

Chapter 1

INTRODUCTION

1.1 INTRODUCTION

This report presents the results of the Tahoe Regional Planning Agency's (TRPA) fourth comprehensive evaluation of environmental threshold carrying capacities, which were adopted in 1982, and the subsequent Regional Plan, various components of which have been adopted and amended from 1984 to the present. It should be noted that this 2006 Evaluation is being prepared in parallel with Pathway 2007 and the Threshold and Regional Plan Update process. Input from the Pathway process is included in this Evaluation and it is anticipated that the Pathway Process will result in changes to TRPA's Thresholds and the Regional Plan.

The 2006 Threshold Evaluation Report provides information and recommendations to the TRPA Governing Board to assist in making adjustments to the Environmental Threshold carrying capacities and the Regional Plan, that are in compliance with the provisions of the Tahoe Regional Planning Compact. The 2006 Evaluation Report consists of 10 chapters, which include the evaluation results for the nine environmental categories of threshold standards established for the Lake Tahoe Region. A summary of the status and recommendations for individual threshold's are found in the tables and figures in this introduction chapter. A more detailed analysis, compliance forms, and recommendations are found in each of the individual threshold chapters.

There are three appendices that were prepared pursuant to Chapter 32 of the Code of Ordinances. Appendix A contains the master list of compliance measures; Appendix B contains the cumulative accounts report; and Appendix C contains the cumulative effects report.

1.2 BACKGROUND

The Tahoe Regional Planning Compact, established TRPA's mission. TRPA's Mission and Statement of Principles are set forth in Figure 1-1. In addition to its mission under the Compact, TRPA is also responsible for certain planning activities under the Federal Clean Air Act, the Federal Clean Water Act, the California Transportation Development Act, the Inter-modal Surface Efficiency Act, and the California Clean Air Act.

In August 1982, TRPA adopted Resolution No. 82-11, this resulted in the adoption of the environmental threshold carrying capacities for the Lake Tahoe Region. The Compact defines "environmental threshold carrying capacity" as:

...an environmental standard necessary to maintain a significant scenic, recreational, educational, scientific or natural value of the region or to maintain public health and safety within the region.

Throughout the Regional Plan package and this report, TRPA commonly refers to "environmental threshold carrying capacities," "threshold standards," or simply "thresholds." These terms are interchangeable.

Prior to adopting Resolution 82-11, TRPA considered lengthy public testimony, an Environmental Impact Statement (EIS), and a study report on the establishment of the threshold standards. The Thresholds set forth in Exhibit A of Resolution 82-11 address the following nine environmental values of the Tahoe Region: water quality, soil conservation, air quality, vegetation preservation, wildlife, fisheries, noise, recreation, and scenic resources.

The threshold standards guide all aspects of TRPA's planning and operating functions. Article V(c) of the Compact requires TRPA to amend the Regional Plan so that:

...at a minimum, the plan and all of its elements, as implemented through agency ordinances, rules and regulations, achieves and maintains the adopted environmental threshold carrying capacities. Each element of the plan shall contain implementation provisions and time schedules for such implementation by ordinance.

Article V (d) of the Compact also requires the Regional Plan to "provide for attaining and maintaining Federal, State or local air and water quality standards, whichever are strictest, in the respective portions of the region for which the standards are applicable." Each element of the Plan, where applicable, identifies the means and time schedule by which air and water quality standards will be attained.

Finally, Article V (g) of the Compact requires TRPA to make specific written findings prior to approving any project in the region. These findings must "insure that the project under review will not adversely affect implementation of the Regional Plan and will not cause the adopted environmental threshold carrying capacities of the region to be exceeded."

Threshold standards are to be reviewed to ensure that the Plan and the Thresholds are consistent, at least every five years. Resolution 82-11 provides for threshold amendments where scientific evidence and technical information indicate:

- (a) two or more thresholds are mutually exclusive; or
- (b) substantial evidence to provide a basis for a threshold does not exist; or
- (c) a threshold cannot be achieved; or
- (d) a threshold is not sufficient to maintain a significant value of the region or additional thresholds are required to maintain a significant value.

The Regional Plan Goals and Policies (Monitoring and Evaluation Subelement) and the Code of Ordinances, Chapter 32, also require TRPA to evaluate the Thresholds and the Regional Plan package at least every five years. Although Regional Plan litigation in the mid-1980s created some uncertainty as to the date of the first five-year review, the Water Quality Management Plan for the Lake Tahoe Region (TRPA, 1988) established the date for the first evaluation as September, 1991.

Currently TRPA and its partner agencies are working in a coordinated process to update agencies' plans for the Lake Tahoe Region for the upcoming 20 years. This process is known as Pathway 2007. Within this process and the limitations of the Compact, TRPA is considering amendments to its Thresholds and Regional Plan. This 2006 Evaluation Report will inform those amendments.

Figure 1-1. TRPA's Mission & Statement of Principles

Statement of Mission

THE TAHOE REGIONAL PLANNING AGENCY LEADS THE COOPERATIVE EFFORT TO PRESERVE, RESTORE, AND ENHANCE THE UNIQUE NATURAL AND HUMAN ENVIRONMENT OF THE LAKE TAHOE REGION

Statement of Principles

A. Preamble

TRPA shall interpret and administer its plans, ordinances, rules, and regulations in accordance with the provisions of the Compact. This statement of principles is intended to confirm the policies set forth in the Tahoe Regional Planning Compact

(P.L. 96-551, December 19, 1980), in its specific provisions and as a whole, so as to guide the Agency in resolving conflicts, in charting the future direction, and in enhancing public understandability. The following statement of general policy provides TRPA with direction and consistency for enactment and implementation of the Regional Plan and increases TRPA and public understanding of the TRPA Goals and Policies.

B. Principles.

1. The Tahoe Region exhibits unique and irreplaceable environmental and ecological values of national significance which are threatened with deterioration or degeneration.
2. The purpose of TRPA is to:
 - a. Maintain the significant scenic, recreational, educational, scientific, natural, and public health values provided by the Region; and
 - b. Insure equilibrium between the Region's natural endowment and its manmade environment.

Together these will encourage the wise use of the waters of Lake Tahoe and the resources of the area, preserve public and private investments in the Region, and preserve the social and economic health of the Region.

3. In accomplishing its purpose, TRPA is to:
 - a. Establish environmental threshold carrying capacities, defined as environmental standards necessary to maintain significant scenic, recreational, educational, scientific, or natural values of the Region or to maintain public health and safety within the Region, including but not limited to standards for air quality, water quality, soil conservation, 1vegetation preservation, and noise;
 - b. Adopt and enforce a Regional Plan and implementing ordinances which achieve and maintain such capacities while providing opportunities for orderly growth and development consistent with such capacities; and
 - c. Pursue such activities and projects consistent with the Agency's purposes.[§]

[§] Source: TRPA Goals and Policies, 1996

1.3 THE LAKE TAHOE REGION

The Tahoe Region is a special place. To those who have visited Lake Tahoe and its surroundings, from earliest prehistory to the present, the region is an exceptional, inspiring place of spiritual proportion.

The Tahoe Region was once a place of inestimable beauty. The American author Samuel Clemens ("Mark Twain") wrote of its beauty over a century ago. Photographer Ansel Adams captured it in his photographs.

Yet, like other natural places in California and the Great Basin, its beauty has been severely compromised. As at Yosemite, Pyramid Lake, the lakes and marshes of the Pacific flyway, San Francisco Bay and the California Delta, the progress of modern life has diminished the unique values that make the Tahoe Region so extraordinary.

With ever-increasing pressure upon the region as a recreational resource and an urban center, preservation of the values of the Tahoe Region is vitally important and, at the same time, immensely difficult. The region serves as a haven for visitors from the urbanized areas surrounding it, and for others who travel from afar to appreciate it. Ironically, the millions who enjoy the area simultaneously endanger it with their very presence.

About the Tahoe Region

Located between the Carson Range on the east and the Sierra Nevada on the west, the Tahoe Region is divided by the California-Nevada state line. Approximately one-third of the region is in Nevada, and two-thirds in California. The total land area of the region is over 207,000 acres, with about 79 percent in public ownership.

Lake Tahoe is the dominant feature of the region and is world renowned for its crystal clear water and beautiful setting. Lake Tahoe is approximately 12 miles wide and 22 miles long, with a surface area of 192 square miles and 75 miles of shoreline. With a maximum depth of 1,645 feet, Lake Tahoe is the tenth deepest lake in the world. Maximum elevation of the Lake's surface is 6,229 feet above sea level.

The topography of the region consists chiefly of steeply sloping mountains with a few flat or moderately sloping areas where most development has occurred. Elevations of the peaks surrounding Lake Tahoe range from about 8,000 feet to almost 11,000 feet above sea level.

Long, relatively mild winters and short, dry summers characterize the climate of the region. Precipitation normally falls as snow during the winter months. During the summer, there are infrequent thunderstorms. The western side of the region receives about twice the precipitation as the eastern side.

