

1.8.6 Water Quality Subelement

Overview

Water quality is one of the environmental programs established by the 1987 Regional Plan. The pelagic (open water) and littoral (near-shore) standards are the two categories that define the Water Quality Threshold. The Water Quality Subelement established two goals and eighteen policies that provide direction for managing water quality as it relates to protecting beneficial uses and restoring transparency (i.e., lake clarity).

The first goal and associated policies were primarily adopted to:

- (1) regulate and control the water quality impacts associated with permitting development by specifying the concentration-based discharge standards and infiltration requirements for stormwater treatment,p
- (2) direct the retrofiting of private properties with Best Management Practices (BMPs),
- (3) prioritize the restoration of disturbed and degraded lands, and
- (4) increase protection and restoration efforts in Stream Environment Zones.

The second goal and associated policies were adopted to prohibit the discharge of wastewater, toxic waste, and solid waste into Lake Tahoe, its tributaries, and its groundwater resources. The principal focus of the current Water Quality Subelement was to establish and maintain water quality standards that protect drinking water and other designated contact and non-contact beneficial uses.

TRPA's Code of Ordinances currently provides five chapters that articulate the program's core regulations. They are Chapter 81 (Water Quality Control), Chapter 82 (Water Quality Mitigation), Chapter 83 (Source Water Protection), Chapter 25 (Best Management Practice Requirements), and elements of Chapter 64 (Grading Standards). The current regulations were designed to ensure that water quality is properly protected and/or enhanced consistent with the Water Quality Threshold.

Alternative 1—Continuation of Existing Regional Plan

The water quality management practices and regulations would not change under Alternative 1. The existing Code requirements would continue to be stipulated for the permitting of projects, including those findings that must be made to determine that a project is consistent with the Water Quality Threshold.

In Alternative 1, TRPA would not adopt the Total Maximum Daily Load (TMDL) program until it is adopted as part of the updating of the *Water Quality Management Plan for the Lake Tahoe Region (208 Plan)*. Therefore, no TMDL policies and implementation measures are contained under this alternative. The permitting of future projects would require that TRPA's existing water quality requirements be met, and when the TMDL is adopted, that California and Nevada's water quality standards be met, as well.

Alternative 2

Summary

Based on collaboration with other agencies and stakeholders during the Pathway process, the Regional Plan Update's first Water Quality goal would be the consolidation of both of the existing goals in this Subelement. The second goal would be new and based on a Pathway Desired Condition. The restated focus of the Water Quality Subelement's goals will be 1) the restoration of Lake Tahoe's clarity and 2) the protection of human and environmental health.

In order to enhance the achievement of the Water Quality Program's objectives, TRPA is proposing to amend its water quality Threshold standards, goals, and policies to merge to the greatest extent possible with the TMDL program developed by the Lahontan Regional Water Quality Control Board (Lahontan) and the Nevada Department Environmental Protection (NDEP).

The updating of the Regional Plan's water quality standards will incorporate TMDL targets and milestones for reducing the delivery of fine sediments (i.e., mineral particles less than 16 micrometers in diameter), nitrogen, and phosphorus to Lake Tahoe. The TMDL will set the annual load allocations for the maximum amount of fine sediment and nutrients that Lake Tahoe can assimilate and still achieve water quality and clarity standards. The Regional Plan Update will codify these actions consistent with the anticipated updating of the *Water Quality Management Plan for the Lake Tahoe Region (208 Plan)*.

Alternative 2 amends the Code to be a TMDL-guided Water Quality Program. It accomplishes this through a combination of regulation and incentives for restoration from the transfer of existing development rights.

As described in the Performance Review and Implementation Scheduling Subelement, Alternative 2 awards an incentive (i.e., additional Commercial Floor Area) to a jurisdiction when irrevocable commitments to construct new/upgrade existing stormwater treatment facilities (including life cycle maintenance) are funded and permitted. Several new policies would be introduced and many existing policies would be re-organized under Alternative 2 to conform the Water Quality Program with the adoption of the TMDL.

