

JUNE 2019

A photograph of a cannabis field at sunset. The plants are silhouetted against a warm, orange and yellow sky. The leaves are large and serrated.

WATER BOARDS'

CANNABIS CULTIVATION PROGRAM



CALIFORNIA
Water Boards

2018 PROGRAM REVIEW & ASSESSMENT REPORT

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Acronyms and Abbreviations

<u>Acronym or Abbreviation</u>	<u>Description</u>
AB	Assembly Bill
APN	Assessor's Parcel Number
AUMA	Adult Use of Marijuana Act
BCP	Budget Change Proposal
Business and Professions Code	California Business and Professions Code
CA National Guard	California National Guard Counterdrug Task Force
CalEPA	California Environmental Protection Agency
Cannabis Policy	<i>Cannabis Cultivation Policy – Principles and Guidelines for Cannabis Cultivation</i>
Cannabis SIUR	Cannabis Small Irrigation Use Registration
CDFA	California Department of Food and Agriculture
CDFW	California Department of Fish and Wildlife
CIPS	Cannabis Identification and Prioritization System
CUA	Compassionate Use Act
DAS	Division of Administrative Services
DIT	Division of Information Technology
DWQ	Division of Water Quality
FY	Fiscal Year
General Order	<i>General Waste Discharge Requirements and Waiver of Waste Discharge Requirements for Discharges of Waste Associated with Cannabis Cultivation Activities</i>
HUC-12	12-digit hydrologic unit code
MAUCRSA	Medicinal and Adult-Use Cannabis Regulation and Safety Act
MCRSA	Medical Cannabis Regulation and Safety Act
MMRSA	Medical Marijuana Regulation and Safety Act
MOU	Memorandum of Understanding
NOA	Notice of Applicability
OE	Office of Enforcement
OPA	Office of Public Affairs
Pilot Program	Marijuana Task Force Pilot Program
Program	Water Boards' Cannabis Cultivation Program
Regional Water Board	Regional Water Quality Control Board
Report	<i>Water Boards' Cannabis Cultivation Program 2018 Program Review and Assessment Report</i>
SB	Senate Bill
State Water Board	State Water Resources Control Board
Water Boards	State Water Resources Control Board and Regional Water Quality Control Boards
Water Code	California Water Code
Water Rights	Division of Water Rights

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I. INTRODUCTION

Cannabis cultivation can result in significant and long-term environmental degradation. Construction activities associated with clearing cultivation sites and road development can cause sediment discharges to high-quality surface waters. Inappropriate chemical handling (particularly of pesticides and fertilizers) can result in degradation of both surface and groundwater quality. Unregulated water diversion can cause stream depletions that negatively affect aquatic ecosystems and riparian habitat. Industrial waste discharges from indoor cultivation operations can negatively impact groundwater or receiving publicly owned treatment works. For these reasons and others, the State Water Resources Control Board (State Water Board) and the nine Regional Water Quality Control Boards (Regional Water Boards, collectively, the Water Boards) have been actively engaged in addressing the environmental effects of cannabis cultivation since 2014. With the passage of Proposition 64 in 2016, which legalized the recreational use of cannabis and cannabis cultivation in California, the Water Boards have received additional staff resources and new legislative mandates.

This *Water Boards' Cannabis Cultivation Program 2018 Program Review and Assessment Report* (Report) provides a brief overview of the Water Boards' Cannabis Cultivation Program (Program) from its pre-legalization activities of 2014 to 2017 and highlights post-legalization early Program accomplishments in 2018 related to the establishment and implementation of a regulatory framework for cannabis cultivation. The Report also discusses internal and external challenges and provides recommendations to improve Program effectiveness.

I.A. Cannabis Cultivation in California: Legislative and Regulatory Background

Proposition 215, the Compassionate Use Act (CUA) of 1996 (Health and Safety Code section 11362.5 et seq.) established the medical cannabis industry. While Proposition 215 laid the groundwork for medical cannabis use, it did not provide a regulatory system for oversight of the cultivation, distribution, or sale of cannabis; nor did it establish oversight of the environmental impacts from cannabis cultivation. In 2003, Senate Bill (SB) 420 was enacted by the Legislature to clarify the scope of the CUA and provided California cities and counties authority to adopt and enforce cannabis-related rules and regulations consistent with SB 420 and the CUA. Without appreciable regulatory oversight however, large-scale cannabis cultivation proliferated in remote areas throughout California.

In 2016, a series of bills that became the Medical Cannabis Regulation and Safety Act (MCRSA)¹ were adopted by the legislature and signed by Governor Brown to provide a

¹ The Medical Marijuana Regulation and Safety Act (MMRSA) (Assembly Bills (ABs) 243 and 266, and SB 643) became effective on January 1, 2016. On June 27, 2016, the Governor signed SB 837, which changed the name of the MMRSA to the MCRSA and added additional environmental protections.

regulatory framework for the medical cannabis industry and provide environmental protections that include placing certain mandates on the State and Regional Water Boards.

In November 2016, voters approved Proposition 64, the Adult Use of Marijuana Act (AUMA), which legalized recreational cannabis cultivation, and the possession and use of limited amounts of cannabis by adults over 21 years of age. AUMA requires the same environmental protections as MCRSA. Among other provisions, the MCRSA and the AUMA require the California Department of Food and Agriculture (CDFA) to issue licenses to commercial cannabis cultivators and establish a track-and-trace program that tracks commercial cannabis from seed or clone through cultivation, harvest, transport, manufacture, distribution, and sale to the end user.

In June 2017, the Governor signed SB 94 which combined the requirements of MCRSA and AUMA into a unified code, establishing the Medicinal and Adult Use Cannabis Regulation and Safety Act (MAUCRSA). MAUCRSA's environmental protections include, in part:

- California Water Code (Water Code) section 13149, which authorizes the State Water Board, in consultation with the California Department of Fish and Wildlife (CDFW), to adopt interim and long-term principles and guidelines for the diversion and use of water for cannabis cultivation. The principles and guidelines are required to include measures to protect springs, wetlands, and aquatic habitats from negative impacts of cannabis cultivation. The State Water Board may also include requirements that apply to groundwater diversions.
- Water Code section 13276, which directs the Water Boards to address discharges of waste resulting from medical and commercial cannabis cultivation, including adopting a general permit establishing waste discharge requirements, or taking action pursuant to Water Code section 13269.
- California Business and Professions Code (Business and Professions Code) section 26060.1(b) requires that any cannabis cultivation licenses issued by CDFA include conditions requested by the State Water Board and CDFW to ensure that individual and cumulative effects of water diversion and discharge associated with cannabis cultivation do not affect the instream flows needed for fish spawning, migration, and rearing, and the flows needed to maintain natural flow variability. The conditions shall include, but not be limited to, the principles, guidelines, and requirements established pursuant to Water Code section 13149.

