

STATE WATER RESOURCES CONTROL BOARD
RESOLUTION NO. 92-42

ACKNOWLEDGEMENT OF THE TAHOE REGIONAL PLANNING AGENCY'S
PROGRESS REPORT "1991 EVALUATION, ENVIRONMENTAL THRESHOLD
CARRYING CAPACITIES AND REGIONAL PLAN PACKAGE"

WHEREAS:

1. Lake Tahoe is an outstanding national resource water whose water quality is impaired by pollutants from a variety of nonpoint sources including erosion, stormwater runoff, and the disturbance of wetlands (Stream Environment Zones); and
2. Section 208 of the Federal Clean Water Act requires the development of area-wide water quality management plans known as 208 Plans. The States of California and Nevada have designated the bi-state Tahoe Regional Planning Agency (TRPA) as the agency responsible for 208 Plan development and implementation for the Lake Tahoe Basin; and
3. The bi-state nature of Lake Tahoe Basin water quality planning under TRPA necessitates that any 208 Plan developed by TRPA be certified by both the State of California and the State of Nevada before certification by the U.S. Environmental Protection Agency (EPA); and
4. TRPA adopted a bi-state Water Quality Management Plan for the Lake Tahoe Region (208 Plan) in 1988. Key elements of this plan are a Capital Improvements Program for Erosion and Runoff Control, a Stream Environment Zone Restoration Program, a Best Management Practices Implementation Program, and a Monitoring Program; and
5. In 1989, the State Water Resources Control Board (State Water Board) conditionally certified TRPA's 208 Plan (State Water Board Resolution No. 89-32). The conditions of certification included a requirement for TRPA to prepare and submit to the State Water Board a progress report describing the following: a summary and analysis of monitoring data for the Lake Tahoe Basin; an evaluation of the monitoring program; interim water quality targets and compliance schedules; and, an evaluation of water quality mitigation fees and other components of TRPA's financial plan; and
6. TRPA prepared its "1991 Evaluation of Environmental Threshold Carrying Capacities and Regional Plan Package" (1991 Evaluation), and submitted this report to the State Water Board in January 1992; and

7. The State Water Board reviewed TRPA's 1991 Evaluation and found that the report contains the information requested in State Water Board Resolution No. 89-32.

THEREFORE, BE IT RESOLVED:

That the State Water Board:

1. Acknowledges that the "1991 Evaluation of Environmental Threshold Carrying Capacities and Regional Plan Package" contains the information requested in State Water Board Resolution No. 89-32.
2. Transmit copies of this resolution to the U.S. Environmental Protection Agency, the Nevada Division of Environmental Protection, and TRPA.

CERTIFICATION

The undersigned, Administrative Assistant to the Board, does hereby certify that the foregoing is a full, true, and correct copy of a resolution duly and regularly adopted at a meeting of the State Water Resources Control Board held on May 18, 1992.


Maureen Marche
Administrative Assistant to the Board

STAFF SUMMARY OF THE TAHOE REGIONAL PLANNING AGENCY'S (TRPA)
 "1991 EVALUATION ENVIRONMENTAL THRESHOLD CARRYING CAPACITIES
 AND REGIONAL PLAN PACKAGE" (1991 EVALUATION)

The 1991 Evaluation contains nine chapters on the following subjects: water quality and soil conservation; air quality; vegetation preservation; wildlife; fisheries; noise; recreation; scenic resources; and economics. There are two appendices: a list of compliance measures and a schedule of implementation. About half of the report (over 100 pages) is devoted to water quality and soil conservation, which is the topic of this staff summary. Specifically, staff reviewed the 1991 Evaluation to determine if the report contained information on the following four subjects:

1. Summary and analysis of monitoring data.

Monitoring results are presented for the following: turbidity of the littoral waters; clarity and phytoplankton primary productivity of pelagic waters; total nitrogen, phosphorus, iron, soluble inorganic nitrogen, soluble phosphorus, and suspended sediment for tributaries and surrounding lakes; surface runoff discharged to surface and ground waters.

2. Evaluation of the adequacy of the monitoring program.

Eight sites at the 25-meter contour depth have been established for monitoring turbidity in the littoral zone. These sites are located so as to be representative of tributary inflows. In 1991, these sites were sampled three times at six depths. Two people from the Tahoe Research Group about every two weeks are monitoring for nitrogen, phosphorus, and suspended sediment at 27 sites on 14 streams. Six surrounding these constituents. Surface runoff is monitored at ten sites by TRPA and a Regional Water Quality Control Board. Discharge point sites have been identified.

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These sites were sampled by the monitoring program involved for these waters was California Regional Water Quality Control Board.

3. Interim water quality targets and compliance schedules.

Water quality threshold standards are presented for all monitored constituents previously described. Interim water quality targets for pelagic clarity and phytoplankton primary productivity are also presented. Interim targets for shallow water turbidity, tributary water quality, and water quality of other lakes have not yet been developed due to lack of recent monitoring data. The report indicates that these targets will soon be developed. In addition, threshold standards for allowable impervious land coverage and stream environmental zones are presented and indicators and performance targets to assist in evaluating best management practices are described. Expenditures on capital improvement projects are also presented and compared to interim targets established for various agencies.

