DRAFT STAFF REPORT

2018 Triennial Review of the Water Quality Control Plan for the Lahontan Region

California Regional Water Quality Control Board
Lahontan Region

June 2018

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Introduction

The California Regional Water Quality Control Board, Lahontan Region (Water Board) is the state agency responsible for setting and implementing water quality standards in approximately 20 percent of California, which is located east of the Sierra Nevada crest, from the Oregon border into the northern Mojave Desert (Figure 1). Water quality standards and control measures are contained in the Water Quality Control Plan for the Lahontan Region (Basin Plan). The current Basin Plan took effect in 1995, replacing three earlier plans. Sixteen sets of amendments to the 1995 Basin Plan have received all necessary approvals. The Basin Plan is available on the Water Board's Internet web page at: http://www.waterboards.ca.gov/lahontan.

State and federal laws require periodic review and revision of Basin Plans; the federal process is called "Triennial Review." Due to resource limitations and the complexity of California's Basin Plan amendment process, Triennial Review in California is generally limited to identifying high priority basin planning topics to be addressed over the three years between one Triennial Review cycle and the next. Examples of such topics include, but are not limited to, developing new or revising existing water quality objectives; evaluating, adding, or removing beneficial use designations for specific surface water bodies and/or ground water basins; and developing new or revising existing control measures such as waste discharge prohibitions. The prioritized Triennial Review List serves as the three-year work plan of the Water Board's Basin Planning program. Triennial Review is not a regulatory action and does not require environmental analysis under the California Environmental Quality Act, unless Triennial Review actually involves adopting Basin Plan amendments. The Water Board's current Triennial Review priorities were adopted in November 2015 following a September 17, 2015 public workshop, and have been used to allocate resources towards accomplishing the priorities.

This staff report provides information on the Triennial Review process and on basin planning topics identified by Water Board staff. Additional topics may be identified in written public comments or testimony at the July 2018 and September 2018 public workshops, and the currently scheduled November 2018 public hearing. Staff will make final recommendations regarding basin planning topics at the November 2018 public hearing. The Water Board will consider staff's proposed 2018 Triennial Review List and could adopt the list as proposed or with modifications, or request staff to revised the list and return at a later Board meeting. Upon adoption, the 2018 Triennial Review List will identify its high priority basin planning work for the following three years (2019 - 2021), and will likely identify future basin planning issues and projects to be addressed as future resources allow. The adopted 2018 Triennial Review List may or may not identify Basin Plan amendments. Basin Plan amendments, if identified in the adopted 2018 Triennial Review List, are required to proceed through a separate development and evaluation process, including future public hearings and opportunities for the public and others to provide comments. Additionally, the Executive Officer or the Water Board has the ability to change priorities between the Triennial Review cycles.

Water Quality Standards

In California, water quality standards include designated beneficial uses of water, narrative and numerical water quality objectives, and a nondegradation policy. Water quality objectives are similar to federal "water quality criteria," but objectives are regulatory and criteria are not. Water quality standards in the Basin Plan are set forth in Basin Plan Chapters 2, 3, and 5, and can be viewed at:

(http://www.waterboards.ca.gov/lahontan/water_issues/programs/basin_plan/references.shtml).

The Basin Plan's beneficial use tables (Tables 2-1 and 2-2) include both existing and potential beneficial uses. Most of the numerical water quality objectives are based on historical water quality data collected before adoption of the 1975 North Lahontan Basin Plan and South Lahontan Basin Plan, and reflect antidegradation considerations rather than numeric criteria for the protection of specific beneficial uses. Variances or exemptions to water quality objectives require a Basin Plan amendment revising the objectives, unless criteria already contained in the Basin Plan for such variances or exemptions can be satisfied.

Applicable water quality standards also include numerical limits for toxic "priority pollutants" promulgated as surface water standards by the U.S. Environmental Protection Agency (USEPA) under the National Toxics Rule and California Toxics Rule. These standards have not yet been physically incorporated into the Basin Plan, but are in effect for the Lahontan Region.

Triennial Review Process and Public Participation

The Water Board's 2018 Triennial Review Process involves:

- Publicly noticing two Triennial Review Workshops to be held in July 2018 and September 2018 through the Water Board's electronic mailing lists for: Basin Planning – Regionwide, Triennial Review, Board Meetings, Climate Change, and TMDLs – 303(d) List, and notified recipients that future correspondence would be delivered to the Triennial Review electronic mailing list.

- Publishing the hearing notice, brief list of potential issues, 2015 Triennial Review List status update, and this draft staff report on the Water Board's webpage.

- Providing a 102-day public review period (June 4, 2018 through September 14, 2018) for the topics list, and solicitation for additional 2018 Triennial Review topics and written comments.

- Preparing written responses to public comments. All written comments and responses will be provided to the Water Board before the November 2018 hearing.

- Publish hearing notice for November 2018 public hearing where the Water Board will consider adopting the 2018 Triennial Review List.

- Testimony at the July 2018 and September 2018 public workshops, and the November 2018 public hearing.

- Water Board adoption of a resolution identifying priority basin planning topics to be addressed by staff and topics requiring additional funding.

- Submission of the adopted 2018 Triennial Review List to the State Water Resources Control Board (State Water Board) and U.S. Environmental Protection Agency (USEPA).

Planning Considerations

Budget. The Water Board's basin planning resources are limited. The Planning and Assessment Unit, which is largely responsible for implementing the Water Board's Basin Planning, Total Maximum Daily Load (TMDL), and Surface Water Ambient Monitoring (SWAMP) programs, includes four Environmental Scientists, a Water Resources Control Engineer, and a Scientific Aide, who are supervised by a Senior Environmental Scientist. These staff are responsible for water quality monitoring and assessment (SWAMP and Integrated Report), and addressing impaired waters for the entire Lahontan Region (TMDL program), in addition to basin planning projects, as prioritized by the Triennial Review List. Meeting some of the Unit's responsibilities, including those identified in the Triennial Review List, may require contracted studies for data collection (e.g., special monitoring studies to facilitate updating water quality objectives) or predictive modeling.

Topics Needing Additional Funding. The State Water Board's guidance for the Triennial Review process asks Regional Water Boards to identify planning topics that would require additional funding to address. The Water Board will be asked to identify basin planning projects targeted for completion during the following three years (2019-2021, and those requiring additional funding in order to be addressed during this time period. Ideally, the total estimated cost of the identified basin planning projects should not exceed the resources expected to be available within that time.

Total Maximum Daily Loads (TMDLs). The federal Clean Water Act requires states to identify surface water bodies that are not meeting standards due to pollutants (the "Section 303(d) list"), and to prepare strategies called TMDLs to ensure attainment of standards. In California, TMDLs and TMDL implementation programs are generally, but not always, adopted as Basin Plan amendments. Priorities and schedules for TMDL development are determined through the Section 303(d) list update process and

through the Water Board's annual TMDL program work plans, as informed by the *Guidance for the Prioritization of the Lahontan 303(d) List of Impaired Waters* presented to the Water Board at its July 2015 Board meeting. Section 303(d) listing does not necessarily mean that TMDLs, and/or Basin Plan amendments, will be developed for all listed waters; the impairment issues may be addressed in other ways.