I.B. Water Boards' Cannabis Cultivation Program

The Water Boards have been actively engaged in regulating the environmental effects of cannabis cultivation since the Budget Act of 2014 appropriated resources for the Water Boards and CDFW to reduce environmental damage caused by cannabis cultivation on private and high-value state-owned public lands, focusing mainly in northern California. Through the multi-disciplinary Marijuana Task Force Pilot Program (Pilot Program), the Water Boards and CDFW received eleven and seven positions, respectively, to create the Task Force and implement a priority-driven approach to address natural resources damages resulting from cultivation activities. The Pilot Program had four objectives:

- (1) Development of a regulatory program;
- (2) Targeted enforcement in high-value watersheds;
- (3) Education and outreach to cultivators about best management practices; and
- (4) Multi-agency coordination at the state and local levels.

Throughout 2014 and 2015, the Pilot Program accomplished many of its initial goals including the development of inter-agency inspection procedures and training, a joint agency health and safety plan, numerous inspections and enforcement efforts, adoption of region-specific waste discharge requirements by both the North Coast and Central Valley Regional Water Boards, and development of the Cannabis Identification and Prioritization System (CIPS, see Section II.G.1). Due to the scale of the industry and the passage of legislation in 2015 and 2016 expanding cannabis regulations to a statewide level, the Pilot Program received additional funding and staff positions in fiscal year (FY) 2016/2017. In 2016, the Pilot Program began developing statewide water quality and water rights regulations for cannabis cultivation. In FY 2017/2018, additional positions were allocated to both the Water Boards and CDFW which allowed for expansion of the Pilot Program into a full statewide effort to regulate cannabis cultivation, establishing for the Water Boards, the Water Boards' Cannabis Cultivation Program.

I.B.1. Primary Program Components

As a result of the legislative mandates, the State Water Board, in close collaboration with the Regional Water Boards, adopted a regulatory framework for cannabis cultivation as follows:

- The [Cannabis Cultivation Policy – Principles and Guidelines for Cannabis Cultivation](#) (Cannabis Policy), which establishes the principles and guidelines (requirements) for cannabis cultivation activities to protect water quality and instream flows;
- The [General Waste Discharge Requirements and Waiver of Waste Discharge Requirements for Discharges of Waste Associated with Cannabis Cultivation Activities](#) (General Order), which establishes statewide waste discharge requirements associated with cannabis cultivation; and
- The [Cannabis Small Irrigation Use Registration Program](#) (Cannabis SIUR), which establishes an appropriative (storage) water right that can be obtained for cannabis cultivation.

The Cannabis Policy and General Order became effective on December 18, 2017. Each of these elements of the Water Boards' regulatory framework for cannabis cultivation are described in greater detail below.

Cannabis Policy

The Cannabis Policy establishes statewide requirements for cannabis cultivation activities to protect water quality and instream flows. The purpose of the Cannabis Policy is to ensure that the diversion of water and discharge of waste associated with cannabis cultivation does not have a negative impact on water quality, instream flows, aquatic habitat, riparian habitat, wetlands, and springs. To address instream flow needs, the Cannabis Policy establishes requirements for surface water diversions, which include minimum instream flows, forbearance periods, maximum diversion rates, and the ability to restrict groundwater diversions that affect instream flows. The Cannabis Policy is implemented through the: (1) General Order; (2) Cannabis SIUR; and (3) CalCannabis licenses issued by CDFW.

Cannabis Cultivation General Order

The General Order is both a General Waste Discharge Requirements and a Conditional Waiver of Waste Discharge Requirements and it contains a general water quality certification. The General Order establishes statewide waste discharge requirements associated with cannabis cultivation to ensure that these discharges do not adversely affect water quality. The General Order incorporates the requirements of the Cannabis Policy, establishes general terms and conditions, provides a tiered approach for permitting discharges and threatened discharges from

cannabis cultivation and associated activities, and provides exemption criteria for activities with a low threat to water quality.

Cannabis Small Irrigation Use Registration

Cannabis cultivators that plan to divert surface water need a water right to irrigate cannabis. The Cannabis Policy includes a dry season forbearance period (period during which surface water diversions are not allowed) and requires the diversion of water to storage during the wet season for use during the forbearance period. The State Water Board's Division of Water Rights (Water Rights) developed a statewide Cannabis SIUR Program that provides a streamlined option to obtain a water right to divert and store up to 6.6 acre-feet of surface water per year to irrigate commercial cannabis crops.

I.B.2. Updating the Cannabis Policy, General Order, and Cannabis SIUR

In 2018, Program staff developed and released for public comment proposed updates to the Cannabis Policy and General Order. The main proposed updates were focused on:

- Requirements for conditionally exempt indoor cultivation sites;
- Tribal buffers (permission to cultivate on and/or within 600 feet of tribal lands);
- Onstream reservoirs; and
- Winterization requirements.

The proposed updates to the Cannabis Policy and General Order were adopted by the State Water Board on February 5, 2019 and were approved by the Office of Administrative Law on April 16, 2019. A broad review and update of the Cannabis Policy and General Order is anticipated in 2022 or 2023, which will allow time for full implementation and evaluation of the Water Boards' Cannabis Program and other state cannabis programs. Thereafter, Program staff will evaluate the need for future Cannabis Policy updates every five years or as regionally-specific flow requirements are developed.

II. PROGRAM ACCOMPLISHMENTS AND STATISTICS

In 2018, the Program focused on hiring and training new staff, implementing the newly adopted statewide regulations, internal coordination between the Water Boards' Divisions, Regions, and Offices, external coordination with state and local partner agencies, extensive outreach to the cultivation community, and multi-agency inspections and enforcement. This section of the Report highlights various Program accomplishments and statistics for the 2018 calendar year.

II.A. Resources

The Program has a total of 120 positions statewide, as of FY 2018/2019. These positions were authorized through the State Budget process and are used to support the activities and staff of the Program. Tables II.1 through II.3 show the current statewide resource allocation and budgetary allocations by function and organization.

Table II.1. Cannabis Program Resource and Budgetary Allocations by Function (FY 18/19)

Type of Staff	Number of Positions	Budgetary Allocations
Permitting Staff	76	\$13,921,472
Permitting Vacancies ¹	11	
Enforcement Staff	25	\$5,280,528
Enforcement Vacancies	8	
TOTAL	120	\$19,202,000

¹ Vacancy data pulled on February 27, 2019.

Table II.2. Water Rights Cannabis Program Resource Allocations (FY 18/19)

Organization	Positions
Policies	15
Enforcement	14
Permitting	10
Division of Information Technology	1
Office of Chief Counsel	2
Water Rights Total	42

Table II.3. Water Quality Cannabis Program Resource Allocations (FY 18/19)

Region/Organization	Positions
North Coast	17
San Francisco Bay	6
Central Coast	7
South Coast	7
Central Valley	16

Region/Organization	Positions
Eastern California	6
Office of Enforcement	11
Division of Water Quality	5
Division of Administrative Services	3
Water Quality Total	78

II.A.1. Funding

The FY 18/19 Budget Act authorized three funding sources to fund the above positions along with associated contracts, presented in Table II.4.