Goals, Policies, and Implementation Measures

(Note: the Water Quality Subelement's format differs from the other project descriptions in that each new policy statement is followed immediately by its associated implementation measure.)

The following policies and implementation measures would be advanced in support of this Subelement's first goal (to reduce the delivery of nutrients and fine sediment loads to Lake Tahoe, its tributaries, and groundwater resources). The following amendments have been proposed as essential implementation strategies by the TMDL:

- **New Policy:** Adopt TMDL load allocations and reduction targets for Fine Sediment, Total Nitrogen, and Total Phosphorus as the primary water quality

performance standard. Commercial, light industrial, multi-family, and roadway projects will be permitted under TMDL load reduction water quality findings. Private single-family residential projects will be reviewed against the updated concentration discharge standards for the one inch per hour storm.

- **Implementation Measures:** Amend Chapter 81, Discharge Limits section to incorporate new requirements. These new requirements will be based on the TMDL load allocations and reduction targets for Fine Sediment, Total Nitrogen, and Total Phosphorus. Employ these TMDL performance standards as the primary water quality findings to be satisfied in the permitting of projects.
- Amend the constituents and maximum concentrations under the Discharge Limits section of Chapter 81.
- Amend Chapter 25 to clarify the technical and design requirements for BMPs to achieve concentration discharge standards for the one inch per hour storm.
- **New Policy:** All BMPs will be re-designed and implemented to be compatible with current defensible-space requirements.
 - **Implementation Measures:** Amend Chapter 25 to require implementation of all applicable BMPs to be compatible with current defensible-space requirements.
 - Update the BMP Handbook to redesign BMPs so that they are compatible with current defensible-space requirements.
- **New Policy:** The technical evaluation and endorsement of BMPs will be established by an appropriate inter-agency water quality advisory committee (e.g., Regional Stormwater Monitoring Program (RSWMP) or Stormwater Quality Improvement Committee (SWQIC)).
 - **Implementation Measure:** Amend Chapter 25 to require that all BMPs be evaluated based on functional performance criteria such as TMDL pollutant source controls, hydrologic controls (reducing runoff volumes and velocities), and end-point stormwater treatment measures.
- **New Policy:** Require local jurisdictions to develop and adopt TMDL guided Stormwater Management Plans (SWMPs), Stormwater Load Reduction Plans (SLRPs) or functional equivalent in order to be eligible for TRPA's Land Use commodities incentives program. The Water Quality Program will rely on these documents to identify and evaluate the strategies and commitments being proposed by the jurisdiction for reducing fine sediment and nutrient loads by prioritized catchment.
 - **Implementation Measures:** Amend Chapter 25 (Project Compliance Program section) and Chapter 81 (Discharge Limits section) to require SWMPs, SLRPs or functional equivalent to adequately address how a jurisdiction proposes to fund and implement capital improvement projects, successfully adopt and enforce new water quality ordinances, and/or implement enhanced stormwater operations and maintenance programs

- by prioritized catchment. The SWMP or functional equivalent will be consistent with the requirements of Lahontan and NDEP.
- Amend the applicable sections of TRPA’s Memoranda of Understanding (MOUs) to direct permittees to detail how projects will achieve and report the reduction of fine sediment and nutrients as identified in the SWMP.
- **New Policy:** In order for a local or state water quality roadway project to qualify for the Environmental Improvement Program’s (EIPs) 5-year project list, it must be included in a SWMP, SLRP or functional equivalent.
 - **Implementation Measures:** Amend Chapter 31 (EIP Relationship to Other Plan Provisions section), Chapter 33 (Distribution and Administration of Residential Allocations section - Water Quality Improvements subsection), Chapter 81 (Discharge Limits section) and Chapter 82 (Required Offsets section) to require that SWMPs or their functional equivalents identify and prioritize opportunities for area-wide stormwater treatment as a condition of inclusion on the EIP’s 5-year project list.
 - Exempt forest operations/fuels reduction projects on federal lands and single-family residential development from this requirement.
 - **New Policy:** Continue to restore areas of impacted sensitive lands, providing further opportunity to contract the urban boundary.¹⁵

New Policy: Provide incentives in acquisition and buyout programs to permanently retire excess coverage.