In 2013, the U.S. Environmental Protection Agency (USEPA) announced a new collaborative framework for implementing the Clean Water Act (CWA) Section 303(d) program called the *Long-Term Vision for Assessment, Restoration, and Protection under the Clean Water Act Section 303(d) Program* (The Vision). The Vision focuses attention on priority watersheds with known water quality problems and acknowledges a suite of flexible restoration tools beyond traditional Total Maximum Daily Loads (TMDLs) broadly considered TMDL-Alternatives. The goal of The Vision is to apply these tools in a manner which will attain water quality restoration and protection. In 2015, Water Board staff identified two waters as candidates to be addressed through the Vision program, likely as TMDL-Alternatives. These projects should be completed no later than 2022. As alternatives to a TMDL, these projects do not require adoption into the Basin Plan by amendment. However, if their implementation does not prove successful after a defined time period, staff will create formal TMDLs for the waterbodies. The Triennial Review does not directly address these projects and their resource needs.

Public comments may be submitted on additional or potential TMDL issues as part of the Triennial Review process. Responses to these comments will be prepared, and they will be added to the Water Board's Triennial Review files. However, the Water Board's action will focus on priorities for use of Basin Planning funds for planning topics other than TMDL development.

Basin Plan Amendment Process

As discussed, above, TMDLs, and developing new or revising existing water quality standards are some of the actions that can require a Basin Plan amendment for implementation. In many cases, issues and projects identified in a Triennial Review List will subsequently lead to Basin Plan amendments. The Basin Plan amendment process is summarized in Table 1, adapted from the State Water Resources Control Board's (State Water Board) planning guidance. As the table indicates, the process is lengthy and complex. The table does not include the revisions that may need to be made in preliminary drafts in response to comments by internal reviewers, and in response to scientific peer review. Chronologically, the process can require six months to more than a year between the end of the "research" period in Step A and Water Board action. An additional nine months or more can be required after Water Board action for the amendments to receive all needed approvals. "Research" for Basin Plan amendments can include scientific literature review and/or water quality monitoring or special studies. Scientific peer review is required for amendments involving scientific judgment, and the reviewer's comments may result in significant changes to preliminary draft amendments before they are released for public review. Following

Water Board adoption, amendments must be approved by the State Water Board, the California Office of Administrative Law (OAL), and (in some cases) the USEPA. To facilitate the OAL review process, staff prepares and indexes a detailed administrative record.

Status of 2015 Triennial Review Project List

Table 2 shows the status of the 2015 Triennial Review projects, as of June 2018. Though this period did not include the completion of any Basin Plan amendments, staff is participating in several statewide and regional basin planning efforts shown in Table 2, plus two projects in the TMDL program. In addition to the projects described in Table 2, staff resources are also being applied toward the development of a Basin Plan amendment related to the Tahoe Regional Planning Agency's shorezone program.

2018 Triennial Review Planning Topics

Table 3 summarizes 24 currently proposed basin planning topics for the 2018 Triennial Review.

These include:

- Priorities carried over from those identified in the 2015 Triennial Review List;
- Ongoing work; and
- New priorities identified by staff and stakeholders.

After reviewing public comments and testimony, staff will prepare final recommendations for the Water Board consideration at its November 14-15, 2018 public hearing. In adopting the 2018 Triennial Review List, the Water Board will identify the basin planning issues and projects Water Board staff will focus its limited resources upon during the following three years.

Schedules for addressing the issues and completing the projects identified will depend upon the complexity of the selected matters and available resources. As discussed, above, additional basin planning activities may be identified as a result of completing work on issues and projects identified in the 2018 Triennial Review List. Work on such basin planning activities could be initiated during the 2018 Triennial Review period, or have to wait depending upon available resources and Water Board priorities. Additionally, if important new topics arise before the next Triennial Review, planning priorities may be revised by the Water Board or its Executive Officer. Topics not selected for emphasis in the next three years will be identified as topics requiring additional funding. If additional funding is received or outside support provided, staff will attempt to address more topics. Staff will reconsider these topics during the next Triennial Review process and may recommend them as priorities at that time.

