY
 LEWIS ROAD DRAIN
 LIKE OAK CREEK TRIBUTARY
 LIME CANYON
 LIME CANYON TRIBUTARY
 LINDERO CREEK
 LINE CANYON
 LINE CANYON TRIBUTARY
 LION CANYON
 LION CANYON TRIBUTARY
 LION CREEK
 LION CREEK TRIBUTARY
 LITTLE ANLAUF CANYON
 MESA SPRING CREEK
 MICHAEL CREEK
 MIDDLE BEAR HEVEN CREEK
 MIDDLE FORK ALAMOS CANYON

LITTLE MUTAU CREEK
 LITTLE REEVES CREEK
 LITTLE SENIOR CANYON
 LITTLE SENIOR CANYON TRIBUTARY
 LITTLE SESPE CREEK
 LITTLE SHERWOOD CREEK
 LITTLE SYCAMORE CANYON
 LITTLE SYCAMORE CANYON TRIBUTARY
 LIVE OAK CREEK
 LIVE OAK CREEK - SOUTH
 LIVE OAK CREEK DIV
 LIVE OAK CREEK TRIBUTARY
 LOCKWOOD CREEK
 LOCKWOOD CREEK TRIBUTARY
 LOCKWOOD PEAK CREEK
 LOFTUS CANYON
 LOFTUS CANYON TRIBUTARY
 LONE OAK CANYON
 LONG CANYON
 LONG CANYON NORTH LATERAL
 LONG CANYON TRIBUTARY
 LONG DAVE CANYON
 LONG GRADE CANYON
 LONG GRADE CANYON TRIBUTARY
 LOS ANGELES AVENUE DRAIN
 MADRANIO CANYON
 MAGNOLIA CREEK
 MAGNOLIA DRIVE CREEK
 MAHAN BARRANCA
 MAHAN BARRANCA TRIBUTARY
 MAIN STREET DRAIN
 MANUEL CANYON
 MAPLE CANYON
 MAPLE CREEK
 MAPLE CREEK TRIBUTARY
 MARR DIVERSION CHANNEL
 MATILJA CREEK
 MATILJA CREEK NORTH FORK
 MATILJA CREEK TRIBUTARY
 MATILJA CREEK WEST BRANCH
 MAVERICK WASH
 MAXY CANYON
 MC ANDREWS CREEK
 MCANDREW WASH
 MCDONALD CANYON
 MCDONALD CANYON DRAIN
 MCDONALD CANYON DRAIN SOUTH
 MCNELL CREEK
 MEDEA CREEK
 MEIER CANYON
 MEIER CANYON TRIBUTARY
 MESA SCHOOL DRAIN
 MESA SCHOOL DRAIN TRIBUTARY
 MESA SCHOOL TRIBUTARY
 NORTH BRANCH HILL CANYON
 NORTH BRANCH SEYMOUR CREEK
 NORTH BRANCH WILLOUGHBY CANYON
 NORTH EL RIO DRAIN
 NORTH FORK ABADI CREEK
 MIDDLE FORK ALAMOS CANYON TRIBUTARY
 MIDDLE FORK APACHE CANYON
 MIDDLE FORK BEAR CREEK
 MIDDLE FORK LOCKWOOD CREEK
 MIDDLE FORK LOCKWOOD CREEK TRIBUTARY
 MIDDLE FORK PADRE JUAN CANYON
 MIDDLE FORK TRIPAS CANYON
 MIDDLE FORK WAGON ROAD CANYON
 MIDDLE MATILJA CAMP CREEK
 MIDDLE RIDGE CANYON
 MIDDLE RIDGE CANYON TRIBUTARY
 MILL CANYON
 MILLIGAN BARRANCA
 MILLIGAN BARRANCA TRIBUTARY
 MILLS ROAD DRAIN
 MIRA MONTE DRAIN
 MIRROR LAKE DRAIN
 MIRROR LAKE DRAIN TRIBUTARY
 MIRROR LAKE TRIBUTARY
 MISSION DRAIN
 MISSION OAKS DRAIN
 MODELO CANYON
 MONTE ARIDO CANYON
 MONTE ARIDO CANYON TRIBUTARY
 MONTGOMERY CANYON
 MOON DITCH
 MOORE CANYON
 MOORPARK CITY DRAIN
 MOORPARK STORM DRAIN NO.1
 MOORPARK STORM DRAIN NO.2
 MOORPARK STORM DRAIN TRIBUTARY
 MORGAN CANYON
 MOUNT PINOS CREEK
 MUD CREEK CANYON
 MUGU DRAIN
 MUGU DRAIN TRIBUTARY
 MUGU LAGOON TRIBUTARY
 MUNSON CREEK
 MURIATTA CANYON
 MURIATTA CANYON TRIBUTARY
 MURIETTA CANYON TRIBUTARY
 MUTAU CREEK
 MYSTERY SPRING CREEK
 N FORK MATILJA CREEK TRIBUTARY
 N. FORK MATILJA CREEK TRIBUTARY
 NCBC DRAIN
 NEGRO CREEK
 NETTLE SPRING CANYON
 NEWBURY PARK DRAIN NO.1
 NEWBURY PARK DRAIN NO.2
 NORTH BEAR HEVEN CREEK
 NORTH BRANCH ALAMOS CANYON
 NORTH BRANCH ALAMOS CANYON TRIBUTARY
 NORTH BRANCH ALISO CANYON
 OLEARY CREEK
 OLEARY CREEK TRIBUTARY
 OLSEN CHANNEL
 ONDULANDO BARRANCA
 ORCUTT CANYON

NORTH FORK ALAMOS CANYON
 NORTH FORK APACHE CANYON
 NORTH FORK ARROYO CONEJO
 NORTH FORK ARROYO CONEJO TRIBUTARY
 NORTH FORK BALLINGER CREEK
 NORTH FORK CANADA DE LOS ALAMOS
 NORTH FORK DRY CANYON
 NORTH FORK FISH CREEK
 NORTH FORK HAPPY CAMP CANYON
 NORTH FORK HAPPY CANYON TRIBUTARY
 NORTH FORK KEEFE CREEK
 NORTH FORK LITTLE SESPE CREEK
 NORTH FORK LOCKWOOD CREEK
 NORTH FORK MATILJA
 NORTH FORK MATILJA CREEK TRIBUTARY
 NORTH FORK MONTE ARIDO CANYON
 NORTH FORK NEGRO CREEK
 NORTH FORK OAK GROVE
 NORTH FORK OAK GROVE CREEK
 NORTH FORK OLSEN CHANNEL
 NORTH FORK PALO COMADO CANYON
 NORTH FORK PIEDRA BLANCA CREEK
 NORTH FORK POLE CREEK
 NORTH FORK SANTA ANA CREEK
 NORTH FORK SANTA ANA TRIBUTARY
 NORTH FORK SANTA ROSA SCHOOL DRAIN
 NORTH FORK STONE CORRAL CREEK
 NORTH HAPPY CAMP CANYON
 NORTH HAPPY CAMP CANYON TRIBUTARY
 NORTH MOORPARK CITY DRAIN
 NORTH RAMONA PLACE DRAIN
 NORTH RAMONA PLACE DRAIN TRIBUTARY
 NORTH SIMI DRAIN
 NORTH SIMI DRAIN TRIBUTARY
 NUEVO CANYON
 NUMBER 2 CANYON
 NUMBER 2 CANYON TRIBUTARY
 NYELAND DRAIN
 NYELAND DRAIN TRIBUTARY
 O HARA CANYON
 OAK CANYON
 OAK CREEK
 OAK GROVE CHANNEL
 OAK GROVE CREEK
 OAK GROVE CREEK TRIBUTARY
 OAK RIDGE CANYON
 OAK VIEW DRAIN
 OAT MOUNTAIN CREEK
 OBSERVATION CREEK
 OLD DRAIN CHANNEL
 OLD MAN CANYON
 OLD MAN CANYON TRIBUTARY
 OLDS ROAD DRAIN
 RASPBERRY SPRING CREEK
 RATTLESNAKE CANYON
 REAL CANYON
 REASONER CANYON
 RED MOUNTAIN CREEK
 RED MOUNTAIN CREEK TRIBUTARY
 OXNARD INDUSTRIAL DRAIN
 OXNARD WEST DRAIN
 OXNARD WEST DRAIN-NORTH
 OXNARD WEST TRIBUTARY (HEMLOCK ST)
 PADRE JUAN CANYON
 PALMA DRIVE DRAIN
 PALO COMADO CANYON
 PALO COMADO CREEK
 PARK CANYON
 PARK CREEK
 PARK CREEK TRIBUTARY
 PARK DRAIN
 PARK VIEW DRAIN
 PASO FLORES CANYON
 PEACH HILL TRIBUTARY
 PEACH HILL WASH
 PECK ROAD DRAIN
 PEPPERTREE CANYON
 PIEDRA BLANCA CREEK
 PIEDRA BLANCA TRIBUTARY
 PIEDRA CANYON
 PIGEON FLAT CREEK
 PINE CANYON
 PINE MOUNTAIN FORK BEAR CREEK
 PINE MOUNTAIN LODGE CREEK
 PINE SPRING CREEK
 PIRU CREEK
 PIRU CREEK TRIBUTARY
 PLEASANT VALLEY DRAIN
 PLEASANT VALLEY DRAIN TRIBUTARY
 PLEASANT VALLEY DRAIN TRIBUTARY
 PLEASANT VALLEY ROAD DRAIN
 POLE CREEK
 POLE CREEK TRIBUTARY
 PONDEROSA DRAIN
 POPLAR CREEK
 POPLIN CREEK
 POPLIN CREEK TRIBUTARY
 POTRERO BRANCH BIG SYCAMORE CANYON
 POTRERO CREEK
 POTRERO JOHN CREEK
 POTRERO JOHN TRIBUTARY
 POVERTY CANYON
 PRINCE BARRANCA
 PUERTA ZUELA BARRANCA
 PUNTA GORDA CANYON TRIBUTARY
 PUNTE GORDA CANYON
 PUNTE GORDA CANYON TRIBUTARY
 QUATAL CANYON
 QUITO DRAIN
 RAMONA CANYON
 RANCHO MISSION CREEK
 RANCHO NUEVO CREEK
 SANTA ROSA SCHOOL DRAIN
 SANTA ROSA SCHOOL DRAIN TRIBUTARY
 SANTA SUSAN WEST DRAIN
 SANTA SUSANA KNOLLS
 SANTA SUSANA KNOLLS (DRAIN B)
 SANTA YNEZ RIVER

