

# Establishment of a Salt and Nutrient Management Plan Public Workshop and CEQA Scoping Meeting Information Document

## Introduction

In order to insure economic and environmental sustainability, staff from the Central Valley Regional Water Quality Control Board (CVWQB) is proposing an amendment to the Water Quality Control Plans for the Sacramento River and San Joaquin River and the Tulare Lake Basin (Basin Plans) to incorporate components of a stakeholder developed Central Valley-wide Salt and Nitrate Management Plan (SNMP). Staff will hold four public workshops and California Environmental Quality Act (CEQA) scoping meetings to discuss and solicit comments and suggestions from the public regarding development of the Central Valley SNMP and incorporation of components of the SNMP into the Basin Plans. Components of the SNMP that may be developed and considered for incorporation include:

- Potential beneficial use changes including new beneficial use subcategories and designation of beneficial uses to specific water bodies as well as categories of water bodies. Changes considered may include:
  - Additional named surface and ground water bodies as well as management zones;
  - Refined municipal and domestic supply (MUN) and agricultural irrigation and stock watering supply (AGR) beneficial uses classifications to include limited uses;
- Potential changes to salinity water quality objectives (WQO) including establishing new numeric and narrative WQOs with guidance on interpreting the narrative;
- Implementation programs to:
  - Meet WQOs; and
  - Assure environmental and economic sustainability of the Central Valley's water resources.

The implementation programs may include a monitoring and surveillance program to evaluate progress towards managing salt and nutrients in a sustainable manner, as well as:

- Activities for designated management zones;
- Points of compliance;
- Variances and alternative compliance strategies; and/or
- Policies to address maximizing water use as well as extreme weather conditions including drought.

Development of an SNMP for the Central Valley is critical since salts are slowly and steadily contaminating water and soil, which are so important to agriculture and water supplies for more than 25 million people across the state. Some areas of the Central Valley are switching to alternative water supplies to comply with salinity regulations and crop salinity requirements. In areas with elevated

nitrate, alternative sources of water are being sought to provide safe drinking water to local communities.

The salinity problem is complex and multi-faceted; therefore a broad coalition of agriculture, cities, industry, and regulatory agencies joined together in 2006 to form Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS) to develop a vision and plan for managing salts and nutrients. CV-SALTS participants, including the CVWB, are working together to develop a workable, comprehensive plan to address salinity and nutrient concerns in a comprehensive, consistent, and sustainable manner.

In addition, in 2009, the State Water Resources Control Board (SWRCB) adopted a State Recycled Water Policy (SRWP) to support state efforts to move towards more sustainable management of surface waters and groundwater, through enhanced water conservation, water reuse and the use of stormwater. The SRWP requires development of an SNMP for all regions of the state including the Central Valley. Development of a Central Valley SNMP serves the purpose of the SRWP by establishing a comprehensive approach for managing salt and nutrients on a regional or watershed basis rather than solely through individual recycled water projects.

Recycled water is an essential new water source for the Central Valley, but it cannot be fully implemented unless its constituent salts and nutrients are carefully managed. The existing regulatory approach limits the CVWB's authority to consider implementation of innovative salt or nutrient management strategies that are consistent with the intent and purpose of the SRWP. In particular, a comprehensive salinity management approach is needed as part of near- and long-term solutions that ensure a sustainable water supply that supports all beneficial uses of water.

The intent of the proposed project is to amend the existing Basin Plans to incorporate an SNMP for the Central Valley region. Adoption of an SNMP not only establishes a foundation for comprehensive, sustainable management of salt and nutrients in the Central Valley region, but it is consistent with the purposes of CV-SALTS and fulfills a requirement of the SRWP. Once adopted, implementation of the Central Valley SNMP is expected to be an iterative and adaptive process that involves periodic review and update of the plan as needed in the future.

This document is intended to solicit discussion regarding the proposed amendments to the Basin Plans to help fulfill the CVWB's obligation to seek early public consultation in connection with basin planning actions.

## Background

The Central Valley faces a future where rising salt levels threaten to turn this productive basin into a region where the water is not fit to drink and land is not capable of growing crops. It will not happen tomorrow, or even next year, but salts are slowly and steadily contaminating water and soil, which are so important to agriculture and water supplies for more than 25 million people across the state.

