

State Water Resources Control Board

**DRAFT**

**Proposed Updates to the  
Cannabis Cultivation Policy**

**Principles and Guidelines for  
Cannabis Cultivation**

**~~October 17, 2017~~ September 27, 2018**

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**Attachments**

Attachment A: Definitions and Requirements for Cannabis Cultivation

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## Acronyms and Abbreviations

ACL	Administrative Civil Liability
Antidegradation Policy	State Water Board Resolution 68-16, the Statement of Policy with Respect to Maintaining High Quality of Waters in California
Army Corps	United States Army Corps of Engineers
AUMA	Adult Use of Marijuana Act of 2016
Basin Plan	Water Quality Control Plan
BOF	Board of Forestry
BPTC	Best Practicable Treatment or Control
BPC	California Business and Professions Code
CAL FIRE	California Department of Forestry and Fire Protection
CAO	Cleanup and Abatement Orders
CDFA	California Department of Food and Agriculture
<b>Cannabis Policy</b>	<b><del>Cannabis Cultivation Policy, Principles and Guidelines for Cannabis Cultivation</del></b>
CIWQS	California Integrated Water Quality System
CUA	Compassionate Use Act of 1996
CEQA	California Environmental Quality Act
CDEC	California Data Exchange Center
CDFA	California Department of Food and Agriculture
CDFW	California Department of Fish and Wildlife
CDO	Cease and Desist Order
CHRIS	California Historical Resources Information System
CWA	Clean Water Act
Deputy Director	Deputy Director for the Division of Water Rights
DPR	Department of Pesticide Regulation
DPS	Distinct Population Segments
DTE	Distinct Taxonomic Entities
DWR	California Department of Water Resources
e.g.	Latin exempli gratia (for example)
ESA	Federal Endangered Species Act
ESU	Evolutionary Significant Unit
Executive Officer	Executive Officer of the Regional Water Quality Control Board
FER	Flashy, Ephemeral Rain hydrologic regime
FPR	Forest Practice Rules
<b><u>Cannabis Cultivation</u> General</b>	<i>General Waste Discharge Requirements for Discharges of Waste associated with Cannabis Cultivation Activity</i>
Order	Groundwater hydrologic regime
GW	High Elevation and Low Precipitation hydrologic regime
HELP	High-Volume Snowmelt and Rain hydrologic regime
HSR	Hydrologic Unit Code
HUC	Health and Safety Code
HSC	Irrigated Lands Regulatory Program
ILRP	Lake and Streambed Alteration Agreement
LSA Agreement	Low-Volume Snowmelt and Rain hydrologic regime
LSR	Licensed Timber Operator
LTO	Medical Cannabis Regulation and Safety Act
MCRSA	Medical Marijuana Regulation and Safety Act
MMRSA	

NCRO	Department of Water Resources, North Central Region Office
NHD	National Hydrography Database
NHDPlusV2	National Hydrography Database Plus Version 2
NMP	Nitrogen Management Plan
NOA	Notice of Applicability
NONA	Notice of Non-Applicability
NOT	Notice of Termination
NOV	Notice of Violation
NPDES	National Pollutant Discharge Elimination System
NPS	Nonpoint Source Pollution Control Program
NRO	Department of Water Resources, North Region Office
NTU	Nephelometric Turbidity Units
OWTS	Onsite Wastewater Treatment System
PGR	Perennial Groundwater and Rain hydrologic regime
<b><u>Policy</u></b>	<b><u>Cannabis Cultivation Policy, Principles and Guidelines for Cannabis Cultivation</u></b>
RSG	Rain and Seasonal Groundwater hydrologic regime
Regional Water Board	Regional Water Quality Control Board
Road Handbook	Handbook for Forest, Ranch, and Rural Roads
RPF	California Registered Professional Forester
RWD	Report of Waste Discharge
State Water Board	State Water Resources Control Board
SB	Senate Bill
SCCWRP	Southern California Coastal Water Research Project
SCR	Site Closure Report
SIC	Standard Industrial Code
SDR	Small Domestic Registrations
SEPs	Supplemental Environmental Projects
SIUR	Small Irrigation Use Registrations
SM	Snowmelt hydrologic regime
SW-CGP	Storm Water Construction General Permit
SW-IGP	Storm Water Industrial General Permit
SWPPP	Storm Water Pollution Prevention Plan
THP	Timber Harvest Plan
TMDL	Total Maximum Daily Load
UC Davis	University of California, Davis
US	United States
USBR	United States Bureau of Reclamation
U.S. EPA	United States Environmental Protection Agency
USGS	United States Geological Survey
Water Boards	State Water Board and Regional Water Boards

## POLICY OVERVIEW

The purpose of this Cannabis Cultivation Policy (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, aquatic habitat, riparian habitat, wetlands, and springs. This Policy applies to the following cannabis cultivation activities throughout California:

- Commercial Recreational
- Commercial Medical
- Personal Use Medical

This Policy does not apply to recreational cannabis cultivation for personal use, which is limited to six plants under the Adult Use of Marijuana Act (Proposition 64, approved by voters in November 2016)<sup>1</sup>.

Cannabis cultivation legislation enacted California Water Code (Water Code) section 13149, which directs 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 in areas where cannabis cultivation may have the potential to substantially affect instream flows. The legislation requires the State Water Board to establish these principles and guidelines as part of a state policy for water quality control<sup>2</sup>. Per Water Code section 13149, the principles and guidelines:

- shall include measures to protect springs, wetlands, and aquatic habitats from negative impacts of cannabis cultivation; and
- may include requirements that apply to groundwater diversions where the State Water Board determines those requirements are reasonably necessary.

Additionally, Business and Professions Code section 26060.1(b) requires that these principles and guidelines be included as conditions in cannabis cultivation licenses issued by the California Department of Food and Agriculture (CDFA). The State Water Board has primary enforcement responsibility for the principles and guidelines and shall notify CDFA of any enforcement action taken<sup>3</sup>.

This Policy establishes principles and guidelines (hereinafter “Requirements”) for cannabis cultivation activities to protect water quality and instream flows. The Requirements established by this Policy will be incorporated into and implemented through five regulatory programs:

- CDFA’s CalCannabis Cultivation Licensing Program<sup>4</sup>;

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<sup>1</sup> Recreational cannabis cultivation for personal use as defined in Health and Safety Code section 11362.1(a)(3) and section 11362.2.

<sup>2</sup> Water Code section 13149(b)(2). *The board shall adopt principles and guidelines under this section as part of state policy for water quality control adopted pursuant to Article 3 (commencing with Section 13140) of Chapter 3 of Division 7.* Water Code section 13142 outlines specific requirements for a state policy for water quality control, which this Policy implements.

<sup>3</sup> Water Code section 13149(b)(5).

<sup>4</sup> Business and Professions Code section 26060(b)(1). ~~The CalCannabis Cultivation Licensing Program is anticipated to begin accepting applications for cannabis cultivation licenses by January 1, 2018.~~

- State Water Board’s Cannabis General Waste Discharge Requirements **and Waiver of Waste Discharge Requirements** for Discharges of Waste Associated with Cannabis Cultivation Activities (Cannabis **Cultivation** General Order) or any Waste Discharge Requirements addressing cannabis cultivation activities adopted by a Regional Water Quality Control Board (Regional Water Board);
- State Water Board’s General Water Quality Certification for Cannabis Cultivation Activities (Cannabis General Water Quality Certification);
- State Water Board’s Cannabis Small Irrigation Use Registration (Cannabis SIUR); and
- State Water Board’s Water Rights Permitting and Licensing Program.

The Requirements for cannabis cultivation are located in Attachment A. Policy background information and justifications for the Requirements are located in the Cannabis Cultivation Policy Staff Report.

Water Code section 13149 authorizes the State Water Board to develop both interim and long-term requirements and update them as necessary. It is anticipated that the State Water Board will update this Policy over time to modify or add requirements to address cannabis cultivation impacts, as needed.

The State Water Board holds the dual mandates of allocating surface water rights and protecting water quality. The State Water Board is the state agency with primary authority over water quality under California’s Porter-Cologne Water Quality Control Act and the federal Clean Water Act. Under these authorities, the State Water Board may adopt water quality objectives, including flow objectives, and programs of implementation to achieve these objectives. California law directs the State Water Board and Regional Water Boards (collectively Water Boards) to adopt water quality control plans and policies that identify existing and potential beneficial uses of waters of the state and establish water quality objectives to protect these uses.

This Policy meets the requirements of Water Code section 13149(b)(1) and is categorically exempt from the provisions of the California Environmental Quality Act (CEQA) pursuant to California Code of Regulations, title 14, section 15308<sup>5</sup>.

The State Water Board allocates water through an administrative system that is intended to maximize the beneficial uses of water while protecting the public trust, serving the public interest, and preventing the waste and unreasonable use or method of diversion of water. The Water Boards implement water quality control plans through both water rights- and water quality-related programs. For example, Water Code section 1258 requires the State Water Board to consider water quality control plans when acting upon applications to appropriate water and the State Water Board may impose such conditions as it deems necessary to implement such plans. Water Code section 13263(a) requires waste discharge requirements to implement applicable water quality control plans, including terms to ensure that water quality objectives will be met. In issuing water quality certifications and waste discharge requirements, the Water

<sup>5</sup> California Code of Regulation section 15308. Actions by Regulatory Agencies for Protection of the Environment. *Class 8 consists of actions taken by regulatory agencies, as authorized by state or local ordinance, to assure the maintenance, restoration, enhancement, or protection of the environment where the regulatory process involves procedures for protection of the environment. Construction activities and relaxation of standards allowing environmental degradation are not included in this exemption.*

Boards include conditions necessary to ensure the activities will comply with applicable water quality objectives, including flow objectives<sup>6</sup>. The State Water Board also may implement flow objectives by specifying minimum bypass flows as a condition of a water right.

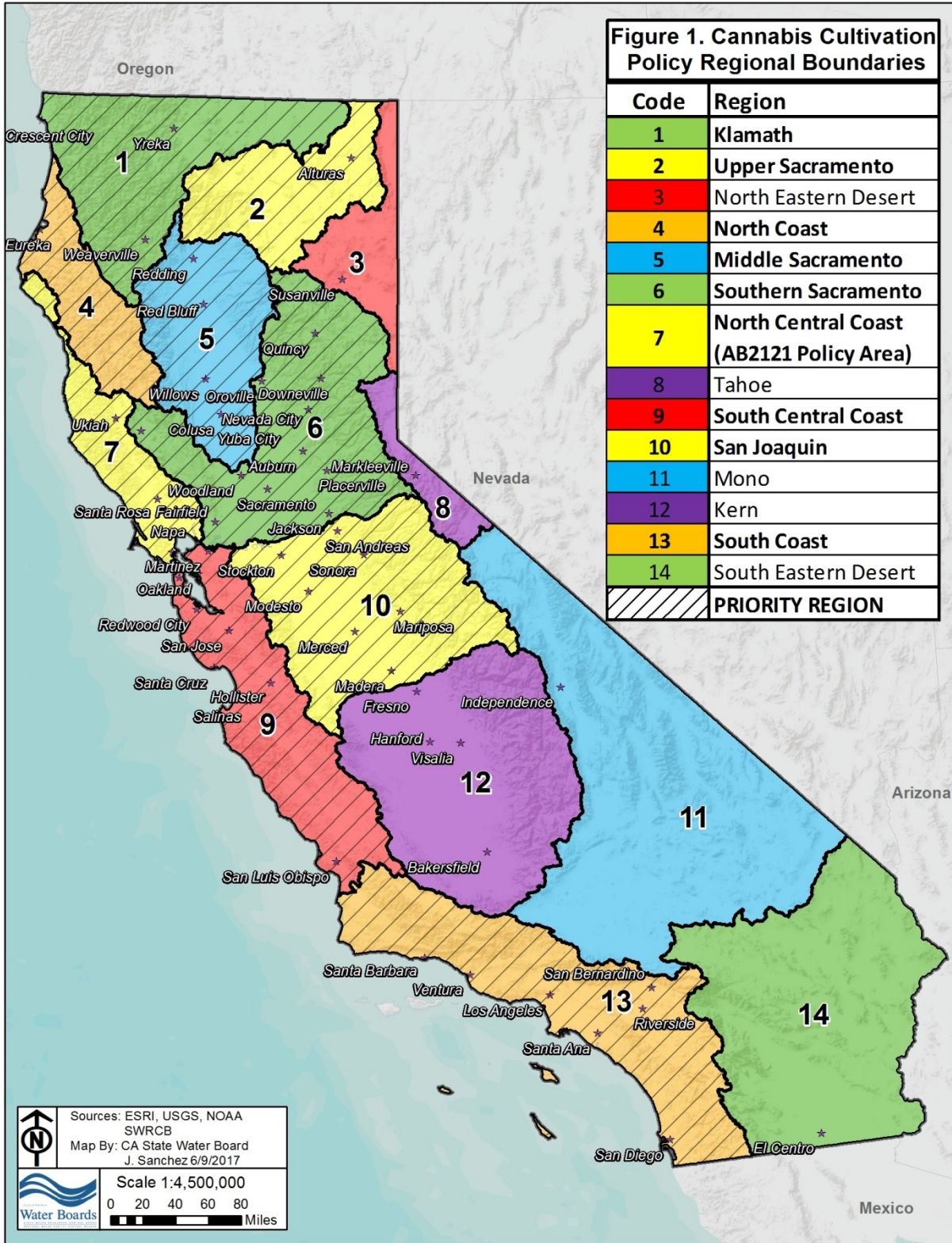
## **GEOGRAPHIC AREA COVERED BY POLICY**

California is a large and geographically diverse state, covering 163,696 square miles, and spanning over 800 miles of coastline. California's multiple mountain ranges and valleys result in highly variable climate, precipitation and drainage patterns. To account for the state's size and geographic diversity, this Policy designates 14 Cannabis Cultivation Policy regions: Klamath, Upper Sacramento, North Eastern Desert, North Coast, Middle Sacramento, Southern Sacramento, North Central Coast, Tahoe, South Central Coast, San Joaquin, Mono, Kern, South Coast, and South Eastern Desert (Figure 1). This Policy establishes water quality and instream flow Requirements statewide. These include instream flow Requirements that must be met or exceeded at specific compliance flow gages when water is being diverted for cannabis cultivation. The Policy identifies 14 regions, and identifies nine **of those** regions as priority regions that support anadromous salmonids. The priority regions are: Klamath, Upper Sacramento, North Coast, Middle Sacramento, Southern Sacramento, North Central Coast, South Central Coast, San Joaquin, and South Coast.

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<sup>6</sup> See Wat. Code § 13377; Cal. Code of Regs., tit. 23, § 3859.





## REQUIREMENTS FOR CANNABIS CULTIVATION

The State Water Board developed these Requirements in consultation with CDFW and CDFA. The Requirements are divided into five main categories, which are located in the following sections of Attachment A:

- Section 1. General Requirements and Prohibitions, and Cannabis General Water Quality Certification
- Section 2. Requirements Related to Water Diversions and Waste Discharge for Cannabis Cultivation
- Section 3. Numeric and Narrative Instream Flow Requirements (including Gaging)
- Section 4. Watershed Compliance Gage Assignments
- Section 5. Planning and Reporting

General Requirements and Prohibitions implement existing State Water Board authorities and address issues such as compliance with state and local permits, discharge prohibitions, riparian setbacks, protection of tribal cultural resources, and the Water Boards' right to access properties for inspections.

The Requirements related to water diversion and waste discharge for cannabis cultivation cover the following 12 best practicable treatment or control categories:

- riparian and wetland protection and management;
- water diversion, storage, and use;
- irrigation runoff;
- land development and maintenance, erosion control, and drainage features;
- soil disposal;
- stream crossing installation and maintenance;
- fertilizer and soil use and storage;
- pesticide and herbicide application and storage;
- petroleum products and other chemical use and storage;
- cultivation-related waste disposal;
- refuse and human waste disposal; and
- winterization.

The numeric and narrative instream flow Requirements address water quality and quantity through the establishment of flow Requirements that include three elements: (a) dry season forbearance period, (b) numeric flow Requirements (bypass) during the wet season (diversion period), and (c) narrative flow Requirements. This section includes Requirements for groundwater diversions<sup>7</sup>, and includes establishment of a surface water aquatic base flow. The surface water aquatic base flow is used to help inform whether additional requirements are needed in certain areas to help ensure the individual and cumulative impacts of groundwater diversions do not have a negative impact on the surface water flows. Section 3 includes

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<sup>7</sup> All groundwater Requirements apply to exempt springs. To qualify as an exempt spring the cannabis cultivator must submit information and receive approval from the Deputy Director for Water Rights, as specified in Section 3 of Attachment A of the Policy. An exempt spring is a spring that does not flow off the cannabis cultivator's property by surface or subterranean (subsurface) means in the absence of diversions during any time of year in any water year type. Such springs are exempt from the Policy's Narrative Instream Flow Requirement 4 (Surface Water Dry Season Forbearance Period) and Requirement 5 (Surface Water Wet Season Diversion Period – Numeric Instream Flow Requirements).

Requirements for gage installation in areas where the density of cannabis cultivation and limited water availability may have a localized negative impact on instream flows in areas with high resource value.

The Watershed ~~Compliance Gage~~ ~~compliance gage~~ assignments section includes **the information on** compliance gage instream flow Requirements **for all the regions** and the compliance gage watershed assignments for **the nine priority all regions watershed areas throughout the state**. The following discussion provides an overview of the development of instream flow Requirements and compliance gage assignments for the numeric flow Requirements.

## Flow and Gaging Requirements

The narrative instream flow Requirements in Section 3 of Attachment A apply to cannabis cultivators throughout the state. The numeric instream flow Requirements are developed at compliance gages statewide.

The instream flow Requirements may be updated over time, as reasonably necessary. Interested parties may submit scientifically defensible information (e.g., instream flow studies) that supports modification to the instream flow Requirements to the **State Water Board's Deputy Director for the Division of Water Rights (Deputy Director)** for consideration during updates to the Policy.

## Surface Water Diversion Forbearance Period

Absent restrictions on water diversion, the individual and cumulative effects of water diversions for cannabis cultivation during the dry season are likely to significantly decrease instream flow and, in some instances, reduce hydrologic connectivity or completely dewater the stream. Minimum flows that provide habitat connectivity are needed to maintain juvenile salmonid passage conditions in late spring and early summer. Instream flows are also needed to maintain habitat conditions necessary for juvenile salmonid viability throughout the dry season, including adequate dissolved oxygen concentrations, low stream temperatures, and high rates of invertebrate drift from riffles to pools. Further, many species depend on spring recession flows as migratory or breeding cues. The State Water Board is requiring a surface water diversion forbearance period to ensure adequate flows are maintained throughout the dry season and protect aquatic species, aquatic habitat, and water quality.

## Wet Season Surface Water Instream Flow Requirements

Minimum instream flow requirements during the wet season are needed for the protection of aquatic species life history needs. For threatened and endangered anadromous salmonids, minimum flows are needed to address life history needs, such as:

1. maintaining natural abundance and availability of spawning habitat;
2. minimizing unnatural adult exposure, stress, predation, and delay during adult spawning migration; and
3. sustaining high quality and abundant juvenile salmonid winter rearing habitat.

To meet the timeline, scale, and purpose of this Policy, the State Water Board, in consultation with CDFW, has determined that the Tessmann Method is the best methodology to develop interim instream flow requirements. The Tessmann Method develops instream flow requirements by using percentages of historical mean annual and mean monthly natural

streamflow<sup>8</sup>. For the development of long-term instream flow requirements, the State Water Board, in consultation with CDFW, will evaluate other scientifically robust methods that are more reflective of regional variability and the needs of target species. The State Water Board applied the Tessmann Method to a predicted historical flow data set sourced from a flow modeling effort conducted by the United States Geological Survey (USGS) in cooperation with The Nature Conservancy and Trout Unlimited<sup>9</sup> (USGS flow modeling data). The interim instream flow Requirements were calculated for compliance gages throughout the state. The Tessmann Method and the USGS flow modeling data allow for instream flow requirements to be calculated at additional compliance points throughout the state. This Policy allows the State Water Board to use the Tessmann Method and the USGS flow modeling data to calculate or adjust a flow requirement, as needed, throughout the state.

### Maintain High Flow Events

To preserve the annual first flush flow event, the surface water diversion period for cannabis cultivation will not occur until the real-time daily average flow is greater than the minimum monthly instream flow Requirement at a compliance gage for seven consecutive days or after December 15 when flows are greater than the numeric flow Requirement, whichever occurs first. The State Water Board will monitor other high flow events that occur throughout the wet season to evaluate whether additional requirements are needed to maintain high flow variability during other periods of the wet season.

### Groundwater Requirements<sup>10</sup>

To address potential impacts of groundwater diversions on surface flow, the ~~State Water Board's~~ Deputy Director ~~for Water Rights (Deputy Director)~~ may require a forbearance period or other measures for cannabis groundwater diversions in areas where such restrictions are necessary to protect instream flows. Such areas may include watersheds with: high surface water-groundwater connectivity; large numbers of cannabis groundwater diversions; and/or groundwater diversions in close proximity to streams. An aquatic base flow was developed at each compliance gage<sup>11</sup> during the surface water forbearance period (dry season) to inform the need for additional actions to address impacts associated with cannabis groundwater diversions. The aquatic base flow was established in consultation with CDFW. The aquatic base flow is established using USGS flow modeling data to calculate mean monthly flows and applying the New England Aquatic Base Flow Standard (ABF Standard) methodology at the compliance gages in the nine priority regions. The aquatic base flow is the set of chemical, physical, and biological conditions that represent limiting conditions for aquatic life in stream environments. This Policy allows the State Water Board to apply the ABF Standard to the USGS flow modeling data to calculate an aquatic base flow Requirement at additional compliance points, as needed, throughout the state. The State Water Board will monitor instream flows during the dry season and evaluate the number and location of cannabis groundwater diversions to determine whether imposition of a groundwater forbearance period or other measures are necessary. To address potential localized effects of groundwater diversions on surface water flow, the State Water Board will also monitor where significant numbers of

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<sup>8</sup> In general, during the wet season the Tessmann Method compares 40 percent of the mean monthly flow to 40 percent of the mean annual flow and whichever is greater is the flow requirement for that given month (Tessmann 1979).

<sup>9</sup> The USGS flow modeling effort developed empirical flow models that predict the natural (unaffected by land use or water management) monthly stream flows from 1950 to 2012 for the majority of the USGS National Hydrologic Database stream reaches in California (Carlisle, et. al. 2016).

<sup>10</sup> All groundwater Requirements apply to exempt springs.

<sup>11</sup> The aquatic base flow was developed using the USGS flow modeling data.

surface water diverters are switching to groundwater diversions to evaluate whether imposition of a groundwater forbearance period or other measures are necessary. The State Water Board will notify cannabis cultivators of the possibility that a groundwater forbearance period or other measures may be imposed so that the cultivators can install storage, coordinate diversions, take measures to secure alternate water supplies, or identify other measures to address the low flow condition.

### Compliance Gages and Requirements

Compliance gage assignments have been developed for all watershed areas throughout the state. Numeric instream flow Requirements are applied at a subset of existing gages reported on two websites: (1) the USGS – National Water Information System (NWIS)<sup>12</sup>; or (2) California Department of Water Resources (DWR) – California Data Exchange Center (CDEC)<sup>13</sup>. Watershed areas that do not have existing gages are assigned a compliance gage for a different location in the same watershed or for a nearby watershed with similar flow characteristics. Cannabis cultivators in ungaged watersheds may be required to install a gage if information indicates that use of the assigned gage does not adequately protect instream flows. ~~Cannabis cultivators in watersheds without an assigned gage may be required to install a gage if information indicates that a gage is necessary to adequately protect instream flows.~~ The State Water Board will monitor where cannabis cultivation diversions are located to track areas where locally concentrated cannabis cultivation water diversions within a watershed may adversely affect instream flows.

Many dams in California have existing instream flow requirements through the Federal Energy Regulatory Commission licensing program or through Biological Opinions issued by the National Marine Fisheries Service or the United States Fish and Wildlife Service, or through water right decisions. Cannabis cultivators shall comply with either existing instream flow requirements **Requirements** (e.g. State Water Board Orders, Biological Opinions, Federal Energy Regulatory Commission Licensing Program) or the Tessmann instream flow Requirements, whichever is greater.

The instream flow Requirement compliance gages are located in areas that are generally representative of the water availability and total demand occurring upstream of the gaging location or in a similar watershed. However, impacts may still occur in areas where there is significant localized cannabis cultivation compared to water availability or where the compliance gage does not accurately reflect the demand in a paired watershed. To help ensure diversion of water for cannabis cultivation does not negatively impact the flows needed for fish spawning, migration, and rearing, or the flows needed to maintain natural flow variability, the cannabis cultivator shall maintain a minimum bypass of at least 50% of the streamflow past the cannabis cultivator's point of diversion, in addition to the applicable numeric instream flow Requirements.

## POLICY IMPLEMENTATION AND COMPLIANCE

### Overview

The Requirements established by this Policy will be incorporated and implemented through the statewide Cannabis Cultivation General Order, any waste discharge requirements addressing cannabis cultivation activities adopted by a Regional Water Board, Cannabis SIUR, Water

<sup>12</sup> <https://waterdata.usgs.gov/ca/nwis/rt>, viewed May 19, 2017.

<sup>13</sup> <https://cdec.water.ca.gov/>, viewed May 19, 2017.

Rights, Permitting and Licensing Program, and CDFA's CalCannabis Cultivation Licensing Program.

### **General Waste Discharge Requirements and Waiver of Waste Discharge Requirements for Discharges of Waste Associated with Cannabis Cultivation Activities (Cannabis Cultivation General Order)**

Water Code section 13260 requires that any person discharging waste or proposing to discharge waste that could affect the quality of the waters of the state must file a report of waste discharge to obtain coverage under waste discharge requirements (WDRs) or a waiver ~~of or~~ WDRs. Water Code section 13263(a) requires that WDRs implement applicable water quality control plans, taking into account the beneficial uses to be protected, applicable water quality objectives, and the need to prevent a condition of pollution or nuisance.

Water Code section 13263(i) authorizes the State Water Board to prescribe general WDRs for a category of discharges if the State Water Board determines that all of the following criteria apply to the discharges in that category: the discharges are produced by the same or similar operations; the discharges involve the same or similar type of waste; the discharges require the same or similar treatment standards; and the discharges are more appropriately regulated under general WDRs than individual WDRs. Water Code section 13269 states that the State Water Board may conditionally waive the requirements to file a Report of Waste Discharge under Water Code section 13260(a)(1) and/or to prescribe WDRs under Water Code section 13263(a) for a specific discharge or specific type of discharge where such a waiver is consistent with the applicable Regional Water Board Basin Plans and is in the public interest. Water Code section 13146 requires that WDRs comply with state policy for water quality control. The Cannabis **Cultivation** General Order will implement this Policy and the legal authorities described above.

Cannabis cultivators enrolled under Order R1-2015-0023 or Order R5-2015-0113 may continue to operate under the applicable Regional Water Board order until July 1, 2019, at which time coverage under the statewide Cannabis **Cultivation** General Order shall be required. **Cannabis cultivators enrolled under Order R1-2015-0023 or Order R5-2015-0113 are subject to all applicable Attachment A, Section 3 Narrative and Numeric Instream Flow Requirements Requirements related to water diversion and instream flow<sup>14</sup>.** Prior to obtaining coverage under the statewide Cannabis **Cultivation** General Order, a cannabis cultivator may pursue a **Small Irrigation Use small irrigation use** Registration from the Division of Water Rights, and as part of granting the resulting **Small Irrigation Use Registration small irrigation use registration**, the Division of Water Rights may condition the registration on flow, diversion, storage, or similar requirements of Attachment A.

### **Applicability, Tier Designation, and Threat to Water Quality**

The Cannabis **Cultivation** General Order will provide a statewide tiered approach for permitting discharges and threatened discharges of waste from cannabis cultivation and associated activities, establish a personal use exemption standard, and provide conditional exemption

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<sup>14</sup> **At a minimum, applicable Attachment A Requirements include: Section 1 – General Requirements and Prohibitions (Numbers 4, 15, 17, 24, 26, and 36); Section 2 – Requirements Related to Water Diversions and Waste Discharge for Cannabis Cultivation (Numbers 23, 63, 64, 66, 69 through 92, 94, and 96 through 101); Section 3 – Numeric and Narrative Instream Flow Requirements (Including Gaging) (Narrative Instream Flow Requirements 1 – 7 and Gage Installation, Maintenance, and Operation Requirements); and Section 4 – Watershed Compliance Gage Assignments (All).**

criteria for activities with a low threat to water quality. Tiers are defined by the amount of disturbed area. The disturbed area indicates the threat to water quality because level of threat is proportional to the area of disturbed soil, the amount of irrigation water used, the potential for storm water runoff, and the potential impacts to groundwater (e.g., the use of fertilizers or soil amendments, the possible number of employees on site, etc.).

The criteria for the tier structure consist of three exemptions and two tiers, as follows:

- a. Personal use-exempt cannabis cultivators are very small, non-commercial cultivators that are exempt from the Cannabis **Cultivation** General Order. (See the Exemptions for Certain Cultivation Activities section.)
- b. Indoor commercial cultivation activities are conditionally exempt under the Cannabis **Cultivation** General Order. (See the Exemptions for Certain Cultivation Activities section.)
- c. Outdoor commercial cultivation activities that disturb less than 2,000 square feet may be conditionally exempt under the **Cannabis Cultivation** General Order. (See the Exemptions for Certain Cultivation Activities section.)
- d. Tier 1 outdoor commercial cultivation activities disturb an area equal to or greater than 2,000 square feet and less than 1 acre (43,560 square feet).
- e. Tier 2 outdoor commercial cultivation activities disturb an area equal to or greater than 1 acre.

#### Determination of Total Disturbed Area

To determine total disturbed area for the purpose of tier determination, see the “Land Disturbance” definition in **the** Attachment A. In addition, cannabis cultivators shall consider the following:

- a. Cannabis cultivators that cultivate in multiple **areas sites** within a parcel or contiguous parcels shall add all the disturbed areas together to calculate the total disturbed area **for tier determination**. For example, a cannabis cultivator that operates two cultivation areas that each disturb 1,100 square feet must report a disturbance of 2,200 square feet and does not qualify for a conditional exemption under the **Cannabis Cultivation** General Order. Cannabis cultivators that cultivate cannabis on non-contiguous parcels must evaluate each parcel for regulatory coverage separately.
- b. Existing access roads that were constructed prior to establishment of cultivation activities that were designed, constructed, upgraded, and are maintained consistent with the guidance presented in the *Handbook for Forest, Ranch, and Rural Roads* (Road Handbook) are not considered a disturbed area for the purpose of tier determination under the Cannabis General Order. However, the existing access roads are included as areas requiring Best Practicable Treatment or Control (BPTC) measure maintenance activities to prevent impairment to water quality.
- c. Areas where plant material has been removed for the purpose of wildfire suppression and where the plant material will recover with seasonal precipitation, are not considered disturbed.

## Risk Determination

Tier 1 and Tier 2 enrollees under the Cannabis **Cultivation** General Order must characterize the risk designation based on the slope of disturbed areas and the proximity to a water body.

The Cannabis **Cultivation** General Order provides criteria to evaluate the threat to water quality based on:

- a. Slope of disturbed area: Increased slopes may be associated with decreased soil stability, especially when associated with vegetation removal. Storm water and excess irrigation water are more likely to runoff and discharge off-site from sloped surfaces.
- b. Proximity to a surface water body: Riparian setbacks from surface water bodies generally reduce impacts to water quality. Disturbed areas within the riparian setbacks are more likely to discharge waste constituents to surface water, therefore, any sites that cannot meet the riparian setback Requirements are considered to be high risk sites. Refer to the Attachment A for riparian setback Requirements.

For each site, risk determination is done based on the characteristic that poses the greatest threat to water quality. For example, if a site has multiple cultivation areas and one of the cultivation areas is located on a slope greater than 30 percent and less than 50 percent, all the cultivation areas will be classified as moderate risk.

A summary of risk designation is presented below:

**Table 1. Summary of Risk Designation**

Low Risk	Moderate Risk	High Risk
<ul style="list-style-type: none"><li>• No portion of the disturbed area is located on a slope greater than 30 percent, and</li><li>• All of the disturbed area complies with the riparian setback Requirements.</li></ul>	<ul style="list-style-type: none"><li>• Any portion of the disturbed area is located on a slope greater than 30 percent and less than 50 percent, and</li><li>• All of the disturbed area complies with the riparian setback Requirements.</li></ul>	<ul style="list-style-type: none"><li>• Any portion of the disturbed area is located within the riparian setback Requirements.</li></ul>

## Exemptions for Certain Cultivation Activities

Certain cultivation activities qualify for exemption from the requirements under the Cannabis **Cultivation** General Order due to their low threat to water quality; however, the exemptions do not limit the Water Boards' authority to inspect the site, evaluate the exemption status, or evaluate other water quality or water right regulatory requirements. Note that even cannabis cultivation activities that are exempt from the Cannabis **Cultivation** General Order must comply with certain conditions in order to maintain their exemption.

## Personal Use Exemption

Cultivation operations that qualify for a personal use exemption from the Cannabis **Cultivation** General Order are those that are consistent with Health and Safety Code sections 11362.77 (medical marijuana) or Health and Safety Code section 11362.2 (non-medical marijuana) and subsequent revisions of the statutes, disturb an area (in aggregate) less than 1,000 square feet,



and comply with the additional conditions below. These cultivation activities are exempt from requirements to obtain CDFA cannabis cultivation licenses because they are not **a commercial activity activities**, and **also** present a lower threat to water quality. **and thus Thus they** are not required to submit any application information to obtain coverage under the Cannabis **Cultivation** General Order. The 1,000 square feet personal use exemption criteria provide sufficient area for outdoor cultivation of six mature plants for non-medical (recreational) use, or 500 square feet of cannabis plant canopy, as allowed for medical cultivation purposes.

The exemptions apply per parcel or contiguous parcels; no coalitions, cooperatives, or other combination of cultivation activities can claim the personal use exemption for activities on the same parcel. The personal use exemption shall not apply if the cannabis cultivator fails to comply with all applicable conditions, including the non-commercial activity requirement. If the personal use exemption does not apply, the cannabis cultivator shall contact the Regional Water Board to determine if the activity qualifies for conditionally exempt status, or instead must enroll under the Cannabis **Cultivation** General Order under Tier 1 or Tier 2.

To qualify for the personal use exemption, a cannabis cultivator must comply with all of the following, as applicable:

- a. The cultivation area shall be contiguous (all located in one area);
- b. The disturbed area shall comply with the riparian setback Requirements in Attachment A of this Policy and occupy less than 1,000 square feet;
- c. No part of the disturbed area shall be located on land with a slope greater than 20 percent; and
- d. The cannabis cultivator shall comply with this Policy and implement all applicable Requirements listed in Attachment A of this Policy.

The personal use exemption does not alter any other legal requirements (e.g., limitations on sales, distribution, or donations of cannabis). Non-commercial cultivation activities require a valid basis of right for the diversion and use of water and therefore may require a water right. The exemption for enrolling under the **Cannabis Cultivation** General Order does not affect the requirement to obtain authorization for water diversion. The personal use exemption does not affect other Policy **Requirements requirements** such as the Requirement to obtain authorization for water diversion.

### **Conditional Exemption**

Cannabis cultivation activities that disturb an area (in aggregate) less than 2,000 square feet on any one parcel or on contiguous parcels managed as a single operation and that comply with all of the additional cultivation area criteria listed below are conditionally exempt from enrolling under the **Cannabis Cultivation** General Order, but are required to obtain coverage under the waiver of WDRs (Waiver). The 2,000 square feet conditional exemption criterion allows sufficient area for outdoor cultivation for small commercial activities. Facilities with larger disturbed areas are an inherently higher threat to water quality and are subject to additional regulatory oversight. The conditional exemption applies per parcel or contiguous parcels; no coalitions, cooperatives, or other combination of cannabis cultivation activities can claim the conditional exemption for activities on the same parcel. To be conditionally exempt, a cannabis cultivator must comply with all of the following:

- a. The cultivation area shall be contiguous (all located in one area);

- b. The disturbed area shall comply with the riparian setback Requirements in Attachment A of this Policy and occupy less than 2,000 square feet;
- c. No part of the disturbed area shall be located on land with a slope greater than 20 percent; and
- d. The cannabis cultivator shall comply with this Policy and implement all applicable Requirements listed in Attachment A of this Policy.