RED REEF CANYON
 RED TAIL CANYON
 REDROCK CREEK
 REDROCK CREEK TRIBUTARY
 REEVES CREEK
 REEVES CREEK TRIBUTARY
 REGAS LIBRARY CREEK
 REIMER CREEK
 REIMER DITCH
 RESERVOIR BARRANCA
 REVOLON CHANNEL
 REYES CREEK
 RICE CANYON
 RICE ROAD DRAIN
 RICHARDSON CANYON
 RINCON CREEK
 RINCON CREEK TRIBUTARY
 ROCK CREEK
 ROCK CREEK TRIBUTARY
 RODEO FLAT CREEK
 RODERICK AVE DRAIN
 ROSE CREEK
 ROSE VALLEY CREEK
 ROUND SPRING CANYON
 RUNKLE CANYON
 RUNKLE CANYON TRIBUTARY
 RUSSELL CREEK
 SAC_CASITAS
 SADDLEBOW DRAIN
 SAINT JOHNS DRAIN
 SALT CANYON
 SALT MARSH CANYON
 SALT MARSH CANYON
 SALT MARSH CANYON TRIBUTARY
 SAN ANTONIO CREEK
 SAN ANTONIO CREEK TRIBUTARY
 SAN EMIGDIO MESA CREEK
 SAN GUILLERMO CREEK
 SAN JON BARRANCA
 SAN MARTINEZ GRANDE CANYON
 SAND CANYON
 SANJON BARRANCA
 SANTA ANA CREEK
 SANTA ANA CREEK TRIBUTARY
 SANTA CLARA DIVERSION
 SANTA CLARA DRAIN
 SANTA CLARA RIVER
 SANTA CLARA RIVER TRIBUTARY
 SANTA FELICIA CANYON
 SANTA FELICIA SPILLWAY
 SANTA PAULA CREEK
 SANTA PAULA CREEK TRIBUTARY
 SILVER STRAND STORM DRAIN-WEST HUENEME
 SILVER STRAND STORM DRAIN-WEST OJAI
 SILVER STRAND STORM DRAIN-WEST VENTURA
 SIMI DUMP CANYON
 SISAR CANYON
 SISAR CREEK
 SKELETON CANYON
 SATICOY COUNTRY CLUB DRAIN
 SATICOY DRAIN
 SCARAB CANYON
 SCARAB CANYON TRIBUTARY
 SCHOOLHOUSE CANYON
 SCHOOLHOUSE CANYON TRIBUTARY
 SENIOR CANYON
 SENIOR CANYON TRIBUTARY
 SERRANO CANYON
 SERRANO CANYON TRIBUTARY
 SESPE CREEK
 SESPE CREEK TRIBUTARY
 SEXTON CANYON
 SEYMOUR CREEK
 SHARPS CANYON
 SHEEP CAMP CREEK
 SHEEP CREEK
 SHEKELL ROAD DRAIN TRIBUTARY
 SHEKELL ROAD DRAIN
 SHELL OIL CREEK
 SHERWOOD CREEK
 SHIELDS CANYON
 SILVER STRAND STORM DRAIN-ANACAPA
 SILVER STRAND STORM DRAIN-BURBANK TO SOUTH OCEAN
 SILVER STRAND STORM DRAIN-CAHUENGA
 SILVER STRAND STORM DRAIN-CAMARILLO
 SILVER STRAND STORM DRAIN-EAST BARSDALE
 SILVER STRAND STORM DRAIN-EAST CAMARILLO
 SILVER STRAND STORM DRAIN-EAST EAGLE ROCK
 SILVER STRAND STORM DRAIN-EAST HUENEME
 SILVER STRAND STORM DRAIN-EAST OJAI
 SILVER STRAND STORM DRAIN-EAST VENTURA
 SILVER STRAND STORM DRAIN-FILLMORE
 SILVER STRAND STORM DRAIN-GLENDALE
 SILVER STRAND STORM DRAIN-HIGHLAND TO ROOSEVELT
 SILVER STRAND STORM DRAIN-HOLLYWOOD
 SILVER STRAND STORM DRAIN-LOS ANGELES
 SILVER STRAND STORM DRAIN-MELROSE
 SILVER STRAND STORM DRAIN-MOORPARK
 SILVER STRAND STORM DRAIN-PASADENA TO NORTH OCEAN
 SILVER STRAND STORM DRAIN-ROSSMORE
 SILVER STRAND STORM DRAIN-SAN FERNANDO
 SILVER STRAND STORM DRAIN-SAN NICOLAS
 SILVER STRAND STORM DRAIN-SANTA MONICA
 SILVER STRAND STORM DRAIN-SANTA PAULA
 SILVER STRAND STORM DRAIN-SAWTELLE
 SILVER STRAND STORM DRAIN-SIMI TO NORTH OCEAN
 SILVER STRAND STORM DRAIN-TUJUNGA
 SILVER STRAND STORM DRAIN-VAN NUYS
 SILVER STRAND STORM DRAIN-WEST BARSDALE
 SILVER STRAND STORM DRAIN-WEST EAGLE ROCK
 SILVER STRAND STORM DRAIN-WEST HIGHLAND
 STEWART CANYON TRIBUTARY
 STOCKTON ROAD DRAIN
 STONE CORRAL CREEK
 STORMDRAIN - EAST OJAI
 STRATHEARN CANYON
 STRATHEARN CANYON EAST FORK
 STRATHEARN CANYON TRIBUTARY

