

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION**

**MEETING OF MAY 13, 2021
VIDEO AND TELECONFERENCE ONLY**

ITEM 8
BACTERIA WATER QUALITY OBJECTIVES EVALUATION PROJECT

CHRONOLOGY	
November 9, 1995	Lahontan Regional Water Quality Control Plan (Basin Plan) adopted by Lahontan Water Board with regionwide bacteria objective of 20 cfu fecal coliform/ 100 mL for all surface waters in the Lahontan Region. Previously the objective applied to ten specifically identified watersheds which were identified as valuable recreation and drinking water resources.
May 29, 2000	USEPA approves 1995 Basin Plan. The approval letter indicates the Water Board should consider updating to an <i>E. coli</i> -based water quality objective.
November 12, 2014	Board agenda item presents a status report on bacteria sampling and analysis in an effort to characterize bacterial water quality across the region. The informational item includes discussion for the potential for future actions pertaining to bacteria water quality objectives by the State Water Board.
August 7, 2018	State Water Board adopts statewide <i>E. coli</i> bacteria water quality objective for the specific protection of the REC-1 beneficial use in all California surface waters where the use is designated (Resolution 2018-0038).
November 15, 2018	Lahontan Water Board adopts 2018 Triennial Review. Top basin planning priority identified to “Evaluate Bacteria Water Quality Objectives.”
January 13, 2021	<p>Bacteria Water Quality Objectives Evaluation Project Board workshop.</p> <p>Staff presented the history of bacteria water quality objectives in the Lahontan Region, and the considerations staff used to evaluate the objectives applicable to the Lahontan Region. Staff recommended pursuing a Basin Plan Amendment to update bacteria regulations in the Region, and staff presented a variety of potential options for this amendment.</p> <p>The Board was unanimous in their support for a Basin Plan Amendment. However, the Board directed staff to return to them with more information about the State Antidegradation</p>

CHRONOLOGY

Policy (State Board Resolution 68-16) and more details about several project options presented during the January Workshop.

BACKGROUND

The 2018 Triennial Review included as its top priority that staff Evaluate Bacteria Water Quality Objectives.

The numeric bacteria water quality objective (WQO) in the Water Quality Control Plan for the Lahontan Region (Basin Plan) is 20 colony forming units (cfu) fecal coliform per 100 milliliters (mL) of water (fecal coliform WQO). The 1975 Basin Plan for the North Lahontan Basin applied this objective to ten water bodies. The 1995 Basin Plan extended the fecal coliform WQO for all surface waters regionwide. USEPA approved the Basin plan in 2000.

The fecal coliform WQO level was developed as part of the 1968 National Technical Advisory Committee (NTAC) guidance for desirable fecal coliform conditions in surface waters used as public water supply. That guidance was included in the State Board 1973 Guidance Memos for Development of the 1975 Basin Plans. While the guidance documents describe the 20 cfu fecal coliform level as appropriate for municipal supply, the 1975 plan assigned the REC-1 beneficial use when applying the fecal coliform WQO to the ten specific waterbodies. All other waterbodies were assigned a water quality objective of 200 cfu/100mL. In the 1995 Basin Plan the fecal coliform WQO applies to all surface waters and is not explicitly associated with a specific beneficial use. The 2000 USEPA approval of the 1995 Plan notes that fecal coliform objective is being applied to all surface waters for the protection of the MUN beneficial use.

The 2000 USEPA approval of the 1995 Plan notes that fecal coliform is outdated for use as a fecal indicator bacteria and the Lahontan Water Board should update the bacteria water quality objective to use *E. coli* as an indicator. In 2012 the USEPA released a recommendation for recreational water quality criteria. For fresh waters the recommended criteria included two options for *E. coli* levels, based on slightly different risk levels, or illness rates from contact recreation.

In the 2012 Triennial Review the Lahontan Water Board set as the number two basin planning priority a project to Revise Water Quality Objectives for Bacteria. In the same time frame, the State Water Board began a project to adopt statewide bacteria objectives, based on the USEPA recommendation, to protect the water contact recreation beneficial use (REC-1). The 2015 Triennial Review included Bacteria Water Quality Objective Revisions as priority number four. Work on this project was delayed in anticipation of the outcome from the State Water Board bacteria objectives project. With the 2018 State Water Board adoption of a statewide REC-1 bacteria water quality objective based on the 2012 USEPA recommended criteria, it became clear that staff should evaluate the impact, applicability, and relationship between the regionwide and statewide bacteria objectives and use that context to inform any recommended updates or revisions to the fecal coliform WQO. So, the 2018 Triennial Review listed as its top priority to Evaluate Bacteria Water Quality Objectives. The

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evaluation project, its conclusions, and subsequent project development are to be informed by current science, policy considerations, public engagement, and analysis of a large regional bacteria dataset.