The conditional exemption does not alter any other legal requirements (e.g., limitations on sales, distribution, or donations of cannabis). Cultivation activities that are conditionally exempt under the **Cannabis Cultivation** General Order still require a valid basis of right for the diversion and use of water and therefore may still require a water right. The conditional exemption under the **Cannabis Cultivation** General Order does not affect the **Requirement** to obtain authorization for water diversion. To obtain documentation of conditionally exempt status, such cannabis cultivators must submit application information under the Cannabis **Cultivation** General Order. Refer to the *Application Process and Fees* section of the Cannabis **Cultivation** General Order for information on the Cannabis **Cultivation** General Order's application requirements.

#### **Exemption for Indoor Cultivation Activities**

Indoor commercial cannabis cultivation may be performed using hydroponic growing systems, soil, or other growth media. To maintain suitable growing conditions, wastewater is discharged from hydroponic systems when the irrigation water contains excessive salinity or nutrients. Irrigation tail water is generated when excess water drains from the growth media. Irrigation tail water or hydroponic wastewater may contain nutrients (e.g., phosphate or nitrate), salinity constituents (e.g., sodium, chloride, potassium, calcium, sulfate, magnesium), and other constituents (e.g., iron, manganese, zinc, molybdenum, boron, and silver)<sup>1544</sup>. Other sanitation based wastewaters may also be generated at indoor commercial cannabis cultivation sites. These miscellaneous industrial wastewaters may contain biocides, bleach mixtures, or other chemical waste streams.

Commercial cannabis cultivation activities **are classified as conditionally exempt if they that** occur within a structure with a permanent roof, a permanent relatively impermeable floor (e.g., concrete or asphalt paved), **comply with this Policy and all applicable Requirements in Attachment A,** and **either: 1) that** discharge all industrial wastewaters generated to a **permitted wastewater treatment collection system and facility that accepts cannabis cultivation wastewater; community sewer system consistent with the sewer system requirements, or 2) collect all industrial wastewater in an appropriate storage container to be stored and properly disposed of by a permitted wastewater hauler at a permitted wastewater treatment facility that accepts cannabis cultivation wastewater are classified as conditionally exempt.** To obtain documentation of the conditionally exempt status to obtain a CDFA commercial cannabis cultivation license, conditionally exempt commercial cannabis cultivators are required to obtain coverage under the Waiver. Refer to the *Application Process and Fees* section of the Cannabis **Cultivation** General Order for information on the Cannabis **Cultivation** General Order's application requirements.

Discharges of irrigation tail water, hydroponic wastewater, or other miscellaneous industrial wastewaters from indoor cannabis cultivation activities to an on-site wastewater treatment

<sup>15 44</sup> City of Littleton – City of Englewood Pretreatment Pipeline. Third Quarter 2011. “Medical Marijuana – an Exploding New Industry.” Webpage: <http://www.lewwtp.org/home/showdocument?id=5674>. Accessed 17 January 2017.

system (such as a septic tank and leach field), to land, or to surface water must obtain separate regulatory authorization (e.g., WDRs, conditional waiver of WDRs, or other permit mechanism) to discharge the wastewater. Such cannabis cultivators are classified as conditionally exempt. To obtain documentation of the conditionally exempt status ~~to~~ **and** obtain a CDFW cultivation license, conditionally exempt cannabis cultivators are required to obtain coverage under the Waiver. Refer to the *Application Process and Fees* section of the Cannabis **Cultivation** General Order for information on the Cannabis **Cultivation** General Order's application requirements.

Indoor commercial cultivation activities that are conditionally exempt under the **Cannabis Cultivation** General Order still require a valid basis of right for the diversion and use of water and therefore may still require a water right. The exemption for enrolling under the **Cannabis Cultivation** General Order does not affect the **Requirement requirement** to obtain authorization for water diversion.

### Application Process and Fees

Personal use exempt cannabis cultivators meeting the criteria described in the *Exemptions for Certain Cultivation Activities* section do not need to apply for coverage from the State Water Board or Regional Water Board. Cannabis cultivators that qualify for a personal use exemption under the **Cannabis Cultivation** General Order are not required to pay an application fee or a subsequent annual fee.

Conditionally exempt sites (indoor or outdoor) are required to apply for coverage under the Waiver on-line with the State Water Board and pay an application fee.

Facilities that are classified as either Tier 1 or Tier 2 are required to enroll under the Cannabis **Cultivation** General Order, apply on-line, pay an application fee, and pay an annual fee. Details regarding the on-line application process are described in the Cannabis **Cultivation** General Order. The application fee serves as the first year's annual fee; cannabis cultivators will be billed on an annual basis.

Sites that pose a higher threat to water quality (e.g., disturb a larger area, located on a steeper slope, or located close to a surface water body) require a greater level of regulatory oversight, which translates to higher costs to achieve water quality protection. High risk sites (any portion of the disturbed area is located within the riparian setback Requirements), will be assessed the high-risk fee until the activities comply with the riparian setback Requirements. This does not apply to disturbed areas resulting from activities authorized under 404/401 Clean Water Act permits, a CDFW Lake and Streambed Alteration Agreement, coverage under the Cannabis **Cultivation** General **Water Quality Certification water-quality-certification**, or site-specific WDRs issued by the Regional Water Board. The Cannabis **Cultivation** General Order includes a compliance schedule to achieve compliance with riparian setback Requirements. It is the cannabis cultivator's responsibility to notify the Regional Water Board of compliance with the riparian setback Requirements to reassess the annual fee. If the site is unable to meet the compliance schedule contained in the Cannabis **Cultivation** General Order for complying with the riparian setback Requirements, the Regional Water Board may issue a site-specific enforcement order and compliance schedule.

### Third Party Programs

Some Regional Water Boards may approve third party programs to assist cannabis cultivators with enrollment and compliance with the Cannabis **Cultivation** General Order. Some cannabis cultivators may elect to designate a Regional Water Board approved third party to represent

them in issues related to application and compliance with the Cannabis **Cultivation** General Order. The cannabis cultivator, property owner, and third party shall all be identified in the Cannabis **Cultivation** General Order application. This Policy requires the cannabis cultivator to immediately notify the appropriate Regional Water Board if the third party is changed or terminated.

### **Cannabis Small Irrigation Use Registration**

Since January 1, 1989, the Water Rights Registration Program has been available for expedited acquisition of appropriative water rights for certain small projects. In accordance with the Water Code section 1228, water right registrations are available for small irrigation, small domestic, and livestock stockpond users. SIURs are applicable to irrigated crops for sale or trade, including commercial cannabis cultivation once general conditions are adopted. Small Domestic Registrations (SDR) may be used for small, incidental watering and personal gardens and are not subject to this Policy (SDRs may not be used for obtaining CDFG commercial cannabis cultivation licenses). Livestock stockpond registrations are not available for cannabis cultivation.

Although cultivators often have multiple options to establish a water right for their water supply, the State Water Board anticipates that many cultivators will choose the Cannabis SIUR because it is a faster and easier way to obtain a water right in comparison to the application process for a new appropriative water right, which can take many years. In accordance with this Policy, cultivators who rely on surface water to irrigate their cannabis operation are required to divert to storage during the wet season (portions of fall/winter/spring) and forebear from diverting during the dry season (summer/portions of fall). Because riparian water rights do not allow for water storage, riparian water right holders who intend to cultivate cannabis will also be required to obtain an appropriative (storage) water right (most likely through the Cannabis SIUR) in order to comply with the Policy. Cultivators should be aware that Cannabis SIURs, like other appropriative water rights: 1) will not be issued for fully appropriated streams in the restricted diversion season, as it has been determined that water is unavailable for appropriation; **and** 2) may not be available on rivers and streams designated as Wild and Scenic **under The National Wild and Scenic Rivers System** (Public Law 90-542; 16 U.S.C. 1271 et seq. **and California Public Resource Code Section 5093.54**); **and 3) Cannabis SIURs, like other new Registrations for Appropriations, are not available where are not available where** the water source is in a CDFG Instream Flow Study area with a final flow recommendation from CDFG submitted to the State Water Board under Public Resource Code section 10002<sup>16</sup>.

The Requirements established in this Policy serve as General Conditions for the Cannabis SIUR water right registrations for commercial cannabis cultivation statewide. Cultivators will submit their registration filing (application), have the ability to make payments, and receive a water right registration certificate through the State Water Board's online portal. Cultivators will be subject to all terms and conditions set forth in this Policy as well as any additional conditions assigned by CDFG.

### **CDFG's CalCannabis Cultivation Licensing Program**

In accordance with California Business and Professions Code (BPC) sections 26012, 26013, and 26060, CDFG **is has establishing established** a commercial cannabis cultivation licensing program. BPC section 26051.5(b)(7) requires the CDFG to consult with the State Water Board on the source or sources of water the applicant will use for cultivation. BPC section 26060.1(b)(1) requires that CDFG include conditions requested by the State Water Board in any

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<sup>16</sup> **Water Code section 1229.1.**

license, including but not limited to the principles, guidelines, and requirements established under Section 13149 of the Water Code.

Compliance with the Requirements of this Policy is a pre-requisite for obtaining a CDFA Cannabis Cultivators license. The law requires that cannabis cultivators provide evidence of compliance with the Water Boards' Requirements (or certification by the appropriate Water Board stating a permit is not necessary) as part of their application for a CDFA cannabis cultivation license. The State Water Board has primary enforcement responsibility for the Requirements and shall notify CDFA of any enforcement action taken<sup>1745</sup>.

### Continuing Authority to Amend Policy

Pursuant to Water Code Section 13149(a)(2), the State Water Board has continuing authority to amend this Policy as it deems reasonably necessary.

### Instream Flow Dedications

Water Code section 1707 allows any person entitled to the use of water, whether based upon an appropriative, riparian, or other right, to petition the State Water Board for a change for purposes of preserving or enhancing wetlands habitat, fish and wildlife resources, or recreation in, or on, the water.

### Local Cooperative Solutions

If CDFW enters into an agreement with one or more cannabis cultivators and determines that the agreement provides watershed-wide protection for **the fisheryaquatic species** that is comparable to or greater than the instream flow Requirements provided by this Policy, the cannabis cultivator or cultivators may request approval from the Deputy Director to implement the agreement in place of the instream flow Requirements (numeric, narrative, and forbearance) in this Policy. The Deputy Director may approve the request subject to such conditions, including reporting requirements, that the Deputy Director deems necessary to prevent injury to other legal users of water or the environment.

Other local cooperative solutions may also be proposed by cannabis cultivators to the Deputy Director as an alternative means of reducing water use to preserve the required instream flows. Requests to implement local cooperative solutions may be submitted to the Deputy Director at any time. Local cooperative solutions may include proposals to coordinate diversions or share water. Cannabis cultivators may also submit a local cooperative solution to the Deputy Director that requests to use or install, maintain, and operate a local gage and move the flow Requirement compliance point to that gage location. The Deputy Director may approve a request, or approve it subject to any conditions that the Deputy Director determines to be appropriate, if the Deputy Director determines:

- (a) The continued diversion is reasonable;
- (b) That other users of water will not be injured;
- (c) That the relevant minimum instream flows identified in this Policy will be met; and
- (d) Gages used as compliance points will be installed, maintained, and operated in accordance with the gage installation, maintenance, and operation Requirements in Section 3 of Attachment A of this Policy.

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<sup>1745</sup> Water Code section 13149(b)(5)

Diversions in violation of a local cooperative solution or agreement approved by the Deputy Director are subject to enforcement as a violation of this Policy. Interested parties will be provided notice of agreements, local cooperative solutions, and decisions under this section via: (1) the State Water Board's "Cannabis Cultivators" email subscription mailing list; and (2) posting on the State Water Board's cannabis webpage as soon as practicable. The Deputy Director may issue a decision under this section prior to providing notice. Any interested person may file an objection to the proposed agreement, proposed local cooperative solution, or decision. The objection shall indicate the manner of service upon the certifier or petitioner. The State Water Board will consider any objection, and may hold a hearing thereon, after notice to all interested persons.

### **Tribal Authority Savings Clause**

Nothing in this Policy shall be construed to amend or modify in any way the authority of California Native American tribes to regulate cannabis cultivation on Tribal lands recognized as "Indian country" within the meaning of title 18, United States Code, section 1151.

## **ENFORCEMENT**

Compliance with this Policy is mandatory to ensure that the diversion of water and discharge of waste associated with cannabis cultivation does not have a negative impact on water quality, aquatic habitat, riparian habitat, wetlands, or springs. Timely and appropriate enforcement is critical to ensure that cannabis cultivators enroll under the regulatory framework and anticipate, identify, and correct any violations. Enforcement action may be taken against cultivators who continue to grow cannabis in violation of state law and against cultivators who enroll in regulatory programs, but fail to fully comply with the Requirements. Appropriate penalties and other consequences for violations prevent cultivators that do not comply with the Requirements from obtaining an unfair competitive advantage and help ensure public confidence in the regulatory framework.

### **Continuing Authority to Amend Water Rights**

The State Water Board has continuing authority to amend or modify water right permits and licenses pursuant to Water Code sections 100 and 275. If, after investigation, the State Water Board determines that a permitted diversion results in an adverse impact to public trust resources or results in a waste or unreasonable use or unreasonable method of use or method of diversion of water, the State Water Board may modify a permit or license term or may adopt additional requirements in order to protect the public trust, ensure that the waste is abated, and ensure that the diversion and use of water is reasonable. Similarly, the State Water Board may modify existing permits or licenses if the State Water Board determines that such modification is necessary to meet water quality objectives contained in water quality control plans or policies for water quality control established or modified pursuant to Division 7 (commencing with section 13000) of the Water Code. Such a modification will be made after providing affected permit and license holders with any legally required notice, hearing or other procedures.

### **Prohibition Against Waste and Unreasonable Use of Water**

The State Water Board has continuing authority under Water Code sections 100 and 275 to enforce the requirements of the California Constitution, Article X, section 2, which directs that the water resources of the state be put to beneficial use to the fullest extent, and that water not be wasted or unreasonably used. It further provides that rights to the use of water are limited to such water as is reasonably required for the beneficial use served, and does not extend to the waste, unreasonable use, unreasonable method of use, or unreasonable method of

diversion of the water.

The reasonable use doctrine applies to both surface water and groundwater, and it applies irrespective of the type of water right held by the diverter or user. (*Peabody v. Vallejo* (1935) 2 Cal.2d 351, 366-367.) What constitutes an unreasonable use, method of use, or method of diversion depends on the facts and circumstances of each case. (*People ex rel. State Water Resources Control Board v. Forni* (1976) 54 Cal.App.3d 743, 750.) Under the reasonable use doctrine, water right holders may be required to endure some inconvenience or to incur reasonable expenses. (*Id.* at pp. 751-752.) The State Water Board's continuing authority includes the power to enact regulations that preclude unreasonable use. (Water Code § 1058; *Light v. State Water Resources Control Board* (2014) 226 Cal.App.4th 1463, 1482.)

In light of limited available water supply and the need for water to protect public trust resources, the State Water Board has determined that it is a waste and unreasonable use of water under Article X, section 2 of the California Constitution to: 1) divert or use water for cannabis cultivation in a manner inconsistent with this Policy, regardless of water right seniority; 2) to divert or use water for cannabis cultivation, where prohibited by state law, this Policy, on public lands, or on tribal land without authorization; and 3) overwater cannabis plants and cause runoff.

If, after investigation, the State Water Board determines that a water diversion is wasteful or constitutes an unreasonable use, unreasonable method of use, or unreasonable method of diversion of water, the State Water Board may require a person who diverts and uses water to comply with measures to abate the waste or ensure the reasonable use of water, method of use, and method of diversion. Such a requirement will be adopted subject to applicable State Water Board procedures.

### Protection of Public Trust Resources

The State Water Board has an affirmative duty to take the public trust into account in the planning and allocation of water resources, and to protect the public trust uses whenever feasible. In the exercise of that duty, the State Water Board may use its legal authority to set requirements protecting public trust resources and order water users to comply.

### Incorporation of Policy Requirements in CDFW Cultivation Licenses

Implementation of the Requirements in this Policy is not solely the purview of the Water Boards. Pursuant to Business and Professions Code section 26060.1(b)(1), CDFW will incorporate this Policy's Requirements (referenced in the statute as "principles, guidelines, and requirements") into cultivation licenses issued under its CalCannabis Cultivation Licensing Program and will consult with the State Water Board regarding their implementation. If the State Water Board or CDFW finds, based on substantial evidence, that cannabis cultivation is causing significant adverse impacts on the environment in a watershed or other geographic area, CDFW shall not issue new licenses or increase the total number of plant identifiers within that watershed or area<sup>18+16</sup>.

### Watershed Enforcement Team

In addition to the Water Boards' dedicated enforcement staff, legislation<sup>19+7</sup> directed the Water Boards and CDFW to expand the scope of the Watershed Enforcement Team

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<sup>18 46</sup> Business and Professions Code section 26069 (c)(1).

<sup>19 47</sup> Water Code section 13276(a) and Fish and Game Code section 12029(c), as established in Assembly Bill 243 (Statutes 2015, Chapter 688, Wood).

(<https://www.wildlife.ca.gov/Conservation/Cannabis/WEP>) from its initial North Coast/Central Valley focus to address cannabis cultivation activities statewide. In addition to pursuing enforcement related to cannabis cultivation, this team also provides public outreach and education, performs site inspections, and responds to complaints.

## Enforcement Tools

The Water Boards have a variety of enforcement tools to correct noncompliance. The Policy may be implemented directly per Water Code section 1847. The Policy Requirements will be implemented through the Cannabis **Cultivation** General Order, the Cannabis SIUR, and **Cannabis Cultivation** General Water Quality Certification ~~for Cannabis Cultivation Activities~~. The following summary includes types of enforcement actions that may be taken by the Water Boards. The Water Boards will make every effort to coordinate any enforcement action among its various divisions, offices, and regions and not initiate duplicative enforcement on the same violations. The Water Boards will coordinate enforcement with other agencies where appropriate.

### Informal Enforcement

An informal enforcement action is any enforcement action taken by Water Boards staff that is not defined in statute or regulation.

#### *Verbal and Written Contacts*

An informal enforcement action can include any form of communication (verbal, written, or electronic) between Water Boards staff and a cannabis cultivator concerning an actual, threatened, or potential violation.

#### *Notice of Violation*

A Notice of Violation (NOV) letter is the most significant level of informal enforcement action for cannabis cultivators and should be used only where a violation has occurred. NOV letters must be signed by the appropriate staff and provided to the cannabis cultivator.

### Formal Enforcement

Formal enforcement actions are statute-based actions to address a violation or threatened violation of water rights and/or water quality laws, regulations, policies, plans, or orders. The actions listed below present options available for water right and/or water quality enforcement.

#### *Notice to Comply*

The Water Boards may issue a Notice to Comply for certain minor violations.

#### *Order Technical Reports and Investigations*

The Water Boards may conduct investigations and require technical or monitoring reports from any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste.

#### *Administrative Civil Liability*

Administrative Civil Liability (ACL) refers to monetary penalties that may be imposed by the Water Boards.

#### *Supplemental Environmental Projects*

The Water Boards may allow a person or entity to satisfy no more than 50 percent of the monetary assessment imposed in an ACL order by completing or funding one or more Supplemental Environmental Projects (SEPs). SEPs are projects that enhance the beneficial uses of the waters of the state, provide a



benefit to the public at large, and are not otherwise required of the person or entity.

#### ***Cleanup and Abatement Orders***

Cleanup and Abatement Orders (CAOs) may be issued to any person who has discharged or discharges waste into the waters of the state in violation of any waste discharge requirement or other order or prohibition issued by the Water Boards, or who has caused or permitted, causes or permits, or threatens to cause or permit any waste to be discharged or deposited where it is, or probably will be, discharged into the waters of the state and creates, or threatens to create, a condition of pollution or nuisance. The CAO requires the cannabis cultivator to clean up the waste or abate the effects of the waste, or both, or, in the case of threatened pollution or nuisance, take other necessary remedial action, including, but not limited to, overseeing cleanup and abatement efforts.

#### ***Time Schedule Orders***

Water Boards can require the cannabis cultivators to submit time schedules that sets forth the actions the cannabis cultivators will take to address actual or threatened discharges of waste in violation of requirements.

#### ***Cease and Desist Orders***

To remedy water quality violations, a Regional Water Board or the State Water Board may issue a Cease and Desist Order (CDO) against the discharger. The State Water Board also may issue a CDO for water rights violations. In addition to general authority to issue CDOs, the State Water Board has specific legal authority to issue a CDO against any unlawful diversion or discharge for cannabis cultivation, any diversion or discharge that violates this Policy, and any cultivation activity that violates other applicable requirements that protect the environment.

#### ***Revocation of Water Right Permits and Licenses***

The State Water Board may revoke a water right permit, license, or registration pursuant to certain sections of the Water Code.

#### ***Modification or Rescission of Waste Discharge Requirements***

The Water Boards may modify or rescind waste discharge requirements (WDRs) in response to violations.

#### ***Enforcement Referral***

Depending on the nature of the violation, the Water Boards may refer violations to the State Attorney General, County District Attorney, City Attorney, US Attorney, or United States Environmental Protection Agency.

## REFERENCES:

- Bauer, S., Olson, J., Cockrill, A., van Hattem, M., Miller L., Tauzer M., and Leppig, G. 2015. Impacts of Surface Water Diversions for Marijuana Cultivation on Aquatic Habitat in Four Northwestern California Watersheds. PLoS ONE 10(3): e0120016.  
<https://doi.org/10.1371/journal.pone.0120016>
- Bentrup, G. and Hoag, J.C. 1998. The Practical Streambank Bioengineering Guide. United States Department of Agriculture, Interagency Riparian/Wetland Plant Development Project. Available at:  
[http://www.nrcs.usda.gov/Internet/FSE\\_PLANTMATERIALS/publications/idpmcpu116.pdf](http://www.nrcs.usda.gov/Internet/FSE_PLANTMATERIALS/publications/idpmcpu116.pdf)
- Brown and Caldwell, Kennedy/Jenks Consultants. 2007. Manual of Good Practice of Land Application of Food Processing/Rinse Water. California League of Food Processors. Available at:  
[http://clfp.com/documents/Manualofgoodpractice/CLFP%20Manual\\_COMPLETE\\_FINAL\\_3-14-07%20\(2\).pdf](http://clfp.com/documents/Manualofgoodpractice/CLFP%20Manual_COMPLETE_FINAL_3-14-07%20(2).pdf)
- Cafferata, P. 2015. California Road Rules for 2015 and Beyond. Associated California Loggers Annual Meeting January 15, 2015. California Department of Forestry and Fire Protection. Available at:  
[http://www.fire.ca.gov/resource\\_mgt/downloads/Cafferata\\_RoadRules2013\\_ACL-talk\\_January2015\(final\).pdf](http://www.fire.ca.gov/resource_mgt/downloads/Cafferata_RoadRules2013_ACL-talk_January2015(final).pdf). Accessed 4 May 2017.
- California Department of Fish and Wildlife (CDFW). 2017a. Fish Species of Special Concern. Accessed at: <https://www.wildlife.ca.gov/Conservation/SSC/Fishes>. Viewed on 15 March 2017.
- CDFW. 2017b. State & Federally Listed Endangered & Threatened Animals of California. Accessed at: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109405&inline>. Viewed on 23 Jan. 2017.
- CDFW. 2015. California State Wildlife Action Plan, 2015 Update: A Conservation Legacy for Californians. Edited by Armand G. Gonzales and Junko Hoshi, PhD. Prepared with assistance from Ascent Environmental, Inc., Sacramento, CA.
- California Department of Fish & Game (CDFG) 2003. Atlas of the biodiversity of California. Sacramento, CA. 103. pp. Accessed at:  
<https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=116547>. Accessed March 10, 2017.
- CDFG 2002. California climate based on the Köppen Classification System. GIS coverage. Wildlife and Habitat Data Analysis Branch. Sacramento, CA.
- California Department of Food and Agriculture (CDFA). 2016. Licensing Survey Results. Available at:  
<https://static.cdfa.ca.gov/MCCP/document/2016%20Licensing%20Survey%20Results.pdf>. Viewed 27 December 2016.

- California Department of Transportation (Caltrans). 2017. Construction Site BMP Fact Sheets. Division of Construction. Sacramento, CA. Accessed at: <http://www.dot.ca.gov/hq/construc/stormwater/factsheets.htm>
- Caltrans. 2003. Solid Waste Management, Construction Site Best Management Practices Manual. Available at: <http://www.dot.ca.gov/hq/construc/stormwater/WM-05.pdf>
- California Department of Water Resources (DWR). 2013. Division of Safety of Dams Jurisdiction Over Dams and Reservoirs. Division of Safety of Dams. Sacramento, CA. Accessed at: <http://www.water.ca.gov/damsafety/jurischart/>
- California Geologic Survey (CGS). 2002. Map of California Geomorphic Provinces, Note 36. California Department of Conservation, California Geological Survey. Sacramento, CA. Accessed at: [http://www.conservation.ca.gov/cgs/information/publications/cgs\\_notes/note\\_36/Documents/note\\_36.pdf](http://www.conservation.ca.gov/cgs/information/publications/cgs_notes/note_36/Documents/note_36.pdf). Accessed March 10, 2017.
- California Plant Health Association (CPHA). 1980. Western Fertilizer Handbook Sixth Edition. Soil Improvement Committee.
- California Regional Water Quality Control Board, Central Coast Region. 2016. "Water Quality Control Plan for the Central Coastal Basin". Available at [http://www.waterboards.ca.gov/centralcoast/publications\\_forms/publications/basin\\_plan/index.shtml](http://www.waterboards.ca.gov/centralcoast/publications_forms/publications/basin_plan/index.shtml).
- California Regional Water Quality Control Board, Central Valley Region. 2016. "Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region". Available at [http://www.waterboards.ca.gov/centralvalley/water\\_issues/basin\\_plans/index.shtml](http://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/index.shtml).
- California Regional Water Quality Control Board, North Coast Region. 2011. "Water Quality Control Plan for the North Coast Region". Available at [http://www.waterboards.ca.gov/northcoast/water\\_issues/programs/basin\\_plan/basin\\_plan.shtml](http://www.waterboards.ca.gov/northcoast/water_issues/programs/basin_plan/basin_plan.shtml).
- California Storm Water Quality Association. 2003. Section 4: Source Control BMPs and California Stormwater BMP Handbook. Accessed at: <https://www.casqa.org/sites/default/files/BMPHandbooks/sd-12.pdf> and <https://www.casqa.org/sites/default/files/BMPHandbooks/sd-32.pdf>
- Carlisle, D.M., Wolock, D.M., Howard, J.K., Grantham, T.E., Fesenmyer, K., and Wieczorek, M. 2016. Estimating natural monthly streamflows in California and the likelihood of anthropogenic modification: U.S. Geological Survey Open-File Report 2016–1189, 27 p., <https://doi.org/10.3133/ofr20161189>.
- Cobourn, J. 2011. How to Install Residential Scale Best Management Practices (BMPs) in the Lake Tahoe Basin. University of Nevada Cooperative Extension. Available at: <http://www.tahoebmp.org/Documents/Contractors%20BMP%20Manual.pdf>
- Critchfield, H. J. 1983. General Climatology, 4th Ed. Englewood Cliffs: Prentice Hall.

- Crozier, C. 1986. Soil Conservation Techniques for Hillside Farms, A Guide for Peace Corps Volunteers. Peace Corps Information Collection and Exchange Reprint Series No.R-62. November 1986. Available at: <http://files.eric.ed.gov/fulltext/ED288044.pdf>.
- Five Counties. 2002. A Water Quality and Stream Habitat Protection Manual for County Road Maintenance in Northwestern California Watersheds. Five Counties Salmon Conservation Program. Available at: <http://www.5counties.org/roadmanual.htm>.
- Forrest, C. and Young, J.P. 2006. The Effects of Organic and Inorganic Nitrogen Fertilizer on the Morphology and Anatomy of Cannabis sativa “Fédrina” (Industrial Fibre Hemp) Grown in Northern British Columbia, Canada. Journal of Industrial Hemp Vol. 11, Iss.2, 2006.
- Freeze, A. and Cherry, J. 1979. Groundwater, 604 pp. Available at: <http://hydrogeologistswithoutborders.org/wordpress/1979-toc/>.
- Gale, D.B., Hayden T.R., Harris, L.S., and Voight, H.N. 1998. Assessment of anadromous fishstocks in Blue Creek, lower Klamath River, California, 1994-1996. Yurok Tribal Fisheries Program.
- Griggs, F. T. 2009. California Riparian Habitat Restoration Handbook. River Partners. Available at: [http://www.conservation.ca.gov/dlrp/watershedportal/InformationResources/Documents/Restoration\\_Handbook\\_Final\\_Dec09.pdf](http://www.conservation.ca.gov/dlrp/watershedportal/InformationResources/Documents/Restoration_Handbook_Final_Dec09.pdf).
- Hausback, B.P., Muffler, L.J.P, and Clynne, M.A. 2011. Sutter Buttes- The Lone Volcano in California’s Great Valley, United States Geological Survey Fact Sheet 2001-3024, Menlo Park, CA.
- Haver, D. 2007. Best Management Practices; A Water Quality Field Guide for Nurseries. University of California Cooperative Extension. Available at: [http://www.waterboards.ca.gov/sandiego/water\\_issues/programs/wine\\_country/docs/updates081910/ucce\\_bmps.pdf](http://www.waterboards.ca.gov/sandiego/water_issues/programs/wine_country/docs/updates081910/ucce_bmps.pdf).
- Lane, B., Dahlke, H., Pasternack, G., and Sandoval-Solis, S. 2017. Revealing the Diversity of Natural Hydrologic Regimes in California with Relevance for Environmental Flows Applications. Journal of the American Water Resources Association, JAWRA-16-0071-P.
- Lane, B., Sandoval, S., and Stein, E. 2017. Characterizing diverse river landscapes using hydrologic classification and dimensionless hydrographs. In Prep
- Legislative Analyst’s Office (LAO). 2016. Ballot Analysis Proposition 64 Marijuana Legislation Initiative Statute. <http://www.lao.ca.gov/BallotAnalysis/Proposition?number=64&year=2016>. Accessed 17 January 2017.
- Ludington, S., Moring, B., Miller, R., Stone, P., Bookstrom, A., Bedford, D., Evans, J., Haxel, G., Nutt, C., Flynn, K., and Hopkins, M. 2007. Preliminary Integrated Geologic Map Databases for the United States: Western States, United States Geological Survey Open File Report 2005-1305, Version 1.3, December 2007. Accessed at: <https://pubs.usgs.gov/of/2005/1305/>. Accessed March 10, 2017.

- Markham, C. 1970. Seasonality of Precipitation in the United States. *Annals of the Association of American Geographers* 60(3):593-597.
- Michigan Department of Environmental Quality. 1992. Spoil Piles. Available at: [http://michigan.gov/documents/deq/deq-wb-nps-sp\\_250905\\_7.pdf](http://michigan.gov/documents/deq/deq-wb-nps-sp_250905_7.pdf)
- Moores, E.M., and Twiss, T.J. 1995. Tectonics. W.H. Freeman and Company, New York.
- Moyle, P.B., P.I. Samuel, and R. Lusardi. 2017. State of the Salmonids II: Fish in Hot Water by California Trout and UC Davis Center for Watershed Sciences. San Francisco, CA.
- National Marine Fisheries Service (NMFS). 2017. Proactive Conservation Program: Species of Concern. Accessed at <http://www.nmfs.noaa.gov/pr/species/concern/>. Viewed on 15 Mar. 2017.
- NMFS. 2015. Public Draft Coastal Multispecies Recovery Plan. National Marine Fisheries Service, West Coast Region, Santa Rosa, California.
- NMFS. 2014a. Final Recovery Plan for the Southern Oregon/Northern California Coast Evolutionarily Significant Unit of Coho Salmon (*Oncorhynchus kisutch*). National Marine Fisheries Service. Arcata, CA.
- NMFS. 2014b. Recovery Plan for the Evolutionarily Significant Units of Sacramento River Winter-run Chinook Salmon and Central Valley Spring-run Chinook Salmon and the Distinct Population Segment of California Central Valley Steelhead. California Central Valley Area Office. July 2014.
- NMFS. 2013. South-Central California Coast Steelhead Recovery Plan. West Coast Region, California Coastal Area Office, Long Beach, California.
- NMFS. 2012a. Final Recovery Plan for Central California Coast coho salmon Evolutionarily Significant Unit. National Marine Fisheries Service, Southwest Region, Santa Rosa, California.
- NMFS. 2012b. Southern California Steelhead Recovery Plan. Southwest Region, Protected Resources Division, Long Beach, California.
- NMFS. 2007a. 2007 Federal Recovery Outline for the Distinct Population Segment of Central California Coast Steelhead. National Marine Fisheries Service, Southwest Regional Office, Long Beach, California.
- NMFS. 2007b. 2007 Federal Recovery Outline for the Distinct Population Segment of Northern California Steelhead. National Marine Fisheries Service, Southwest Regional Office, Long Beach, California.
- NMFS. 1998. "Factors Contributing to the Decline of Chinook Salmon: An Addendum to the 1996 West Coast Steelhead Factors for Decline Report," Portland, Oregon: Protected Resources Division, National Marine Fisheries Service.

- NMFS. 1996. Status Review of West Coast Steelhead from Washington, Idaho, Oregon and California. NOAA [National Oceanic and Atmospheric Administration] Technical Memorandum NMFS-NWFSC-27.
- Natural Resources Conservation Service. 2005. Prevent Soil Erosion on Your Property. California Watershed Recovery Project. Available at:  
[https://www.nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/nrcs144p2\\_063808.pdf](https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs144p2_063808.pdf)
- PRISM Climate Group, 2016. 30-year Normals (1981-2010) Annual: Precipitation, Minimum Temperature, Maximum Temperature; Elevation. Accessed at:  
<http://prism.oregonstate.edu/>, retrieved December 5, 2016.
- R2 Resource Consultants, Inc. and Stetson Engineers, Inc., 2007. North Coast Instream flow Policy: Scientific Basis and Development of Alternatives Protecting Anadromous Salmonids.
- Resource Conservation District of Monterey County (RCDMC) and Monterey County Agricultural Commissioner's Office. 2014. Hillslope Farming Runoff Management Practices Guide. Available at: <http://www.rcdmonterey.org/pdf/rcdmc-hillslope-guide-rvsd-2.11.14.pdf>.
- Ricketts T. H. 1999. Terrestrial Ecoregions of North America: A Conservation Assessment. Washington (DC): Island Press.
- Ruddiman, W.F. 2001, Earths Climate, Past and Future. W.H. Freeman and Company, New York.
- Sanctuary Forest. 2008. Water Storage Guide; Storing water to benefit streamflows and fish in North Coast creeks and rivers. Available at: [https://greywateraction.org/wp-content/uploads/2014/11/SanctuaryForrest\\_Water\\_Storage\\_Guide.pdf](https://greywateraction.org/wp-content/uploads/2014/11/SanctuaryForrest_Water_Storage_Guide.pdf).
- Santos, N.R., Katz, J.V. E., Moyle, P., and Viers, J.H. 2014. A programmable information system for management and analysis of aquatic species range data in California. Environmental Modelling & Software, Vol. 53, 13-26. Retrieved from <http://www.sciencedirect.com/science/article/pii/S1364815213002673>.
- Snyder Industries, Inc. 2008. Guidelines for Use and Installation of Above Ground Water Tanks. Available at: [http://www.waterandseptictanks.com/Portals/0/files/GUIDELINES-FOR-INSTALLATION-OF-WATER-TANKS-\\_rev1\\_-03-20-08-\\_2\\_.pdf](http://www.waterandseptictanks.com/Portals/0/files/GUIDELINES-FOR-INSTALLATION-OF-WATER-TANKS-_rev1_-03-20-08-_2_.pdf).
- State Water Resources Control Board (State Water Board). 2012. Water Quality Control Policy for Siting, Design, Operation, and Maintenance of Onsite Wastewater Treatment Systems. Available at:  
[http://www.waterboards.ca.gov/water\\_issues/programs/owts/docs/owts\\_policy.pdf](http://www.waterboards.ca.gov/water_issues/programs/owts/docs/owts_policy.pdf)
- State Water Board. 2010. Development of Flow Criteria for the Sacramento-San Joaquin Delta Ecosystem. Sacramento, CA. August 2010.
- Tennant, D.L. 1976. Instream flow regimens for fish, wildlife, recreation and related environmental resources.