SKELETON CANYON TRIBUTARY	STROUBE DRAIN
SKYLINE DRAIN	SUDDEN BARRANCA
SKYLINE RANCH CREEK	SULPHUR CANYON
SMITH CANYON	SULPHUR CANYON TRIBUTARY
SMITH FORK PIRU CREEK	SULPHUR CREEK
SNAIL CANYON	SULPHUR MOUNTAIN CREEK
SNOW CANYON	SULPHUR SPRING CANYON
SNOWY CREEK	SUMMIT CREEK
SOLANO VERDE WASH	SUMMIT VALLEY CREEK
SOMIS DRAIN	SYCAMORE CANYON
SOMIS DRAIN EAST TRIBUTARY	SYCAMORE CANYON (ALDER CREEK)
SOMIS DRAIN WEST TRIBUTARY (LINE A)	SYCAMORE CANYON TRIBUTARY
SOMIS DRAIN WEST TRIBUTARY (LINE B)	SYCAMORE CREEK
SOUTH ALAMO CANYON	SYCAMORE CREEK TRIBUTARY
SOUTH BEAR HEVEN CREEK	TAPO CANYON
SOUTH BRANCH ALISO CANYON	TAPO CANYON TRIBUTARY
SOUTH BRANCH ARROYO CONEJO	TAPO DIVERSION CONDUIT.
SOUTH BRANCH ARROYO CONEJO WEST TRIBUTARY	TAPO GILLIBARND CANYON
SOUTH BRANCH ELLSWORTH CANYON	TAPO HILLS CANYON
SOUTH BRANCH WILLOUGHBY CANYON	TAPO HILLS DIVERSION
SOUTH EAST FORK LIVE OAK TRIBUTARY	TAPO HILLS DIVERSION DETENTION BASIN NO.1
SOUTH FORK BALLINGER CANYON	TAPO HILLS DIVERSION DETENTION BASIN NO.2
SOUTH FORK CANADA DE LOS ALAMOS	TAR CREEK
SOUTH FORK DAYTON CANYON	TAR CREEK TRIBUTARY
SOUTH FORK DRY CANYON	TAYLOR RANCH CREEK
SOUTH FORK KEEFE CREEK	TEAL CLUB DRAIN
SOUTH FORK LAS LLAJAS CANYON	TELEPHONE ROAD DRAIN
SOUTH FORK LAS LLAJAS CANYON TRIBUTARY	THACHER CREEK
SOUTH FORK LITTLE SESPE CREEK	THORN MEADOWS CREEK
SOUTH FORK MUTAU CREEK	THOUSAND OAKS NORTH DRAIN
SOUTH FORK PIRU CREEK	TIERRA REJADA CREEK
SOUTH FORK PIRU CREEK EAST BRANCH	TIMBER CANYON
SOUTH FORK PIRU CREEK TRIBUTARY	TIMBER CREEK
SOUTH FORK QUATAL CANYON	TINTA CREEK
SOUTH FORK SAN EMIGDIO MESA CREEK	TODD BARRANCA
SOUTH FORK SQUAW CREEK	TOMS CANYON
SOUTH FORK SQUAW CREEK TRIBUTARY	TOPATOPA BLUFFS CREEK
SOUTH GRIMES CANYON	TORREY CANYON
SOUTH GRIMES CANYON TRIBUTARY	TORREY CANYON TRIBUTARY
SOUTH GRIMES CANYON WASH	TRAIL CANYON
SOUTH MEIER CANYON	TRENTWOOD WASH
SPRING CANYON CREEK	TRIPAS CANYON
SPRING CANYON TRIBUTARY	TRIPAS CANYON EAST LATERAL
SQUAW CREEK	TRIPAS CANYON TRIBUTARY
SQUAW CREEK TRIBUTARY	TRIPAS CANYON WEST LATERAL
ST. JOHNS DRAIN	TRIUNFO PASS CANYON
STANLEY AVENUE DRAIN	TROUGH CANYON
STANLEY SOUTH DRAIN	TROUT CREEK
STATION CANYON	TULE CREEK
STAUFFER CREEK	TUNNEL CREEK
STEWART CANYON	TUNNEL CREEK TRIBUTARY
TURTLE CANYON	WEST FORK LIVE OAK TRIBUTARY
UNNAMED SESPE CREEK TRIBUTARY	WEST FORK MARR DIVERSION
UPLAND ROAD DRAIN	WEST FORK MEDEA CREEK
UPLAND ROAD DRAIN TRIBUTARY	WEST FORK MUD CREEK CANYON
UPPER N FORK MATILIJA CREEK TRIBUTARY	WEST FORK ORCUTT CANYON
UPPER NORT FORK MATILIJA CREEK	WEST FORK OXNARD WEST TRIBUTARY
UPPER SHERWOOD CREEK	WEST FORK PADRE JUAN CANYON
VALLEY ROAD WASH	WEST FORK PIRU CREEK

VENTURA RIVER
 VENTURA RIVER TRIBUTARY
 VENTURA ROAD DRAIN
 VERDE CANYON
 VERDE CANYON TRIBUTARY
 VICTORIA AVE DRAIN
 VINCE STREET DRAIN
 W FORK SANTA ANA CREEK TRIBUTARY
 WAGON ROAD CANYON
 WAGON ROAD CANYON TRIBUTARY
 WALNUT CANYON
 WARRING CANYON
 WARRING CANYON SOUTH
 WASON BARRANCA
 WASON CANYON WEST BRANCH
 WAVERLY CHANNEL
 WELDON CANYON
 WELDON CANYON TRIBUTARY
 WEST BRANCH BASOLO DITCH
 WEST BRANCH BASOLO DITCH TRIBUTARY
 WEST BRANCH KADOTA FIG
 WEST BRANCH NORTH FORK LOCKWOOD CREEK
 WEST BRANCH SOMIS DRAIN
 WEST CAMARILLO HILLS DRAIN
 WEST CAMARILLO HILLS DRAIN TRIBUTARY
 WEST CASITAS PASS CREEK
 WEST FIFTH DRAIN TRIBUTARY
 WEST FIFTH STREET DRAIN
 WEST FIFTH STREET DRAIN TRIBUTARY
 WEST FORK ALISO CANYON
 WEST FORK ARROYO COLORADO
 WEST FORK ARROYO SEQUIT
 WEST FORK ARROYO SEQUIT TRIBUTARY
 WEST FORK BIG MOUNTAIN OIL FIELD CANYON
 WEST FORK CHIVO CANYON
 WEST FORK CHIVO CANYON TRIBUTARY
 WEST FORK COYOTE CREEK
 WEST FORK COYOTE CREEK TRIBUTARY
 WEST FORK DRY CANYON
 WEST FORK FOX CANYON
 WEST FORK GILLIBRAND CANYON
 WEST FORK GRIDLEY CANYON
 WEST FORK GRIMES CANYON
 WEST FORK HAPPY CAMP SPRINGS
 WEST FORK HILL CANYON
 WEST FORK HOME ACRES CREEK
 WEST FORK HOPPER CANYON
 WEST FORK HOPPER CANYON TRIBUTARY
 WEST FORK IRON TROUGH CANYON
 WEST FORK LION CREEK
 WILLOUGHBY CANYON
 WILLOUGHBY CANYON SOUTH BRANCH
 WILLOW CREEK
 WILLS CANYON
 WINDMILL CANYON
 WINDMILL CANYON TRIBUTARY
 WOOD CANYON
 WOOD CANYON TRIBUTARY
 WOOLSEY CANYON
 WEST FORK POTRERO
 WEST FORK POTRERO JOHN
 WEST FORK REDROCK CREEK
 WEST FORK REDROCK CREEK TRIBUTARY
 WEST FORK REYES CREEK
 WEST FORK SALT CANYON
 WEST FORK SALT CANYON TRIBUTARY
 WEST FORK SANTA ANA CREEK
 WEST FORK SENIOR CANYON
 WEST FORK SENIOR CANYON TRIBUTARY
 WEST FORK SESPE CREEK
 WEST FORK SHEEP CREEK
 WEST FORK SISAR CANYON
 WEST FORK SMITH CANYON
 WEST FORK SOMIS DRAIN TRIBUTARY
 WEST FORK SYCAMORE CANYON
 WEST FORK SYCAMORE CREEK
 WEST FORK THATCHER CREEK
 WEST FORK THATCHER CREEK TRIBUTARY
 WEST FORK TOMS CANYON
 WEST FORK TRIPAS CANYON
 WEST FORK WAGON ROAD CANYON
 WEST FORK WHEELER CANYON
 WEST FORK WILEY CANYON
 WEST LAS VIRGENES CREEK
 WEST LATERAL HOPPER CANYON
 WEST LATERAL TAPO CANYON
 WEST LATERAL TAPO CANYON TRIBUTARY
 WEST LATERAL STOCKTON ROAD DRAIN
 WEST SESPE CREEK OVERFLOW
 WEST TRIBUTARY POLE CREEK
 WEST TRIBUTARY STOCKTON ROAD DRAIN
 WEST WOOLEY DRAIN
 WEST WOOLEY DRAIN - NANTUCKET EXT
 WEST WOOLEY ROAD DRAIN
 WEST WOOLEY ROADMONTE CARLO EXT
 WHEELER CANYON
 WHEELER CANYON EAST FORK
 WHEELER CANYON WEST FORK
 WHEELER SPRINGS CANYON
 WHEELER SPRINGS CANYON TRIBUTARY
 WHITE MOUNTAIN CANYON
 WHITE MOUNTAIN CREEK
 WHITE OAK CREEK
 WHITE OAK CREEK TRIBUTARY
 WHITE OAK TRIBUTARY
 WILEY CANYON
 WILLARD CANYON
 WILLARD ROAD DRAIN
 WILLETT HOT SPRING CREEK

WRIGHT ROAD DRAIN
YERBA BUENA CANYON

Table 2-1. Beneficial Uses of Inland Surface Waters (Continued).