The salinity problem is complex and multi-faceted; therefore a broad coalition of agriculture, cities, industry, and regulatory agencies joined together in 2006 to form CV-SALTS to develop a vision and plan for managing salts and nitrates. CV-SALTS participants, including the CVWB, are working together to develop a workable, comprehensive plan to address salinity and nutrient concerns in a comprehensive, consistent, and sustainable manner. CV-SALTS goals include:

- Sustain the Valley's lifestyle
- Support regional economic growth
- Retain a world-class agricultural economy
- Maintain a reliable, high-quality urban water supply
- Protect and enhance the environment

In 2009, the SWRCB adopted a SRWP to support state efforts to move towards more sustainable management of surface waters and groundwater, through enhanced water conservation, water reuse and the use of stormwater. The SRWP requires development of a SNMP for all regions of the state including the Central Valley. Development of an SNMP serves the purpose of the SRWP by establishing a comprehensive approach for managing salt and nutrients on a regional or watershed basis rather than solely through individual recycled water projects. Given the close relationship between the goals of CV-SALTS and the SRWP requirement to establish a SNMP for the Central Valley region, CV-SALTS stakeholders are working collaboratively to develop the Central Valley SNMP.

Adoption of an SNMP for the Central Valley requires amendments to the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins (SRSJRB) and the Water Quality Control Plan for the Tulare Lake Basin (TLB).

## Regulatory Context

The SWRCB and the nine Regional Water Quality Control Boards (Regional Water Boards) are the state agencies with primary responsibility for coordination and control of water quality (California Water Code (CWC) §13000). Each Regional Water Board is required to adopt a Basin Plan, which provides the basis for regulatory actions to protect water quality. (CWC §13240 et seq.). A Basin Plan designates beneficial uses of water, water quality objectives (WQO) to protect the uses, a program of implementation to achieve the objectives, and a monitoring program to ensure the goals of the program are met (CWC §13050(j)). Basin Plans, once adopted, must be periodically reviewed and may be revised (CWC §13240).

State Policies implemented through the Basin Plans that directly or indirectly apply to the development of an SNMP include:

- *State Recycled Water Policy* (Resolution No. 2009-0011; as amended Resolution No. 2013-0003)

The purpose of the SRWP is to increase the use of recycled water from municipal wastewater sources that meet the definition in CWC §13050(n), in a manner that implements state and federal water quality laws. Policy implementation is intended to encourage the use of stormwater, water conservation, conjunctive use of surface and groundwater, and improve the use of local water supplies. Within the SRWP is a requirement for all Regional Water Boards to develop an SNMP that serves the purposes of the SRWP. Pursuant to paragraph 6(b)(1) of the SRWP, the SNMP shall include:

- (a) A basin/sub-basin wide monitoring plan that includes an appropriate network of monitoring locations. The scale of the basin/sub-basin monitoring plan is dependent upon the site-specific conditions and shall be adequate to provide a reasonable, cost-effective means of determining whether the concentrations of salt, nutrients, and other constituents of concern as identified in the salt and nutrient plans are consistent with

applicable water quality objectives. Salts, nutrients, and the constituents identified in paragraph 6(b)(1)(f) shall be monitored. The frequency of monitoring shall be determined in the salt/nutrient management plan and approved by the Regional Water Board pursuant to paragraph 6(b)(2).

- (i) The monitoring plan must be designed to determine water quality in the basin. The plan must focus on basin water quality near water supply wells and areas proximate to large water recycling projects, particularly groundwater recharge projects. Also, monitoring locations shall, where appropriate, target groundwater and surface waters where groundwater has connectivity with adjacent surface waters.
  - (ii) The preferred approach to monitoring plan development is to collect samples from existing wells if feasible as long as the existing wells are located appropriately to determine water quality throughout the most critical areas of the basin.
  - (iii) The monitoring plan shall identify those stakeholders responsible for conducting, compiling, and reporting the monitoring data. The data shall be reported to the Regional Water Board at least every three years.
- (b) A provision for annual monitoring of Constituents of Emerging Concern (e.g., endocrine disrupters, personal care products or pharmaceuticals) (CECs) consistent with recommendations by CDPH and consistent with any actions by the State Water Board taken pursuant to paragraph 10(b) of this Policy.
  - (c) Water recycling and stormwater recharge/use goals and objectives.
  - (d) Salt and nutrient source identification, basin/sub-basin assimilative capacity and loading estimates, together with fate and transport of salts and nutrients.
  - (e) Implementation measures to manage salt and nutrient loading in the basin on a sustainable basis.
  - (f) An antidegradation analysis demonstrating that the projects included within the plan will, collectively, satisfy the requirements of Resolution No. 68-16.
- *State Water Board Sources of Drinking Water Policy* (Resolution No. 88-63)  
  
