TAHOE REGIONAL PLANNING AGENCY

Mail
PO Box 5310
Stateline, NV 89449-5310

Location
128 Market Street
Stateline, NV 89449

Contact
Phone: 775-588-4547
Fax: 775-588-4527
www.trpa.gov

STAFF REPORT

Date: November 3, 2025

To: Threshold Update Initiative Stakeholders Working Group

From: TRPA Staff

Subject: Update to the Water Quality Threshold Standards

Summary and Staff Recommendation:
The Governing Board identified updating the environmental threshold carrying capacities (threshold standards) to incorporate the latest science and align with TRPA's policy goals as a priority in the 2025-2026 work plan. Staff will provide an overview of the proposal to restructure the water quality threshold standards in accordance with the adopted adaptive management structure. As described below, staff recommend maintaining the ten core water quality threshold standards, retaining 14 standards in the Code of Ordinances, and moving eight standards to performance measures.

Required Motions:
To recommend the proposal to the Governing Board, the Threshold Update Initiative Stakeholders Working Group must make the following motion based on the staff report:

1) A motion to recommend adoption of the water quality threshold standards as presented in Attachment A.

For the motion to pass, an affirmative vote of a majority of the quorum is required.

Threshold Update Initiative Stakeholders Working Group:
At its September 16, 2020, meeting, the Threshold Update Initiative Stakeholders Working Group reviewed and endorsed the proposed updates, subject to the agency providing the following items:

- A crosswalk to track the disposition of the threshold standards proposed for relocation to other parts of the system to ensure nothing is lost; (Attachment B)
- That TRPA addresses the narrative Aquatic Invasive Species standards in a timely manner. (Addressed May 2024)

Background:
In April 2019, the TRPA Governing Board adopted an adaptive management structure to guide updates to the threshold standards. This structure was modeled on recommendations from the Tahoe Science Advisory Council (Council) following its review of other natural resource management systems. Following the adoption of the structure, staff engaged the Council to support its implementation of the water quality threshold standards. The Council's recommendations built upon its prior work to promote best practices in the region. The recommendations included ensuring that the standards are specific, measurable, and outcome-based; that the effectiveness of actions is tracked independently; and that the intent of the standards is clearly communicated to stakeholders.

The Threshold Update Initiative Stakeholders Working Group considered the Council's recommendations and staff's proposed modifications at its September 2020 meeting and endorsed the proposal, subject to further review of additional information. The detailed rationale for the restructure begins on page 7 of Attachment C. At that time, the proposal included moving seven narrative AIS threshold standards into a statement of purpose within the standards' background documentation. These narrative AIS standards were subsequently replaced with specific, measurable standards for AIS control in May 2024.

At the upcoming meeting, staff will:

- Review proposed revisions to the water quality threshold standards;
- Provide the additional information requested by the working group; and
- Present the Council's recommendation to remove the phrase "Support actions to" from Standard WQ7 to clarify that the goal of the standard is the reduction of algae, not merely the support of actions toward that goal.

Contact Information:
For questions regarding this agenda item, please contact Dan Segan, Chief Science and Policy Officer, at dsegan@trpa.gov, (775) 589-5233.

To submit a written public comment, email publiccomment@trpa.gov with the appropriate agenda item in the subject line. Written comments received by 4 p.m. the day before a scheduled public meeting will be distributed and posted to the TRPA website before the meeting begins. TRPA does not guarantee written comments received after 4 p.m. the day before a meeting will be distributed and posted in time for the meeting.

Attachments:

A. Proposed edits to the water quality threshold standards (Redline)
B. Standard Crosswalk
C. Threshold Update Initiative Stakeholders Working Group 2020/9/16 Packet

Attachment A
Proposed edits to the water quality threshold standards (Redline)

THRESHOLD STANDARDS

Threshold standards establish the Environmental Improvement Program partners' shared goals for restoration and maintenance of the qualities of the Tahoe Region.

The adopted current threshold standards are stated below. The agency will maintain and update online inventories of the administrative status and disposition of each threshold standard.