- Tessman, S.A. 1979. Environmental Assessment. Technical Appendix E, in “Reconnaissance Elements” of the Western Dakotas Region of South Dakota Study. Water Resource Research Institute, South Dakota University.
- United States Department of Agriculture. 1997. Ponds – Planning, Design, Construction, Agriculture Handbook. Natural Resources Conservation Service. Available at: [http://www.nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/nrcs144p2\\_030362.pdf](http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs144p2_030362.pdf).
- United States Environmental Protection Agency (USEPA). 2013. SPCC Guidance for Regional Inspectors. Office of Emergency Management. Available at: [http://www2.epa.gov/sites/production/files/2014-04/documents/spcc\\_guidance\\_fulltext\\_2014.pdf](http://www2.epa.gov/sites/production/files/2014-04/documents/spcc_guidance_fulltext_2014.pdf)
- USEPA. 2006. The Volunteer Estuary Monitoring Manual, Ch. 15 Turbidity and Total Solids. EPA-842-B-06-003. Available at: [https://www.epa.gov/sites/production/files/2015-09/documents/2009\\_03\\_13\\_estuaries\\_monitor\\_chap15.pdf](https://www.epa.gov/sites/production/files/2015-09/documents/2009_03_13_estuaries_monitor_chap15.pdf).
- USEPA. 1999. Riparian Forest Buffer. Chesapeake Bay Foundation.
- United States Fish and Wildlife Service. 2001. Juvenile salmonid monitoring on the mainstem Klamath River at Big Bar and mainstem Trinity River at Willow Creek, 1997-2000. Annual Report of the Klamath River Fisheries Assessment Program. Arcata Fish and Wildlife Office, Arcata, CA.
- United States Geological Survey (USGS) National Hydrography Dataset. Available at: <https://nhd.usgs.gov/>.
- Vannice, C. 2011. Medical Marijuana – an Exploding New Industry. Pretreatment Pipeline, Third Quarter 2011. City of Littleton/Englewood WWTP Pretreatment Division. Available at: <http://www.lewwtp.org/home/showdocument?id=5674>. Accessed 17 January 2017.
- Weaver, W., Weppner, E., and Hagans, D. 2015. Handbook for Forest, Ranch & Rural Roads. The Mendocino County Resource Conservation District. Ukiah, CA. Available at: <http://www.pacificwatershed.com/sites/default/files/RoadsEnglishBOOKApril2015b.pdf>.
- Wenger, S. J. and Fowler, L. 2000. Protecting Stream and River Corridors: Creating Effective Local Riparian Buffer Ordinances. Carl Vinson Institute of Government, University of Georgia. Available at: [http://www.ohioenvironmentallawblog.com/uploads/file/UGA%20riparian\\_buffer\\_guidebook.pdf](http://www.ohioenvironmentallawblog.com/uploads/file/UGA%20riparian_buffer_guidebook.pdf).
- Western Regional Climate Center, 2015. California Climate Data Archive, National Weather Service- Cooperative Observer Program data, <http://www.calclim.dri.edu/>. Last updated July 21, 2015, data retrieved December 6-13, 2016.
- Whittaker, R. H. 1960. Vegetation of the Siskiyou Mountains, Oregon and California. Biology Department, Brooklyn College, New York.
- Whittaker, R. H. 1961. Estimation of Net Primary Production of Forest and Shrub Communities. Biology Department, Brooklyn College, New York.

Yarnell, S.M., Viers, J.H., and Mount, J. 2010. Ecology and Management of the Spring Snowmelt Recession. *Bioscience* 60(2):114-127.

Zimmerman, J.K.H., Carlisle, D.M., May, J.T., Howard, J.K., Klausmeyer, K.R., Brown, L.R., and Grantham, T.E. 2017. Patterns and Magnitude of Flow Alteration in California, USA.

DRAFT



State Water Resources Control Board

**Draft**

**Proposed Updates to  
Cannabis Cultivation Policy**

**ATTACHMENT A**

**Definitions and Requirements  
for Cannabis Cultivation**

**~~October 17, 2017~~ September 27, 2018**

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## OVERVIEW

This Attachment A contains diversion and discharge Requirements for cannabis cultivation activities. The cannabis cultivator shall comply with all Requirements in this Policy, and applicable federal, state, and local laws, regulations, and permitting requirements. In the event of duplicate or conflicting requirements, the most stringent requirements shall apply. There are five main categories of cannabis cultivation Requirements to protect water quality and instream flows, which are organized in the first five sections of Attachment A. Attachment A is organized into the following sections:

- Section 1. General Requirements and Prohibitions, and General Water Quality Certification for Cannabis Cultivation Activities
- Section 2. Requirements Related to Water Diversions and Waste Discharge for Cannabis Cultivation
- Section 3. Numeric and Narrative Instream Flow Requirements (including Gaging)
- Section 4. Watershed Compliance Gage Assignments
- Section 5. Planning and Reporting
- Section 6. Useful Guidance Documents

### Definitions

The following are definitions of terms used in the Policy, Attachment A, Staff Report, and Cannabis Cultivation General Order.

No.	DEFINITION
1.	<b>Access Road</b> – A road, other than a completely paved road regularly maintained by a governmental entity, that provides access to one or more cannabis cultivation areas.
2.	<b>Agronomic Rate</b> – The rate of application of irrigation water and nutrients to plants necessary to satisfy the plants’ evapotranspiration requirements and growth needs and minimize the movement of nutrients below the plants root zone. The agronomic rate considers allowances for supplemental water (e.g., effective precipitation), irrigation distribution uniformity, nutrients present in irrigation water, leaching requirement, and plant available nitrogen.
3.	<b>Anadromy (adj. form: anadromous)</b> — Migration of fish, as adults or subadults, from salt water to fresh.
4.	<b>Aquatic Base Flow</b> — The set of chemical, physical, and biological instream flow conditions that represent limiting conditions for aquatic life in stream environments. The aquatic base flow is determined using defined scientific methodology that equates the aquatic ecosystem health with the flow in the stream, calculated by applying the New England Aquatic Base Flow Standard.
5.	<b>Aquatic benthic macroinvertebrate</b> — Aquatic animals without backbones that can be seen by the unaided eye and typically dwell on rocks, logs, sediment or plants. Examples include, but are not limited to, insects, mollusks, amphipods, and aquatic

No.	DEFINITION
	worms. Common aquatic insects include, but are not limited to, mayflies, stoneflies, caddisflies, true flies, water beetles, dragonflies, and damselflies.
6.	<b>Aquatic non-fish vertebrate</b> — Include, but are not limited to: aquatic mammals, such as beavers, river otters, and muskrats; amphibians, such as frogs and salamanders; and aquatic reptiles, such as snakes and turtles.
7.	<b>Average, also called mean</b> — The sum of measured values divided by the number of samples.
8.	<b>California Native American tribe</b> – As defined in section 21073 of the Public Resources Code: a Native American tribe located in California that is on the contact list maintained by the Native American Heritage Commission for the purposes of Chapter 905 of the Statutes of 2004.
9.	<b>Cannabis Cultivation</b> – Any activity involving or necessary for the planting, growing, pruning, harvesting, drying, curing, or trimming of cannabis. This term includes, but is not limited to: (1) water diversions for cannabis cultivation, and (2) activities that prepare or develop a cannabis cultivation site or otherwise support cannabis cultivation and which discharge or threaten to discharge waste to waters of the state.
10.	<p><b>Cannabis Cultivation Area</b> – is defined by the following:</p> <ul style="list-style-type: none"> <li>a. For in-ground plants, the cultivation area is defined by the perimeter of the area planted, including any immediately adjacent surrounding access pathways.</li> <li>b. For plants grown outdoors in containers (e.g., pots, grow bags, etc.) the cultivation area is defined by the perimeter of the area that contains the containers, including any immediately adjacent surrounding access pathways. The area is not limited to the sum of the area of each individual container.</li> <li>c. For plants grown indoors, that do not qualify for the conditional exemption under the Cannabis <b>Cultivation</b> General Order, the cultivation area is defined by the entire area contained in the structure where cultivation occurs, excluding any area used solely for activities that are not cultivation activities (e.g., office space). Areas used for storage of materials, equipment, or items related to cannabis cultivation shall be included in the cultivation area calculation.</li> </ul>
11.	<b>Cannabis Cultivation Site</b> – A location where cannabis is planted, grown, pruned, harvested, dried, cured, graded, or trimmed, or where any combination of these activities occurs.
12.	<b>Cannabis Cultivator</b> – Any person or entity engaged in cultivating cannabis who diverts water (i.e., diverter) or discharges or threatens to discharge waste (i.e.,

No.	DEFINITION
	discharger). This term includes business entities; employees; contractors; landowners; cultivators; lessees; and tenants of private land where cannabis is cultivated and of lands that are modified or maintained to facilitate cannabis cultivation.
<del>13.</del>	<del><b>Waterbody Canopy Area</b> — The overhead branches and leaves of streamside woody vegetation.</del>
<del>13. 14.</del>	<b>Cannabis Canopy Area (Canopy Area)</b> – The anticipated canopy acreage at plant maturity.
<del>14. 15.</del>	<b>Cesspool</b> — An excavation in the ground receiving domestic wastewater, designed to retain organic matter and solids, while allowing the liquids to seep into the soil. Cesspools do not have a septic tank providing primary treatment of wastewater prior to discharge. A cesspool is distinguished from an outhouse, pit-privy, or pit-toilet because liquid wastewater (e.g., from toilet flushing, shower, or kitchen sources) is discharged to a cesspool.
<del>15. 16.</del>	<b>Channel maintenance flows</b> — Peak streamflows needed for maintaining stream channel geometry, gravel and woody debris movement, and the natural flow variability needed for protection of various habitat needs of anadromous salmonids.
<del>16. 17.</del>	<b>Channel thalweg</b> — The line connecting the lowest or deepest points along a stream channel.
<del>17. 18.</del>	<b>Coarse sediment</b> — Particle sizes of ¼ inch or larger, including particles derived from debris flows, that either contribute directly to spawning gravel, or that reduce to a smaller usable size, or influence stream channel morphology by forming a <b>substrate</b> framework.
<del>18. 19.</del>	<b>Construction Storm Water Program</b> – Refers to implementation of Water Quality Order 2009-0009-DWQ and National Pollutant Discharge Elimination System No. CAS000002, as amended by Order No. 2010-0014-DWQ, Order No. 2012-0006-DWQ, and amendments thereto. Activities located in the Lake Tahoe Hydrologic Unit shall comply with the National Pollutant Discharge Elimination System No. CAG616002, Order No. R6T-2016-0010 and amendments thereto. Cannabis cultivators whose activities disturb one or more acres of soil or whose projects disturb less than one acre, but are part of a larger common plan of development that in total disturbs one or more acres may need to obtain coverage under the Construction Storm Water Program. Contact the appropriate Regional Water Board Storm Water Program for a determination of the need for storm water permitting.
<del>19. 20.</del>	<b>Day</b> – is the mean solar day of 24 hours beginning at midnight (12:00 am). All references to day in this Policy and the <b>Cannabis Cultivation</b> General Order are calendar days.
<del>20. 21.</del>	<b>Deep percolation</b> — Infiltration of water through soil when storm water or excess irrigation water is applied and percolates below the plant root zone.

<del>21. 22.</del>	<b>Discharger</b> – any person or entity engaged in developing land for cannabis cultivation, providing access to adjacent properties for cultivation activities, or engaged in the legal cultivation of cannabis that discharges or threatens to discharge waste.
<del>22. 23.</del>	<b>Disturbed Area</b> – see Land Disturbance
<del>23. 24.</del>	<b>Disturbed Land</b> – see Land Disturbance
<del>24. 25.</del>	<b>Diversion</b> — Taking water, by gravity or pumping, from a surface stream or groundwater, into a canal, pipeline, or other conduit, including impoundment of water in a reservoir.
<del>25. 26.</del>	<b>Diverter</b> – Any person or entity that diverts water from waters of the state, including surface waterbodies and groundwater.
<del>26. 27.</del>	<b>Dredged material</b> — Any material that is excavated or dredged from a waterbody. This includes but is not limited to “dredged material” as defined at title 33, section 323.2, subdivision (c) of the Code of Federal Regulations.
<del>27. 28.</del>	<b>Ecological functions and values (of riparian habitat)</b> — Functions are onsite and offsite natural riparian habitat processes. Values are the importance of the riparian habitat to society in terms of health and safety; historical or cultural significance; ecological characteristics, education, research, or scientific significance; aesthetic significance; economic significance; or other reasons.
<del>28. 29.</del>	<b>Ephemeral watercourse</b> — See <i>Watercourse</i> definitions.
<del>29. 30.</del>	<b>Exceedance probability</b> — The probability that a specified streamflow magnitude will be exceeded. The exceedance probability is equal to one divided by the recurrence interval.
<del>30. 31.</del>	<b>Face value</b> —The maximum amount of water that is authorized to be diverted under a water right permit, license, registration, or livestock stockpond certificate, and the maximum amount of water claimed under a statement of water diversion and use.
<del>31. 32.</del>	<b>Face value demand</b> — The sum of the face values of all water rights above an identified location in a stream channel.
<del>32. 33.</del>	<b>Fill material</b> — Material placed into a waterbody that has the effect of either replacing any portion of the water with dry land or changing the bottom elevation of the waterbody. This includes, but is not limited to “fill material” as defined at title 33, section 323.2, subdivision (e) of the Code of Federal Regulations.
<del>33. 34.</del>	<b>Fish</b> – Wild fish, mollusks, crustaceans, invertebrates, or amphibians, including any part, spawn, or ova thereof (California Fish and Code section 45). For the purposes of stream classification, fish are defined as finfish.
<del>34. 35.</del>	<b>Flow frequency analysis</b> — A statistical technique used by hydrologists for estimating the average rate at which floods, droughts, storms, <del>stores,</del> rainfall events, etc., of a specified magnitude recur.

<del>35. 36.</del>	<b>Flow path</b> — The direction water flows along its stream course from the point of diversion to the Pacific Ocean. If a project will have a <i>de minimis</i> effect on flows in a flow-regulated mainstem river, then the flow path may terminate at the flow-regulated mainstem river.
<del>36. 37.</del>	<b>Flow-regulated mainstem river</b> — A river or stream in which scheduled releases from storage are made to meet minimum instream flow requirements established by a State Water Board Order or Decision.
<del>37. 38.</del>	<b>Forbearance Period</b> —The calendar days or otherwise defined conditions during which no water may be diverted. See also <i>Surface Water Diversion Period</i> .
<del>38. 39.</del>	<b>Habitat suitability criteria</b> — Structural and hydraulic characteristics of a stream that are indicators of habitat suitability for different fish species and life stages.
<del>39. 40.</del>	<b>Hazardous material</b> — Any item or agent (biological, chemical, radiological, and/or physical), which has the potential to cause harm to humans, animals, or the environment, either by itself or through interaction with other factors.
<del>40. 41.</del>	<b>Heavy equipment</b> — Large pieces of machinery or vehicles, especially those used in the building and construction industry (e.g., bulldozers, excavators, backhoes, bobcats, or tractors).
<del>41. 42.</del>	<b>Hydraulic conductivity</b> — The capacity of a porous medium to transmit water. The rate at which fluid can move through a permeable medium depends on the properties of the fluid (viscosity and specific weight) and properties of the medium (intrinsic permeability). Hydraulic conductivity is generally measured in units of feet/day or centimeters/second.
<del>42. 43.</del>	<b>Hydrograph</b> — A graph showing the rate of flow versus time past a specific point in a river, or other channel or conduit carrying flow; generally measured in units of cubic meters or cubic feet/second.
<del>43. 44.</del>	<b>Hyporheic</b> — Denoting an area or ecosystem beneath the bed of a river or stream that is saturated with water and that supports invertebrate fauna which play a role in the larger ecosystem.
<del>44. 45.</del>	<b>Impervious surface</b> — A permanent improvement affixed to the earth which does not allow water or liquid to pass through it or permeate into the earth. Impervious surface includes a house or primary structure, driveway, parking lot, walkways, sidewalks, patios, decks, green houses, accessory structure(s), and other hardscape.
<del>45.</del>	<b><u>Industrial wastewater — Any non-domestic liquid from any producing, manufacturing, processing, or operation of a commercial, industrial, or institutional establishment of whatever nature. Industrial wastewater differs from domestic wastewater or municipal wastewater (also called sewage). Industrial wastewater is a by-product of industrial or commercial activities.</u></b>



46.	<b>Instream cover</b> — Areas of shelter in a stream channel that provide aquatic organisms protection from predators or competitors and/or a place in which to rest and conserve energy due to a reduction in the force of the current.
47.	<b>Integrated Pest Management (IPM)</b> — An ecosystem-based strategy that focuses on long-term prevention of pests or their damage through a combination of techniques such as biological control, habitat manipulation, modification of cultural practices, and use of resistant varieties. Pesticides are used only after monitoring indicates they are needed according to established guidelines, and treatments are made with the goal of removing only the target organism. Pest control materials are selected and applied in a manner that minimizes risks to human health, beneficial and non-target organisms, and the environment.
48.	<b>Intermittent watercourse</b> — see <i>Watercourse</i> definitions.
49.	<b>Invasive Species</b> — Organisms (plants, animals, or microbes) that are not native to an environment and that, once introduced, establish, quickly reproduce and spread, and cause harm to the environment, economy, or human health. For guidance on decontamination methods and species of concern, see CDFW's invasive species webpage: <a href="https://www.wildlife.ca.gov/Conservation/Invasives">https://www.wildlife.ca.gov/Conservation/Invasives</a> .
50.	<p><b>Lake and Streambed Alteration Agreement</b> — Fish and Game Code section 1602 requires an entity to notify CDFW prior to commencing any activity that may do one or more of the following:</p> <ul style="list-style-type: none"> <li>• Substantially divert or obstruct the natural flow of any river, stream or lake;</li> <li>• Substantially change or use any material from the bed, channel or bank of any river, stream, or lake; or</li> <li>• Deposit debris, waste or other materials that could pass into any river, stream or lake.</li> </ul> <p>"Any river, stream or lake" includes those that are episodic (they are dry for periods of time) as well as those that are perennial (they flow year-round). This includes ephemeral streams, desert washes, and watercourses with a subsurface flow. It may also apply to work undertaken within the flood plain of a body of water.</p>
51.	<p><b>Land Disturbance</b> – Land areas where natural conditions have been modified in a way that may result in an increase in turbidity in water discharged from the site. Disturbed land includes areas where natural plant growth has been removed whether by physical, animal, or chemical means, or natural grade has been modified for any purpose. Land disturbance includes all activities whatsoever associated with developing or modifying land for cannabis cultivation related activities or access. Land disturbance activities include, but are not limited to, construction of roads, buildings, water storage areas; excavation, grading, and site clearing. Disturbed land includes cultivation areas, storage areas where soil or soil amendments (e.g., potting soil, compost, or biosolids) are located.</p> <p>Access roads that are designed, constructed, and maintained, or are reconstructed consistent with the Handbook for Forest, Ranch, and Rural Roads (Road Handbook), and that implement the interim and long-term erosion prevention and soil stabilization</p>

	measures contained in Attachment A, are not considered disturbed areas for the purpose of tier determination under the Cannabis <b>Cultivation</b> General Order.
52.	<b>Landowner</b> – Any person or entity who owns, in whole or in part, the parcel of land on which cannabis cultivation is occurring or will occur. A landowner need not be a cannabis cultivator.
53.	<b>Laterals (in the context of irrigation water lines)</b> — Pipes between the control valve and the sprinkler heads <b>or irrigation emitters</b> .
54.	<b>Legacy conditions</b> – are sites of historical activity, which may not be related to cannabis cultivation activities that may discharge sediment or other waste constituents to waters of the state. Legacy conditions are caused or affected by human activity. Implementation of corrective actions can reduce or eliminate the waste discharge.
55.	<p><b>Licensed Contractor</b> - In California, anyone who contracts to perform work that is valued at \$500 or more in combined labor and material costs must hold a current, valid license from the California Contractors’ State License Board. Licensed contractors are classified as general engineering, general building, or specialty contractors.</p> <ul style="list-style-type: none"> <li>• General engineering ("A" contractors) principally work with fixed works that require specialized engineering knowledge and skill. A general engineering contractor may perform the work or hire specialty contractors for specific tasks.</li> <li>• General building ("B" contractors) work on existing or new structures that require at least two unrelated types of work. In some cases, a general building contractor can perform the work, but often must hire subcontractors with specialty licenses.</li> <li>• Specialty contractors ("C" contractors) are those who specialize in a particular skill or trade. Specialty or subcontractors usually are hired to perform a single task.</li> </ul> <p>Because there is significant overlap between specialty contractor skills, more than one specialty contractor may be licensed to contract for a project.</p>
56.	<b>Licensed Timber Operators (LTOs)</b> — Persons who have been licensed under the Forest Practice Act <b>law</b> and are authorized to conduct forest tree cutting and removal operations.
57.	<b>Local Environmental Health Department</b> — <del>To identify ones</del> <b>The</b> local environmental health department, <b>enter your as determined by entering the</b> address <b>of a cannabis cultivation site information</b> into the following website directory: <a href="http://cersapps.calepa.ca.gov/public/directory">http://cersapps.calepa.ca.gov/public/directory</a> .
58.	<b>Mainlines (in the context of irrigation water lines)</b> — Pipes that run from the water source to the control valves.
59.	<b>Maximum cumulative diversion rate</b> — The sum of the rates of diversion of all diversions upstream of a specific location in the watershed.

60.	<b>Mean, also called average</b> — The sum of measured values divided by the number of samples.
61.	<b>Minimum bypass flow</b> — In the context of a diversion Requirement, it is the minimum instantaneous flow rate of water that must be moving past the point of diversion before water may be diverted.
62.	<b>Natural monthly streamflows</b> — Modeled monthly streamflows that are unaffected by land use or water management.
63.	<b>Offset well</b> — A well drilled at an offset distance from a river or stream that is considered pumping from the underflow of the river or stream.
64.	<b>Perennial watercourse</b> — See <i>Watercourse</i> definitions.
65.	<b>Period of record</b> — The time period for which flow measurements have been recorded. The period of record may be continuous or interrupted by intervals during which no data were collected.
66.	<b>Permeability</b> —The property of a porous rock or soil for transmitting a fluid. It measures the relative ease of flow under unequal pressure. See <i>hydraulic conductivity</i> .
67.	<p><b>Pesticide</b> — Pesticide is defined as follows:</p> <ul style="list-style-type: none"> <li>- Per California Code of Regulations Title 3. Division 6. Section 6000: <ul style="list-style-type: none"> <li>(a) Any substance or mixture of substances that is a pesticide as defined in the Food and Agricultural Code and includes mixtures and dilutions of pesticides;</li> <li>(b) As the term is used in Section 12995 of the California Food and Agricultural Code, includes any substance or product that the user intends to be used for the pesticidal poison purposes specified in Sections 12753 and 12758 of the Food and Agricultural Code.</li> </ul> </li> <li>- Per California Food and Agricultural Code section 12753(b), the term “Pesticide” includes any of the following: Any substance, or mixture of substances, which is intended to be used for defoliating plants, regulating plant growth, or for preventing, destroying, repelling, or mitigating any pest, as defined in Section 12754.5, which may infest or be detrimental to vegetation, man, animals, or households, or be present in any agricultural or nonagricultural environment whatsoever.</li> <li>- In laymen’s terms, “pesticide” includes: rodenticides, herbicides, insecticides, fungicides, and disinfectants.</li> </ul>
68.	<b>Point of Diversion</b> — A location at which water is withdrawn from a surface waterbody.
69.	<b>Pool</b> — A deeper area of water in a stream channel; usually quiet and often with no visible flow.

70.	<b>Professional Archeologist</b> — An <del>archeologist</del> <b>Archeologist</b> that is qualified by the Secretary of Interior, Register of Professional Archaeologists, or Society for California Archaeology.
71.	<b>Qualified Biologist</b> – an individual who possesses, at a minimum, a bachelor’s or advanced degree, from an accredited university, with a major in biology, zoology, wildlife biology, natural resources science, or a closely related scientific discipline, at least two years of field experience in the biology and natural history of local plant, fish, and wildlife resources present at the cannabis cultivation site, and knowledge of state and federal laws regarding the protection of sensitive and endangered species.
72.	<p><b>Qualified Professional</b> – Qualified Professional means:</p> <ol style="list-style-type: none"> <li>1. individuals licensed in California under the Professional Engineer Act (e.g., Professional Engineer), Geologist and Geophysicist Act (e.g., Professional Geologist, Certified Engineering Geologist, or Certified Hydrogeologist), and Professional Land Surveyors’ Act (e.g., Professional Land Surveyor)<sup>1</sup>,</li> <li>2. a California Registered Professional Forester (RPF), and</li> <li>3. a Qualified Storm Water Pollution Prevention Plan (SWPPP) Developer (QSD). Qualified QSDs are California licensed civil engineers; professional geologists; landscape architects; professional hydrologists; certified professionals in erosion and sediment control; certified inspectors of sediment and erosion control; and certified erosion, sediment, and storm water inspectors.</li> </ol> <p>A Qualified Professional shall only perform work he/she is qualified to complete, consistent with applicable licensing and registration restrictions, and shall certify any work completed. Cannabis cultivation land development in timberland may be designed by a qualified California RPF.</p>
73.	<b>Range of anadromy</b> — Length of stream reach between the Pacific Ocean and the upper limit of anadromy (see definition of <i>Anadromy</i> ), where migration, spawning and rearing of salmonids occur.
74.	<b>Recurrence interval</b> — The average time between occurrences of streamflows of a given or greater magnitude, sometimes referred to as the return period. The recurrence interval is equal to one divided by the exceedance probability.
75.	<b>Redd</b> — Spawning areas or nests made by a salmon or trout
76.	<b>Requirements</b> - Principles and guidelines established in accordance with Water Code section 13149 for the diversion and use of water for cannabis cultivation. Principles and guidelines include: (i) measures to protect springs, wetlands, and aquatic habitats from negative impacts of cannabis cultivation; and (ii) requirements that apply to groundwater diversions where the State Water Board determines those requirements are reasonably necessary.

<sup>1</sup> See Business and Professions Code sections 6700-6799, 7800-7887, and 8700-8805, respectively.

77.	<b>Residual pool depth</b> — The difference between the depth of a pool at its deepest point and at its outlet.
78.	<b>Restricted materials</b> — Restricted materials are defined in California Code of Regulations, title 3, section 6400. Restricted materials include all “restricted use pesticides,” as defined in the Federal Insecticide, Fungicide, and Rodenticide Act section 3(d)(1)(C). Information on restricted materials is available at: <a href="http://www.cdpr.ca.gov/docs/enforce/compend/vol_3/chap2.pdf">http://www.cdpr.ca.gov/docs/enforce/compend/vol_3/chap2.pdf</a> .
79.	<b>Riffle</b> — A shallow area in which water flows rapidly over a rocky or gravelly streambed.
80.	<b>Riffle crest</b> — The highest point along the channel thalweg at a riffle.
81.	<b>Riparian habitat</b> — Vegetation growing close to a stream, lake, swamp, or spring that is generally critical for wildlife cover, fish food organisms, stream nutrients and large organic debris, and for streambank stability.
82.	<b>Riparian Setback</b> – setbacks from a watercourse or waterbody established to protect water quality and/or aquatic life. For the purposes of this document, riparian setbacks also apply to wetlands and surface water bodies such as lakes or reservoirs. Please refer to the Minimum Riparian Setback table (Section 1, Requirement 37)
83.	<b>Road Handbook</b> - The Handbook for Forest, Ranch, and Rural Roads, available at: < <a href="http://www.pacificwatershed.com/PWA-publications-library">http://www.pacificwatershed.com/PWA-publications-library</a> >.
84.	<b>Salmonid</b> — Of, belonging to, or characteristic of the family Salmonidae, which includes salmon, trout, and whitefish.
85.	<b>Sheet flow length</b> — The length that shallow, low velocity flow travels across a site.
86.	<b>Site Mitigation</b> – Efforts to mitigate the impacts of Legacy conditions or cannabis cultivation activities on the cannabis cultivation site or its surroundings.
87.	<b>Site Remediation</b> – Efforts to restore the cannabis cultivation site and its surroundings to its pre-legacy conditions or condition before cannabis cultivation activities began, or to restore the cannabis cultivation site and its surroundings to its natural condition.
88.	<p><b>Slope</b> – shall be determined across the natural topography (preconstruction) of the land to be disturbed. Measure the highest and lowest elevations of the land to be disturbed, then measure the horizontal distance separating the highest and lowest elevations. Determine the slope using the formula below. (Multiple the ratio by 100 to find the percent value.) There may be more than one slope value if the low elevation has higher elevations in different directions. The highest slope value calculated (highest percentage numerically) is the value to be reported.</p> $\text{Slope} = \frac{\text{elevation difference}}{\text{horizontal distance}} \times 100$ <p>Slope – Value of slope expressed as a percentage. Elevation difference – Report in feet to an accuracy of one inch or one tenth of a foot.</p>

	Horizontal distance – Report in feet to an accuracy of one inch or one tenth of a foot.
89.	<b>Soil Materials</b> – Include soil, aggregate (rock, sand, or soil), potting soil, compost, manure, or biosolids.
90.	<b>Spring</b> — See <i>Watercourse</i> definitions.
91.	<b>Stabilized Areas</b> – Consist of areas previously disturbed that have been successfully reclaimed to minimize the increase in sediment or turbidity in water discharged from the site. Areas where vehicles may travel or be parked may not be considered stabilized.
92.	<b>Substrate</b> —The material (e.g., sand, gravel, cobbles, boulders, bedrock, and combinations thereof) that forms the bed of a stream.
93.	<b>Surface Water Diversion Period</b> — The calendar period during which water may be diverted. See also <i>Forbearance Period</i> .
94.	<b>Thalweg</b> — See <i>channel thalweg</i> .
95.	<b>Timberland</b> – Pursuant to Public Resources Code section 4526, means land, other than land owned by the federal government and land designated by the Board of Forestry as experimental forest land, which is available for, and capable of, growing a crop of trees of a commercial species used to produce lumber and other forest products, including Christmas trees. Commercial species, on a district basis, are defined in California Code of Regulations, title 14, section 895.1.
96.	<b>Tribal lands</b> – lands recognized as “Indian country” within the meaning of title 18, United States Code, section 1151.
97.	<b>Turbidity</b> – a measure of water clarity: how much the material suspended in water decreases the passage of light through the water. Suspended materials include soil particles (clay, silt, and sand), algae, plankton, and other substances. The turbidity test is reported in Nephelometric Turbidity Units (NTUs).
98.	<b>Upper limit of anadromy</b> — The upstream end of the range of anadromous fish that currently are or have been historically present year-round or seasonally, whichever extends the furthest upstream.
99.	<b>Waterbody</b> – any significant accumulation of water above the ground surface, such as: lakes, ponds, rivers, streams, creeks, springs, artesian wells, wetlands, and canals.
100.	<b>Watercourse</b> – a natural or artificial channel through which water flows. Perennial watercourse (Class I*): In the absence of diversions, water is flowing for more than nine months during a typical year, Fish always or seasonally present onsite or includes habitat to sustain fish migration and spawning, and/or

	<p>Spring: an area where there is concentrated discharge of ground water that flows at the ground surface. A spring may flow any part of the year. For the purpose of this Policy, a spring does not have a defined bed and banks.</p> <p>Intermittent watercourse (Class II*):          In the absence of diversions, water is flowing for three to nine months during a typical year,          Provides aquatic habitat for non-fish aquatic species,          Fish always or seasonally present within 1,000 feet downstream, and/or          Water is flowing less than three months during a typical year and the stream supports riparian vegetation.</p> <p>Ephemeral watercourse (Class III*): In the absence of diversion, water is flowing less than three months during a typical year and the stream does not support riparian vegetation or aquatic life. Ephemeral watercourses typically have water flowing for a short duration after precipitation events or snowmelt and show evidence of being capable of sediment transport.</p> <p>Other watercourses (Class IV*): Class IV watercourses do not support native aquatic species and are man-made, provide established domestic, agricultural, hydroelectric supply, or other beneficial use.</p> <p>*Except where more restrictive, stream class designations are equivalent to the Forest Practice Rules Water Course and Lake Protection Zone definitions (California Code of Regulations, title 14, Chapter 4. Forest Practice Rules, Subchapters 4, 5, and 6 Forest District Rules, Article 6 Water Course and Lake Protection).</p>
<del>101.</del>	<b><u>Waterbody Canopy Area — The overhead branches and leaves of streamside woody vegetation.</u></b>
<del>102.</del> <del>101.</del>	<b>Watershed</b> — The land area that drains into a stream. An area of land that contributes runoff to one specific delivery point; large watersheds may be composed of several smaller "subsheds", each of which contributes runoff to different locations that ultimately combine at a common delivery point. Often considered synonymous with a drainage basin or catchment. Watershed (drainage basin) boundaries follow topographic highs. The term watershed is also defined as the divide separating one drainage basin from another.
<del>103.</del> <del>102.</del>	<b>Watershed drainage area</b> — The land area that comprises a watershed.
<del>104.</del> <del>103.</del>	<b>Water hauler</b> — Any person who hauls water in bulk by any means of transportation.
<del>105.</del> <del>104.</del>	<b>Waters of the State</b> – any surface water or groundwater, including saline waters, within the boundaries of the state (Water Code section 13050(e)). Includes all waters within the state’s boundaries, whether private or public, including waters in both natural and artificial channels. Waters of the state includes waters of the United States.
<del>106.</del> <del>105.</del>	<b>Weed-free mulch</b> — A certified weed-free protective covering (e.g. bark chips, straw, etc.) placed on the ground around plants to suppress weed growth, retain soil moisture, or prevent freezing of roots.
<del>107.</del> <del>106.</del>	<b>Wetland</b> – an area is a wetland if, under normal circumstances:

	<p>the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both;</p> <p>the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and</p> <p>the area's vegetation is dominated by hydrophytes or the area lacks vegetation.</p>
<p><b>108.</b> <del>107.</del></p>	<p><b>Winter Period</b> – calendar dates from November 15 to April 1, except as noted under special County Rules in California Code of Regulations, title 14, sections 925.1, 926.18, 927.1, and 965.5. A Regional Water Board Executive Officer may impose a more restrictive winter period to protect water quality based on special county rules or as specified in a Basin Plan. The following special rules or basin plan requirements apply:</p> <ul style="list-style-type: none"> <li>i. Santa Clara County, Santa Cruz County, and Monterey County: October 15 to April 15;</li> <li>ii. Marin County: October 1 to April 15; and</li> <li>iii. Lahontan Regional Water Board: October 15 to May 1 (for elevations above 6,000 feet).</li> </ul>

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# SECTION 1 – GENERAL REQUIREMENTS AND PROHIBITIONS

The following general requirements and prohibitions apply to any cannabis cultivator.

