June 30, 2020

Heather Nichols, Executive Director
Yolo County Resource Conservation District
221 West Court Street, Suite 1
Woodland, CA 95695

NOTICE OF APPLICABILITY; YOLO COUNTY RESOURCE CONSERVATION DISTRICT; STATEWIDE AQUATIC WEED CONTROL PERMIT

Dear Ms. Nichols:

Thank you for submitting the April 30, 2020 Yolo County Resource Conservation District application for regulatory coverage under the Statewide Aquatic Weed Control Permit.[1] The submitted information satisfies the application requirements. This Notice of Applicability for coverage under the Aquatic Weed Control Permit is identified by the waste discharge identification number 5A57AP00013 and is effective as of the date of this letter.

The Aquatic Weed Control Permit regulates the discharges of algaecides and aquatic herbicides currently registered for use in California. The regulated active ingredients include:

> 2,4-D, acrolein, calcium hypochlorite, copper, diquat, endothall, flumioxazin, fluridone, glyphosate, hydrogen peroxide, imazamox, imazapyr, penoxsulam, peroxyacetic acid, sodium carbonate peroxyhydrate, sodium hypochlorite, triclopyr, and adjuvants containing ingredients represented by the surrogate nonylphenol.

Users of products containing these ingredients are required to obtain coverage under the Aquatic Weed Control Permit prior to application to waters of the United States.

[1] Statewide Permit for Residual Aquatic Pesticide Discharges to Waters of the United States from Algae and Aquatic Weed Control Applications, Order 2013-0002-DWQ as amended. For more information, please visit the Aquatic Weed Control Permit webpage (https://www.waterboards.ca.gov/water_issues/programs/npdes/pesticides/weed_control.html).

Heather Nichols, Executive Director

Discharge Description
The Yolo County Resource Conservation District (District) is a non-regulatory special district in Yolo County. The District's mission is to preserve natural resource areas in the County. The District is proposing to apply aquatic pesticides within riparian and wetland areas to prevent invasive aquatic weed growth from impacting the native wildlife and vegetation. The aquatic pesticides contain the active ingredients of glyphosate and imazapyr. Pesticide applications may discharge into sloughs and canals within the Cache Creek and Putah Creek watersheds.

General Permit Requirements
To comply with the Aquatic Weed Control Permit, the District shall:

a. Provide aquatic pesticide applicators a copy of the Notice of Intent, Aquatic Pesticide Application Plan, and all other related materials.

b. Ensure that all personnel and contractors applying aquatic pesticides under this Notice of Applicability understand and comply with the terms and conditions of the permit and the provisions of the Aquatic Pesticide Application Plan.

c. Take all necessary steps to minimize or prevent pesticide spills, pesticide residue contaminated water, and other pollutants from entering waters of the United States.

d. Review and update the effectiveness and adequacy of the control measures and best management practices. Documentation of all changes to the existing best management practices, Aquatic Pesticide Application Plan, or other information on file with our office shall be submitted to the State Water Resources Control Board for review and comment.

e. Submit all information required in this Notice of Applicability to the following address:

   State Water Resources Control Board
   Division of Water Quality
   NPDES Wastewater Unit
   1001 I Street, 15th Floor
   Sacramento, CA 95814

Discharge Monitoring and Reporting Requirements
To comply with the monitoring and reporting requirements of the Aquatic Weed Control Permit, the District shall:

a. Timely inspect the receiving waters, control measures and best management practices to detect any conditions which violate receiving water limitations and other requirements in the Aquatic Weed Control Permit.

b. Conduct monitoring and reporting per the provisions and requirements in Attachment C of the Aquatic Weed Control Permit.

c. Include the following certification in all monitoring reports:
   "I certify under penalty of law that this document and all enclosures were prepared under my direction or 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 and imprisonment for knowing violations."

Failure to comply with the requirements set forth in this Notice of Applicability and the Aquatic Weed Control Permit may result in an enforcement action as authorized by provisions in the California Water Code. Any discharges of waste other than those described in this Notice of Applicability are not authorized pursuant to the Aquatic Weed Control Permit.

If you have any questions regarding this Notice of Applicability or the Aquatic Weed Control Permit, please contact Gurgagn Chand at (916) 341-5780 or Gurgagn.Chand@waterboards.ca.gov.

Sincerely,

Karen Mogus, Deputy Director
Division of Water Quality

cc: [via email]:

United States Environmental Protection Agency, Region IX
Pascal Mues, Environmental Engineer
Mues.Pascal@epa.gov

California Department of Pesticide Regulation
Nan Singhasemanon, Assistant Director
Nan.Singhasemanon@cdpr.ca.gov

Central Valley Regional Water Quality Control Board
James Marshall, Supervising Water Resource Control Engineer
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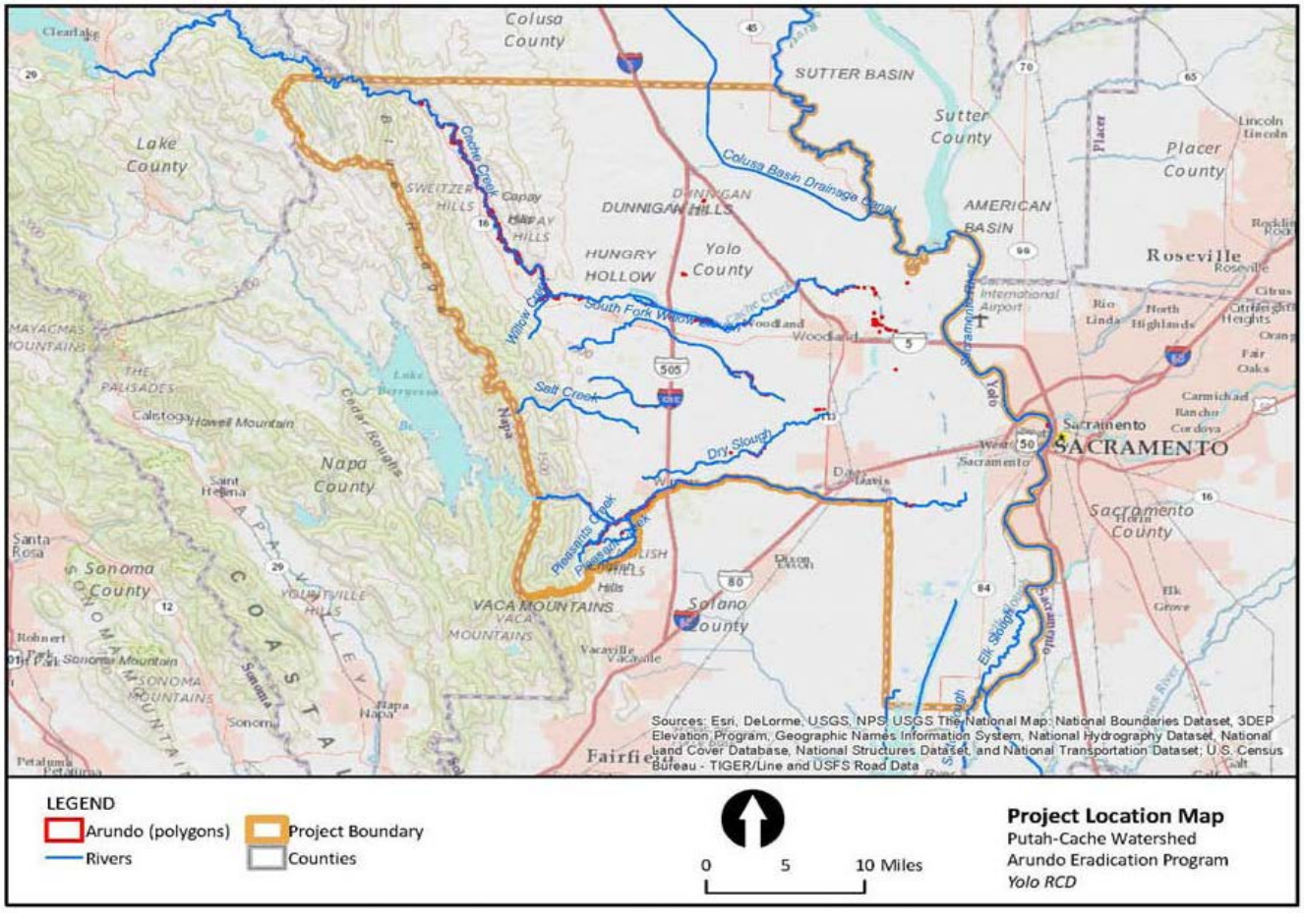
Xuan Luo, Senior Water Resource Control Engineer
Xuan.Luo@waterboards.ca.gov