SWRCB Resolution No. 88-63, commonly known as the Sources of Drinking Water Policy (SDWP), establishes a policy that all waters are considered suitable or potentially suitable to support the MUN beneficial use, with certain exceptions. The Basin Plans implement this policy by assigning MUN to all surface waters and groundwaters in the Central Valley region unless specifically exempted through a Basin Plan Amendment that satisfies one or more exception criteria established by the SDWP.
  - *State Water Board Statement of Policy with Respect to Maintaining High Quality Waters in California* (Resolution No. 68-16)

Also known as the California Antidegradation Policy, Resolution No. 68-16 applies to both surface and ground waters and requires that existing high quality be maintained to the maximum extent possible. The policy allows lowering of water quality only if the change is: (1) consistent with the maximum benefit to people of the state and will not unreasonably affect

present and potential beneficial uses and will not result in water lower than applicable WQOs; and (2) waste discharge requirements (WDRs) for proposed discharge will result in the best practicable treatment or control of the discharge necessary to assure that no pollution or nuisance will not occur and the highest water quality consistent with maximum benefit to the people of the State will be maintained.

CVWB is required by the California Environmental Quality Act (CEQA) to conduct an environmental analysis of proposed amendments to its Basin Plans (Public Resources Code § 21000 et seq). The purpose of the planned public workshop and CEQA scoping meeting is to solicit public input regarding the scope of potential proposed amendments to the Basin Plans along with potential significant environmental impacts, mitigation measures and possible alternatives. Public comments will help the CVWB refine the scope of its environmental analysis; no actual amendments to the Basin Plan will occur without first providing opportunity for the public to comment on the environmental analysis.

## Problem Statement

The Central Valley Basin Plans provide the current basis for the regulation of salts and nutrients in the region. The existing regulatory approach limits the CVWB's authority to consider implementation of innovative salt or nutrient management strategies that are consistent with the intent and purpose of the SRWP. In particular, a comprehensive salinity management approach is needed as part of near- and long-term solutions that ensure a sustainable water supply that supports all beneficial uses of water. Evidence of the ongoing challenge is that many city or regional wastewater facilities cannot meet current Basin Plan WQOs, industry struggles to comply and cannot expand due to salinity limitations, and agriculture is limited or has increased costs due to management of saline waters. These conditions have been evident and worsening since the 1970's, and have the potential to affect a significant portion of California's economy and environment.

The Central Valley water supply, used within and outside the area, is affected by salinity and nitrates. Some areas of the Valley are switching to alternative water supplies to comply with salinity regulations and crop salinity requirements. In areas with elevated nitrates, alternative sources of water are being sought to provide safe drinking water to local communities. These changes are costly and hopefully temporary. Recycled water is an essential new water source for the Central Valley, but it cannot be fully implemented unless its constituent salts and nutrients are carefully managed – a key purpose behind the development of an SNMP to facilitate implementation of the SRWP.

## Project Proposal

The intent of the proposed project is to amend the existing Basin Plans to incorporate an SNMP for the Central Valley region. Adoption of an SNMP not only establishes a foundation for comprehensive, sustainable management of salt and nutrients in the Central Valley region, but it is consistent with the purposes of CV-SALTS and fulfills a requirement of the SRWP. Once adopted, implementation of the Central Valley SNMP is expected to be an iterative and adaptive process that involves periodic review and update of the plan as needed in the future.

## Geographic Scope

The project area includes all waterbodies (surface water and groundwater) within the Central Valley Region. This region encompasses about 40% of the land in California and stretches from the Oregon border to the Kern County/Los Angeles County line. It is bound by the Sierra Nevada Mountains on the

east and the Coast Range on the west. The Region is divided into three basins as described in the SRSJRB: Sacramento River Basin, San Joaquin River Basin, and Tulare Lake Basin.

## **Regulatory Scope**

The Central Valley Basin Plans include the following key sections: Introduction, Existing and Beneficial Uses, Water Quality Objectives, Implementation Plan, Surveillance and Monitoring, and Plans and Policies. The proposed project may result in proposals to amend any of these sections in one or both Basin Plans applicable to the Central Valley.

## **Project Alternatives**

The purpose of the scoping meeting is to provide a forum for early public consultation regarding the environmental issues that should be considered in the substitute environmental document for potential amendments to the Central Valley Basins Plans to establish an SNMP. Potential alternatives under consideration through the CV-SALTS process are described in each of the subsections below. These alternatives are generally divided by Basin Plan section but may be considered individually or in combination. This CEQA Scoping meeting will assist the CWRB in identifying the range of actions, alternatives, mitigation measures, and significant environmental effects that may require analysis prior to the decision-making process.