## General Requirements and Prohibitions

No.	TERM
1.	<p>Prior to commencing any cannabis cultivation activities, including cannabis cultivation land development or alteration, the cannabis cultivator shall comply with all applicable federal, state, and local laws, regulations, and permitting requirements, as applicable, including but not limited to the following:</p> <ul style="list-style-type: none"> <li>• The Clean Water Act (CWA) as implemented through permits, enforcement orders, and self-implementing requirements. When needed per the requirements of the CWA, the cannabis cultivator shall obtain a CWA section 404 (33 U.S.C. § 1344) permit from the United States Army Corps of Engineers (Army Corps) and a CWA section 401 (33 U.S.C. § 1341) water quality certification from the State Water Board or the Regional Water Board with jurisdiction. If the CWA permit cannot be obtained, the cannabis cultivator shall contact the appropriate Regional Water Board or State Water Board prior to commencing any cultivation activities. The Regional Water Board or State Water Board will determine if the cannabis cultivation activity and discharge is covered by the <i>Requirements in the Policy and Cannabis General Waste Discharge Requirements <b>and Waiver of Waste Discharge Requirements</b> for Discharges of Waste Associated with Cannabis Cultivation Activities</i> (Cannabis <b>Cultivation</b> General Order).</li> <li>• The California Water Code as implemented through applicable water quality control plans (often referred to as Basin Plans), waste discharge requirements (WDRs) or waivers of WDRs, enforcement orders, and self-implementing requirements issued by the State Water Resources Control Board (State Water Board) or Regional Water Quality Control Boards (Regional Water Boards).</li> <li>• All applicable state, city, county, or local regulations, ordinances, or license requirements including, but not limited to those for cannabis cultivation, grading, construction, and building.</li> <li>• All applicable requirements of the California Department of Fish and Wildlife (CDFW).</li> <li>• All applicable requirements of the California Department of Forestry and Fire Protection (CAL FIRE), including the Board of Forestry.</li> <li>• California Environmental Quality Act and the National Environmental Policy Act.</li> </ul>
2.	<p>If applicable, cannabis cultivators shall obtain coverage under all of the following:</p> <ul style="list-style-type: none"> <li><b>a)</b> <del>a.</del> The State Water Board's Construction Storm Water Program and any successors, amendments, or revisions thereto when applicable.</li> </ul>

No.	TERM
	<p><b>b)</b> <del>b-</del> Activities performed in areas subject to California Code of Regulations title 14, Chapter 4. Forest Practices (Forest Practice Rules) shall be implemented consistent with the permitting, licensing, and performance standards of the Forest Practice Rules, and the Requirements of this Policy, whichever is more stringent.</p>
<p>3.</p>	<p>The cannabis cultivator shall apply for a Lake and Streambed Alteration Agreement (LSA Agreement) or consult with CDFW to determine if a LSA Agreement is needed prior to commencing any activity that may substantially:</p> <ul style="list-style-type: none"> <li>• divert or obstruct the natural flow of any river, stream, or lake;</li> <li>• change or use any material from the bed, channel, or bank of any river, stream, or lake; or</li> <li>• deposit debris, waste, or other materials that could pass into any river stream or lake.</li> </ul> <p>“Any river, stream or lake,” as defined by CDFW, includes those that are episodic (they are dry for periods of time) as well as those that are perennial (they flow year-round). This includes ephemeral streams, desert washes, and watercourses with a subsurface flow. It may also apply to work undertaken within the flood plain of a body of water.</p>
<p>4.</p>	<p>Cannabis cultivators shall not take any action which results in the taking of Special-Status Plants (state listed and California Native Plant Society 1B.1 and 1B.2), Fully Protected species (Fish and Game Code sections 3511, 4700, 5050, and 5515), or a threatened, endangered, or candidate species under either the California Endangered Species Act (ESA) (Fish &amp; Game Code §§ 2050 et seq.) or the federal ESA (16 U.S.C. § 1531 et seq.). If a “take,” as defined by the California ESA (Fish and Game Code section 86) or the federal ESA (16 U.S.C. § 1532(21)), may result from any act authorized under this Policy, the cannabis cultivator must obtain authorization from CDFW, National Marine Fisheries Service, and United States Fish and Wildlife Service, as applicable, to incidentally take such species prior to land disturbance or operation associated with the cannabis cultivation activities. The cannabis cultivator is responsible for meeting all requirements under the California ESA and the federal ESA.</p>
<p>5.</p>	<p>A Regional Water Board may adopt site-specific WDRs or an enforcement order for a cannabis cultivation facility that does not include requirements consistent with the following if the site-specific WDRs or enforcement order contains sufficient requirements to be protective of water quality:</p> <ul style="list-style-type: none"> <li>• The maximum slope limit of 50 percent in disturbed areas.</li> <li>• The minimum riparian setbacks described herein.</li> <li>• The prohibition against land disturbance activities during the winter period.</li> </ul>
<p>6.</p>	<p>To avoid water quality degradation from erosion and sedimentation, land disturbance activities shall not occur during the winter period unless authorized by a Regional Water Board Executive Officer. Cannabis cultivators shall ensure land disturbing activities are completed and site stabilization measures are in place prior to the onset of the winter</p>

No.	TERM
	period. All land disturbing activities during the winter period shall be supervised by a Qualified Professional. <sup>2</sup>
7.	A California Licensed Timber Operator (LTO) <sup>3</sup> shall be used if any commercial tree species are to be removed from the cannabis cultivation site. All timberland conversions shall be permitted and compliant with the Forest Practice Rules and CAL FIRE permitting requirements.
8.	Site improvements and limited repairs may be performed by the cannabis cultivator or contractors as allowed by the Business and Professions Code (Bus. & Prof. Code, section 7044 and/or section 7048). All contracts to perform work that is valued at \$500 or more in combined labor and material costs shall be performed by an appropriately qualified and licensed contractor as required by the California Contractors' State License Board.
9.	<p>During land disturbance activities, the cannabis cultivator shall review and evaluate the applicable daily weather forecast and any applicable 24 hour forecast<sup>4</sup> at least once per 24 hour period and maintain records of the weather forecast for each day land disturbance activities are conducted. The cannabis cultivator shall cease land disturbance activities and shall implement erosion control Requirements described in this Policy during any 24 hour period in which the applicable daily weather forecast or any 24 hour forecast reports a 50 percent or greater chance of precipitation greater than 0.5 inch per 24 hours.</p> <p>Consistent with Lahontan Regional Water Board Order No R6T-2016-0010, an anticipated precipitation event within the Lake Tahoe Hydrologic Unit (Department of Water Resources Hydrologic Unit No.634.00) is any weather pattern that is forecast to have a 30 percent or greater chance of producing 0.1 inch of precipitation as rainfall in the project area. Cannabis cultivators located in the Lake Tahoe Hydrologic Unit shall cease land disturbance activities and shall implement erosion control Requirements described in this Policy during any 24 hour period in which the applicable daily weather forecast or any 24 hour forecast reports a 30 percent or greater chance of precipitation greater than 0.1 inch per 24 hours. This requirement may be updated based on amendments to the Lahontan Regional Water Board construction storm water general order.</p>
10.	Prior to commencing any cannabis land development or site expansion activities, the cannabis cultivator shall retain a <b>Qualified Biologist</b> <del>qualified biologist</del> to identify sensitive plant, wildlife species, or communities at the proposed development site. If sensitive plant, wildlife species, or communities are identified, the cannabis cultivator and

<sup>2</sup> Although emergency mitigation measures may not require obtaining coverage under the Construction Storm Water Program, the elevated threat to water quality caused by emergency mitigation or remediation work performed during the winter period requires planning and supervision by an appropriately **Qualified Professional** ~~qualified professional~~ to protect water quality, such as an appropriately certified or registered Storm Water Pollution Prevention Plan Developer.

<sup>3</sup> Licensed Timber Operators or "LTOs" are persons who have been licensed under the Forest Practice Act law and are authorized to conduct forest tree cutting and removal operations.

<sup>4</sup> If available, the cannabis cultivator shall refer to the weather forecast developed by the National Oceanic and Atmospheric Administration (NOAA) for the local National Weather Service Office (<http://www.weather.gov>). If the NOAA forecast is not available, a forecast by a local television news or radio broadcast shall be used.

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	Qualified Biologist shall consult with CDFW and CAL FIRE to designate a no-disturbance buffer to protect identified sensitive plant, wildlife species, and communities. A copy of the report shall be submitted to the appropriate Regional Water Board.
11.	To prevent transfer of invasive species, <sup>5</sup> all equipment used at the cannabis cultivation site, including excavators, graders, etc., shall be cleaned before arriving and before leaving the site.
12.	The cannabis cultivator shall comply with all applicable requirements of the State Water Board and Regional Water Boards' (collectively Water Boards) water quality control plans and policies.
13.	The cannabis cultivator shall immediately report any significant hazardous material release or spill that causes a film or sheen on the water's surface, leaves a sludge or emulsion beneath the water's surface, or a release or threatened release of a hazardous material that may potentially discharge to waters of the state, to the California Office of Emergency Services at <b>(800) 852-7550</b> and the local Unified Program Agency. <sup>6</sup> The cannabis cultivator shall also immediately notify the appropriate Regional Water Board and CDFW of the release.
14.	The cannabis cultivator shall comply with all water quality objectives/standards, policies, and implementation plans adopted or approved pursuant to the Porter-Cologne Water Quality Control Act (California Water Code section 13000, et seq.) or CWA section 303 (33 U.S.C. § 1313).
15.	<p>During reasonable hours, the cannabis cultivator shall allow the Water Boards, CDFW, CAL FIRE, and any other authorized representatives of the Water Boards, CDFW, or CAL FIRE upon presentation of a badge, employee identification card, or similar credentials, to:</p> <ul style="list-style-type: none"> <li><b>a)</b> <del>1-</del> enter premises and facilities where cannabis is cultivated; where water is diverted, stored, or used; where wastes are treated, stored, or disposed of; or in which any records are kept;</li> <li><b>b)</b> <del>2-</del> access and copy, any records required to be kept under the terms and conditions of this Policy;</li> <li><b>c)</b> <del>3-</del> inspect, photograph, and record audio and video, any cannabis cultivation sites, and associated premises, facilities, monitoring equipment or device, practices, or operations regulated or required by this Policy; and</li> <li><b>d)</b> <del>4-</del> sample, monitor, photograph, and record audio and video of site conditions, any discharge, waste material substances, or water quality parameters at any location for the purposes of assuring compliance with this Policy.</li> </ul>

<sup>5</sup> CDFW defines invasive species as organisms (plants, animals, or microbes) that are not native to an environment, and once introduced, they establish, quickly reproduce and spread, and cause harm to the environment, economy, or human health. Cannabis cultivators may refer to CDFW Internet webpage for guidance on decontamination methods and species of concern. See CDFW's invasive species webpage at: <https://www.wildlife.ca.gov/Conservation/Invasives>.

<sup>6</sup> Visit the Unified Program Agency website at <http://cersapps.calepa.ca.gov/public/directory> for local contact information. If internet service is not available call 911 to report the hazardous material release.

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16.	The State Water Board may modify this Policy to implement new or revised water quality standards, policies, or water quality control plans; total maximum daily loads (TMDLs), TMDL implementation plans, or revisions to the California Water Code or CWA.
17.	The State Water Board may modify this Policy and the terms and conditions of water right registrations if monitoring results indicate that cannabis cultivation activities could violate instream flow requirements, water quality objectives, or impair the beneficial uses of a waterbody or its tributaries.
18.	Cannabis cultivators shall not commit trespass. Nothing in this Policy or any program implementing this Policy shall be construed to authorize cannabis cultivation: (a) on land not owned by the cannabis cultivator without the express written permission of the landowner; or (b) inconsistent with a conservation easement, open space easement, or greenway easement. This includes, but is not limited to, land owned by the United States or any department thereof, the State of California or any department thereof, any local agency, or any other person who is not the cannabis cultivator. This includes, but is not limited to, any land owned by a California Native American tribe, as defined in section 21073 of the Public Resources Code, whether or not the land meets the definition of tribal lands and includes lands owned for the purposes of preserving or protecting Native American cultural resources of the kinds listed in Public Resources Code section 5097.9 and 5097.993. This includes, but is not limited to, conservation easements held by a qualifying California Native American tribe pursuant to Civil Code section 815.3 and greenway easements held by a qualifying California Native American tribe pursuant to Civil Code section 816.56.
19.	<p><b><u>Prior to acting on a cannabis cultivator's request to cultivate cannabis on tribal lands<sup>7</sup> or within 600 feet of tribal lands, the Water Boards will notify the governing body of any affected California Native American tribe or the governing body's authorized representative, as applicable. A 45-day review period will commence upon receipt of the notice by the affected tribe.</u></b></p> <p><b><u>During the 45-day review period, the affected tribe may, at its discretion, accept, reject, or not act regarding the cannabis cultivation proposal. If the tribe rejects the proposed cultivation, the cannabis cultivator is prohibited from cultivating cannabis on or within 600 feet of the affected tribe's tribal lands. If the affected tribe accepts the cannabis cultivation proposal or does not act during the 45-day review period, the Water Boards may proceed with a decision on the cannabis cultivation request as though the affected tribe accepted the cannabis cultivation proposal.</u></b></p> <p><b><u>The governing bodies of California Native American tribes may, at their discretion, reject all proposed cannabis cultivation on their tribal lands, on portions of their tribal lands, or within 600 feet of their tribal lands. The Water Boards will observe the prohibition once the governing body of the affected tribe has notified the State Water Board's Executive Director in writing of its decision to reject all cannabis cultivation on tribal lands, on portions of tribal lands, or within 600 feet of its tribal lands. Upon receipt of notification current and future cannabis cultivation</u></b></p>

<sup>7</sup> "Tribal lands" means lands recognized as "Indian country" within the meaning of title 18, United States Code, section 1151.

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	<p><u>proposals will be prohibited on or within 600 feet of tribal lands of the affected tribe and the Water Boards will not approve cannabis cultivation proposals on or within 600 feet of the affected tribe’s tribal lands, as applicable.</u></p> <p><u>The governing bodies of California Native American tribes may, at their discretion, waive the 45-day review period for all current and future proposed cannabis cultivation on or within 600 feet of tribal lands. The Water Boards will abide by a waiver once the governing body of the affected tribe has notified the State Water Board’s Executive Director in writing of its decision to waive the 45-day review period for all proposed cannabis cultivation on their tribal lands, on portions of their tribal lands, or within 600 feet of their tribal lands. Upon receipt of notification of such waiver, the Water Boards, at their discretion, will act on cannabis cultivation requests on or within 600 feet of tribal lands, as applicable, as though the affected tribe accepted the proposal.</u></p> <p><u>The governing bodies of California Native American tribes may, at their discretion, withdraw a previously issued decision regarding cannabis cultivation on or within 600 feet of their tribal lands. In such instances, the governing body of the affected tribe shall notify the State Water Board’s Executive Director in writing. The Water Boards will abide by the withdrawal of the affected tribe’s decision for any new cannabis cultivation proposals received after the date the State Water Board Executive Director has notified the governing body of the affected tribe that its decision was received and the Water Boards will coordinate with the affected tribe to address existing permitted cannabis cultivation sites on the affected tribe’s lands, as necessary.</u></p> <p><u>Nothing in this provision shall be construed to modify or interpret tribal law in any way.</u></p> <p><del>The cannabis cultivator shall not cultivate cannabis on tribal lands or within 600 feet of tribal lands without the express written permission of the governing body of the affected tribe or from a person deputized by the governing body of the affected tribe to authorize cannabis cultivation on tribal lands.<sup>7</sup></del></p>
20.	<p>No cannabis cultivation activities shall occur within 600 feet of an identified tribal cultural resource site. The cannabis cultivator is solely responsible for identifying any tribal cultural resource sites<sup>8</sup> within the cannabis cultivation area.</p>
21.	<p>Prior to land disturbance activities for new or expanded cannabis cultivation activities, the cannabis cultivator shall <del>perform either conduct or request</del> a records search of potential Native American archeological or cultural resources at a California Historical Resources Information System (CHRIS) information center <u>and document the results</u>. Any person who meets qualification requirements for access to the CHRIS may <del>perform conduct or request</del> the initial CHRIS records search and document the results. The requirement to <del>perform conduct or request</del> a CHRIS records search may be satisfied by using the results of a previous CHRIS records search completed within the previous 10 years for the</p>

<sup>8</sup> “Identified tribal cultural resource site” means a tribal cultural resource that meets the requirements of section 21074, subdivision (a)(1) of the Public Resources Code.

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	<p>specific parcel or parcels where new or expanded cannabis cultivation activities are proposed to occur.</p> <p>Prior to land disturbance activities for new or expanded cannabis cultivation activities, the cannabis cultivator shall also request a search of the Sacred Lands Inventory that is maintained by the Native American Heritage Commission pursuant to Public Resources Code sections 5097.94, subdivision (a), and 5097.96 (Sacred Lands Inventory). If the Sacred Lands Inventory search reveals the presence or potential presence of Native American places of special or social significance to Native Americans, Native American known graves or cemeteries, or Native American sacred places, the cannabis cultivator shall consult with the tribe or tribes that are culturally affiliated with the area in which these Native American cultural resources exist or potentially exist prior to <b>conducting any ground-disturbing land disturbance</b> activities. The information provided by tribes through consultation with the cannabis cultivator shall be maintained as confidential by the cannabis cultivator and its agents. A new Sacred Lands Inventory search is always required prior to ground disturbing activities for new or expanded cannabis cultivation.</p> <p>The cannabis cultivator shall notify the Appropriate Person within seven days of receiving a CHRIS positive result or Sacred Lands Inventory positive result. The Appropriate Person is the Deputy Director for Water Rights (Deputy Director) if the cannabis cultivator is operating under the Cannabis Small Irrigation Use Registration (SIUR), the Executive Officer of the applicable Regional Water Board (Executive Officer) if the cannabis cultivator is operating under the Cannabis <b>Cultivation</b> General Order or Cannabis General Water Quality Certification, or both if the cannabis cultivator is operating under both programs.</p> <p>In the event that prehistoric archeological materials or indicators are identified in a CHRIS positive result, the cannabis cultivator shall also notify the Native American Heritage Commission within seven days of receiving the CHRIS positive result and request a list of any California Native American tribes that are potentially culturally affiliated with the positive result. The cannabis cultivator shall notify any potentially culturally affiliated California Native American tribes of the CHRIS positive result within 48 hours of receiving a list from the Native American Heritage Commission.</p> <p>The cannabis cultivator shall promptly retain a <b>Professional Archeologist professional archeologist</b><sup>9</sup> to evaluate the CHRIS positive result and recommend appropriate conservation measures. In the event of a Sacred Lands Inventory positive result, the cannabis cultivator shall develop appropriate mitigation and conservation measures in consultation with the affected California Native American tribe, and shall promptly retain a <b>Professional Archeologist professional archeologist</b> to assist in this task in the event of a Sacred Lands Inventory positive result related to human remains or archeological resources. The cannabis cultivator shall submit proposed mitigation and conservation measures to the <b>Appropriate Person(s) appropriate person(s)</b> (Deputy Director for the Cannabis SIUR and Executive Officer for the Cannabis <b>Cultivation</b> General Order or Cannabis General Water Quality Certification) for written approval. The <b>Appropriate Person appropriate person</b> may require all appropriate measures necessary to conserve</p>

<sup>9</sup> A professional archeologist is one that is qualified by the Secretary of Interior, Register of Professional Archaeologists, or Society for California Archaeology.

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	<p>archeological resources and tribal cultural resources, including but not limited to Native American monitoring, preservation in place, and archeological data recovery.</p> <p>In the event that prehistoric archeological materials or indicators are identified in a CHRIS positive result, or in the event of a Sacred Lands Inventory positive result, the cannabis cultivator shall also provide a copy of the final proposed mitigation and conservation measures to any culturally affiliated California Native American tribes identified by the Native American Heritage Commission. The <b>Appropriate Person</b> <del>appropriate person</del> will carefully consider any comments or mitigation measure recommendations submitted by culturally affiliated California Native American tribes with the goal of conserving tribal cultural resources and prehistoric archeological resources with appropriate dignity.</p> <p>Ground-disturbing activities shall not commence until all approved measures have been completed to the satisfaction of the Deputy Director and/or Executive Officer, as applicable.</p>
22.	<p>If any buried archeological materials or indicators<sup>10</sup> are uncovered or discovered during any cannabis cultivation activities, all ground-disturbing activities shall immediately cease within 100 feet of the find.</p> <p>The cannabis cultivator shall notify the Appropriate Person within 48 hours of any discovery. The Appropriate Person is the Deputy Director if the cannabis cultivator is operating under the Cannabis SIUR, the Regional Water Board Executive Officer if the cannabis cultivator is operating under the Cannabis <b>Cultivation</b> General Order or Cannabis General Water Quality Certification, or both if the cannabis cultivator is operating under both programs.</p> <p>In the event that prehistoric archeological materials or indicators are discovered, the cannabis cultivator shall also notify the Native American Heritage Commission within 48 hours of any discovery and request a list of any California Native American tribes that are potentially culturally affiliated with the discovery. The cannabis cultivator shall notify any potentially culturally affiliated California Native American tribes of the discovery within 48 hours of receiving a list from the Native American Heritage Commission.</p> <p>The cannabis cultivator shall promptly retain a <b>Professional Archeologist</b> <del>professional archeologist</del><sup>11</sup> to evaluate the discovery. The cannabis cultivator shall submit proposed mitigation and conservation measures to the <b>Appropriate Person(s)</b> <del>appropriate person(s)</del> (Deputy Director for the Cannabis SIUR and Regional Water Board Executive Officer for the Cannabis <b>Cultivation</b> General Order or Cannabis General Water Quality Certification) for written approval. The <b>Appropriate Person</b> <del>appropriate person</del> may</p>

<sup>10</sup> Prehistoric archeological indicators include, but are not limited to: obsidian and chert flakes and chipped stone tools; bedrock outcrops and boulders with mortar cups; ground stone implements (grinding slabs, mortars, and pestles) and locally darkened midden soils containing some of the previously listed items plus fragments of bone, fire affected stones, shellfish, or other dietary refuse.

Historic period site indicators generally include, but are not limited to: fragments of glass, ceramic and metal objects; milled and split lumber; and structure and feature remains such as building foundations, privy pits, wells and dumps; and old trails.

<sup>11</sup> A professional archeologist is one that is qualified by the Secretary of Interior, Register of Professional Archaeologists, or Society for California Archaeology.



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	<p>require all appropriate measures necessary to conserve archeological resources and tribal cultural resources, including but not limited to Native American monitoring, preservation in place, and archeological data recovery.</p> <p>In the event of a discovery of prehistoric archeological materials or indicators are discovered, the cannabis cultivator shall also provide a copy of the final proposed mitigation and conservation measures to any culturally affiliated California Native American tribes identified by the Native American Heritage Commission. The <b>Appropriate Person</b> <del>appropriate person</del> will carefully consider any comments or mitigation measure recommendations submitted by culturally affiliated California Native American tribes with the goal of conserving prehistoric archeological resources and tribal cultural resources with appropriate dignity.</p> <p>Ground-disturbing activities shall not resume within 100 feet of the discovery until all approved measures have been completed to the satisfaction of the Deputy Director and/or Executive Officer, as applicable.</p>
23.	<p>Upon discovery of any human remains, cannabis cultivators shall immediately comply with Health and Safety Code section 7050.5 and, if applicable, Public Resources Code section 5097.98. The following actions shall be taken immediately upon the discovery of human remains:</p> <p>All ground-disturbing activities in the vicinity of the discovery shall stop immediately. The cannabis cultivator shall immediately notify the county coroner. Ground disturbing activities shall not resume until the requirements of Health and Safety Code section 7050.5 and, if applicable, Public Resources Code section 5097.98 have been met. The cannabis cultivator shall ensure that the human remains are treated with appropriate dignity.</p> <p>Per Health and Safety Code section 7050.5, the coroner has two working days to examine human remains after being notified by the person responsible for the excavation, or by their authorized representative. If the remains are Native American, the coroner has 24 hours to notify the Native American Heritage Commission.</p> <p>Per Public Resources Code section 5097.98, the Native American Heritage Commission will immediately notify the persons it believes to be the most likely descended from the deceased Native American. The most likely descendent has 48 hours to make recommendations to the landowner or representative for the treatment or disposition, with proper appropriate dignity, of the human remains and any associated grave goods. If the Native American Heritage Commission is unable to identify a descendant; the mediation provided for pursuant to subdivision (k) of Public Resources Code section 5097.94, if invoked, fails to provide measures acceptable to the landowner; or the most likely descendent does not make recommendations within 48 hours; and the most likely descendants and the landowner have not mutually agreed to extend discussions regarding treatment and disposition pursuant to subdivision (b)(2) of Public Resources Code section 5097.98, the landowner or their authorized representative shall reinter the human remains and items associated with the Native American human remains with appropriate dignity on the property in a location not subject to further and future disturbance consistent with subdivision (e) of Public Resources Code section 5097.98. If the landowner does not accept the descendant's recommendations, the landowner or the</p>

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	descendants may request mediation by the Native American Heritage Commission pursuant to Public Resources Code section 5097.94, subdivision (k).
24.	Pursuant to Water Code sections 100 and 275 and the common law public trust doctrine, all rights and privileges, including method of diversion, method of use, and quantity of water diverted, are subject to the continuing authority of the State Water Board in accordance with law and in the interest of the public welfare to protect public trust uses and to prevent waste, unreasonable use, unreasonable method of use, or unreasonable method of diversion of said water.
25.	Cannabis cultivators shall not discharge waste in a manner that creates or threatens to create a condition of pollution or nuisance, as defined by Water Code section 13050.
26.	<p>Except as allowed and authorized in this Policy, cannabis cultivators shall not discharge:</p> <ul style="list-style-type: none"> <li>• irrigation runoff, tailwater, sediment, plant waste, or chemicals to surface water or via surface runoff;</li> <li>• waste classified as hazardous (California Code of Regulations, title 23, section 2521(a)) or defined as a designated waste (Water Code section 13173); or</li> <li>• waste in violation of, or in a manner inconsistent with, the appropriate Water Quality Control Plan(s).</li> </ul>
27.	<p>Unless authorized by separate waste discharge requirements, the Cannabis <b>Cultivation</b> General Order, or a CWA section 404/<b>401</b> permit, the following discharges are prohibited:</p> <ul style="list-style-type: none"> <li>• any waste that could affect the quality of the waters of the state; or</li> <li>• wastewater from cannabis manufacturing activities defined in Business and Professions Code section 26100, indoor grow operations, or other industrial wastewater to an onsite wastewater treatment system (e.g., septic tank and associated disposal facilities), to surface water, or to land.</li> </ul>
28.	Unless authorized by a Regional Water Board site-specific WDR, cannabis cultivators shall not cultivate cannabis or have cannabis cultivation related land disturbance on slopes greater than 50 percent.
29.	Cannabis cultivators shall not use a cesspool for domestic or industrial wastewater disposal. Cannabis cultivators shall not install or continue use of an outhouse, pit-privy, pit-toilet, or similar device without approval from the Regional Water Board Executive Officer of the applicable Regional Water Board.
30.	In timberland areas, cannabis cultivators shall not remove commercial tree species or other vegetation within 150 feet of fish bearing water bodies or 100 feet of aquatic habitat for non-fish aquatic species (e.g., aquatic insects) prior to obtaining all applicable permits required from CAL FIRE, CDFW (i.e., LSA Agreement), and/or the Regional Water Board Executive Officer.
31.	Tier 1 or 2 cannabis cultivators located on slopes greater than 30% and less than 50% must submit a Site Erosion and Sediment Control Plan to the Regional Water Board Executive Officer for any cannabis-related land development or alteration. The Site Erosion and Sediment Control Plan shall be approved by the applicable Regional Water

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	Board Executive Officer prior to the cannabis cultivator initiating or expanding any land disturbance. The Regional Water Board Executive Officer may deny the request to conduct new land disturbance activities for cannabis cultivation if local conditions (e.g., soil type, site instability, proximity to a waterbody, etc.) do not allow for adequate erosion and sediment control measures to ensure discharges to waters of the state will not occur.
32.	Tier 1 or 2 cannabis cultivators with any portion of the disturbed areas existing within the setbacks shall submit a Disturbed Area Stabilization Plan to the Regional Water Board Executive Officer. The Disturbed Area Stabilization Plan shall be approved by the applicable Regional Water Board Executive Officer prior to the cannabis cultivator initiating any land stabilization activities. This requirement does not apply to disturbed areas resulting from activities authorized under 404/401 CWA permits, a CDFW LSA Agreement, coverage under the Cannabis <b>Cultivation</b> General Order water quality certification, or site-specific WDRs issued by the Regional Water Board.
33.	Cannabis cultivators under any Cannabis <b>Cultivation</b> General Order or individual WDRs implementing this Policy shall self-certify that they have complied with or will comply with all applicable Requirements in this Policy no later than the onset of the winter period of the same year as the application date and each year thereafter. If application occurs after the onset of the winter period, cannabis cultivators shall self-certify that all applicable Requirements in this Policy will be implemented by the onset of the winter period of the next calendar year, and each year thereafter. Those cannabis cultivators that cannot implement all applicable Requirements by the onset of the winter period shall, within 90 days of application submittal, submit to the Executive Officer of the applicable Regional Water Board a time schedule and scope of work for use by the Regional Water Board in developing a compliance schedule.
34.	Cannabis cultivators shall implement interim Requirements immediately following land disturbance, to minimize discharges of waste constituents. Interim Requirements are those that are implemented immediately upon site development. Cannabis cultivators shall complete all winterization Requirements prior to the onset of the winter period to prevent waste discharges that may result in water quality degradation.
35.	Cannabis cultivators shall not cause downstream exceedance of applicable water quality objectives identified in the applicable water quality control plan(s).
36.	The landowner is ultimately responsible for any water quality degradation that occurs on or emanates from its property and for water diversions that are not in compliance with this Policy. Landowners will be named as responsible parties and will be notified if a Cannabis <b>Cultivation</b> General Order Notice of Applicability or conditional exemption has been issued for cannabis activities on their property. The cannabis cultivator and the landowner will be held responsible for correcting non-compliance.
37.	Cannabis cultivators shall comply with the minimum riparian setbacks described below for all land disturbance, cannabis cultivation activities, and facilities (e.g., material or vehicle storage, petroleum powered pump locations, <b>off-stream</b> water storage areas, and chemical toilet placement). The riparian setbacks shall be measured from the waterbody's bankfull stage (high flow water levels that occur every 1.5 to 2 years) or from the top edge of the waterbody bank in incised channels, whichever is more conservative. Riparian

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	<p>setbacks for springheads shall be measured from the springhead in all directions (circular buffer). Riparian setbacks for wetlands shall be measured from the edge of wetland as delineated by a <b>Qualified Professional</b> <del>qualified-professional</del> with experience implementing the Corps of Engineers Wetlands Delineation Manual (with regional supplements). The Regional Water Board Executive Officer may require additional riparian setbacks or additional requirements, as needed, to meet the performance requirement of protecting surface water from discharges that threaten water quality. If the cannabis cultivation site cannot be managed to protect water quality, the Executive Officer of the applicable Regional Water Board may revoke authorization for cannabis cultivation activities at the cannabis cultivation site.</p> <p>Minimum Riparian Setbacks<sup>1,2</sup></p> <table border="1" data-bbox="404 659 1328 1442"> <thead> <tr> <th data-bbox="404 659 933 760">Common Name</th> <th data-bbox="933 659 1138 760">Watercourse Class<sup>3</sup></th> <th data-bbox="1138 659 1328 760">Distance</th> </tr> </thead> <tbody> <tr> <td data-bbox="404 760 933 861">Perennial watercourses, waterbodies (e.g. lakes, ponds), or springs<sup>4</sup></td> <td data-bbox="933 760 1138 861">I</td> <td data-bbox="1138 760 1328 861">150 ft.</td> </tr> <tr> <td data-bbox="404 861 933 926">Intermittent watercourses or wetlands</td> <td data-bbox="933 861 1138 926">II</td> <td data-bbox="1138 861 1328 926">100 ft.</td> </tr> <tr> <td data-bbox="404 926 933 1052">Ephemeral watercourses</td> <td data-bbox="933 926 1138 1052">III</td> <td data-bbox="1138 926 1328 1052">50 ft.</td> </tr> <tr> <td data-bbox="404 1052 933 1220">Man-made irrigation canals, water supply reservoirs, or hydroelectric canals that support native aquatic species</td> <td data-bbox="933 1052 1138 1220">IV</td> <td data-bbox="1138 1052 1328 1220">Established Riparian Vegetation Zone</td> </tr> <tr> <td data-bbox="404 1220 933 1442">All other man-made irrigation canals, water supply reservoirs, or hydroelectric canals</td> <td data-bbox="933 1220 1138 1442">IV</td> <td data-bbox="1138 1220 1328 1442">N/A</td> </tr> </tbody> </table> <p><sup>1</sup> A Regional Water Board may adopt site-specific WDRs or an enforcement order for a cannabis cultivator with requirements that are inconsistent with the setbacks in this table if the Executive Officer determines that the site-specific WDRs or enforcement order contains sufficient requirements to be protective of water quality.</p> <p><sup>2</sup> Cannabis cultivators enrolled in a Regional Water Board order adopting WDRs or a waiver of WDRs for cannabis cultivation activities prior to October 17, 2017, may retain reduced setbacks applicable under that Regional Water Board order unless the Regional Water Board's Executive Officer determines that the reduced setbacks applicable under that order are not protective of water quality.</p> <p><sup>3</sup> Except where more restrictive, the stream class designations are equivalent to the Forest Practice Rules Water Course and Lake Protection Zone definitions (California Code of Regulations, title 14, Chapter 4. Forest Practice Rules, Subchapters 4, 5, and 6 Forest District Rules, Article 6 Water Course and Lake Protection).</p>	Common Name	Watercourse Class <sup>3</sup>	Distance	Perennial watercourses, waterbodies (e.g. lakes, ponds), or springs <sup>4</sup>	I	150 ft.	Intermittent watercourses or wetlands	II	100 ft.	Ephemeral watercourses	III	50 ft.	Man-made irrigation canals, water supply reservoirs, or hydroelectric canals that support native aquatic species	IV	Established Riparian Vegetation Zone	All other man-made irrigation canals, water supply reservoirs, or hydroelectric canals	IV	N/A
Common Name	Watercourse Class <sup>3</sup>	Distance																	
Perennial watercourses, waterbodies (e.g. lakes, ponds), or springs <sup>4</sup>	I	150 ft.																	
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Man-made irrigation canals, water supply reservoirs, or hydroelectric canals that support native aquatic species	IV	Established Riparian Vegetation Zone																	
All other man-made irrigation canals, water supply reservoirs, or hydroelectric canals	IV	N/A																	

No.	TERM
	<p><sup>4</sup> Spring riparian setbacks default to the applicable watercourse riparian setback 150 feet downstream and/or upstream of the spring's confluence with the watercourse or 150 feet downstream of the point where the spring forms a watercourse with defined bed and banks.</p>
<p>38.</p>	<p><b><u>Indoor cannabis cultivation<sup>12</sup> structures are exempt from the riparian setback (Requirement 37) and tribal buffer (Requirement 19) if either of the following conditions are met:</u></b></p> <p>a) <b><u>The indoor cannabis cultivation structure:</u></b></p> <ul style="list-style-type: none"> <li>i. <b><u>has a building permit on file with the county, city, or local jurisdiction and started construction prior to October 1, 2018;</u></b></li> <li>ii. <b><u>has a valid certificate of occupancy or amended certificate of occupancy for indoor cannabis cultivation; and</u></b></li> <li>iii. <b><u>either (A) is connected to and discharges any industrial wastewater to a permitted wastewater treatment collection system and facility that accepts cannabis cultivation wastewater, or (B) discharges any industrial wastewater directly to an appropriately designed and connected storage tank located outside of the riparian setback, and the discharge is properly disposed of by a permitted wastewater hauler at a permitted wastewater treatment facility that accepts cannabis cultivation wastewater.</u></b></li> </ul> <p><b><u>OR</u></b></p> <p>b) <b><u>The indoor cannabis cultivation structure:</u></b></p> <ul style="list-style-type: none"> <li>i. <b><u>has a building permit on file with the county, city, or local jurisdiction and construction started on or after October 1, 2018;</u></b></li> <li>ii. <b><u>has a valid certificate of occupancy or amended certificate of occupancy for indoor cannabis cultivation; and</u></b></li> <li>iii. <b><u>is connected to and discharges any industrial wastewater to a permitted wastewater treatment collection system and facility that accepts cannabis cultivation wastewater. If the permitted wastewater treatment collection system and facility that the structure is connected to does not accept cannabis cultivation wastewater, the structure may still qualify for the riparian setback and tribal buffer exemptions if the structure discharges any industrial wastewater directly to an appropriately designed and connected storage tank located outside of the riparian setback, and the discharge is properly disposed of by a permitted wastewater hauler at a permitted wastewater treatment facility that accepts cannabis cultivation wastewater.</u></b></li> </ul>

<sup>12</sup> **Indoor cannabis cultivation is cannabis cultivation that occurs within a structure with a permanent roof, a permanent relatively impermeable floor (e.g., concrete or asphalt paved), and either 1) discharges all industrial wastewaters generated to a permitted wastewater treatment collection system and facility that accepts cannabis cultivation wastewater; or 2) collects all industrial wastewater in an appropriate storage container to be collected and properly disposed of by a permitted wastewater hauler at a permitted wastewater treatment facility that accepts cannabis cultivation wastewater.**

No.	TERM
	<p><u>The riparian setback exemption shall not apply if the Regional Water Board's Executive Officer determines that an exemption from the riparian setbacks is not protective of water quality.</u></p> <p><u>All other applicable Requirements apply to any cannabis cultivation activities, including setbacks for cannabis cultivation activities that occur outside of the permitted indoor cannabis cultivation structure.</u></p>

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## Cannabis General Water Quality Certification

For the purposes of section 401 of the Clean Water Act, the State Water Board certifies that cannabis cultivation activities in compliance with the conditions of the Policy and **Cannabis Cultivation** General Order will comply with sections 301, 302, 303, 306, and 307 of the Clean Water Act, and with applicable provisions of State law, subject to the following additional terms and conditions:

No.	TERM
1.	This certification action is subject to modification or revocation upon administrative or judicial review; including review and amendment pursuant to Water Code section 13330 and California Code of Regulations, title 23, section 3867.
2.	This certification action is not intended and shall not be construed to apply to any discharge from any activity involving a hydroelectric facility requiring a Federal Energy Regulatory Commission (FERC) license or an amendment to a FERC license unless the pertinent certification application was filed pursuant to California Code of Regulations, title 23, section 3855, subdivision (b), and the application specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought.
3.	This certification is conditioned upon total payment of any fee required under California Code of Regulations, title 23, division 3, chapter 28.
4.	A cannabis cultivator seeking water quality certification coverage for activities in surface waters shall notify the Executive Officer of the Regional Water Board or State Water Board Executive Director at least <b>60 days prior</b> to commencement of the activity and submit information regarding the construction schedule and other relevant information. Work may not commence until the cannabis cultivator is provided authorization by the appropriate Executive Officer of the Regional Water Board or Executive Director of the State Water Board. The Executive Officer of the Regional Water Board or Executive Director of the State Water Board may include specific monitoring requirements for turbidity and other constituents that may be associated with the activity to ensure applicable state water quality standards are met.
5.	The authorization of this certification for any coverage under this Cannabis General Water Quality Certification for dredge and fill activities expires five years from the date this Policy, <b>and any subsequent amendment to the Policy</b> , is approved by the Office of Administrative Law.
6.	Upon completion of the discharges of dredged or fill material, the cannabis cultivator shall submit a Notice of Completion certifying that all the conditions and monitoring and reporting requirements of this General Water Quality Certification, including the Policy, Cannabis <b>Cultivation</b> General Order (if applicable), and conditions imposed by the Regional Water Board Executive Officer or State Water Board Executive Director, have been met.
7.	All Policy and Cannabis <b>Cultivation</b> General Order Requirements, standard conditions, general terms and provisions, and prohibitions are enforceable conditions of this General Water Quality Certification.