Most development and urbanization of the Tahoe Region occurred during and following the Squaw Valley Winter Olympics in 1960. Since that time the population of the region has increased over five times, with about 80 percent of the population residing in California. The residential population in 2000 was estimated at 56,000. This population doubles in the summer with the addition of visitors and second-home owners.

There are about 20 developed towns and communities in the basin; however, the City of South Lake Tahoe is the only incorporated city. The region has about 46,400 residences (just over half of these are second homes or vacation rentals, 9,600 vacation homes, 11,500 tourist accommodation units, and 2,500 campground units. The 2005 summer population based on the TRPA transportation model estimates is 55,232 residents and 53,474 overnight visitors. Figure 1-2 is the TRPA Regional Plan map, which generally matches the land use pattern of the region. Approximately 13% of the area is considered urban (commercial, tourist, residential) and the remaining area is considered non-urban.

Casino gaming areas are located at the north and south Stateline areas, and in Incline Village. These areas provide tourist, commercial and indoor entertainment facilities.

The undeveloped areas of the region are predominantly publicly owned. Public ownership is increasing, largely through the efforts of federal and state land acquisition programs. Outdoor recreation use of the region is extensive.

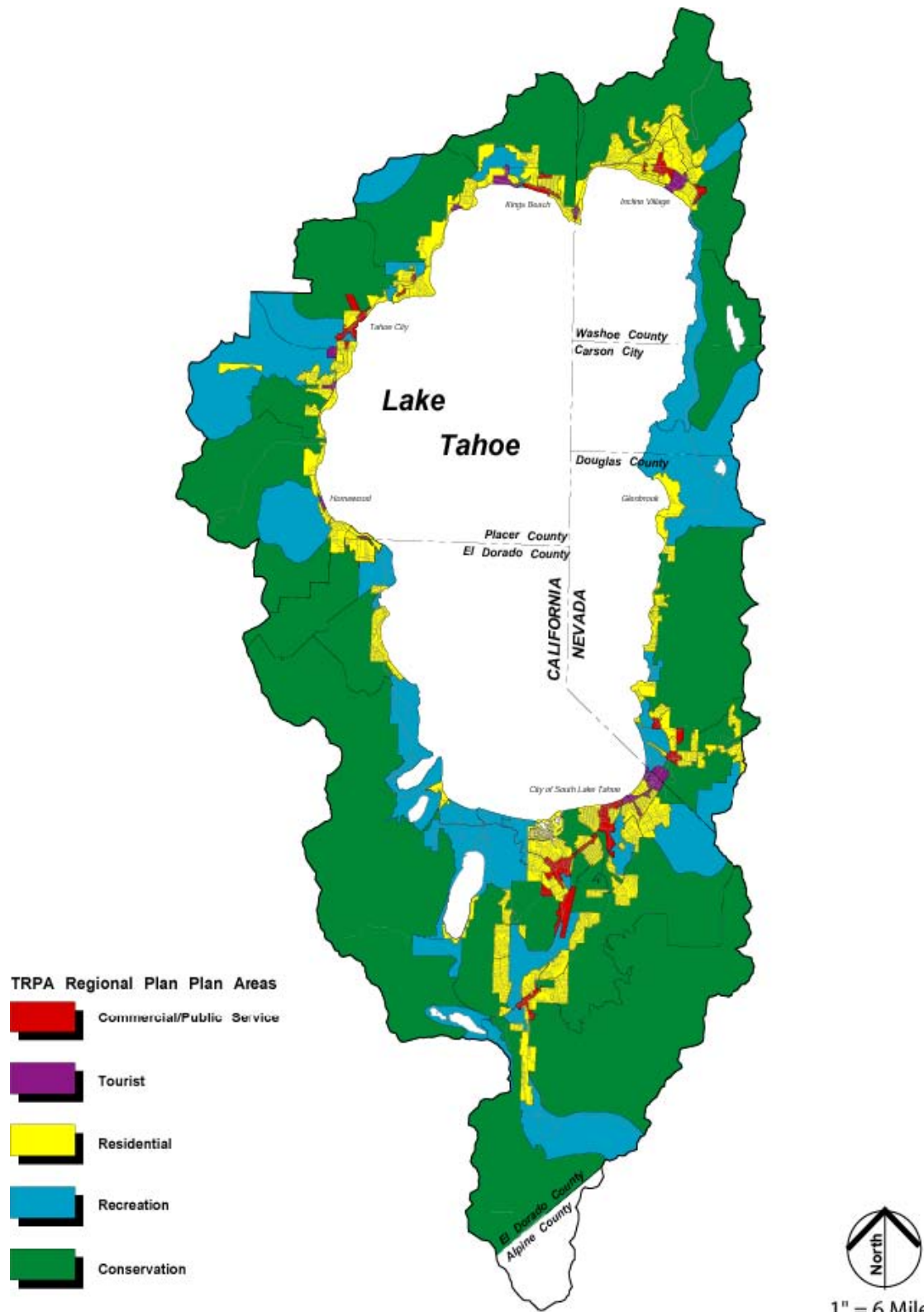
The dominant transportation system in the region is the highway system. There are seven highways that allow access to the region, four in California and three in Nevada. The dominant form of transportation is the private automobile, but buses, taxis, and other modes accommodate some trips. The Lake Tahoe Airport, located in the City of South Lake Tahoe, serves the region.

Effects of Human Activity

There is extensive evidence of the adverse impacts of human activity in the Tahoe Region. Lake Tahoe itself suffers from anthropogenic eutrophication, an increase in algal productivity that will continue until the Lake's nutrient budget is balanced. Even with aggressive management actions and strategies, Lake Tahoe's water quality trends will change slowly. Not due to the management actions taken, but because the Lake's long residence time of responding to these activities which scientist estimate as approximately 700 years to respond to management. Runoff from the watershed carries nutrients to Lake Tahoe; other nutrients come from the air.

Violations of water quality standards and guidelines for tributary streams and urban runoff are common. Generally, water quality is best in watersheds in undeveloped areas. Accidental discharges from sewage collection and treatment systems and discharges of toxic and hazardous substances during transport or storage have occurred and endanger water quality and public health and safety.

The region has many examples of soil conservation problems: erosion and runoff associated with urbanization; unstable cut and fill slopes, particularly those associated with roads; denuded and compacted areas; stream channelization; and damage from outdoor recreation, off-road vehicles, and grazing.



1" = 6 Miles
 Source: TEGIS, 2001

Figure 1-2. The Tahoe Regional Planning Agency Regional Plan Map. Plan areas are shown, with each color representing an individual land use classification.

Air quality in the region is mixed. Visibility in the Basin continues to meet the standards and continues to improve, while carbon monoxide, ozone and inhalable particulates continue to fall short of meeting the standards. However, the Basin has seen recent improvement in a number of these pollutants due to improvements associated with the Best Management Practices (BMP) program, improvements in the car industry with vehicle emissions, and the use of cleaner burning wood stoves and heaters.

Traffic congestion is common in certain parts of the region in both summer and winter. TRPA estimates that 1.58 million vehicle miles were traveled (VMT) in the region on an average peak summer day in 2004. Although traffic improvements have occurred, the land use pattern still suffers from strip development, loss of view corridors, inefficiency in the distribution of uses, and automobile dependency.

Vegetation in the region suffers from poor diversity, a result of the even-aged timber stand left by logging in the late 1800s and current fire suppression practices. Insects have attacked the forest, already weakened by stress, and have killed hundreds of millions of board feet of trees. In 2001, TRPA addressed the preservation and restoration of old growth habitat by adopting an improved old growth timber threshold. Some progress is being made in the restoration of fish and wildlife habitat impacted by human disturbance, however impacts from developed and dispersed recreation remains a concern.

Both single-event and cumulative noise affect the tranquility of the Tahoe Region. Although most communities meet noise criteria, some suffer from elevated noise levels from traffic, the dominant noise source in the area. With the adoption of the Lake Tahoe Airport Master Plan in 1992, many airport-related noise issues were addressed; however, issues remain with the 10 year phase in of more rigorous standards required by the approved Master Plan.

Roads, buildings, signs, power lines, and fences reduce the outstanding scenic attributes of the region. The Regional Plan designates about 50 areas for scenic restoration. Surveys completed in 2001 indicate the region has improved in the urban areas but has fallen behind in some rural and shorezone areas.

Although outdoor recreation facilities are heavily used during peak winter and summer periods, TRPA lags in meeting its targets for outdoor recreation usage. During peak summer periods, there is a shortage of developed campsites, day use facilities, and trails. During peak winter days, capacity limits at developed ski areas and the highway system are sometimes exceeded.

Planning, Regulation and Improvement Programs

There is a long history in the Tahoe Region of concern for environmental quality, preservation of its unique values, and remediation of its most serious problems. The individuals involved in this over the years are too numerous to list. TRPA, the previously existing California Tahoe Regional Planning Agency (CTRPA), and their forerunners in the 1960s have prepared a series of comprehensive plans for the region. The U.S. Forest Service and state parks departments have planned for, preserved, and managed large tracts of land.