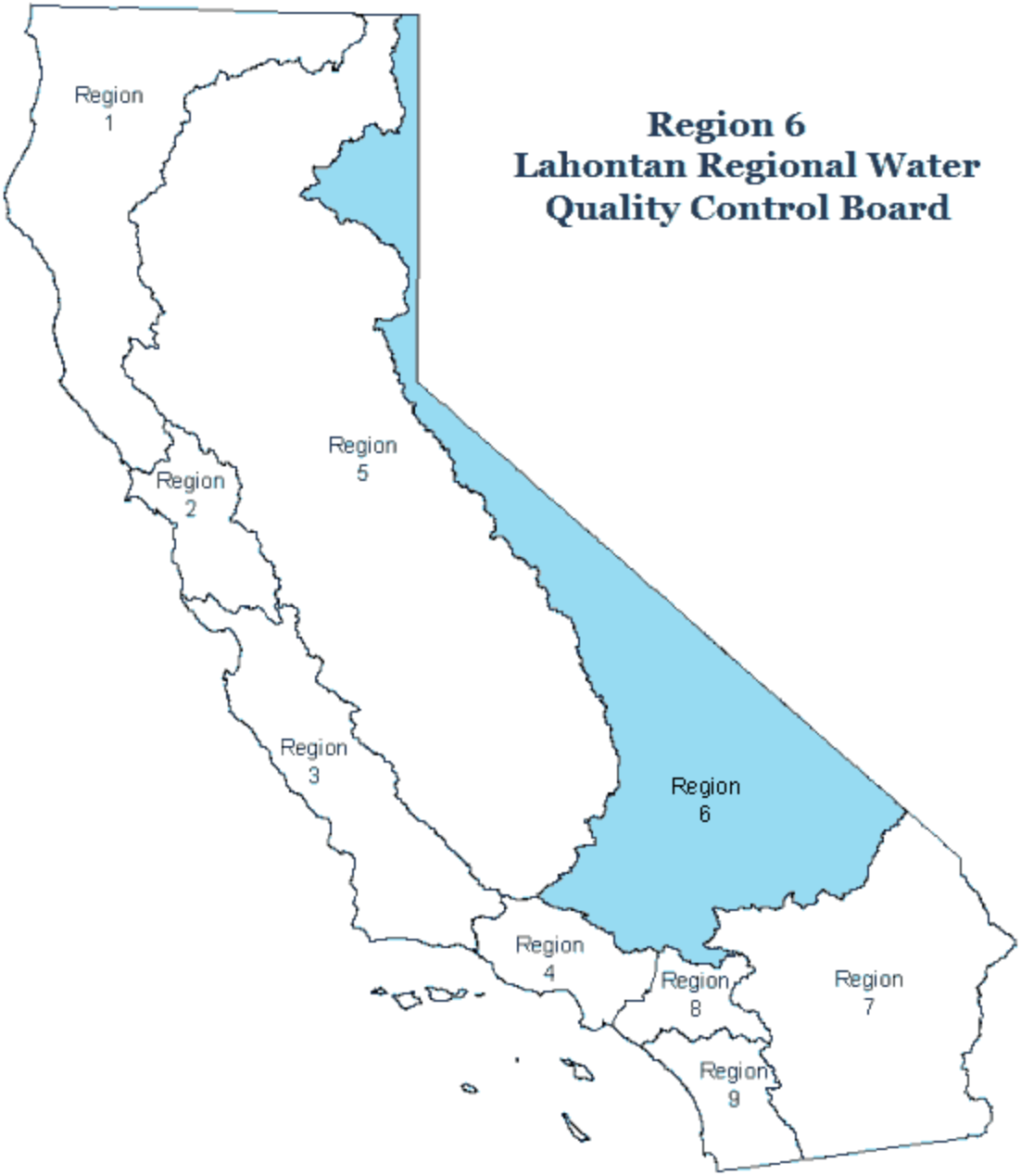
Attachments

Figure 1. Map of the Lahontan Region

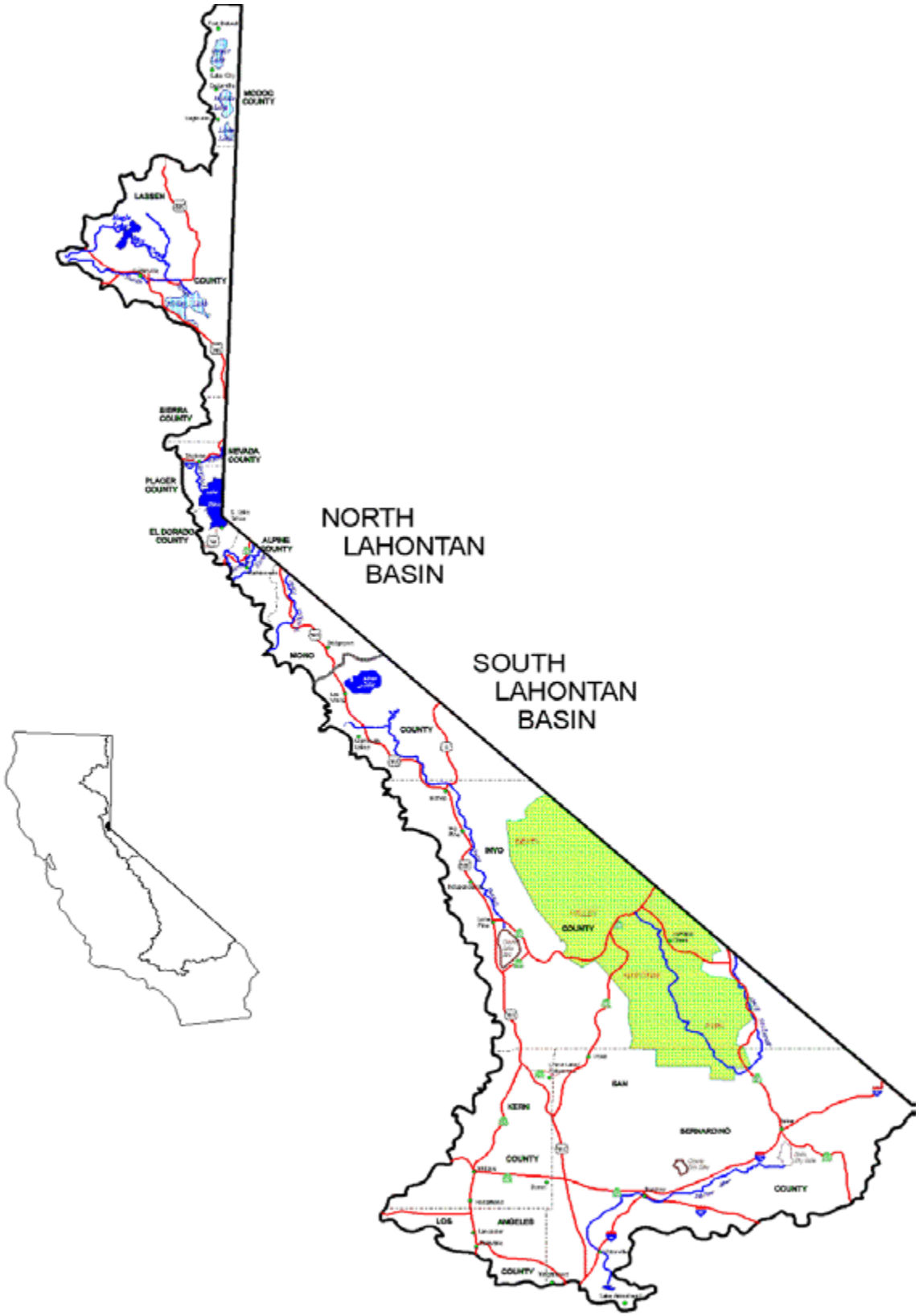
Table 1. Summary of Basin Plan Amendment Process

Table 2. June 2018 Status of 2015 Triennial Review List

Table 3. Draft 2018 Triennial Review Proposed Topics – No Priority Assigned



Region 6
Lahontan Regional Water Quality Control Board


NORTH
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LASSEN
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SIERRA
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PLACER
COUNTY
EL DORADO
COUNTY
ALPINE
COUNTY
MONO
COUNTY
INYO
COUNTY
KERN
COUNTY
SAN
BERNARDINO
COUNTY
LOS
ANGELES
COUNTY

Table 1 Summary of Basin Plan Amendment Process

(Refer to page 37 in the hyperlink)

WHO...	DOES WHAT?	
REGIONAL BOARD	A.	IDENTIFY THE NEED for a Plan amendment based on the Triennial Review, public concerns, new or revised laws, regulations or policies, etc. Undertake work to develop solutions - research, field work (e.g. collect chemical, physical, and/or biological monitoring data; data analysis), etc.
	B.	PLAN the Administrative Record for the amendment.
	C.	PREPARE NECESSARY DOCUMENTS **STAFF REPORT** on the proposed amendment; reasonable alternatives, mitigation, economic considerations, and anti-degradation as required • If addressing beneficial uses • If addressing water quality objectives • If addressing an implementation plan **THE CEQA CHECKLIST** **DRAFT AMENDMENT** **DRAFT RESOLUTION**
	D.	EXTERNAL SCIENTIFIC PEER REVIEW
	E.	PUBLISH A HEARING NOTICE / NOTICE OF FILING at least 45 days prior to the hearing
	F.	RESPOND to comments – revising the draft amendment and staff report as necessary
	G.	ADOPTION HEARING
	H.	REGIONAL BOARD TRANSMIT two copies of the complete administrative record to the State Board; and PARTICIPATE in SWRCB Workshop and Board Meeting
STATE BOARD	I.	APPROVE AMENDMENT at a public meeting (or return it to the Regional Board for further consideration)
REGIONAL BOARD	J.	TRANSMIT approved amendment to Office of Administrative Law (OAL) for review and approval of the regulatory provisions
	K.	TRANSMIT the OAL approved amendment to US EPA, if needed, for review and approval of surface waters standards and their implementing provisions
	L.	(1) FILE CEQA NOTICE OF DECISION with the Secretary of Resources after final approval by OAL or US EPA. (2) Either pay Department of Fish & Game filing fee or submit Certificate of Fee Exemption.
	M.	PRINT and DISTRIBUTE Amendment

Table 2

Status of 2015 Triennial Review List

Table 2 – Status of 2015 Triennial Review List

Topic	Description	
#1 **Program Manager**	**Description:** The Basin Planning Program Manager participates in State/Regional Water Board Roundtable activities, workplan development, provides information to the public, etc. **PYs over 3 years: 0.3**	**Status:** The Program Manager's duties are ongoing.
#2 **2018 Triennial Review**	**Description:** Prepare the 2018 Triennial Review staff report and priority list. Host scoping workshops and hearings, as necessary, for Water Board consideration. **PYs over 3 years: 0.2**	**Status:** Scoping workshops scheduled for July 2018 in Bishop and September 2018 in South Lake Tahoe. Water Board consideration scheduled for November 2018 in Apple Valley.