No.	TERM
8.	In the event of any violation or threatened violation of the conditions of this General Water Quality Certification, the violation or threatened violation shall be subject to any remedies, penalties, processes, or sanctions as provided for under state law. For purposes of section 401(d) of the Clean Water Act, the applicability of any state law authorizing remedies, penalties, process, or sanctions for the violation or threatened violation constitutes a limitation necessary to assure compliance with the water quality standards and other pertinent requirements incorporated into this certification.
9.	This General Water Quality Certification may be modified as needed by the Executive Director of the State Water Board.

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## SECTION 2 – REQUIREMENTS RELATED TO WATER DIVERSIONS AND WASTE DISCHARGE FOR CANNABIS CULTIVATION

The following Requirements apply to any water diversion or waste discharge related to cannabis cultivation.

No.	TERM
<b>Land Development and Maintenance, Erosion Control, and Drainage Features</b>	
<b>Limitations on Earthmoving</b>	
1.	<p>Cannabis cultivators shall not conduct grading activities for cannabis cultivation land development or alteration on slopes exceeding 50 percent grade, or as restricted by local county or city permits, ordinances, or regulations for grading, agriculture, or cannabis cultivation; whichever is more stringent shall apply.</p> <p>The grading prohibition on slopes exceeding 50 percent does not apply to site mitigation or remediation if the cannabis cultivator is issued separate WDRs or an enforcement order for the activity by the Regional Water Board Executive Officer.</p>
2.	<p>Finished cut and fill slopes, including side slopes between terraces, shall not exceed slopes of 50 percent and should conform to the natural pre-grade slope whenever possible.</p>
3.	<p>Cannabis cultivators shall not drive or operate vehicles or equipment within the riparian setbacks or within waters of the state unless authorized under 404/401 CWA permits, a CDFW LSA Agreement, coverage under the Cannabis <b>Cultivation</b> General Order water quality certification, or site-specific WDRs issued by the Regional Water Board. This requirement does not prohibit driving on established, maintained access roads that are in compliance with this Policy.</p>
4.	<p>Cannabis cultivation land development and access road construction shall be designed by <b>Qualified Professionals qualified professionals</b>. Cannabis cultivators shall conduct all construction or land development activities to minimize grading, soil disturbance, and disturbance to aquatic and terrestrial habitat.</p>
5.	<p>The cannabis cultivator shall control all dust related to cannabis cultivation activities to ensure dust does not produce sediment-laden runoff. The cannabis cultivator shall implement dust control measures, including, but not limited to, pre-watering of excavation or grading sites, use of water trucks, track-out prevention, washing down vehicles or equipment before leaving a site, and prohibiting land disturbance activities when instantaneous wind speeds (gusts) exceed 25 miles per hour. Cannabis cultivators shall grade access roads in dry weather while moisture is still present in soil to minimize dust and to achieve design soil compaction, or when needed use a water truck to control dust and soil moisture.</p>

<b>Construction Equipment Use and Limitations</b>	
<b>6.</b>	Cannabis cultivators shall employ spill control and containment practices to prevent the discharge of fuels, oils, solvents and other chemicals to soils and waters of the state.
<b>7.</b>	<p>Cannabis cultivators shall stage and store equipment, materials, fuels, lubricants, solvents, or hazardous or toxic materials in locations that minimize the potential for discharge to waters of the state. At a minimum, the following measures shall be implemented:</p> <ul style="list-style-type: none"> <li>a) Designate an area outside the riparian setback for equipment storage, short-term maintenance, and refueling. Cannabis cultivator shall not conduct any maintenance activity or refuel equipment in any location where the petroleum products or other pollutants may enter waters of the state as per Fish and Game Code section 5650 (a)(1).</li> <li>b) Frequently inspect equipment and vehicles for leaks.</li> <li>c) Immediately clean up leaks, drips, and spills. Except for emergency repairs that are necessary for <b>the</b> safe transport of equipment or vehicles to an appropriate repair facility, <b>performing</b> equipment or vehicle repairs, maintenance, and washing onsite is prohibited.</li> <li>d) If emergency repairs generate waste fluids, ensure they are contained and properly disposed or recycled off-site.</li> <li>e) Properly dispose of all construction debris off-site.</li> <li>f) Use dry cleanup methods (e.g., absorbent materials, cat litter, and/or rags) whenever possible. Sweep up, contain, and properly dispose of spilled dry materials.</li> </ul>
<b>Erosion Control</b>	
<b>8.</b>	The cannabis cultivator shall use appropriate erosion control measures to minimize erosion of disturbed areas, potting soil, or bulk soil amendments to prevent discharges of waste. Fill soil shall not be placed where it may discharge into surface water. If used, weed-free straw mulch shall be applied at a rate of two tons per acre of exposed soils and, if warranted by site conditions, shall be secured to the ground.
<b>9.</b>	The cannabis cultivator shall not plant or seed noxious weeds. Prohibited plant species include those identified in the California Invasive Pest Plant Council's database, available at: <a href="http://www.cal-ipc.org/paf/">www.cal-ipc.org/paf/</a> . Locally native, non-invasive, and non-persistent grass species may be used for temporary erosion control benefits to stabilize disturbed land and prevent exposure of disturbed land to rainfall. Nothing in this term may be construed as a ban on cannabis cultivation that complies with the terms of this Policy.
<b>10.</b>	Cannabis cultivators shall incorporate erosion control and sediment detention devices and materials into the design, work schedule, and implementation of the cannabis cultivation activities. The erosion prevention and sediment capture measures shall be effective in protecting water quality.

	<ul style="list-style-type: none"> <li>• Interim erosion prevention and sediment capture measures shall be implemented within seven days of completion of grading and land disturbance activities, and shall consist of erosion prevention measures and sediment capture measures including: <ul style="list-style-type: none"> <li>○ Erosion prevention measures are required for any earthwork that uses heavy equipment (e.g., bulldozer, compactor, excavator, etc.). Erosion prevention measures may include surface contouring, slope roughening, and upslope storm water diversion. Other types of erosion prevention measures may include mulching, hydroseeding, tarp placement, revegetation, and rock slope protection.</li> <li>○ Sediment capture measures include the implementation of measures such as gravel bag berms, fiber rolls, straw bale barriers, properly installed silt fences, and sediment settling basins.</li> </ul> </li> <li>• Long-term erosion prevention and sediment capture measures shall be implemented as soon as possible and prior to the onset of fall and winter precipitation. Long-term measures may include the use of heavy equipment to reconfigure access roads or improve access road drainage, installation of properly-sized culverts, gravel placement on steeper grades, and stabilization of previously disturbed land.</li> <li>• Maintenance of all erosion protection and sediment capture measures is required year-round. Early monitoring allows for identification of problem areas or underperforming erosion or sediment control measures. Verification of the effectiveness of all erosion prevention and sediment capture measures is required as part of winterization activities.</li> </ul>
11.	<p>Cannabis cultivators shall only use geotextiles, fiber rolls, and other erosion control measures made of loose-weave mesh (e.g., jute, coconut (coir) fiber, or from other products without welded weaves). To minimize the risk of ensnaring and strangling wildlife, cannabis cultivators shall not use synthetic (e.g., plastic or nylon) monofilament netting materials for erosion control for any cannabis cultivation activities. This prohibition includes photo- or bio-degradable plastic netting.</p>
12.	<p>Cultivation sites constructed on or near slopes with a slope greater than or equal to 30 percent shall be inspected for indications of instability. Indications of instability include the occurrence of slope failures at nearby similar sites, weak soil layers, geologic bedding parallel to slope surface, hillside creep (trees, fence posts, etc. leaning downslope), tension cracks in the slope surface, bulging soil at the base of the slope, and groundwater discharge from the slope. If indicators of instability are present, the cannabis cultivator shall consult with a <b>Qualified Professional</b> <del>qualified professional</del> to design measures to stabilize the slope to prevent sediment discharge to surface waters.</p>
13.	<p>For areas outside of riparian setbacks or for upland areas, cannabis cultivators shall ensure that rock placed for slope protection is the minimum amount necessary and is part of a design that provides for native plant revegetation. If retaining walls or other structures are required to provide slope stability, they shall be designed by a <b>Qualified Professional</b> <del>qualified professional</del>.</p>

14.	Cannabis cultivators shall monitor erosion control measures during and after each storm event that produces at least 0.5 in/day or 1.0 inch/7 days of precipitation, and repair or replace, as needed, ineffective erosion control measures immediately.
<b>Access Road/Land Development and Drainage</b>	
15.	Access roads shall be constructed consistent with the requirements of California Code of Regulations Title 14, Chapter 4. The Road Handbook describes how to implement the regulations and is available at < <a href="http://www.pacificwatershed.com/PWA-publications-library">http://www.pacificwatershed.com/PWA-publications-library</a> >. Existing access roads shall be upgraded to comply with the Road Handbook.
16.	Cannabis cultivators shall obtain all required permits and approvals prior to the construction of any access road constructed for cannabis cultivation activities. Permits may include section 404/401 CWA permits, Regional Water Board WDRs (when applicable), CDFW LSA Agreement, and county or local agency permits.
17.	Cannabis cultivators shall ensure that all access roads are hydrologically disconnected to receiving waters to the extent possible by installing disconnecting drainage features, increasing the frequency of (inside) ditch drain relief as needed, constructing out-sloped roads, constructing energy dissipating structures, avoiding concentrating flows in unstable areas, and performing inspection and maintenance as needed to optimize the access road performance.
18.	New access road alignments should be constructed with grades (slopes) of 3- to 8-percent, or less, wherever possible. Forest access roads should generally be kept below 12-percent except for short pitches of 500 feet or less where road slopes may go up to 20-percent. These steeper access road slopes should be paved or rock surfaced and equipped with adequate drainage. Existing access roads that do not comply with these limits shall be inspected by a <b>Qualified Professional</b> <del>qualified professional</del> to determine if improvements are needed.
19.	Cannabis cultivators shall decommission or relocate existing roads away from riparian setbacks whenever possible. Roads that are proposed for decommissioning shall be abandoned and left in a condition that provides for long-term, maintenance-free function of drainage and erosion controls. Abandoned roads shall be blocked to prevent unauthorized vehicle traffic.
20.	If site conditions prohibit drainage structures (including rolling dips and ditch-relief culverts) at adequate intervals to avoid erosion, the cannabis cultivator shall use bioengineering techniques <sup>1342</sup> as the preferred measure to minimize erosion (e.g., live fascines). If bioengineering cannot be used, then engineering fixes such as armoring (e.g., rock of adequate size and depth to remain in place under traffic and flow conditions) and velocity dissipaters (e.g., gravel-filled “pillows” in an inside ditch to trap sediment) may be used for problem sites. The maximum distance between water breaks shall not exceed those defined in the Road Handbook.

<sup>13.42</sup> A Primer on Stream and River Protection for the Regulator and Program Manager: Technical Reference Circular W.D. 02-#1, San Francisco Bay Region, California Regional Water Board (April 2003) [http://www.waterboards.ca.gov/sanfranciscobay/water\\_issues/programs/stream\\_wetland/streamprotectio ncircular.pdf](http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/stream_wetland/streamprotectio ncircular.pdf).

21.	Cannabis cultivators shall have a <b>Qualified Professional</b> <del>qualified professional</del> design the optimal access road alignment, surfacing, drainage, maintenance requirements, and spoils handling procedures.
22.	Cannabis cultivators shall ensure that access road surfacing, especially within a segment leading to a waterbody, is sufficient to minimize sediment delivery to the wetland or waterbody and maximize access road integrity. Road surfacing may include pavement, chip-seal, lignin, rock, or other material appropriate for timing and nature of use. All access roads that will be used for winter or wet weather hauling/traffic shall be surfaced. Steeper access road grades require higher quality rock (e.g., crushed angular versus river-run) to remain in place. The use of asphalt grindings is prohibited.
23.	Cannabis cultivators shall install erosion control measures on all access road approaches to surface water diversion sites to reduce the generation and transport of sediment to streams.
24.	Cannabis cultivators shall ensure that access roads are out-sloped whenever possible to promote even drainage of the access road surface, prevent the concentration of storm water flow within an inboard or inside ditch, and to minimize disruption of the natural sheet flow pattern off a hill slope to a stream.
25.	If unable to eliminate inboard or inside ditches, the cannabis cultivator shall ensure adequate ditch relief culverts to prevent down-cutting of the ditch and to reduce water runoff concentration, velocity, and erosion. Ditches shall be designed and maintained as recommended by a <b>Qualified Professional</b> <del>qualified professional</del> . To avoid point-source discharges, inboard ditches and ditch relief culverts shall be discharged onto vegetated or armored slopes that are designed to dissipate and prevent runoff channelization. Inboard ditches and ditch relief culverts shall be designed to ensure discharges into natural stream channels or watercourses are prevented.
26.	Cannabis cultivators shall ensure that access roads are not allowed to develop or show evidence of significant surface rutting or gullyng. Cannabis cultivators shall use water bars and rolling dips as designed by a <b>Qualified Professional</b> <del>qualified professional</del> to minimize access road surface erosion and dissipate runoff.
27.	Cannabis cultivators shall only grade ditches when necessary to prevent erosion of the ditch, undermining of the banks, or exposure of the toe of the cut slope to erosion. Cannabis cultivators shall not remove more vegetation than necessary to keep water moving, as vegetation prevents scour and filters out sediment.
28.	Access road storm water drainage structures shall not discharge onto unstable slopes, earthen fills, or directly to a waterbody. Drainage structures shall discharge onto stable areas with straw bales, slash, vegetation, and/or rock riprap.
29.	Sediment control devices (e.g., check dams, sand/gravel bag barriers, etc.) shall be used when it is not practical to disperse storm water before discharge to a waterbody. Where potential discharge to a wetland or waterbody exists (e.g., within 200 feet of a waterbody) access road surface drainage shall be filtered through vegetation, slash, other appropriate material, or settled into a depression with an outlet with adequate

	drainage. Sediment basins shall be engineered and properly sized to allow sediment settling, spillway stability, and maintenance activities.
<b>Drainage Culverts (See also Watercourse Crossings)</b>	
<b>30.</b>	Cannabis cultivators shall regularly inspect ditch-relief culverts and clear them of any debris or sediment. To reduce ditch-relief culvert plugging by debris, cannabis cultivators shall use 15- to 24-inch diameter pipes, at minimum. In forested areas with a potential for woody debris, a minimum 18-inch diameter pipe shall be used to reduce clogging. Ditch relief culverts shall be designed by a <b>Qualified Professional</b> <del>qualified professional</del> based on site-specific conditions.
<b>31.</b>	Cannabis cultivators shall ensure that all permanent watercourse crossings that are constructed or reconstructed are capable of accommodating the estimated 100-year flood flow, including debris and sediment loads. Watercourse crossings shall be designed and sized by a <b>Qualified Professional</b> <del>qualified professional</del> .
<b>Cleanup, Restoration, and Mitigation</b>	
<b>32.</b>	Cannabis cultivators shall limit disturbance to existing grades and vegetation to the actual site of the cleanup or remediation and any necessary access routes.
<b>33.</b>	<p>Cannabis cultivators shall avoid damage to native riparian vegetation. All exposed or disturbed land and access points within the stream and riparian setback with damaged vegetation shall be restored with regional native vegetation of similar native species. Riparian trees over four inches diameter at breast height shall be replaced by similar native species at a ratio of three to one (3:1). Restored areas must be mulched, using at least 2 to 4 inches of weed-free, clean straw or similar biodegradable mulch over the seeded area. Mulching shall be completed within 30 days after land disturbance activities in the areas cease. Revegetation planting shall occur at a seasonally appropriate time until vegetation is restored to pre-cannabis or pre-<del>legacy</del><b>Legacy</b> condition or better.</p> <p>Cannabis cultivators shall stabilize and restore any temporary work areas with native vegetation to pre-cannabis cultivation or pre-<del>legacy</del><b>Legacy</b> conditions or better. Vegetation shall be planted at an adequate density and variety to control surface erosion and re-generate a diverse composition of regional native vegetation of similar native species.</p>
<b>34.</b>	Cannabis cultivators shall avoid damage to oak woodlands. Cannabis cultivator shall plant three oak trees for every one oak tree damaged or removed. Trees may be planted in groves in order to maximize wildlife benefits and shall be native to the local county.
<b>35.</b>	<p>Cannabis cultivators shall develop a revegetation plan for:</p> <ul style="list-style-type: none"> <li>• All exposed or disturbed riparian vegetation areas,</li> <li>• any oak trees that are damaged or removed, and</li> <li>• temporary work areas.</li> </ul> <p>Cannabis cultivators shall develop a monitoring plan that evaluates the revegetation plan for five years. Cannabis cultivators shall maintain annual inspections for the</p>

	purpose of assessing an 85 percent survival and growth of revegetated areas within a five-year period. The presence of exposed soil shall be documented for three years following revegetation work. If the revegetation results in less than an 85 percent success rate, the unsuccessful vegetation areas shall be replanted. Cannabis cultivators shall identify the location and extent of exposed soil associated with the site; pre- and post-revegetation work photos; diagram of all areas revegetated, the planting methods, and plants used; and an assessment of the success of the revegetation program. Cannabis cultivators shall maintain a copy of the revegetation plan and monitoring results onsite and make them available, upon request, to Water Boards staff or authorized representatives. An electronic copy of monitoring results is acceptable in Portable Document Format (PDF).
36.	Cannabis cultivators shall revegetate soil exposed as a result of cannabis cultivation activities with native vegetation by live planting, seed casting, or hydroseeding within seven days of exposure.
37.	Cannabis cultivators shall prevent the spread or introduction of exotic plant species to the maximum extent possible by cleaning equipment before delivery to the cannabis cultivation <del>site</del> and before removal, restoring land disturbance with appropriate native species, and post-cannabis cultivation activities monitoring and control of exotic species. Nothing in this term may be construed as a ban on cannabis cultivation that complies with the terms of this Policy.
<b>Stream Crossing Installation and Maintenance</b>	
<b>Limitations on Work in Watercourses and Permanently Poned Areas</b>	
38.	Cannabis cultivators shall obtain all applicable permits and approvals prior to doing any work in or around waterbodies or within the riparian setbacks. Permits may include section 404/401 CWA permits, Regional Water Board WDRs (when applicable), and a CDFW LSA Agreement.
39.	Cannabis cultivators shall avoid or minimize temporary stream crossings. When necessary, temporary stream crossings shall be located in areas where erosion potential and damage to the existing habitat is low. Cannabis cultivators shall avoid areas where runoff from access roadway side slopes and natural hillsides will drain and flow into the temporary crossing. Temporary stream crossings that impede fish passage are strictly prohibited on permanent or seasonal fish-bearing streams.
40.	Cannabis cultivators shall avoid or minimize use of heavy equipment <sup>1443</sup> in a watercourse. If use is unavoidable, heavy equipment may only travel or work in a waterbody with a rocky or cobbled channel. Wood, rubber, or clean native rock temporary work pads shall be used on the channel bottom prior to use of heavy equipment to protect channel bed and preserve channel morphology. Temporary work pads and other channel protection shall be removed as soon as possible once the use of heavy equipment is complete.

<sup>14 43</sup> Heavy equipment is defined as ~~large pieces of~~ machinery or vehicles, ~~especially those typically~~ used in the building and construction industry (e.g., bulldozers, excavators, backhoes, bobcats, tractors, etc.).

41.	Cannabis cultivators shall avoid or minimize work in or near a stream, creek, river, lake, pond, or other waterbody. If work in a waterbody cannot be avoided, activities and associated workspace shall be isolated from flowing water by directing the water around the work site. If water is present, then the cannabis cultivator shall develop a site-specific plan prepared by a <b>Qualified Professional qualified professional</b> . The plan shall consider partial or full stream diversion and dewatering. The plan shall consider the use of coffer dams upstream and downstream of the work site and the diversion of all flow from upstream of the upstream dam to downstream of the downstream dam, through a suitably sized pipe with intake screens that protect and prevent impacts to fish and wildlife. Cannabis cultivation activities and associated work shall be performed outside the waterbody from the top of the bank to the maximum extent possible.
<b>Temporary Watercourse Diversion and Dewatering: All Live Watercourses</b>	
42.	Cannabis cultivators shall ensure that coffer dams are constructed prior to commencing work and as close as practicable upstream and downstream of the work area. Cofferdam construction using offsite materials, such as clean gravel bags or inflatable dams, is preferred. Thick plastic may be used to minimize leakage, but shall be completely removed and properly disposed of upon work completion. If the coffer dams or stream diversion fail, the cannabis cultivator shall repair them immediately.
43.	When any dam or other artificial obstruction is being constructed, maintained, or placed in operation, the cannabis cultivator shall allow sufficient water at all times to pass downstream to maintain aquatic life below the dam pursuant to Fish and Game Code section 5937.
44.	<del>If possible, gravity</del> <b>Gravity</b> flow is the preferred method of <del>water diversion temporarily dewatering or diverting water</del> . If a pump is used, the cannabis cultivator shall ensure that the pump is operated at the rate of flow that passes through the cannabis cultivation site. Pumping rates shall not dewater or impound water on the upstream side of the coffer dam. When <u>a</u> diversion pipe is used, it shall be protected from cannabis cultivation activities and maintained to prevent debris blockage.
45.	Cannabis cultivators shall only divert water such that water does not scour the channel bed or banks at the downstream end. Cannabis cultivators <u>s</u> shall divert flow in a manner that prevents turbidity, siltation, and pollution and provides flows to downstream reaches. Cannabis cultivators shall provide flows to downstream reaches during all times that the natural flow would have supported aquatic life. Flows shall be of sufficient quality and quantity, and of appropriate temperature to support fish and other aquatic life both above and below the diversion. Block netting and intake screens shall be sized to protect and prevent impacts to fish and wildlife.
46.	Once water has been diverted around the work area, cannabis cultivators may dewater the site to provide an adequately dry work area. Any muddy or otherwise contaminated water shall be pumped to a settling tank, dewatering filter bag, or upland area, or to another location approved by CDFW or the appropriate Regional Water Board Executive Officer prior to re-entering the watercourse.



47.	Upon completion of work, cannabis cultivators shall immediately remove the flow diversion structure in a manner that allows flow to resume with a minimum of disturbance to the channel substrate and that minimizes the generation of turbidity.
<b>Watercourse Crossings</b>	
48.	Cannabis cultivators shall ensure that watercourse crossings are designed by a <u>Qualified Professional</u> . <del>qualified professional</del> .
49.	Cannabis cultivators shall ensure that all access road watercourse crossing structures allow for the unrestricted passage of water and shall be designed to accommodate the estimated 100-year flood flow and associated debris (based upon an assessment of the streams potential to generate debris during high flow events). <u>Watercourse crossings shall be designed and sized by a Qualified Professional</u> . Consult CAL FIRE 100 year Watercourse Crossings document for examples and design calculations, available at: <a href="http://calfire.ca.gov/resource_mgt/downloads/100%20yr%20revised%2008-08-17%20(final-a).pdf">http://calfire.ca.gov/resource_mgt/downloads/100%20yr%20revised%2008-08-17%20(final-a).pdf</a> .
50.	Cannabis cultivators shall ensure that watercourse crossings allow migration of aquatic life during all life stages supported or potentially supported by that stream reach. Design measures shall be incorporated to ensure water depth and velocity does not inhibit migration of aquatic life. Any access road crossing structure on watercourses that supports fish shall be constructed for the unrestricted passage of fish at all life stages, and should use the following design guidelines: <ul style="list-style-type: none"> <li>• CDFW's <i>Culvert Criteria for Fish Passage</i>;</li> <li>• CDFW's <i>Salmonid Stream Habitat Restoration Manual, Volume 2, Part IX: Fish Passage Evaluation at Stream Crossings</i>; and</li> <li>• National Marine Fisheries Service, Southwest Region <i>Guidelines for Salmonid Passage at Stream Crossings</i>.</li> </ul>
51.	Cannabis cultivators shall conduct regular inspection and maintenance of stream crossings to ensure crossings are not blocked by debris. Refer to California Board of Forestry Technical Rule No. 5 available at: <a href="http://www.calforests.org/wp-content/uploads/2013/10/Adopted-TRA5.pdf">http://www.calforests.org/wp-content/uploads/2013/10/Adopted-TRA5.pdf</a> .
52.	Cannabis cultivators shall only use rock fords for temporary seasonal crossings on small watercourses where aquatic life passage is not required during the time period of use. Rock fords shall be oriented perpendicular to the flow of the watercourse and designed to maintain the range of surface flows that occur in the watercourse. When constructed, rock shall be sized to withstand the range of flow events that occur at the crossing and rock shall be maintained at the rock ford to completely cover the channel bed and bank surfaces to minimize soil compaction, rutting, and erosion. Rock must extend on either side of the ford up to the break in slope. The use of rock fords as watercourse crossings for all-weather access roads <del>is</del> <b>use</b> is prohibited.
53.	Cannabis cultivators shall ensure that culverts used at watercourse crossings are designed to direct flow and debris toward the inlet (e.g., use of wing-walls, pipe

	beveling, rock armoring, etc.) to prevent erosion of road fill, debris blocking the culvert, and watercourses from eroding a new channel.
54.	<p>Cannabis cultivators shall regularly inspect and maintain the condition of access roads, access road drainage features, and watercourse crossings. At a minimum, cannabis cultivators shall perform inspections prior to the onset of fall and winter precipitation and following storm events that produce at least 0.5 in/day or 1.0 inch/7 days of precipitation. Cannabis cultivators are required to perform all of the following maintenance <b>upon discovery</b>:</p> <ul style="list-style-type: none"> <li>• Remove any wood debris that may restrict flow in a culvert.</li> <li>• Remove sediment that impacts access road or drainage feature performance. Place any removed sediment in a location outside the riparian setbacks and stabilize the sediment.</li> <li>• Maintain records of access road and drainage feature maintenance and consider redesigning the access road to improve performance and reduce maintenance needs.</li> </ul>
55.	<p>Cannabis cultivators shall compact access road crossing approaches and fill slopes during installation and shall stabilize them with rock or other appropriate surface protection to minimize surface erosion. When possible, cannabis cultivators shall ensure that access roads over culverts are equipped with a critical dip to ensure that, if the culvert becomes blocked or plugged, water can flow over the access road surface without washing away the fill prism. Access road crossings where specific conditions do not allow for a critical dip or in areas with potential for significant debris accumulation, shall include additional measures such as emergency overflow culverts or oversized culverts that are designed by a <b>Qualified Professional</b> <del>qualified professional</del>.</p>
56.	<p>Cannabis cultivators shall ensure that culverts used at watercourse crossings are: 1) installed parallel to the watercourse alignment to the extent possible, 2) of sufficient length to extend beyond stabilized fill/sidecast material, and 3) embedded or installed at the same level and gradient of the streambed in which they are being placed to prevent erosion.</p>
<b>Soil Disposal and Spoils Management</b>	
57.	<p>Cannabis cultivators shall store soil, construction, and waste materials outside the riparian setback except as needed for immediate construction needs. Such materials shall not be stored in locations of known slope instability or where the storage of construction or waste material could reduce slope stability.</p>
58.	<p>Cannabis cultivators shall separate large organic material (e.g., roots, woody debris, etc.) from soil materials. Cannabis cultivators shall either place the large organic material in long-term, upland storage sites, or properly dispose of these materials offsite.</p>
59.	<p>Cannabis cultivators shall store erodible soil, soil amendments, and spoil piles to prevent sediment discharges in storm water. Storage practices may include use of</p>

	tarps, upslope land contouring to divert surface flow around the material, or use of sediment control devices (e.g., silt fences, straw wattles, etc.).
60.	Cannabis cultivators shall contour and stabilize stored spoils to mimic natural slope contours and drainage patterns (as appropriate) to reduce the potential for fill saturation and slope failure.
61.	For soil disposal sites cannabis cultivators shall: <ul style="list-style-type: none"> <li>• revegetate soil disposal sites with a mix of native plant species,</li> <li>• cover the seeded and planted areas with mulched straw at a rate of two tons per acre, and</li> <li>• apply non-synthetic netting or similar erosion control fabric (e.g., jute) on slopes greater than 2:1 if the site is erodible.</li> </ul>
62.	Cannabis cultivators shall haul away and properly dispose of excess soil and other debris as needed to prevent discharge to waters of the state.
<b>Riparian and Wetland Protection and Management</b>	
63.	Cannabis cultivators shall not disturb aquatic or riparian habitat, such as pools, spawning sites, large wood, or shading vegetation unless authorized under a CWA section 404 permit, CWA section 401 certification, Regional Water Board WDRs (when applicable), or a CDFW LSA Agreement.
64.	Cannabis cultivators shall maintain existing, naturally occurring, riparian vegetative cover (e.g., trees, shrubs, and grasses) in aquatic habitat areas to the maximum extent possible to maintain riparian areas for streambank stabilization, erosion control, stream shading and temperature control, sediment and chemical filtration, aquatic life support, wildlife support, and to minimize waste discharge.
<b>Water Storage and Use</b>	
<b>Water Supply, Diversion, and Storage</b>	
65.	Cannabis cultivators shall only install, maintain, and destroy wells in compliance with county, city, and local ordinances and with California Well Standards as stipulated in California Department of Water Resources Bulletins 74-90 and 74-81. <sup>1544</sup>
66.	All water diversions for cannabis cultivation from a surface stream, subterranean stream flowing through a known and definite channel (e.g., groundwater well diversions from subsurface stream flows), or other surface waterbody are subject to the surface water Numeric and Narrative Instream Flow Requirements. This includes lakes, ponds, and springs (unless the spring is deemed exempt by the Deputy Director). See Section 3.4, Numeric and Narrative Instream Flow Requirements of this Attachment A for more information.

<sup>15.44</sup> California Well Standards are available at:

<http://wdl.water.ca.gov/groundwater/wells/standards.cfm>

[http://www.water.ca.gov/groundwater/well\\_info\\_and\\_other/california\\_well\\_standards/well\\_standards\\_content.html](http://www.water.ca.gov/groundwater/well_info_and_other/california_well_standards/well_standards_content.html)

67.	Groundwater diversions may be subject to additional requirements, such as a forbearance period, if the State Water Board determines those requirements are reasonably necessary to implement the purposes of this Policy.
68.	Cannabis cultivators are encouraged to use appropriate rainwater catchment systems to collect from impermeable surfaces (e.g., roof tops, etc.) during the wet season and store storm water in tanks, bladders, or off-stream engineered reservoirs to reduce the need for surface water or groundwater diversions.
69.	Cannabis cultivators shall not divert surface water unless it is diverted in accordance with an existing water right that specifies, as appropriate, the source, location of the point of diversion, purpose of use, place of use, and quantity and season of diversion. Cannabis cultivators shall maintain documentation of the water right at the cannabis cultivation site. Documentation of the water right shall be available for review and inspection by the Water Boards, CDFW, and any other authorized representatives of the Water Boards or CDFW.
70.	Cannabis cultivators shall ensure that all water diversion facilities are designed, constructed, and maintained so they do not prevent, impede, or tend to prevent the passing of fish, as defined by Fish and Game Code section 45, upstream or downstream, as required by Fish and Game Code section 5901. This includes but is not limited to the supply of water at an appropriate depth, temperature, and velocity to facilitate upstream and downstream aquatic life movement and migration. Cannabis cultivators shall allow sufficient water at all times to <b>pass flow</b> past the point of diversion to keep in good condition any fish that may be planted or exist below the point of diversion as defined by Fish and Game Code section 5937. Cannabis cultivators shall not divert water in a manner contrary to or inconsistent with these Requirements.
71.	Cannabis cultivators issued a Cannabis SIUR by the State Water Board shall not divert surface water unless in compliance with all additional Cannabis SIUR conditions required by CDFW.
72.	Water diversion facilities shall include satisfactory means for bypassing water to satisfy downstream prior rights and any requirements of policies for water quality control, water quality control plans, water quality certifications, waste discharge requirements, or other local, state or federal instream flow requirements. Cannabis cultivators shall not divert in a manner that results in injury to holders of legal downstream senior rights. Cannabis cultivators may be required to curtail diversions should diversion result in injury to holders of legal downstream senior water rights or interfere with maintenance of downstream instream flow requirements.
73.	Fuel powered (e.g., gas, diesel, etc.) diversion pumps shall be located in a stable and secure location outside of the riparian setbacks unless authorized under a 404/401 CWA permits, a CDFW LSA Agreement, coverage under the Cannabis <b>Cultivation</b> General Order water quality certification, or site-specific WDRs issued by the Regional Water Board. Use of non-fuel powered diversion pumps (solar, electric, gravity, etc.) is encouraged.  In all cases, all pumps shall:

	<ul style="list-style-type: none"> <li>a) be properly maintained,</li> <li>b) have suitable containment to ensure any spills or leaks do not enter surface waterbodies or groundwater, and</li> <li>c) have sufficient overhead cover to prevent exposure of equipment to precipitation.</li> </ul>
74.	No water shall be diverted unless the cannabis cultivator is operating the water diversion facility with a CDFW-approved water-intake screen (e.g., fish screen). The water intake screen shall be designed and maintained in accordance with screening criteria approved by CDFW. The screen shall prevent wildlife from entering the diversion intake and becoming entrapped. The cannabis cultivator shall contact the regional CDFW Office, LSA Program for information on screening criteria for diversion(s). <sup>1645</sup> The cannabis cultivator shall provide evidence that demonstrates that the water intake screen is in good condition whenever requested by the Water Boards or CDFW. Points of re-diversion from off-stream storage facilities that are open to the environment shall have a water intake screen, as required by CDFW.
75.	Cannabis cultivators shall inspect, maintain, and clean water intake screens and bypass appurtenances as directed by CDFW to ensure proper operation for the protection of fish and wildlife.
76.	Cannabis cultivators shall not obstruct, alter, dam, or divert <del>all or</del> any portion of a natural watercourse prior to obtaining all applicable permits and approvals. Permits may include a valid water right, 404/401 CWA permits, a CDFW LSA Agreement, coverage under the Cannabis <b>Cultivation</b> General Order water quality certification, or site-specific WDRs issued by the Regional Water Board.
77.	Cannabis cultivators shall plug, block, cap, disconnect, or remove the diversion intake <b><u>or otherwise bypass flow or render the diversion intake incapable of diverting water for associated with</u></b> cannabis cultivation activities during the surface water forbearance period, unless the diversion intake is used for other beneficial uses, to ensure no water is diverted during that time.
78.	Cannabis cultivators shall not divert from a surface water or from a subterranean stream for cannabis cultivation at a rate more than a maximum instantaneous diversion rate of 10 gallons per minute, unless authorized under an existing appropriative water right.
<b>79.82.</b>	<p>Onstream storage reservoirs are prohibited <del>unless either</del> <b><u>except in the following instances:</u></b></p> <ul style="list-style-type: none"> <li><b>a)</b> The cannabis cultivator has an existing water right with irrigation as a designated use, issued prior to October 31, 2017, that authorizes the onstream storage reservoir. <del>or</del></li> <li><b>b)</b> The cannabis cultivator obtains an appropriative water right permit with irrigation as a designated use prior to diverting water <del>from into</del> an onstream storage reservoir for cannabis cultivation. Cannabis cultivators with a pending</li> </ul>

<sup>16.45</sup> CDFW's Lake and Streambed program information is available at: <https://www.wildlife.ca.gov/Conservation/LSA> .

application or an unpermitted onstream storage reservoir shall not divert for cannabis cultivation until the cannabis cultivator has obtained ed a valid water right.