In January 2021, the Lahontan Board heard a staff workshop about this project. The workshop presented the history of fecal bacteria water quality regulations in the region, provided the considerations used to evaluate the existing regulations, and made a recommendation for the Board to pursue a Basin Plan Amendment. Staff presented a variety of possible project options to complete the amendment. The Board supported pursuit of a Basin Plan Amendment but asked staff to return with more information related to the antidegradation policy and several of the project options contained in the January 2021 Staff Report.

ISSUES

The purpose of this Information Item is to provide an update about Project work in the first half of 2021. The presentation will include a recap of the January 2021 Board workshop, provide details about probable approaches to amend the Basin Plan bacteria regulations and provide information about antidegradation. The Board will be asked to indicate their preferred project option for further staff development and consideration.

DISCUSSION

Since the January 2021 Board Workshop, staff have developed three viable approaches for a Basin Plan Amendment. Work has included meeting virtually with project stakeholders, meeting with State Water Board and U.S. EPA counterparts, researching similar water quality projects and regulations in other States, and developing details of each probable approach to amend the Basin Plan. During these activities, staff determined that several of the Project Options presented to the Board in January were not practicable as Basin Plan Amendments. The details of the amendment approaches considered by staff are provided below, along with the reasoning for discontinuing pursuit of several of the January 2021 Project Options.

Approaches for a Basin Plan Amendment

Board discussion at the January 2021 workshop highlighted interest in three of the Project Options from the Staff Report. Those options were:

- Project Option 4: the creation of a benchmark for fecal bacteria in high-quality waters
- Project Option 5: elevation-based approaches to bacteria regulations
- Project Option 6: development of a new Beneficial Use (BU), or subset of an existing BU, protected by a new WQO for bacteria

Based on the discussion at the January 2021 workshop, staff have further investigated each of the January Project Options listed above as probable approaches to amend the Basin Plan. Additionally, staff also further investigated Project Option 1, which involves removing the fecal coliform objective from the Basin Plan and inserting the statewide *E. coli* WQO to protect the water contact recreation

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(REC-1) use. Staff have continued to pursue this approach because it is a viable amendment option which presents the least resource intensive process to amend the Basin Plan.

The next paragraph presents the reasons why pursuit of January Project Option 5 has been discontinued. Following this section, project “Core Values” and “Values to Consider” are included to help orient the reader to concepts central to project success. A discussion of several of the probable approaches to amend the Basin Plan then follow. This discussion concludes with a brief explanation of why the other Project Options presented to the Board in January are no longer being pursued.

January Project Option 5: elevation-based approaches & reasons for non-pursuit

Several Board members expressed interest in an elevation-based approach for a Basin Plan Amendment. Staff have determined two issues with such an approach as it was presented to the Board in January. The first issue is that bacteria sources are not uniformly distributed by elevation throughout the Lahontan Region, meaning that there are some high-elevation surface waters impacted by fecal bacteria, either from wildlife, recreation, or agricultural uses, while there are other, lower elevation waters which are not impacted by fecal bacteria pollution. A “blanket” bacteria regulation which offers more stringent protections to surface waters above a certain elevation would therefore not be in the best interests of the Lahontan Region, as certain low-elevation, high-quality surface waters would not receive the additional level of protection from fecal bacteria pollution.

The second issue with an elevation-based bacteria regulation is that the Board would need to determine the beneficial use that is being impacted at elevation to apply a new bacteria regulation. Staff have investigated an elevation-based BU and the determination is that there are no uses of water occurring only above a specific elevation in the Region which are not a) already captured by an existing use (e.g. REC-1), or b) are not also occurring in more lowland areas of Eastern California. Staff thus conclude that an elevation-based approach alone is not a viable approach to amend the Basin Plan.

Current Project “Core Values” and “Values to Consider”

Staff developed a list of “Core Values” and “Values to Consider” to aid the analysis of probable amendment options. “Core Values” are those which staff think the Basin Plan Amendment stemming from this project must satisfy to achieve successful water quality protections; “Values to Consider” are those which the Basin Plan Amendment might include but are not required as a project goal.

“Core Values”:

- Protect human health
- Follow EPA-established recommendations for indicator bacteria
- Remove challenges for Lahontan Region 303(d) water quality assessments

“Values to Consider”:

- Guidance for future permit analyses
- Additional protections for high-quality waters and uses in high-quality waters

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- Long term changes to bacteria water quality under less stringent regulations
- Retention of institutional memory
- Recognize the value of water quality to *enhance* BUs

All “Values” listed above may be changed as the project develops.

