



## Central Sierra Environmental Resource Center

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### Draft Water Quality Control Plan Part 3 - Bacteria Provisions

This comment letter is submitted in response to the State Water Resources Control Board's (SWB) proposed Draft Part 3 of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California – Bacteria Provisions and a Water Quality Standards Variance Policy.

#### Background

The Central Sierra Environmental Resource Center (CSERC) is a non-profit environmental organization located in Tuolumne County that has worked to protect fish, wildlife, and water for 26 years in the Northern Yosemite Region of the Central Sierra Nevada. As part of our Center's efforts to protect water in the region, our staff has conducted water quality monitoring within the Stanislaus National Forest in Water Contact Recreation REC-1 designated streams and rivers since 2009, specifically focusing on monitoring water quality conditions in key livestock grazing areas within the forest. We measure fecal coliform levels to compare to the Central Valley Regional Water Board (CVRBW) Basin Plan standards and measure *E. coli* levels to compare to US Environmental Protection Agencies (EPA) recommended standards. Our Center has provided this data to the CVRWB, and more recently we have submitted this data to California Environmental Data Exchange Network (CEDEN). Results from CSERC's water sampling efforts in 2009-2010 are being used to support the proposal to add several forest streams to the 303(d) list of impaired water bodies (for the 2014-2016 Integrated Report) for exceeding the standards for indicator bacteria under the REC-1 designation.

Our Center would first like to convey our support of the SWB proposing a more streamlined approach to monitoring bacteria across the state. Our staff agrees with many of the SWB's recommendations in the draft document including:

- Consistency with EPA’s 2012 Recreational Water Quality Criteria recommendations for the indicator bacteria used (*E. coli*) for the Water Quality Control Plan’s Bacteria Water Quality Objective for REC-1.
- Use of the EPA’s more conservative estimated illness rate of 32 per 1,000 water contact recreators with a rolling geometric mean (GM) of 100 cfu/100 mL for *E. coli* and a statistical threshold value (STV) of 320 cfu/100 mL for *E. coli*, and
- Use of a rolling average for calculating the GM instead of discrete time periods.

However, our staff has several concerns regarding the proposed provisions, and we ask that the SWB consider addressing these concerns before approving the Bacteria Provisions section of the Water Quality Control Plan.

## **1. Limited Water Contact Recreation (LREC-1) Beneficial Use**

Our staff understands that LREC-1 was originally used in the Los Angeles region for waterbodies with concrete-lined channels, fencing to restrict public access, and often very minimal flow. However, it appears the SWB intends to give RWBs the authority to designate any stream or river as a LREC-1 if the waterbody has “very shallow water depth” or if the waterbody has “restricted access”. This language is very vague.

As Water Board staff are aware, any stream will have varying depths in just a short length, and over a considerable distance, stream depth may vary greatly. A beneficial use designation based on water depth would require on-the-ground assessment of individual waterbody segments to determine appropriate designation. Our center is not clear how Regional Water Boards (RWB) intend to determine if individual streams or river reaches are LREC-1 waterbodies based on depth, especially for stream and rivers that may only qualify for LREC-1 designation seasonally, or only qualify for LREC-1 during certain water year types (e.g., dry or critically dry years). For example, a pool habitat most often will have deeper water than a riffle habitat within the same reach, *so how will a stream or river reach be determined to be very shallow? Will individual water depth measurements be taken throughout a stream reach to determine average depth? Will the deepest area of a stream reach (e.g., pools) be measured to determine appropriated beneficial use designations based on water depth? Or will the shallowest areas of a reach be measured (e.g., riffle) to determine if a reach should be designated as LREC-1 based on water depth?*

In short, our center urges the SWB to really consider how the LREC-1 designation will be feasibly implemented if the requirement for the beneficial use is based on whether or not a waterbody is “very shallow”, which is an arbitrary and highly variable condition of a waterbody. Our center understands that designation of LREC-1 status would be subject to review and approval by both the SWB and EPA once an attainability analysis is conducted by the RWB.

However, we ask that the SWB provide more clarity and detail in the plan on how water board staff will determine LREC-1 designation based on “very shallow water depth”.

Our staff also urges the SWB to provide more detail in the Water Quality Control Plan describing bacteria objectives for LREC-1. We understand that the RWBs will determine appropriate bacteria thresholds for LREC-1, and that they will be “**less stringent** Water Quality Objectives (WQO) for bacteria than the previously applicable bacteria WQO for the REC-1 use”, however, **we urge the SWB to recommend thresholds for LREC-1 so that there is consistency across regions, and also define what “less stringent” WQO for bacteria would be under LREC-1.**

## **2. Bacteria Water Quality Objectives for REC-1 Beneficial Use – Geometric mean**

Although our center does not oppose the SWB recommendation to use a rolling average for the GM for REC-1, **we do not agree with changing the Bacteria WQO’s GM requirement for REC-1 from four weeks to six weeks.** Using a six-week period to calculate a rolling GM may not accurately reflect surges or pulses in waterbody contamination, especially when bacteria pollution comes from non-point sources which are often highly variable from week-to-week.