Table 2 – Status of 2015 Triennial Review List

Topic	Description	
#3 **Miscellaneous work that will not directly result in Basin Plan amendments**	**Description:** Staff resources are needed for work such as: coordination with other states, other agencies, and Native American tribes regarding water quality standards; development and management of contracts related to planning; staff training, coordination with stakeholders involved with aquatic invasive species, etc. Assist regulatory staff in follow-up and implementation of new Basin Plan changes. Miscellaneous corrections and improvements (e.g., editorial revisions, correct references to new policies and plans, consistent use of terms) occasionally are necessary and will "accompany" other Basin Plan amendments to minimize staff resources. **PYs over 3 years: 0.6**	**Status:** Miscellaneous planning related work is ongoing. Some of the work described in the task description has transferred to other programs, such as coordination with stakeholders involved with aquatic invasive species. Other work, such as assisting with response to Harmful Algal Blooms and bioassessment efforts have also taken staff time.

Table 2 – Status of 2015 Triennial Review List

Topic	Description	
#4 **Revise water quality objectives for bacteria**	**Description:** The current objective of 30-day log mean of 20 colony forming units of fecal coliform per 100 mL in the Lahontan Basin Plan applies to all surface waters in the region and is the most stringent objective in the State of California. Based on the results of ongoing field sampling in the Lahontan Region, revisions to federal criteria for recreational waters, and a proposed State Water Board policy to incorporate the use of E. coli as an indicator (anticipated in late 2016), revisions to the Lahontan Basin Plan may be proposed to establish site-specific objectives. Water Board staff and contractors are collecting, and analyzing data to evaluate the current condition of water body reaches in the Lahontan region and determine what applicable objective should be applied based on beneficial uses. Staff is evaluating the State Board proposed standard and USEPA's guidance. Staff will consider the effects of climate change on land uses and water quality. Staff is coordinating with State Board in the development of the statewide applicable objective to ensure the Lahontan region is accurately represented. **PYs over 3 years: 1.0**	**Status:** Staff efforts to advance this item have primarily been limited to participation in the State Water Board project to create a statewide bacteria standard for the REC-1 beneficial use. That effort, which focuses on creating an *E. coli* standard informed by epidemiological studies and the USEPA guidance, is scheduled to appear before the State Water Board for consideration at a late summer 2018 meeting of the State Water Board. The adoption of a statewide REC-1 objective will not complete this priority task. The current regional water quality objective, which is not beneficial use-specific, will only be superseded for the REC-1 beneficial use. The Water Board may still prioritize revisions to the current objective.

Table 2 – Status of 2015 Triennial Review List

Topic	Description	
#5 **Review new scientific information to evaluate the need for changes to the water quality objectives for nearshore areas of Lake Tahoe.**	**Description:** Evaluate research findings, including the effects of climate change, and begin collecting data to establish baseline and assess trends using agreed upon nearshore assessment indicators as a first step to evaluating the need for new nearshore water quality standards and determining the most appropriate standards. Resource needs listed here only include staff evaluation of research findings, interagency coordination, public meetings, stakeholder outreach, and contract management (including developing scopes of work for indicator monitoring, causal assessments, and understanding nearshore processes). **PYs over 3 years: 0.5**	**Status:** Nearshore research and monitoring continues to focus on periphyton growth drivers. Additional work includes a lake-wide aquatic invasive plant survey and a targeted study to evaluate bacteria and toxic compounds at popular beach sites during mid-summer 2018. Future efforts will (1) continue long-term periphyton assessment; (2) assess how introduced macroinvertebrates are influencing nearshore conditions; and (3) consider how warmer lake temperatures and associated lake dynamic changes are affecting Lake Tahoe. It is uncertain if this work will result in a need to revise water quality objectives for nearshore areas of Lake Tahoe. Additionally, ample resources are dedicated to this pursuit that do not use Basin Planning funding resources. For these reasons the 2018 Proposed Topics List does not include this topic.

Table 2 – Status of 2015 Triennial Review List

Topic	Description	
#6 **Mojave WQOs and Beneficial Uses, (i.e., Mojave River and Basin Project)**	**Status:** This topic is a combination of topics continued from the 2012 Triennial Review List and new ones, known as "Mojave River and Basin" project. **Description:** All of the proposed projects from the 2015 Triennial Review scoping efforts related to the Mojave River or Mojave groundwater Basin and sub-basins were combined and modified to efficiently use staff and stakeholder resources. The major change from the scoping effort was to reduce the scope of the proposed project known as "site specific WQOs for specific groundwater basins." Instead of evaluating the need and consequences of revising site specific objectives (SSOs) for multiple groundwater basins throughout the region, staff recommends focusing on the sub-basins of the Mojave Basin for the next three years and using the experience gained to evaluate site specific objectives for other basins and sub-basins. The Mojave Basin is the best candidate for evaluating site specific objectives for a sub-basin because its sub-basins are delineated, the Basin is adjudicated, there is a large database of water quality and water quantity information and modeling, and the Basin is subject to an increase in population and effects of climate change. Staff resources for the three Mojave River proposed projects from the 2015 Triennial Review scoping effort are combined (along with the site specific WQOs for Mojave sub-basins) for a total of 1.8 PYs over three years. The four projects are described separately below:	**Status:** The 2015 Triennial Review combined multiple projects into four Mojave River tasks: • Adding BIOL to specific reaches of the River • Re-evaluate COLD for portions of the River • Establish objective for the floodplain aquifer • Establish groundwater quality site specific objectives for certain Mojave sub-basins The first three items are being addressed in a Basin Plan Amendment currently under development. The project proposes to: • Add BIOL and RARE to specific reaches of the River and its tributaries • Develop a Use Attainability Analysis to remove COLD designation for portions of the River • Amend the Implementation Chapter to clarify use of existing objectives for purposes of permitting in a portion of the river The project is scheduled to be presented as a workshop in Winter/Spring 2019, with consideration before the Water Board in May or June 2019. An initial examination of groundwater protection needs in the Mojave Basin and sub-basins was completed November 2017. Further investigation and analysis are ongoing and necessary to develop recommendations related to establishing groundwater quality site-specific objectives.