The Forest Service, through the Burton-Santini program, the California Tahoe Conservancy, and the Nevada Division of State Lands has purchased thousands of environmentally sensitive parcels in order to place them under the protection of public

ownership. These same agencies have contributed mightily to the ongoing program of erosion and runoff control in the watershed and have led the way with pilot projects to restore stream environment zones. Units of local government generally construct and maintain these remedial projects. These programs have evolved into an estimated \$1.12 billion Environmental Improvement Program (EIP) that builds on the regulatory and capital improvement approaches that have been underway for the last twenty years.

From a very small program in the early 1960s, interagency monitoring efforts have grown to include water quality and air quality monitoring sites, using the most up-to-date equipment and analysis, with a cost of about \$1 million annually in 1990, to the creation of the Tahoe Scientific Consortium (TSC) and Tahoe Science Agency Coordination Committee (TSACC) and an identified EIP research budget of \$58 million. These monitoring programs provide information to direct and evaluate the control measures of the Regional Plan.

The City of South Lake Tahoe has been a leader in redevelopment of sub-standard urban areas, and redevelopment programs in North Lake Tahoe are now in progress.

These are just a few examples of the long history of concern for environmental quality and action in the Tahoe Region.

Institutional Arrangements

The success of threshold attainment (as well as the EIP) is largely dependent on the coordination of all agencies and private sector stakeholders in the basin. Many aspects of threshold attainment through regulation, project implementation, research, operations, and maintenance, will depend on numerous agencies and organizations aligning work programs, priorities, and funding. The Compact states "in formulating and implementing the regional plan, the agency shall seek the cooperation and consider the recommendations of counties, cities and other agencies of local government, State and Federal agencies, of educational institutions and research organizations, whether private or public, and civic groups and private persons." A partial list of the cooperating agencies/stakeholders follows:

Regional Agencies

Tahoe Transportation District
Tahoe Regional Planning Agency

Federal Agencies

U.S. Environmental Protection Agency
U.S. Forest Service
Natural Resources Conservation Service
U.S. Postal Service
U.S. Army Corps of Engineers
U.S. Bureau of Reclamation
U.S. Federal Highway Administration

State Agencies

CalTrans
California Water Quality Control Board-Lahontan Region
California State Lands Commission
California State Parks
California Tahoe Conservancy
Nevada Department of Transportation
Nevada Division of Environmental Protection
Nevada Division of State Lands
Nevada Public Service Commission

Local Governments

City of South Lake Tahoe (and Redevelopment Agency)
Douglas County
Carson City
El Dorado County
Placer County (and Redevelopment Agency)
Washoe County

Other Local Agencies

Douglas County Sewer Improvement District
Incline Village General Improvement District
Kingsbury General Improvement District
North Tahoe Public Utility District
South Tahoe Public Utility District
Tahoe City Public Utility District
Nevada Tahoe Conservation District
Tahoe Resource Conservation District
U.C. Davis/Tahoe Environmental Research Center (Formerly Tahoe Research Group)
South Shore Transportation Management Association
Truckee/North Tahoe Transportation Management Association

1.4 SUMMARY OF THE 2006 EVALUATION

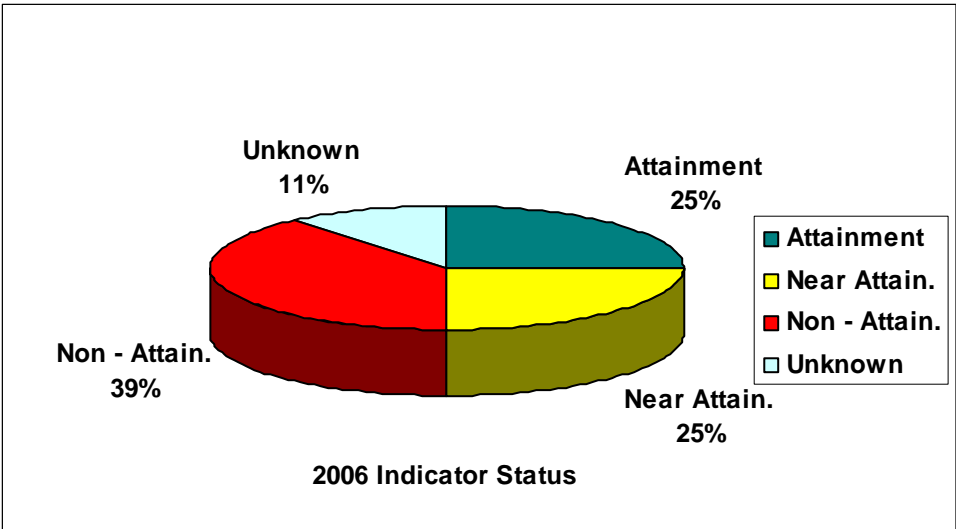
This Evaluation determines the attainment status of the environmental thresholds and then makes recommendations for corrective actions. The Threshold specific details are found in each Threshold chapter and official results are found on the compliance forms found in each Threshold's chapter. An overview and summary are presented below.

Findings

Overall, the Threshold Evaluation for 2006 finds that the results of efforts toward threshold attainment are mixed. It is the finding of this Evaluation, as documented in the compliance forms, that all of the thresholds were not achieved during the life of the current Regional Plan (until 2007). Nor was it anticipated that complete attainment would occur during this timeframe. Some thresholds were not anticipated to reach attainment for several decades. Although there is no immediate corrective action that would achieve complete attainment status of certain thresholds, i.e., water clarity in the near future, substantial work in establishing the Environmental Improvement Program and securing funding has increased the likelihood of achieving thresholds within the schedules found in the compliance forms.

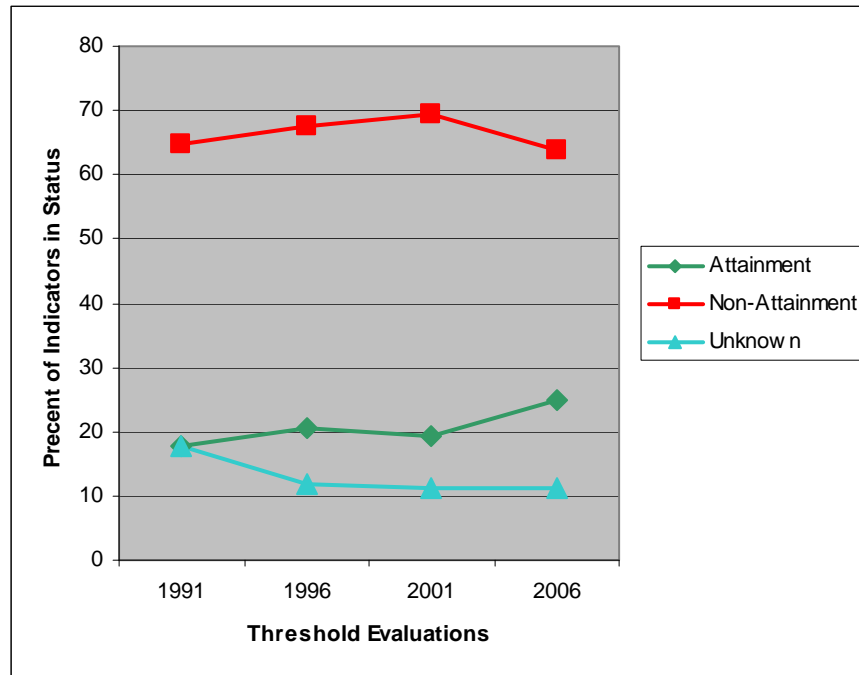
TRPA has selected 36 indicators to track progress on the nine threshold categories (see Executive Summary, Table 1 for a listing of thresholds and indicators). TRPA tracks both overall attainment targets and interim 5-year targets for non-attainment indicators. Of the 36 threshold indicators that TRPA tracks for overall attainment, nine are in attainment. This means that monitoring indicates the threshold meets the adopted standard. Monitoring results find that 23 of the indicators are in non-attainment, which means they do not meet the standard. The status is unknown for the remaining four indicators; meaning TRPA did not have adequate data to make a determination. Nine of the non-attainment indicators are near attainment and 14 are in significant non-attainment. Significant non-attainment includes indicators that will not be attained in the near future, have negative trends, or are not making interim targets. Approximately 19 out of 26 of the non-attainment indicators did not meet their interim targets. The number of indicators in each attainment status is summarized in Figure 1-3.

Figure 1-3. 2006 ETCC Indicator Attainment Status



Although 14 of the 36 indicators are in non-attainment, it is important to note that TRPA started with most of the indicators in non-attainment and generally over the last 15 years the trend in number of indicators in attainment shows improvement or is stable as shown in Figure 1-4.