January Project Option 1: *E. coli*/REC-1 *only* approach

This approach continues to be considered because of the established approach with which it can be pursued as an amendment and due to some stakeholder interest. This option presents a path to a rapid resolution for this project, in part because this regulation already applies to Lahontan waters designated REC-1. Under this amendment approach, the fecal coliform regulation would be removed from the Basin Plan and the *E. coli*/REC-1 regulation would be inserted in its place. Because this regulation already applies to waterbodies designated as REC-1, the Board would not need to determine the surface waters that should be protected.

This project approach satisfies all the “Core Values” listed above. Other benefits include a swift resolution to the amendment process (allowing staff resources to be redeployed to other, important water quality projects), and uniformity in bacteria regulations across Water Board Regions. The disadvantages of this approach includes the removal of a highly protective water quality objective (fecal coliform) which was set by the Lahontan Board in years past and which recognizes the superior water quality conditions of some of the region’s surface waters. The Antidegradation Policy allows the lowering of high-quality waters when justified with findings consistent with the Antidegradation Policy, but in no case can water be degraded to a point that would unreasonably affect beneficial uses or violate water quality objectives. Currently, permitting actions may allow degradation of high-quality waters up to the fecal coliform objective. Under the *E. coli*/REC-1 only approach, the Board may allow degradation in high-quality waters up to the Statewide *E. coli* objective in waterbodies designated as REC-1, which is a less stringent numeric objective than the fecal coliform objective presently in the Basin Plan. Pursuing the *E. coli*/REC-1 approach for a Basin Plan Amendment would change the minimum level of protections for bacteria pollution in Lahontan surface waters.

January Project Option 4: High-quality waters benchmark approach

During the January Board workshop Board members remarked that more information on a high-quality benchmark approach was needed. Staff have engaged with counterparts at U.S. EPA and at the State Water Board about this approach to amending the Basin Plan. Staff have also found precedent in other states, such as Nevada, where regulatory thresholds designed to maintain high-quality water quality have been developed. Such thresholds are developed using existing water-quality data collected during ambient water quality monitoring or when processing a permit application where the regulator requires the dischargers to collect water quality data ahead of permit issuance.

Under the high-quality waters benchmark approach, the fecal coliform WQO and objective language would be removed from Chapter 3 of the Basin Plan and the WQO language pertaining to the Statewide *E. coli*/REC-1 would be inserted in its place. The

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E. coli/REC-1 regulation would provide water quality protections for every surface water where the REC-1 BU applies.

In addition to the *E. coli*/REC-1 regulation, the Water Board would establish a high-quality waters benchmark for *E. coli* indicator bacteria for specific surface waters that are high-quality for this pollutant. A high-quality waters benchmark could be established for individual waterbodies, or possibly for watersheds. The benchmark would be derived from data and information available for a surface water or system of surface waters to determine the highest water quality baseline. The goal of a high-quality waters benchmark for *E. coli* indicator bacteria is to aid future permit analyses and development of permit conditions and to preserve institutional memory regarding existing and historic Lahontan Region water quality conditions. When permit staff are determining whether a high-quality water would be degraded by an action, the permit staff could look to the benchmark for information on the baseline water quality for the particular waterbody. The benchmark would not be a water quality objective and would not be used in determining 303(d) list impairment determinations.

This project approach satisfies all the “Core Values” and “Values to Consider.” Major benefits include the development of a flexible approach to water quality regulations which protect human health but also seek to maintain high environmental quality. This approach also is nimble enough to resolve the Regions’ challenges with 303(d) assessments while maintaining institutional memory regarding bacteria water quality.

Resource and technical challenges exist in collecting and reviewing available data and information for so many waterbodies and while maintaining consistency with State practices in determining baseline high-quality waters. One of the benefits of a benchmark is for permitting actions for new or expanded discharges of bacteria to high-quality waters. Consistent with the Antidegradation Policy, these actions require a determination of baseline high-quality water to evaluate whether the action would degrade that high-quality water, and then in turn whether that degradation is justified. Absent a Basin Plan Amendment, baseline water quality for high-quality waters will continue to be determined at the time of the permitting action in high-quality waters. Bacteria Project staff have reviewed the frequency with which such permit analyses occur in Region 6 and conclude that the volume-of-permits-to-utility-of-more-complex-regulations ratio is small enough that this approach may not be advisable.