Aquatic Pesticide Application Plan

For the Yolo County Resource Conservation District (YCRCD) Service Area



Prepared By: Yolo County Resource Conservation District

April 2020

PURPOSE: TO MEET THE REQUIREMENTS AND ENSURE COMPLIANCE WITH 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 APPLICATIONS, GENERAL PERMIT NO. CAG990005, ADOPTED BY THE STATE WATER RESOURCE CONTROL BOARD ON MARCH 5, 2013.

Table of Contents

Background....1
Description of Water Bodies and Systems Controlled....1
Description of Application and Treatment Area....3
Description of Target Weeds....3
Discussion of Factors Influencing Aquatic Pesticide Use....6
Gates and Control Structures....6
Types of Aquatic Pesticides Used and Application Methods....6
Pesticide Properties....7
Persistence/Soil Dissipation....7
Soil Absorption/Mobility....7
Water Solubility....7
Toxicity-Fish LC50....8
Monitoring Plan....8
Application projects....8
Compliance with Permit Requirements....8
Monitoring Preparation and Logistics....8
Water Quality Monitoring....12
Monitoring Frequency....12
Determining Sample Locations and Sample Types....13
Quality Assurance and Quality Control (QA/QC)....13
Notification and Reporting....13
Annual Notification....13
Annual Report....13
Twenty-Four Hour Report....14
Five Day Written Report....15
Description of Implemented BMPs....15
Licensing....15
Applications Made According to Label....16
Alternative Control Measures....16
Evaluating the following management options....16
Using the least intrusive method of aquatic herbicide application....17
Applying a decision matrix....27

Site Evaluation and Pre-treatment Monitoring....18
BMPs Done Prior to and During Treatment....18
Post Treatment Evaluation 18
Evaluation of Other Available BMPs....18
Attachments 19
Aquatic Pesticide Application Log....20
Water Quality Monitoring Form....21

Background

The Yolo County Resource Conservation District (YCRCD) is a local government agency that works to conserve the natural resources (soil, water, native plants and wildlife) of areas within Yolo County in the Sacramento Valley of California. YCRCD advocates that each acre of land be managed according to its needs and promotes the sustainable use of natural resources for each land-use. YCRCD works to sustain natural resources in a variety of ways, including restoring habitat through the removal of invasive species and re-establishment of native species.

Description of Water Bodies and Systems Controlled

YCRCD manages terrestrial invasive non-native plants on various waterways within the County of Yolo, which is our service area (Figure 1). These water bodies range from portions of Cache and Putah Creek Watersheds, to the Sacramento River, to canals and sloughs. The Putah-Cache Watershed covers approximately 2,500 square miles and combines several smaller watersheds, including Cache Creek in the northwestern part of Yolo County, Putah Creek along the southern boundary of the county, Pleasants Creek in neighboring Solano County, and five smaller creeks draining the foothills in the western part of the county known as the Westside tributaries (Willow Slough, Cottonwood Slough, Union School Slough, Dry Slough and Chickahominy Slough). The proposed *Arundo* eradication efforts will begin upstream at the Yolo County line for Cache Creek and at Monticello Dam for Putah Creek. The Cache Creek corridor from the Yolo County line to the Sacramento River runs 52.8 river miles. Putah Creek from Monticello Dam at Lake Berryessa, to the Sacramento Rivers runs 23.6 river miles. The riparian corridors and smaller tributaries combined within their watersheds total more than 96 miles and 256 acres of *Arundo*. Waterways within the district service area are shown on the following map (Figure 1).

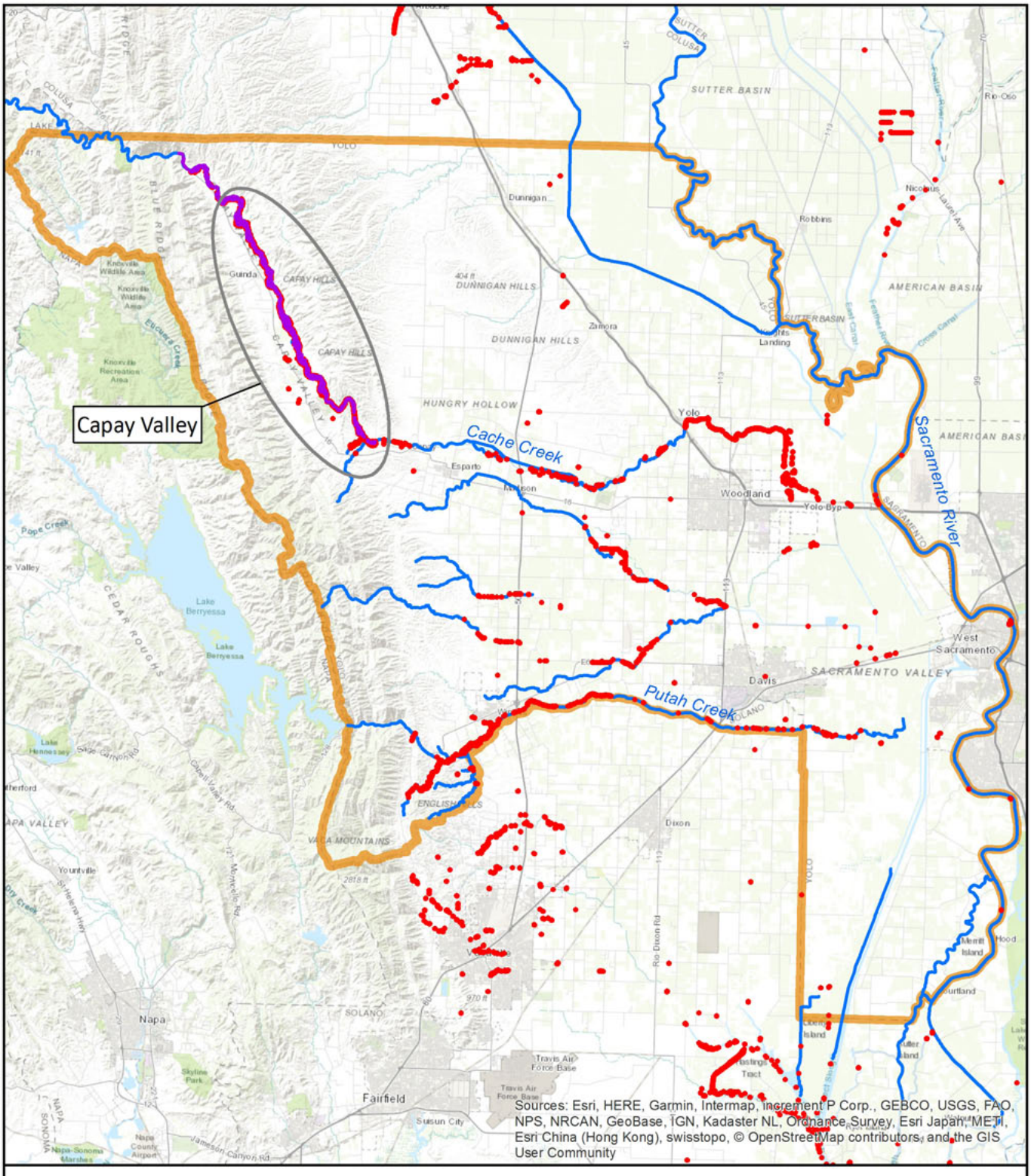


Figure 1
Project Overview
Putah-Cache Watershed
Arundo Eradication Program
Yolo RCD