Table II.4. Cannabis Program Funding Sources (FY 18/19)

Fund	Amount
Water Rights Fund	\$740,000
Waste Discharge Permit Fund	\$10,885,000
California Cannabis Tax Fund	\$7,577,000
TOTAL	\$19,202,000

II.B. Coordination

II.B.1. Internal Coordination

Given the Water Boards’ broad legislative mandate to regulate both water rights and water quality, the Program spans multiple Divisions, Regions, and Offices, each with specific roles and responsibilities. While many tasks are completed independently, internal communication within the Water Boards is both necessary and encouraged to consolidate and maximize limited resources, avoid duplicate efforts, and ensure consistent messaging and business practices.

In 2018, Program staff implemented the following ways to coordinate internally across the state:

- Bi-weekly conference calls;
- Bi-weekly Executive Level Coordination Meetings;
- Bi-monthly Cannabis Program Roundtable;
- Annual Cannabis Program Enforcement Summit;
- Procedures Document (initiated).

II.B.2. External Coordination

To successfully implement the Program, extensive coordination with external agencies is necessary. This is particularly imperative with those agencies that are part of the overall permitting and licensing process, on issues related to the Cannabis Policy, General Order, and Cannabis SIUR, outreach, inspections, and enforcement.

In November 2018, the Water Boards, CDFW, and CDFA executed a Memorandum of Understanding (MOU) for information and data sharing between the agencies. There are regular

coordination meetings organized by CDFW for management with licensing, enforcement, and legal sub-groups.

For inspections, Program staff work closely with CDFW staff, including their law enforcement division, local licensing or permitting agencies, and local law enforcement. Per Water Boards' policy, any site designated for an inspection must be deconflicted² prior to conducting the inspection. Once sites are identified, designated Program staff sends a deconfliction request to the appropriate CDFW warden with at least a two-week lead time. In May 2018, the Water Boards and the California National Guard Counterdrug Task Force (CA National Guard) executed a MOU for CA National Guard assistance with deconfliction, investigative services, and aerial reconnaissance. As of May 2019, a CA National Guard analyst is not yet in place to provide these services.

Other entities that Program staff may work with include:

- Local governments;
- Local Resource Conservation Districts;
- CalFire;
- Bureau of Cannabis Control;
- Manufactured Cannabis Safety Branch;
- Cannabis Advisory Committee;
- Department of Pesticides Regulation; and
- California Department of Tax and Fee Administration.

II.C. Enrollment

II.C.1. Water Boards' Cannabis Cultivation Application Portal

Cannabis cultivators may apply for coverage under the General Order and file for a Cannabis SIUR water right in one place through the online [Cannabis Cultivation Application Portal](#) (Application Portal), which was publicly released in December 2017. Program staff and the Water Boards' Division of Information Technology (DIT) perform ongoing maintenance and work to improve the functionality of the Application Portal. As of December 31, 2018, the Application Portal received 3,930 unique submissions (including both General Order and Cannabis SIUR submissions).

Program staff also coordinate with the Water Boards' Division of Administrative Services (DAS) to ensure that enrollees have submitted payments. DAS uses SharePoint to notify Program staff at the Regional Water Boards that a payment has been processed so they can process and issue Notices of Applicability (NOAs). DAS and Program staff in Water Rights also coordinate

² Deconfliction is the process by which outside law enforcement sources determine whether any landowner or operator at a particular site is or has been the subject of criminal investigation and/or convictions. Water Boards staff rely on outside law enforcement sources for deconfliction, as Water Boards staff do not have access to the necessary databases.

when reviewing Cannabis SIURs (each Cannabis SIUR requires payment prior to Program staff review).

II.C.2. Cannabis SIUR Enrollment

Cannabis cultivators that plan to divert surface water need a water right that allows for storage to irrigate cannabis. The Cannabis SIUR is available statewide and is a streamlined option to obtain a small appropriative water right (less than 6.6 acre-feet per year) to divert and store surface water to irrigate commercial cannabis crops. Table II.5 shows Cannabis SIUR enrollment as of December 31, 2018.

Table II.5. Cannabis SIUR Enrollment (as of December 31, 2018)

Item	Total
Registration Filings Received	578
Fees Paid	468
Cannabis SIUR Certificates Issued	398

II.C.3. Cannabis Cultivation General Order Enrollment

The General Order implements the Cannabis Policy requirements to address waste discharges associated with cannabis cultivation activities. All commercial cannabis cultivators must enroll under the applicable tier and risk level for General Order coverage. Tables II.6 and II.7 show General Order and Regional Water Board Order enrollment as of December 31, 2018.

Table II.6. Cannabis Cultivation General Order Enrollment (as of December 31, 2018)

Item	Total
Total Notices of Applicability Issued	2,145
General WDRs (Tier 1 and Tier 2)	1,144
Waiver of WDRs (indoor, small outdoor)	1,001

Table II.7. Regional Water Board Order Enrollment (as of December 31, 2018, expires July 1, 2019)

Item	Total
North Coast Regional Order Notices of Applicability Issued	2,884
Transitioned North Coast Regional Order Enrollees	182
North Coast Regional Order Notices of Termination	41
Central Valley Regional Order Notices of Applicability Issued	496
Transitioned Central Valley Regional Order Enrollees	61
Central Valley Regional Order Notices of Termination	216

II.D. Outreach and Education

In March 2018, the Water Boards' Office of Public Affairs (OPA) developed a Cannabis Program Communication and Outreach Plan to ensure all necessary parts of the statewide Program are engaged and consistent in messaging when either an incident, Water Boards action, or public outreach event requires talking points or a press release. The Program's Communication and Outreach Plan consists of three tailored communication plans for:

- (1) Outreach and education;
- (2) Progressive enforcement of enrolled cultivators; and
- (3) Formal enforcement action against bad faith actors.

Water Rights and the Central Valley and Central Coast Regional Water Boards also developed and implemented Division- and Region-specific outreach plans in 2018.

The Program uses many external messaging pathways including:

- Program websites;
- Email list serves;
- Public outreach events and presentations;
- Media and advisories (including radio interviews);
- Targeted mailings; and
- Social media.

More information on some of these pathways is presented below.

II.D.1. Public Outreach Events

Program staff attend and present at a variety of outreach events. Outreach events may include presentations at enrollment workshops, Board meetings, and meetings, events, or conferences put on by cultivator associations, non-governmental organizations, and industry. Table II.8 provides a summary of the types of outreach and education events conducted in 2018.

Table II.8. 2018 Cannabis-Related Public Outreach Events

Type of Outreach Event	2018 Total
Enrollment and Permitting Workshops	22
Local Government or Agency Meetings	16
Community Outreach Events	23
TOTAL	61

These outreach events are typically attended by Program staff from different Divisions, Regions, and Offices. A central outreach tracking file was created and placed on a SharePoint site to increase internal collaboration.

II.D.2. Targeted Mailings

Program staff use targeted mailings for outreach and education, enrollment enforcement, and progressive enforcement.