Drawbacks to this approach stem from the complexity of the approach: successful deployment will take clear communication both to Water Board regulatory staff and to external stakeholders, and the amendment will also take considerable staff resources to develop the high-quality benchmarks for the many, varied surface waters in the region. The approach will also require partnership with counterparts at the State Water Board and at U.S. EPA to shepherd the amendment to successful completion.

January Project Option 6: New BU & WQO approach

A new BU and WQO approach would satisfy all the project “Core Values” and all the “Values to Consider”. Staff have met with counterparts at U.S. EPA and the State Water Board to discuss this approach and these preliminary discussions supports staff’s determination that this approach is a viable option to amend the Basin Plan. The approach involves a tried and tested methodology to water quality regulation (i.e.,

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BUs and WQOs). Following this approach would result in an amendment to the Basin Plan that creates a new beneficial use in the Lahontan region and protects the new use with a WQO which recognizes the value of high-quality water conditions.

Under this approach, three overarching changes would be made to the Basin Plan. First, the fecal coliform WQO and objective language would be removed from Chapter 3 of the Basin Plan and the WQO language pertaining to the Statewide *E. coli*/REC-1 would be inserted in its place.

Second, a new BU would be added to Chapter 2 of the Basin Plan. The BU, currently being referred to as “**Backcountry Uses,**” would be defined in such a way as to account for activities involving intentional ingestion of filtered surface water or incidental ingestion of untreated surface waters and the value (e.g., cultural, aesthetic, psychological) of conducting these activities in watersheds with minimal human disturbance or superior water quality. Activities include, but are not limited to, swimming, bathing, camping, hunting, fishing, boating, hiking, white water activities, extraction of untreated waters for personal drinking or cooking, or other activities which interact with surface waters in natural or backcountry settings.

Backcountry Uses would be designated to surface waters where existing and potential environmental conditions support activities defined by the use. Identification of such surface waters would be a resource-intensive process. An elevation-based analysis of Lahontan Region surface waters may provide a useful starting point to determine where a new beneficial use might apply, as may information on hiking or backpacking destinations.

Third, a new WQO for *E. coli* fecal indicator bacteria would be added to Chapter 3 of the Basin Plan to protect **Backcountry Uses**. The new WQO would be tiered from the U.S EPA 1986 Ambient Water Quality Criteria for Bacteria and from the U.S. EPA 2012 Recreational Water Quality Criteria. Both criteria use a risk-based threshold to determine the water quality objective threshold. When developing the WQO for **Backcountry Uses**, the Water Board has discretion to select the appropriate illness risk threshold when relying on the mathematical methodology developed by U.S. EPA. The existing fecal coliform objective of the Lahontan Basin Plan translates to approximately two illnesses per thousand recreators.

A benefit of developing this approach for a Basin Plan Amendment is creation of a new BU and water quality protections focused on outdoor activities using surface waters in natural or minimally impacted settings. Such settings and environmental conditions foster desirable experiences and, as such, warrant protections beyond *E. coli*/REC-1 to maintain those conditions into the future. A new BU/WQO combination would recognize Lahontan surface waters which are valuable to society because of their relatively undisturbed, natural condition which is attractive to outdoor recreation, the pursuit of which brings valuable economic benefits to the Lahontan Region and results in benefits to the individual practitioner and also to wider society. Such activities often include incidental ingestion of untreated surface waters or intentional ingestion of filtered, untreated surface waters, and thus the associated water quality objective should be set a level which, if attained, would minimize the risks of illness to

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the water user and provide recreators in the Lahontan Region peace-of-mind when entering recreation-focused areas of the region.

A **Backcountry Uses** approach also resolves the 303(d) challenges that presently exist for the Board by removing the existing fecal coliform objective and by only applying more stringent water quality protections to surface waters designated with the new beneficial use.

Drawbacks with this approach include the resource-intensive process to develop the use and associated WQO, and then to designate the use in Lahontan surface waters. Such a process is likely to extend the project timeline past 2022. Development of a new beneficial use will also require further coordination and discussion with the State Water Board and U.S EPA. Staff resources may also be needed in the future to develop water quality objectives for other constituents if needed to protect the new beneficial use.

Other Project Options presented in January 2021: reasoning for non-pursuit

Other potential Basin Plan Amendment approaches were presented to the Water Board during the January 2021 meeting. Staff have investigated each option further and present reasons why these options are not recommended by Staff for a Basin Plan Amendment.

- Project Option 2: Amend the Basin Plan to include the Statewide *E. coli* WQO for the protection of REC-1. Amend the existing fecal coliform WQO to use *E. coli* FIB and apply the updated WQO specifically for the protection of the MUN BU.