**c) Cannabis cultivators with an unpermitted onstream reservoir that existed prior to October 1, 2016 may file for a Cannabis SIUR<sup>17</sup>. As part of filing for a Cannabis SIUR, the registrant shall agree to do the following:**

- i. Request a determination from the Deputy Director (or designee) and CDFW to determine whether removal of the reservoir or installation of off-stream storage would cause more environmental damage than continuing to use the existing onstream reservoir for diversion and storage.**
- ii. Accept any conditions imposed by the Deputy Director (or designee) and CDFW before or after issuance of the Cannabis SIUR as part of the determinations to ensure any modifications and ongoing operation of the onstream reservoir are protective of water quality and aquatic resources. If the Deputy Director (or designee) or CDFW determine the existing onstream reservoir does not meet this condition:**
  - (1) the reservoir and associated facilities shall be removed or otherwise modified such that the reservoir is incapable of storing water; and**
  - (2) the cannabis cultivator shall either install off-stream storage or obtain an alternative source of water or water right.**
- iii. Operate or modify the onstream reservoir to:**
  - (1) bypass all inflow to the reservoir during the surface water diversion forbearance period (Section 3, Requirement 4). This requirement may be modified by the Deputy Director (or designee) or CDFW as part of the determinations and Cannabis SIUR;**
  - (2) comply with the diversion rate and diversion season bypass conditions (pursuant to Section 3, Requirements 5, 6, and 7). This requirement may be modified by the Deputy Director (or designee) or CDFW as part of the determinations and Cannabis SIUR; and**
  - (3) operate consistent with the other Requirements of this Policy. This requirement may be modified by the Deputy Director (or designee) as part of the determinations and Cannabis SIUR.**
- iv. Within six months of the determinations, the cannabis cultivator shall submit a draft compliance plan for review and approval by the Deputy Director (or designee). The compliance plan shall clearly identify the scope of work and schedule for completion of modifications necessary to operate the onstream reservoir in compliance with the determinations and Cannabis SIUR. The**

<sup>17</sup> Cannabis cultivators can apply for a Cannabis SIUR through the Water Boards online Cannabis Cultivation Program Application Portal available at: <https://public2.waterboards.ca.gov/cgo> .

	<p><u>schedule for completion must comply with the timeline established by the Deputy Director (or designee) and shall not exceed the renewal date of the Cannabis SIUR Certificate<sup>18</sup>. The Deputy Director (or designee) may require modifications prior to approving the draft compliance plan.</u></p> <p><u>v. Withdrawal of water from the onstream reservoir for cannabis cultivation activities is only allowed during the surface water diversion forbearance period.</u></p> <p><u>d) Onstream reservoirs with an existing valid water right registration for onstream storage that does not identify commercial irrigation as a purpose of use (i.e., Livestock Stockpond Use Registrations, Small Domestic Use Registrations) may file for a Cannabis SIUR , thereby requesting Deputy Director (or designee) and CDFW to make determinations and condition the Cannabis SIUR after issuance with appropriate conditions as outlined in (c)(i), (c)(ii), (c)(iii), (c)(iv), and (c)(v) above, with the exception of (c)(ii)(1) which does not apply.</u></p>
<u>80.</u>	<p><u>The State Water Board may impose conditions for each individual SIUR for an onstream reservoir for cannabis cultivation to:</u></p> <p><u>a) Ensure that individual and cumulative effects of water diversion and discharge associated with cultivation do not affect the instream flows needed for fish spawning, migration, and rearing, and the flows needed to maintain natural flow variability;</u></p> <p><u>b) Ensure that cultivation does not negatively impact springs, riparian habitat, wetlands, or aquatic habitat; and</u></p> <p><u>c) Otherwise protect fish, wildlife, fish and wildlife habitat, and water quality.</u></p> <p><u>Each SIUR filing for an onstream reservoir for cannabis cultivation shall include self-certification that the registrant has agreed to comply with all lawful conditions required by the State Water Board pursuant to this term. The SIUR Certificate shall include a copy of any conditions required by the State Water Board pursuant to this term.</u></p>
<u>81.-83.</u>	<p>Cannabis cultivators are encouraged to install separate storage systems for water diverted for cannabis irrigation and water diverted for any other beneficial uses,<sup>1916</sup> or otherwise shall install separate measuring devices to quantify diversion to and from each storage facility, including the quantity of water diverted and the quantity, place, and purpose of use (e.g., cannabis irrigation, other crop irrigation, domestic, etc.) for the stored water.</p>
<u>82. 84.</u>	<p>The cannabis cultivator shall install and maintain a measuring device(s) for surface water or subterranean stream diversions. The measuring device shall be, at a</p>

<sup>18</sup> SIURs are subject to renewal every five years.

<sup>1916</sup> Other beneficial uses of water include: domestic, irrigation, power, municipal, mining, industrial, fish and wildlife preservation and enhancement, aquaculture, recreational, stockwatering, water quality, frost protection, and heat control. (California Code of Regulations, Title 23 sections 659-672).

	<p>minimum equivalent to the requirements for direct diversions greater than 10 acre-feet per year in California Code of Regulations, Title 23, Division 3, Chapter 2.7 <b>and Chapter 2.8<sup>2017</sup></b>. The measuring device(s) shall be located as close to the point of diversion as reasonable. Cannabis cultivators shall maintain daily diversion records for water diverted for cannabis cultivation. Cannabis cultivators shall maintain separate records that document the amount of water used for cannabis cultivation separated out from the amount of water used for other irrigation purposes and other beneficial uses of water (e.g., domestic, fire protection, etc.). Cannabis cultivators shall maintain daily diversion records at the cultivation site and shall make the records available for review or by request by the Water Boards, CDFW, or any other authorized representatives of the Water Boards or CDFW. Daily diversion records shall be retained for a minimum of five years. Compliance with this term is required for any surface water diversion for cannabis cultivation, even those under 10 acre-feet per year.</p>
<p><b><u>83.</u></b></p>	<p><b><u>Cannabis cultivators with onstream reservoirs shall install and maintain a measuring device capable of meeting the requirements below to monitor and record the rate of diversion, the rate of collection to storage, the rate of withdrawal or release from storage, and the total volume of water collected in the onstream reservoir.</u></b></p> <ul style="list-style-type: none"> <li><b><u>a) The measurement device (e.g., water level sensor and area-capacity curve) shall be certified to measure the total volume of water diverted or stored accurate to within ±10 percent by volume based on periodic testing of the installed device.</u></b></li> <li><b><u>b) The measurement device shall be capable of recording the date, time, and volume of water diverted at an hourly or more frequent basis, year-round.</u></b></li> <li><b><u>c) The measurement device shall be installed and calibrated by a Qualified Professional. This includes the development of any area-capacity curve used to convert water elevation to volume. Cannabis cultivators shall submit a description of the type of measurement device, evidence of proper installation and operation of the device, and the area-capacity curve to the Deputy Director (or designee) for review and approval within two years of the date the Cannabis SIUR is issued.</u></b></li> <li><b><u>d) To assess continued accuracy of depth readings recorded by the measurement device, a staff gage shall also be installed in the same pond or reservoir as the measurement device and manual depth readings from the staff gage and the date and time of the depth readings shall be recorded monthly, at a minimum. The area-capacity curve shall be reassessed if requested by the Deputy Director (or designee).</u></b></li> <li><b><u>e) Cannabis cultivators shall maintain hourly depth and volume records from the measurement device and area-capacity curves at the cultivation site and shall make the records available for review upon request by staff from the Water Boards or CDFW.</u></b></li> <li><b><u>f) Depth and volume records and area-capacity curves shall be retained for a minimum of five years.</u></b></li> </ul>

<sup>2017</sup> Additional information on measuring devices may be found at:  
[https://www.waterboards.ca.gov/waterrights/water\\_issues/programs/diversion\\_use/water\\_use.shtml#measurement](https://www.waterboards.ca.gov/waterrights/water_issues/programs/diversion_use/water_use.shtml#measurement)



<p><b><u>84.85.</u></b></p>	<p>The State Water Board intends to develop and implement a basin-wide program for real-time electronic monitoring and reporting of diversions, withdrawals, releases and streamflow in a standardized format if and when resources become available. Such real-time reporting will be required upon a showing by the State Water Board that the program and the infrastructure are in place to accept real-time electronic reports. Implementation of the reporting requirements shall not necessitate amendment to this Requirement.</p>
<p><b><u>85.86.</u></b></p>	<p>Cannabis cultivators shall not use <b>off-stream storage</b> reservoirs and ponds to store water for cannabis cultivation unless they are sited and designed or approved by a <b>Qualified Professional</b> <del>qualified professional</del> in compliance with Division of Safety of Dams (DSOD), county, and/or city requirements, as applicable. If the DSOD, county, and/or city do not have established requirements, they shall be designed consistent with the Natural Resource Conservation Service National Engineering Manual. Reservoirs shall be designed with an adequate overflow outlet that is protected and promotes the dispersal and infiltration of flow and prevents channelization.</p> <p>All off-stream storage reservoirs and ponds shall be designed, managed, and maintained to accommodate average annual winter period precipitation and storm water inputs to reduce the potential for overflow.</p> <p>Cannabis cultivators shall plant native vegetation along the perimeter of the reservoir in locations where it does not impact the structural integrity of the reservoir berm or spillway. The cannabis cultivator shall control vegetation around the reservoir berm and spillway to allow for visual inspection of berm and spillway condition and control burrowing animals as necessary.</p>
<p><b><u>86.87.</u></b></p>	<p>Cannabis cultivators shall implement an invasive species management plan prepared by a Qualified Biologist for any existing or proposed water storage facilities that are open to the environment. The plan shall include, at a minimum, an annual survey for bullfrogs and other invasive aquatic species. If bullfrogs or other invasive aquatic species are identified, eradication measures shall be implemented under the direction of a <b>Qualified Biologist</b> <del>qualified biologist</del>, if appropriate, after consultation with CDFW (pursuant to Fish and Game Code section 6400). Eradication methods can be direct or indirect. Direct methods may include hand-held dip net, hook and line, lights, spears, gigs, or fish tackle under a fishing license (pursuant to Fish and Game Code section 6855). An indirect method may involve seasonally timed complete dewatering and a drying period of the off-stream storage facility under a Permit to Destroy Harmful Species (pursuant to Fish and Game Code section 5501) issued by CDFW.</p>
<p><b><u>87.88.</u></b></p>	<p>Water storage bladders are not encouraged for long-term use. If bladders are used, the cannabis cultivator shall ensure that the bladder is designed and properly installed to store water and that the bladder is sited to minimize the potential for water to flow into a watercourse in the event of a catastrophic failure. If a storage bladder has been previously used, the cannabis cultivator shall carefully inspect the bladder to confirm its integrity and confirm the absence of any interior residual chemicals prior to resuming use. Cannabis cultivators shall periodically inspect water storage bladders and containment features to ensure integrity. Water storage</p>

	bladders shall be properly disposed of or recycled and not resold when assurance of structural integrity is no longer guaranteed.
<b><u>88.89.</u></b>	Cannabis cultivators shall not use water storage bladders unless the bladder is safely contained within a secondary containment system with sufficient capacity to capture 110 percent of a bladder's maximum possible contents in the event of bladder failure (i.e., 110 percent of bladder's capacity). Secondary containment systems shall be of sufficient strength and stability to withstand the forces of released contents in the event of catastrophic bladder failure. In addition, secondary containment systems that are open to the environment shall be designed and maintained with sufficient capacity to accommodate precipitation and storm water inputs from a 25-year, 24-hour storm event.
<b><u>89.90.</u></b>	Cannabis cultivators shall not cause or allow any overflow from off-stream water storage facilities that are closed to the environment (e.g., tanks and bladders) if the off-stream facilities are served by a diversion from surface water or groundwater. Cannabis cultivators shall <b><u>on a monthly basis, at a minimum, regularly</u></b> inspect for and repair all leaks of the diversion and storage system. <b><u>Written records describing the date, time, and nature of such inspections and repairs shall be kept on-site for a period of at least two years. Such written records shall be made available for review by Water Boards or CDFW, and any other authorized representatives of the Water Boards or CDFW.</u></b>
<b><u>90.91.</u></b>	Water storage tanks, bladders, and other off-stream water storage facilities that are closed to the environment shall not be located in a riparian setback or next to equipment that generates heat. Cannabis cultivators shall place water storage tanks, bladders, and other off-stream water storage facilities that are closed to the environment in areas that allow for ease of installation, access, maintenance, and minimize road development.
<b><u>91.92.</u></b>	Cannabis cultivators shall install <b><u>vertical and horizontal storage</u></b> tanks according to manufacturer's specifications and shall place tanks on properly compacted soil that is free of rocks and sharp objects and capable of bearing the weight of the tank and its maximum contents with minimal settlement. <b><u>Cannabis cultivators shall maintain a written copy of the manufacturer's specifications for each storage tank used for a period of 12 months beyond the last day the storage tank is used.</u></b> Tanks shall not be located in areas of slope instability. Cannabis cultivators shall install water storage tanks capable of containing more than 8,000 gallons only on a reinforced concrete pad providing adequate support and enough space to attach a tank restraint system (anchor using the molded-in tie down lugs with moderate tension, being careful not to over-tighten) per the recommendations of a <b><u>Qualified Professional qualified professional.</u></b>
<b><u>91.93.</u></b>	To prevent rupture or overflow and runoff, cannabis cultivators shall only use water storage tanks and bladders equipped with a float valve, or equivalent device, to shut off diversion when storage systems are full. Cannabis cultivators shall install any other measures necessary to prevent overflow of storage systems to prevent runoff and the diversion of more water than can be used and/or stored.

<b><u>92.94.</u></b>	Cannabis cultivators shall ensure that all vents and other openings on water storage tanks are designed to prevent the entry and/or entrapment of wildlife.
<b><u>93.95.</u></b>	<p>Cannabis cultivators shall retain, for a minimum of five years, appropriate documentation for any hauled water<sup>21 48</sup> used for cannabis cultivation. Documentation for hauled water shall include, for each delivery, <del>all of</del> the following:</p> <ul style="list-style-type: none"> <li><b><u>a)</u></b> <del>1.</del> A receipt that shows the date of delivery and the name, address, license plate number, and license plate issuing state for the water hauler,</li> <li><b><u>b)</u></b> <del>2.</del> A copy of the Water Hauler's License, <b><u>if applicable</u></b> (California Health and Safety Code section 111120),</li> <li><b><u>c)</u></b> <del>3.</del> A copy of proof of the Water Hauler's water right, groundwater well, or other authorization to take water, and the location of the water source, and</li> <li><b><u>d)</u></b> <del>4.</del> The quantity of water delivered or picked up from a water source, in gallons.</li> </ul> <p>Documentation shall be made available, upon request, to Water Boards or CDFW staff and any other authorized representatives of the Water Boards or CDFW.</p>
<b>Water Conservation and Use</b>	
<b><u>94.96.</u></b>	Cannabis cultivators shall <b><u>regularly on a monthly basis, at a minimum,</u></b> inspect their entire water delivery system for leaks and immediately repair any leaky faucets, pipes, connectors, or other leaks.
<b><u>95.97.</u></b>	Cannabis cultivators shall use weed-free mulch in cultivation areas that do not have ground cover to conserve soil moisture and minimize evaporative loss.
<b><u>96.98.</u></b>	Cannabis cultivators shall implement water conserving irrigation methods (e.g., drip or trickle irrigation, micro-spray, or hydroponics).
<b><u>97.99.</u></b>	Cannabis cultivators shall maintain daily records of all water used for irrigation of cannabis. Daily records may be calculated by the use of a measuring device or, if known, by calculating the irrigation system rates and duration of time watered (e.g., irrigating for one hour twice per day using 50 half-gallon drips equates to 50 gallons per day <b><u>(1 hour x 2 times per day x 50 drips x 0.5 gallons per drip) (1*2*50*0.5)</u></b> of water used for irrigation). Cannabis cultivators shall retain, for a minimum of <b><u>5five</u></b> years, irrigation records at the cannabis cultivation site and shall make all irrigation records available for review by the Water Boards, CDFW, and any other authorized representatives of the Water Boards or CDFW.
<b>Irrigation Runoff</b>	
<b><u>98.100.</u></b>	Cannabis cultivators shall <b><u>regularly on a weekly basis, at a minimum, during period of use</u></b> inspect for leaks in mainlines <sup>22 49</sup> , laterals <sup>23 20</sup> , in irrigation

<sup>2148</sup> Water hauler means any person who hauls water in bulk by any means of transportation.

<sup>22 49</sup> Mainlines are pipes that go from the water source to the control valves.

<sup>23 20</sup> Laterals are the pipes between the control valves and the sprinkler heads **or irrigation emitters.**

	connections, sprinkler heads, <b>irrigation emitters</b> , or at the ends of drip tape and feeder lines and immediately repair any leaks found upon detection.
<b>99.101.</b>	The irrigation system shall be designed to include redundancy (e.g., safety valves) in the event that leaks occur, so that waste of water and runoff is prevented and minimized.
<b>100.102.</b>	Cannabis cultivators shall regularly replace worn, outdated, or inefficient irrigation system components and equipment to ensure a properly functioning, leak-free, <b>and efficient</b> irrigation system at all times.
<b>101.103.</b>	Cannabis cultivators shall minimize irrigation deep percolation <sup>24 24</sup> by applying irrigation water at agronomic rates.
<b>Fertilizers, Pesticides, and Petroleum Products</b>	
<b>102.104.</b>	Cannabis cultivators shall not mix, prepare, over apply, or dispose of agricultural chemicals/products (e.g., fertilizers, pesticides <sup>25 22</sup> , and other chemicals as defined in the applicable water quality control plan) in any location where they could enter the riparian setback or waters of the state. The use of agricultural chemicals inconsistently with product labeling, storage instructions, or DPR requirements for pesticide applications <sup>26 23</sup> is prohibited. Disposal of unused product and containers shall be consistent with labels.
<b>103.105.</b>	Cannabis cultivators shall keep and use absorbent materials designated for spill containment and spill cleanup equipment on-site for use in an accidental spill of fertilizers, petroleum products, hazardous materials, and other substances which may degrade waters of the state. The cannabis cultivator shall immediately notify the California Office of Emergency Services at 1-800-852-7550 and immediately

<sup>24 24</sup> Deep percolation occurs when excess irrigation water is applied and percolates below the plant root zone.

<sup>25 22</sup> Pesticide is defined as follows:

- Per California Code of Regulations Title 3. Division 6. Section 6000:
  - (a) Any substance or mixture of substances that is a pesticide as defined in the Food and Agricultural Code and includes mixtures and dilutions of pesticides;
  - (b) As the term is used in Section 12995 of the California Food and Agricultural Code, includes any substance or product that the user intends to be used for the pesticidal purposes specified in Sections 12753 and 12758 of the Food and Agricultural Code.
- Per California Food and Agricultural Code section 12753(b), the term "Pesticide" includes any of the following: Any substance, or mixture of substances which is intended to be used for defoliating plants, regulating plant growth, or for preventing, destroying, repelling, or mitigating any pest, as defined in Section 12754.5, which may infest or be detrimental to vegetation, man, animals, or households, or be present in any agricultural or nonagricultural environment whatsoever.
- In laymen's terms: "pesticide" includes: rodenticides, herbicides, insecticides, fungicides, and disinfectants.

<sup>26 23</sup> More information on DPR requirements is available at:

[http://www.cdpr.ca.gov/docs/legbills/laws\\_regulations.htm](http://www.cdpr.ca.gov/docs/legbills/laws_regulations.htm),  
<http://www.cdpr.ca.gov/docs/county/cacltrs/penfltrs/penf2017/2017atch/attach0301.pdf>, and  
<http://www.cdpr.ca.gov/docs/cannabis/index.htm>

	initiate cleanup activities for all spills that could enter a waterbody or degrade groundwater.
<b><u>104.106.</u></b>	Cannabis cultivators shall establish and use a separate storage area for pesticides, and fertilizers, and another storage area for petroleum or other liquid chemicals (including diesel, gasoline, oils, etc.). All such storage areas shall comply with the riparian setback Requirements, be in a secured location in compliance with label instructions, outside of areas of known slope instability, and be protected from accidental ignition, weather, and wildlife. All storage areas shall have appropriate secondary containment structures, as necessary, to protect water quality and prevent spillage, mixing, discharge, or seepage. Storage tanks and containers must be of suitable material and construction to be compatible with the substances stored and conditions of storage, such as pressure and temperature.
<b><u>105.107.</u></b>	Throughout the wet season, <del>cannabis cultivators</del> <b>Cannabis Cultivators</b> shall ensure that any temporary storage areas have a permanent cover and side-wind protection or be covered during non-working days and prior to and during rain events.
<b><u>106.108.</u></b>	Cannabis cultivators shall only use hazardous materials <sup>27 24</sup> in a manner consistent with the product's label.
<b><u>107.109.</u></b>	Cannabis cultivators shall only keep hazardous materials in their original containers with labels intact, and shall store hazardous materials to prevent exposure to sunlight, excessive heat, and precipitation. Cannabis cultivators shall provide secondary containment for hazardous materials to prevent possible exposure to the environment. Disposal of unused hazardous materials and containers shall be consistent with the label.
<b><u>108.110.</u></b>	Cannabis cultivators shall only mix, prepare, apply, or load hazardous materials outside of the riparian setbacks.
<b><u>109.111.</u></b>	Cannabis cultivators shall not apply agricultural chemicals within 48 hours of <b><u>any predicted-weather pattern that is forecast to have a 50 percent or greater chance of precipitation rainfall event</u></b> of 0.25 inches or greater <b><u>per 24 hours with a probability greater than 50-percent</u></b> . In the Lake Tahoe Hydrologic Unit, cannabis cultivators shall not apply agricultural chemicals within 48 hours of any weather pattern that is forecast to have a 30 percent or greater chance of precipitation greater than 0.1 inch per 24 hours. This <b>Requirement requirement</b> may be updated based on amendments to the Lahontan Regional Water Board construction storm water general order.

<sup>27 24</sup> A hazardous material is any item or agent (biological, chemical, radiological, and/or physical), which has the potential to cause harm to humans, animals, or the environment, either by itself or through interaction with other factors.

<b>Fertilizers and Soils</b>	
<b><u>110.412.</u></b>	To minimize infiltration and water quality degradation, <b><u>cannabis</u></b> <del>Cannabis</del> cultivators shall irrigate and apply fertilizer <del>to</del> consistent with the crop need (i.e., agronomic rate).
<b><u>111.413.</u></b>	When used, cannabis cultivators shall apply nitrogen to cannabis cultivation areas consistent with crop need (i.e., agronomic rate). Cannabis cultivators shall not apply nitrogen at a rate that may result in a discharge to surface water or groundwater that causes or contributes to exceedance of water quality objectives, and no greater than 319 pounds/acre/year unless plant tissue analysis performed by a qualified individual demonstrates the need for additional nitrogen application. The analysis shall be performed by an agricultural laboratory certified by the State Water Board's Environmental Laboratory Accreditation Program.
<b><u>112.414.</u></b>	Cannabis cultivators shall ensure that potting soil or soil amendments, when not in use, are placed and stored with covers, when needed, to protect from rainfall and erosion, to prevent discharge to waters of the state, and to minimize leaching of waste constituents into groundwater.
<b>Pesticides and Herbicides</b>	
<b><u>113.415.</u></b>	Cannabis cultivators shall not apply restricted materials, including restricted pesticides, or allow restricted materials to be stored at the cannabis cultivation site.
<b><u>114.416.</u></b>	Cannabis cultivators shall implement integrated pest management strategies where possible to reduce the need and use of pesticides and the potential for discharges to waters of the state. <sup>28 25</sup>
<b>Petroleum Products and Other Chemicals</b>	
<b><u>115.417.</u></b>	Cannabis cultivators shall only refuel vehicles or equipment outside of riparian setbacks. Cannabis cultivators shall inspect all equipment using oil, hydraulic fluid, or petroleum products for leaks prior to use and shall monitor equipment for leakage. Stationary equipment (e.g., motors, pumps, generators, etc.) and vehicles not in use shall be located outside of riparian setbacks. Spill and containment equipment <b><u>appropriate for the conditions at and near the site</u></b> (e.g., oil spill booms <b><u>if surface water could be impacted by a spill</u></b> , sorbent pads, etc.) shall be stored onsite at all locations where equipment is used or staged.
<b><u>116.418.</u></b>	Cannabis cultivators shall store petroleum, petroleum products, and similar fluids in a manner that provides chemical compatibility, provides secondary containment, and protection from accidental ignition, the sun, wind, and rain.
<b><u>117.419.</u></b>	Use of an underground storage tank(s) for the storage of petroleum products is allowed if compliant with all applicable federal, state, and local laws; regulations; and permitting requirements.

<sup>28 25</sup> <https://www.epa.gov/safepestcontrol/integrated-pest-management-ipm-principles>

<b>Cultivation-Related Waste</b>	
<b><u>118.120.</u></b>	Cannabis cultivators shall contain and regularly remove all debris and trash associated with cannabis cultivation activities from the cannabis cultivation site. Cannabis cultivators shall only dispose of debris and trash at an authorized landfill or other disposal site in compliance with state and local laws, ordinances, and regulations. Cannabis cultivators shall not allow litter, plastic, or similar debris to enter the riparian setback or waters of the state. Cannabis plant material may be disposed of onsite in compliance with any applicable CDFR license conditions.
<b><u>119.121.</u></b>	Cannabis cultivators shall only dispose or reuse spent growth medium (e.g., soil and other organic media) in a manner that prevents discharge of soil and residual nutrients and chemicals to the riparian setback or waters of the state. Spent growth medium shall be covered with plastic sheeting or stored in water tight dumpsters prior to proper disposal or reuse. Spent growth medium should be disposed of at an authorized landfill or other disposal site in compliance with state and local laws, ordinances, and regulations. Proper reuse of spent growth medium may include incorporation into garden beds or spreading on a stable surface and revegetating the surface with native plants. Cannabis cultivators shall use erosion control techniques, as needed, for any reused or stored spent growth medium to prevent polluted runoff.
<b><u>120.</u></b>	<p><b><u>Wastewater tanks or storage containers must be rigid, enclosed to the environment, and appropriately designed to hold wastewater. They shall not be located within the riparian setback. Cannabis cultivators shall place wastewater storage tanks in areas that allow for ease of installation, access, maintenance, and minimize road development.</u></b></p> <p><b><u>Cannabis cultivators shall install tanks according to manufacturer's specifications and shall place tanks on properly compacted soil or other surface (e.g., concrete) that is free of rocks and sharp objects and capable of bearing the weight of the tank and its maximum contents with minimal settlement.</u></b></p> <p><b><u>Tanks shall not be located in areas of slope instability or next to equipment that generates heat. Cannabis cultivators shall install wastewater storage tanks capable of containing more than 8,000 gallons only on a reinforced concrete pad providing adequate support and enough space to attach a tank restraint system (anchor using the molded-in tie down lugs with moderate tension, being careful not to over-tighten) per the recommendations of a Qualified Professional.</u></b></p> <p><b><u>To prevent rupture or overflow and runoff, cannabis cultivators shall only use wastewater storage tanks equipped with a float valve, or equivalent device, to shut off inflow when storage systems are full. Cannabis cultivators shall install any other measures necessary to prevent overflow of storage systems and prevent spills or leaks. Cannabis cultivators shall regularly inspect for and repair all leaks of the storage system.</u></b></p>
<b><u>121.</u></b>	<b><u>Cannabis cultivators shall retain, for a minimum of five years, appropriate documentation for any industrial wastewater collected to a storage tank for disposal at a permitted wastewater facility that accepts cannabis cultivation</u></b>

	<p><b><u>wastewater. Documentation for hauled industrial wastewater shall include, for each delivery, the following:</u></b></p> <p><b><u>a) A receipt that shows the date of pickup and the name, address, license plate number, and license plate issuing state for the industrial wastewater hauler;</u></b></p> <p><b><u>b) A copy of the wastewater hauler's permit; and</u></b></p> <p><b><u>c) The quantity of industrial wastewater picked up, in gallons.</u></b></p> <p><b><u>Documentation shall be made available, upon request, to Water Boards or CDFW staff and any other authorized representatives of the Water Boards or CDFW.</u></b></p>
<p><b>Refuse and Domestic Waste</b></p>	
122.	<p>Cannabis cultivators shall ensure that debris, soil, silt, bark, slash, sawdust, rubbish, creosote-treated wood, raw cement and concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances which could be hazardous to any life stage of fish and wildlife or their habitat (including food sources) does not contaminate soil or enter the riparian setback or waters of the state.</p>
123.	<p>Cannabis cultivators shall not dispose of domestic wastewater unless it meets applicable local agency and/or Regional Water Board requirements. Cannabis cultivators shall ensure that human or animal waste is disposed of properly. Cannabis cultivators shall ensure onsite wastewater treatment systems (e.g., septic system) are permitted by the local agency or applicable Regional Water Board.</p>
124.	<p>If used, chemical toilets or holding tanks shall be maintained in a manner appropriate for the frequency and conditions of usage, sited in stable locations, and comply with the riparian setback Requirements.</p>
<p><b>Winterization</b></p>	
125.	<p>Cannabis cultivators shall implement all applicable Erosion Control and Soil Disposal and Spoils Management Requirements in addition to the Winterization Requirements below by the onset of the winter period.</p>
126.	<p>Cannabis cultivators shall block or otherwise close any temporary access roads to all motorized vehicles no later than the onset of the winter period each year.</p>
127.	<p>Cannabis cultivators shall not operate heavy equipment of any kind at the cannabis cultivation site during the winter period, unless authorized for emergency repairs contained in an enforcement order issued by the State Water Board, Regional Water Board, or other agency having jurisdiction.</p>
128.	<p>Cannabis cultivators shall apply linear sediment controls (e.g., silt fences, wattles, etc.) along the toe of the slope, face of the slope, and at the grade breaks of</p>



	<p>exposed slopes to comply with sheet flow length<sup>29 26</sup> at the frequency specified below.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="text-align: center;">Slope (percent)</th> <th style="text-align: center;">Sheet Flow Length Not to Exceed (feet)</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">0 – 25</td> <td style="text-align: center;">20</td> </tr> <tr> <td style="text-align: center;">25 – 50</td> <td style="text-align: center;">15</td> </tr> <tr> <td style="text-align: center;">&gt;50</td> <td style="text-align: center;">10</td> </tr> </tbody> </table>	Slope (percent)	Sheet Flow Length Not to Exceed (feet)	0 – 25	20	25 – 50	15	>50	10
Slope (percent)	Sheet Flow Length Not to Exceed (feet)								
0 – 25	20								
25 – 50	15								
>50	10								
<b>129.</b>	<p>Cannabis cultivators shall maintain all culverts, drop inlets, trash racks and similar devices to ensure they are not blocked by debris or sediment. The outflow of culverts shall be inspected to ensure erosion is not undermining the culvert. Culverts shall be inspected prior to the onset of fall and winter precipitation and following precipitation events that produce at least 0.5 in/day or 1.0 inch/7 days of precipitation to determine if maintenance or cleaning is required.</p>								
<b>130.</b>	<p>Cannabis cultivators shall stabilize all disturbed areas and construction entrances and exits to control erosion and sediment discharges from land disturbance.</p>								
<b>131.</b>	<p>Cannabis cultivators shall cover and berm all loose stockpiled construction materials (e.g., soil, spoils, aggregate, etc.) that are not actively (scheduled for use within 48 hours) being used as needed to prevent erosion by storm water. The cannabis cultivator shall have adequate cover and berm materials available onsite if the weather forecast indicates a probability of precipitation.</p>								
<b>132.</b>	<p>Cannabis cultivators shall apply erosion repair and control measures to the bare ground (e.g., cultivation area, access paths, etc.) to prevent discharge of sediment to waters of the state.</p>								
<b>133.</b>	<p>As part of the winterization plan approval process, the Regional Water Board may require cannabis cultivators to implement additional site-specific erosion and sediment control requirements if the implementation of the Requirements in this section do not adequately protect water quality.</p>								

<sup>29 26</sup> Sheet flow length is the length that shallow, low velocity flow travels across a site.

## SECTION 3 – NUMERIC AND NARRATIVE INSTREAM FLOW REQUIREMENTS (INCLUDING GAGING)

This section outlines the **Numeric and Narrative Instream Flow** ~~numeric and narrative instream flow~~ Requirements established in this Policy.

Narrative **Instream instream Flow flow** Requirements apply to all diversions of surface water and groundwater for cannabis cultivation throughout California. Numeric **Instream instream Flow flow Requirements requirements** are developed at compliance gages throughout California. ~~The compliance gages are divided into 14 geographic regions (Section 4).~~

### Narrative Instream Flow Requirements

#### Instream Flow Requirements for Surface Water Diversions

1. **Applicability:** Surface water instream flow Requirements apply to anyone diverting water for cannabis cultivation from a waterbody. A waterbody is defined as any significant accumulation of water, such as: lakes, ponds, rivers, streams, creeks, springs<sup>30 27</sup>, artesian wells, wetlands, and canals. Surface water instream flow Requirements also apply to water diverted from a subterranean stream flowing through a known and definite channel.
2. **Retail Water Suppliers<sup>31 28</sup>:** The instream flow Requirements and forbearance period listed in this section shall not apply to retail water suppliers, as defined in Section 13575 of the Water Code<sup>32 29</sup>, whose primary beneficial use is municipal or domestic, unless any of the following circumstances are present:
  - a. the retail water supplier has 10 or fewer customers and delivers water that is used for cannabis cultivation;
  - b. the retail water supplier delivers 10 percent or more of the diverted water to one or more cannabis cultivator(s) or cannabis cultivation site(s), as established by an assessor's parcel number;
  - c. 25 percent or more of the water delivered by the retail water supplier is used for cannabis cultivation; or
  - d. a cannabis cultivator and the retail water supplier are affiliates, as defined in California Code of Regulations, title 23, section 2814.20.
3. **Exempt Springs:** Cannabis cultivators claiming, pursuant to Business and Professions Code section 26060.1(a)(2)(A)(iv) or section 26060.1(a)(2)(B)(iii), that a spring or artesian well does not flow off their property by surface or subterranean (subsurface) means in the absence of diversion, may request an exemption from the Policy's Narrative Instream Flow Requirements 4 (Surface Water Dry Season Forbearance Period) and 5 (Surface Water Wet Season Diversion Period). **All requests for fully**

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<sup>30 27</sup>A spring is an area where there is concentrated discharge of groundwater that flows at the ground surface. A spring may flow any part of the year. For the purpose of this Policy, a spring does not have a defined bed and banks. Surface water instream flow Requirements apply to both natural springs and springs that are modified to improve production such as, installing piping and spring boxes/wells.

<sup>31 28</sup> Business and Professions Code section 26060.1(a)(1)(B).