WATER QUALITY

DEEP WATER (PELAGIC) LAKE TAHOE

~~NUMERICAL STANDARDS~~

WQ1) The annual average deep water transparency as measured by Secchi disk shall not be decreased below 29.7 meters (97.4 feet), the average levels recorded between 1967 and 1971 by the University of California, Davis.

WQ2) Maintain annual mean phytoplankton primary productivity at or below 52gmC/m2/yr.

LITTORAL LAKE TAHOE

~~NUMERICAL STANDARDS~~

WQ3) Attain turbidity values not to exceed three NTU.

WQ4) Turbidity shall not exceed one NTU in shallow waters of the Lake not directly influenced by stream discharges.

WQ5) Attain 1967-71 mean values for phytoplankton primary productivity in the littoral zone.

WQ6) Attain 1967-71 mean values for periphyton biomass in the littoral zone.

~~MANAGEMENT STANDARD~~

~~WQ7) Support actions to reduce the extent and distribution of excessive periphyton (attached) algae in the nearshore (littoral zone) of Lake Tahoe.~~

AQUATIC INVASIVE SPECIES

~~MANAGEMENT STANDARDS~~

WQ8) Prevent the introduction of new aquatic invasive species into the region's waters.

WQ9) No active aquatic invasive plant infestations in Lake Tahoe, adjacent wetlands, and tributaries, not including the Tahoe Keys.

WQ10) Reduce average aquatic invasive plant abundance in the Tahoe Keys by a minimum of 75% from the 2020 baseline year.

~~WQ11) Abate harmful ecological impacts resulting from aquatic invasive species.~~

~~WQ12) Abate harmful economic impacts resulting from aquatic invasive species.~~

~~WQ13) Abate harmful social impacts resulting from aquatic invasive species.~~

WQ14) Abate harmful public health impacts resulting from aquatic invasive species.

TRIBUTARIES

NUMERICAL STANDARDS

WQ15) Attain applicable state standards for concentrations of dissolved inorganic nitrogen.
WQ16) Attain applicable state standards for concentrations of dissolved phosphorus.
WQ17) Attain applicable state standards for concentrations of dissolved iron.
WQ18) Attain a 90 percentile value for suspended sediment concentration of 60 mg/l1.

SURFACE RUNOFF

NUMERICAL STANDARDS

WQ19) Achieve a 90 percentile concentration value for dissolved inorganic nitrogen of 0.5 mg/l1 in surface runoff directly discharged to a surface water body in the Basin.
WQ20) Achieve a 90 percentile concentration value for dissolved phosphorus of 0.1 mg/l1 in surface runoff directly discharged to a surface water body in the Basin.
WQ21) Achieve a 90 percentile concentration value for dissolved iron of 0.5 mg/l1 in surface runoff directly discharged to a surface water body in the Basin.
WQ22) Achieve a 90 percentile concentration value for suspended sediment of 250 mg/l1 in surface runoff directly discharged to a surface water body in the Basin.

GROUNDWATER

MANAGEMENT STANDARDS

WQ23 - WQ32) Surface runoff infiltration into the groundwater shall comply with the uniform Regional Runoff Quality Guidelines as set forth in Table 4-12 of the Draft Environmental Threshold Carrying Capacity Study Report, May, 1982. Where there is a direct and immediate hydraulic connection between ground and surface waters, discharges to groundwater shall meet the guidelines for surface discharges, and the Uniform Regional Runoff Quality Guide lines shall be amended accordingly.[‡]

OTHER LAKES

NUMERICAL STANDARD

WQ33) Attain existing water quality standards.

LOAD REDUCTIONS

MANAGEMENT STANDARDS

WQ34) Reduce fine sediment particle (inorganic particle size < 16 micrometers in diameter) load to achieve long-term pelagic water quality standards (WQ1 and WQ2).
WQ35) Reduce total annual phosphorus load to achieve long-term pelagic water quality standards (WQ1 and WQ2) and littoral quality standards (WQ5 and WQ6).
WQ36) Reduce total annual nitrogen load to achieve long-term pelagic water quality standards (WQ1 and WQ2) and littoral quality standards (WQ5 and WQ6).
WQ37) Decrease total annual suspended sediment load to achieve littoral turbidity standards (WQ3 and WQ4).