In 2018, Program staff sent out 7,737 general information letters to inform cannabis cultivators about the Water Boards' Cannabis Cultivation Program and how to enroll. Types of targeted recipients included:

- CDFA CalCannabis temporary license holders;
- Enrollees of the North Coast and Central Valley Regional Orders; and
- Water Right holders that previously indicated cannabis cultivation.

Other types of targeted mailings sent to landowners in cannabis priority watersheds and for enrollment enforcement are discussed in Section II.F.

II.D.3. Social Media

In 2018, OPA and Water Rights created the 'Water Boards Cultivation Program's [Facebook](#) and [Instagram](#) accounts on social media (@CAWaterBoardsCultivation) with a tagline of "#CultivateChange" to engage with the cultivation community and encourage cultivators to both obtain a Cannabis SIUR water right and get coverage under the General Order through the Application Portal. Facebook's paid advertising features allowed staff to target specific audiences with messaging, such as particular geographic areas and defined user interests. Facebook's built-in analytics allowed staff to measure the effectiveness of each message and adjust the target audience appropriately. Examples of posts include:

- Reminders to enroll;
- Relaying updates to the Application Portal or various Program websites;
- Advertising outreach events that the Water Boards will be hosting or attending;
- Sharing photos from past outreach events;
- Sharing infographics that show the items needed to complete the application process; and
- Vacancy announcements in the Water Boards' Cannabis Program.

As the Program develops, use of the social media accounts will also expand to promote other aspects of the Program. In 2018, 40,433 people were reached via Facebook posts and shares. Out of the 100 Facebook posts, 20 were promoted with a total cost of \$100.

II.E. Enforcement

The Program's enforcement strategy has the following goals:

- Protect water quality and flows from negative effects of water diversion and discharge associated with cannabis cultivation and address individual and cumulative impacts;
- Make compliance the smarter business decision for cultivators;
- Level the playing field between cultivators; and
- Deter future non-compliance.

To achieve these goals, the Program's enforcement strategy is to:

- Inspire compliance through informal and formal enforcement activities;
- Use progressive enforcement for out-of-compliance cultivators, with an initial focus on education and compliance assistance (except for egregious bad actors);
- Conduct focused enforcement efforts in cannabis priority watersheds (see Section II.F.1);
- Conduct enrollment enforcement in collaboration with local agencies in areas with low enrollment for coverage under the General Order or Cannabis SIUR program; and
- Use formal enforcement tools (e.g., Cleanup and Abatement Orders and Administrative Civil Liability Complaints) for illegal sites causing adverse environmental impacts.

Program staff work closely with CDFW and local law enforcement to conduct inspections and pursue enforcement against cultivators and landowners that are suspected of violating applicable Water Boards laws and permits. Table II.9 provides a summary of total Program inspections, including both compliance and enforcement inspections, and enforcement actions conducted in 2018.

Table II.9. 2018 Inspections and Enforcement Actions

Item	2018 Total
Warrant Inspections	303
Consent Inspections	214
Inspection Reports	212
Notices of Violation	962
Water Code 13267 Information Orders	8
Cleanup and Abatement Orders	1
Administrative Civil Liability Complaints	2

II.E.1. Cannabis Priority Watersheds and Enrollment Enforcement

To ensure that the Program is utilizing resources in a coordinated and defensible manner, Program staff have developed cannabis priority watersheds throughout the state in which inspections, enforcement, and enrollment are focused between Divisions, Offices, Regions, and partner agencies. A cannabis priority watershed is a watershed that has been designated as such due to either high value water quality, water supply, and habitat factors, or current impairments to these factors, coupled with active cannabis cultivation. Cannabis priority watersheds are at increased risk of water quality degradation and environmental impacts due to the potential for cannabis cultivation activities to severely harm important watershed features and further aggravate existing impairments. Cannabis priority watersheds were jointly identified by the Water Boards and CDFW after evaluating relevant watershed conditions and settings, current impairments, and expected impairments from cannabis cultivation. Cultivation sites located in cannabis priority watersheds are targeted for Water Boards inspections. In 2018, a total of 2,826 letters were sent to landowners in five cannabis priority watersheds, providing notice of the Water Boards' Cannabis Cultivation Program and the need for cannabis cultivators to enroll.

Program staff have also prioritized areas with low enrollment for coverage under the General Order or Cannabis SIUR program. These areas can be determined by reviewing enrollment information against aerial imagery to identify sites with potential cultivation and through close coordination with state and local licensing agencies. Areas with high rates of unenrolled cultivation sites were prioritized and targeted for enrollment enforcement in 2018. Enrollment enforcement priorities may overlap with cannabis priority watersheds and were focused in areas with a higher potential for enrollment (e.g., permissive counties or cities, areas with locally available surface water).

Table II.10 provides a summary of notice letters sent to landowners in cannabis priority watersheds and initial enrollment notices issued in 2018.

Table II.10. 2018 Cannabis Priority Watershed and Enrollment Notices

Item	2018 Total
Letters to Landowners in Cannabis Priority Watersheds	2,826
Enrollment Directive Letters	337

II.E.2. Focused Operations

In July 2018, Program staff from the Office of Enforcement (OE), Water Rights, and Central Valley and North Coast Regional Water Boards coordinated targeted inspections in Operation Green Wave with local law enforcement, CA National Guard, and CDFW in four counties over the course of two weeks. Inspections were conducted at 11 sites in Calaveras County, 16 sites in Yuba County, 64 sites in Siskiyou County, and 29 sites in Trinity County for a total of 120 sites. Sixty-three water quality violations and 46 water rights violations were identified, and further enforcement is being pursued as appropriate.

Focused operations have the potential to streamline enforcement inspections and subsequent enforcement actions for Program staff. Primary benefits of these operations include:

- The CA National Guard generally takes a lead role in coordinating planning activities, gathering resources and equipment necessary to conduct the inspections and overseeing safety and coordination of field inspections (significantly reducing the time and workload for Water Boards' Program staff on these inspections).
- The subject county DA's office will often draft and obtain warrants necessary to conduct the inspections, further saving Water Boards' Program staff and counsel time.
- Once the operation is concluded, subsequent enforcement can be assigned to either the local DA's office, CDFW, or the Water Boards depending on documented violations at a site.

II.E.3. Complaints

Enforcement also occurs in response to complaints received from local agencies, law enforcement, or the public. Program staff receive complaints from the public through the [CalEPA Environmental Complaint System](#) which are forwarded by CalEPA to the appropriate Water Boards Division, Region, or Office for follow up. Types of cannabis-related complaints received in 2018 include unauthorized water diversion, bulk water hauling to cultivation sites, water quality related impacts, public trust resource impacts, and illegal cannabis cultivation. Table II.11 provides a summary of cannabis-related complaints received by the Water Boards in 2018 by geographic region.

Table II.11. 2018 Cannabis-Related Complaints

Water Boards Cannabis Program Region¹	Complaints Under Review	Complaints Referred to another Agency	Closed Complaints	TOTAL
General Complaint ²	1	0	4	5
North Coast	9	23	20	52
San Francisco Bay	0	2	4	6
Central Coast	0	0	1	1
South Coast	2	2	9	13
Central Valley	2	0	12	14
Eastern California	0	0	0	0
TOTAL	14	27	50	91

¹ Table II.10 includes complaints assigned to the Division of Water Rights broken out by geographic region.