Table 2 – Status of 2015 Triennial Review List

Topic	Description	
BIOLOGICAL Beneficial Use for Mojave River (sub-task)	**BIOL Description:** Add the Biological Use (BIOL) for specific reaches of the Mojave River with remaining viable habitat, including but not limited to, upstream of the Mojave Forks Dam, from Bear Valley Road to Helendale, at Waterman Fault, and in Afton Canyon. BIOL beneficial use will increase protection of the most important source of water and wildlife habitat in the high desert area. BIOL beneficial use in reaches of the Mojave River that maintain perennial flow will increase protection of unique biology (but may limit some recreational activities). In addition, Water Board staff will consider groundwater management and climate change to maintain or restore base flow to the River.	
#6 (continued) **Site specific objectives for a reach of the Mojave River (sub-task)**	**SSOs for a reach of the Mojave:** Establish Site Specific Objectives for groundwater in the Mojave River Floodplain Aquifer and surface water in the perennial reach of the Mojave River downstream of Victor Valley Wastewater Reclamation Authority (VVWRA) to Silver Lakes (Helendale). Compounds of interest are salt, nutrients and general minerals. Surface water objectives are of primary interest to develop appropriate effluent limitations for the VVWRA's NPDES permit. Currently, surface water quality objectives for the Mojave Hydrologic unit set at Barstow for Total Dissolved Solids (TDS) and nitrate would apply at VVWRA by the tributary rule. However, because the Mojave River is ephemeral in the section	

Table 2 – Status of 2015 Triennial Review List

Topic	Description	
	from Helendale to Barstow, the river water quality cannot be measured on a perennial basis (especially under dryer climatic conditions) and the surface water quality objectives may not be relevant or appropriate for developing applicable objectives in this area.	
Re-evaluate the COLD beneficial use designation for a reach of the Mojave River (sub-task)	**Re-evaluate COLD beneficial use designation for a reach of the Mojave:** Victor Valley Wastewater Reclamation Authority requested the Board re-evaluate the COLD beneficial use designation for the Mojave River from the Upper Narrows to Helendale. A beneficial use assessment determined it was uncertain whether the Mojave River in that reach can support cold weather ecosystems. Staff will consider the assessment's conclusion and other possibilities such as establishing COLD and WARM beneficial uses for different times of the year.	
Site Specific water quality objectives for Mojave sub-basins (sub-task)	**Mojave Groundwater Sub-basins SSOs Description:** Interested parties, especially authors of Salt & Nutrient Management Plans required by State Board's Recycled Water Policy, are assessing the assimilative capacity in portions of the Mojave groundwater basin for Total Dissolved Solids (TDS) and nitrogen. The Taste and Odor Threshold for drinking water is the Secondary Maximum Contaminant Level for TDS and is the current applicable Water Quality Objective (WQO). Where TDS and nitrogen concentrations exceed WQOs, or are projected to exceed WQOs, Water Board staff will evaluate whether more control measures are needed and/or whether it is appropriate to consider site-specific objectives for portions of the Mojave groundwater basin.	

Table 2 – Status of 2015 Triennial Review List

Topic	Description	
#6 (continued)	Additionally, some stakeholders are interested in preserving higher quality groundwater and support development of more protective groundwater sub-basin objectives to limit discharges of TDS and nitrogen. (Perhaps using Region 8's "Groundwater Management Zones" with "maximum benefit objectives" as a model for Region 6.) This project would focus on the Mojave groundwater basin and sub-basins. Staff will use available data to evaluate groundwater quality, assimilative capacity, effects of climate change, and the ability to maintain higher quality waters for specific groundwater sub-basins. Staff will evaluate the data and recommend whether it is appropriate to set specific WQOs. The Resource Needs estimate does not include producing a basin plan amendment. **PYs over 3 years: 1.8 for all four sub-tasks**	

Table 2 – Status of 2015 Triennial Review List

Topic	Description	
#7 **Squaw Valley groundwater withdrawal**	**Description:** Evaluate the effects of potential increased groundwater withdrawal in Squaw Valley on the water quality of Squaw Creek and its tributaries. In particular, examine the interplay of water supply and water quality influencing biological conditions. This topic may also involve a consideration of flow requirements for Squaw Creek possibly in the form of flow objectives, with regulatory effect, to protect certain beneficial uses. **PYs over 3 years: 0.5**	**Status**: In November 2017, the Water Board hosted a workshop addressing management of the Squaw Valley aquifer, coupled with presentations on the development of in-stream flow criteria in Region 1 waters and in the context of the Cannabis Program.
#8 **Evaluate appropriate statistical methods (e.g., replace Means of Monthly Means with annual averages, where appropriate, such as Truckee River and Pine Creek)**	**Description:** The proposed revisions would change water quality objectives expressed as "means of monthly means" to annual means and define minimum sample numbers and sampling frequencies for determining compliance with objectives. This could avoid the need for new Clean Water Act Section 303(d) listings based on very small sample numbers and facilitate delisting. **PYs over 3 years: 1.0**	**Status:** Staff is currently researching the history of the "mean of monthly means" objectives, and anticipates providing staff recommendations late summer/early fall 2018.

Table 2 – Status of 2015 Triennial Review List

Topic	Description	
#9 **Riparian Protection Policy** **(Protecting and Enhancing Watershed Resiliency)**	**Description:** Revise Basin Plan to include specific implementation measures to protect all beneficial uses or ground and surface waters from the effects of development and hydromodification. Specific emphasis is needed on protecting desert surface waters, including measures to control or prevent excessive erosion of soft soils and subsequent down stream sediment deposition that adversely impacts Aquatic and Wildlife Habitats. Staff will consider the effects of climate change that may produce more frequent and more severe flashy events. Other enhancements could include improving meadows and floodplains to increase groundwater storage and improve flood attenuation. **PYs over 3 years: 2.0**	**Status:** This project would codify the importance of protecting riparian areas for purposes of source water protection, groundwater recharge, and other important roles of riparian areas. Work on this task is included in the climate change program and other work by regulatory programs. Work on a comprehensive Basin Plan amendment to clarify and incorporate this Water Board priority will likely follow adoption of the Water Board's Climate Adaptation and Mitigation Strategy.

Table 2 – Status of 2015 Triennial Review List

Topic	Description	
#10 **Revise Hot Creek water quality objectives**	**Description:** Develop revised objectives for Hot Creek (Owens River HU) based on changes in water quality related to increased constituent levels emanating from the natural groundwater flows entering the creek. This effort would assist the Department of Fish and Wildlife in complying with its permit requirements for the Hot Creek Hatchery. The Department of Fish and Wildlife has collected water quality data for this effort. **PYs over 3 years: 0.6**	**Status:** This project was below the line in the 2015 Triennial Review. Basin planning and permitting staff are meeting to identify a strategy for the Hot Creek Hatchery permit that may include development of site specific objectives.
#11 **Survey of surface waters to identify those we might want to consider creating in-stream flow requirements for the purposes of protecting beneficial uses**	**Description**: This item is described in the project title.	**Status:** California Water Code section 85087 directs the State Water Board to submit to the Legislature a prioritized schedule and estimate of costs to complete instream flow studies for two categories of rivers and streams, with two deadlines for study completion: 1. By 2012, high priority rivers and streams in the Delta watershed that were not covered in the State Water Board's "Final Report on Development of Flow Criteria for the 3-2 Sacramento-San Joaquin Delta Ecosystem"; and 2. By 2018, all major rivers and streams outside the Sacramento River watershed. In response, the State Water Board submitted a report, "Instream Flow Studies for the Protection of Public Trust Resources: A Prioritized Schedule and Estimate of Costs" (December 2010). The report includes table D, listing High Priority Rivers and Streams that Support Only Non-Anadromous Species. Table D includes twenty-one streams (eight of which are listed as first priority) in the Lahontan Region for which instream flow