## **Beneficial Uses**

California defines beneficial uses to include, but not be limited to, "...domestic; municipal; agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves" (CWC §13050(f)). Protection and enhancement of existing and potential beneficial uses are primary goals of water quality planning.

The Central Valley Basin Plans identify surface waters and groundwater basins by name to varying degrees. Named waterbodies are assigned beneficial uses. For waterbodies not specifically identified, beneficial uses are designated based on blanket requirements (e.g. MUN) or downstream designated uses. Table II-1 in each of the Central Valley Basin Plans identifies surface waters with assigned beneficial uses. The TLB Basin Plan (Table II-2) identifies groundwater basins with assigned beneficial uses. Specific groundwater basins have not been identified in the SRSJRB Basin Plan; instead, selected beneficial uses apply to all groundwaters covered by this Basin Plan.

### *Identification of Surface Waters and Groundwaters in the Basin Plans*

As part of the development of the Central Valley SNMP, CV-SALTS is considering alternatives with regards to the assignment of beneficial uses to surface waters and groundwaters. Part of the process may include identification of additional surface and groundwater bodies. The CVWB is considering the following alternatives in the context of how salt and nutrients could be managed under an SNMP:

#### Surface Water

- No modifications to the surface waters identified in the existing Basin Plans (no action alternative).
- Update Table II-1 to add or modify waterbody listings to support SNMP implementation.

## Groundwater

- No modifications to groundwaters identified in the existing Basin Plans (no action alternative).
- Further delineate groundwater basins within each of the Basin Plans. Options include:
  - Use the existing groundwater basin designation approach in the TLB Basin Plan and apply it to the SRSJRB Basin Plan;
  - Refine the delineations by using vertical and horizontal gradients to identify management zones; or
  - Some combination of these options.

### *Refine Beneficial Use Designations*

As part of the development of the Central Valley SNMP, CV-SALTS is considering alternatives with regards refining beneficial uses applied to surface waters and groundwaters. The CVWB is considering the following alternatives in the context of how salt and nutrients could be managed under an SNMP:

### Municipal & Domestic Supply (MUN)

The Basin Plans define MUN as, “Uses of water for community, military, or individual water supply systems including, but not limited to, drinking water supply”. Current policy is to designate all waterbodies with the MUN beneficial use per the SDWP; however, exemption criteria may be applicable in specific situations such that a waterbody may be exempted from an MUN designation if the appropriate technical justification can be made. Given this existing regulatory framework, the following alternatives are being considered:

- Continue to work within the existing regulatory framework for application of the MUN beneficial use to waterbodies (no action alternative);
- Establish a limited or restricted MUN subcategory, consistent with the SDWP that recognizes the existence of conditions where an MUN subcategory beneficial use may apply. If so, modify beneficial uses for waterbodies already listed in Table II-1 as needed to facilitate implementation of the SNMP.

### *Issues:*

- What set of factors could be used to determine where a limited or restricted MUN subcategory use should apply?
- Should groundwaters and surface waters be considered in the same manner or differently?

### Agricultural Supply (AGR)

The Basin Plans define AGR as, “Uses of water for farming, horticulture, or ranching including, but not limited to, irrigation (including leaching of salts), stock watering, or support of vegetation for range grazing.” The AGR beneficial use encompasses a wide range of agricultural uses of state waters. The existing Basin Plans include only one beneficial use to encompass protection of two very different uses of water to protect agricultural activities: (a) stock watering; and (b) irrigation of agricultural lands.

The application of AGR is of particular interest to SNMP development given the importance of salt and nutrients to agricultural activities. Accordingly the CVWB is considering the following alternatives:

- Retain the existing regulatory framework and address protection of stock watering and irrigation of agricultural lands with one AGR beneficial use (no action alternative)?
- Establish separate beneficial uses to recognize the distinction between these two very different uses of water.

*Issues:*

- What should be some of the key considerations in assignment of separate stock watering and agricultural irrigation uses?

### **Water Quality Objectives**

The California Porter-Cologne Act defines WQO) as “...the limits or levels of water quality constituents or characteristics which are established for the reasonable protection of beneficial uses of water or the prevention of nuisance within a specific area” (CWC §13050(h)). when establishing WQOs, the CVWB must consider, among other things, the following factors (CWC §13241):

- Past, present, and probable future beneficial uses;
- Environmental characteristics of the hydrographic unit under consideration, including the quality of water available thereto;
- Water quality conditions that could reasonably be achieved through the coordinated control of all factors which affect water quality in the area;
- Economic considerations;
- The need for developing housing within the region;
- The need to develop and use recycled water.

As part of the development of the SNMP, the CVWB is considering revisions to the existing Basin Plan WQOs for the beneficial uses described below.