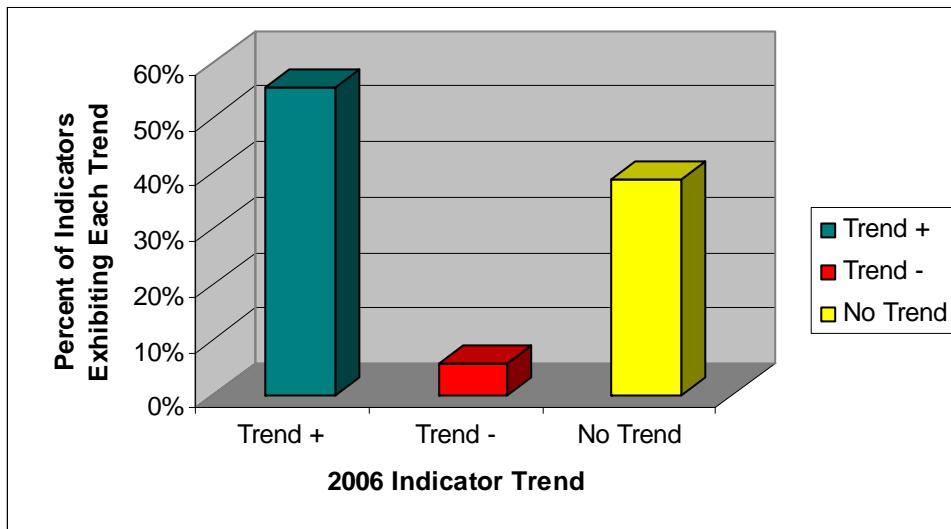
Figure 1-4. Threshold Evaluation Indicator Status in Each of the Four Evaluations



For 2006, 21 of the indicators show a positive trend¹, 14 show no trend (stable) and four shows a negative trend (Figure 1-5). In determining trend, TRPA must account for mixed trends and no trend in certain indicators. In some cases, most notably water clarity; the overall trend since 1968 is still negative. However, within the last several years, evidence shows that the decline in clarity has slowed and that the negative trend is shifting toward a positive trend. Although short term trends are more subject to variability, because the short term trend is positive, we are able to classify water clarity as a positive trend.

¹ Table 1 on Page 4 of the Executive Summary

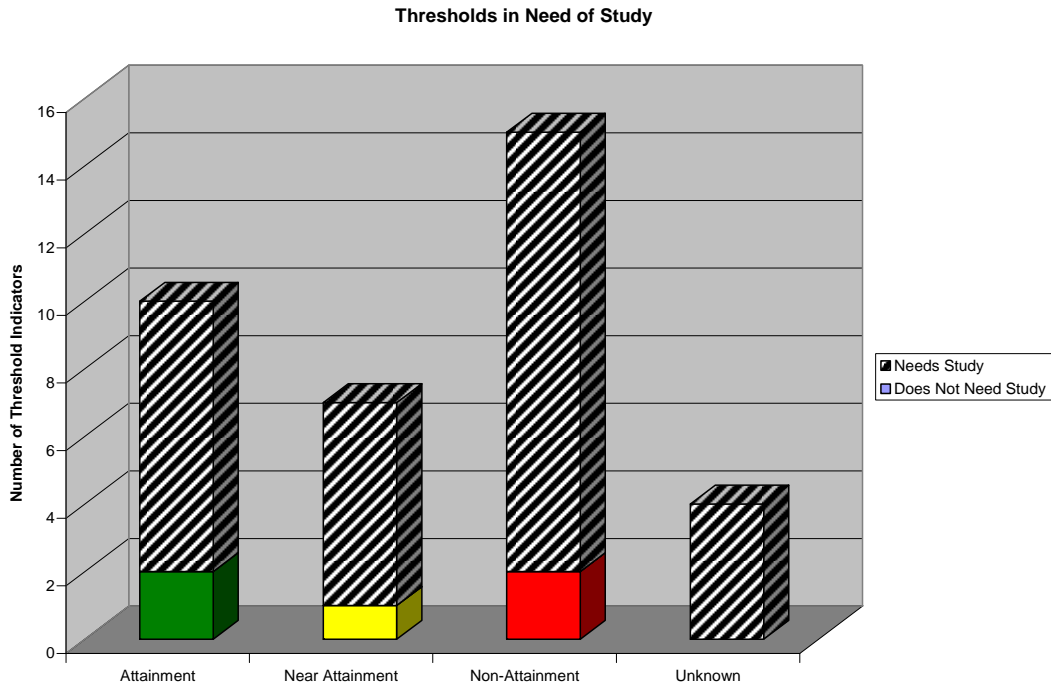
Figure 1-5. 2006 Threshold Indicator Trend Status



Compounding the problem of threshold attainment is that approximately 21 of the original threshold indicators were found to be in need of further evaluation, study and/or update as a result of the 2001 Threshold Evaluation. Other studies, such as the TMDL/Lake Clarity Modeling effort, found that the indicators relating to water quality and the assumptions for attainment of the clarity standards required an update. The Pathway 2007 process devoted several years and millions of dollars to research thresholds and adaptive management since the 2001 Report.

As a result, the Pathway Agencies (TRPA, the U.S. Forest Service, Lahontan Regional Water Quality Control Board, and Nevada Division of Environmental Protection) produced an Evaluation Report (October, 2005) reviewing the agencies' environmental visions, desired conditions and standards and recommend changes. This document was then reviewed by a public/agency group known as the Forum with resulting recommendations. At this time there is a recommended need to study and potentially change 31 of TRPA's 36 indicators (Figure 1-6).

Figure 1-6. ETCC Indicators in Need of Study



1.5 EVALUATION RECOMMENDATIONS

As summarized above, TRPA concludes that while efforts during the life of the current Regional Plan have produced positive trends toward attainment in many thresholds (Figure 1-5), the majority of thresholds remain out of attainment (Figure 1-3) and significant work remains to make progress towards the ultimate goals of the Compact. The staff recommendations that follow are proposed in response to the findings of non-attainment found in this evaluation.

TRPA's strategy to achieve its mandate is three-pronged. First, there are a series of immediate recommendations (similar to those in previous evaluations but more limited in scope) proposed by this evaluation. Second, there is a recommendation to continue the implementation and updating of the Environmental Improvement Program.

Third, this Evaluation Report is recommending that an update to the Thresholds and the Regional Plan is needed. TRPA is participating in a region-wide update process called "Pathway 2007" in response to needs identified in this evaluation and the previous evaluations. This process approaches the problem of threshold attainment and the Regional Plan update in a comprehensive region-wide strategy over the next 20 years.

As part of the Pathway 2007 planning process, the TRPA, together with the three other Pathway agencies (USFS Basin Management Unit, Lahontan Regional Water Quality Control Board and Nevada Division of Environmental Protection), has been receiving input regarding future management of the Tahoe Region from federal, state, and local governments; stakeholders of the Tahoe Region; technical and scientific experts; public-

interest groups; the general public; and the Pathway Forum. This input has resulted in a “Collaborative Alternative” for updating the Regional Plan. Some highlights of how the Collaborative Alternative was developed are as follows:

- Held five public visioning workshops in and out of the Tahoe Basin
- Conducted 1800 individual surveys and eight focus groups in and out of the Basin
- Held numerous meetings of 11 technical working groups
- Held 17 Forum Meetings with numerous subcommittee meetings
- Held 12 Place-Based planning workshops and two Latino community workshops
- Conducted countless working meetings among the four Pathway agencies.

1.5.1 IMMEDIATE RECOMMENDATIONS

Staff recommends implementing the threshold specific recommendations listed below and pursuing implementation of the recommendations identified in the Chapters 2 through 10 of this Evaluation as part of the Regional Plan update. Staff also recommends linking key implementation strategies with recommendations such as EIP implementation, BMP program upgrades, transit improvements, or scenic standards to future development. These recommendations will, where possible, provide near-term corrective strategies promoting threshold attainment.

A. Future Development for the next 5 year review period and for 20 years.

Permissible future development targets for the five year evaluation period and the next 20 year Regional Plan shall be established by the Pathway 2007 process. As was done in the last three Evaluations, it is recommended that interim allocations be established until the Pathway process can establish the targets. Additional development for the interim period until the 2008 adoption of the updated Regional Plan will not exceed that which was projected for the 1987 to 2007 period pursuant to the October 2006 Governing Board action setting forth interim allocations.

B. Water Quality Mitigation Fee Amendment

The last modification to the water quality fee was in 1996 with that threshold evaluation. The current fee is \$1.54 sq. ft. of new land coverage based on an established formula. The recommendation is to adopt an increase of \$2.00/sq.ft.

C. Air Quality Mitigation Fee Amendment

During each five-year threshold evaluation, the Air Quality mitigation fees are reevaluated to determine what the costs would be to offset the development that would be approved during the subsequent five-year period based on cost of construction index. The recommendation is to adopt an increase in the cost to mitigate additional vehicle trips approved in the Region from \$30 per daily vehicle trip end (DVTE) to \$33 per DVTE for commercial-type trips, and from \$270 per DVTE to \$295 per DVTE for residential-type production trips.