Description of Application and Treatment Area

YCRCD will apply herbicide directly to target invasive non-native terrestrial plants growing in riparian and wetland areas including channels, floodplains, terraces and banks/slopes. The project will not apply herbicide directly to bodies of water, although incidental contact with water may occur from overspray associated with application of herbicide on target plants. Because of this the treatment area is the same as the application area for aquatic herbicide applications. YCRCD will apply herbicide in a manner consistent with labeling. Applications will be conducted within riparian and wetland areas where the vegetation is categorized as a targeted invasive non-native plant according to the criteria listed in the following section.

Description of Target Weeds (Invasive Non-native Plants)

Target invasive non-native plants may be controlled within the YCRCD service area (Figure 1). These plants are either listed in the Cal-IPC invasive plant inventory or are newly invading species expected to be included in the inventory in the future. These weeds are targeted to keep them from gaining a foothold and degrading healthy natural habitat values for native flora and fauna. If they are already present at a site in large quantities they are targeted to remove their negative effects so that the habitat can be restored, passively or actively, to higher values for native flora and fauna. The primary program targets are giant reed (*Arundo donax*) and salt cedar (*Tamarix parviflora* and *T. ramosissima)*, as well as other problematic species such as: Ravenna grass (*Saccharum ravennae*), perennial pepperweed (*Lepidium latifolium*), and Himalayan blackberry (*Rubus armeniacus*).

Arundo donax (giant reed)

Biology and Distribution:

Arundo is a robust perennial grass that reaches heights up to thirty feet, grows in many-stemmed cane-like clumps, spreads from horizontal rootstocks below the soil (rhizomes), and often forms large colonies many feet across. Individual stems or culms are tough and hollow, divided by partitions at nodes similar to bamboo. First-year culms are unbranched, with single or multiple lateral branches from nodes in the second year. The pale green to blue-green leaves, which broadly clasp the stem with a heart-shaped base and taper to the tip, are up to two feet or more in length. Leaves are arranged alternately throughout the culm, distinctly two-ranked (in a single plane). *Arundo* produces a tall, plume-like flowerhead at the upper tips of the stems, the flowers closely packed in a cream to brown cluster borne from early summer to early fall. Seed production is not a factor in its spread, however, as seeds are not viable in California. Culms may remain green throughout the year, but often fade with semi-dormancy during the winter months or in drought. *Arundo* can be confused with cultivated bamboos and cordgrass, and in earlier stages with some large-statue grasses such as giant wild rye (*Leymus condensates)* and especially with common reed (*Phragmites australis)*.

Arundo occurs in low elevations throughout California and in Baja California, usually below 1,000 feet (350 m) elevation. It has invaded central California river valleys in San Luis Obispo and Monterey counties, the San Francisco Bay Area, and the Sacramento and San Joaquin River valleys, and is also increasing in the North Coast region (Dudley and Collins 1995). *Arundo* has been a serious problem in coastal river drainages from southern California to Monterey, especially in the Salinas, Santa Clara, Santa Ana, Santa Margarita, San Luis Rey, and other major and minor watersheds, where it sometimes occupies entire river channels from bank to bank (Giessow 2011, Jackson et al. 1994, Bell 1998). *Arundo* has been a serious problem in portions of the Central Valley, particularly Stony Creek and the project areas in Yolo County, Cache and Putah Creeks (Cal-IPC 2020).

Arundo is naturalized and invasive in many regions, including southern Africa, subtropical United States through Mexico, the Caribbean islands and South America, Pacific Islands, Australia, and Southeast Asia (Hafliger and Scholz 1981). In California, the largest colonies occur in riparian areas and floodplains of medium-sized to large rivers, from wet sites to dry river banks far from permanent water. *Arundo* tends to favor low-gradient (less than 2 percent) riparian areas over steeper and smaller channels, but scattered colonies are found in moist sites or springs on steeper slopes.

Arundo populations also occur in the upper reaches of coastal streams. Additionally, it is often found along drainage ditches and canals, where the plant has historically been used for bank stabilization, and in other moist sites (such as sloughs), including residential areas where it is used horticulturally. While it is usually associated with rivers that have been physically disturbed and dammed upstream, *Arundo* can also colonize within native stands of cottonwoods, willows, and other riparian species, even growing in sites shaded by tree canopy. Plants establish primarily in streamside sites, but expand beyond the margins of riparian vegetation.

Soil preferences are broad, as *Arundo* is known to establish in coarse sands to gravelly soil to heavy clays and river sediments. It grows best in well-drained soil with ample moisture, from freshwater to semi-saline soils at margins of brackish estuaries. In Egypt, Rezk and Edany (1997) found that *Arundo* tolerates both higher and lower water table levels than common reed, which is native to California.

Arundo in North America does not appear to produce viable seed, and seedlings are not seen in the field. Population expansion here occurs through vegetative reproduction, either from underground rhizomes extending from a colony (stand growing laterally) or from plant fragments (primarily rhizomes) carried downstream, primarily during floods, which become rooted and form new clones. New shoots arise from rhizomes in nearly any season, but are most common in spring. Growth likewise occurs in all seasons, but is highly sensitive to temperature and moisture (Perdue 1958). During warm months with ample water culms are reported to attain growth rates of 2.3 ft (70 cm) per week or about four inches (10 cm) per day, putting it among the fastest growing terrestrial plants. For mature stands above ground biomass production is estimated at 69 tons dry weight per acre and average cane density is 41.5/m^2 (Giessow 2011). Young stems rapidly achieve the diameter of mature canes, with subsequent growth involving thickening of the walls (Perdue 1958). Age of individual culms is certainly more than one year, and branching seems to represent stem growth in later years, while rhizomes show indeterminant growth. Dieback is infrequently observed, but culms fade or partially brown out during winter, becoming dormant under cold conditions. The outstanding growth trait of this plant is its ability to survive and grow at almost any time under a wide variety of environmental conditions.