While the history of the current water quality objectives suggests that the objective was established to protect the MUN use, recent scientific studies and analysis of the *E. coli* indicator have focused on the REC-1 use and the risk of human illness from incidental ingestion. In addition, drinking water protections in the California Code of Regulations are already in place to ensure that bacterial levels can be either filtered or treated to a level safe for drinking water supply.

- Project Option 3: Amend the Lahontan Region Basin Plan to include the Statewide *E. coli* WQO for the protection of REC-1. Amend the existing Basin Plan fecal coliform WQO to use *E. coli* FIB and apply only to specific regional surface waters

The project option has not been pursued further because it does not explicitly link the updated WQO with a beneficial use. This option would not resolve the challenges the Board presently faces with 303(d) assessments and would likely not provide the clarity of bacteria regulations that this project strives for.

- Project Option 7 a & b: a) Develop a new FIB WQO based on alternative fecal indicators; b) Develop new WQOs based on novel approaches to fecal bacteria water quality monitoring

These project options are no longer being pursued because of the staff resources, likely protracted timeline, and intensive scientific process that development of such an approach would require. Staff recognize that there may be novel approaches to fecal bacteria monitoring, but there is presently no new technology

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which is attainable and deployable in Region 6 in the timeframe of this project. Additionally, development of WQO thresholds based on new technologies are unlikely to be developed within a reasonable timeframe.

SUSTAINABLE GROUNDWATER MANAGEMENT ACT BASINS

The focus of this project is water quality objectives in surface waters regionwide. It is a planning effort and does not focus on any one discharge or any specific groundwater basin.

CLIMATE CHANGE RESPONSE

The goal of the Bacteria project will be to maintain, amend, or establish bacteria water quality objectives for the region's surface waters. Setting or maintaining a protective bacteria objective protects the quality of waters for the municipal and recreation beneficial uses, with ancillary benefits to the other key resources associated with surface waters in the Lahontan Region. This project will be consistent with [Resolution R6T-2019-0277](#), the Water Board's Climate Change Mitigation and Adaptation Strategy in the following key resources areas: (1) Protection of Wetlands, Floodplains, and Headwaters; (2) Infrastructure Protection; (3) Protection of Groundwater Quality and Supply; and (4) Protection of Headwater Forests and Promoting Fire Resilient Landscapes.

The outcome of this project may help to protect headwaters and protect infrastructure by reducing the treatment burden on water supply systems for waters designated with, and employed for, the municipal supply beneficial use, two of the key resource areas identified in the Resolution. As populations in California continue to expand to more rural areas of the Lahontan Region as a result of climate drivers such as sea level, increasing temperatures, and shortages of groundwater supply, this project may help to address potential issues associated with bacterial contamination of surface waters as the demand for recreational uses (REC-1) and municipal drinking water supplies (MUN) also increases.

PUBLIC OUTREACH/INPUT

Prior to January 2021 Board workshop

In anticipation of a high level of public interest in this project, staff worked with the Office of Public Participation (OPP) to engage interested parties regionwide. This effort began with a listserv-distributed survey in January 2020. The survey received almost 80 responses, which informed planning for four in-person public meetings in Victorville, Bishop, South Lake Tahoe, and Susanville. Unfortunately, those meetings were scheduled the week of the March shelter-in-place order as response to the Covid-19 Pandemic began and were consequently cancelled.

Staff re-grouped in May and sent out a second survey to gauge the pandemic-influenced interest and ability of interested parties to participate remotely in the bacteria project. Staff created a pre-recorded presentation that was distributed to the Basin Planning listserv and posted online in July. Two weeks later, staff hosted an

online public workshop and question and answer session attended by nearly 40 participants. Project staff were joined in this effort by the generous participation of staff from OPP, the Office of Information Management and Analysis, and numerous Lahontan Water Board employees. Participants in the online workshop included private citizens, Water Board employees, and representatives from public agencies, interest groups, and two native American tribes. Details of all the public outreach efforts are in section 5 of the staff report (Enclosure 2), as well as staff report appendices.

Outreach in preparation of the May Information Item

Since the January 2021 Board workshop, project staff have met with several key stakeholders to discuss possible options for a Basin Plan Amendment. Such meetings have enabled staff to answer questions about the project and provided a forum for interested members of the public to provide further feedback and suggestions about project options to staff.

Notice of this item was distributed via the Board Meeting listserv and the Basin Planning – Regionwide listserv.