WATERSHED ^a	WBD No.	MUN	IND	PRO	AG	R	FR	SH	NAV	PO	COMM	AQUA	WARM	COLD	SAL	EST	MAR	WILD	BIO	RARE	MIG	R	SP	W	SHELL	WET ^b
Calleguas Creek Estuary ^c	180701030107																									
Calleguas Creek Reach 1	180701030102								P		E				E					Ee,p	Ef					E
Mugu Lagoon ^c																										
Calleguas Creek Reach 2	180701030107	P*							E		Ed				E					Ee,p	Ef					E
Calleguas Creek Reach 3	180701030107	P*							E						E					E						E
Calleguas Creek (Potrero Rd. to Conejo Creek)	180701030107	P*							E						E					E						E
Calleguas Creek Reach 4	180701030107	P*							E						E					E						E
Revolon Slough (Calleguas Creek Rch 2 to Pleasant Valley Rd.)	180701030107	P*							E						E					E						E
Revolon Slough (Pleasant Valley Rd. to Central Ave.)	180701030106	P*							E						E					E						E
Calleguas Creek Reach 5																										
Bearslay Channel (above Central Ave.)	180701030106	P*							E						E					E						E
Calleguas Creek Reach 6																										
Arroyo Las Posas (Calleguas Creek Rch 3 to Long Canyon)	180701030103	P*							P		P				E					E						E
Arroyo Las Posas (Long Canyon to Hitch Rd.)	180701030103	P*							P		P				E					E						E
Calleguas Creek Reach 7																										
Arroyo Simi (Hitch Rd. to Happy Camp Canyon)	180701030103	P*							I		I				I					I						E
Arroyo Simi (Happy Camp Canyon to Alamos Canyon)	180701030102	P*							I		I				I					I						E
Arroyo Simi (Alamos Canyon to Tapo Canyon Creek)	180701030102	I*							I		I				I					I						E
Arroyo Simi (above Tapo Canyon Creek)	180701030101	I*							I		I				I					I						E
Calleguas Creek Reach 8																										
Tapo Canyon Creek (above Arroyo Simi)	180701030101	I*							P		P				I					E						E
Calleguas Creek Reach 9A																										
Conejo Creek (Camrosa Diversion to Camarillo Rd.)	180701030105	P*							E		E				E					E						E
Conejo Creek (Camarillo Rd. to Arroyo Santa Rosa)	180701030105	P*							I		I				I					E						E
Calleguas Creek Reach 9B																										
Conejo Creek (Calleguas Creek Rch 3 to Camrosa Diversion)																										
Calleguas Creek Reach 10																										
Arroyo Conejo (Conejo Creek to North Fork Arroyo Conejo)	180701030105	P*							I		I				I					E						E
Calleguas Creek Reach 11 (Arroyo Santa Rosa)	180701030105	P*							I		I				I					E						E
Arroyo Santa Rosa (above confl. with Conejo Creek)																										
Calleguas Creek Reach 12																										
North Fork Arroyo Conejo (above confl. with Arroyo Conejo)	180701030104	P*									E				E					E						E
Arroyo Conejo (above confl. with North Fork Arroyo Conejo)	180701030104	P*							I		I				I					E						E
Gillbrand Canyon Creek (Tapo Canyon Creek to Windmill Canyon)	180701030101	P*							I		I				I					E						E
Lake Bard (Wood Ranch Reservoir)	180701030102	E							E		E				E					E						E

Footnotes are consistent for all beneficial use tables.

a: Waterbodies are listed multiple times if they cross hydrologic area or subarea boundaries. Beneficial use designations apply to all tributaries to the indicated waterbody, if not listed separately.

b: Waterbodies designated as WET may have wetlands habitat associated with only a portion of the waterbody. Any regulatory action would require a detailed analysis of the area.

c: Coastal waterbodies which are also listed in Coastal Features Table (2-3) or in Wetlands Table (2-4).

d: Limited public access precludes full utilization.

e: One or more rare species utilizes all ocean, bays, estuaries, and coastal wetlands for foraging and/or nesting.

f: Aquatic organisms utilize all bays, estuaries, lagoons, and coastal wetlands, to a certain extent, for spawning and early development. This may include migration into areas which are heavily influenced by freshwater inputs.

g: Marine habitats of the Channel Islands and Mugu Lagoon serve as pinniped haul-out areas for one or more species (i.e. sea lions).

h: Habitat of the Clapper Rail.

Table 2-1. Beneficial Uses of Inland Surface Waters (Continued).

WATERSHED ^a	WBD No.	MUN	IND	PROC	AGR	WFR	FRSH	NAV	POV	COMM	AQUA	WARM	COLD	SAL	EST	MAR	MIL	DBI	LAB	RARE	MIG	RSP	WNS	SHELL	LIWET ^b
MALIBU CREEK WATERSHED																									
Malibu Lagoon ^c	180701040104																								
Malibu Creek	180701040104	P*																							E
Cold Creek	180701040104	P*																							E
Las Virgenes Creek	180701040103	P*																							E
Century Reservoir	180701040104	P*																							E
Malibu Lake	180701040104	P*																							E
<i>Medea Creek Reach 1 (Malibu Lake to Lindero Creek Reach 1)</i>	180701040102	P*																							E
<i>Medea Creek Reach 2 (above Lindero Creek Reach 1)</i>	180701040102	P*																							E
<i>Lindero Creek Reach 1 (Medea Creek Reach 1 to Lake Lindero)</i>	180701040102	P*																							E
Lindero Creek Reach 2 (above Lake Lindero)	180701040102	P*																							E
<i>Trinito Creek Reach 1 (Malibu Lake to Lobo Canyon)</i>	180701040101	P*																							E
<i>Trinito Creek Reach 2 (Lobo Canyon to Westlake Lake)</i>	180701040101	P*																							E
Westlake Lake	180701040101	P*																							E
Potrero Valley Creek	180701040101	P*																							E
Lake Eleanor Creek	180701040101	P*																							E
Lake Eleanor	180701040101	P*																							E
Las Virgenes (Westlake) Reservoir	180701040101	P*																							E
Hidden Valley Creek	180701040101	P*																							E
Lake Sherwood	180701040101	P*																							E
BALLONA CREEK WATERSHED																									
<i>Ballona Creek Estuary (ends at Centinela Creek)^{tw}</i>	180701040300																								
Ballona Lagoon/Venice Canals ^e	180701040403																								
Ballona Wetlands ^e	180701040300																								
Del Rey Lagoon ^e	180701040500																								
<i>Ballona Creek Reach 2 (Estuary to National Blvd.)</i>	180701040300	P*																							
Ballona Creek Reach 1 (above National Blvd.)	180701040300	P*																							
LOS CERRITOS CHANNEL WATERSHED																									
Los Cerritos Wetlands ^e	180701040702																								
<i>Los Cerritos Channel Estuary (Ends at Anaheim Rd.)^e</i>	180701040702	P*																							
Sims Pond	180701040702	P*																							
Los Cerritos Channel	180701040702	P*																							
Colorado Lagoon	180701040702																								

Footnotes are consistent for all beneficial use tables.

a: Waterbodies are listed multiple times if they cross hydrologic area or subarea boundaries. Beneficial use designations apply to all tributaries to the indicated waterbody, if not listed separately.

b: Waterbodies designated as WET may have wetlands habitat associated with only a portion of the waterbody. Any regulatory action would require a detailed analysis of the area.

c: Coastal waterbodies which are also listed in Coastal Features Table (2-3) or in Wetlands Table (2-4).

e: One or more rare species utilizes all ocean, bays, estuaries, and coastal wetlands for foraging and/or nesting.

f: Aquatic organisms utilize all bays, estuaries, lagoons, and coastal wetlands, to a certain extent, for spawning and early development. This may include migration into areas which are heavily influenced by freshwater inputs.

w: These areas are engineered channels. All references to Tidal Prisms in Regional Board documents are functionally equivalent to estuaries.