² General complaints are those that could not be tied to a specific location.

II.F. Information Technology and Data Management

Data management is a critical component of managing the Program's workload and leveraging Program staff to ensure the most efficient use of time and resources. There are several few efforts underway that will assist with the identification of cannabis cultivation sites, the prioritization and management of case work, and provide technical assistance tools to cultivators. These efforts are described in greater detail below.

II.F.1. Cannabis Cultivation Identification

Identifying cannabis cultivation sites is of utmost importance to developing outreach, enrollment, and enforcement strategies. In general, Program staff rely on aerial imagery for initial assessments. However, the quality of available images, image sources, date of images, and time required to obtain the images make it difficult to rapidly identify cultivation sites. Visually reviewing images to identify cannabis cultivation sites and related structures is also time consuming. To aid with this step of identification and prioritization, the Program is currently focusing on creating and improving technological solutions for aerial imagery review.

Cannabis Identification and Prioritization System

The Program, through contract, is developing CIPS. CIPS provides the Program the ability to, in part:

- Identify, quantify, and classify cultivation sites based on threats to water quality and permit tier criterion within selected geographic areas;
- Conduct high level cumulative impacts assessments; and
- Quantify the Program's impact in addressing those threats resulting from cannabis cultivation.

CIPS was initially introduced as a pilot during Pilot Program and has since received additional funding that allows for the expansion of CIPS from its initial limited geographic area within the North Coast and Central Valley Regions to a statewide effort.

Automated Site Recognition Technology

Program staff are also developing a machine learning model as a component of an ensemble of tools to aid in the automatic identification of cannabis cultivation on aerial imagery. Goals of this project include:

- Automatic identification of cannabis-related agriculture, objects and structures in georeferenced imagery with greater than 75 percent accuracy;
- Automatically linked results to specific water rights holder through Assessor's Parcel Numbers (APNs) or other geospatial means; and
- Process documentation for broader application to other Water Boards programs.

II.F.2. Case Management Tools

To date, multiple tools have been used to allow Program staff from the different Divisions, Regions, and Offices to identify and review work products (e.g., outreach letters, inspection reports, site photos, phone log notes, Cannabis SIUR and General Order enrollment statuses, aerial imagery, cultivation site identification). Program staff are currently evaluating options to create a fully integrated, streamlined, geospatial, case management and tracking system that would allow a user to pull up cannabis regulatory information on any given parcel of land.

II.F.3. Technical Assistance Webtools

Program staff and DIT have developed webtools that provide technical assistance for cultivators and other interested stakeholders. These tools are described below:

- [Online Cannabis Compliance Gage Mapping Tool \(Gage Mapping Tool\)](#): compares instream flow conditions at an assigned gage with the Cannabis Policy instream flow requirements and provides the cultivator with feedback (yes or no) on whether diversions are allowed at that time.
- [Cannabis Compliance Gages Website](#): displays stream gages that support the Gage Mapping Tool, and associated flow requirements for each of those gages
- [Existing Flow Requirements Repository](#): an interactive map that links to all known and existing instream flow requirements in California.
- [California Priority Watersheds Website](#): an interactive map that contains information on watersheds of special environmental concern (cannabis priority watersheds) that are at increased risk of environmental impacts due to cannabis cultivation activities.

III. PROGRAM CHALLENGES

Despite the many accomplishments associated with standing up the Water Boards' Cannabis Cultivation Program statewide, staff also faced challenges, both internal and external.

III.A. Internal Challenges

Internal Coordination Challenges

The Program has a unique legislative mandate that includes regulation of both water rights and water quality. This broad scope requires an unprecedented amount of coordination within and between the Water Boards' Divisions, Regions, and Offices.

- **Broad Legislative Mandate:** Water Code sections 13149 and 13276 and Business and Professions Code section 26060.1(b)(1) directs the Water Boards to ensure that the diversion of water and discharge of waste associated with cannabis cultivation does not have a negative impact on water quality, instream flows, aquatic habitat, riparian habitat, wetlands, and springs.
- **Cross-Divisional Coordination:** The Program requires coordination across multiple Water Boards Divisions, Regions, and Offices, each having their own protocols and procedures. Internal coordination has been particularly challenging given the unprecedented scope of the Program. Examples include: Policy and General Order development, consistent messaging, ensuring adequate representation at outreach events, communication with partner agencies, dissemination of relevant information to Program staff, and establishing a unified case tracking system for improved data management.
- **Case Management Challenges:** Each of the Water Boards' Divisions, Regions, and Offices working on the Program use different databases and systems to track, store, and share information related to cannabis cultivation sites. In the absence of a Program-specific platform, units have developed or attempted to develop ways to better manage information. This disjointed approach can lead to further inconsistencies and inhibit management's ability to quantify work products and assure follow-through on actions being pursued.

The recommendations in this Report include both immediate steps for 2019 as well as actions to continue to move towards a unified program statewide over the long-term.

Lower Enrollment than Anticipated

The biggest internal challenge facing the Program has been living up to the enrollment expectations set forth in the 2015 Budget Change Proposal (BCP), which was developed before much of the current statewide regulatory and policy structure. In particular, the resource requests for fiscal years 2016/2017 and 2017/2018 were based on assumptions regarding initial levels of participation by the cannabis cultivation community, the number of permissive jurisdictions, and the licensing process which, to date, have been inaccurate.

- **Few Permissive Jurisdictions:** The large enrollment numbers anticipated by the BCP assumed that most local jurisdictions would permit and regulate commercial cultivation, and that cultivators would then seek coverage under the Water Boards' Cannabis Program. This has not been the case, as 48 out of 58 counties currently ban or restrict commercial cultivation and cultivators in such jurisdictions are unable to obtain regulatory coverage. A large amount of staff time has been spent on addressing illegal cultivation in banned counties, which does not generate enrollment revenue for the Water Boards. This has significant impacts to the Program throughout the state, and extreme impacts in some regions. For example, at the time of this Report, in the Central Valley Regional Water Board, which received many new positions, 28 out of 38 counties within or partially within the

Regional Water Board's boundaries have bans on commercial cannabis cultivation. Many of the banned counties have existing cultivation sites that are impacting water quality or supply and Program staff time and resources are required to address those impacts.