PRESENTERS

Ed Hancock, Water Board, Environmental Scientist
 Elizabeth Beryt, Office of Chief Counsel, Attorney III

RECOMMENDATION

Pursue the new beneficial use & WQO approach (Option 6). This amendment will satisfy all the “Core Values” and “Values to Consider” for the project, and would result in a flexible approach to bacteria water quality regulation which recognizes the valuable economic activities that occur in the region, and the valuable environmental conditions which also exist in the Lahontan Region.

The *E. coli*/REC-1 approach (Option 1) would also be sufficient to achieve the project “Core Values” and would do so in an efficient timeframe. Such an approach would provide a less stringent level of water quality protection than waterbodies designated with a new beneficial use and would not meet all of the “Values to Consider”.

Staff ask the Board to provide direction on their preferred project option so that staff may begin Tribal Consultation and CEQA scoping.

ENCLOSURE	ITEM	BATES NUMBER
1	Water Board staff presentation (Ed Hancock, Elizabeth Beryt)	8 - 11

ENCLOSURE 1

Bacteria Water Quality Objectives Evaluation Project

May 2021 Update
Item 8



Elizabeth Beryt and Ed Hancock – May 13, 2021

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Overview of Presentation

- Recap of January 2021 Board Workshop
- “Core Values” and “Values to Consider”
- Information on Antidegradation Policy (Elizabeth Beryt)
- Options to amend to the Basin Plan
- Discussion

California Water Boards

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Recap of January 2021 Board Item

- History of bacteria objectives in R6
- Considerations when evaluating existing objectives
- Recommendation to pursue a Basin Plan Amendment
- Potential Project Options

California Water Boards

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Recap of comments from January meeting

- Support for pursuit of Basin Plan Amendment
- Questions about antidegradation
- Interest in a new Beneficial Use/water quality objective approach (Option 6)
- Interest in a high-quality waters benchmark approach (Option 4)
- Interest in an elevation-based approach (Option 5)

California Water Boards

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Basin Plan Amendment: “Core Values”

- Protect human health
- Follow US EPA indicator bacteria recommendations
- Remove challenges for 303(d) water quality assessments

California Water Boards

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Basin Plan Amendment: “Values to Consider”

- Guidance for future permit analyses
- Additional protections for high-quality waters and uses in high-quality waters
- Long term changes to bacteria water quality under less stringent regulations
- Retention of institutional memory
- Recognize the value of water quality to enhance BUs

California Water Boards

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Goal for today:

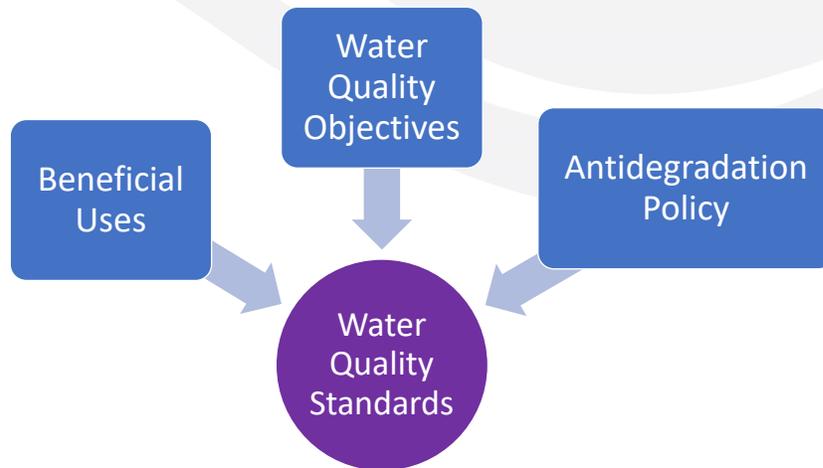
- Determine a Project Option to move forward to AB52 consultation and to CEQA Scoping...

Mission: (Im)possible?

Why Are We Discussing the Antidegradation Policy Today?

- Bacteria Evaluation Project
- January Board Meeting- Informational item describing options for a Basin Plan Amendment
- Question- How Can the Antidegradation Policy be used in conjunction with any of the proposed options to protect high quality waters?

Water Quality Standards



California Water Boards

Antidegradation Policy

- State Antidegradation Policy (State Water Board Resolution 68-16)
 - High quality waters must be maintained unless a lowering is justified
- Federal Antidegradation (40 C.F.R. 131.12)
 - Tier 1: protects existing uses
 - Tier 2: protects high quality waters.
 - Tier 3: protects Outstanding National Resource Waters (ONRWs)
- Some Regional Board Activities Requiring Antidegradation Review: Planning and Permitting

California Water Boards

What is Antidegradation About?