D. Threshold Update Amendments

A major conclusion of this evaluation is that many elements of the 20+ year old thresholds require extensive re-evaluations for either recalibration or amendment. The management system itself needs to be updated and coordinated with other agencies. TRPA should pursue the adoption of amendments to the environmental threshold

carrying capacities developed and recommended as part of the Environmental Documentation and Pathway 2007 process. Figure 1.7 summarizes the proposed amendments and threshold goals. Some of the amendments illustrated in figure 1.7 are scheduled for action with the adoption of the Regional Plan package in 2008 while others will require further development and analysis by TRPA. The indicators for proposed threshold standards vary in their stage of development, i.e. Types I, II, and III. Some are based on more complete scientific information and are therefore better-defined (Type I) than those that are only conceptually identified (Types II and III) and need to be more fully developed. Precise definitions are:

- *Type I.* The indicator directly represents the condition with respect to the threshold goal, has well-established monitoring and analysis protocols and a historical dataset to show current condition. A measurable standard can be directly linked to the threshold goal without further investigation.
- *Type II.* The indicator directly represents the condition with respect to the threshold goal; monitoring and analysis protocols are established with minor adjustments potentially necessary; baseline or background information may be needed to establish a numeric level for current conditions. A measurable standard will directly link to the threshold goal; however some additional investigation may be required to determine the appropriate measurable standard.
- *Type III.* The indicator is expected to represent the condition with respect to the threshold goal; monitoring and analysis protocols and specific parameters may require further investigation to develop the indicator; baseline data may be needed to establish a numeric level for current conditions. Further analysis is required to develop a measurable standard that will directly link to the threshold goal.

The recommended standards and indicators are based on the collaborative efforts of the four Pathway Agencies as documented in the Pathway Evaluation Report (Version 1.1, 2006). TRPA staff has made minor modifications to the Pathway recommendations for technical reasons and, are proposing to move forward with a subset of standards (Table 1.1) and Type I indicators. As indicated above standards that are associated with Type II or Type III indicators are not proposed for adoption at this time but would continue to be developed and analyzed by TRPA.

1.5.2 Environmental Improvement Program Recommendations

Continue to update and implement the Environmental Improvement Program. In the 2001 Threshold Evaluation, TRPA identified the EIP restoration effort as key to the long term achievement and maintenance of thresholds. For the period from 1996-2001, TRPA focused on organizing and securing funding for the EIP. Now, TRPA must ensure that the resources flowing into the Tahoe Basin for EIP implementation are efficiently and effectively utilized so that significant progress toward threshold attainment may be demonstrated in the next five years. TRPA and its partners are working to secure funding for the next phase of EIP to sustain the investment in Lake Tahoe's future. In the next phase of EIP, projects will be consistent with the proposed desired conditions identified for the Lake Tahoe Basin in the Pathway process. This recommendation includes completing the current 2007 and the 2008 EIP Updates and the Regional Plan Update due in 2008.

1.5.3. Pathway 2007 Threshold and Regional Plan Update Process Recommendations

TRPA will use the recommended threshold updates as the platform to construct the new

2008-2028 Regional Plan. Basic to this strategy is that TRPA and its partners will develop and implement the Regional Plan Package including the needed institutional relationships, the adaptive management system, and the financing package. In addition, an Environmental Impact Statement (EIS) will analyze potential environmental impacts of the proposed threshold updates and revisions to the Regional Plan.

Table 1-1. Summary of Proposed Changes to Threshold Standards and Associated Indicators for the Regional Plan Update

Threshold Category	Threshold Goal/Value Statement	Threshold Standard Component	Proposed Action
Air Quality	Human & Ecosystem Health	Carbon Monoxide	Adopt California Standard for the Lake Tahoe Region.
Air Quality	Human & Ecosystem Health	Ozone	Adopt California air quality standard for Ozone for the Lake Tahoe Region.
Air Quality	Human & Ecosystem Health	PM ₁₀	Adopt California air quality standard for PM ₁₀ for the Lake Tahoe Region.
Air Quality	Human & Ecosystem Health	PM _{2.5}	Adopt California air quality standard for PM _{2.5} for the Lake Tahoe Region.
Noise	Single Event Noise Sources	Off-highway vehicle noise	Adopt California noise standard for Off-highway vehicles for the Lake Tahoe Region.
Noise	Single Event Noise Sources	On-highway vehicle noise	Adopt California standard for the Lake Tahoe Region.
Noise	Single Event Noise Sources	On-Highway motorcycles	Adopt California standard for the Lake Tahoe Region.
Soil Conservation	Land Coverage and Disturbance	Land Coverage (Impervious Cover)	Adopt 2006 NRCS Soil Survey to replace 1974 soil survey.
Vegetation	Forest Fuels	Predicted Fire Behavior	Add new public health and safety Threshold Standard to Vegetation Threshold Category to reduce potential for catastrophic fire in the basin.
Vegetation	Special Status Plant Species	All	Add Management Standard to protect plant species listed by USFS, Region 5.
Water Quality	Lake Clarity	Pelagic Lake Tahoe clarity (transparency)	Change existing <u>Winter</u> Average Threshold Standard Secchi depth of 33.4 m to <u>Annual</u> Average Secchi depth of 29.7 m
Wildlife/ Fisheries	Aquatic/Riparian Ecosystem Integrity	Lake Tahoe - Littoral Fish Habitat	Update fish habitat maps per Metz and Harold (2004) report.
Wildlife/ Fisheries	Special Interest Species	Northern Goshawk	Update approach to delineate disturbance zones from a radius to the equivalent acreages (0.5 mile radius = 500 acres) to capture most Northern Goshawk nesting and feeding habitat.

Figure 1.7

Recommended Environmental Threshold Carrying Capacity Update

Proposed New Threshold/Adaptive Management Format

Key:

Vision

Statement of the overall desired future conditions of the Resource.

Desired Condition
(Threshold Value Statement)

Statement of a Compact "significant Scenic, Recreational, Educational, Scientific or Natural Value of the Region" (a.k.a. Threshold Value Statement)

Threshold Assessment Indicator
(Indicator)

An Assessment Measurement of Threshold Attainment (a.k.a. Chapter 32 threshold indicator)

Threshold Standard
(Numerical, Management, Policy)

The Assessment Measurement Standard that signifies Threshold Attainment (a.k.a. Threshold Numerical Standard. Management Standard. or Policy)

Other Desired Conditions, Indicators and Standards to be tracked in the Adaptive Management System but are not recommended to be TRPA Thresholds.

Figure 1.7

The proposed threshold updates vary in their current level of indicator and standard development. Type I thresholds are well-defined, Type III thresholds are mainly conceptual at this time, and Type II thresholds are intermediate in their level of development. Precise definitions are:

- *Type I.* The indicator directly represents the condition with respect to the desired condition, has well-established monitoring and analysis protocols and a historical dataset to show current condition. A measurable standard can be directly linked to the desired condition without further investigation.
- *Type II.* The indicator directly represents the condition with respect to the desired condition; monitoring and analysis protocols are established with minor adjustments potentially necessary; baseline or background information may be needed to establish a numeric level for current conditions. A measurable standard will directly link to the desired condition; however some additional investigation may be required to determine the appropriate measurable standard.
- *Type III.* The indicator is expected to represent the condition with respect to the desired condition; monitoring and analysis protocols and specific parameters may require further investigation to develop the indicator; baseline data may be needed to establish a numeric level for current conditions. Further analysis is required to develop a measurable standard that will directly link to the desired condition.

Figure 1.7

AIR QUALITY

Air Quality Vision

Air quality in the Lake Tahoe Basin is healthful for residents, visitors, and ecosystems and supports excellent visibility.

Proposed Desired Conditions

1 Visibility

Visibility in the Lake Tahoe Basin is at 2001 – 2003 levels or better.

2 Human and Ecosystem Health

Air quality in the Lake Tahoe Basin is healthy for humans and ecosystems.

Proposed Indicators

Visibility

Basin-wide and local light extinction -- light extinction allows calculation of visible range. (Type I)

Human and Ecosystem Health

Number of exceedances of health standards for: carbon monoxide; ozone; and particulate matter and targets for vehicle miles traveled (VMT) reduction shall be developed after 2008. (Human Health: Type I; Ecosystem Health: Type III)

Proposed Standards

Basin-wide Visibility

Light extinction calculated at Bliss State Park equivalent to 116 miles of visual range for 50% of the year and 72 miles of visual range for 90% of the year.

Local Visibility

Light extinction calculated at South Lake Tahoe equivalent to 58 miles of visual range for 50% of the year and 34 miles of visual range for 90% of the year.

Standards at other locations in the Lake Tahoe Basin will be adopted once baseline monitoring data is available after 2008

Human Health

Zero exceedances of the most restrictive Federal, California or Nevada human health standards for ozone, for carbon monoxide and for particulate matter.* Existing VMT standard in place until new standards adopted.**

Ecosystem Health

To be established after 2008 as air pollutant impacts to ecosystems are identified.

Figure 1.7

Air Quality (cont.)

***Recommended Air Quality Standards for Human Health.**

Pollutant	Indicator	Standard
Carbon Monoxide	Highest 8-hour average – Not to equal or exceed:	6 ppm
	Highest 1-hour average – Not to exceed:	20 ppm
Ozone	Highest 1-hour average – Not to exceed:	0.09 ppm
	Highest 8-hour average – No to exceed:	0.07 ppm
PM ₁₀	Annual arithmetic mean – Not to exceed:	20 µg/m ³
	Highest 24-hour average – Not to exceed:	50 µg/m ³
PM _{2.5}	Annual arithmetic mean – Not to exceed:	12 µg/m ³
	Highest 24-hour average – Not to exceed:	25 µg/m ^{3a}
<p>Note:</p> <p>^a The 24-hour standard of 25 µg/m³ is currently <i>proposed</i> by California Air Resources Board (CARB). Should CARB adopt this standard, it will automatically apply to the entire Basin.</p> <p>ppm = parts per million µg/m³ = micrograms per cubic meter</p>		

****Existing TRPA Standard**

AQ-7 Vehicle Miles Traveled: Reduce vehicle miles traveled by 10% of the 1981 base year values.