E: Existing beneficial use
P: Potential beneficial use
I: Intermittent beneficial use
* Asterisked MUN designations are designated under SB 88-63 and RB 89-03. Some designations may be considered for exemption at a later date (See pages 2-3, 4 for more details).

au: The REC-1 use designation does not apply to recreational activities associated with the swimmable goal as expressed in the Federal Clean Water Act section 101(a)(2) and regulated under the REC-1 use in the Basin Plan, or the associated bacteriological objectives set to protect those activities. However, water quality objectives set to protect other REC-1 uses associated with the fishable goal as expressed in the Federal Clean Water Act section 1010(a)(2) shall remain in effect for waters where the (au) footnote appears.

av: The High Flow Suspension only applies to water contact recreational activities associated with the swimmable goal as expressed in the federal Clean Water Act section 101(a)(2) and regulated under the REC-1 use, non-contact water recreation involving incidental water contact regulated under the REC-2 use, and the associated bacteriological objectives set to protect those activities. Water quality objectives set to protect () other recreational uses associated with the fishable goal as expressed in the federal Clean Water Act section 101(a)(2) and regulated under the REC-1 use and (2) other REC-2 uses (e.g., uses involving the aesthetic aspects of water) shall remain in effect at all times for waters where the (av) footnote appears.

** The dividing line between "Ballona Creek" and "Ballona Creek to Estuary" is the point at which the vertical channel walls transition to sloping walls.

Table 2-1a. Beneficial Uses of Inland Surface Waters.

WATERSHED*	WBD No.	REC1	LREC-1	REC2	High Flow Suspension
VENTURA COUNTY COASTAL STREAMS					
Los Sauces Creek	180701010202	I		I	
Poverty Canyon	180701010202	I		I	
Madriano Canyon	180701010202	I		I	
Javon Canyon	180701010202	I		I	
Padre Juan Canyon	180701010202	I		I	
McGrath Lake	180701010202	Ed		Ed	
Big Sycamore Canyon Creek	180701040201	I		I	
Little Sycamore Canyon Creek	180701040202	I		I	
VENTURA RIVER WATERSHED					
Ventura River Estuary ^c	180701010106	E		E	
Ventura River Reach 1 (Ventura River Estuary to Main St.)	180701010106	E		E	
Ventura River Reach 2 (Main St. to Weldon Canyon)	180701010106	E		E	
Cañada Larga	180701010106	I		I	
Lake Casitas	180701010105	Ph		E	
Lake Casitas tributaries	180701010105	E		E	
Ventura River Reach 3 (Weldon Canyon to Casitas Vista Rd.)	180701010106	E		E	
Ventura River Reach 4 (Casitas Vista Rd. to San Antonio Creek)	180701010106	E		E	
Ventura River Reach 4 (San Antonio Creek to Camino Cielo Rd.)	180701010104	E		E	
Coyote Creek	180701010105	P		E	
San Antonio Creek (Ventura River Reach 4 to Lion Creek)	180701010106	E		E	
San Antonio Creek (above Lion Creek)	180701010103	E		E	
Lion Creek	180701010103	I		I	
Reeves Creek	180701010103	I		I	
Mirror Lake	180701010104	P		E	
Ojai Wetland	180701010104	P		E	
Ventura River Reach 5 (above Camino Cielo Rd.)	180701010104	E		E	
Matilija Creek Reach 1 (Ventura River Reach 5 to Matilija Reservoir)	180701010101	E		E	
Matilija Creek Reach 2 (above Matilija Reservoir)	180701010104	E		E	
Murietta Canyon Creek	180701010101	E		E	
North Fork Matilija Creek	180701010102	E		E	
Matilija Reservoir	180701010101	E		E	

Footnotes are consistent for all beneficial use tables.

a: Waterbodies are listed multiple times if they cross hydrologic area or subarea boundaries. Beneficial use designations apply to all tributaries to the indicated waterbody, if not listed separately.

c: Coastal waterbodies which are also listed in inland Surface Waters Tables (2-1) or in Wetlands Table (2-4).

d: Limited public access precludes full utilization.

h: Water contact recreational activities prohibited by Casitas MWD.

E: Existing beneficial use
 P: Potential beneficial use
 I: Intermittent beneficial use
 E, P, and I: shall be protected as required.
 * Asterisked MUN designations are designated under SB 88-63 and RB 89-03. Some designations may be considered for exemption at a later date (See pages 2-3, 4 for more details).

Table 2-1a. Beneficial Uses of Inland Surface Waters (Continued).

WATERSHED ^a	WBD No.	REC1	LREC-1	REC2	High Flow Suspension
SANTA CLARA RIVER WATERSHED					
Santa Clara River Estuary (Ends at Harbor Blvd.) ^c	180701020904	E		E	
Santa Clara River Reach 1	180701020904	E		E	
Santa Clara River (Estuary to Highway 101 bridge)	180701020904	E		E	
Santa Clara River Reach 2	180701020904	E		E	
Santa Clara River (Highway 101 bridge to Ellsworth Barranca)	180701020903	E		E	
Santa Clara River (Ellsworth Barranca to Freeman Diversion)	180701020903	E		E	
Santa Clara River Reach 3	180701020903	Ed		E	
Santa Clara River (Freeman Diversion Dam to Santa Paula Creek)	180701020902	Ed		E	
Santa Clara River (Santa Paula Creek to Sespe Creek)	180701020902	Ed		E	
Santa Clara River (Sespe Creek to A Street, Fillmore)	180701020802	Ed		E	
Santa Clara River Reach 4A	180701020802	E		E	
Santa Clara River (A Street, Fillmore to Piru Creek)	180701020403	E		E	
Santa Clara River Reach 4B	180701020403	E		E	
Santa Clara River (Piru Creek to Blue Cut gaging station)	180701020403	E		E	
Santa Clara River Reach 5	180701020403	E		E	
Santa Clara River (Blue Cut gaging station to West Pier Highway 99)	180701020403	E		E	
Santa Clara River Reach 6	180701020403	E		E	
Santa Clara River (West Pier Highway 99 to Bouquet Canyon Rd.)	180701020107	E		E	
Santa Clara River Reach 7	180701020107	E		E	
Santa Clara River (Bouquet Canyon Rd. to Lang gaging station)	180701020105	E		E	
Santa Clara River Reach 8	180701020102	E		E	
Santa Clara River (above Aliso Canyon Creek)	180701020901	E		E	
Santa Clara River Reach 9	180701020901	E		E	
Santa Clara River (above Santa Paula Water Works Diversion Dam)	180701020705	E		E	
Santa Clara River Reach 10	180701020703	E		E	
Sespe Creek (gaging station below Little Sespe Creek to Hot Springs Canyon)	180701020702	E		E	
Sespe Creek (Hot Springs Canyon to Piedra Blanca Creek)	180701020701	E		E	
Sespe Creek (Piedra Blanca Creek to Poitroero John Creek)	180701020603	E		E	
Sespe Creek (above Poitroero John Creek)	180701020602	E		E	
Santa Clara River Reach 11	180701020508	E		E	
Piru Creek (gaging station below Santa Felicia Dam to Agua Blanca Creek)	180701020505	E		E	
Piru Creek (Agua Blanca Creek to Pyramid Lake)	180701020502	E		E	
Piru Creek (Pyramid Lake to Snowy Creek)	180701020501	E		E	
Piru Creek (Snowy Creek to Lockwood Creek)	180701020901	E		E	
Piru Creek (above Lockwood Creek)	180701020901	E		E	
Santa Paula Creek (Santa Clara River R4A to Santa Paula Water Works Diversion Dam)	180701020901	E		E	
Sisar Creek					

Footnotes are consistent for all beneficial use tables.

E: Existing beneficial use
P: Potential beneficial use
I: Intermittent beneficial use
E, P, and I: shall be protected as required.

* Asterisked MUN designations are designated under SB 88-63 and RB 89-03. Some

designations may be considered for exemption at a later date (See pages 2-3, 4 for

more details).

a: Waterbodies are listed multiple times if they cross hydrologic area or subarea boundaries. Beneficial use designations apply to all tributaries to the indicated waterbody, if not listed separately.

c: Coastal waterbodies which are also listed in inland Surface Waters Tables (2-1) or in Wetlands Table (2-4).

d: Limited public access precludes full utilization.