[‡] See attachment A

WQ38) Reduce the loading of dissolved phosphorus to achieve pelagic water standards (WQ1 and WQ2) and littoral quality standards (WQ5 and WQ6).

WQ39) Reduce the loading of iron to achieve pelagic water standards (WQ1 and WQ2) and littoral quality standards (WQ5 and WQ6).

WQ40) Reduce the loading of other algal nutrients to achieve pelagic water standards (WQ1 and WQ2) and littoral quality standards (WQ5 and WQ6).

WQ41) The most stringent of the three dissolved inorganic nitrogen load reduction targets shall apply:

i. Reduce dissolved inorganic nitrogen loads to pelagic and littoral Lake Tahoe from[2]:
   a) surface runoff by approximately 50 percent of the 1973-81 annual average,
   b) groundwater approximately 30 percent of the 1973-81 annual average, and
   c) atmospheric sources approximately 20 percent of the 1973-81 annual average.

ii. Reduce dissolved inorganic nitrogen loading to Lake Tahoe from all sources by 25 percent of the 1973-81 annual average.

iii. To achieve littoral water quality standards (WQ5 and WQ6).

[2] This threshold relies on predicted reductions in pollutant loadings from out-of-basin sources as part of the total pollutant loading reduction necessary to attain environmental standards, even though the Agency has no direct control over out-of-basin sources. The cooperation of the states of California and Nevada will be required to control sources of air pollution which contribute nitrogen loadings to the Lake Tahoe Region

Attachment B
Standard Crosswalk

TAHOE REGIONAL PLANNING AGENCY

Mail
PO Box 5310
Stateline, NV 89449-5310

Location
128 Market Street
Stateline, NV 89449

Contact
Phone: 775-588-4547
Fax: 775-588-4527
www.trpa.gov

Category ID #	Name of Standard	Standard Text	Notes
WQ1	Secchi Disk	The annual average deep water transparency as measured by Secchi disk shall not be decreased below 29.7 meters (97.4 feet), the average levels recorded between 1967 and 1971 by the University of California, Davis	Retain
WQ2	Phytoplankton Primary Productivity	Maintain annual mean phytoplankton primary productivity at or below 52gmC/m2/yr.	Retain
WQ3	Nearshore Turbidity (Stream Influence)	Attain turbidity values not to exceed three NTU.	Retain
WQ4	Nearshore Turbidity (No Stream Influence)	Turbidity shall not exceed one NTU in shallow waters of the Lake not directly influenced by stream discharges.	Retain
WQ5	Nearshore Phytoplankton Primary Productivity	Attain 1967-71 mean values for phytoplankton primary productivity in the littoral zone.	Retain
WQ6	Nearshore Periphyton Biomass	Attain 1967-71 mean values for periphyton biomass in the littoral zone.	Retain
WQ7	Nearshore Attached Algae	Support actions to reduce the extent and distribution of excessive periphyton (attached) algae in the nearshore (littoral zone) of Lake Tahoe.	Retain. Consider removal of "Support actions to." Science Council recommendation to clarify that the intent is to reduce algae, not just support actions that reduce.
WQ8	Aquatic Invasive Species Prevention	Prevent the introduction of new aquatic invasive species into the region's waters.	Retain.