Ecological Impacts:

Arundo infestations impact both abiotic (geomorphic, fluvial, hydrologic, fire, nutrients) and biotic (flora, fauna) functions of riparian systems. *Arundo* displaces native plants and associated wildlife species because of the massive stands it forms (Bell 1994, Gaffney and Cushman 1998, Giessow 2011). Competition with native species has been shown to result from monopolization of soil moisture and by shading (Dudley and Collins 1995). As *Arundo* replaces riparian vegetation in semi-arid zones, it reduces habitat and food supply, particularly insect populations, for several special status species such as least Bell's vireo (*Vireo bellii pusillus*), southwestern willow flycatcher (*Empidonax traillii extimus*), and yellow-billed cuckoo (*Coccyzus americanu*) (Frandsen and Jackson 1994, Dudley and Collins 1995). Unlike native riparian plants, *Arundo* provides little shading of stream channels, leading to

increased water temperatures and reduced habitat quality for aquatic wildlife, particularly the California red-legged frog (*Rana draytonii*) and salmonid species.

Arundo's impacts on abiotic processes can have large impacts on how the entire riparian ecosystem functions, because these processes regulate the system. Large stands of *Arundo* alter the riverine fluvial processes in a way that changes vegetation succession following flow events, sediment transport budgets and the geomorphic structure. *Arundo* impacts fire frequency and intensity due to its tall, high fuel load that can burn year round. The presence of *Arundo* in riparian systems can also unnaturally carry fire into the wetland habitat by acting as a conduit from upland fires. Large stands of *Arundo* have high water use compared to native vegetation. Removal of *Arundo* stands has a large potential water use reduction that could have significant implications for both the ecosystem and human water use.

Tamarisk

Biology and Distribution

Four invasive Tamarisk species have been identified in California: *Tamarix ramosissima*, *T. chinensis*, *T. gallica*, and *T. parviflora*. All four are many-branched shrubs or trees less than twenty-six feet tall with small scale-like leaves, and salt glands. For this description salt cedar will be used to generally describe these species.

Saltcedars are large shrubs or small trees 8-16 feet tall and usually less wide. They have tiny, triangular, scale-like leaves that are winter-deciduous. The flowers are pink to near-white, densely crowded along branched terminal spikes; they appear from January to October. Fruit and seeds are tiny, brown, and inconspicuous. Seeds are dispersed by wind to new locations. Seedlings require extended periods of soil saturation for establishment. Once established salt cedar can form monotypic, dense thickets.

Saltcedar is widely distributed throughout the Mojave and Colorado deserts, Owen's Valley, the Central and South coasts, and the San Joaquin Valley. It occurs in parts of the San Francisco Bay Area and the Sacramento Valley, particularly Yolo and Solano counties. Saltcedar is abundant where surface or subsurface water is available for most of the year, including stream banks, lake and pond margins, springs, canals, ditches, and some washes. Disturbed sites, including burned areas, are particularly favorable for saltcedar establishment. It survives, and even thrives, on saline soils where most native, woody, riparian plants cannot.

Salt cedar was originally planted widely for erosion control, as a windbreak, for shade, and as an ornamental. It spreads by seed and vegetative growth. Individual plants can produce 500,000 tiny seeds per year (DiTomaso 1996), which are easily dispersed long distances by wind and water.

Saltcedar can reproduce both vegetatively and by seed. Plants can regenerate from cuttings that fall on moist soil. Plants can flower by the end of the first year of growth (DiTomaso 1996). Studies in Arizona demonstrated that dense saltcedar stands can generate 100 seeds per square inch. Seed production occurs over a 5.5-month period, with one major and one minor peak (Warren and Turner 1975). Germination can occur within twenty-four hours in warm, moist soil (Merkel and Hopkins 1957). Following germination and establishment, the primary root grows with little branching until it reaches the water table, at which point secondary root branching is profuse (Brotherson and Winkel 1986). Under favorable conditions, salt-cedar shoots reportedly grow to heights of 3-4 meters in one growing season (DiTomaso 1996).

Ecological Impacts

There is debate as to whether saltcedar is a consequence (Anderson 1996) or a cause (Lovich and de Gouvenain 1998) of environmental changes associated with its presence and proliferation. Regardless, the presence of saltcedar is associated with dramatic changes in geomorphology, groundwater availability, soil chemistry, fire

frequency, plant community composition, and native wildlife diversity. Geomorphological impacts include trapping and stabilizing alluvial sediments, which results in narrowing of stream channels and more frequent flooding (Graf 1978). Saltcedar has been blamed for lowering water tables because of its high evapotranspiration rate, and, on a regional scale, dense saltcedar groves use far more water than native riparian plant associations (Sala et al. 1996).

Soil salinities increase as a result of inputs of salt from glands on saltcedar leaves. The dome-shaped glands consist of at least two cells embedded in the epidermal pits (Decker 1961). Increased salinity inhibits growth and germination of native riparian species (Anderson 1996). Leaf litter from drought-deciduous saltcedar increases the frequency of fire. Saltcedar is capable of resprouting vigorously following fire and, coupled with changes in soil salinity, ultimately dominates riparian plant communities (Busch 1995).

Although saltcedar provides habitat and nest sites for some wildlife (e.g., white-winged dove, *Zenaida asiatica*), most authors have concluded that it has little value to most native amphibians, reptiles, birds, and mammals (Lovich and de Gouvenain 1998). The majority of birds do not use saltcedar in high proportions compared with native plant communities. Frugivores and insectivores, abundant in native riparian vegetation, almost completely avoid saltcedar. Studies showed that several species had a higher affinity for the cottonwood-willow association, including common flicker, yellow-bellied sapsucker, porcupine and beaver. With the exception of desert woodrat and desert cottontail, no native mammal species are known to feed upon saltcedar. When consumed by wildlife, only young growth is utilized. Although certain wildlife species may find saltcedar beneficial to their survival, the encroachment of saltcedar has most certainly altered the native habitat that was apparently of great benefit to wildlife. Although the southwestern willow flycatcher can nest in saltcedar, infestations have a negative impact on most other birds that would normally use the native vegetation. (Lovich 1998)

Discussion of Factors Influencing Aquatic Pesticide Use

YCRCD will apply pesticide directly to vegetation in riparian areas and wetlands when the following conditions have been met: 1) the vegetation is determined to be a weed targeted for treatment in one of the categories listed in the section on “Description of Weeds” within this document; 2) the use of aquatic pesticide is reached as the best method of control using the decision matrix shown in the section on “Alternative Control Measures” within this document.

Gates and Control Structures

YCRCD does not operate any gates or control structures.

Types of Aquatic Pesticides Used and Application Methods

All aquatic weed control pesticides will be applied by trained District personnel, project partners or contractors according to product label instructions, BMPs, and consistent with all local, State, and Federal regulations. The application method may vary in order to use the most appropriate method possible to suit the target weed and environmental conditions. All applications will be ‘targeted’ (by hand: by back pack or hand held power sprayer), no broadcast methods will be used (boom sprayer, aerial, etc.).

YCRCD may apply the following aquatic herbicides:

-Glyphosate

-Isopropylamine salt of imazapyr

YCRCD may apply the following “aquatic labeled adjuvants” or surfactants, in association

with the above aquatic herbicides:

-With glyphosate: Kinetic, Dyne-Amic, Syl-Tac EA, Competitor, Hasten EA (or others as appropriate)

-With imazapyr: Agri-Dex, Dyne-Amic, Syl-Tac EA, Competitor, Hasten EA (or others as appropriate)

Pesticide Properties

When herbicides are released into the environment they are either broken down, or degraded, by the action of sunlight, water or other chemicals, or this process is completed by microorganisms, such as bacteria. Generally, pesticides have four properties that determine the tendency of pesticides to move in the environment. The most important of these properties are persistence, soil adsorption, and vapor pressure (an environmental factor, so no data presented). The fourth property, solubility, also is involved, but to a lesser extent than the others. Summarized below are the pesticides properties found in the product label, EPA, and published literature. Toxicity data for fish is also presented.