Table 2-1a. Beneficial Uses of Inland Surface Waters (Continued).

WATERSHED ^a	WBD No.	REC1	REC-1	REC2	High Flow Suspension
SANTA CLARA RIVER WATERSHED (Cont.)					
Sespe Creek (Santa Clara River R3 to gaging station below Little Sespe Creek)	180701020706	E		E	
Timber Creek	180701020703	E		E	
Bear Canyon	180701020703	E		E	
Trout Creek	180701020703	E		E	
Piedra Blanca Creek	180701020703	E		E	
Lion Canyon	180701020702	E		E	
Rose Valley Creek	180701020702	E		E	
Howard Creek	180701020702	E		E	
Tule Creek	180701020702	P		E	
Potrero John Creek	180701020701	E		E	
Hopper Creek	180701020801	E		E	
<i>Piru Creek (Santa Clara River R4A to Santa Paula Water Works Diversion Dam)</i>	180701020604	E		E	
Lake Piru	180701020603	E		E	
Pyramid Lake	180701020603	E		E	
Gorman Creek	180701020509	E		E	
Canada de los Alamos	180701020507	I		I	
Lockwood Creek	180701020504	I		I	
Lockwood Creek	180701020504	I		I	
Tapo Canyon	180701020403	P		E	
<i>Castaic Creek (Santa Clara River R5 to Castaic Lake)</i>	180701020306	I		E	
<i>Castaic Creek (Castaic Lake to Fish Canyon)</i>	180701020305	I		E	
Castaic Creek (above Fish Canyon)	180701020304	I		E	
Castaic Lagoon	180701020306	E		E	
Castaic Lake	180701020305	E		E	
Castaic Lake	180701020304	E		E	
Elderberry Forebay	180701020305	Ek		E	
Elizabeth Lake Canyon	180701020304	I		E	
San Francisco Canyon I	180701020402	I		I	
Drinkwater Reservoir	180701020402	Pk		E	
South Fork Santa Clara River	180701020401	I		I	
<i>Bouquet Canyon (Santa Clara River R6 to Vasquez Canyon)</i>	180701020401	Em		E	
Bouquet Canyon (above Vasquez Canyon)	180701020401	Em		E	
Dry Canyon Reservoir	180701020202	I		I	
Dry Canyon Reservoir ¹	180701020201	Pk		E	
Bouquet Reservoir	180701020201	Pk		E	
<i>Mini Canyon Creek Reach 1 (Santa Clara River R7 to Rowher Canyon)</i>	180701020106	Im		I	
Mint Canyon Creek Reach 2 (above Rowher Canyon)	180701020106	Im		I	
<i>Agua Dulce Canyon Creek (Santa Clara River R8 to Esccondido Canyon Rd.)</i>	180701020104	I		I	
Agua Dulce Canyon Creek (above Esccondido Canyon Rd.)	180701020104	I		I	
Aliso Canyon Creek	180701020101	E		E	
Lake Hughes	180701020301	E		E	
Munz Lake	180701020301	E		E	
Lake Elizabeth	180701020301	E		E	

Footnotes are consistent for all beneficial use tables.

- a: Waterbodies are listed multiple times if they cross hydrologic area or subarea boundaries. Beneficial use designations apply to all tributaries to the indicated waterbody, if not listed separately.
- k: Public access to reservoir and its surrounding watershed is prohibited by Los Angeles County Department of Public Works.
- l: The majority of the reach is intermittent; there is a small area of rising ground water creating perennial flow.
- m: Access prohibited by Los Angeles Department in the concrete-channelized areas.
- i: **Out of service.**

Table 2-1a. Beneficial Uses of Inland Surface Waters (Continued).

WATERSHED ^a	WBD No.	REC1	LREC-1	REC2	High Flow Suspension
CALLEGUAS-CONEJO CREEK WATERSHED					
Calleguas Creek Estuary ^c	180701030107	Pn		E	
Calleguas Creek Reach 1 Mugu Lagoon ^c	180701030102	Pn		E	
Calleguas Creek Reach 2 <i>Calleguas Creek (Estuary to Potrero Rd.)</i>	180701030107	E		E	
Calleguas Creek Reach 3	180701030107	Eq		E	
Calleguas Creek (Potrero Rd. to Conejo Creek)					
Calleguas Creek Reach 4					
<i>Revolon Slough (Calleguas Creek Rch 2 to Pleasant Valley Rd.)</i>	<i>180701030107</i>	<i>Eq</i>		<i>E</i>	
<i>Revolon Slough (Pleasant Valley Rd. to Central Ave.)</i>	<i>180701030106</i>	<i>Eq</i>		<i>E</i>	
Calleguas Creek Reach 5					
Beardsley Channel (above Central Ave.)	180701030106	E		E	
Calleguas Creek Reach 6					
<i>Arroyo Las Posas (Calleguas Creek Rch 3 to Long Canyon)</i>	<i>180701030103</i>	<i>E</i>		<i>E</i>	
<i>Arroyo Las Posas (Long Canyon to Hitch Rd.)</i>	180701030103	E		E	
Calleguas Creek Reach 7					
Arroyo Simi (Hitch Rd. to Happy Camp Canyon)	180701030103	I		I	
Arroyo Simi (Happy Camp Canyon to Alamos Canyon)	<i>180701030102</i>	<i>I</i>		<i>I</i>	
<i>Arroyo Simi (Alamos Canyon to Tapo Canyon Creek)</i>	<i>180701030102</i>	<i>I</i>		<i>I</i>	
Arroyo Simi (above Tapo Canyon Creek)	180701030101	I		I	
Calleguas Creek Reach 8					
Tapo Canyon Creek (above Arroyo Simi)	180701030101	I		I	
Calleguas Creek Reach 9A					
<i>Conejo Creek (Carmosa Diversion to Camarillo Rd.)</i>	<i>180701030105</i>	<i>Eq</i>		<i>E</i>	
<i>Conejo Creek (Camarillo Rd. to Arroyo Santa Rosa)</i>	<i>180701030105</i>	<i>I</i>		<i>I</i>	
Calleguas Creek Reach 9B					
<i>Conejo Creek (Calleguas Creek Rch 3 to Carmosa Diversion)</i>					
Calleguas Creek Reach 10	180701030105	Eq		E	
Arroyo Conejo (Conejo Creek to North Fork Arroyo Conejo)	180701030105	I		I	
Calleguas Creek Reach 11 (Arroyo Santa Rosa)					
Arroyo Santa Rosa (above confl. with Conejo Creek)	180701030105	I		I	
Calleguas Creek Reach 12					
<i>North Fork Arroyo Conejo (above confl. with Arroyo Conejo)</i>					
Calleguas Creek Reach 13	180701030104	E		E	
<i>Arroyo Conejo (above confl. with North Fork Arroyo Conejo)</i>					
<i>Gilibrand Canyon Creek (Tapo Canyon Creek to Windmill Canyon)</i>	180701030101	I		I	
Gilibrand Canyon Creek (above Windmill Canyon)	180701030101	I		I	
Lake Bard (Wood Ranch Reservoir)	180701030102	Pr		Er	

Footnotes are consistent for all beneficial use tables.

a: Waterbodies are listed multiple times if they cross hydrologic area or subarea boundaries. Beneficial use designations apply to all tributaries to the indicated waterbody, if not listed separately.

c: Coastal waterbodies which are also listed in Coastal Features Table (2-3) or in Wetlands table (2-4).

n: Area is currently under control of the Navy; swimming is prohibited.

q: Whenever flow conditions are suitable.

r: Public access prohibited by Calleguas MWD.

Table 2-1a. Beneficial Uses of Inland Surface Waters (Continued).