Table 2 – Status of 2015 Triennial Review List

Topic	Description	
		studies are recommended to determine if minimum flow criteria are needed to protect habitat for sensitive fish species (enclosure 3). This list may serve to address priority project #11 from the 2015 Basin Plan Triennial Review.
#12 **Biological indicators**	**Description:** This topic was originally described as "Revise existing narrative water quality objective for protection of aquatic communities (nondegradation of aquatic communities objective)." The current topic description is "Develop narrative and/or numeric biological objectives (i.e., biocriteria) to protect the biological integrity of the Region's surface waters. This may include development of new objectives, applying a California Stream Condition Inventory score (CSCI), and/or revising and/or expanding the applicability of the Basin Plan's current narrative objectives for "Nondegradation of Aquatic Communities and Populations" (which currently apply only to wetlands). **PYs over 3 years: 0.9**	**Status:** Staff participates in the State Water Board's effort to develop biological objectives through the Biostimulatory Substances Objective and Program to Implement Biological Integrity quarterly updates and meetings. Lahontan Water Board staff are also monitoring the San Diego Regional Water Quality Control Board's efforts to develop a biological standard. Additionally, the Lahontan Water Board staff is expanding bioassessment data collection over a three-year period. The bioassessment data will eventually be used to support development of biological objectives in the Lahontan Region.

Table 2 – Status of 2015 Triennial Review List

Topic	Description	
#13 **Region-wide approach to TDS water quality objectives for surface waters**	**Description:** Site specific TDS objectives for surface waters were developed based on limited samples and protect/maintain high quality water but are typically more stringent than needed to protect beneficial uses. Development of the original TDS objectives did not consider the effects of a changing climate on water quality objectives (WQOs). Two possible options are proposed: (A) Adopt a regionwide TDS WQO that would supersede the existing site specific objectives. (B) Adopt new site specific objectives for TDS that are based on protection of beneficial uses, and adopt a more stringent value, if applicable that is based on new data, for maintaining high quality water. **PYs over 3 years: 1.5**	**Status:** SWAMP and TMDL program staff collaborated to monitor multiple 303(d) listed waters from Susanville south to Tom's Place for three water years (fall 2014 to fall 2017) on a monthly basis to improve staff's understanding of existing TDS levels. Collections duration included a drought year, a year of 80 percent of average precipitation, and record precipitation winter of 2016-17. Staff performed preliminary analysis of this data as it relates to water quality objectives for TDS. Additional work is still necessary and will require prioritized resources.

Table 2 – Status of 2015 Triennial Review List

Topic	Description	
#14 **Susan River site specific objectives**	**Description:** Consider revised objectives for section of the Susan River and its tributaries downstream of Susanville's Community Services District (District). Consider lowering water quality while ensuring continued protection of beneficial uses. This project is in a preliminary evaluation stage. Staff will need to involve the District, current downstream agricultural users, and the Department of Fish and Wildlife in evaluating alternatives including: increased treatment, increased land disposal capacity, winter storage of treated wastewater, and establishing or ensuring minimum flows in Susan River and its tributaries in light of possible effects from climate change.) **PYs over 3 years: 2.0**	**Status:** No Progress
#15 **Adopt a standard for deposited/embedded sediment for the Middle Truckee River**	**Description:** The Truckee River Watershed Council and David Herbst requested the Board consider adopting a standard for deposited/embedded sediment for the Middle Truckee River. They submitted deposited/embedded sediment data showing beneficial use impairment is occurring, supporting a conclusion that the current TMDL target is not sufficient to detect actual impairment from excess sediment. **PYs over 3 years: 0.9**	**Status:** No Progress
#16	**Description:** This topic would involve removal of Groundwater Recharge (GWR) and Agricultural	**Status:** No Progress

Table 2 – Status of 2015 Triennial Review List

Topic	Description	
Remove two beneficial uses from Piute Ponds wetlands	Supply (AGR) beneficial uses from the Piute (also known as Paiute) Ponds and wetlands in the Amargosa Creek watershed in eastern Los Angeles County. The ponds and wetlands are maintained with effluent from the Los Angeles County Sanitation District (LACSD) No. 14 (Lancaster) wastewater treatment facilities. LACSD believes these beneficial uses do not actually exist for these receiving waters and could become an urgent issue for LACSD's activities. The existing waste discharge permit expires in 2020. Application of drinking water or salt-sensitive agriculture-based limits to end of pipe discharges and the receiving water would likely require the construction and implementation of advanced treatment facilities. **PYs over 3 years: 0.5**	
#17 **Clarify Lahontan Water Board policy on package plants**	**Description:** The current Basin Plan indicates all package plants will be regulated under Waste Discharge Requirements (WDRs). Los Angeles County (and potentially other counties and local municipalities) believes small aerated package plants are considered "alternative" systems and are authorized under their local authority and do not require additional authorization from the Water Board. Clarification on the applicability and specific authorization is necessary and may result in a basin plan amendment, clarification memo, or Water Board approvals of Local Area Management Plans. **PYs over 3 years: 0.1**	**Status:** No Progress

Table 2 – Status of 2015 Triennial Review List

Topic	Description	
#18 **Adopt or revise site-specific water quality objectives for Fish Springs Creek in the Owens Valley**	**Description:** The Department of Fish and Wildlife (DFW) operates Fish Springs hatchery in the Owens Valley where source water is groundwater and the discharge from the hatchery forms Fish Springs Creek. The Basin Plan currently has an objective for Fish Springs Creek above the hatchery; however, water no longer exists at that location. Water Board proposes removing this objective from the Basin Plan and setting an objective for Fish Springs Creek below the hatchery. This effort will involve gathering additional water quality information. It is no longer needed to assist DFW in achieving permit compliance because the Water Board and USEPA approved use intake credits. **PYs over 3 years: 1.0**	**Status:** No Progress
#19 **Biotic Ligand Model for copper**	**Description:** Incorporate the USEPA national criteria for copper into water quality standards using the Biotic Ligand Model. **PYs over 3 years: 0.5**	**Status:** No Progress. USEPA favors use of the Biotic Ligand Model (BLM) to the Water Effects Ratio (WER) method and will check WER results against BLM models before project approvals.
#20 **Revise PCPs water quality objectives**	**Description:** The USEPA recommends a revision of water quality objectives for pentachlorophenol (PCPs), where appropriate. The USEPA believes existing objectives are not sufficiently protective of early life stages of salmonids. **PYs over 3 years: 1.0**	**Status:** No Progress

Table 2 – Status of 2015 Triennial Review List

Topic	Description	
#21 **Eagle Lake "building moratorium"**	**Description:** Amend the Basin Plan to lessen restrictions on building density for septic systems. (Currently, 20-acre minimum for new development) **PYs over 3 years: 0.5**	**Status:** No Progress

Table 3

Draft 2018 Triennial Review Proposed Topics – No Priority Assigned

Table 3 – Draft 2018 Triennial Review Proposed Topics – No Priority Assigned (June 22, 2018)