- **Low Cultivator Participation:** The BCP also assumed that large numbers of existing cultivators would continue outdoor cultivation and actively pursue coverage under the statewide General Order and obtain a water right if supported by a surface water diversion. To date, fewer outdoor cultivators than expected have sought regulatory coverage under the General Order, and a greater number of cultivators than anticipated have obtained indoor cultivation waivers. In addition, a much larger number of applicants than expected claim to use groundwater or municipal water, and thus do not need to obtain a water right.
- **CDFA Licensing Uncertainty:** The BCP assumed that the CDFA licensing program would get off the ground quickly, process 10,000 licenses in the first year, and result in high CDFA licensee enrollment under the Water Boards' Program. CDFA's licensing program implementation delays, however, meant that cultivators could only obtain temporary licenses and did not initially need to obtain the Water Boards' permits. CDFA's temporary licenses did not require enrollment under the Water Boards' General Order or Cannabis SIUR Program until CDFA adopted amendments to the emergency regulations in early September 2018. Moreover, the CDFA licensing rollout shifted along the way to include temporary, provisional, and annual licenses, each with different timelines and requirements. To date, CDFA has issued very few annual cultivation licenses. The uncertainty in requirements and a rapidly changing legal landscape have contributed to low cultivator enrollment in the Water Boards' Cannabis Program.
- **Lower Fee Revenues Than Projected:** The BCP projected that permitting fee revenues from enrollments would be sufficient to fully support the expenditures for those portions of the Program that were initially fee-supported, and fully support the entire Program within a few years once the initial general fund support is withdrawn from the Program. However, due to lower than expected enrollments, revenues are projected to not meet expenditures in FY 2018/2019 and subsequent fiscal years.

More information on external coordination challenges and cultivator enrollment barriers is provided in Section III.B, below. **The recommendations of this Report propose internal actions to promote enrollment in the Water Boards' Cannabis Program.**

Unanticipated Resource Needs

Another internal challenge for the Program has been managing unanticipated needs to allocate resources to tasks not associated with revenue potential.

- **Transitioning Enrollees and Terminations:** The newly established statewide program requires existing enrollees to transition from the North Coast and Central Valley Regional Water Board orders to the statewide General Order by July 1, 2019, which has required significant allocation of resources to establish transition and termination protocols, and to conduct additional outreach, education, and customer service.
- **Onboarding:** The large number of new positions required significant amounts of staff time to complete the hiring and onboarding process. Water Boards' vacancies were advertised concurrently throughout the state with cannabis-related vacancies in other agencies, which affected applicant pools and caused hiring delays due to the need to re-advertise positions. Additionally, entirely new units at the Water Boards were created and time was needed to develop new processes and procedures for those units.
- **Policy and General Order Revision:** It was initially anticipated that the Policy and General Order would need to be updated three to five years after adoption, allowing time for full implementation of the provisions and obtaining feedback from cannabis cultivators and

Program staff. It became necessary, however, to update the Policy and General Order less than one year after adoption in late 2017, which resulted in a large amount of staff time focused on policy updates rather than implementation and enforcement.

- **Banned Counties and Illegal Cultivation:** As discussed above, a large amount of staff time has been spent on addressing illegal cultivation in banned counties. This work is not supported by enrollment revenue because these cultivation sites are illegal and typically do not seek enrollment in the Water Boards' Cannabis Program or any other state regulatory program, and even if enrolled, could not stay enrolled. As noted above, roughly two-thirds of the counties in California currently ban or restrict commercial cannabis cultivation. While the number of banned counties within the State was known, the rate at which new commercial ordinances are adopted has been slower than anticipated, and fewer cities and counties are permitting legal commercial cultivation than was anticipated. Many of the banned counties seek Water Boards' assistance in investigating both long-standing and new illicit cultivation sites that are impacting water quality or supply and Program staff time and resources are required to address those impacts and document Water Code violations. Addressing impacts in banned counties is more resource intensive because there is no incentive to voluntarily comply with the Water Boards' regulations. Investigating and inspecting illegal sites requires more resources, safety concerns require more extensive collaboration with law enforcement partners, and time-intensive formal enforcement actions are more frequently required to correct violations.

The recommendations in this Report will assist in focusing staff resources and improving the revenues that support the Water Boards' Cannabis Program.

Inspection Challenges

Program inspections have proven to be more complex than the compliance and enforcement inspections conducted in other programs administered by the Water Boards. Complications arise from the need to ensure staff safety, the need to obtain access from difficult-to-reach property owners or operators, and the resources necessary to mobilize inspectors to remote locations. These challenges tend to be more acute in locations where cultivation is prohibited, and cultivation sites cannot be legitimized through local and state licensing.

- **Law Enforcement Support:** There continues to be a substantial criminal element associated with cannabis cultivation and, for safety purposes, many cultivation site inspections require Program staff to be accompanied by law enforcement. Our law enforcement partners already have a large volume of work as well as their own priorities and thus are not always available, which can cause delays for the Water Boards when scheduling and conducting inspections.
- **Deconfliction:** To ensure staff safety, it is the Water Boards' policy that sites be deconflicted by outside law enforcement sources (e.g., CDFW, CA National Guard, and/or local law enforcement) prior to conducting any cannabis cultivation site inspection. The outside law enforcement sources are limited in staff resources and, even with communication protocols and lead time, have caused delays in deconfliction and thus delays in Water Boards inspections. A MOU was executed in May 2018 between the Water Boards and the CA National Guard to assist with deconfliction for consent inspections, among other services. However, the onboarding process for the dedicated CA National Guard analyst has been extensive and they have not yet been able to assist with site deconfliction.
- **Access Issues:** Given the history of prohibition, cannabis cultivation has largely taken place in remote portions of the state, often on otherwise uninhabited property. Limited or absence of cell phone coverage poses coordination and safety concerns for Program staff. For

unenrolled cultivation sites, staff must attempt to identify and locate the landowner or a representative of the landowner, to obtain authorization to access the site, and site access can be very limited during the winter months. The travel time associated with some inspections, coupled with the time it takes to coordinate between multiple agencies, severely impacts the ability to schedule and conduct inspections.

- **Other Safety Concerns:** The recent identification of illegal pesticide use on multiple cultivation sites throughout the state has led to a halt in inspections where these pesticides are identified until the Water Boards' Health and Safety Branch develops appropriate procedures to ensure staff safety.

The recommendations of this Report propose actions to minimize challenges associated with conducting inspections.

Enforcement Challenges

The Program presents unique enforcement challenges due to the legal framework and the nature of the cannabis cultivation community.

- **Established Illegal Industry:** Cannabis cultivation is a well-established and profitable industry in several parts of the state. To transition an illegal industry to a legal, regulated industry will require compliance incentives and robust enforcement at levels sufficient to make continuing in the illegal cultivation market undesirable. While the Program's enforcement resources can provide deterrent effects and level the playing field, transitioning an established industry of this size, especially considering the limited locations where commercial cultivation is legal, is a difficult task. The Program's enforcement resources are insufficient on their own to transition the cannabis industry without strong partnership from allied state and local agencies. To accomplish these objectives, Water Boards' efforts must be paired with clear paths to compliance, incentives for becoming part of the legal market, disincentives for illegal cultivation, and enforcement of applicable criminal and licensing laws by other agencies.
- **Water Quality and Water Rights:** The Program requires enforcement of both water quality and water rights laws and regulations to prevent the adverse environmental impacts traditionally associated with illegal cultivation. Water quality and water rights enforcement are very different, however, as Regional Water Boards typically hear water quality enforcement cases, while the State Water Board hears water rights enforcement matters. Enforcement efforts for cannabis cultivation sites can take years to complete. In addition, cultivators and landowners can be difficult to track down, further lengthening the process to finalize an enforcement matter. Due to these difficulties, OE has both legal and technical positions dedicated to cannabis enforcement to better address these challenges.
- **Limited Enforcement Tools:** The Water Boards do not have criminal enforcement authority and the existing administrative enforcement tools that are available to the Water Boards do not work well for discouraging transient and unlicensed growers, which remain common in the cannabis cultivation community. For example, a cultivator who intends to use a site for only one growing season is not dissuaded by the threat of a cease and desist order or other injunctive order, which can often take months to issue. Moreover, it can be difficult to track down transient cultivators or out-of-state landowners in order to impose administrative civil liability complaints and cleanup and abatement orders for past violations.