WATERSHED ^a	WBD No.	REC1	LREC-1	REC2	High Flow Suspension
MALIBU CREEK WATERSHED					
Malibu Lagoon ^c	180701040104	E			E
Malibu Creek	180701040104	E			E
Gold Creek	180701040104	E			E
Las Virgenes Creek	180701040103	Em			E
Century Reservoir	180701040104	E			E
Malibu Lake	180701040104	E			E
<i>Medea Creek Reach 1 (Malibu Lake to Lindero Creek Reach 1)</i>	180701040102	Im			I
<i>Medea Creek Reach 2 (above Lindero Creek Reach 1)</i>	180701040102	Im			I
<i>Medea Creek Reach 1 (Medea Creek Reach 1 to Lake Lindero)</i>	180701040104	Em			E
<i>Lindero Creek Reach 2 (above Lake Lindero)</i>	180701040102	I			I
<i>Triunfo Creek Reach 1 (Malibu Lake to Lobo Canyon)</i>	180701040101	Im			I
<i>Triunfo Creek Reach 2 (Lobo Canyon to Westlake Lake)</i>	180701040101	Im			I
Westlake Lake	180701040101	E			E
Potrero Valley Creek	180701040101	I			I
Lake Eleanor Creek	180701040101	I			I
Lake Eleanor	180701040101	E			E
Las Virgenes (Westlake) Reservoir	180701040101	PK,v			E
Hidden Valley Creek	180701040101	I			I
Lake Sherwood	180701040101	E			E
BALLONA CREEK WATERSHED					
<i>Ballona Creek Estuary (ends at Centinela Creek)</i> ^{c,w}	180701040300	E			E
Ballona Lagoon/ Venice Canals ^c	180701040403	E			E
Ballona Wetlands ^c	180701040300	E			E
Del Rey Lagoon ^c	180701040500	E			E
<i>Ballona Creek Reach 2 (Estuary to National Blvd.)</i>	180701040300	Ps,au	E		E
<i>Ballona Creek Reach 1 (above National Blvd.)</i>	180701040300	Ps,au			Yav
LOS CERRITOS CHANNEL WATERSHED					
Los Cerritos Wetlands ^c	180701040702	E			E
<i>Los Cerritos Channel Estuary (Ends at Anaheim Rd.)</i> ^c	180701040702	Es			E
Sims Pond	180701040702	P			E
Los Cerritos Channel	180701040702	P			I
Colorado Lagoon	180701040702	E			E

Footnotes are consistent for all beneficial use tables.

a: Waterbodies are listed multiple times if they cross hydrologic area or subarea boundaries. Beneficial use designations apply to all tributaries to the indicated waterbody, if not listed separately.

c: Coastal waterbodies which are also listed in Coastal Features Table (2-3) or in Wetlands table (2-4).

k: Public access to reservoir and its surrounding watershed is prohibited by Los Angeles County Department of Public Works.

m: Access prohibited by Los Angeles County Department of Public Works.

s: Access prohibited by Los Angeles County Department of Public Works.

v: Public water supply reservoir. Owner prohibits public entry.

w: These areas are engineered channels. All references to Tidal Prisms in Regional Board documents are functionally equivalent to estuaries.

au: The REC-1 use designation does not apply to recreational activities associated with the swimmable goal as expressed in the Federal Clean Water Act section 101(a)(2) and regulated under the REC-1 use in the Basin Plan, or the associated bacteriological objectives set to protect those activities. However, water quality objectives set to protect other REC-1 uses associated with the fishable goal as expressed in the Federal Clean Water Act section 1010(a)(2) shall remain in effect for waters where the (au) footnote appears.

av: The High Flow Suspension only applies to water contact recreational activities associated with the swimmable goal as expressed in the federal Clean Water Act section 101(a)(2) and regulated under the REC-1 use, non-contact water recreation involving incidental water contact regulated under the REC-2 use, and the associated bacteriological objectives set to protect those activities. Water quality objectives set to protect (1) other recreational uses associated with the fishable goal as expressed in the federal Clean Water Act section 101(a)(2) and regulated under the REC-1 use and (2) other REC-2 uses (e.g., uses involving the aesthetic aspects of water) shall remain in effect at all times for waters where the (av) footnote appears.

** The dividing line between "Ballona Creek" and "Ballona Creek to Estuary" is the point at which the vertical channel walls transition to sloping walls.

Table 2-1a. Beneficial Uses of Inland Surface Waters (Continued).

WATERSHED ^a	WBD No.	REC1	LREC-1	REC2	High Flow Suspension
WETLAND^a	WBD No.				
Ventura River Estuary c	180701010106	E		E	
Santa Clara River Estuary c	180701020904	E		E	
McGrath Lake c	180701030201	Ed		Ed	
Ormond Beach Wetlands c	180701030202	E		E	
Mugu Lagoon c	180701030202	Ph		E	
Dume Lagoon c	180701040403	E		E	
Malibu Lagoon c	180701040104	E		E	
Topanga Lagoon c	180701040501	E		E	
Ballona Lagoon/Venice Canals c	180701040502	E		E	
Ballona Wetlands c	180701040200	E		E	
Del Rey Lagoon c	180701040601	E		E	
Los Cerritos Wetlands c	180701060600	E		E	

*: This list may not be all inclusive. More areas may be added as information becomes available.

E: Existing beneficial use

P: Potential beneficial use

I: Intermittent beneficial use

E,P, and I: shall be protected as required.

Footnotes are consistent for all beneficial use tables.

a: Waterbodies are listed multiple times if they cross hydrologic area or subarea boundaries. Beneficial use designations apply to all tributaries to the indicated waterbody, if not listed separately.

c: Coastal waterbodies which are also listed in inland Surface Waters Table (2-1) or in Wetlands Table (2-4).

d: Limited public access precludes full utilization.

n: Area is currently under control of the Navy; swimming is prohibited.

Appendix C: Beneficial Uses of Waters of the United States
Ventura County Watershed Protection District Aquatic Pesticides Application Plan
Los Angeles Regional Water Quality Control Board

Table 2-3. Beneficial Uses of Coastal Waters.

COASTAL FEATURE ^a	WBD No.	MUN	IND	PROC	NAV	POWCOMM	WARM	COLD	EST	MAR	WILD	BIOL	RARE	MIGR	SPWN	SHELL	WET ^b
VENTURA COUNTY COASTAL																	
Nearshore [^]																	
Offshore Zone			E		E	E				E	E	Ean	Ee	Ef	Ef		E
Rincon Beach	180701010201				E	E				E	E		Ee	Ef	Ef		E
Ventura River Estuary c	180701010106				E	E				E	E		Ee	E			E
Ventura Keys (Marina)	180701010202				E	E	E		E	E	E		Ee	Ef	Ef		E
Ventura Marina	180701010904				E	E	E			E	E		Ee				E
Santa Clara River Estuary c	180701010904		E		E	E			E	E	E		Ee	Ef	Ef		E
Mandalay Beach	180701010201				E	E			E	E	E		Ee				E
McGrath Lake c	180701010201				E	P			E	E	E		Ee				E
Edison Canal Estuary	180701010201		E							E	E		Ee				E
Channel Islands Harbor	180701010201		E		E	E				E	E		Ee				E
Mandalay Bay (Marina)	180701010201		E		E	E				E	E		Ee				E
Port Hueneme (Harbor)	180701010201			E	E	E				E	E		Ee				E
Ormond Beach	180701010201		E		E	E				E	E		Ee		P		E
Ormond Beach Wetlands c	180701010202				E	Ed			E	E	Eo	E	Ee,p	Ef	Ef		Ed
Mugu Lagoon c	180701010202				E	E			E	E	E		Ee,p	Ef	Ef		E
Calleguas Creek Estuary c	180701010202				P	E			E	E	E		Ee,p	Ef	Ef		E
LOS ANGELES COUNTY COASTAL																	
Nearshore Zone [^]																	
Offshore Zone			E		E	E				E	E	Ean	Ee	Ef	Ef		Ear
Nicholas Canyon Beach	180701040402				E	E				E	E		Ee				E
Trancas Beach	180701040403				E	E				E	E		Ee				E
Zuma County (Westward) Beach	180701040403				E	E				E	E		Ee				Ear
Dume State Beach	180701040404				E	E				E	E		Ee				E
Dume Lagoon c	180701040403				E	E			E	E	E		Ee	Pf	Pf		E
Escondido Beach	180701040404				E	E				E	E		Ee				E
Dan Blocker Memorial (Corral) Beach	180701040404				E	E				E	E		Ee				E

*: This list may not be all inclusive. More areas may be added as information becomes available.

E: Existing beneficial use

P: Potential beneficial use

I: Intermittent beneficial use

E, P, and I: shall be protected as required.

[^]: Nearshore is defined as the zone bounded by the shoreline or the 30-foot depth contours, whichever is further from the shoreline. Longshore extent is from Rincon Creek to the San Gabriel River Estuary.