- **Implementation Measures:** Amend Chapter 20, Transferred Land Coverage Requirements and Restoration Requirements sections and Chapter 82, SEZ Restoration Program section.
 - Acquisition and buyout programs can bank and transfer restored excess coverage based on the transfer being from:
 - low- to high-capability parcels
 - a designated impaired watershed to an unimpaired watershed
 - an overcovered Hydrologic Transfer Area (HTA) to an uncovered HTA.
 - Provide added incentives to restore SEZs and re-establish SEZ setbacks in over-covered areas
- **Amended Policy:** Establish a higher priority for the role and contribution of stormwater operations and maintenance programs to achieve TMDL load reductions. Encourage the programmatic commitment to control and reduce fine sediment loads through the more effective management of roadway surfaces.
 - **Implementation Measures:** Amend Chapter 25, Additional Requirements section, for operations and maintenance.

¹⁵ This new policy focuses and refines Goal 1 and associated Policies 4 and 5 in the existing Water Quality Subelement.

- Amend Chapter 81, Discharge Limits section, to clarify and affirm the programmatic expectation for the role of operations and maintenance to contribute to TMDL water quality objectives.
- Require road surface treatment, alternative pavement, or surface stabilization techniques for unpaved roads, trails, turnouts, and parking areas.
- **Amended Policy:** Reduce the source and transport of fine sediments as fugitive airborne dust and stormwater runoff from unpaved roads and construction sites.
 - **Implementation Measures:** Amend the requirements for BMPs in Chapter 25, Standard and Project Compliance sections. Amend the requirements for BMPs in Chapter 64, Winterization section. Amend Chapter 81, Discharge Limits section to affirm and clarify the programmatic expectation regarding the functional ability of BMPs to achieve TMDL water quality objectives
 - Require Construction or Operational Stormwater Pollution Prevention Plans (SWPPP) or a temporary BMP plan as a condition of permitting. A SWPPP or a temporary BMP plan will provide more exacting standards for implementing temporary BMPs in order to reduce the risk of water quality impacts from construction sites.
- **Amended Policy:** Require either physical implementation or financial guarantee of implementation of BMPs at point-of-sale.
 - **Implementation Measure:** Amend Chapter 25, Retrofit Program section, to require either the physical implementation of BMPs at point-of-sale or the posting of a performance bond that will be forfeited after two years if BMPs have not been implemented. In case of forfeiture, TRPA and the local jurisdiction will coordinate to use the bond to achieve BMP implementation.
- **Amended Policy:** Encourage public agencies and local jurisdictions to restore verified disturbed areas and SEZs that reside within their legal boundaries.
 - **Implementation Measure:** Amend Chapter 20, Restoration Requirements section to encourage public agencies and local jurisdictions to restore verified disturbed areas and SEZs that reside within their legal boundaries.
- **Amended Policy:** Develop and update the requirements for an integrated Fertilizer, Pesticide, and Herbicide Management Plan.
 - **Implementation Measure:** Amend Chapter 81, Fertilizer Pesticide and Herbicide Management sections, to develop and improve the details and requirements for integrated and programmatic chemical application management plans.
- **Amended Policy:** Require improved BMP methods and technologies for the containment and treatment of snow..