<sup>32 29</sup> Under Water Code section 13575(b)(5), "Retail water supplier" means any local entity, including a public agency, city, county, or private water company that provides retail water service.

contained spring exemptions must be submitted online through the Water Boards Cannabis Cultivation Program Application Portal<sup>33</sup>. Cannabis cultivators requesting an exemption must obtain a Cannabis Small Irrigation and Use Registration (Cannabis SIUR), and provide substantial evidence to support the fully contained spring exemption request. ~~When requesting such an exemption, cannabis cultivators~~ The substantial evidence shall demonstrate provide substantial evidence demonstrating that, in the absence of diversions, the spring or artesian well does not have surface or subsurface hydrologic connectivity to a surface water at any time of year during all water year types<sup>34 30</sup>. The substantial evidence must be documented by a Qualified Professional ~~qualified professional~~. For purposes of this Requirement, Qualified Professionals ~~qualified professionals~~ include California-registered Professional Geologists or other classifications of professions approved by the Deputy Director for Water Rights (Deputy Director). A list of Qualified Professionals ~~qualified professionals~~ that may document the substantial evidence required per this Requirement will be maintained on the Water Rights section of the State Water Board's Cannabis Cultivation Fully Contained Springs webpage<sup>35 34</sup>. The Deputy Director may require additional information from the cannabis cultivator to support the request. If, after reviewing the submitted evidence and analysis, the Deputy Director concurs that the cannabis cultivator has made the required showing, the cannabis cultivator may be exempted from the Policy's Narrative Instream Flow Requirements 4 and 5 and may request to revoke the associated Cannabis SIUR. Springs or artesian wells that are deemed exempt shall comply with the Policy's 50 percent visual bypass requirement (Narrative Instream Flow Requirement 6) to support aquatic and riparian habitat. In addition, springs or artesian wells that are deemed exempt shall be subject to the Requirements for Groundwater Diversions (Narrative Instream Flow Requirement 8) to address the potential cumulative impacts of groundwater diversions, to which diversions from the spring or artesian well may contribute. Notwithstanding such exemptions, all other applicable Requirements of this Policy remain in force.

4. **Surface Water Dry Season Forbearance Period:** Cannabis cultivators shall not divert surface water for cannabis cultivation activities at any time from April 1 through October 31 of each calendar year, unless the water diverted is delivered from storage in compliance with Narrative Flow Requirement 4.
  - a. From April 1, 2018 through October 31, 2018, The following requirements apply only to cannabis cultivators diverting under a valid water right or claim of right and without authorized storage are not subject to a dry season forbearance period if the following Requirements are met:
    - i. The first year of the Surface Water Dry Season Forbearance Period (April 1, 2018 through October 31, 2018) is waived. Cannabis cultivators subject to Requirement 4.a. may only divert during this period in a manner consistent with their permit/license or claim of right. All other applicable requirements of the Policy shall remain in force.
    - ii. Prior to diverting water for cannabis cultivation during April 1, 2018 through October 31, 2018 cannabis Cannabis cultivators subject to

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<sup>33</sup> Water Boards Cannabis Cultivation Program Application Portal:  
<https://public2.waterboards.ca.gov/cgo>

<sup>34 30</sup> Including during any precipitation and runoff events.

<sup>35 34</sup> State Water Board's Cannabis Cultivation Fully Contained Springs webpage:  
[https://www.waterboards.ca.gov/water\\_issues/programs/cannabis/fully\\_contained\\_springs.html](https://www.waterboards.ca.gov/water_issues/programs/cannabis/fully_contained_springs.html)

Requirement 4.a shall file for a Cannabis SIUR or submit an application for an appropriative water right permit to obtain storage sufficient to support their cannabis cultivation during ~~future the~~ forbearance periods ~~prior to diverting water for cannabis cultivation during the 2018 forbearance period.~~

- iii. As soon as possible after storage has been authorized, following the conclusion of the winter period, cannabis cultivators subject to Requirement 4.a shall begin installing and diverting to off-stream storage to prepare for a potential curtailment during the dry season of 2018 (triggered by the Aquatic Base Flow Numeric Instream Flow Requirement).
- iv. Requirement 4 shall apply with full force to cannabis cultivators described in Requirement 4.a who fail to comply with Requirement 4.a.ii and/or 4.a.iii.

5. **Surface Water Wet Season Diversion Period:** The authorized surface water diversion period is November 1 through March 31. During this diversion period, cannabis cultivators may only divert surface water for cannabis cultivation when water is available for diversion under the cannabis cultivator's priority of right and the applicable Numeric Flow Requirement (Section 4) is met at the assigned compliance gage. This includes direct diversion and diversion to storage.

From November 1 through December 14 of each year, the surface water diversion period shall not begin until after seven consecutive days in which the surface waterbody's real-time daily average flow is greater than the Numeric Flow Requirement (applicable minimum monthly instream flow Requirement in Section 4). The first day of the seven consecutive days must occur on or after October 25. After the seventh consecutive day with average flow greater than the Numeric Flow Requirement, surface water diversions may occur on any subsequent days in which the real-time daily average flow is greater than the Numeric Instream Flow Requirement (applicable minimum monthly instream flow Requirement in Section 4)<sup>36 32</sup>.

Numeric ~~Instream Flow instream flow~~ Requirements (~~minimum instream flows~~) are established throughout the State and are calculated for the majority of USGS National ~~Hydrography Hydrologic Dataset Database Plus plus Version~~ 2 stream reaches where the USGS flow modeling data are available. Cannabis cultivators that divert water from a waterbody ~~with an assigned compliance gage in Section 4 of this Policy~~ are required to ensure that the ~~real-time daily prior day's~~ average flow, as published on ~~the State Water Board's online mapping tool (see Section 4, Watershed Compliance Gage Assignments for more information) a designated compliance gage website identified by the Deputy Director for Water Rights,~~ exceeds the minimum monthly instream flow Requirement at the cannabis cultivator's assigned compliance gage. Cannabis cultivators shall verify and document compliance

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<sup>36 32</sup> For example, if the daily average flows on each day from October 27 through November 2 of a given year are greater than the Numeric Instream Flow Requirement for November (applicable November monthly minimum flow Requirement), diversion may begin on November 3 if the daily average flow on November 3 is also greater than the November Numeric Instream Flow Requirement. From December 15 through March 31 of each surface water diversion period, surface water diversions may occur on any day in which the surface waterbody's real-time daily average flow is greater than the Numeric Instream Flow Requirement (applicable minimum monthly instream flow Requirement).

with the applicable **Numeric-Flow minimum instream flows Requirement** on a daily basis for each day of surface water diversion.

6. **Surface Water Flow Bypass:** In addition to Narrative Flow Requirement 5, **at all times** cannabis cultivators shall bypass a minimum of 50 percent of the surface water flow past their point of diversion **at all times**, as estimated based on visually observing surface water flow at least daily. The surface water flow bypass requirement applies to cannabis cultivators diverting under a riparian or a pre-1914 appropriative claim of right and without authorized storage even if they qualify for the 2018 Surface Water Dry Season Forbearance Period waiver (Requirement 4.a.)
7. **Numeric Instream Flow Requirements:** The State Water Board has developed Numeric Instream Flow Requirements (minimum instream flow **s requirements**) **for at each** compliance gage **s in Section 4, Table 1 through Table 14**, 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 current list of active compliance gages and associated minimum instream flows are available at:** [https://www.waterboards.ca.gov/water\\_issues/programs/cannabis/tessmann\\_instream\\_flow\\_requirements.html](https://www.waterboards.ca.gov/water_issues/programs/cannabis/tessmann_instream_flow_requirements.html). If the individual and cumulative effects of diversions result in unanticipated impacts, however, the State Water Board may revise the narrative and/or **numeric minimum** instream flow Requirements to better protect instream resources, habitat, and natural flow variability.

#### Requirements for Groundwater Diversions and Springs Qualifying for an Exemption under Narrative Instream Flow Requirement 3 (Exempt Springs)

8. **Aquatic Base Flow:** This Policy establishes an Aquatic Base Flow, calculated by applying the New England Aquatic Base Flow Standard, as one mechanism to help monitor whether groundwater diverters and diverters from exempt springs are having a cumulative negative impact on surface flows. The State Water Board may develop additional requirements for groundwater diversions and diversions from exempt springs for cannabis cultivation in locations where there are a significant number of groundwater diversions and/or diversions from exempt springs or locations where significant numbers of surface water diverters are switching to groundwater diversions and those diversions have the potential to have negative localized impact on surface flows.
9. **Retail Water Suppliers<sup>37 33</sup>:** The instream flow Requirements listed in **Narrative Flow narrative flow** Requirement 8 (Aquatic Base Flow) shall not apply to retail water suppliers, as defined in Section 13575 of the Water Code<sup>38 34</sup>, whose primary beneficial use is municipal or domestic, unless any of the following circumstances are present:
  - a. the retail water supplier has 10 or fewer customers and delivers water that is used for cannabis cultivation;

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<sup>37 33</sup> Business and Professions Code section 26060.1(a)(1)(B).

<sup>38 34</sup> Water Code Chapter 7.5. Water Recycling Act of 1991, Section 13575(b)(5) "Retail water supplier" means any local entity, including a public agency, city, county, or private water company that provides retail water service.

- b. the retail water supplier delivers 10 percent or more of the diverted water to one or more cannabis cultivator(s) or cannabis cultivation site(s), as established by an assessor's parcel number;
- c. 25 percent or more of the water delivered by the retail water supplier is used for cannabis cultivation; or
- d. a cannabis cultivator and the retail water supplier are affiliates, as defined in California Code of Regulations, title 23, section 2814.20.

## Gage Installation, Maintenance, and Operation Requirements

The Deputy Director for Water Rights (Deputy Director) may assign a new compliance gage or require cannabis cultivators to install and operate a local telemetry gage in ungaged watersheds or localized watershed areas if the Deputy Director determines that use of the assigned compliance gage does not adequately protect instream flows or does not adequately represent the localized water demand.

Cannabis cultivators shall ensure that gages required by the Deputy Director are installed, maintained, and operated by a **Qualified Professional** ~~qualified professional~~. For purposes of this Requirement, **Qualified Professionals** ~~qualified professionals~~ include California-registered Professional Civil Engineers, or other classifications of professions approved by the Deputy Director. A list of **Qualified Professionals** ~~qualified professionals~~ that may document compliance with this Requirement will be maintained in the Water Rights section of the State Water Board's Cannabis Cultivation webpage<sup>39 35</sup>. Gage equipment shall meet the applicable technical specifications for telemetered measuring devices in California Code of Regulations, title 23, section 933, that apply to diversions of over 10,000 acre-feet per year or more. Gages shall record data at a minimum of 15-minute intervals and report the recorded real-time data hourly, at a minimum, via a public website designated by the State Water Board's Division of Water Rights (Division of Water Rights).

Cannabis cultivators, or an entity acting on behalf of cannabis cultivators, shall submit a gage operation and maintenance (O&M) plan prepared by a **Qualified Professional** ~~qualified professional~~, as defined in the preceding paragraph, to the Deputy Director or the Deputy Director's designee for approval. At a minimum, the gage O&M plan shall include qualifications and names of entities responsible for gage installation, maintenance, and operation; gage specifications and accuracy; gage location; gage installation procedures that ensure accurate operation during the wet season and stability during high flow events; stream flow measurement procedures for development of rating curves that represent wet season flows; telemetry equipment; and an O&M schedule and procedures. The Deputy Director may require additional information from the cannabis cultivator to support the request. The Deputy Director may include additional requirements as part of any approval of a gage O&M plan.

Prior to October 31, during each water year of gage operation, an annual maintenance and operation summary report prepared by a **Qualified Professional** ~~qualified professional~~, as defined above in this Requirement, shall be submitted to the Division of Water Rights that includes, at a minimum: qualifications and names of entities responsible for maintenance and operation; maintenance activities or operational issues for the prior water year of operation; quality assured gage stage and flow data collected and analyzed for prior water year; rating curves for prior and upcoming water year of operation; data collected to establish rating curves

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<sup>39 35</sup> State Water Board's cannabis cultivation webpage:  
[http://www.waterboards.ca.gov/water\\_issues/programs/cannabis/index.shtml](http://www.waterboards.ca.gov/water_issues/programs/cannabis/index.shtml)

for prior and upcoming water year of operation; and any anticipated maintenance plans or operational issues for the upcoming water year. The gage data shall be provided to the Division of Water Rights in a format retrievable and viewable using Microsoft Excel, Microsoft Access, or other software program authorized by the Deputy Director.

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## SECTION 4 – WATERSHED COMPLIANCE GAGE ASSIGNMENTS

### Watershed Compliance Gage Assignments

~~The following tables show the compliance gage numeric instream flow Requirements by Region.~~ The State Water Board ~~is~~ has developed ~~developing~~ an online mapping tool to assist cannabis cultivators with determining which compliance gage applies to them and whether they may divert water. The online mapping tool is available at: [https://www.waterboards.ca.gov/water\\_issues/programs/cannabis/online\\_mapping\\_tool.html](https://www.waterboards.ca.gov/water_issues/programs/cannabis/online_mapping_tool.html). ~~It is anticipated that the~~ The online mapping tool ~~will~~ will allow ~~s~~ s cannabis cultivators to enter their address or otherwise locate their point of diversion to identify their assigned watershed compliance gage. The online mapping tool identifies existing flow requirements<sup>40</sup> and provides information on whether the existing flow requirement or the Cannabis Policy Numeric Instream Flow Requirement (minimum instream flows) is required to be met prior to diverting. Stakeholders may request the State Water Board update an existing flow requirement in the mapping tool to clarify: an existing flow requirement's conditions, as applicable; clarify the geographic scope of an existing flow requirement; or add an existing flow requirement that is not identified. The State Water Board may update the existing flow requirements in the online mapping tool, as needed. The compliance gage assignments may change as more information becomes available. The current list of active compliance gages and associated minimum instream flows are available at: [https://www.waterboards.ca.gov/water\\_issues/programs/cannabis/tessmann\\_instream\\_flow\\_requirements.html](https://www.waterboards.ca.gov/water_issues/programs/cannabis/tessmann_instream_flow_requirements.html). To ensure cannabis cultivators are reporting in accordance with the appropriate gage, the cannabis cultivator is required to check the online mapping tool website for their compliance gage assignment ~~at least~~ at least daily and prior to diverting water to ensure water is available to divert at that gage (i.e., the ~~real-time-prior day's daily~~ real-time-prior day's daily average flow is greater than the Numeric Instream Flow Requirement [minimum instream flow] at the assigned compliance gage).

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<sup>40</sup> Examples of existing flow requirements are minimum instream flows for Federal Energy Regulatory Commission licensed hydropower projects or minimum instream flows prescribed in Biological Opinions issued by the United States Fish and Wildlife Service or National Marine Fisheries Service.



**Table 1.—Klamath Region Compliance Gage Numeric Instream Flow Requirements**

<b>Gage Number</b>	<b>Gage Name</b>	<b>Agency</b>	<b>November (cfs)</b>	<b>December (cfs)</b>	<b>January (cfs)</b>	<b>February (cfs)</b>	<b>March (cfs)</b>	<b>Aquatic Base Flow (cfs)</b>
11516530	KLAMATH R-BL IRON GATE DAM CA	USGS	828	828	828	828	1,013	1,287
11517000	SHASTA R-NR MONTAGUE CA	USGS	114	114	114	176	194	107
11517500	SHASTA R-NR YREKA CA	USGS	128	128	129	197	222	119
11519500	SCOTT R-NR FORT JONES CA	USGS	293	327	467	454	379	161
11520500	KLAMATH R-NR SEIAD VALLEY CA	USGS	1,364	1,364	1,364	1,433	2,354	1,687
11521500	INDIAN C-NR HAPPY CAMP CA	USGS	181	368	372	365	319	35
11522500	SALMON R-A SOMES BAR CA	USGS	758	1,035	1,306	1,265	1,243	202
11523000	KLAMATH R-A ORLEANS	USGS	2,631	2,631	2,631	3,424	5,131	1,156
11523200	TRINITY R-AB COFFEE C NR TRINITY CENTER CA	USGS	162	162	185	220	257	39
11525530	RUSH C-NR LEWISTON CA	USGS	15	22	29	31	31	2
11525630	GRASS VALLEY C-NR LEWISTON CA	USGS	23	32	48	51	47	3.7
11525670	INDIAN C-NR DOUGLAS CITY CA	USGS	20	28	40	44	43	3
11525854	TRINITY R-A DOUGLAS CITY CA	USGS	957	1,022	1,388	1,628	1,492	228
11526400	TRINITY R-AB-NF TRINITY R-NR HELENA CA	USGS	1,122	1,237	1,702	1,951	1,782	273
11526500	NF TRINITY R-A HELENA CA	USGS	146	175	246	269	253	32
11527000	TRINITY R-NR BURNT RANCH CA	USGS	1,320	1,534	2,105	2,415	2,239	324
11528700	SF TRINITY R-BL HYAMPOM CA	USGS	572	898	1,331	1,372	1,255	77
11530000	TRINITY R-A HOOPA CA	USGS	2,349	3,440	4,712	5,165	4,772	423

<b>Gage Number</b>	<b>Gage-Name</b>	<b>Agency</b>	<b>November (cfs)</b>	<b>December (cfs)</b>	<b>January (cfs)</b>	<b>February (cfs)</b>	<b>March (cfs)</b>	<b>Aquatic Base-Flow (cfs)</b>
11530500	KLAMATH R-NR KLAMATH-CA	USGS	9,785	10,162	14,400	13,657	16,450	4,789
11532500	SMITH R-NR-CRESCENT CITY-CA	USGS	1,758	3,261	3,382	2,865	2,623	288
CLE	TRINITY LAKE	US-Bureau-of Reclamation	749	849	1,117	1,288	1,169	188
SPU	SHASTA R-AT GRENADA PUMP PLANT	CA-Dept-of Water Resources, NRO	47	47	47	68	77	47

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**Table 2. Upper Sacramento Region Compliance Gage Numeric Instream Flow Requirements**

<b>Gage Number</b>	<b>Gage Name</b>	<b>Agency</b>	<b>November (cfs)</b>	<b>December (cfs)</b>	<b>January (cfs)</b>	<b>February (cfs)</b>	<b>March (cfs)</b>	<b>Aquatic Base Flow (cfs)</b>
11342000	SACRAMENTO R-A DELTA-CA	USGS	486	645	800	1,037	894	139
11345500	SF PIT R-NR LIKELY-CA	USGS	28	28	28	28	28	35
11348500	PIT R-NR CANBY-CA	USGS	125	132	116	116	116	122
11361000	BURNEY C-A BURNEY FALLS NR-BURNEY-CA	USGS	84	84	94	123	132	58
HCB	HAT-CK BLW HAT-CK	CA-Dept of Water Resources	85	85	85	85	99	83
HGN	HAT-CK NR HAT-CK	CA-Dept of Water Resources	73	74	74	74	76	60
SHA	SHASTA DAM (USBR)	US-Bureau of Reclamation	1,792	1,792	2,207	3,096	4,145	904

**Table 3. North Eastern Region Compliance Gage Numeric Instream Flow Requirements**

<b>Gage Number</b>	<b>Gage Name</b>	<b>Source</b>	<b>November (cfs)</b>	<b>December (cfs)</b>	<b>January (cfs)</b>	<b>February (cfs)</b>	<b>March (cfs)</b>	<b>Aquatic Base Flow (cfs)</b>
<b>SSD</b>	<b>SUSAN R-NR STANDISH</b>	<b>CA Dept of Water Resources</b>	<b>65</b>	<b>65</b>	<b>65</b>	<b>73</b>	<b>81</b>	<b>44</b>
<b>SSU</b>	<b>SUSAN RIVER AT SUSANVILLE</b>	<b>CA Dept of Water Resources</b>	<b>54</b>	<b>54</b>	<b>54</b>	<b>56</b>	<b>71</b>	<b>39</b>
<b>WCD</b>	<b>WILLOW CREEK NEAR STANDISH</b>	<b>CA Dept of Water Resources</b>	<b>99</b>	<b>99</b>	<b>99</b>	<b>106</b>	<b>115</b>	<b>76</b>

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**Table 4. North Coast Region Compliance Gage Numeric Instream Flow Requirements**

<b>Gage Number</b>	<b>Gage Name</b>	<b>Source</b>	<b>November (cfs)</b>	<b>December (cfs)</b>	<b>January (cfs)</b>	<b>February (cfs)</b>	<b>March (cfs)</b>	<b>Aquatic Base Flow (cfs)</b>
11473900	MF EEL R NR DOS RIOS CA	USGS	621	1,138	1,592	1,450	1,279	18
11475000	EEL R A FORT SEWARD CA	USGS	1,918	3,768	5,252	4,850	3,814	73
11475560	ELDER C NR BRANSCOMB CA	USGS	11	25	31	25	22	1.3
11475610	CAHTO C NR LAYTONVILLE CA	USGS	7.9	18	23	19	15	2.4
11475800	SF EEL R A LEGGETT CA	USGS	347	783	980	851	665	25
11476500	SF EEL R NR MIRANDA CA	USGS	749	1,708	2,125	1,857	1,424	54
11476600	BULL C NR WEOTT CA	USGS	45	102	123	112	88	1.9
11477000	EEL R A SCOTIA CA	USGS	3,293	7,218	9,280	8,443	6,013	145
11478500	VAN DUZEN R NR BRIDGEVILLE CA	USGS	323	728	814	748	627	12
11480390	MAD R AB RUTH RES NR FOREST GLEN CA	USGS	100	213	257	247	203	1.1
11481000	MAD R NR ARCATA CA	USGS	641	1,406	1,555	1,453	1,245	57
11481200	LITTLE R NR TRINIDAD CA	USGS	54	127	132	111	101	6.3
11481500	REDWOOD C NR BLUE LAKE CA	USGS	96	197	221	211	203	6.7
11482500	REDWOOD C A ORICK CA	USGS	406	901	987	856	794	28

**Table 5.—Middle Sacramento Region Compliance Gage Numeric Instream Flow Requirements**

<b>Gage Number</b>	<b>Gage Name</b>	<b>Source</b>	<b>November (cfs)</b>	<b>December (cfs)</b>	<b>January (cfs)</b>	<b>February (cfs)</b>	<b>March (cfs)</b>	<b>Aquatic Base Flow (cfs)</b>
11370500	SACRAMENTO R-A KESWICK-CA	USGS	1,786	1,786	2,275	3,155	3,802	914
11372000	CLEAR C-NR IGO-CA	USGS	197	296	403	503	406	35
11374000	COW C-NR MILLVILLE-CA	USGS	284	500	722	690	557	29
11376000	COTTONWOOD C-NR COTTONWOOD-CA	USGS	461	758	1,215	1,265	995	45
11376550	BATTLE C-BL COLEMAN FISH HATCHERY NR COTTONWOOD CA	USGS	185	185	255	284	264	171
11377100	SACRAMENTO R-AB BEND BRIDGE NR RED BLUFF-CA	USGS	2,550	2,676	3,841	5,157	5,106	1,291
11379500	ELDER C-NR PASKENTA-CA	USGS	46	70	123	129	101	3
11381500	MILL C-NR LOS MOLINOS-CA	USGS	101	101	142	148	159	46
11383500	DEER C-NR VINA-CA	USGS	165	171	246	267	289	49
11390500	SACRAMENTO R-BL WILKINS SLOUGH NR GRIMES-CA	USGS	5,668	7,679	14,170	12,964	12,083	854
BIG	BIG-CHICO CREEK NEAR CHICO	CA-Dept of Water Resources	66	74	125	138	135	16
BLB	BLACK BUTTE	US Army Corps of Engineers	278	422	749	796	615	29
GRI	GRINDSTONE CK-NR GRINDSTONE RANCHERIA	US-Bureau of Reclamation	93	136	228	222	179	12
MUC	MUD-CREEK NEAR CHICO	CA-Dept of Water Resources	78	89	162	180	181	14
NGO	N-FK COTTONWOOD CK-ABV-LK AT BRDG NR-ONO	CA-Dept of Water Resources, NRO	9.5	14	20	22	19	1.5
SCG	STONY CK-NR GRIZZLY FLAT (CO RD-200A)	US-Bureau of Reclamation	258	391	698	732	572	26
SUW	STONY CREEK NR SUWANNA RANCH (CO RD-410)	US-Bureau of Reclamation	119	185	328	343	257	12

<b>Gage Number</b>	<b>Gage Name</b>	<b>Source</b>	<b>November (cfs)</b>	<b>December (cfs)</b>	<b>January (cfs)</b>	<b>February (cfs)</b>	<b>March (cfs)</b>	<b>Aquatic Base-Flow (cfs)</b>
<b>THO</b>	<b>THOMES-CREEK-AT-PASKENTA</b>	<b>CA-Dept-of Water Resources</b>	<b>149</b>	<b>217</b>	<b>334</b>	<b>348</b>	<b>281</b>	<b>17</b>

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**Table 6.—Southern Sacramento Region Compliance Gage Numeric Instream Flow Requirements**

<b>Gage Number</b>	<b>Gage-Name</b>	<b>Source</b>	<b>November (cfs)</b>	<b>December (cfs)</b>	<b>January (cfs)</b>	<b>February (cfs)</b>	<b>March (cfs)</b>	<b>Aquatic-Base Flow (cfs)</b>
11335000	COSUMNES R-A MICHIGAN-BAR-CA	USGS	170	190	323	391	382	23
11336580	MORRISON-C-NR-SACRAMENTO-CA	USGS	3.4	4.1	12	13	9.2	1
11336585	LAGUNA-C-NR-ELK-GROVE-CA	USGS	2.5	3.1	9.4	10	7	1.1
11401920	SPANISH-C-A-QUINCY-CA	USGS	55	58	74	86	91	17
11402000	SPANISH-C-AB-BLACKHAWK-C-AT-KEDDIE-CA	USGS	118	118	154	182	190	34
11413000	N-YUBA-R-BL-GOODYEARS-BAR-CA	USGS	292	321	385	416	435	84
11421000	YUBA-R-NR-MARYSVILLE-CA	USGS	1,102	1,380	1,736	1,929	1,964	324
11425500	SACRAMENTO-R-A-VERONA-CA	USGS	10,548	14,051	25,774	24,889	22,688	1,424
11427000	NF-AMERICAN-R-A-NORTH-FORK-DAM-CA	USGS	284	354	429	471	456	85
11447360	ARCADE-C-NR-DEL-PASO-HEIGHTS-CA	USGS	3.3	4.4	13	13	11	1.2
11447650	SACRAMENTO-R-A-FREEPORT-CA	USGS	7,256	7,645	12,738	16,071	14,817	2,601
11449500	KELSEY-C-NR-KELSEYVILLE-CA	USGS	29	54	78	84	58	3.3
11451000	CACHE-C-NR-LOWER-LAKE-CA	USGS	277	446	814	821	610	19
11451100	NF-CACHE-C-A-HOUGH-SPRING-NR-CLEARLAKE-OAKS-CA	USGS	43	77	125	123	93	1
11451300	NF-CACHE-C-NR-CLEARLAKE-OAKS-CA	USGS	60	93	166	176	135	5.2
11451715	BEAR-C-AB-HOLSTEN-CHIMNEY-CYN-NR-RUMSEY-CA	USGS	16	33	67	74	49	1.5
11451800	CACHE-C-A-RUMSEY-CA	USGS	437	645	1,346	1,300	979	30



<b>Gage Number</b>	<b>Gage-Name</b>	<b>Source</b>	<b>November (cfs)</b>	<b>December (cfs)</b>	<b>January (cfs)</b>	<b>February (cfs)</b>	<b>March (cfs)</b>	<b>Aquatic Base Flow (cfs)</b>
11453500	PUTAH C NR GUENOC CA	USGS	82	137	234	251	172	4
11455420	SACRAMENTO R A RIO VISTA CA	USGS	14,009	19,070	35,609	34,051	30,009	1,715
BPG	BEAR RIVER AT PLEASANT GROVE RD	CA Dept of Water Resources	133	150	252	301	270	18
CMF	GOSUMNES R MID-FORK NR SOMERSET	CA Dept of Water Resources	53	53	73	91	98	19
GNF	COSUMNES R N FORK NR EL-DORADO	CA Dept of Water Resources	91	94	146	173	177	32
FOL	FOLSOM LAKE	US Bureau of Reclamation	1,177	1,228	1,603	1,838	1,904	413
FSB	FEATHER R ABV STAR BEND	CA Dept of Water Resources/NCR O	3,331	3,331	4,258	5,051	5,297	1,165
GRL	FEATHER RIVER NEAR GRIDLEY	CA Dept of Water Resources/O & M	2,152	2,179	2,537	3,050	3,162	704
IGR	INDIAN CREEK BELOW INDIAN FALLS	CA Dept of Water Resources	188	188	203	302	362	54
KCK	KELSEY CK BLW KELSEYVILLE	CA Dept of Water Resources	32	56	88	95	66	2.9
MCU	MIDDLE CK NR UPPER LAKE	CA Dept of Water Resources	31	52	83	85	72	1.8
MER	FEATHER RIVER AT MERRIMAC	CA Dept of Water Resources/O & M	514	514	586	771	921	167
MFP	MIDDLE FORK FEATHER RIVER NEAR PORTOLA	CA Dept of Water Resources	94	94	94	112	127	83

<b>Gage Number</b>	<b>Gage-Name</b>	<b>Source</b>	<b>November (cfs)</b>	<b>December (cfs)</b>	<b>January (cfs)</b>	<b>February (cfs)</b>	<b>March (cfs)</b>	<b>Aquatic-Base Flow (cfs)</b>
<b>ORO</b>	<b>OROVILLE DAM</b>	<b>CA Dept of Water Resources/O &amp; M</b>	<b>2,128</b>	<b>2,147</b>	<b>2,509</b>	<b>3,014</b>	<b>3,036</b>	<b>696</b>
<b>SFH</b>	<b>SOUTH HONCUT CREEK NEAR BANGOR</b>	<b>CA Dept of Water Resources/NCR O</b>	<b>22</b>	<b>38</b>	<b>61</b>	<b>62</b>	<b>50</b>	<b>2</b>

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**Table 7. North Central Coast Region Compliance Gage Numeric Instream Flow Requirements**

<b>Gage Number</b>	<b>Gage Name</b>	<b>Source</b>	<b>November (cfs)</b>	<b>December (cfs)</b>	<b>January (cfs)</b>	<b>February (cfs)</b>	<b>March (cfs)</b>	<b>Aquatic Base Flow (cfs)</b>
11456000	NAPA R NR ST HELENA CA	USGS	52	88	153	159	110	1.6
11458000	NAPA R NR NAPA CA	USGS	109	172	335	342	229	3.5
11458500	SONOMA C A AGUA CALIENTE CA	USGS	38	65	110	117	76	3.7
11459500	NOVATO C A NOVATO CA	USGS	7.5	13	23	24	15	1.1
11460000	CORTE MADERA C A ROSS CA	USGS	10	20	32	32	20	1
11460151	REDWOOD C A HWY 1 BRIDGE A MUIR BEACH CA	USGS	4.6	8.2	13	11	7.3	1.5
11461000	RUSSIAN R NR UKIAH CA	USGS	69	138	197	189	143	3.8
11463000	RUSSIAN R NR CLOVERDALE CA	USGS	324	606	940	935	677	8.9
11463200	BIG SULPHUR C NR CLOVERDALE CA	USGS	63	115	181	190	128	2.9
11463900	MAACAMA C NR KELLOGG CA	USGS	35	61	103	103	73	1.4
11464000	RUSSIAN R NR HEALDSBURG CA	USGS	521	972	1,522	1,539	1,082	14
11465200	DRY C NR GEYSERVILLE CA	USGS	131	253	391	379	253	6.7
11465750	LAGUNA DE SANTA ROSA C NR SEBASTOPOL CA	USGS	33	53	103	101	66	3.8
11466320	SANTA ROSA C A WILLOWSIDE RD NR SANTA ROSA CA	USGS	44	76	132	135	89	2
11466800	MARK WEST C NR MIRABEL HEIGHTS CA	USGS	134	226	407	412	273	7.2
11467000	RUSSIAN R NR GUERNEVILLE CA	USGS	878	1,645	2,585	2,592	1,829	26
11467200	AUSTIN C NR CAZADERO CA	USGS	64	139	184	179	120	1.3

<b>Gage Number</b>	<b>Gage Name</b>	<b>Source</b>	<b>November (cfs)</b>	<b>December (cfs)</b>	<b>January (cfs)</b>	<b>February (cfs)</b>	<b>March (cfs)</b>	<b>Aquatic-Base Flow (cfs)</b>
11467510	SF GUALALA R-NR-THE SEA RANCH CA	USGS	149	323	437	424	279	4.9
11467553	NF GUALALA R-AB-SF GUALALA R-NR GUALALA CA	USGS	39	77	117	107	80	3.9
11468000	NAVARRO R-NR NAVARRO CA	USGS	200	407	611	557	422	8.4
11468500	NOYO R-NR FORT BRAGG CA	USGS	82	169	240	212	175	5.5
11468900	MATTOLE R-NR ETTERSBERG CA	USGS	113	268	306	265	212	7.8
11469000	MATTOLE R-NR PETROLIA CA	USGS	406	942	1,118	960	769	27

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**Table 8. Tahoe Region Compliance Gage Numeric Instream Flow Requirements**

<b>Gage Number</b>	<b>Gage Name</b>	<b>Source</b>	<b>November (cfs)</b>	<b>December (cfs)</b>	<b>January (cfs)</b>	<b>February (cfs)</b>	<b>March (cfs)</b>	<b>Aquatic Base Flow (cfs)</b>
10296000	W-WALKER RV-BLW-L WALKER RV-NR COLEVILLE, CA	USGS	89	102	102	102	102	79
10296500	W-WALKER RV-NR COLEVILLE, CA	USGS	103	106	106	106	106	92
10308200	E-FK CARSON RV-BLW MARKLEEVILLE CK-NR MARKLEEVILLE	USGS	117	137	137	137	137	74
10340000	W-FK CARSON RV-AT WOODFORDS, CA	USGS	35	44	44	44	44	22
10336610	UPPER TRUCKEE RV-AT SOUTH LAKE TAHOE, CA	USGS	27	35	35	35	35	14
10336645	GENERAL C-NR-MEEKS BAY-CA	USGS	5	6.2	6.2	6.2	6.2	1.2
10336660	BLACKWOOD C-NR TAHOE CITY-CA	USGS	11	13	13	13	13	2.1
10336780	TROUT CK-NR-TAHOE VALLEY, CA	USGS	14	14	14	14	14	15
10343500	SAGEHEN C-NR TRUCKEE-CA	USGS	5.2	5.2	5.2	5.2	5.2	2.2

**Table 9. South Central Coast Region Compliance Gage Numeric Instream Flow Requirements**

<b>Gage Number</b>	<b>Gage Name</b>	<b>Source</b>	<b>November (cfs)</b>	<b>December (cfs)</b>	<b>January (cfs)</b>	<b>February (cfs)</b>	<b>March (cfs)</b>	<b>Aquatic Base Flow (cfs)</b>
11141280	LOPEZ C NR ARROYO GRANDE CA	USGS	3.8	3.8	8.1	10	8.4	2.2
11143000	BIG SUR R NR BIG SUR CA	USGS	38	43	90	102	85	13
11143200	CARMEL R A ROBLES DEL RIO CA	USGS	40	67	158	210	162	3.9
11143250	CARMEL R NR CARMEL CA	USGS	40	71	175	244	181	5.5
11147500	SALINAS R A PASO ROBLES CA	USGS	20	43	117	149	114	1.9
11148500	ESTRELLA R NR ESTRELLA CA	USGS	22	28	61	96	91	1.5
11148900	NACIMIENTO R BL SAPAQUE C NR BRYSON CA	USGS	27	63	156	177	124	4.7
11149400	NACIMIENTO R BL NACIMIENTO DAM NR BRADLEY CA	USGS	16	34	108	118	80	4.7
11149900	SAN ANTONIO R NR LOCKWOOD CA	USGS	33	65	140	168	113	6.2
11150500	SALINAS R NR BRADLEY CA	USGS	75	136	350	411	399	4.4
11151300	SAN LORENZO C BL BITTERWATER C NR KING CITY CA	USGS	3.9	7.7	18	24	23	1.2
11151700	SALINAS R A SOLEDAD CA	USGS	107	167	429	519	497	11
11152000	ARROYO SECO NR SOLEDAD CA	USGS	64	99	206	280	209	9.8
11152050	ARROYO SECO BL RELIZ C NR SOLEDAD CA	USGS	57	96	208	278	189	8.4
11152500	SALINAS R NR SPRECKELS CA	USGS	125	219	539	666	618	16
11153000	PACHECO C NR DUNNEVILLE CA	USGS	4.2	9.7	27	36	24	2.3