Figure 1.7

WATER QUALITY

Water Quality Vision: Exceptional water quality provides restored clarity, environmental and human health, and human enjoyment of Lake Tahoe waters.

Proposed Desired Conditions

1. Lake Tahoe Clarity

Restore, and then maintain the waters of Lake Tahoe for the purposes of human enjoyment and preservation of its ecological status as one of the few large, deepwater, ultraoligotrophic lakes in the world with unique transparency, color and clarity.

2. Human & Environmental Health

Water quality conditions in the Lake Tahoe basin protect human and environmental health.

Proposed Indicators

Pollutant Loading Sources

Measurement of fine sediment, nitrogen and phosphorus loads from tributaries, storm water, stream channel erosion, ground water, and atmosphere. (Type III)

Pollutant Loading Effects

Secchi depth measurement in deep water of Lake Tahoe. (Type I).
Nearshore (shallow) aesthetics (Type III).

WQ Health Conditions Report

Summary of health-based water quality information and data from Tahoe Basin ground and surface waters. (Type II)

Index of Biological Integrity (IBI)

To be determined by Wildlife and Fisheries Technical Working Group. (Type II)

Proposed Standards

Pollutant Load Reductions

The TMDL Process (including modeling efforts) will be used in concert with the management strategies to determine pollutant reductions for achieving the clarity standards by 2008

Clarity

Secchi depth transparency shall not be less than annual average of 29.7 m. (Appropriate nearshore aesthetic standard(s) will be developed after 2008.)
Existing (shallow) turbidity standard in place until new standards adopted.*

WQ Violations

Compliance with established federal, state and local standards.

IBI Index –

See standards for Index of Biological Integrity, reference Wildlife and Fisheries Chapter.

Figure 1.7

Water Quality (cont.)

*Existing TRPA Standard

WQ-1 Turbidity (Shallow): Decrease sediment load as required to attain turbidity values not to exceed three NTU. In addition, turbidity shall not exceed one NTU in shallow waters of the Lake not directly influenced by stream discharges.

Figure 1.7

SOIL CONSERVATION

Soil Conservation Vision:

Soil resources are conserved for the betterment of the environment and public. Soils function naturally, and land-use activities are assigned to suitable soils and landscape settings. Risks to life and property from natural hazards are reduced to acceptable levels.

Proposed Desired Conditions

1. Land Coverage and Disturbance

Land coverage, on a watershed basis, does not exceed the capability of the soil resources to offset the effects of impervious cover.

The effects of impervious cover and disturbance are fully mitigated on a storm water zone basis.

2. Urban Soil Function

For urban lands, soil functioning is enhanced and land-use activities do not exceed soil capacity to absorb the effects of disturbance on a parcel and/or storm water zone basis.

3. Forest Soil Function*

Soils function commensurate with their land use to sustain native plant and animal life, regulate water flow, flooding and infiltration, cycle nutrients, and filter pathogens, excess nutrients and other pollutants.

* Includes conservation lots in urban area.

Proposed Indicators

1. Land Coverage and Disturbance Indicators

Acres of land coverage, by soil type, capability class, and watershed (Type I)

Percent of urban areas covered by soil conservation / storm water plans (Type I)

Effectiveness of soil conservation / stormwater plans (e.g. pollutant load reduction, BMP implementation, etc.) (Type III for SC/SW plans, Type I for BMPs)

2. Urban Soil Function Indicators

Ground cover (Type III)
Saturated hydraulic conductivity (Type II)
Runoff (Type II)
Soil Strength (Type II)
BMP Implementation (Type II)

Note: All indicators defined by the 2006 soil survey update and supplemental field studies of urban land.

3. Rural/Forest Soil Function Indicators

Porosity (soil strength & bulk density) (Type II)
Effective ground cover (Type II)
Saturated hydraulic conductivity (Type II)
Organic matter and topsoil (Type II)
BMP implementation and effectiveness (Type I, from BMPEP Program)

Figure 1.7

Proposed Standards

1a. Land Coverage Threshold Standard*

Land coverage, by land capability class on a watershed basis, shall not exceed the allowable percentage of impervious cover as specified in the Appendix of Land-Capability Classification of The Lake Tahoe Basin, California-Nevada, as amended by the 2006 soil survey update.

1b. Land Coverage and Disturbance Management Standard

All areas significantly affected by land coverage and contemporary disturbance shall implement soil conservation / storm water plans

2. Urban Soil Function Management Standard

Soil erosion, nutrient export, runoff and detention on urban lands do not exceed natural rates on a parcel and/or storm water zone basis.

3. Forest Soil Function Management Standard

Implement conservation, enhancement and restoration measures to achieve natural soil functioning.

Figure 1.7

Stream Environment Zone (SEZ) Vision:

SEZs function at natural levels within the context of the watershed, and provide values commensurate with their functions. Societal and beneficial uses of SEZ such as water management, cultural and scientific purposes, limited agriculture and recreation, are compatible with the naturally functioning conditions of SEZ lands.

Proposed Desired Conditions

4. SEZ Physical and Chemical Function

SEZ physical and chemical processes function properly within the constraints and dynamics of the watershed, including, but not limited to, natural hydrologic processes, water quality, and stormwater treatment capacity.

5. SEZ Biological Function

SEZ biological processes function properly within the constraints and dynamics of the watershed. Vegetation, terrestrial wildlife, and aquatic communities are healthy and sustainable.

6. Watershed Function

Watershed characteristics, such as hydrologic, fluvial and littoral geomorphic processes, approximate natural conditions where attainable.

7. SEZ Societal Values

Beneficial uses of SEZ lands for water management, cultural and scientific purposes, limited agriculture, and recreation are compatible with the proper functioning conditions, as stated by desired conditions for physical, chemical and biological functioning.

4 & 5. Indicators of Naturally Functioning SEZs

Physical and Chemical Indicators

- Acres of SEZ Restoration Projects (Type I)
- SEZ Hydrologic Function Index (Type III)
- Stream/SEZ Condition Inventory (Type II)
- Water Quality Index (Type III)
- Stormwater Treatment Capacity Index (Type III)

Biological Indicators

- SEZ Veg. Condition Index (Type II)
- Terrestrial Wildlife Habitat Index (see Fish+Wildlife)
- Aquatic Habitat Index (see Fish and Wildlife)

6. Watershed Function Indicators

- Impervious Cover and Location (Type I)
- Percent SEZ Projects done under watershed plans (Type I)
- Hydrographs and Stream Channel Condition (Type III)
- Littoral Function Index (Type III)

7. Societal Indicators

None Proposed

Proposed Standards

4 & 5. SEZ Restoration Threshold

Preserve, enhance and maintain existing naturally functioning SEZ lands.

Enhance and/or restore natural function to all disturbed, degraded SEZ lands in undeveloped, unsubdivided lands, in accordance with land use plans and applicable regulations.

Additionally, restore natural function to 1100 acres of SEZ situated in zones designated as disturbed, developed or subdivided lands in 1986.

Note: Properly functioning SEZ includes, but not limited to, hydrologic function.

6. Watershed Function Management Standard

All SEZ restoration is performed in the context of watershed restoration plans.

Restore and enhance riverine, palustrine, and littoral processes to proper functioning where attainable.

Figure 1.7

Figure 1.7

FORESTS and VEGETATION

Forests and Vegetation Vision

Vegetation in the Lake Tahoe Basin is healthy and dynamic with the full complement of native plant communities, wildlife habitats and ecological processes.

Proposed Desired Conditions

1: Healthy Forests and Vegetation

A full range of native species, development stages, habitats and ecological processes occur.

2: Plant Communities of Concern

The natural conditions and functions of plant communities of concern are sustained.

3: Special Status Species

Populations of, and environmental conditions and processes important to native threatened, endangered, rare, special interest or sensitive species are maintained at a level which insures sustainability.

4: Hazardous Fuels

Fuel conditions pose low wildfire risk to communities.

5: Urban Vegetation

Vegetation in the urban zones is predominantly native, water-efficient and non-invasive. Urban vegetation contributes to defensible space, water quality protection, and scenic and local community values.

Proposed Indicators

Healthy Forests and Vegetation

Departure from historic vegetation structure. (Type I)

Plant Communities of Concern

Ecological status index. (Type I)

Special Status Species

Conservation status (high, medium, low priority) (Type I)

Hazardous Fuels

Predicted fire behavior. (Type I)

Urban Vegetation

Proportion of parcels that meet approved vegetation criteria. (Type III)

Proposed Standards

Achieve 3% reduction in departure from historic* for each vegetation/ forest type over 5-year evaluation period.

Maintain or improve the ecological status of all monitored locations in an evaluation period.