Topic	Description	Status
Revise water quality objectives for bacteria	The current objective of 20 colony forming units of fecal coliform per 100 ml in the Lahontan Basin Plan applies to all surface waters in the region and is the most stringent objective in the state of California. Water Board staff to propose recommendations to the Water Board following evaluation of ongoing field sampling in the Lahontan Region, federal criteria for recreational waters, and the results of State Water Board efforts to develop a statewide objective for the REC-1 beneficial use.	Continued from 2015 Triennial Review Topic List
Evaluate New or Revised Section 304(a) Recommended Criteria for Incorporation into the Basin Plan as Water Quality Objectives	Revisions to the federal Water Quality Standards (WQS) regulations at 40 C.F.R. Part 131 direct states and authorized tribes to consider for adoption as water quality objectives, new or updated CWA section 304(a) water quality criteria recommendations published by the USEPA since May 30, 2000 during their next triennial review.	New project proposal
Climate Change Adaptation and Mitigation Strategy Implementation	The Water Board is currently developing a Climate Change Adaptation and Mitigation Strategy that could include basin planning activities related to watershed resiliency, critical groundwater recharge areas, and floodplain areas. Water Board staff to review direction regarding basin planning activities provided by the Climate Change Adaptation and Mitigation Strategy, upon its adoption, and then develop appropriate course of action.	New project proposal

Table 3 – Draft 2018 Triennial Review Proposed Topics – No Priority Assigned (June 22, 2018)

Topic	Description	Status
Source Water Protection	There are multiple efforts to enhance source water protection at the state and regional level that Water Board staff continue to monitor, and in some situations, participate in. As these efforts continue to proceed, Water Board staff will identify potential basin planning activities necessary to further improve source water protection within the Lahontan Region. Such activities could include, but not be limited to, revising the Basin Plan to further encourage restoration and enhancement of headwater environments, and actions that facilitate implementing such activity (e.g., streamlined regulatory process for qualifying habitat restoration projects).	New project proposal
Protecting and Enhancing Watershed Resiliency **(Riparian Protection Policy)**	Revise Basin Plan to include specific implementation measures to protect all beneficial uses of ground and surface waters from the effects of hydromodification. Specific emphasis is needed on protecting desert surface waters, including measures to control or prevent excessive erosion of soft soils and subsequent down stream sediment deposition that adversely impacts aquatic and wildlife habitats. Staff will consider the effects of climate change that may produce more frequent and more severe flood events. Other enhancements could include improving meadows and floodplains to increase groundwater storage and improve flood attenuation.	Continued from 2015 Triennial Review Topic List

Table 3 – Draft 2018 Triennial Review Proposed Topics – No Priority Assigned (June 22, 2018)

Topic	Description	Status
Tribal Beneficial Uses	Add the Tribal Cultural, Tribal Subsistence Fishing, and Subsistence Fishing beneficial uses (CUL, T-SUB, SUB) to the Basin Plan. These beneficial uses were created by State Water Board with the adoption of mercury objectives. State Water Board Resolution No. 2017-0027 provides guidance to the Regional Boards for incorporating these beneficial uses into the Basin Plan. Designating these beneficial uses would require the Water Board to conduct outreach to California recognized tribal governments to determine waterbodies to designate, supported by appropriate evidence or tribal claims. Additionally, the Water Board would conduct outreach to appropriate organizations (counties, DFW, etc.) about non-tribal subsistence fishing activities and determine waterbodies to designate with this beneficial use.	New project proposal

Table 3 – Draft 2018 Triennial Review Proposed Topics – No Priority Assigned (June 22, 2018)

Topic	Description	Status
Biological indicators	Develop narrative and/or numeric biological objectives (i.e., biocriteria) to protect the biological integrity of the Region's surface waters. This may include development of new objectives, applying a California Stream Condition Inventory score (CSCI), and/or revising and/or expanding the applicability of the Basin Plan's current narrative objectives for "Nondegradation of Aquatic Communities and Populations" (which currently apply only to wetlands). The State Water Board has an active project entitled the Biostimulatory Substances Objective and Program to Implement Biological Integrity which, in part, seeks to establish biological indicators for use statewide. The San Diego Regional Water Board is developing biological indicators for that region, which may be instructional for developing region specific biological indicators in the Lahontan Region. SWAMP staff is currently adding to the bioassessment monitoring library of the Lahontan Region.	Continued from 2015 Triennial Review Topic List

Table 3 – Draft 2018 Triennial Review Proposed Topics – No Priority Assigned (June 22, 2018)

Topic	Description	Status
Instream Flow Criteria	The Water Board has the authority to regulate minimum flows to protect beneficial uses. In November 2017, the Water Board hosted a workshop with presentations from Region 1 staff and State Water Board Cannabis Unit staff discussing the development and use of instream flow criteria. State Water Board staff indicated that draft language would be ready for public distribution some time in 2019 or 2020. This project would prioritize staff to engage with the State Water Board efforts and consider developing general (likely narrative) or site-specific flow criteria. This project may also be influenced by the Lahontan Water Board's Climate Change Adaptation and Mitigation Strategy.	Continued from 2015 Triennial Review Topic List

Table 3 – Draft 2018 Triennial Review Proposed Topics – No Priority Assigned (June 22, 2018)

Topic	Description	Status
Revise Hot Creek water quality objectives	Develop revised objectives for Hot Creek (Owens River HU) based on changes in water quality related to increased constituent levels emanating from the natural groundwater flows entering the creek. This effort would assist the Department of Fish and Wildlife in complying with its permit requirements for the Hot Creek Hatchery.	Continued from 2015 Triennial Review Topic List
Adopt or revise site- specific water quality objectives for Fish Springs in the Owens Valley to facilitate NPDES permitting for a state fish hatchery.	The Department of Fish and Wildlife operates Fish Springs hatchery in the Owens Valley where source water is groundwater and the discharge from the hatchery forms Fish Springs Creek. The Basin Plan currently has an objective for Fish Springs Creek above the hatchery; however, water no longer exists at that location. Water Board proposes removing this objective from the Basin Plan and setting an objective for Fish Springs Creek below the hatchery. This effort may involve gathering additional water quality information	Continued from 2015 Triennial Review Topic List

Table 3 – Draft 2018 Triennial Review Proposed Topics – No Priority Assigned (June 22, 2018)

Topic	Description	Status
Revise Chapter 3 language on determining compliance with water quality objectives. **(Means of Monthly Means)**	The proposed revisions would change water quality objectives expressed as "means of monthly means" to annual means and define minimum sample numbers and sampling frequencies for determining compliance with objectives. This could avoid the need for new Clean Water Act Section 303(d) listings based on very small sample numbers, and facilitate delisting.	Continued from 2015 Triennial Review Topic List
Susan River site specific objectives	Develop revised objectives for sections of the Susan River and its tributaries downstream of Susanville's Community Services District (District). The WQO for TDS is 185 mg/L and is not associated with any beneficial use at Litchfield. Altering the numeric objective of TDS and other constituents could still be protective of beneficial uses (Drinking water standard for TDS is 500 to 1,000mg/L). Staff will need to involve the District, current downstream agricultural users, and the Department of Fish and Wildlife in evaluating alternatives including: site specific objectives, increased treatment, increased land disposal capacity, conducting Use Attainability Analysis and removing uses, establishing or ensuring minimum flows in Susan River and its tributaries in light of possible effects from climate change.	Continued from 2015 Triennial Review Topic List