Persistence/Soil Dissipation

Dissipation time (DT50) represents the time required for 50% of the deposited pesticide to degrade and move from a treated site; whereas, soil t½ describes the rate for degradation only. As for t½, units of dissipation time are usually expressed in days. Field dissipation times are the preferred data for use to estimate pesticide concentrations in the environment because they are based upon field studies, compared to soil t½, which is derived in a laboratory. However, soil t½ are the most common persistence data available in the published literature. If field dissipation data are not available, soil half-life data are used in a Chemical Profile. The average or representative half-life value of the most important degradation mechanism is selected for quantitative analysis for both terrestrial and aquatic environments. Based upon the DT50 value, environmental persistence in the soil is categorized as one of the following: non-persistent <30 days, moderately persistent = 30 to 100 days, and persistent >100 days (Kerle et al. 1996).

- Imazapyr: 180 days; persistent
- Glyphosate: 13.9 days; non-persistent

Soil Absorption/Mobility

Scientific literature values for soil adsorption coefficient (Koc [mL/g]) are presented. This value provides a measure of a chemical's mobility and leaching potential in soil. Koc values are directly proportional to organic content, clay content, and surface area of the soil. Koc data for a pesticide may be available for a variety of soil types (e.g., clay, loam, sand). Koc values are used in evaluating the potential to degrade groundwater by leaching. A higher Koc means a lower potential for mobility. The potential for mobility is classified as highest (Koc <50), high (Koc 50-150), medium (Koc 150-500), low (Koc 2,000-5,000) and immobile (Koc >5,000).

- Imazapyr: Koc 15 in loamy sand; very highly mobile
- Glyphosate: Koc 3,100 in sandy loam; slightly mobile

Water Solubility

Scientific literature record values for water solubility (Sw), which describes the amount of pesticide that dissolves in a known quantity of water is presented. Sw is expressed as mg/L (ppm). Pesticide Sw values are categorized as one of the following: insoluble <0.1 ppm, moderately soluble = 100 to 1000 ppm, highly soluble >10,000 ppm (USGS

2000). As pesticide Sw increases, there is greater potential to degrade water quality through runoff and leaching.

- Imazapyr: 6,500,000 ppm; highly soluble
- Glyphosate: 900,000 ppm; highly soluble

Toxicity- Fish LC50

For tested freshwater species listed in the scientific literature record an LC50 in ppm or mg/L is presented. Most common test species available in the scientific literature are the bluegill, rainbow trout, and fathead minnow. The lowest 96-hour (96-hr) LC50 value found for a freshwater fish species is used as a toxicological endpoint for Risk Quotient (RQ) calculations to assess acute risk. Acute toxicity ratings were the following: super toxic < 0.01, extremely toxic 0.01-0.1, highly toxic 0.1-1, moderately toxic 1-10, slightly toxic 10-100, practically non-toxic 100-1000, and relatively harmless > 1000 (USFWS 1984).

- Imazapyr: rainbow trout, 96-hr LC50 = 6.7 ppm; moderately toxic
- Glyphosate: bluegill, 96-hr LC50 > 24 ppm; slightly toxic

Monitoring Plan

This monitoring plan is constructed to comply with the requirements set forth in the 2013 General Permit. The goals of the monitoring plan 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; and
8. Ensure that projects that are monitored are representative of all aquatic herbicide and application methods used by the Discharger.

This monitoring plan is also constructed to address the two key questions in attachment C of the General Permit:

Question No. 1: Does the residual aquatic herbicide discharge cause an exceedance of receiving water limitations?

Question No. 2: Does the discharge of residual 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?

Application projects

Cache Creek and tributaries – Aquatic herbicide treatments will occur in portions of the creek and as spot treatments.

Putah Creek and tributaries – Aquatic herbicide treatments will occur in portions of the creek and as spot

treatments.

Willow Slough and other canals and sloughs- Aquatic herbicide treatments will occur in portions of the slough and as spot treatments.

Compliance with Permit Requirements

The following monitoring is required by the General Permit for each sampling:

1. Background Monitoring: Background monitoring samples shall be collected upstream 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.
2. Event Monitoring: vent monitoring samples shall be collected immediately downstream of the treatment area (but upstream of any secondary discharge or disturbance such as tributaries) 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.
3. Post-Event Monitoring: Post-event monitoring samples shall be collected within the treatment area within one week after application.

All aquatic herbicides being used are registered for aquatic use with CADPR and USEPA. Information concerning the environmental effects and transport are detailed on the EPA's website and will be consulted for reference as necessary.

It is not expected that applications of aquatic herbicide made following the label requirements and the requirements of this plan will cause impacts to designated use or receiving water quality in the waterways in which they are made.

Monitoring Preparation and Logistics

Site selection and safety

Representative sampling locations will be determined based on planned application locations and the environmental factors at those locations. Information for these locations will include location based on GPS, photos, and a written description of the area including any reasons why it was chosen as representative.

The following criteria will be evaluated when choosing sampling locations:

-access is safe,
-permission to cross private property is granted,
-sample can be taken in main stream current or where homogeneous mixing of water occurs,
-sample is representative of the part of the water body of interest,
-sample can adequately demonstrate whether the pre and post treatment water quality is equivalent.

Prior to final site selection, permission to access the site will be obtained from the property owners. YCRCD will document permission and terms obtained from landowners. If access to the site becomes a problem, YCRCD will select a new site. Monitors will record a narrative description of the site, a photo, geographic location, and a map for entry into the organizations site catalogue the first time a site is sampled.

Safety measures will be discussed with all monitors. No in-stream sampling will be conducted if there are small creek flood warnings or advisories.

Sampling Method Requirements

YCRCD will maintain a Monitoring Manual describing the appropriate sampling procedure for collecting samples for water chemistry. Water sampling apparatus may include pH and Conductivity meters, Oakton Oxygen (or equivalent) samplers, extension pole type sampling devices, and hand held plastic containers and glass bottles. Sampling devices and sample bottles (that are not pre-sterilized and do not contain preservatives/fixing agents) will be rinsed three times with sample water prior to collecting each sample. Sterile bottles, whirl-paks, and sample bottles, which do contain preservatives/fixing, agents (e.g., acids, etc.) will never be rinsed with sample water prior to collecting the sample. Also, sample bottles containing preservatives/fixing agents will never be used for sampling; in these cases a sampling device will always be used to collect the sample prior to transferring the sample into the bottle.

Monitors will be instructed to only sample so that the water body is not disturbed from wading. All water body samples are taken approximately in mid-stream, at least one inch below the surface. If it is necessary to wade into the water, the sample collector stands downstream of the sample, taking a sample upstream. If the collector disturbs sediment when wading, the collector will wait until the effect of disturbance is no longer present before taking the sample.

The following table shows sampling bottle preservation methods, maximum holding times, testing method, and any modifications for each physical parameter as well as hardness and dissolved oxygen. Active ingredient and Nonylphenol tests will be conducted by a lab certified to perform them and RCRCD will follow any sampling guidelines set forth by the lab being used.