Maintain existing occurrences of high and medium priority species.

Predicted fire behavior in treated areas of urban and WUI zones does not exceed surface fire type.

None proposed at this time

* Historic is based on reconstructive vegetation structure studies that are adjusted for climatic and human caused changes.

Figure 1.7

Figure 1.7

WILDLIFE AND FISHERIES

Vision

Environmental conditions in the Lake Tahoe Basin support healthy and sustainable native terrestrial and aquatic animal populations and vegetation communities.

Proposed Desired Conditions

1. Biological Integrity of Terrestrial Ecosystems:

The functional, physical, chemical and biological integrity of the Basin's terrestrial ecosystems are maintained at or above a sustainable level.

2. Sustainability of Special Status Species:

Populations of, and environmental conditions and processes important to native threatened, endangered, rare, special interest or sensitive species are maintained at a level which insures sustainability.

3. Biological Integrity of Aquatic Ecosystems:

The functional, physical, chemical and biological integrity of the Basin's aquatic ecosystema are maintained at or above a sustainable level.

Proposed Indicators

1. Biological Integrity of Terrestrial Ecosystems:

Proportion of Terrestrial Ecosystem component benchmarks (as measured with a vertebrate - index of biological integrity and other relevant indicators) met or exceeded within an evaluation period. (Type II)

2. Sustainability of Special Status Species:

Proportion of Special Status Species that meet or exceed benchmarks (as measured by Productivity, Abundance, or Presence/ Absence and attribute indicators) within an evaluation period. (Type II)

3. Biological Integrity of Aquatic Ecosystems:

Proportion of Aquatic Ecosystem component benchmarks as measured with various indexes of biological integrity and other relevant indicators met or exceeded within an evaluation period. (Type II)

Proposed Standards

All component benchmarks for terrestrial ecosystems are met or exceeded within an evaluation period.

Components Include:

- Montane Vegetation Zone
- Upper Montane Vegetation Zone
- Sub-alpine Vegetation Zone

Existing wildlife habitat ETCC in effect until amendments are approved.*

At least 20% of the benchmarks for Special Status Species (SSS) are met or exceeded within the first evaluation period. At least 40% of the benchmarks for SSS are met or exceeded by the second evaluation period. At least 60% of the benchmarks for SSS are met or exceeded by the third evaluation period. At least 80% of the benchmarks for SSS are met or exceeded by the fourth evaluation period.

All benchmarks for aquatic ecosystem components are met or exceeded within an evaluation period.

Components Include:

- Streams
- Lake Tahoe
- Wetlands
- Small Lakes

Existing lake** and stream *** ETCC in effect until amendments are approved.

Wildlife and Fisheries (cont.)

Existing Threshold Standards

* W-2 Habitats of Special Significance

A nondegradation standard shall apply to significant wildlife habitat consisting of deciduous trees, wetlands, and meadows while providing for opportunities to increase the acreage of such riparian associations.

** F-1 Lake Habitat

A nondegradation standard shall apply to fish habitat in Lake Tahoe. Achieve the equivalent of 5,948 total acres of excellent habitat as indicated by the Prime Fish Habitat Overlay Map dated 5/19/97 as may be amended from time to time.

*** Stream Habitat (F-2)

Maintain the 75 miles of excellent, 105 miles of good, and 38 miles of marginal stream habitat as indicated by the Stream Habitat Quality Overlay map, amended May 1997, based upon the re-rated stream scores set forth in Appendix C-1 of the 1996 Evaluation Report.

Figure 1.7

SCENIC QUALITY

Scenic Quality Vision

The Lake Tahoe Basin is internationally recognized for its outstanding natural beauty and is a resource of national significance. Characteristic views within the Basin are of the natural appearing forest, meadows, mountains, and expansive blue lake. The built environment harmonizes with this natural appearing setting in a sustainable manner that supports a vibrant community and healthy economy.

Proposed Desired Conditions

Natural Environment

Scenery viewed from Lake Tahoe and the Basin's major roadways, public recreation areas, trails, and urban centers predominantly displays natural appearing forest, meadows, mountains, and the shoreline of Lake Tahoe. Development, where visible, complements the natural setting.

Community Design

Communities of the Lake Tahoe Basin are planned and designed with aesthetic characteristics that respect the local natural systems. Lake Tahoe's built environment is diverse yet appropriate in scale and style. It helps foster the identity of individual communities and a sense of place.

Dark Sky

Views of the night sky from the naturally appearing areas of the Basin are conducive to star gazing. Light emanating from the built environment is carefully controlled to ensure safety and security without encroaching on the regional dark sky.

Proposed Indicators

Scenic Integrity

How much development is visible, its visual contrast, its level of dominance, and the number of viewpoints from which it is seen (Type I).

Scenic Quality Ratings

Measures the scenic quality of natural landscape views of individual scenic resources that can be seen from the travel routes, designated public recreation areas and bike trails (Type I).

Community Design and Development Measures

Implementation of applicable design and development measures (Type II): Height, bulk, texture, form, materials, colors, lighting, signage, and siting.

Proposed Standards

Scenic Integrity Levels

Maintain or achieve the assigned numerical scenic integrity level rating assigned to each roadway and shoreline unit to achieve the desired condition for scenic resources.

Scenic Quality Ratings

Maintain or improve the numerical rating assigned each resource as recorded in the Scenic Resources Inventory. Maintain or improve the numerical rating assigned to each identified scenic resource, as recorded in the 1993 Lake Tahoe Basin Scenic Resource Evaluation

Community Design Index Level

Implementation of Development and Design Measures (height, bulk, texture, form, materials, colors, lighting, signage, siting and other design elements) in new, remodeled and redeveloped buildings to be compatible with the natural, scenic, recreation, and community desired visual values for the Region.

NOISE

Noise Vision: Noise levels provide for community and neighborhood serenity, abundant quiet recreational areas, and are not harmful to wildlife.

Proposed Desired Conditions

1. Single Event Noise Sources

Single event noise levels are controlled to preserve the serenity of the community and neighborhood and provide abundant quiet recreation areas.

2. Cumulative Noise Levels

Community noise levels are controlled to preserve the serenity of the community and neighborhood and provide abundant quiet recreation areas.

3. Effects on Wildlife

Noise levels are controlled to protect wildlife.

Proposed Indicators

Noise Events

1. Number of individual exceedances.
2. Number of corrective actions taken.
3. Percent of planned monitoring completed.
 - a. On-Highway Vehicles (Type I)
 - b. Off-Highway Vehicles (Type I)
 - c. Over-Snow Vehicles (Type I)
 - d. Watercraft (Type I)
 - e. Aircraft -Airport (Type I)
 - f. Aircraft – Non-Airport (Type III)

Cumulative Noise Levels

1. Number of exceedances of the CNEL 24 hr standards. (Type I)
2. Number of exceedances of the 1 hr standards. (Type II)

Effect on Wildlife

Further investigation of the appropriate limits will be done by wildlife experts post 2008.

Proposed Standards

On-Hwy Vehicles – Same as the current CA and NV stds. (20" exhaust std for motorcycles.*

OHVs – Same as the current CA stds. Basin wide.*

Over-Snow Vehicles – 73 db or equivalent std.*

Watercraft – Same as current TRPA stds.*

Aircraft – Airport Existing Standard *
– Non-Airport to be developed post 2008)

Numerical standards will be based on those currently adopted.** In addition, hourly noise levels for each area will be developed and proposed by 2008.

Currently Under development.

Will be jointly developed with wildlife programs for appropriate levels, post 2008.

Noise (cont.)

* Proposed Single Event Standards

The following maximum noise levels are allowed: All values are in decibels)

Source	Threshold - dBA			Monitoring Distances
	Overall	Less Than 35 MPH	Greater Than 35 MPH	
Aircraft	80 ¹	--	--	6,500 m-start of takeoff roll 2,000 m-runway threshold approach
	77.1 ²	--	--	6,500 m-start of takeoff roll 2,000 m-runway threshold approach
Other Aircraft ⁴	TBD			
Watercraft ³				
1. Pass-By Test	82 L _{max}	--	--	50 ft.-engine at 3,000 rpm
2. Shoreline Test	75 L _{max}	--	--	Microphone 5 ft. above water, 2 ft., above curve of shore, dock or platform. Watercraft in Lake, no minimum distance.
3. Stationary Test	88 dBA L _{max} for boats manufactured before January 1, 1993;	--	--	Microphone 3.3 feet from exhaust outlet - 5 feet
	90 dBA L _{max} for boats manufactured after January 1, 1993	--	--	
Motor Vehicles Less Than 6,000 GVW	--	76	82	50 ft.
Motor Vehicles Greater Than 6,000	--	82	86	50 ft.
Motorcycles ⁵	--	77	86	50 ft.
	TBD			20"
Off-Road Vehicles ⁵	--	72	86	50 ft.
	TBD			20"
Snowmobiles ⁵	--	82	--	50 ft.
	73			TBD
<p>1. The single event noise standard of 80 dBA L_{max} for aircraft departures at Lake Tahoe Airport shall be effective immediately. The single event noise standard of 80 dBA L_{max} for aircraft arrivals at Lake Tahoe Airport is not to be effective until ten years after the adoption of an airport master plan by TRPA. The schedule for phasing in the 80 dBA arrival standard shall be based on a review and consideration of the relevant factors, including best available technology and environmental concerns, and shall maximize the reduction in noise impacts caused by aircraft arrivals while allowing for the continuation of general aviation and commercial service. The beginning arrival standard shall not exceed 84 dBA for general aviation and commuter aircraft, and 86 dBA for transport category aircraft.</p> <p>2. Between the hours of 8 p.m. and 8 a.m.</p> <p>3. Failure to meet any one of these three test standards exceeds the single noise event threshold for watercraft.</p> <p>4. Non-Settlement agreement aircraft noise levels & procedures are currently under development.</p> <p>5. Additional to be determine standards (TBD) will be completed with the adoption of the Regional Plan Update</p>				

Noise (cont.)