The recommendations of this Report propose actions to manage enforcement with the tools currently available.

III.B. External Challenges

Cultivator Enrollment Barriers

The biggest external challenge the Program faces is the acceptance and desire of cultivators to become licensed and enroll under the Water Boards' General Order and Cannabis SIUR program, especially amidst a rapidly changing legal landscape and strong incentive for many cultivators to remain underground. Some cultivator enrollment barriers identified include:

- **Complexity:** Water Boards' dual water quality and water rights regulations are complex and require a high degree of sophistication for both enrollment and compliance.
- **Diversity of Cultivator Population:** The cannabis cultivation community includes diverse language needs and may also have limited access to technology.
- **Regulatory Confusion:** Like most industries, cannabis cultivation is subject to regulation by multiple state and local agencies. In addition to enrolling in the Water Boards' Program, Cultivators are required to get both local and state authorization to cultivate. Cultivators may also be subject to regulation from other state agencies such as the California Department of Fish and Wildlife, or the Air Resources Control Board.
- **Permitting Costs:** Multiple layers of regulatory authority and the number of permits required has led to high cumulative permitting costs, particularly for high-risk outdoor cultivation sites.
- **Low Enforcement:** Limited staff resources dedicated to enforcement, the time and resource-intensive nature of enforcement, and the high number of unenrolled cultivation sites, results in a low percentage of violators being subject to Water Boards enforcement. This low risk of enforcement coupled with a high cost of compliance does not incentivize enrollment or compliance.
- **Cultivator Culture:** Given the history of prohibition, the cannabis cultivation community tends to have a strong culture of avoiding government regulation.
- **Black Market:** Ongoing prohibition at the federal level, and among many other states, sustains an ongoing and robust black market driven in large part by out-of-state demand.
- **Federal Prohibition:** Federal prohibition creates several specific barriers to legal cultivators in California: cultivators do not have access to federally-regulated banking institutions, which confines the cannabis market to cash-only; water controlled by federal water projects (e.g., the Central Valley Water Project), or a federal water master (e.g., bi-state waters) is not available as a water source for cannabis cultivation; and the ongoing threat of federal criminal prosecution.

The recommendations of this Report include immediate, internal actions that seek to address some of these barriers to enrollment.

State Agency Coordination Challenges

Some challenges the Program faces are a result of its interconnectedness with the development of the regulatory programs of its partner state agencies (primarily CDFA and CDFW). Delays in implementation of the CDFA licensing program and track-and-trace have affected cultivator enrollment under the Water Boards General Order and Cannabis SIUR program. Coordination and communication among the state agencies involved in commercial cannabis cultivation licensing, permitting, and enforcement has been challenging. Ongoing regular meetings and an information sharing MOU between the Water Boards, CDFA, and CDFW (executed in November 2018) have improved the situation.

The recommendations in this Report will continue to improve inter-agency coordination.

IV. RECOMMENDATIONS

The proposed recommendations address the most pressing challenges for the Water Boards' Cannabis Program. While these recommendations will not address many of the external challenges that are out of the Water Boards' authority or mandate, they do identify actions that allow the Water Boards to make improvements now. These actions go above and beyond the day-to-day-- of simply running the Program and work towards a more efficient, transparent, and accountable Program.

IV.A. Coordination

Continue Executive Oversight Group Meetings

An Executive Oversight Group for the Program formed in Fall 2018 to bring together upper management from multiple Divisions, Regions, and Offices to discuss Program issues and present them in this Report. The Program has already benefitted from these regular meetings as they have been a venue to discuss and make decisions on various policy-level issues and potential priorities for the Program. Moving forward, the Program's Executive Oversight Group could act as a steering committee, make policy-level decisions, direct priorities for the Program, and meet with other executives at our partner agencies, California Environmental Protection Agency (CalEPA), California Department of Finance (Department of Finance), and the Governor's Office.

- **The Program's Executive Oversight Group will continue to meet on a regular basis (currently bi-weekly).**

Establish a Program Manager

While many internal coordination pathways are already being used across the Water Boards' Divisions, Regions, and Offices, Program staff would benefit from direction from a single Program Manager. A Program Manager would liaison internally between the Program's Executive Oversight Group and unit seniors in the Program statewide and externally with our partner agencies. The Program Manager would also ensure that all units align with the Program's priorities as set by the Program's Executive Oversight Group and that progress is made towards the recommendations of this Report. This will help improve Program consistency and allow big-picture challenges to be prioritized and tackled in a singular fashion as opposed to a patchwork of efforts across the state. This will also assist with external coordination challenges by establishing the Program Manager as a single lead point of contact for the Water Boards with our partner agencies.

- **The Program's Executive Oversight Group will investigate the possibility of establishing a new or existing position as Program Manager for the Water Boards' Cannabis Program and determine the appropriate path forward by July 2019.**

Strengthen State Agency Partnership through a Revised Joint Strategic Plan

To promote collaboration and partnership between agencies, a Joint Strategic Plan will be established between the Water Boards, CDFW, and CDFA. This will be a revision of the 2014 Joint Strategic Plan between the Water Boards and CDFW, expanded to include CDFA. The revised Joint Strategic Plan will expand on the existing MOU between the agencies and establish protocol for obtaining formal approval of any tentative decisions, and for working together on outreach, inspections, enforcement, or other legal issues.

- **Establish a working group of appropriate individuals from each agency in Fall 2019 to develop a revised Joint Strategic Plan between the Water Boards, CDFW, and CDFA by the end of 2020.**

Release Program Procedures to Promote Consistency

A collaborative, Water Boards-wide Procedures document is in development to define how each Division, Region, and Office is to implement the Water Boards' Cannabis Cultivation Program in a consistent and efficient manner. The Procedures document will provide direction for the permitting, regulation, and enforcement of cannabis cultivation as defined by the Cannabis Policy, General Order, and Cannabis SIUR program. The Procedures document will serve as an internal resource and onboarding document for all Program staff with business rules, protocol, tools, templates, and checklists to promote Program consistency statewide.