#### *Municipal & Domestic Supply (MUN)*

##### Secondary Maximum Contaminant Levels (SMCLs)

The Basin Plans currently incorporate the SMCLs in CWC §64449 as WQOs, some of which are salinity-related. The source of the majority of SMCLs is federal regulations promulgated in 1979; their value or purpose is to improve the aesthetics of drinking water (taste and odor) rather than address any particular public health concern. Per CWC §64449, these SMCLs “shall not be exceeded in the water supplied to the public by community water systems”, meaning that SMCLs should be applied to finished drinking water after treatment, before it is delivered to the public.

Because the Basin Plans include SMCLs as WQOs, the CVWB is required to consider establishing effluent limits for protection of these WQOs when issuing WDRs. This practice results in the application of SMCLs to waters other than those supplied to a community water system after treatment. The CVWB is considering revisions to the Basin Plans that could change how SMCLs are used to manage Central Valley water resources. Specifically, CVWB is considering the following alternatives:

- No changes to the Basin Plans with regards to SMCLs, resulting in no change to how SMCLs are applied during development of permits (no action alternative).
- Remove the SMCLs from the Basin Plans and utilize narrative objectives to regulate the discharge of wastes to prevent nuisance conditions including objectionable tastes or odors in drinking water supplies.
- Specify that the range provided for continuous use for SMCLs is considered reasonable protection of MUN.

#### Nutrient-related WQOs

The existing nutrient WQO in the Basin Plans for protection of the MUN beneficial use is 45 mg/L nitrate (as NO<sub>3</sub>) (or 10 mg/L [as N]). The CVWB is not planning any change to this WQO during development of the SNMP, but will consider any comments on this approach.

#### Other Salinity-related WQOs in the Basin Plans

The existing salinity-related WQOs differ by Basin Plan; where objectives have been previously adopted they are either based on the SMCLs (which as noted above are based on taste and odor considerations), or based on an allowable rate of degradation (as measured by electrical conductivity, for specific waterbodies in Tulare Lake Basin). During development of the SNMP, the CVWB is evaluating the appropriateness of existing salinity-related WQOs established to protect the MUN beneficial use. In addition, CVWB is seeking input on any other alternatives should be considered for setting salinity-related WQOs to protect the MUN use.

#### WQOs to Protect a Limited or Restricted MUN Beneficial Use

As noted above, the CVWB is considering establishment of a limited or restricted MUN use that recognizes the existence of conditions where an MUN subcategory beneficial use may apply. As part of the consideration of the establishment of this use subcategory, the CVWB is considering alternatives for establishing WQOs to protect this use. Options range from establishing a narrative WQO with guidance on how this use would be protected through issuance of WDRs to establishing specific numeric WQOs to protect the use. The CVWB seeks comment on these options as well as whether proposed WQOs might differ if the waterbody is a groundwater or surface waterbody.

#### *Agricultural Supply (AGR)*

CVWB relies on narrative WQOs as a basis for protecting the AGR use in the region. Development of the SNMP provides opportunity to consider alternatives for establishment of WQOs to protect the AGR use – both stock watering and agricultural irrigation elements. AGR, as applied to irrigation water, is currently protected by narrative WQOs that do not clarify how to account for the protection of different crops with significantly different sensitivity to salt. Existing numeric guidelines are based on dated information. New models and data exist that could support a more region-specific approach to WQO setting and implementation. With regards to stock watering the Basin Plans do not currently have any WQOs specific to the protection of stock watering as a beneficial use. Given this background, the CVWB is considering the following alternatives:

- Continue to rely on the existing regulatory framework to protect AGR-related beneficial uses of water (no action alternative).

- Clarify the use of narrative or numeric WQOs for protection of agricultural irrigation.
- Account for regional differences in factors that influence crop production, e.g., climate, including drought, available source water quality, soils, or cropping patterns.
- Establish narrative or numeric WQOs specific for the protection of stock watering.

*Issues:*

- What should be considered when translating the narrative WQO into objectives for use in the development of WDRs?
- What level of crop protection is reasonable, especially during drought?
- What should be used as the basis for determining that water quality will not unreasonably affect present and anticipated beneficial use of the water for irrigated agriculture in a given area?
- What are some of the factors that should be considered when establishing stock watering WQOs?

*Aquatic Life (WARM or COLD)*

The Basin Plans do not currently include salinity-related numeric WQOs for the protection of aquatic communities which are protected by application of a WARM or COLD beneficial use. When developing the SNMP, should the CVWB consider establishing salinity related WQOs to protect COLD or WARM aquatic life?