Category ID #	Name of Standard	Standard Text	Notes
WQ9	Aquatic Invasive Species Abundance	No active aquatic invasive plant infestations in Lake Tahoe, adjacent wetlands, and tributaries, not including the Tahoe Keys	Retain. Updated May 2024
WQ10	Aquatic Invasive Species Distribution	Reduce average aquatic invasive plant abundance in the Tahoe Keys by a minimum of 75% from the 2020 baseline year.	Retain. Updated May 2024
WQ11	Nitrogen Concentration (Tributaries)	Attain applicable state standards for concentrations of dissolved inorganic nitrogen.	Remove. No state standards relate to dissolved inorganic nitrogen. https://www.waterboards.ca.gov/lahontan/water_issues/programs/basin_plan/docs/2022/ch5-laketahoe.pdf https://www.leg.state.nv.us/NAC/NAC-445A.html
WQ12	Phosphorus Concentration (Tributaries)	Attain applicable state standards for concentrations of dissolved phosphorus.	Remove. No state standards relate to dissolved phosphorus. https://www.waterboards.ca.gov/lahontan/water_issues/programs/basin_plan/docs/2022/ch5-laketahoe.pdf https://www.leg.state.nv.us/NAC/NAC-445A.html
WQ13	Iron Concentration (Tributaries)	Attain applicable state standards for dissolved iron.	Remove. No state standards relate to dissolved iron. https://www.waterboards.ca.gov/lahontan/water_issues/programs/basin_plan/docs/2022/ch5-laketahoe.pdf https://www.leg.state.nv.us/NAC/NAC-445A.html
WQ14	Suspended Sediment Concentration (Tributaries)	Attain a 90 percentile value for suspended sediment concentration of 60 mg/1.	Adopted CA state standard. https://www.waterboards.ca.gov/lahontan/water_issues/programs/basin_plan/docs/2022/ch5-laketahoe.pdf https://www.leg.state.nv.us/NAC/NAC-445A.html
WQ15	Nitrogen Concentration (Surface Runoff)	Achieve a 90 percentile concentration value for dissolved inorganic nitrogen of 0.5 mg/1 in surface runoff directly discharged to a surface water body in the Basin.	TRPA Code 60.1.3.A
WQ16	Phosphorus Concentration	Achieve a 90 percentile concentration value for dissolved phosphorus of 0.1 mg/1 in surface runoff directly discharged to a surface water body in the Basin.	TRPA Code 60.1.3.A

Category ID #	Name of Standard	Standard Text	Notes
	(Surface Runoff)		
WQ17	Iron Concentration (Surface Runoff)	Achieve a 90 percentile concentration value for dissolved iron of 0.5 mg/1 in surface runoff directly discharged to a surface water body in the Basin.	TRPA Code 60.1.3.A
WQ18	Suspended Sediment Concentration (Surface Runoff)	Achieve a 90 percentile concentration value for suspended sediment of 250 mg/1 in surface runoff directly discharged to a surface water body in the Basin.	TRPA Code 60.1.3.A
WQ19	Surface Discharge - Total Nitrogen	Surface runoff infiltration into the groundwater shall comply with the uniform Regional Runoff Quality Guidelines as set forth in Table 4-12 of the Draft Environmental Threshold Carrying Capacity Study Report, May, 1982. Where there is a direct and immediate hydraulic connection between ground and surface waters, discharges to groundwater shall meet the guidelines for surface discharges, and the Uniform Regional Runoff Quality Guide lines shall be amended accordingly. Surface Discharge: Total Nitrogen Maximum concentration 0.5 mg/l	TRPA Code 60.1.3.B
WQ20	Surface Discharge - Total Phosphate	Surface runoff infiltration into the groundwater shall comply with the uniform Regional Runoff Quality Guidelines as set forth in Table 4-12 of the Draft Environmental Threshold Carrying Capacity Study Report, May, 1982. Where there is a direct and immediate hydraulic connection between ground and surface waters, discharges to groundwater shall meet the guidelines for surface discharges, and the Uniform Regional Runoff Quality Guide lines shall be amended accordingly. Surface Discharge: Total phosphate Maximum concentration 0.1 mg/l	TRPA Code 60.1.3.B