Summary of Core Analysis- Baseline for “High Quality” Water

- The baseline quality is the best quality of the receiving water that has existed since 1968 (the date of the adoption of the state antidegradation policy), unless:
 - (1) the relevant objective was adopted at a later date, or
 - (2) degradation was already authorized in a previous board action through an appropriate antidegradation analysis.
- A water body that is degraded today may be high quality for purposes of an antidegradation analysis
- The water body may be high quality for some pollutants and not for others.

Summary of Core Analysis- Maximum Benefit

- When authorizing degradation in high quality waters, the board must determine that the degradation is justified by its benefits
- State Policy: any change must be consistent with the maximum benefit to the people of the State
- Federal Policy: allowing lowering of water quality must be necessary to accommodate important economic or social development in the area in which the waters are located.
 - Includes an analysis of practicable alternatives that would prevent or lessen the degradation associated with the proposed activity

Summary of Core Analysis: Best Practicable Treatment and Control (BPTC)

- When authorizing degradation, the board must find that the degradation caused by the discharge is controlled through best practices

Summary of Core Analysis- Protecting Beneficial Uses

- At a minimum, any degradation may not lower the quality of the water below the water quality standards

Antidegradation Analysis Key Elements

- Evaluate baseline for determining “high quality” water
- Evaluate the level of degradation
- Evaluate whether the degradation would exceed water quality objectives (not allowed)
- Evaluate whether the degradation is justified by its benefits
- Evaluate whether the discharge is controlled by best practices

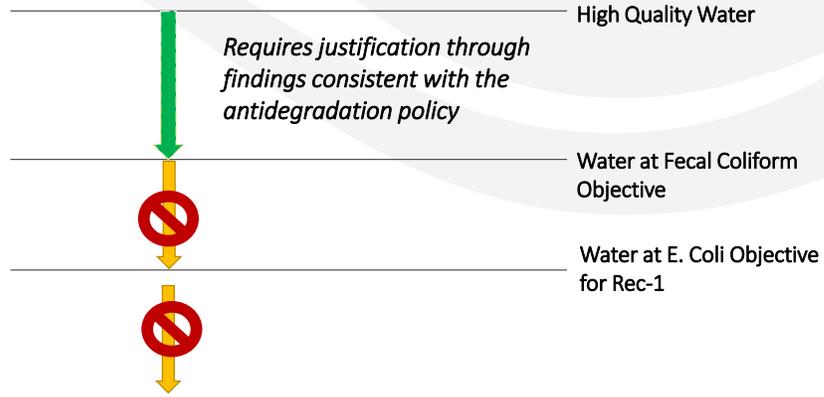
Antidegradation Analysis Challenges

- Parameter by parameter analysis specific to waterbody and discharge
- Level of analysis
- Difficulty in assessing “baseline” and level of degradation
 - Availability of water quality data
 - Sheer number of water body and pollutant combinations
 - Staff Resources

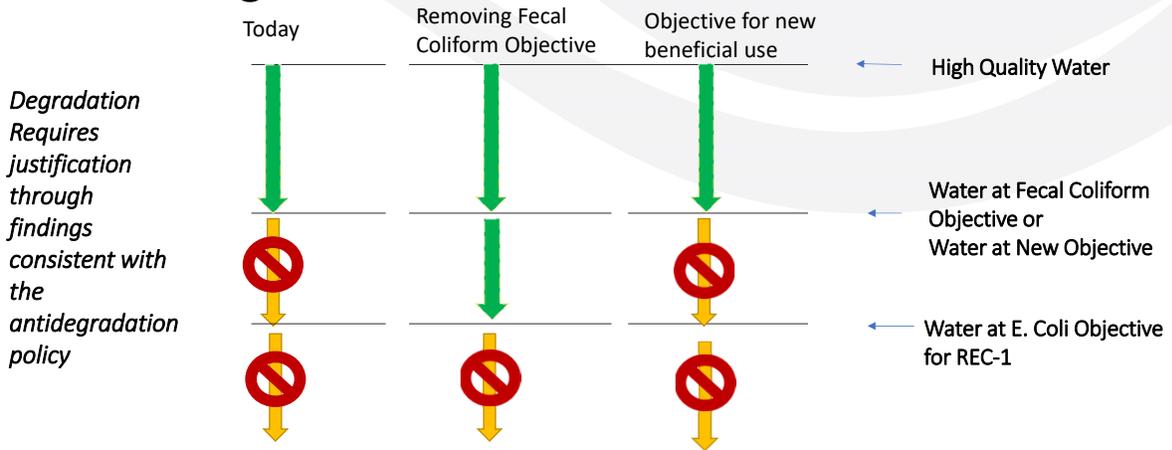
Bacteria Basin Plan Amendment and the Antidegradation Policy