4. Evaluation of water quality mitigation fees and other components of TRPA's financial plan.

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TRPA has described its program for mitigation fees in a separate memorandum. Mitigation fees have been set at \$1.25 per square foot for additional land coverage created in the Tahoe Basin. Other components of TRPA's financial plan are under review by TRPA staff at the request of the State Water Resources Control Board (State Water Board). A revised financial plan will be submitted to the State Water Board by TRPA by November 15, 1992, pursuant to State Water Board Resolution No. 92-25.

TRPA's findings, conclusions, and recommendations of the 1991 Evaluation are attached to this staff summary.

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FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

Water Quality and Soil Conservation

Findings

- o Over the entire 25-year period of record, the clarity of the deep pelagic waters of Lake Tahoe displays a declining trend which is highly statistically significant. The average loss of clarity is about 0.3 meters per year. The loss of clarity over the period of record is about 20 percent. In the last five years, the rate of decreasing clarity has slowed.
- o Over the entire 25-year period of record, the algal productivity of the pelagic waters of Lake Tahoe displays an increasing trend which is highly statistically significant. The increase in algal productivity over the period of record is over 200 percent. In the last five years, the rate of increasing productivity has not slowed.
- o In the shallower littoral zone of Lake Tahoe, no trends can be discerned. Recent data on littoral Lake Tahoe includes no turbidity values that exceed the TRPA threshold standards.
- o California-side tributaries which have been monitored exceeded the state standards for annual average total nitrogen concentrations 60 percent of the time, total phosphorus 86 percent of the time, and total iron 100 percent of the time. The lowest concentrations were consistently found on General Creek, which drains a relatively undisturbed watershed.
- o Nevada-side tributaries which have been monitored exceeded the applicable state standards for annual average soluble phosphorus concentrations 69 percent of the time, and total soluble inorganic nitrogen 69 percent of the time. The lowest concentrations were found on Logan House Creek, which drains a relatively undisturbed watershed.

- o In 1989 and 1990, 90th percentile concentrations of suspended sediment exceeded TRPA's 60 mg/l threshold at monitoring stations on Third Creek, Incline Creek, and Edgewood Creek. Concentrations attained the threshold at the other monitoring locations.
- o Water quality data for the main other lakes in the Tahoe Region (Cascade, Upper Echo, Lower Echo, Fallen Leaf, Marlette, and Spooner) are very limited. The states and TRPA will undertake additional studies of these lakes.
- o In sampling of discharges of surface runoff from 1986 to 1991, the majority of samples (over 80 percent) did not attain the guidelines for discharges to surface water. Less than 35 percent did not attain the guidelines for discharges to groundwater.
- o Eighteen stream environment zone (SEZ) projects have been constructed in the Tahoe Region since 1982, restoring less than 100 acres of SEZs, compared to an ultimate target of 1100 acres and an interim target of 400 acres.
- o Implementation of BMPs within the Region appears to meet interim performance standards established in 1988, based on a stratified random sample of properties.
- o Since 1979, public agencies have expended over \$60 million on erosion and runoff control projects. Since TRPA set performance targets in 1988, eight agencies have expended \$30 million. Two of the eight agencies met their interim performance targets for 1991.

Conclusions and Recommendations -- Water Quality and Soil Conservation

- o Lake Tahoe does not attain threshold standards and applicable state standards for water clarity and algal productivity. Water quality trends are expected to change only slowly.

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- o Lake Tahoe attains threshold standards for littoral zone turbidity.
- o Applicable state standards for tributary water quality are frequently exceeded on monitored streams. Efforts to protect and enhance tributary water quality should be strengthened. California should review its standard for total iron, since it is exceeded 100 percent of the time, in both developed and undeveloped watersheds.
- o Surface runoff in the Tahoe Region is generally not in attainment of state and TRPA standards for discharges to surface waters. Treatment, detention, and infiltration of runoff should be encouraged wherever possible, and a comprehensive control plan should be prepared.
- o The Regional Plan implements the threshold standard for land coverage. TRPA should set performance targets for mitigation programs, investigate limited additional opportunities to allow for transfers of land coverage, and continue to encourage the creation of a Nevada-side land bank or banks.
- o Although restoration has occurred, the Region will not attain the threshold standard for Stream Environment Zones (SEZs) until more restoration projects are constructed. TRPA should update and expand the SEZ Restoration Program, and include it in the integrated environmental improvement program for the Region.
- o TRPA should increase efforts to implement BMPs through the policies of the Region Plan; continue to monitor BMPs; and continue public education efforts at a high level.
- o Overall, public agencies are making good progress in implementing the capital improvements program (CIP) for erosion and runoff control. Financing improvements is a constant challenge. TRPA should take a leadership role in expanding and coordinating the CIP; become an advocate for project financing; set new performance targets for 1996; and continue to monitor progress.