Category ID #	Name of Standard	Standard Text	Notes
WQ21	Surface Discharger - Iron	Surface runoff infiltration into the groundwater shall comply with the uniform Regional Runoff Quality Guidelines as set forth in Table 4-12 of the Draft Environmental Threshold Carrying Capacity Study Report, May, 1982. Where there is a direct and immediate hydraulic connection between ground and surface waters, discharges to groundwater shall meet the guidelines for surface discharges, and the Uniform Regional Runoff Quality Guide lines shall be amended accordingly.Surface Discharge: Total iron Maximum concentration 0.5 mg/l	TRPA Code 60.1.3.B
WQ22	Surface Discharge - Turbidity	Surface runoff infiltration into the groundwater shall comply with the uniform Regional Runoff Quality Guidelines as set forth in Table 4-12 of the Draft Environmental Threshold Carrying Capacity Study Report, May, 1982. Where there is a direct and immediate hydraulic connection between ground and surface waters, discharges to groundwater shall meet the guidelines for surface discharges, and the Uniform Regional Runoff Quality Guide lines shall be amended accordingly. Surface Discharge: Turbidity Maximum concentration 20 JTU	TRPA Code 60.1.3.B
WQ23	Surface Discharge - Grease And Oil	Surface runoff infiltration into the groundwater shall comply with the uniform Regional Runoff Quality Guidelines as set forth in Table 4-12 of the Draft Environmental Threshold Carrying Capacity Study Report, May, 1982. Where there is a direct and immediate hydraulic connection between ground and surface waters, discharges to groundwater shall meet the guidelines for surface discharges, and the Uniform Regional Runoff Quality Guide lines shall be amended accordingly. Surface Discharge: Grease And Oil Maximum concentration 2.0 mg/l	TRPA Code 60.1.3.B

Category ID #	Name of Standard	Standard Text	Notes
WQ24	Discharge To Groundwater - Total Nitrogen	Surface runoff infiltration into the groundwater shall comply with the uniform Regional Runoff Quality Guidelines as set forth in Table 4-12 of the Draft Environmental Threshold Carrying Capacity Study Report, May, 1982. Where there is a direct and immediate hydraulic connection between ground and surface waters, discharges to groundwater shall meet the guidelines for surface discharges, and the Uniform Regional Runoff Quality Guide lines shall be amended accordingly. Runoff Discharged to Groundwater: Total Nitrogen Maximum concentration 0.5 mg/l	TRPA Code 60.1.3.B
WQ25	Discharge To Groundwater - Total Phosphate	Surface runoff infiltration into the groundwater shall comply with the uniform Regional Runoff Quality Guidelines as set forth in Table 4-12 of the Draft Environmental Threshold Carrying Capacity Study Report, May, 1982. Where there is a direct and immediate hydraulic connection between ground and surface waters, discharges to groundwater shall meet the guidelines for surface discharges, and the Uniform Regional Runoff Quality Guide lines shall be amended accordingly. Runoff Discharged to Groundwater: Total Phosphate Maximum concentration 1 mg/l	TRPA Code 60.1.3.B
WQ26	Discharge To Groundwater - Iron	Surface runoff infiltration into the groundwater shall comply with the uniform Regional Runoff Quality Guidelines as set forth in Table 4-12 of the Draft Environmental Threshold Carrying Capacity Study Report, May, 1982. Where there is a direct and immediate hydraulic connection between ground and surface waters, discharges to groundwater shall meet the guidelines for surface discharges, and the Uniform Regional Runoff Quality Guide lines shall be amended accordingly. Runoff Discharged to Groundwater: Total iron Maximum concentration 4.0 mg/l	TRPA Code 60.1.3.B