**Implementation**

The Porter-Cologne Act requires that Basin Plans include a program of implementation for achieving WQOs (CWC §13050(j)). This implementation program shall include a description of the nature of actions which are necessary to achieve the objectives, including recommendations for appropriate action by any entity, public or private. Implementation programs may vary depending on whether the WQOs are established to protect a groundwater or surface waterbody. Specifically, under the federal Clean Water Act (CWA), the CVWB is bound by the federal requirement to protect the most sensitive beneficial use in surface waters. Groundwater is not subject to the CWA; instead it is subject to the state Porter-Cologne Act. Accordingly, as part of the development of the SNMP, the CVWB is exploring how to manage groundwater in a manner that balances protection of the multiple uses of this water while providing maximum benefit to the people of California.

State statutes and regulations establish various authorities for managing water quality to meet WQOs. Examples include WDRs (CWC §13370), Clean-up and Abatement Orders (CAOs) (CWC §13304), discharge prohibitions (CWC §13243) and others. Specific application of these authorities in the Central Valley is described in the implementation section of the Basin Plans. The proposed project will not affect the continued use of these tools in the Central Valley, as already authorized.

As noted in the Problem Statement, the challenges associated with sustainable salt management over the long term require consideration of alternative approaches for managing water resources in a manner that provides maximum benefit, including encouraging the use and reuse of water consistent with the SRWP. As such, the CVWB is evaluating alternatives that may increase flexibility in how salt

and nutrients are managed through SNMP implementation at a local, watershed or regional scales. These potential alternatives are discussed in the following subsections:

### **Management Zones**

The identification of groundwater basins within the Basin Plans can provide a hydrologic or hydrogeologic basis for establishing beneficial uses (see discussion above) and implementation of water quality control programs. However, given the size of groundwater basins, it may be more useful to evaluate and manage groundwater quality on a scale commensurate with the regulatory and resource management decisions that must be made with sources of salt and nitrate as well as the available data. As such, a large basin could be partitioned into smaller subbasins where the relationship between existing land use activities and pollutant levels can be more accurately described and managed. Moreover, given the complexity of land uses, water resource management needs, and the goals and objectives of the SRWP and SNMP, it may be appropriate to manage groundwater using a framework that takes into account water management linkages other than those that are strictly hydrologic or hydrogeologic based, e.g., through regional management plans or natural jurisdictional relationships. Consequently, the CVWB is considering the following alternatives for how groundwater may be managed through implementation of the SNMP:

- Continue to manage groundwater using the existing framework in each of the Central Valley Basin Plans (no action alternative).
- Establish an alternative groundwater management structure that is based on factors other than hydrology or hydrogeology, e.g., defined management zones that could be based on existing Integrated Regional Water Management Plans, Groundwater Management Plans, Agricultural Coalition boundaries, Water Conservation District boundaries, or some other user-defined management area.
- Some combination of the above.

#### *Issues:*

- What should some of the key geographic, jurisdictional, regulatory or institutional considerations be for establishment of a management zone approach to groundwater management?
- What types of implementation management strategies may be considered within a management zone if the SNMP provides opportunity to manage groundwater quality from a zonal perspective rather than as individual discharging entities, which is the current practice?

### **Protection of Groundwater Beneficial Uses**

The CVWB Basin Plans define groundwater as "...subsurface water that occurs beneath the ground surface in fully saturated zones within soils and other geologic formations." Default beneficial uses, including MUN and AGR, are applied to groundwater unless otherwise designated in the Basin Plan. First encountered groundwater, or the most shallow groundwater, is a water of the state (CWC §13050 (e)) and, as such, is assigned these default beneficial uses. When developing WDRs, current CVWB practice is to base an evaluation of the potential impact from a discharge on the first encountered groundwater regardless of whether the assigned beneficial uses actually occur in that shallow groundwater layer. The result can be issuance of WDRs with overly stringent requirements.

As part of SNMP development, the CVWB is evaluating how beneficial uses and water quality objectives are applied to first encountered groundwater. Under consideration are modifications to the existing approach that would allow the CVWB to use its discretionary authority to facilitate SNMP implementation alternatives that not only protect beneficial uses but at the same time support implementation of innovative approaches for salt and nutrient management. The CVWB seeks comment on its current regulatory practice versus use of alternative approaches for managing first encountered groundwater.