Footnotes are consistent for all beneficial use tables.

a: Waterbodies are listed multiple times if they cross hydrologic area or subarea boundaries. Beneficial use designations apply to all tributaries to the indicated waterbody, if not listed separately.

b: Waterbodies designated as WET may have wetlands habitat associated with only a portion of the waterbody. Any regulatory action would require a detailed analysis of the area.

c: Coastal waterbodies which are also listed in inland Surface Waters Tables (2-1) or in Wetlands Table (2-4).

d: Limited public access precludes full utilization.

e: One or more rare species utilizes all ocean, bays, estuaries, and coastal wetlands for foraging and/or nesting.

f: Aquatic organisms utilize all bays, estuaries, lagoons, and coastal wetlands, to a certain extent, for spawning and early development. This may include migration into areas which are heavily influenced by freshwater inputs.

o: Marine Habitats of the Channel Islands and Mugu Lagoon serve as pinniped haul-out areas for one or more species (e. sea lions)

p: Habitat of the Clapper Rail.

an: Areas of Special Biological Significance (along coast from Latiago Point to Laguna Point) and Big Sycamore Canyon and Abalone Cove Ecological Reserves and Point Fermin Marine Life Refuge.

ar: Areas exhibiting large shellfish populations include Malibu, Point Dume, Point Fermin, White Point and Zuma Beach.

Appendix C: Beneficial Uses of Waters of the United States
 Ventura County Watershed Protection District Aquatic Pesticides Application Plan
 Los Angeles Regional Water Quality Control Board

Table 2-4. Beneficial Uses of Significant Coastal Wetlands.*

WETLAND ^a	WBD No.	MUN	IND	PROC	AGR	GWR	FRESH	INAV	POW	COMM	AQUA	WARM	COLD	SAL	EST	MAR	WILD	BIOL	RARE	MIGR	SPWN	SHELL	WET ^b
Ventura River Estuary c	180701040106						E	E	E	E	E	E	E		E	E	E	E	Ee	Ef	Ef	E	E
Santa Clara River Estuary c	180701020904						E	E	E	E	E	E	E		E	E	E	E	Ee	Ef	Ef	E	E
McGrath Lake c	180701030201									P					E	E	E	E	Ee				E
Ormond Beach Wetlands c	180701030202														E	E	E	E	Ee				E
Mugu Lagoon c	180701030202						E	E	E	E	E	E	E		E	E	E	E	Ee,p	Ef	Ef	E	E
Dume Lagoon c	180701040403						E	E	E	E	E	E	E		E	E	E	E	Ee	Pf	Pf	E	E
Maibul Lagoon c	180701040104						E	E	E	E	E	E	E		E	E	E	E	Ee	Ef	Ef	E	E
Topanga Lagoon c	180701040501						E	E	E	E	E	E	E		E	E	E	E	Ee	Ef	Ef	E	E
Ballona Lagoon/Venice Canals c	180701040502						E	E	E	E	E	E	E		E	E	E	E	Ee	Ef	Ef	E	E
Ballona Wetlands c	180701040200						E	E	E	E	E	E	E		E	E	E	E	Ee	Ef	Ef	E	E
Del Rey Lagoon c	180701040601						E	E	E	E	E	E	E		E	E	E	E	Ee	Ef	Ef	E	E
Los Cerritos Wetlands c	180701060600						E	E	E	E	E	E	E		E	E	E	E	Ee	Pf	Pf	E	E

*. This list may not be all inclusive. More areas may be added as information becomes available.

Footnotes are consistent for all beneficial use tables.

- a: Waterbodies are listed multiple times if they cross hydrologic area or subarea boundaries. Beneficial use designations apply to all tributaries to the indicated waterbody, if not listed separately.
- b: Waterbodies designated as WET may have wetlands habitat associated with only a portion of the waterbody. Any regulatory action would require a detailed analysis of the area
- c: Coastal waterbodies which are also listed in inland Surface Waters Tables (2-1) or in Wetlands Table (2-4).
- d: Limited public access precludes full utilization.
- e: One or more rare species utilizes all ocean, bays, estuaries, and coastal wetlands for foraging and/or nesting.
- f: Aquatic organisms utilize all bays, estuaries, lagoons, and coastal wetlands, to a certain extent, for spawning and early development. This may include migration into areas which are heavily influenced by freshwater inputs.
- o: Marine Habitats of the Channel Islands and Mugu Lagoon serve as pinniped haul-out areas for one or more species (e. sea lions)
- p: Habitat of the Clapper Rail.

E: Existing beneficial use

P: Potential beneficial use

I: Intermittent beneficial use

E, P, and I shall be protected as required

Beneficial Use Definitions

Water Contact Recreation (REC-1)

Uses of water for recreational activities involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, white water activities, fishing, or use of natural hot springs.

Non-contact Water Recreation (REC-2)

Uses of water for recreational activities involving proximity to water, but not normally involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, boating, tidepool and marine life study, hunting, sightseeing, or aesthetic enjoyment in conjunction with the above activities.

Municipal and Domestic Supply (MUN)

Uses of water for community, military, or individual water supply systems including, but not limited to, drinking water supply.

Industrial Service Supply (IND)

Uses of water for industrial activities that do not depend primarily on water quality including, but not limited to, mining, cooling water supply, hydraulic conveyance, gravel washing, fire protection, or oil well re-pressurization.

Industrial Process Supply (PROC)

Uses of water for industrial activities that depend primarily on water quality.

Agricultural Supply (AGR)

Uses of water for farming, horticulture, or ranching including, but not limited to, irrigation, stock watering, or support of vegetation for range grazing.

Ground Water Recharge (GWR)

Uses of water for natural or artificial recharge of ground water for purposes of future extraction, maintenance of water quality, or halting of saltwater intrusion into freshwater aquifers.

Freshwater Replenishment (FRSH)

Uses of water for natural or artificial maintenance of surface water quantity or quality (e.g., salinity).

Navigation (NAV)

Uses of water for shipping, travel, or other transportation by private, military, or commercial vessels.

Hydropower Generation (POW)

Uses of water for hydropower generation.

Commercial and Sport Fishing (COMM)

Uses of water for commercial or recreational collection of fish, shellfish, or other organisms including, but not limited to, uses involving organisms intended for human consumption or bait purposes.

Warm Freshwater Habitat (WARM)

Uses of water that support warm water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.

Cold Freshwater Habitat (COLD)

Uses of water that support cold water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.

Estuarine Habitat (EST)

Uses of water that support estuarine ecosystems including, but not limited to, preservation or enhancement of estuarine habitats, vegetation, fish, shellfish, or wildlife (e.g., estuarine mammals, waterfowl, shorebirds).

Marine Habitat (MAR)

Uses of water that support marine ecosystems including, but not limited to, preservation or enhancement of marine habitats, vegetation such as kelp, fish, shellfish, or wildlife (e.g., marine mammals, shorebirds).

Wildlife Habitat (WILD)

Uses of water that support terrestrial ecosystems including, but not limited to, preservation and enhancement of terrestrial habitats, vegetation, wildlife (e.g., mammals, birds, reptiles, amphibians, invertebrates), or wildlife water and food sources.

Preservation of Biological Habitats (BIOL)

Uses of water that support designated areas or habitats, such as **Areas of Special Biological Significance (ASBS)**, established refuges, parks, sanctuaries, ecological reserves, or other areas where the preservation or enhancement of natural resources requires special protection.

Rare, Threatened, or Endangered Species (RARE)

Uses of water that support habitats necessary, at least in part, for the survival and successful maintenance of plant or animal species established under state or federal law as rare, threatened, or endangered.

Migration of Aquatic Organisms (MIGR)

Uses of water that support habitats necessary for migration, acclimatization between fresh and salt water, or other temporary activities by aquatic organisms, such as anadromous fish.

Spawning, Reproduction, and/or Early Development (SPWN)

Uses of water that support high quality aquatic habitats suitable for reproduction and early development of fish.

Shellfish Harvesting (SHELL)

Uses of water that support habitats suitable for the collection of filter-feeding shellfish (e.g., clams, oysters, and mussels) for human consumption, commercial, or sports purposes.

Wetland Habitat (WET)

Uses of water that support wetland ecosystems, including, but not limited to, preservation or enhancement of wetland habitats, vegetation, fish, shellfish, or wildlife, and other unique wetland functions which enhance water quality, such as providing flood and erosion control, stream bank stabilization, and filtration and purification of naturally occurring contaminants.

Key to table:

E: Existing

P: Potential

I: Intermittent

* Designated under SB 88-63 and RB 89-03. Some designations may be considered for exemption at a later date.

d: Limited public access precludes full utilization

g: Condor refuge

p: Habitat of the Clapper Rail

q: Whenever flow conditions are suitable