Table 3 – Draft 2018 Triennial Review Proposed Topics – No Priority Assigned (June 22, 2018)

Topic	Description	Status
Mojave River Surface Water Beneficial Use Revisions	The 2015 Triennial Review combined multiple projects into four Mojave River tasks: • Adding BIOL to specific reaches of the River • Re-evaluate COLD for portions of the River • Establish objective for the floodplain aquifer • Establish groundwater quality site specific objectives for certain Mojave sub-basins This project combines the first three items. In addition, staff found while investigating BIOL that it is appropriate to also designate RARE at some Mojave sites. BIOL beneficial use will increase protection of the most important source of water and wildlife habitat in the high desert area. RARE will be applied to these sites where research shows the presence of listed species. COLD is proposed for removal where research shows it has never been an existing use and does not presently exist. Instead of establishing objectives for the floodplain aquifer, the project will clarify where to apply existing standards for that effluent dominated reach downstream of VVWRA operations and upstream of Barstow.	Continued from 2015 List. The project proposes to: • Add BIOL and RARE to specific reaches of the River and its tributaries • Develop a Use Attainability Analysis to remove COLD designation for portions of the River • Amend the Implementation chapter to clarify use of existing objectives for purposes of permitting in a portion of the river The project is scheduled to be presented as a workshop in Winter/Spring 2019, with consideration before the Water Board in May or June 2019.

Table 3 – Draft 2018 Triennial Review Proposed Topics – No Priority Assigned (June 22, 2018)

Topic	Description	Status
Site Specific water quality objectives for Mojave groundwater sub-basins	Interested parties, especially authors of Salt & Nutrient Management Plans required by State Water Board's Recycled Water Policy, are assessing the assimilative capacity in portions of the Mojave groundwater basin for Total Dissolved Solids (TDS) and nitrogen. The Taste and Odor Threshold for drinking water is the Secondary Maximum Contaminant Level for TDS and is the current applicable Water Quality Objective (WQO). Where TDS and nitrogen concentrations exceed WQOs, or are projected to exceed WQOs, Water Board staff will evaluate whether more control measures are needed and/or whether it is appropriate to consider site-specific objectives for portions of the Mojave groundwater basin. Additionally, some stakeholders are interested in preserving higher quality groundwater and support development of more protective groundwater sub-basin objectives to limit discharges of TDS and nitrogen. (Perhaps using Region 8's "Groundwater Management Zones" with "maximum benefit objectives" as a model for Region 6.) This project would focus on the Mojave groundwater Basin and sub-basins. Staff will use available data to evaluate groundwater quality, assimilative capacity, effects of climate change, and the ability to maintain higher quality waters for specific groundwater sub-basins. Staff will evaluate the data and recommend whether it is appropriate to set specific WQOs. The Resource Needs estimate does not include producing a basin plan amendment.	Continued from 2015 List. An initial examination of groundwater protection needs in the Mojave Basin and sub-basins was completed November 2017. Further investigation and analysis are ongoing and necessary to develop recommendations related to establishing groundwater quality site-specific objectives.

Table 3 – Draft 2018 Triennial Review Proposed Topics – No Priority Assigned (June 22, 2018)

Topic	Description	Status
Eagle Lake "building moratorium"	Amend the Basin Plan to lessen restrictions on building density for septic systems. This topic may be addressed by incorporating State Water Board's new Onsite Wastewater Treatment Systems Policy.	Continued from 2015 Triennial Review Topic List
Biotic Ligand Model for copper	Incorporate the USEPA national criteria for copper into water quality standards program using the Biotic Ligand Model.	Continued from 2015 Triennial Review Topic List
Revise PCPs water quality objectives	The USEPA recommends a revision of water quality objectives for pentachlorophenol (PCPs), where appropriate. The USEPA believes existing objectives are not sufficiently protective of early life stages of salmonids.	Continued from 2015 Triennial Review Topic List
Remove two beneficial uses from Piute Ponds wetlands	This topic would involve removal of Groundwater Recharge (GWR) and Agricultural Supply (AGR) beneficial uses from the Piute (also known as Paiute) Ponds and wetlands in the Amargosa Creek watershed eastern Los Angeles County. The ponds and wetlands are maintained with effluent from the Los Angeles County Sanitation District No. 14 (Lancaster) wastewater treatment facilities.	Continued from 2015 Triennial Review Topic List

Table 3 – Draft 2018 Triennial Review Proposed Topics – No Priority Assigned (June 22, 2018)

Topic	Description	Status
Program Manager	The Basin Planning Program Manager participates in State/Regional Water Board Roundtable activities, and workplan development, provides information to the public, etc.	The Program Manager's duties are ongoing.
2021 Triennial Review	Prepare the 2021 Triennial Review staff report and priority list. Host scoping meetings and hearings, as necessary, for Water Board consideration.	To complete in November 2021
Miscellaneous work that will not directly result in Basin Plan amendments	Staff resources are needed for work such as: coordination with other states, other agencies, and Native American tribes regarding water quality standards; development and management of contracts related to planning; staff training, coordination with stakeholders involved with aquatic invasive species, etc.	Miscellaneous planning related work is ongoing.

Table 3 – Draft 2018 Triennial Review Proposed Topics – No Priority Assigned (June 22, 2018)

Topic	Description	Status
Clarify Lahontan Water Board policy on package plants	The current Basin Plan indicates all package plants will be regulated under Waste Discharge Requirements (WDRs). Los Angeles County (and potentially other counties and local municipalities) believes small aerated package plants are considered "alternative" systems and are authorized under their local authority and do not require additional authorization from the Water Board. Clarification on the applicability and specific authorization is necessary and may result in a Basin Plan amendment, clarification memo, or through Water Board approvals of Local Area Management Plans	Continued from 2015 Triennial Review Topic List
Editorial revisions, factual corrections, and incorporation of adopted State Water Board policies	Miscellaneous corrections and improvements, such as: • Correcting the incorrect square mile number for the size of the region • Features that are in the wrong watershed • Consistent use of terms • Correct references to new policies and plans Consider a format change from two to one column of text, similar to Region 5. Some of these actions may be incorporated into larger amendments for purposes of resource efficiency.	Continued from 2015 Triennial Review Topic List

Table 3 – Draft 2018 Triennial Review Proposed Topics – No Priority Assigned (June 22, 2018)

Topic	Description	Status
Region-wide approach to TDS water quality objectives for surface waters	Site specific TDS objectives for surface water were developed based on limited samples and protect/maintain high quality water but are typically more stringent than needed to protect beneficial uses. Development of the original TDS objectives did not consider the effects of a changing climate on water quality objectives (WQOs). Two possible options are proposed: (A) Adopt a regionwide TDS WQO that would supersede the existing site specific objectives. (B) Adopt new site specific objectives for TDS that are based on protection of beneficial uses, and adopt a more stringent value, if applicable that is based on new data, for maintaining high quality water.	Continued from 2015 Triennial Review Topic List