**** Existing and Proposed Cumulative Noise Level Standards**

Cumulative Noise Level Standards*	
Land Use Classification	
Areas	24-hr CNEL db
High Density Residential	55
Low Density Residential	50
Hotel/Motel Facilities	55
Commercial Areas	60
Industrial Areas	65
Urban Outdoor Recreation Areas	55
Rural Outdoor Recreation Areas	50
Wilderness and Road less Areas	45
Critical Wildlife Habitat Areas	45
Transportation Corridor Standards	
Highway	24-hr CNEL db
50	65
28	55
89	55
207	55
267	55
431	55
South Lake Tahoe Airport	60
* Per TRPA Goals and Policies	

TRANSPORTATION

(Not Proposed as a Threshold)

Transportation Vision

An innovative multimodal transportation system is in place that gives priority to viable alternatives to the private automobile, appeals to users and serves mobility needs, while improving the environmental and socioeconomic health of the Basin.

Desired Conditions

Mobility/Socio-Economic Vitality

A multimodal transportation system that promotes viable alternatives for mobility needs, encourages alternative mode use, and decreases dependency on the private automobile.

Environmental Impacts

The transportation system is integrated with environmental goals.

Proposed Indicators

Mobility/Socioeconomic Indicator

An index that includes “usage” and “access” indicators such as: (Type II)

Usage

1. Percentage of Travel to Recreation Sites via Non-Auto Modes
2. Percentage of Travel to Commercial Core Areas via Non-Auto Modes.
3. Non-Auto Mode Share within and into the Basin.

Access

1. A Measure or Measures of Transit, Bicycle, and Pedestrian Access to Recreation Facilities.
2. A Measure of Commercial Core Areas Meeting Transit-Oriented Design (TOD) Standards.
3. A Measure or Measures of Overnight Population (resident and visitor) served by Transit, Bicycle, and Pedestrian Facilities.

Transportation Environmental Impact Indicator

For Transportation purposes, the Vehicle Miles Traveled (VMT) indicator and standard will be replaced by a **Vehicle Impact** indicator and standard and VMT will continue to be in place as a Air Quality Threshold. This will be either: an indicator directly relating vehicle impacts to water quality goals, based on targets identified by the TMDL; OR a traffic volume or vehicle-miles traveled indicator, with a standard based on technically feasible but challenging reductions identified through the traffic model, which will be ready by the end of 2007.

Other **Environmental Indicators** for Transportation will be housed in other environmental resource areas. Specific attention will be given to the integration with **Water Quality, Air Quality, Wildlife, Vegetation, Noise, Scenic, and SEZ.**

Transportation (cont.)

Proposed Standards

Usage

1. Percentage of Travel to Recreation Sites via Non-Auto Modes. Standard to be determined after 2007.
 2. Percentage of Travel to Commercial Core Areas via Non-Auto Modes. Standard to be determined after 2007.
 3. Non-Auto Mode Share within the Basin. Standard to be determined after 2007.
- Non-Auto Mode Share into the Basin. Standard to be determined after 2007.

Access

1. A Measure or Measures of Transit, Bicycle, and Pedestrian Access to Recreation Facilities. Standard to be determined by August 2006 (tentative).
2. A Measure of Commercial Core Areas Meeting Transit-Oriented Design (TOD) Standards. Standard to be determined by August 2006 (tentative).
3. A Measure or Measures of Overnight Population (resident and visitor) served by Transit, Bicycle, and Pedestrian Facilities. Standard to be determined by August 2006 (tentative).

Numeric standard for Transportation Environmental Impact Indicator to be set after 2007.

RECREATION

Recreation Vision

The Lake Tahoe Basin's unique natural, cultural and human environments provide sustainable recreation opportunities consistent with public desires and natural resource capacities. Recreation is linked to irreplaceable natural assets, the regional economy, and social well-being.

Proposed Desired Conditions

1: Opportunity

Provide a suitable spectrum of high-quality recreational opportunities while sustaining Lake Tahoe's natural setting as an outstanding recreation destination.

2: Access

Provide additional high-quality access where lawful and feasible to natural areas and shorezone consistent with desired resource conditions and user expectations.

3. Education

Residents and visitors are educated about the recreation opportunities, appropriate behavior and the unique natural and cultural environments of Lake Tahoe.

NOTE: No indicators or standards recommended.

Proposed Indicators

OPPORTUNITY

1. Rec Survey: Quality of opportunities (Type I)
2. Number of recreation opportunities (Type I and II)
3. Implementing adopted recreation plans (Type III)

ACCESS

1. Available access to public land, shorezone, and trails (Types I and II)
2. Rec Survey: Access quality (Type I)

Proposed Standards

OPPORTUNITY

1. - Response demonstrates that the majority of opportunity attributes indicate high quality experiences.

- Recreation providers respond when recreation quality does not meet the desired condition.

2. Maintain existing # of inventoried Tahoe resource-dependent public recreation facilities & opportunities and improve or create 10% of that baseline # of facilities every five years.

3. Specific recreation providers shall identify their top priority projects that meet the desired condition from adopted recreation plans and pursue implementing 50% of their list during the plan period.

ACCESS

1. Maintain and increase quantity of land available for public recreation access by:

- Continuing Federal and State Public Land Acquisition Programs. *Target:* 20,275 additional acres

- Increasing public shoreline ownership to 50% for Lake Tahoe. *Target:* 9,701.34 additional linear feet

- Ensuring no net loss of shoreline that currently provides public or quasi-public access to Lake Tahoe. *Target:* 100% retained (linear feet)

- Retaining all existing acreage associated with public ROWs and easements that provide access to public lands and waterways. *Target:* 100% retained (acres)

- Trails Built, Designated, Relocated or Improved/Upgraded: *Target:* 50 miles every 5 years, paved; 20 miles every 5 years, unpaved

- # New Trailheads Developed, or Existing Threshold Improved or Newly Served by Transit: *Target:* One every two years

2. Response indicates that the majority of recreation access attributes indicate high quality access.

SOCIO-ECONOMICS

(Not Proposed as a Threshold)

SOCIO-ECONOMICS VISION

There is a sustainable balance between environmental protection and conservation practices that provide the basis for the region's unique natural characteristics, a base recreation and tourism economy, other diverse economic sectors, attractively built communities, diverse social populations, and an exceptional quality of life. The Lake Tahoe Basin as an international model for sustainable alpine communities that applies the best known practices in economic development, environmental protection, regulatory and planning process, community design, and inclusive resident and visitor communities

Proposed Desired Conditions

1: Sustainable Economy

The economy has sustainable employment and earnings to capitalize on the base recreation/tourism sector, seek opportunities for economic diversity, and revitalization.

2: Housing Opportunities

There are housing opportunities for full-time and seasonal residents, with attention to workers employed within the Basin.

3: Town Centers

Tahoe has pedestrian-friendly town centers with diverse businesses and public services co-located with efficient non-auto oriented transportation options.

4: Social Communities

Tahoe is a stable socially-diverse community, with opportunities for locally-owned businesses, a strong educational system, visual and performing arts, cross-cultural events, and an active and responsible community.

5: Regulatory Framework

There is a responsive and effective, user-friendly regulatory framework with consistency across all federal, state, and local regulatory agencies for all projects.

Proposed Indicators

1. Wage and earnings index (Type II)
2. Business Tenure (Type II)
3. Seasonal/Yearly employment ratio (Type II)
4. Employment Rates (Type II)
5. Tourism Index (Type II)
6. Business Diversity Index (Type I)

1. Housing Stock Index (Type II)
2. Median Housing Index (Type II)
3. Median Rental Rate (Type II)
4. Seasonal Housing Index (Type III)
5. Resident Housing Index (Type III)

1. Transit oriented development Index (Type III)
2. Public Space (Type II)
3. Public Transportation Utilization (Type III)
4. Commercial Core Index (Type III)
5. Design and Development Standards Index (Type II)
6. Interpretive Information (Type III)

1. Stable Healthy Socially-Diverse Communities (Type II)
2. Community Involvement (Type III)
3. Business Ownership Index (Type II)
4. Education Index (Type II)
5. Culture Index (Type III)
6. Recreational Index (Type II)

1. Public Perception Indicator (Type II)

No Standards are proposed at this time