### **Water Quality Compliance Toolbox**

Existing water quality compliance tools include WDRs, CAOs, or prohibitions against discharge. CVWB is not proposing any changes to these tools as part of this project; these tools will remain available to support SNMP implementation. However, given the challenges associated with salt and nutrient management the CVWB is considering establishment of additional tools that can provide opportunity to implement innovative approaches for effective management of salt and nutrients. For example, California prohibits the “waste of water” and the state’s SRWP is intended to encourage the use and reuse of water, which has significant implications with regards to salt management. To ensure compliance with WQOs and protect beneficial uses, regional approaches to salt management may be warranted, which is a departure from the generally current practice of managing water quality at the local level. To facilitate a more regional approach that allows the CVWB to employ its discretion in water quality management, the CVWB is considering the adoption of additional water quality compliance tools as part of the development of its SNMP. Accordingly, the CVWB seeks comment on the following:

#### *Points of Compliance*

When establishing WDRs to protect groundwater uses, the CVWB has discretion to select an appropriate water quality monitoring location to serve as the official “Point-of-Compliance” for evaluating compliance with WDRs. In some instances, no relationship or a limited relationship exists between where water quality is monitored to evaluate beneficial use protection and where the actual or probable use occurs. Thus, the CVWB is considering amending the Basin Plans to provide more discretionary authority regarding where a Point of Compliance is established in a WDR for the purposes of evaluating protection of groundwater beneficial uses. The CVWB seeks comment on this consideration.

#### *Variance Policy*

A variance is a regulatory tool that provides a mechanism by which a discharge permit can be written where compliance with an underlying WQO is demonstrated to be infeasible at the time at which the permit is written. Infeasibility can be caused by a variety of factors ranging from inappropriate designation of beneficial uses and WQOs in the receiving water to technological limitations on what is practical with regards to treatment of the effluent. Variances, which are authorized under the federal CWA for surface water discharges, are allowable under state policy for surface and groundwater. However, the CVWB currently does not have authority to grant a variance within the Central Valley Basin Plans.

Previously, the CVWB conducted a CEQA scoping meeting on June 24, 2011 to solicit input on potential adoption of a variance policy into the Basins Plans to address salt management concerns associated with issuance of discharge permits (see [http://www.waterboards.ca.gov/rwqcb5/water\\_issues/basin\\_plans/variances/index.shtml](http://www.waterboards.ca.gov/rwqcb5/water_issues/basin_plans/variances/index.shtml)). Given CV-SALTS activities associated with SNMP development and the importance of variances as a potential

tool for SNMP implementation, it was determined that additional consideration of adoption of a variance policy would be incorporated into establishment of the SNMP. Accordingly, the CVWB is requesting comment again on this issue, but within the broader context of SNMP adoption. Specifically,

- Should the CVWB adopt a variance policy into the Basin Plans to facilitate implementation of the SNMP? If so, then:
  - Should such a policy be limited to the management of salinity and nutrients, consistent with the purpose of the SNMP, or should the CVWB consider establishing a broader variance policy that addresses any potential pollutant for which an effluent limit is being considered for inclusion in a discharge permit?
  - For discharges to surface waters, development of a CVWB variance policy will need to be consistent with federal CWA regulations. For discharges to groundwater, a CVWB variance policy need only be consistent with state requirements. Should the CVWB develop a variance policy that is applicable to both surface and groundwater discharges equally or should the CVWB consider alternatives or additional factors for groundwater discharges?

#### *Alternative Compliance Strategies*

Alternative compliance strategies can be a useful environmental management tool when managing water resources at the regional or watershed scale. Specifically, situations may occur where mitigation of a water quality concern offsite from where a discharge occurs may be permitted if it provides a greater environmental benefit (and therefore provides maximum benefit to the people of California) than if mitigation were restricted to the area only covered by the permit. Because there are many instances where salt and nutrient management may be more effective at the regional or watershed scale than at a point location, the CVWB is considering amending the Basin Plans to allow discretionary use of offsets as a management tool when developing WDRs. The CVWB seeks comment on this potential practice.

#### **Technical and Regulatory Procedures**

Preparation of the SNMP requires characterization of salt and nutrient water quality, development of implementation measures to sustainably manage salt/nutrient loading, and completion of an antidegradation analysis (see SNMP requirements above). Inherent to all of these SNMP elements is the use of acceptable technical or regulatory procedures for completing these types of analyses. In addition, as noted above, the CVWB is considering changes to how selected beneficial uses are applied to waterbodies to facilitate SNMP implementation. Modifying beneficial uses also requires application of acceptable procedures to ensure that appropriate water quality goals are met.