- When Lahontan Staff propose a Basin Plan Amendment to the Board, the staff report will discuss whether the planning action is consistent with the Antidegradation Policy
- After Board adoption of a Basin Plan Amendment, permitting actions and other activities will still need to be consistent with the Antidegradation Policy

Bacteria and Antidegradation- Today



Bacteria Evaluation Project Options and Antidegradation for Permit Writers



Project Options which gained Board attention in January workshop:

- High-quality waters benchmark approach (January Option 4)
- Elevation-based approach (January Option 5)
- Beneficial Use/WQO-based approach (January Option 6)

Elevation-based Option (January #5)

- Issues:
 1. Uses and potential water quality impacts are not uniformly distributed by elevation
 - some low elevation zones are minimally impacted by bacteria; some high elevation zones are potential highly impacted
 2. What is the beneficial use that is protected at elevation?
- Still potential for elevation to play a part (more on this later!)

Options for Basin Plan Amendment

- ***E. coli*/REC-1 WQO only** (January Project Option 1)
- **High-quality waters benchmark** with *E. coli* REC-1 WQO (January Project Option 4)
- **New BU and WQO** with *E. coli* REC-1 WQO (January Project Option 6 (A or B))
 - A version of Project Option 5 could fit here

E. Coli/REC-1 *only* approach

- Remove fecal coliform WQO from Basin Plan
- Insert State Water Board *E. coli* REC-1 WQO language
- All waters designated with REC-1 Beneficial Use are protected with *E. coli* WQO
- Integrated Report only assesses data for the REC-1 WQO

High-quality waters benchmark approach

- Remove fecal coliform/insert Statewide *E. coli*/REC-1 language
 - All waters designated with REC-1 Beneficial Use are protected with *E. coli* WQO
- Develop high-quality water benchmarks for bacteria applicable to specific watersheds (identified at time of BPA)
- Benchmarks useful for permit analyses, institutional memory retention, maintenance of high-quality water resources
- Integrated Report only assesses data for the REC-1 WQO

New Beneficial Use and WQO approach

- Remove fecal coliform/insert Statewide *E. coli*/REC-1 language
 - All waters designated with REC-1 Beneficial Use are protected with *E. coli* WQO
- Create a new beneficial use, designate waters with that use, and create a bacteria WQO associated with that use
- Integrated Report assesses data for all applicable bacteria WQO/BU combos



New Beneficial Use and WQO approach (cont'd)

- **Backcountry Uses:** A new beneficial use that would account for activities involving intentional ingestion of filtered surface waters or incidental ingestion of untreated surface waters in watersheds and the value of conducting these activities in watersheds with minimal human disturbance or superior water quality.
- **New *E. coli* WQO** tiered off US EPA Recreational Water Quality Criteria risk calculations

Benefits of Probable Approaches

<i>E. coli</i> /REC-1 only	High-quality Benchmark	New Beneficial Use + WQO
<ul style="list-style-type: none"> • Straightforward regulation consistent with Statewide objectives • Simplicity of Basin Plan amendment development 	<ul style="list-style-type: none"> • Retains institutional memory • Data derived benchmark specific to individual waterbodies 	<ul style="list-style-type: none"> • Retains institutional memory • Recognition of environmental values and destination recreation of Lahontan Region • Established Clean Water Act process for water quality regulation

Challenges of Probable Approaches

<i>E. coli</i> /REC-1 only	High-quality Benchmark	New Beneficial Use + WQO
<ul style="list-style-type: none"> • Loss of institutional memory • Removes stringent numeric WQO; changes minimum level of protection in Basin Plan 	<ul style="list-style-type: none"> • May not ease or improve antidegradation analyses • Communication challenges • Novel approach • Potential for unforeseen circumstances • Potentially long BPA process 	<ul style="list-style-type: none"> • Definition of use • Determination of risk threshold • Potential of unforeseen circumstances and obligations unrelated to bacteria • Potentially long BPA process

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Staff Recommendation

- **Pursue the ‘New Beneficial Use & WQO’ approach**
- *E. coli*/REC-1 only approach could also be considered for pragmatic reasons

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Discussion and decisions

- Questions/Comments/Concerns?
- Mission reminder: input on a Project Option to move forward to the next step
- Not-so-distant-future: Basin Plan Amendment (2022?)