Parameter	Sample Bottle	Preferred/Maximum Holding Times	Method	Modification
Temperature	Clear plastic bottle or sample directly	Immediately / None	Thermometric	Alcohol-filled thermometer marked in 0.5oC increments; Digital thermometer
pH	Plastic/PFTE/Glass or sample directly	Immediately / 15 minutes	Electrometric	none
Turbidity	Plastic/PFTE/Glass or sample directly	immediately / store in dark for up to 48 hr.	Nephelometric	none
Electrical Conductivity	Plastic/PFTE/Glass or sample directly	immediately /refrigerate up to 28 days	Electrometric	none
Hardness	Plastic/PFTE/Glass	immediately / fix with nitric acid to pH 2, refrigerate up to 6 months	Titration with EDTA	none
Dissolved Oxygen	Glass or sample directly	immediately / for wet chemistry fix per protocol instructions, continue analysis within 8 hr.	Winkler Method, Azide Modification	Prepackaged reagents, 20 ml sample size

The following table is taken from appendix C of the General Permit and describes the sample type, parameters to be tested, units to be used, method of collection, minimum frequency, event types, and the analytical test method required.

General Permit Table C-1 Monitoring Requirements

Sample Type	Constituent/Parameter	Units	Sample Method	Minimum Sampling Frequency	Sample Type Requirement	Required Analytical Test Method
Visual	1. Monitoring area description (pond, lake, open waterway, channel, etc.) 2. Appearance of waterway (sheen, color, clarity, etc.) 3. Weather conditions (fog, rain, wind, etc.)	Not applicable	Visual Observation	1	Background, Event and Post-event Monitoring	Not applicable
Physical	1. Temperature[2]	ºF	Grab[4]	5	Background, Event and Post-event Monitoring	6
	2. pH[3]	Number				
	3. Turbidity[3]	NTU				
	4. Electric Conductivity[3] @ 25°C _	µmhos/cm				
Chemical	1. Active Ingredient[7]	µg/L	Grab[4]	5	Background, Event and Post-event Monitoring	6
	2. Nonylphenol[8]	µg/L				
	3. Dissolved Oxygen[2]	mg/L				

1 All applications at all sites.
2 Field testing.
3 Field or laboratory testing
4 Samples shall be collected at three feet below the surface of the water body or at mid water column depth if the depth is less than three feet.
5 Collect samples from a minimum of six application events for each active ingredient in each environmental setting (flowing water and non-flowing water) per year, except for glyphosate. If there are less than six application events in a year, collect samples during each application event for each active ingredient in each environmental setting (flowing water and non-flowing water). If the results from six consecutive sampling events show concentrations that are less than the receiving water limitation/trigger for an active ingredient in an environmental setting, sampling shall be reduced to one application event per year for that active ingredient in that environmental setting. If the yearly sampling event shows exceedance of the receiving water limitation/trigger for an active ingredient in an environmental setting, then sampling shall return to six application events for that active ingredient in each environmental setting. For glyphosate, collect samples from one application event from each environmental setting (flowing water and non-flowing water) per year.
6 Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. part 136.
7 2,4-D, acrolein, diquat, endothall, fluridone, glyphosate, imazamox, imazapyr, penoxsulam, and triclopyr.
8 It is required only when a surfactant is used.

Sample handling

Identification information for each sample will be recorded on the sample collection field data sheets when the sample is collected. Samples not processed immediately in the field will be labeled with the location, date, time, and whether they represent Background, Event, or Post-Event samples. The locations will be recorded in a monitoring database with all necessary metadata. The monitors will keep records of locations covered for each sampling event and these records will be retained by YCRCD.

In the field, all samples will be packed in frozen ice packs during shipment, so that they will be kept at approximately 4°C. Samples will be shipped in insulated containers. All caps and lids will be checked for tightness prior to shipping.

Custody Procedures

Water quality monitoring tests performed in the field do not require specific custody procedures. In certain circumstances (such as driving rain or extreme cold), samples will be taken to a nearby location for analysis. Samples requiring chemical preservation will be fixed prior to transport.

Ice chests are sealed with tape before shipping. Samples are placed in the ice chest with enough ice to completely fill the ice chest. Custody documentation forms are placed in an envelope and taped to the top of the ice chest or they may be placed in a plastic bag and taped to the inside of the ice chest lid. It is assumed that samples in tape-sealed ice chests are secure whether being transported by staff vehicle, by common carrier, or by commercial package delivery. The receiving laboratory has a sample custodian who examines the samples for correct documentation, proper preservation and holding times.

Contract laboratories will follow sample custody procedures outlined in their QA plans. Contract laboratory QA plans are on file with the respective laboratory.

Chain-of-custody procedures require that possession of samples be traceable from the time the samples are collected until completion and submittal of analytical results. A complete chain-of-custody form is to accompany the transfer of samples to the analyzing laboratory.

When samples are transferred from one monitor to another member of the same organization for analysis, or from the YCRCD to an outside professional laboratory, then a Chain of Custody form will be used. This form identifies the water body name, sample location, sample type (Background, Event, Post-Event), date and time of collection, sampler's name, and method used to preserve sample (if any). It also indicates the date and time of transfer, and the name and signature of the sampler and the sample recipient. In cases where the sample remains in the custody of the monitoring organization, then the sample collection field data sheet may be allowed to double as the chain of custody form. When a sample leaves the custody of the monitoring group, then the Chain of Custody form used should be the one provided by the outside professional laboratory. Similarly, when a professional lab performs quality control checks, their samples will be processed under their chain of custody procedures with their labels and documentation procedures.

Water Quality Monitoring

Monitoring Frequency

Monitoring and collection of samples will occur if application methods, site characteristics, and distance to water create conditions where discharge of aquatic herbicide to water could occur.

If application of imazapyr could result in discharge: monitoring will occur at a minimum of six application events (two for Cache Creek, two for Putah Creek, and two for Willow Slough). If there are less than six application events

in a year for an ingredient, samples will be collected during each application event for each active ingredient. If the results from six consecutive sampling events show concentrations that are less than the receiving water limitation/trigger for an active ingredient, sampling shall be reduced to one application event per year for that active ingredient. If the yearly sampling event shows exceedance of the receiving water limitation/trigger for an active ingredient, then sampling shall return to six application events for that active ingredient.

If application of glyphosate could result in discharge: monitoring will occur at a minimum of one application event from each environmental setting (flowing water and non-flowing water) per year.

When Nonylphenol based surfactants are used samples will be collected in the same manner as the herbicide they are applied with.

Determining Sample Locations and Sample Types

Sample locations will be determined using the methods described under "Site selection and safety" above and will vary depending on application location. Sample types will be determined using the information found in Table C-1 above.

Quality Assurance and Quality Control (QA/QC)

In order to prevent sample contamination from persons, equipment, and vehicles associated with aquatic herbicide application the following procedures will be used:

-Background monitoring samples will be collected immediately before application but before any pesticides or pesticide related equipment and PPE is removed from the vehicle used to transport it and staged at the treatment site.

-Event monitoring samples will be collected by someone not exposed to the pesticide application or by someone who has removed all PPE that could have come in contact with pesticides and washed their hands with clean potable water.

-Samples, sampling equipment and associated PPE will be transported separately from pesticides and their related equipment and PPE at all times.

-Samples will be collected using clean disposable gloves and will be stored in bottles within a closed ice chest.

Notification and Reporting

Annual Notification

YCRCD will notify potentially affected public agencies and landowners of intended pesticide application at the beginning of every calendar year at least 15 days prior to the first application.

Annual Report

Annual reporting will comply with the requirements of the General Permit, as described in Attachment B: Standard Provisions and Attachment C: Monitoring and Reporting.