Given the above, the CVWB is considering amending the Basin Plans to incorporate technical or regulatory procedures where needed to facilitate implementation of the SNMP. Examples of procedures that could be incorporated into the Basin Plan include, but may not be limited to, calculation of assimilative capacity in a groundwater body, antidegradation analysis, including criteria for making a maximum benefit determination, or methods for evaluating applicability of beneficial uses. Including procedures explicitly in the Basin Plans provides transparency with regards to implementation requirements. However, once in the Basin Plan modifications to any procedures would require a Basin Plan amendment.

### Issues:

- Should the Basin Plans be amended to incorporate procedures, as described above, that provide clarity regarding SNMP implementation?
- If the Basin Plan is not the appropriate vehicle for establishing technical or regulatory implementation procedures, what are some alternatives for establishing these procedures that creates certainty in the methods for completing the types of analyses mentioned but also allows the CVWB flexibility to modify a procedure without having to implement a costly Basin Plan amendment procedure.

## Surveillance and Monitoring

As noted above, the California Porter-Cologne Act requires that Basin Plans include a program of implementation for achieving WQOs (CWC §13050(j)). In addition, to the implementation elements discussed above, the implementation program shall also include a description of surveillance to be undertaken to determine compliance with WQOs (CWC §13242).

The SRWP establishes the minimum surveillance and monitoring requirements for inclusion in the SNMP (see Regulatory Authority Section, Recycled Water Policy subsection above for details). The purpose of the monitoring is to provide a reasonable, cost-effective means of determining whether the concentrations of salt, nutrients, and other constituents of concern as identified in the SNMP are consistent with applicable WQOs. Accordingly, as part of SNMP development the CVWB will consider whether the existing Surveillance & Monitoring requirements within each Basin Plan require modification. Two areas will be evaluated:

### Monitoring Requirements

A number of monitoring programs already exist to support implementation of the Basin Plans (e.g., surface water: [http://www.swrcb.ca.gov/rwqcb5/water\\_issues/swamp/r5\\_activities/index.shtml](http://www.swrcb.ca.gov/rwqcb5/water_issues/swamp/r5_activities/index.shtml); groundwater: <http://www.waterboards.ca.gov/gama/>; irrigated lands program: [http://www.waterboards.ca.gov/centralvalley/water\\_issues/irrigated\\_lands/water\\_quality\\_monitoring/index.shtml](http://www.waterboards.ca.gov/centralvalley/water_issues/irrigated_lands/water_quality_monitoring/index.shtml)). The CVWB is evaluating whether these existing programs are adequate to serve the purposes of the SNMP or if modifications are need. As such, the CVWB is considering the following alternatives:

- Continue to rely on the existing monitoring programs (no action alternative);
- Modify one or more existing monitoring programs to accommodate implementation activities that may be unique to the SNMP;
- Develop a separate surveillance and monitoring program specific to SNMP implementation, or
- Some combination of the above.

### Assessment Procedures

Implementation of the Basin Plans on occasion may require that the CVWB or stakeholders to complete a water quality assessment to evaluate protection of applicable beneficial uses. Assessment procedures for surface waters are defined by the SWRCB for the purposes of meeting periodic federal CWA requirements for assessing compliance with WQOs. This proposed project will have no impact on these procedures for assessing surface water quality. However, to facilitate SNMP implementation, it

may be appropriate to develop groundwater quality assessment procedures to support implementation decisions, e.g., evaluation of assimilative capacity or determining baseline water quality to support antidegradation analyses. Examples of groundwater quality assessment procedures that could be developed include, but may not be limited to, methods to facilitate spatial data averaging (both horizontal and vertical), temporal data averaging, or identification of action triggers that could be used to inform the need for a compliance action. The CVWB is soliciting comment on the benefits of developing these types of procedures as part of development of the SNMP.

## Project Schedule

CEQA Scoping Meetings – INSERT DATES

Draft SNMP – May 2014

Draft Staff Report – May 2016

Final Staff Report & Basin Plan Amendments– May 2017

## Contact Information

Written comments regarding the proposed project may be submitted by email or mail to:

Jeanne Chilcott  
11020 Sun Center Drive, Suite 200  
Rancho Cordova, CA 95624-6114  
jchilcott@waterboards.ca.gov  
(916) 464-4788

For more information, please see:

[http://www.swrcb.ca.gov/rwqcb5/water\\_issues/salinity/](http://www.swrcb.ca.gov/rwqcb5/water_issues/salinity/); or

<http://www.cvsalinity.org>

To sign up on our e-mail subscription list, please go to:

[http://www.waterboards.ca.gov/resources/email\\_subscriptions/reg5\\_subscribe.shtml](http://www.waterboards.ca.gov/resources/email_subscriptions/reg5_subscribe.shtml)

(NOTE: Check the box titled “Central Valley Salinity (CV-SALTS)”)