- **Implementation Measure:** Amend the requirements for BMPs in Chapter 81, Snow Disposal section, Chapter 64, Winterization section, and Chapter 25, Standard BMP Requirements section, to clarify the technical and design requirements for BMPs that will be relied upon to provide snow storage throughout the winter. Remove the current code provision that allows for snow removal on un-paved roads and driveways.
- **Amended Policy:** Update the revegetation and soil rehabilitation requirements for restoring disturbed sites.
 - **Implementation Measure:** Amend Chapter 20, Restoration Requirements section to require a description of the functional objectives that must be achieved through environmental restoration or repair. Require an existing conditions analysis to evaluate and optimize opportunities on those sites that afford a greater potential for restoration success.
- **Amended Policy:** Update the EIP to direct projects to pursue opportunities for private-public partnerships as a more effective means to implement capital stormwater projects.
 - **Implementation Measure:** Amend the requirements in the EIP Relationship to Other Plan Provisions section of Chapter 31.
- **Amended Policy:** Update the analyses and design requirements for Shorezone protective structures and backshore BMPs consistent with the Coastal Engineering Manual or Best Available Technology.
 - **Implementation Measure:** Amend the requirements and guidelines proposed for Chapter 50 appendix (Shorezone BMPs).

Under the Water Quality Subelement's second goal of protecting human and environmental health, several policies would be reorganized and amended.

- **Amended Policy:** TRPA will cooperate with the local agencies responsible for the preparation, evaluation, and implementation of toxic and hazardous spill control plans.
 - **Implementation Measure:** Amend the Code of Ordinances, Water Quality Control Chapter, with focus on the Applicability, Discharge Limits, Prohibition of Toxic or Hazardous Waste Discharge, and Spill Control sections. (In doing so, consideration must be given to the nexus with the Grading Standards Chapter, focusing on the Discharge Prohibitions and Disposal of Materials sections. Consideration must also be given to the need for additional consistency language in the Special Information Reports and Plans chapter, focusing on the Subsurface Investigations and Reports section.)

- **Amended Policy:** Public agencies shall update and enhance their spill contingency, prevention, and detection plans to increase protection against the illicit discharge of wastewater, hazardous waste, and sewage to surface or ground water. Continue to prohibit the discharge or disposal of solid wastes on the land or to surface or ground water except in cases of specific Public Health and Safety emergencies.
 - **Implementation Measure:** Amend the requirements in three sections of Chapter 81: Wastewater Discharge, Hazardous Waste Discharge, and Spill Control. Amend the requirements in the Discharge Prohibitions and Disposal of Materials sections of Chapter 64.
- **Amended Policy:** Update the analyses and control measures necessary to enhance source-water protection for public groundwater wells and lake intakes.
 - **Implementation Measure:** Amend the requirements in the Source Water Protection section of Chapter 83 to allow protection zones to be determined by the analysis of the subsurface hydrologic time-of-travel and other critical hydrogeologic criteria. This would encourage the development and use of risk assessments to determine site-specific recommendations for protecting public groundwater wells and lake intakes.
- **Amended Policy:** Require the phase-out all underground sanitary storage tanks, and where this is not feasible, replace them with the best available technology consistent with state and federal regulations.
 - **Implementation Measure:** Amend the requirements in the Prohibition of Wastewater Discharge section of Chapter 81 to require, where feasible, that sewer pump-out facilities to be connected to the nearest sanitary sewer at the earliest possible date. All existing wastewater discharges, including gray-water, must discharge to a sanitary sewer system, or when not feasible, must be contained, pumped out, and disposed of at the nearest sanitary sewer system.
- **Amended Policy:** Require that liquid or solid waste be discharged from recreational vehicles and boats *only* at approved pump-out and disposal facilities in order to prevent inadvertent spills that result in illicit discharges.
 - **Implementation Measure:** Amend the requirements in the Prohibition of Wastewater Discharge section of Chapter 81.
- **Amended Policy:** Require BMPs that infiltrate stormwater to effectively treat nutrients and pollutants before they interface and contaminate groundwater.
 - **Implementation Measure:** Amend the Standard BMP requirements section of Chapter 25 and the Excavation Limitations section of Chapter 64 to require those BMPs designed to infiltrate the one inch per hour storm to provide a sufficient body of soil or engineered media below the

bottom of the facility. Require documentation that the native soils or engineered media can reliably adsorb phosphorus, grease, and other hydrocarbons while providing adequate separation from seasonal high groundwater tables.