YCRCD shall submit to the Deputy Director and the Regional Water Quality Control Board Regional Executive Officer an annual report consisting of a summary of the past year's (January 1st to December 31st) activities, and certify compliance with all requirements of this General Permit. If there is no discharge of aquatic herbicides, their residues, or their degradation byproducts, YCRCD shall provide the Deputy Director and the appropriate Regional Water Board Executive Officer a certification that aquatic herbicide application activities did not result in a

discharge to any water body. The annual report shall be submitted by March 1st and contain the following information:

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 aquatic pesticide application.

YCRCD shall also complete and retain all information on the previous reporting year beginning January 1 and ending December 31. When requested by the Deputy Director or Executive Officer of the Regional Water Quality Control Board, the YCRCD shall submit the annual information which must include the following:

- An executive summary discussing compliance or violation of this General Permit and the effectiveness of the APAP to reduce or prevent the discharge of pollutants associated with aquatic herbicide applications;
- A summary of monitoring data, including the identification of water quality improvements or degradation as a result of the aquatic pesticide application, if appropriate, and recommendations for improvements to the APAP (including proposed best management practices (BMPs)) and monitoring program based on the monitoring results. All receiving water monitoring data shall be compared to receiving water limitations and receiving water monitoring triggers;
- Identification of BMPs currently in use and a discussion of their effectiveness in meeting the requirements in this General Permit;
- A discussion of BMP modifications addressing violations of this General Permit;
- A map showing the location of each treatment area;
- Types and amounts of aquatic herbicides used at each application event;
- Information on surface area and/or volume of treatment areas and any other information used to calculate dosage, concentration, and quantity of each aquatic herbicide used;
- Sampling results shall 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/quality control plan. Sampling results shall be tabulated so that they are readily discernible; and
- Summary of aquatic herbicide application logs.

Twenty-Four Hour Report

YCRCD shall report to the State Water Board and appropriate Regional Water Board any noncompliance, including any unexpected or unintended effect of an aquatic herbicide use that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Coalition or Discharger becomes aware of the circumstances and will include the following information:

a. The caller's name and telephone number;
b. Applicator name and mailing address;
c. Waste Discharge Identification (WDID) number;
d. The name and telephone number of a contact person;

e. How and when YCRCD become aware of the noncompliance;
f. Description of the location of the noncompliance;
g. Description of the noncompliance identified and the U.S. EPA pesticide registration number for each product YCRCD applied in the area of the noncompliance; and
h. Description of any steps that YCRCD has taken or will take to correct, repair, remedy, cleanup, or otherwise address any adverse effects.

If YCRCD is unable to notify the State and the appropriate Regional Water Board within 24 hours, YCRCD must do so as soon as possible and also provide the rationale for why YCRCD was unable to provide such notification within 24 hours.

Five Day Written Report

YCRCD shall also provide a written submission within five (5) days of the time YCRCD becomes aware of any noncompliance. The written submission shall contain the following information:

a. Date and time YCRCD contacted the State Water Board and the appropriate Regional Water Board notifying of the noncompliance and any instructions received from the State and/or Regional Water Board; information required to be provided in Section D.1 (24-Hour Reporting);

b. A 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);

c. Location of incident, including the names of any waters affected and appearance of those waters (sheen, color, clarity, etc.);

d. Magnitude and scope of the affected area (e.g. aquatic square area or total stream distance affected);

e. Aquatic herbicide application rate, intended use site (e.g., banks, above, or direct to water), method of application, and name of herbicide product, description of herbicide ingredients, and U.S. EPA registration number;

f. Description of the habitat and the circumstances under which the noncompliance activity occurred (including any available ambient water data for aquatic herbicides applied);

g. Laboratory tests performed, if any, and timing of tests. Provide a summary of the test results within five days after they become available;

h. If applicable, explain why YCRCD believes the noncompliance could not have been caused by exposure to the aquatic herbicides from the YCRCD's application; and

i. Actions to be taken to prevent recurrence of adverse incidents.

Description of Implemented BMPs

The following BMPs will be implemented by YCRCD.

Licensing

YCRCD will use pesticide applicators with a Qualified Applicator Certificate (QAC) License or Qualified Applicator License Categories D & F (QAL). All applications will be performed under the direction of applicators with these

qualifications.

Applications Made According to Label

Aquatic pesticide applications made by YCRCD or its contractors will follow all FIFRA pesticide label instructions and any Restricted Material Use Permits issued by a County Agricultural Commissioner. Proper use according to labeling will also minimize fish kills and damage to any non-target species.

Alternative Control Measures

For each site YCRCD will examine the alternatives to aquatic herbicide use to reduce the need for applying herbicides. The most common alternatives are evaluated below.

Evaluating the following management options:

No action

In the short term this method has no impact on water quality. Over the long term this action may decrease or increase water quality depending on the weed species and water conditions in consideration. Over the short term this method has no impact to non-target organisms such as wildlife using the area and native plants which can be beneficial or detrimental depending on whether or not the weed under consideration is having a detrimental effect on the non-target organisms in concern. Over the long term this method is usually detrimental to several non-target organisms that would have better habitat if the weeds in question were removed and allowing native plant recruitment at a lower stem/biomass plant density than the invasive non-native target plants. This more open vegetation structure allows more natural geomorphic processes to occur, maintains better flow conveyance, is a lower fire risk, and uses less water (transpiration). This method is often not feasible since many areas where YCRCD addresses wetland invasive non-native plants are valuable riparian habitat where regulatory agencies have requirements that most or all target invasives be controlled to enhance habitat, improve flows, conserve water, and/or lower fire risk. This action is only cost effective when no treatment of the weeds is expected to be done in the future or when the weed population is not spreading or impacting resources (flora/fauna, water, and flood or fore risk).

Prevention

This method is ideal, when possible, but it is often not feasible since all/most lands YCRCD is working on have preexisting target weed populations. This method is effective for preventing new infestations where possible using best management practices for preventing the spread of invasive plants. This method generally has no real impact on current water quality and non-target organisms.

Mechanical or physical methods

These methods include removal using shovels and other hand tools, hand pulling, mechanical extraction using equipment etc. Depending on the placement of the targeted weeds (on bank, emergent, etc.) this method can often have a negative impact on water quality due to soil disturbance. This can negatively affect non-target organisms if they are present in close enough proximity to the target weeds that they are within the area affected by the tool or equipment being used. Smaller tools generally have less impact but are less feasible to use for larger infestations. This method may also negatively affect non-target wildlife during certain time periods if using powered equipment because of the amount of noise it can make. This method is feasible in areas where the target population is small enough and the area is degraded enough that the potential negative effects to water quality and non-target organisms are very low. This method is generally more costly and requires more time than chemical

treatment so it is generally not used on larger populations or where a project has little funding. Mowing using mechanical equipment is not a control method, but a biomass reduction tool. Mowing reduces above ground biomass, target plants then re-sprout. These re-sprouts are then controlled using a non-mechanical method.

Cultural methods

These methods can vary widely from site to site and may involve coordination between YCRCD and local landowners. These methods can have positive or negative impacts to water quality and non-target organisms. These methods are not likely to have a negative effect on aquatic herbicide resistance. Because of the number of factors often involved the feasibility and cost effectiveness of this method are often low if used alone although YCRCD often uses public outreach to promote cultural methods that may help prevent or lessen the occurrence of new infestations.

Biological control agents

Biological control is a good tool to reduce cover of well-established invasive non-native plants. The method does not usually eliminate all individuals from a population. Biocontrol agents for the two primary targets, *Arundo* and tamarisk occur at locations in California. *Arundo* and tamarisk show minor levels of suppression. Capay Valley, in Yolo County, is an area where tamarisk beetles have been released to suppress tamarisk. These agents will be used when possible, but suppression should be expected to be minor with agents currently approved for released in California.