<b>Gage Number</b>	<b>Gage Name</b>	<b>Source</b>	<b>November (cfs)</b>	<b>December (cfs)</b>	<b>January (cfs)</b>	<b>February (cfs)</b>	<b>March (cfs)</b>	<b>Aquatic-Base Flow (cfs)</b>
11153650	LLAGAS C NR GILROY	USGS	11	18	59	53	37	1.3
11156500	SAN BENITO R NR WILLOW CREEK SCHOOL CA	USGS	7	17	34	59	50	1.5
11157500	TRES PINOS C NR TRES PINOS CA	USGS	3.5	10	29	35	26	1.4
11158600	SAN BENITO R A HWY 156 NR HOLLISTER CA	USGS	15	32	79	99	80	1.8
11159000	PAJARO R A CHITTENDEN CA	USGS	50	91	288	279	210	3.5
11159200	CORRALITOS C A FREEDOM CA	USGS	10	16	29	28	22	2.3
11160000	SOQUEL C A SOQUEL CA	USGS	17	26	45	48	37	2.3
11160500	SAN LORENZO R A BIG TREES CA	USGS	52	71	129	145	110	16
11161000	SAN LORENZO R A SANTA CRUZ CA	USGS	57	83	144	159	119	17
11162500	PESCADERO C NR PESCADERO CA	USGS	12	23	43	47	36	2.5
11162570	SAN GREGORIO C A SAN GREGORIO CA	USGS	16	25	45	45	35	1.3
11162630	PILARCITOS C A HALF MOON BAY CA	USGS	9	14	21	24	17	2
11164500	SAN FRANCISQUITO C A STANFORD UNIVERSITY CA	USGS	11	17	38	40	29	1.3
11166000	MATADERO C A PALO ALTO CA	USGS	1.4	1.6	4.8	5.4	3.2	1.6
11169025	GUADALUPE R ABV HWY 101 A SAN JOSE CA	USGS	38	58	168	161	104	1.5
11169500	SARATOGA C A SARATOGA CA	USGS	3.1	5.1	9	10	8	1
11169800	COYOTE C NR GILROY CA	USGS	7.3	19	57	65	45	2.1

<b>Gage Number</b>	<b>Gage Name</b>	<b>Source</b>	<b>November (cfs)</b>	<b>December (cfs)</b>	<b>January (cfs)</b>	<b>February (cfs)</b>	<b>March (cfs)</b>	<b>Aquatic-Base Flow (cfs)</b>
11172175	GOYOTE C AB HWY 237 A MILPITAS CA	USGS	20	52	134	147	100	1.6
11172945	ALAMEDA C AB DIV DAM NR SUNOL CA	USGS	4.2	10	21	23	19	1.6
11173200	ARROYO HONDO NR SAN JOSE CA	USGS	8.8	20	44	49	39	1.2
11173800	INDIAN C NR SUNOL CA	USGS	0.8	2	4.1	4.2	3.8	2.7
11174600	ALAMO CN NR PLEASANTON CA	USGS	2.9	5.1	16	15	11	1.7
11176400	ARROYO VALLE BL LANG CYN NR LIVERMORE CA	USGS	5.2	16	43	51	38	1
11176500	ARROYO VALLE NR LIVERMORE CA	USGS	6	18	48	58	41	1.3
11176900	ARROYO DE LA LAGUNA A VERONA CA	USGS	12	36	117	114	85	1.2
11180500	DRY C A UNION CITY CA	USGS	0.52	1.5	3.4	3.9	2.9	1.2
11180825	SAN LORENZO C AB DON CASTRO RES NR CASTRO V CA	USGS	1.6	3.3	7.7	8.2	6	1.5
11180900	GROW C NR HAYWARD CA	USGS	1.1	2.6	5.9	6.3	4.8	1.3
11180960	CULL C AB CULL C RES NR CASTRO VALLEY CA	USGS	0.57	1.5	3.5	3.8	3	1.9
11181040	SAN LORENZO C A SAN LORENZO CA	USGS	4	9.5	24	23	18	1.5



**Table 10. San Joaquin Region Compliance Gage Numeric Instream Flow Requirements**

<b>Gage Number</b>	<b>Gage Name</b>	<b>Source</b>	<b>November (cfs)</b>	<b>December (cfs)</b>	<b>January (cfs)</b>	<b>February (cfs)</b>	<b>March (cfs)</b>	<b>Aquatic-Base Flow (cfs)</b>
11224000	MF SAN JOAQUIN R NR MAMMOTH LAKES CA	USGS	23	25	28	27	31	13
11251000	SAN JOAQUIN R BL FRIANT CA	USGS	518	711	711	711	768	307
11255575	PANOCHE C A I-5 NR SILVER CREEK CA	USGS	3.8	6.3	11	22	20	4
11264500	MERCED R A HAPPY ISLES BRIDGE NR YOSEMITE CA	USGS	75	108	132	135	145	22
11266500	MERCED R A POHONO BRIDGE NR YOSEMITE CA	USGS	138	225	259	259	259	41
11274500	ORESTIMBA C NR NEWMAN CA	USGS	1.1	6.2	18	26	16	2.5
11274630	DEL PUERTO C NR PATTERSON CA	USGS	0.7	2.7	6.8	10	7.6	2.2
11274790	TUOLUMNE R A GRAND CYN OF TUOLUMNE AB HETCH HETCHY	USGS	170	197	225	211	237	66
11276500	TUOLUMNE R NR HETCH HETCHY CA	USGS	272	362	406	409	409	94
11276900	TUOLUMNE R BL EARLY INTAKE NR MATHER CA	USGS	276	377	414	414	414	98
11284400	BIG C AB WHITES GULCH NR GROVELAND CA	USGS	3.7	5.1	9.4	11	9.5	1.1
11285500	TUOLUMNE R A WARDS FERRY BR NR GROVELAND CA	USGS	604	761	761	761	816	292
11289650	TUOLUMNE R BL LAGRANGE DAM NR LAGRANGE CA	USGS	653	767	767	793	950	340

<b>Gage Number</b>	<b>Gage Name</b>	<b>Source</b>	<b>November (cfs)</b>	<b>December (cfs)</b>	<b>January (cfs)</b>	<b>February (cfs)</b>	<b>March (cfs)</b>	<b>Aquatic Base Flow (cfs)</b>
11299600	BLACK C NR COPPEROPOLIS CA	USGS	2.3	4.4	11	11	8.8	1.8
11303000	STANISLAUS R A RIPON CA	USGS	481	504	504	526	639	222
BAR	BEAR	US Army Corps of Engineers	6	8.5	19	22	20	1.4
BDV	BLACK RASCAL DIVERSION	US Army Corps of Engineers	1.6	1.6	3.8	4.6	3.3	1.1
BUR	BURNS CREEK DAM	US Army Corps of Engineers	4.2	4.8	12	13	12	1.3
DCM	DRY CREEK AT MODESTO AT CLAUS ROAD	CA Dept of Water Resources	12	12	29	34	28	1.8
FHL	FRESNO R ABV HENLEY LAKE	US Army Corps of Engineers	46	58	103	120	133	2.1
GDW	GOODWIN DAM	US Bureau of Reclamation	479	543	543	543	653	224
GRF	SAN JOAQUIN RIVER AT GRAVELLY FORD	US Bureau of Reclamation	518	697	697	697	759	332
LDC	LITTLE DRY CREEK (USBR)	US Bureau of Reclamation	3.3	4.1	8.9	12	11	1.2
MIL	FRIANT DAM (MILLERTON)	US Bureau of Reclamation	516	720	720	720	764	307
MSN	MERCED RIVER NEAR SNELLING	CA Dept of Water Resources	344	392	460	531	620	146
MST	MERCED RIVER NEAR STEVINSON	CA Dept of Water Resources/SCRO	348	348	436	520	597	130
NHG	NEW HOGAN LAKE	US Army Corps of Engineers	146	200	411	400	346	4.4
NML	NEW MELONES RESERVOIR	US Bureau of Reclamation	481	550	550	550	619	218
OBB	STANISLAUS R AT ORANGE BLOSSOM BRIDGE	CA Dept of Water Resources	486	533	533	533	656	219
TUM	TUOLUMNE MEADOWS	CA Dept of Water Resources	24	24	28	25	32	12

**Table 11. Mono Region Compliance Gage Numeric Instream Flow Requirements**

<b>Gage Number</b>	<b>Gage Name</b>	<b>Source</b>	<b>November (cfs)</b>	<b>December (cfs)</b>	<b>January (cfs)</b>	<b>February (cfs)</b>	<b>March (cfs)</b>	<b>Aquatic Base Flow (cfs)</b>
10251330	AMARGOSA RV ABV CHINA RANCH WASH NR TECOPA, CA	USGS	47	47	48	75	137	17
10251335	WILLOW CK AT CHINA RANCH, CA	USGS	2.1	2.1	2.1	3.3	4.6	2.5
10260500	DEEP C NR HESPERIA CA	USGS	33	36	59	75	91	7.8
10260950	WF MOJAVE R AB MOJAVE R FORKS RES NR HESPERIA CA	USGS	11	13	28	37	35	2.2
10261500	MOJAVE R A LO NARROWS NR VICTORVILLE CA	USGS	39	42	69	99	98	4.3
10262500	MOJAVE R A BARSTOW CA	USGS	63	104	164	150	144	7.7
10263500	BIG ROCK C NR VALYERMO CA	USGS	6.5	6.5	8.3	13	13	3.9
10265150	HOT C A FLUME NR MAMMOTH LAKES CA	USGS	22	25	27	27	27	22

**Table 12. Kern Region Compliance Gage Numeric Instream Flow Requirements**

<b>Gage Number</b>	<b>Gage Name</b>	<b>Source</b>	<b>November (cfs)</b>	<b>December (cfs)</b>	<b>January (cfs)</b>	<b>February (cfs)</b>	<b>March (cfs)</b>	<b>Aquatic Base Flow (cfs)</b>
11189500	SF KERN R NR ONYX CA	USGS	61	61	61	65	64	39
11200800	DEER C NR FOUNTAIN SPRINGS CA	USGS	6.1	8.3	11	17	18	5.5
11203580	SF TULE R NR CHOLOLLO CAMPGROUND NR PORTERVILLE CA	USGS	4.9	6.3	6.3	7.5	9.8	2.7
11204100	SF TULE R NR RESERVATION BNDRY NR PORTERVILLE CA	USGS	11	14	19	25	29	3.7
11206820	MARBLE FORK KAWEAH R AB HORSE C NR LODGEPOLE CA	USGS	4.7	6.1	6.9	6.8	8.3	2.3
11224500	LOS GATOS C AB NUNEZ CYN NR COALINGA CA	USGS	1	3	6.2	10	9.3	3.2
11253310	CANTUA C NR CANTUA CREEK CA	USGS	0.53	1.3	2.5	4	4.3	1.8
ISB	ISABELLA DAM	US Army Corps of Engineers	274	274	274	274	274	310
KKV	KERN R AT KERNVILLE	US Army Corps of Engineers	255	290	290	290	290	172
KRT	KINGS R NR TRIMMER	US Army Corps of Engineers	441	695	759	759	759	277
LCV	DRY CREEK NEAR LEMONGOVE	US Army Corps of Engineers	13	19	33	40	42	1
PDR	MILL CREEK NEAR PIEDRA	US Army Corps of Engineers	16	27	50	59	64	1.2
PNF	PINE FLAT DAM	US Army Corps of Engineers	475	715	715	715	715	329
SCC	SUCCESS DAM	US Army Corps of Engineers	51	61	75	104	111	16

<b>TRM</b>	<b>TERMINUS DAM</b>	<b>US Army Corps of Engineers</b>	<b>149</b>	<b>177</b>	<b>177</b>	<b>197</b>	<b>226</b>	<b>89</b>
<b>TRR</b>	<b>KAWEAH RIVER AT THREE RIVERS</b>	<b>US Army Corps of Engineers</b>	<b>125</b>	<b>186</b>	<b>186</b>	<b>186</b>	<b>207</b>	<b>62</b>

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**Table 13. South Coast Region Compliance Gage Numeric Instream Flow Requirements**

<b>Gage Number</b>	<b>Gage Name</b>	<b>Source</b>	<b>November (cfs)</b>	<b>December (cfs)</b>	<b>January (cfs)</b>	<b>February (cfs)</b>	<b>March (cfs)</b>	<b>Aquatic Base Flow (cfs)</b>
11014000	JAMUL C NR JAMUL CA	USGS	1.8	2.9	5.8	11	9.9	3.4
11015000	SWEETWATER R NR DESCANSO CA	USGS	5.1	6.3	11	16	19	2.9
11016200	SWEETWATER R A DEHESA CA	USGS	6.2	9.4	18	28	29	3.5
11023000	SAN DIEGO R A FASHION VALLEY AT SAN DIEGO CA	USGS	14	21	42	64	71	4
11023340	LOS PENASQUITOS C NR POWAY CA	USGS	1.5	1.8	5.1	6.5	6.4	1.6
11027000	GUEJITO C NR SAN PASQUAL CA	USGS	1.3	1.5	3.7	5.5	4.4	2.2
11028500	SANTA MARIA C NR RAMONA CA	USGS	3.2	3.2	7.4	11	9.6	1
11042000	SAN LUIS REY R A OCEANSIDE CA	USGS	17	30	70	96	89	1.2
11042400	TEMECULA C NR AGUANGA CA	USGS	7.4	7.7	16	24	21	1.6
11044300	SANTA MARGARITA R A FPUD SUMP NR FALLBROOK CA	USGS	24	24	55	78	71	2.8
11044350	SANDIA C NR FALLBROOK CA	USGS	0.28	0.76	2	3.4	2.2	1
11044800	DE LUZ C NR DE LUZ CA	USGS	0.52	1.3	3.1	5.8	4	1
11046000	SANTA MARGARITA R A YSIDORA CA	USGS	25	27	59	93	81	3
11046100	LAS FLORES C NR OCEANSIDE CA	USGS	0.66	1	2.6	3.9	2.9	1
11046300	SAN MATEO C NR SAN CLEMENTE CA	USGS	1.8	4.7	11	19	14	1.1
11046360	CRISTIANITOS C AB SAN MATEO C NR SAN CLEMENTE CA	USGS	0.88	1.4	3.6	6	4	1.2
11047300	ARROYO TRABUCO A SAN JUAN CAPISTRANO CA	USGS	1.4	2.9	7.8	10	9.6	3.4
11048200	AGUA CHINON WASH NR IRVINE CA	USGS	0.05	0.15	0.41	0.64	0.45	1

Gage Number	Gage Name	Source	November (cfs)	December (cfs)	January (cfs)	February (cfs)	March (cfs)	Aquatic Base Flow (cfs)
11051499	SANTA ANA R NR MENTONE (RIVER ONLY) CA	USGS	39	39	41	58	69	18
11055800	CITY C NR HIGHLAND CA	USGS	3.6	4.4	8	11	11	1.3
11057500	SAN TIMOTEO C NR LOMA LINDA CA	USGS	6.5	7.3	14	24	20	1.2
11058500	E TWIN C NR ARROWHEAD SPRINGS CA	USGS	1.6	1.7	3.3	4.7	4.4	1
11062000	LYTLE C NR FONTANA CA	USGS	22	22	37	47	47	11
11063510	CAJON C BL LONE PINE C NR KEENBROOK CA	USGS	10	10	19	28	25	3.1
11063680	DEVIL CYN C NR SAN BERNARDINO CA	USGS	1.7	1.7	4.1	4.8	3.8	1.8
11069500	SAN JACINTO R NR SAN JACINTO	USGS	12	13	21	32	30	3.5
11070365	SAN JACINTO R NR SUN CITY CA	USGS	22	25	62	75	66	2.9
11073360	CHINO C A SCHAEFER AVENUE NR CHINO CA	USGS	8.9	11	23	29	27	3
11073495	CUCAMONGA C NR MIRA LOMA CA	USGS	9.5	10	26	37	25	1.5
11078000	SANTA ANA R A SANTA ANA CA	USGS	140	166	368	502	425	16
11098000	ARROYO SECO NR PASADENA CA	USGS	3.7	3.7	8.1	11	9.2	1.8
11109000	SANTA CLARA R NR PIRU CA	USGS	43	43	87	157	120	1.1
11109600	PIRU CREEK ABOVE LAKE PIRU CA	USGS	31	31	61	95	80	3.7
11109800	PIRU CREEK BELOW SANTA FELICIA DAM CA	USGS	34	34	67	113	90	2.6
11111500	SESPE CREEK NEAR WHEELER SPRINGS CA	USGS	4.9	7.6	16	28	22	1.7
11113000	SESPE C NR FILLMORE	USGS	34	40	91	150	104	1
11113500	SANTA PAULA C NR SANTA PAULA	USGS	5.1	6.1	14	23	16	1.4
11114495	MATILIJA C NR RES NR MATILIJA HOT SPRINGS CA	USGS	8.4	12	27	43	30	1.8

<b>Gage Number</b>	<b>Gage Name</b>	<b>Source</b>	<b>November (cfs)</b>	<b>December (cfs)</b>	<b>January (cfs)</b>	<b>February (cfs)</b>	<b>March (cfs)</b>	<b>Aquatic Base Flow (cfs)</b>
11118500	VENTURA R NR VENTURA	USGS	24	34	90	135	83	1.9
11119500	CARPINTERIA C NR CARPINTERIA CA	USGS	2.3	3.2	8.7	13	7.6	1.3
11119750	MISSION C NR MISSION ST NR SANTA BARBARA CA	USGS	1.3	1.7	4.4	6.8	4.1	1.8
11120000	ATASCADERO C NR GOLETA CA	USGS	1.9	2.9	7.7	11	7.7	1.4
11120500	SAN JOSE C NR GOLETA CA	USGS	0.86	1.2	3.2	4.4	3	1.1
11123500	SANTA YNEZ R BL LOS LAURLS CYN NR SNTA YNEZ CA	USGS	34	55	124	213	147	2.2
11124500	SANTA CRUZ C NR SANTA YNEZ CA	USGS	5.1	11	22	36	32	2.6
11128250	ALAMO PINTADO C NR SOLVANG CA	USGS	2	3.3	8.5	12	9.1	1.8
11128500	SANTA YNEZ R A SOLVANG CA	USGS	56	95	239	341	255	3
11129800	ZACA C NR BUELLTON CA	USGS	1.9	3.6	9.6	13	10	2.2
11132500	SALSIPUEDES C NR LOMPOC CA	USGS	2.4	4.7	12	18	13	2.1
11134000	SANTA YNEZ R A H ST NR LOMPOC CA	USGS	62	110	281	368	312	9.6
11135800	SAN ANTONIO C A LOS ALAMOS CA	USGS	2	3.8	9.8	15	10	1.1
11136100	SAN ANTONIO C NR CASMALIA CA	USGS	5.2	8.5	23	37	26	1.2
11136600	SANTA BARBARA CYN C NR VENTUCOPA CA	USGS	2.5	3.2	5.8	10	8.8	2
11136800	CUYAMA R BL BUCKHORN CYN NR SANTA MARIA CA	USGS	22	33	59	98	92	3
11137900	HUASNA R NR ARROYO GRANDE CA	USGS	4.1	9.2	21	31	23	3.4
11138500	SISQUOC R NR SISQUOC CA	USGS	9.4	24	41	77	77	1.3
11140000	SISQUOC R NR GAREY	USGS	17	44	96	134	143	2.6
11140585	SANTA MARIA R A SUEY CROSSING NR SANTA MARIA CA	USGS	44	81	148	266	241	7.6



<b>Gage Number</b>	<b>Gage Name</b>	<b>Source</b>	<b>November (cfs)</b>	<b>December (cfs)</b>	<b>January (cfs)</b>	<b>February (cfs)</b>	<b>March (cfs)</b>	<b>Aquatic Base Flow (cfs)</b>
11141050	ORCUTT C NR ORCUTT CA	USGS	0.84	1.2	2.8	5.1	3.2	1.4
GCH	GACHUMA LAKE	US Bureau of Reclamation	47	78	175	295	212	2.7
CSK	CASTAIC CANYON CK Z3-2388	CA Dept of Water Resources, Southern Field Div	2.1	2.1	3.7	7.8	6.1	2.5
EGC	ELIZABETH CANYON CK	CA Dept of Water Resources, Southern Field Div	4.1	4.9	10	18	13	2.5
FCK	FISH CANYON CK	CA Dept of Water Resources, Southern Field Div	2.6	2.8	5.5	10	7.6	1.5
PIR	PIRU CREEK BLW BUCK CR NR PYRAMID LAKE	CA Dept of Water Resources	19	23	42	70	59	3.8

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**Table 14. South Eastern Desert Region Compliance Gage Numeric Instream Flow Requirements**

<b>Gage Number</b>	<b>Gage Name</b>	<b>Source</b>	<b>November (cfs)</b>	<b>December (cfs)</b>	<b>January (cfs)</b>	<b>February (cfs)</b>	<b>March (cfs)</b>	<b>Aquatic Base Flow (cfs)</b>
10254050	SALT C NR MECCA	USGS	2.6	1.2	3	4.4	2.6	2
10256500	SNOW C NR WHITE WATER CA	USGS	1.8	1.8	2.4	3	3.2	1.5
10257600	MISSION C NR DESERT HOT SPRINGS CA	USGS	1.5	1.5	2.2	3.4	3.1	1.1
10258000	TAHQUITZ C NR PALM SPRINGS CA	USGS	1.7	2.4	3.2	3.7	4.6	1.5
10258500	PALM CYN C NR PALM SPRINGS CA	USGS	1.2	1.9	4.1	6.2	5.8	1
10259000	ANDREAS C NR PALM SPRINGS CA	USGS	1.1	1.2	1.7	1.9	1.9	1
10259100	WHITEWATER R A RANCHO MIRAGE CA	USGS	40	50	69	98	86	15
10259200	DEEP C NR PALM DESERT CA	USGS	0.57	0.71	1.5	2.2	1.8	1
10259300	WHITEWATER R A INDIO CA	USGS	47	71	83	116	95	18
9423350	CARUTHERS C NR IVANPAH CA	USGS	0.25	0.29	0.39	0.48	0.86	1

## SECTION 5 – PLANNING AND REPORTING

### Technical Report Preparation Requirements for Cannabis Cultivation General Order

Enrollees under the Cannabis Cultivation General Order are required to submit technical reports to the appropriate Regional Water Board. The report(s) shall be transmitted in portable document format (PDF) to the e-mail address provided in the notice of receipt provided to the Cannabis Cultivation General Order Enrollee as proof of enrollment. A description of each report and deadline for its submittal is provided below. The table below summarizes report submittal requirements, by tier and risk level, and Cannabis Cultivation General Order Attachment D contains guidance regarding contents of required reports.

*Summary of Technical Reports Required by Tier and Risk Level*

<b>Tier</b>	<b>Risk Level</b>	<b>Technical Reports</b>
Conditionally Exempt	Not Applicable	Site Closure Report
Tier 1	All	Site Management Plan
Tier 1	Moderate	Site Erosion and Sediment Control Plan
Tier 1	High	Disturbed Area Stabilization Plan
Tier 1	All	Site Closure Report
Tier 2	All	Site Management Plan
Tier 2	Moderate	Site Erosion and Sediment Control Plan
Tier 2	High	Disturbed Area Stabilization Plan
Tier 2	All	Nitrogen Management Plan
Tier 2	All	Site Closure Report

Conditionally exempt cannabis cultivators that can no longer meet the requirements to qualify for conditional exemptions may have to enroll as a Tier 1 or Tier 2 site. If so, cannabis cultivators that no longer qualify for the conditionally exempt cannabis cultivation site status shall submit the technical and monitoring reports associated with their tier status and risk level.

Applicants or current cannabis cultivators that do not comply with the conditional exemptions (enrolled as Tier 1 or Tier 2) must comply with the riparian setback and slope limits and are classified as low, moderate or high risk, as described below:

- **Low Risk:** A cannabis cultivation site is classified as low risk if no part of the disturbed area is located on a slope of 30% or greater. Such cannabis cultivators shall register as low risk and submit a *Site Management Plan*.
- **Moderate Risk:** A cannabis cultivation site is classified as moderate risk if any part of the disturbed area is located on a slope greater than 30 percent and less than 50 percent. Such cannabis cultivators shall register as moderate risk and submit a *Site Erosion and Sediment Control Plan*.

- High Risk: A cannabis cultivation site is classified as high risk if any part of the disturbed area exists within the riparian setback limits. Such cannabis cultivators shall register as high risk, submit a *Disturbed Area Stabilization Plan*, and shall address the compliance issue as described below. Because such cannabis cultivators pose a higher risk to water quality and will require a higher level of Regional Water Board oversight, they are subject to a higher application and annual fee. When the cannabis cultivation site is reconfigured to comply with the riparian setbacks, the cannabis cultivator can request the Regional Water Board to reclassify the site to a lower risk level and allow a lower annual fee to be assessed.

### Site Management Plan

**Within 90 days** of the issuance of a notice of receipt, Tier 1 and Tier 2 cannabis cultivators shall submit and implement a *Site Management Plan* that describes how the cannabis cultivator is complying with the Requirements listed in Attachment A. The description plan shall describe how the Best Practicable Treatment or Control (BPTC) measures are implemented (e.g., for petroleum fuel storage, specify the specific product or means of compliance). Cannabis cultivators that are landowners of cannabis cultivation sites in North Coast Regional Water Board jurisdiction are required to submit and implement *Site Management Plans* that describe how the Requirements are implemented property-wide, including Requirements implemented to address discharges from legacy activities. The *Site Management Plan* may include a schedule to achieve compliance, but all work must be completed by **the onset of the winter period each year**. (The winter period start date does not relieve a cannabis cultivator from implementing the interim soil stabilization Requirements described in Attachment A of this Policy. Interim measures are those that are implemented immediately upon site development.) Attachment D of the Cannabis Cultivation General Order provides guidance on the contents of the *Site Management Plan*.

### Site Erosion and Sediment Control Plan

Tier 1 or Tier 2 cannabis cultivators classified as moderate risk (any portion of the disturbed area is located on a slope greater than 30 percent and less than 50 percent), shall submit a *Site Erosion and Sediment Control Plan* that describes how the cannabis cultivator will implement the Requirements listed in Attachment A of this Policy. Because moderate risk sites are located on steeper slopes, additional Requirements, or a higher density of Requirements may be appropriate to achieve the goal of minimizing the discharge of sediment off-site. The report shall include an analysis of slope stability. The report shall be approved by the Regional Water Board Executive Officer prior to implementation

Consistent with the Business and Professions Code, the Forest Practice Act, and other state laws, certain technical report preparation, design calculations, and report preparation must be prepared under the supervision of a California licensed civil engineer, professional forester, or professional geologist. When required, the *Site Erosion and Sediment Control Plan* shall be prepared by an individual qualified as described below:

- i. A California Registered Professional Civil Engineer.
- ii. A California Registered Professional Geologist.
- iii. A California Certified Engineering Geologist.
- iv. A California Registered Landscape Architect.
- v. A Professional Hydrologist registered through the American Institute of Hydrology.

- vi. A Certified Professional in Erosion and Sediment Control (CPESC)<sup>TM</sup> registered through EnviroCert International, Inc.
- vii. A Certified Professional in Storm Water Quality (CPSWQ)<sup>TM</sup> registered through EnviroCert International, Inc.
- viii. A Professional in Erosion and Sediment Control registered through the National Institute for Certification in Engineering Technologies (NICET).

Attachment D of the Cannabis **Cultivation** General Order, provides guidance on the contents of the *Site Erosion and Sediment Control Plan*.

### Disturbed Area Stabilization Plan

Tier 1 or Tier 2 cannabis cultivators classified as high risk (any portion of the disturbed area exists within the riparian setbacks Requirements specified in Section 1 of this Policy except as authorized under 404/401 CWA permits, a CDFW LSA Agreement, coverage under the Cannabis **Cultivation** General Order water quality certification, or site-specific WDRs issued by the Regional Water Board ), shall submit a *Disturbed Area Stabilization Plan* that describes how compliance with the riparian setbacks will be achieved. The report shall be approved by the Regional Water Board Executive Officer prior to implementation.

Areas disturbed upon initial site development that are located within the riparian setback specified in the Policy are considered disturbed area and will place the cannabis cultivation site under the high-risk level. Access roads and watercourse crossings designed, constructed, and maintained consistent with the Road Handbook are not considered disturbed areas.

Consistent with the Business and Professions Code, the Forest Practice Act, and other state laws, certain technical report preparation, design calculations, and report preparation must be prepared under the supervision of a California licensed civil engineer, professional forester, or professional geologist.

When required, the *Disturbed Area Stabilization Plan* shall be prepared by a **Qualified Professional** ~~qualified professional~~ as described in this attachment (Attachment A).

If the cannabis cultivator cannot achieve compliance by the next onset of the winter period (stabilization work will continue into the winter period or will continue the following year), the Cannabis Cultivator must include a time schedule and scope of work for approval by the Regional Water Board Executive Officer and use in preparing an enforcement order. Attachment D of the Cannabis **Cultivation** General Order provides guidance on the contents of the *Disturbed Area Stabilization Plan*.

### Nitrogen Management Plan

**Within 90 days** of the issuance of a notice of receipt, all Tier 2 cannabis cultivators with a cannabis cultivation area, or aggregate of cultivation areas, greater than one acre shall submit a *Nitrogen Management Plan* (NMP) for the cannabis cultivation site. The NMP shall calculate all the nitrogen applied to the cannabis cultivation **area-site** (dissolved in irrigation water, originating in soil amendments, and applied fertilizers) and describe procedures to limit excessive fertilizer application. Attachment D of the Cannabis **Cultivation** General Order provides guidance on the contents of a *Nitrogen Management Plan*.

### Site Closure Report

**At least 90 days prior to ending cannabis cultivation** at a site, a registered (conditionally exempt) or enrolled (Tier 1 or Tier 2) cannabis cultivator shall submit a *Site Closure Report* that

describes how the site will be decommissioned to prevent sediment and turbidity discharges that degrade water quality. If construction activities are proposed in the *Site Closure Report*, a project implementation schedule shall be included in the report. Attachment D of the Cannabis **Cultivation** General Order provides guidance on the contents of the *Site Closure Report*. A Notice of Termination must be submitted (Attachment C of the Cannabis **Cultivation** General Order) with the *Site Closure Report*.

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## SECTION 6 – USEFUL GUIDANCE DOCUMENTS

1. Handbook for Forest, Ranch, & Rural Roads: A Guide for Planning, Designing, Constructing, Reconstructing, Upgrading, Maintaining, and Closing Wildland Roads  
<http://www.pacificwatershed.com/sites/default/files/RoadsEnglishBOOKApril2015b.pdf>
2. A Water Quality and Stream Habitat Protection Manual for County Road Maintenance in Northwestern California Watersheds  
<http://www.5counties.org/roadmanual.htm>
3. Construction Site BMP Fact Sheets  
<http://www.dot.ca.gov/hq/construc/stormwater/factsheets.htm>
4. United States Environmental Protection Agency Riparian/Forested Buffer  
<https://nepis.epa.gov/Exe/ZyPDF.cgi/2000W45Y.PDF?Dockey=2000W45Y.PDF>
5. Creating Effective Local Riparian Buffer Ordinances  
[http://www.ohioenvironmentallawblog.com/uploads/file/UGA%20riparian\\_buffer\\_guidebook.pdf](http://www.ohioenvironmentallawblog.com/uploads/file/UGA%20riparian_buffer_guidebook.pdf)
6. How to Install Residential Scale Best Management Practices (BMPs) in the Lake Tahoe Basin  
<http://www.tahoebmp.org/Documents/Contractors%20BMP%20Manual.pdf>
7. Spoil Pile BMPs  
[http://michigan.gov/documents/deq/deq-wb-nps-sp\\_250905\\_7.pdf](http://michigan.gov/documents/deq/deq-wb-nps-sp_250905_7.pdf)
8. Sanctuary Forest Water Storage Guide  
[https://greywateraction.org/wp-content/uploads/2014/11/SantuaryForrest\\_Water\\_Storage\\_Guide.pdf](https://greywateraction.org/wp-content/uploads/2014/11/SantuaryForrest_Water_Storage_Guide.pdf)
9. Natural Resources Conservation Service-USDA, “Ponds – Planning, Design, Construction”, Agriculture Handbook  
[http://www.nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/nrcs144p2\\_030362.pdf](http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs144p2_030362.pdf)
10. Division of Safety of Dams Size Requirements  
<https://water.ca.gov/Programs/All-Programs/Division-of-Safety-of-Dams/Jurisdictional-Sized-Dams> <http://www.water.ca.gov/damsafety/jurischart/>
11. Water Tanks: Guidelines for Installation and Use  
[http://www.waterandseptictanks.com/Portals/0/files/GUIDELINES-FOR-INSTALLATION-OF-WATER-TANKS-\\_rev1\\_-03-20-08-\\_2\\_.pdf](http://www.waterandseptictanks.com/Portals/0/files/GUIDELINES-FOR-INSTALLATION-OF-WATER-TANKS-_rev1_-03-20-08-_2_.pdf)
12. Guidelines for Use and Installation of Above Ground Water Tanks  
[http://www.waterandseptictanks.com/Portals/0/files/GUIDELINES-FOR-INSTALLATION-OF-WATER-TANKS-\\_rev1\\_-03-20-08-\\_2\\_.pdf](http://www.waterandseptictanks.com/Portals/0/files/GUIDELINES-FOR-INSTALLATION-OF-WATER-TANKS-_rev1_-03-20-08-_2_.pdf)
13. BEST MANAGEMENT PRACTICES (BMP’s) University of California Cooperative Extension

[http://www.waterboards.ca.gov/sandiego/water\\_issues/programs/wine\\_country/docs/updates081910/ucce\\_bmps.pdf](http://www.waterboards.ca.gov/sandiego/water_issues/programs/wine_country/docs/updates081910/ucce_bmps.pdf)

14. California Storm Water Quality Association, Section 4: Source Control BMPs  
<https://www.casqa.org/sites/default/files/BMPHandbooks/sd-12.pdf>  
<https://www.casqa.org/resources/bmp-handbooks>
15. CA DOT Solid Waste Management Plan  
<http://www.dot.ca.gov/hq/construc/stormwater/WM-05.pdf>
16. State Water Resources Control Board Onsite Wastewater Treatment System (OWTS) policy  
[http://www.waterboards.ca.gov/water\\_issues/programs/owts/docs/owts\\_policy.pdf](http://www.waterboards.ca.gov/water_issues/programs/owts/docs/owts_policy.pdf)
- ~~17.~~ **California Storm Water Quality Association Section 4: Source Control BMPs**  
<https://www.casqa.org/sites/default/files/BMPHandbooks/sd-32.pdf>
- ~~17.~~ **18.** California Riparian Habitat Restoration Handbook  
[http://www.conservation.ca.gov/dlrp/watershedportal/InformationResources/Documents/Restoration\\_Handbook\\_Final\\_Dec09.pdf](http://www.conservation.ca.gov/dlrp/watershedportal/InformationResources/Documents/Restoration_Handbook_Final_Dec09.pdf)  
[https://water.ca.gov/LegacyFiles/urbanstreams/docs/ca\\_riparian\\_handbook.pdf](https://water.ca.gov/LegacyFiles/urbanstreams/docs/ca_riparian_handbook.pdf)
- ~~18.~~ **19.** The Practical Streambank Bioengineering Guide  
[http://www.nrcs.usda.gov/Internet/FSE\\_PLANTMATERIALS/publications/idpmcpu116.pdf](http://www.nrcs.usda.gov/Internet/FSE_PLANTMATERIALS/publications/idpmcpu116.pdf)
- ~~19.~~ **20.** Watershed Best Management Practices for Cannabis Growers and other Rural Gardeners  
<http://mcrd.org/resources/publications>
- ~~20.~~ **21.** Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region  
[http://www.usace.army.mil/Portals/2/docs/civilworks/regulatory/reg\\_supp/trel08-28.pdf](http://www.usace.army.mil/Portals/2/docs/civilworks/regulatory/reg_supp/trel08-28.pdf)  
<https://usace.contentdm.oclc.org/utills/getfile/collection/p266001coll1/id/7627>
- ~~21.~~ **22.** Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region  
[http://www.usace.army.mil/Portals/2/docs/civilworks/regulatory/reg\\_supp/west\\_mt\\_finalsupp2.pdf](http://www.usace.army.mil/Portals/2/docs/civilworks/regulatory/reg_supp/west_mt_finalsupp2.pdf)  
<https://usace.contentdm.oclc.org/utills/getfile/collection/p266001coll1/id/7646>