In our monitoring efforts on the Stanislaus NF we often see high levels of bacteria pollution when livestock congregate near waterbodies, but once they are herded away or move on their own away from the stream reach, then bacteria levels can decrease substantially. That did not change the fact that the water may have been significantly contaminated for a week or two, and perhaps longer. We have also observed that when livestock are gathered at the end of the grazing season in an enclosure adjacent to a stream, bacteria levels often increase dramatically. Our Center took a single sample at such a site that was 30,000 mpn/100 mL of fecal coliform. With these harmful conditions to water, contact recreational visitors would be better represented by utilizing a rolling average over a four-week period instead of a six-week period.

## **3. Implementation Provisions – Reference Condition/Natural Source Exclusion (TMDL)**

Our Center fully agrees with the SWB proposing approaches to determine natural and anthropogenic sources of bacteria within a waterbody as part of the TMDL process. On Forest Service lands in particular, we have found that fecal coliform and *E. coli* concentrations at a reference site (Bourland Creek in the Bourland Research Natural Area, where cattle are excluded from the headwaters and upper reaches of Bourland Creek) are consistently low throughout the grazing season -- suggesting wildlife and human contributions are much less of contributors to bacteria, at least on public forest lands.

In addition, our center struggles in our own water quality monitoring to be able to find “no livestock present” reference streams on public lands, since livestock grazing is so prolific across the majority of public lands. We emphasize to the SWB that although we agree with defining reference conditions and natural sources of bacteria, that in many regions such as

the Sierra Nevada, it's often very difficult to find areas that are excluded from anthropogenic sources of contamination.

We also urge the SWB to clearly define "natural" and "anthropogenic" sources in the Bacteria Provisions section of the plan. Specifically, our staff would like clarification from the SWB on the definition of livestock grazing on public lands in regards to the bacteria provisions and TMDLs. Our staff assumes that the SWB defines livestock grazing on public lands as an anthropogenic source, since livestock are not a natural component of California's ecosystems. However, we would like clarification of this.

#### **4. Implementation Provisions - High Flow Suspension for REC-1 Beneficial Use**

Our Center understands the logic behind the proposed high flow suspension for REC-1 since water contact recreators since high flows, in theory, are conditions that reflect unsafe conditions for REC-1 uses. However, we would like to point out that many water contact recreators are in fact recreating during high flow conditions. In our region, kayakers and rafters utilize high flow events. Accordingly, to suspend the REC-1 beneficial use during high flows because these conditions reflect unsafe conditions for recreators does not mean that recreators are not using these waterbodies.

#### **5. Implementation Provisions - Seasonal Suspension for REC-1 Beneficial Use**

Like the high flow suspension, the proposed seasonal suspension for REC-1 is generally reasonable, especially when waterbodies are at temperatures at or near freezing which constitutes very unsafe conditions for water contact recreators. However, as mentioned in the previous section, "unsafe conditions" do not necessarily mean that recreators are not still recreating in waterbodies.

In addition, our staff urges the SWB to clarify what constitutes "low water flows" and "low water temperatures" that would be considered conditions that are "**inapplicable**" for water contact recreators. In our region, especially during this time of year, anglers and swimmers recreate in mountain streams and rivers driven this time of year by snowmelt-- which have low water temperatures. In addition, backpackers, hikers and campers utilize waterbodies with both low water flows and low water temperatures in the mountains to not only drink from, but also to rinse their hands, rinse their face, bathe, and even wash dishes. Based on these examples waterbodies with "low water flows" and "low water temperatures" are very much used by water contact recreators.

**Therefore, our center does not support the seasonal suspension of REC-1 under "low water flows" or "low water temperature" conditions.** As we have described in the previous paragraph, in our region, low water flows and low water temperature conditions are "applicable" for water contact recreators and do not warrant seasonal suspension of REC-1.

## **6. Water Quality Standards Variance Policy**

Our Center is not supportive of a water quality variance policy for bacteria. A variance policy would allow livestock grazing activities to pollute stream and rivers on public lands with minimal oversight and accountability.

### **Conclusion**

#### **Our Center supports:**

- Using *E. coli* for the Water Quality Control Plan's Bacteria Water Quality Objective for REC-1.
- Use of the conservative estimated illness rate of 32 per 1,000 water contact recreators with a rolling GM of 100 cfu/100 mL for *E. coli* and a STV of 320 cfu/100 mL for *E. coli*.
- Use of a rolling average for calculating the GM instead of discrete time periods.
- High flow suspension.
- Seasonal suspension under freezing temperature conditions.
- Reference condition/Natural Source Exclusion for TMDLs. However, our center urges the SWB to clearly define "natural" and "anthropogenic" sources in the Bacteria Provisions section of the plan. Specifically, our staff would like clarification from the SWB on the definition of livestock grazing on public lands in regards to the bacteria provisions and TMDLs.

#### **Our Center does not support:**

- LREC-1 based on "very low water depths". Very low water depth is subjective and a vague condition that does not often reflect the conditions of an entire waterbody segment. Urge SWB to clarify and revise the language in the LREC-1 section.
- No recommendations by the SWB for LREC-1 thresholds.
- No definition for what "less stringent" WQO for bacteria would be under LREC-1.
- 6 week rolling average to calculate GM for REC-1. Our Center urges the SWB to use a 4-week rolling average to calculate GM for REC-1.
- Seasonal suspension under "low water flow" or "low water temperature" conditions for REC-1. As we have demonstrated, water contact recreators are still recreating and contacting water in these conditions, therefore they are not reflective of use.
- Variance policy for bacteria.

Thank you for considering our comments and concerns. Please contact our Center if you have any questions related to the input we have provided in this letter.

Sincerely,



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