Category ID #	Name of Standard	Standard Text	Notes
WQ27	Discharge To Groundwater - Turbidity	Surface runoff infiltration into the groundwater shall comply with the uniform Regional Runoff Quality Guidelines as set forth in Table 4-12 of the Draft Environmental Threshold Carrying Capacity Study Report, May, 1982. Where there is a direct and immediate hydraulic connection between ground and surface waters, discharges to groundwater shall meet the guidelines for surface discharges, and the Uniform Regional Runoff Quality Guide lines shall be amended accordingly. Runoff Discharged to Groundwater: Turbidity Maximum concentration 200 JTU	TRPA Code 60.1.3.B
WQ28	Discharge To Groundwater-Grease And Oil	Surface runoff infiltration into the groundwater shall comply with the uniform Regional Runoff Quality Guidelines as set forth in Table 4-12 of the Draft Environmental Threshold Carrying Capacity Study Report, May, 1982. Where there is a direct and immediate hydraulic connection between ground and surface waters, discharges to groundwater shall meet the guidelines for surface discharges, and the Uniform Regional Runoff Quality Guide lines shall be amended accordingly. Runoff Discharged to Groundwater: Grease And Oil Maximum concentration 40.0 mg/l	TRPA Code 60.1.3.B
WQ29	Other Lakes	Attain existing water quality standards.	Removal of the other lakes header would expand the scope to Lake Tahoe and its tributaries. The Compact already requires attainment of federal, state, or local water quality standards.
WQ30	Fsp Load	Reduce fine sediment particle (inorganic particle size < 16 micrometers in diameter) load to achieve long-term pelagic water quality standards (WQ1 and WQ2).	Retain as EIP performance measure and monitored constituent. https://clarity.laketahoeinfo.org/Results/Detail/UrbanUplands https://webapps.usgs.gov/laketahoemap/
WQ31	Phosphorus Load	Reduce total annual phosphorus load to achieve long-term pelagic water quality standards (WQ1 and WQ2) and littoral quality standards (WQ5 and WQ6).	Retain as EIP performance measure and monitored constituent. https://clarity.laketahoeinfo.org/Results/Detail/UrbanUplands https://webapps.usgs.gov/laketahoemap/

Category ID #	Name of Standard	Standard Text	Notes
WQ32	Nitrogen Load	Reduce total annual nitrogen load to achieve long-term pelagic water quality standards (WQ1 and WQ2) and littoral quality standards (WQ5 and WQ6).	Retain as EIP performance measure and monitored constituent. https://clarity.laketahoeinfo.org/Results/Detail/UrbanUplands https://webapps.usgs.gov/laketahoemap/
WQ33	Ss Load	Decrease total annual suspended sediment load to achieve littoral turbidity standards (WQ3 and WQ4).	Retain as EIP performance measure and monitored constituent. https://clarity.laketahoeinfo.org/Results/Detail/UrbanUplands https://webapps.usgs.gov/laketahoemap/
WQ34	Dissolved Phosphorus Load	Reduce the loading of dissolved phosphorus to achieve pelagic water standards (WQ1 and WQ2) and littoral quality standards (WQ5 and WQ6).	Retain as EIP performance measure and monitored constituent. https://clarity.laketahoeinfo.org/Results/Detail/UrbanUplands https://webapps.usgs.gov/laketahoemap/
WQ35	Iron Load	Reduce the loading of iron to achieve pelagic water standards (WQ1 and WQ2) and littoral quality standards (WQ5 and WQ6).	The science council recently reviewed the water quality monitoring program and did not recommend adding iron to the monitoring program. https://www.tahoesciencecouncil.org/_files/ugd/c115bf_409feb134fe14c33a1acac3d0e136831.pdf
WQ36	Other Algal Nutrient Load	Reduce the loading of other algal nutrients to achieve pelagic water standards (WQ1 and WQ2) and littoral quality standards (WQ5 and WQ6).	The science council recently reviewed the water quality monitoring program and did not recommend adding additional nutrients to the monitoring program. https://www.tahoesciencecouncil.org/_files/ugd/c115bf_409feb134fe14c33a1acac3d0e136831.pdf

Category ID #	Name of Standard	Standard Text	Notes
WQ37	Dissolved Inorganic Nitrogen Load	The most stringent of the three dissolved inorganic nitrogen load reduction targets shall apply: i. Reduce dissolved inorganic nitrogen loads to pelagic and littoral Lake Tahoe from2: a) surface runoff by approximately 50 percent of the 1973-81 annual average, b) groundwater approximately 30 percent of the 1973-81 annual average, and c) atmospheric sources approximately 20 percent of the 1973-81 annual average. ii. Reduce dissolved inorganic nitrogen loading to Lake Tahoe from all sources by 25 percent of the 1973-81 annual average. iii. To achieve littoral water quality standards (WQ5 and WQ6).	Retain as monitored constituent. https://clarity.laketahoeinfo.org/Results/Detail/UrbanUplands https://webapps.usgs.gov/laketahoemap/

Attachment C

Threshold Update Initiative Stakeholders Working Group 2020/9/16 Packet