Alternative 3

Summary

The goals and policies proposed under Alternative 3 would be the same as those proposed for Alternative 2, which amends the TRPA Code of Ordinances to be a TMDL-guided Water Quality Program. Throughout this document, Alternative 3 is typically characterized as a continuation of the status quo. The rationale for the significant changes to the Water Quality Subelement under this alternative is the assumption that the TMDL will be adopted by TRPA, Lahontan, and NDEP within the timeframe of TRPA's Regional Plan Update process.

Goals, Policies, and Implementation Measures

Alternative 3 would be the same as Alternative 2.

Alternative 4

Summary

The goals and policies proposed under Alternative 4 would be, with limited exceptions (*see footnotes*), the same as in Alternatives 2 and 3. This alternative also amends the Code to be a TMDL-guided Water Quality Program. Unlike the other “action” alternatives, which use a combination of regulation and incentives to gain water quality improvement through transfer of development, Alternative 4 *requires* restoration through the transfer of existing development rights.

As described in the Performance Review and Implementation Scheduling Subelement, Alternative 4 requires irrevocable commitments for the construction of new or the upgrading of existing stormwater treatment facilities (including life cycle maintenance) to be actually constructed prior to the release of Commercial Floor Area .¹⁶

Goals, Policies, and Implementation Measures

Alternative 4 provides land use commodities to facilitate the transferral of development rights and impervious coverage from non-PTOD sending areas that are verified as low capability lands and thus gain water quality benefits.

The goals under Alternative 4 would be the same as those in the other “action” alternatives. The policies and implementation measures would also be the same – with the following exceptions:

¹⁶ This differs from Alternatives 2 and 3, which awards additional Commercial Floor Area when irrevocable commitments are merely funded and permitted.

- **New Policy:** Require acquisition and buyout programs to permanently retire excess coverage to assist in the maintenance of stable commodity prices.¹⁷
 - **Implementation Measures:** Amend Chapter 20, Transferred Land Coverage Requirements and Restoration Requirements sections and Chapter 82, SEZ Restoration Program section.
 - Acquisition and buyout programs can bank and transfer restored excess coverage based on the transfer being from:
 - low- to high-capability parcels
 - a designated impaired watershed to an unimpaired watershed
 - an overcovered Hydrologic Transfer Area (HTA) to an undercovered HTZ.
 - Require restoration of SEZs and re-establish SEZ setbacks in over-covered areas.

- **Amended Policy:** Require physical implementation of BMPs at point-of-sale.¹⁸
 - **Implementation Measure:** Amend Chapter 25, Retrofit Program section to require the physical implementation of BMPs at point-of-sale.

- **Amended Policy:** Update the requirements for Fertilizer Management to *prohibit* the use of phosphorus.¹⁹
 - **Implementation Measures:** Amend Chapter 81, Fertilizer Management section, to improve the details and requirements in Fertilizer Management plans.
 - The use of fertilizer and the environmental discharge of soaps, detergents, and other products containing phosphorus would be prohibited.

¹⁷ In Alternatives 2 and 3, this new policy incentivizes rather than requires programs to retire excess coverage. In addition, the last implementation measure requires rather than incentivizes SEZ restoration.

¹⁸ While Alternatives 2 and 3 allow for either physical implementation or financial guarantee of implementation of BMPs, Alternative 4 requires that they be constructed at point-of-sale.

¹⁹ In Alternatives 2 and 3, the policy was to *restrict* phosphorus use. Also, the second implementation measure under this amended policy is unique to Alternative 4.