Aquatic herbicides

When used correctly this method has minimal effect on water quality. This method can have a negative effect on any non-target plants within a treatment area that are accidentally treated, but great care is taken to ensure that native woody vegetation is not treated. This method is feasible in most situations but requires environmental conditions to be appropriate (wind speeds below 10 mph, no rain, etc.) so it is more likely than some other methods to require rescheduling due to improper treatment conditions. This method is usually the most cost effective method for weed treatment as it generally entails the least amount of labor.

Using the least intrusive method of aquatic herbicide application

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

Applying a decision matrix

The best method for weed control for each site will be decided on using the matrix below. Each method will be rated from 0-3 on each of the values listed and the method with the highest total value will be used. The 0 value is reserved for unacceptable negative effects or otherwise impossible conditions and any method that is rated with a 0 in ANY category will not be used.

	Water Quality	Non-target organism health	Susceptibility to herbicide	Feasibility	Cost effectiveness	Total
No Action						
Prevention						
Mechanical/Physical Methods						
Cultural methods						
Aquatic Herbicides						

Site Evaluation and Pre-treatment Monitoring

YCRCD will evaluate each treatment site by using the decision matrix within this plan and considering any other site-specific factors that may influence the efficacy of different control methods. Different methods may be determined to be suitable for different weed species and at different stages of a weed species' life cycle. If aquatic herbicide is determined to be used, YCRCD or a licensed contractor will select the appropriate chemicals, application methods and concentrations to be used.

BMPs Done Prior to and During Treatment

-All YCRCD staff and contractors will follow label and MSDS instructions as well as USEPA and DPR storage, transport, and spill control rules, regulations and procedures to prevent aquatic herbicide spills and for spill containment during the event of a spill.

-All YCRCD staff working with aquatic herbicide will be trained by a licensed pesticide applicator on how to avoid any potential adverse effects from the aquatic herbicide applications and will work under the direction of a licensed applicator.

-Education of the staff of contractors employed by the YCRCD will be done by, and is the responsibility of, the contractors.

-All pesticides will be used according to labeling in order to minimize fish kills and damage to any non-target species.

-YCRCD staff and contractors will follow all other requirements set forth in this plan as part of their standard BMPs.

Post Treatment Evaluation

The treatment area will be visually surveyed for the effects of the treatment method after a suitable post treatment period (1 to 6 months). If the treatment was not effective YCRCD will review and revisit the decision matrix for the site and consider other treatment options including pesticide treatment at another time more suited for effective control.

Evaluation of Other Available BMPs

Other BMPs published by organizations, such as the California Invasive Plant Council, may be used in conjunction with the BMPs set forth in this plan if they are found to be applicable to treatments at YCRCD sites provided they do not conflict in any way with the requirements set forth in this plan.

Attachments

Application and monitoring forms.

YCRCD Aquatic Pesticide Application Log

Applicator:	Date:	Time started:	Time ended:	Location:
Weather:	Target weeds:	Infestation area:	Water body: Flowing / Non-Flowing	GPS coordinates Lat: Long:
Pesticide Used:	Concentration:	Adjuvant used:	Concentration:	Equipment used:
Quantity applied:	Application area:	Application rate:	Notes:	
Draw Application area:				

Aquatic Pesticide Application Water Quality Monitoring Form

Sampling crew (circle recorders name): _____
Date: _____ **Time:** _____**Site ID:** _____
Sampling Location (Lat, Long): _____
Coordinate System: _____ **Accuracy:** _____ **(**ft. / m.**) Photo start/end #s:** _____
This is a (Background / Event / Post-Event**) sample.**
Active ingredient(s) of interest: _____
Testing for Nonylphenol? Y / N

Creekside and Environmental Observations

Air Temperature (°F): _____

Sky	**Wind**	**Precipitation**	**Hydrology**
clear	none	fog	pond
partly cloudy	light	light rain	lake
overcast	moderate	moderate rain	open waterway
	heavy	heavy rain	channel
			other: _____

Is there oil present? Y / N **Oil location:** bank / water **Oil amount:** Thick / Thin / Sheen

Is there algae present? Y / N **Algae location:** Only on rock / Suspended / Surface cover
Algae color: Brown / Red / Green / Blue / Olive-green / Yellow

Is there floating material? Y / N **Type:** Oily sheen / Sewage / Garbage / Other: _____

Flow:	**Water source:**	**Clarity:**
None (no water present)	fresh/stormwater	clear
ponded/stagnant	runoff	muddy
trickle/intermittent	spring	cloudy
steady		milky
flooded		other

Color:	**Odor:**	**Dominate Substrate:**
Colorless	none	metal
Brownish	sewage	concrete
Reddish	abnormally fishy smell	rocks
Greenish	musty	sandy
Bluish	chlorine	silty/sandy
Olive greenish	ammonia	PVC
Yellowish	petroleum	
	Chemical	
	Rotten eggs/sulfur	

Physical and Chemical Field Tests

Dissolved Oxygen (mg/L): _____ **pH:** _____ **Water Temperature (°F):** _____
Electrical Conductivity (µs/cm): _____ **Turbidity (NTU):** _____ **Hardness (mg/L):** _____

General notes on observation including alterations to the site since last time site was sampled: _____
_____
_____
_____

Attachment E – Notice of Intent

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. ☑ New Applicator B. Change of Information: WDID# _____

C. ☐ Change of ownership or responsibility: WDID# _____

II. DISCHARGER INFORMATION

A. Name Yolo County Resource Conservation District (YCRCD)			
B. Mailing Address 221 West Court Street Suite 1			
C. City Woodland	D. County Yolo	E. State CA	F. Zip 95695
G. Contact Person Heather Nichols	H. E-mail address nichols@yolorcd.org	I. Title Executive Director	J. Phone 530-661-1688 x12

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

A. Name			
B. Mailing Address			
C. City	D. County	E. State	F. Zip
G. E-mail address	H. Title	I. Phone	

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: _____
2. ☑ Canals, ditches, or other constructed conveyance facilities owned and controlled by an entity other than the Discharger.
   Owner's name: Various including but not limited to YCFCWCD, SCWA, private landowners
   Name of the conveyance system: various
3. ☑ Directly to river, lake, creek, stream, bay, ocean, etc.
   Name of water body: Putah-Cache Creek Watershed

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

V. ALGAECIDE AND AQUATIC HERBICIDE APPLICATION INFORMATION

A. Target Organisms: _____

Emergent, terrestrial invasive non-native plants, primarily Arundo donax (giant reed) and Tamarix spp. (salt cedar)

B. Algaecide and Aquatic Herbicide Used: List Name and Active ingredients

Aquamaster, Roundup Custom, and Rodeo and other aquatic approved formulations: active ingredient is glyphosate.

Habitat and Polaris and other aquatic approved formulations: active ingredient is imazapyr.

C. Period of Application: Start Date June End Date November 15th

D. Types of Adjuvants Used:
Kinetic, Dyne-Amic, Syitac, Agri-Dex, Competitor, Hasten EA and other aquatic labeled adjuvants.

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: Heather Nichols

B. Signature: _____ **Date:** 4/28/2020

C. Title: Executive Director

XI. FOR STATE WATER BOARD STAFF USE ONLY

WDID:	**Date NOI Received:**	**Date NOI Processed:**
Case Handler's Initial:	**Fee Amount Received:** **$**	**Check #:**
☐ **Lyris List Notification of Posting of APAP**	**Date** _____	**Confirmation Sent** _____