- **Complete development of the Program Procedures document and release by Summer 2019. Implement Procedures, including statewide training as necessary, by the end of 2019. Update the Procedures document once per year for the first five years of the Program.**

Develop and Launch the Program-wide Case Management Tool

Since the Program spans many of the Water Boards' Divisions, Regions, and Offices, there is a great need for existing and future regulatory data to be accessible to all Program staff in a single platform. This would aid in maximizing the efficiency, transparency, and accountability of Program resources. Program staff are currently evaluating options to create a fully integrated, streamlined, geospatial, case management and tracking system that would allow a user to pull up cannabis regulatory information on any given land parcel.

- **Existing working group will work with DIT to develop, test, and launch a Program-wide Case Management tool no later than Fall 2020.**

Make a Commitment to Program Quality

In implementing any regulatory program, especially a new program, it is important to make a commitment to program quality, both in data collected and in work products delivered. Program staff, through the creation of an internal working group, will develop a Quality Assurance Program Plan (QAPrP) for the Water Boards' Cannabis Cultivation Program. A QAPrP could help establish statewide protocol and quality standards for data collected and field measurements taken during inspections, inspection reports, data entry into the various databases, and document review. In addition, an internal training course will be developed and rolled out to Program staff across the state for these same items to improve consistency.

- **Establish an internal working group in Spring 2020 to develop a Quality Assurance Program Plan. Implement the QAPrP, including training as necessary, by Summer 2021.**

IV.B. Enrollment and Resources

Explore Interim Funding Solutions for the Program

Given the many unanticipated resource needs the Program encountered in 2018, coupled with lower enrollment than anticipated, discussions should begin to identify immediate measures to increase Program revenues and long-term stable funding sources for the Program. These discussions should include the Department of Finance and other state agency partners involved in cannabis-related activities, as well as our external fee-payer stakeholders. Cannabis

cultivators are subject to several permit and license fees and raising Water Boards' fees to a level that is necessary to support our Program's may not be feasible if the number of cultivators enrolled in the Water Boards' Program remain a minority.

- **Begin discussions with the Department of Finance in Spring 2019 to explain revenue shortfalls and identify an appropriate mix of fee and alternate funding support for the Program.**
- **Host a series of Fee Stakeholder meetings beginning in Spring 2019 in anticipation of a revised fee schedule by the end of 2019. Determine each year if modifications to fee schedules are appropriate for the coming year.**

Implement Enrollment Enforcement Strategies Statewide

To assist in bolstering the Program's enrollment, and in conjunction with providing enrollment and compliance assistance outreach, the Program will begin strategically implementing enrollment enforcement efforts at a statewide level, with the assistance of the State Water Board's Division of Water Quality (DWQ) and OE, as appropriate. Coordinated and consistent enrollment enforcement efforts at a statewide level will serve to increase enrollment in the limited jurisdictions that allow for commercial cannabis cultivation as well as send a message to the industry that regulations implemented and enforced by the Water Boards are a required component of legal commercial cultivation.

- **Prioritize at a minimum one 12-digit hydrologic unit code (HUC-12) watershed to implement enrollment enforcement efforts in each region (if appropriate) by Fall 2019. Issue first notices within those prioritized watersheds by the end of 2019.**

Develop Strategy to Complete Transitions and Terminations

At the end of 2018, there were about 2,900 enrollees in the North Coast and about 500 enrollees in the Central Valley Region-specific Orders that either need to be transitioned to the statewide General Order or have their coverage terminated. This is a large volume of work that needs resources to complete while still maintaining day-to-day operations of the respective Regional Water Boards' cannabis programs. Seeking assistance from the State Water Board's DWQ and OE may be appropriate.

- **Program staff at the North Coast and Central Valley Regional Water Boards will develop work plans no later than July 2019 on how they will allocate resources to complete transitions and terminations while still being able to perform other necessary duties such as enrollment and enforcement.**

Shift Outreach Focus from Enrollment to Compliance Assistance and Enforcement

Enrollment assistance has been the focus of many outreach and education events attended or hosted by Program staff, both pre- and post-adoption of the Cannabis Policy and General Order. While enrollment workshops will still occur, as the Program matures (and based on feedback from the public), there is a need to conduct outreach that helps cultivators navigate the complex requirements of the Policy, General Order, and Cannabis SIUR, as well as recognize the consequences of non-compliance.

- **Develop a workshop format presentation by the end of 2019 that goes through how to comply with the requirements of the Policy, General Order, and Cannabis SIUR; examples of site best practices; as well as an overview of enforcement tools. Host the first series of these compliance assistance workshops in Spring 2020.**

IV.C. Inspections and Enforcement

Establish an Inspections Working Group

Conducting field inspections is another area where increased internal collaboration and regular meetings could be beneficial to the overall success of the Program. An internal working group will be established to evaluate the effectiveness of existing inspection protocols and examine ways to improve the efficiency and effectiveness of such protocols without jeopardizing staff safety. The working group will prioritize the development of a risk assessment matrix to better determine what types of inspections, cultivation sites, etc. trigger the need for deconfliction prior to inspection and law enforcement presence during inspections.

- **Establish an internal working group in Summer 2019 to evaluate inspection protocols and present recommendations to the Program’s Executive Oversight Group for approval no later than July 2019.**

Establish a Program-wide Protocol for Identifying Cultivation Sites

Identifying cannabis cultivation sites is important for developing outreach, enrollment, and enforcement strategies. To make the most effective use of staff time, the Program needs to establish a Program-wide protocol for identifying cultivation sites, including: obtaining high quality aerial imagery; developing a method or protocol to identify potential cannabis cultivation sites based on that aerial imagery; develop minimum standards for aerial imagery that will be used for cannabis site identification efforts; and, establish a data system with statewide imagery that can be used by any Program staff and potentially by partner agencies that need similar imagery to conduct their cannabis programs.

- **Establish an internal working group in Summer 2019 to develop Program-wide protocol and minimum aerial imagery standards for identification of cultivation sites and present recommendations to the Program’s Executive Oversight Group for approval by the end of 2019.**

Expand Enforcement Teams throughout the State

Enforcement is an important part of the Program with goals to: protect water quality and flows from negative effects of water diversion and discharge associated with cannabis cultivation and address individual and cumulative impacts; make compliance the smarter business decision for cultivators; level the playing field between cultivators; and deter future non-compliance. Having a strong enforcement presence is a critical factor in making enrollment conducive to cannabis cultivators. Longer term and as appropriate, the Program should consider expanding the development of enforcement teams throughout the state by allocating additional resources to Program dedicated to enforcement.

- **During development of the next BCP for the Program, evaluate the potential need to add resources allocated to enforcement at both the State Water Board (i.e., OE and Water Rights) and Regional Water Board levels.**

Develop a Strategy to Assist Federal Agencies

Another issue that has been observed is continued illegal cannabis cultivation on public lands. Addressing this type of cultivation does not fall within the current enforcement strategy of the Program. However, adverse impacts to water quality and instream flows are still present and are a concern. Longer term, the Program should consider developing a strategy to address or to provide technical assistance to federal agencies experiencing water quality impacts from illegal cultivation on public lands.

- **Establish an internal working group in Fall 2020 to consider the development of a strategy to formally engage with federal agencies on this matter and present recommendations to the Program’s Executive Oversight Group for approval by the end of 2021.**