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# Water Quality Management Plan for the Lake Tahoe Region

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## **Volume VI. Responsiveness Summary and Response to Comments**



November 30, 1988

WATER QUALITY MANAGEMENT PLAN  
FOR THE  
LAKE TAHOE REGION

VOLUME VI. RESPONSIVENESS SUMMARY  
AND RESPONSE TO COMMENTS

Tahoe Regional Planning Agency

November 30, 1988

WATER QUALITY MANAGEMENT PLAN  
FOR THE  
LAKE TAHOE REGION

- Volume I      Water Quality Management Plan
- Section I      Control Needs and Programs
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                    and Economic Impacts of the  
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## VOLUME VI. RESPONSIVENESS SUMMARY AND RESPONSE TO COMMENTS

### I. INTRODUCTION

The Tahoe Regional Planning Agency (TRPA) has prepared this water quality management plan under section 208 of the federal Clean Water Act (33 USC 466 et seq.) and the Code of Federal Regulations (40 CFR Parts 35 and 130). The preparation of these documents was supported, in part, by a grant to TRPA under section 208 of the federal Clean Water Act. Thus, this plan is also covered by the federal regulations for Public Participation Programs Under the Resource Conservation and Recovery Act, the Safe Drinking Water Act and the Clean Water Act (40 CFR Part 25). Section 25.8 of the public participation regulations requires TRPA to prepare a Responsiveness Summary which shall:

Identify the public participation activity conducted; describe the matters on which the public was consulted; summarize the public's views, significant comments, criticisms, and suggestions; and set forth the agency's specific responses in terms of modifications of the proposed action or an explanation for rejection of proposals made by the public.

The water quality management plan also constitutes an Environmental Impact Statement (EIS) pursuant to Article VII of the Tahoe Regional Planning Compact (P.L. 95-551, 94 Stat. 3233). In addition to the Responsiveness Summary, this volume also contains the TRPA Response to Comments on the draft plan and EIS, a list of persons commenting, and the actual comment letters. To the extent that the Responsiveness Summary and the Response to Comments overlap, TRPA has employed appropriate cross-references.

## II. RESPONSIVENESS SUMMARY

### A. PUBLIC PARTICIPATION ACTIVITIES

#### 1. Overview

The adoption of this water quality management plan is the culmination of a lengthy process of reviewing and revising TRPA's water quality policies since 1980. Subsequent to extensive amendments to the Tahoe Regional Planning Compact in 1980, TRPA adopted a 208 plan on May 28, 1981 ("1981 208 plan"). In adopting the 1981 208 plan, TRPA stated that the new plan would "be in effect only until the adoption by TRPA of a new Regional Plan, based on environmental threshold carrying capacities." (TRPA, 1981d, p. 1) The Compact amendments required TRPA to adopt environmental threshold carrying capacities ("thresholds") to protect the values of the Region, and to adopt a Regional Plan to attain and maintain the thresholds.

TRPA adopted a comprehensive set of thresholds on August 26, 1982. In April, 1984, TRPA amended the Regional Plan Goals and Policies and adopted Plan Area Statements as land use guidelines. A complete public participation process accompanied the development of the thresholds, the Goals and Policies, and the Plan Area Statements.

Litigation over the amendments ensued, and in June, 1984, the U.S. District Court, Eastern District of California, granted a preliminary injunction enjoining TRPA from accepting, reviewing, or approving project applications, except those the Court specifically exempted. In August, 1985, after attempting for a year to resolve the alleged deficiencies in the Regional Plan and settle the litigation, TRPA organized a Consensus Building Workshop to recommend resolutions to key issues surrounding the Regional Plan. The Workshop included not only TRPA, the plaintiffs, and interveners in the litigation, but also many other groups whose interests should be represented in any agreement on the Regional Plan. These additional groups represented conservation and property rights interests, governmental units, utilities, and other community interests.

The Consensus Building Workshop met regularly for 15 months, consuming over 16,000 hours of TRPA staff and participant time. The Workshop proposed consensus solutions to the key issues and, in September, 1986, TRPA adopted amended Regional Plan Goals and Policies reflecting their recommendations. In February, 1987, TRPA adopted a land use plan in the form of Plan Area Statements and Maps (TRPA, 1987d). In May, 1987, TRPA adopted the first 52 chapters of a Code of Ordinances implementing the Regional Plan (TRPA, 1987b). These actions led to settlement of the litigation and lifting of the preliminary injunction, and were also accompanied by a complete public participation process including, but not limited to, the Consensus Building Workshop.

After the settlement of the Regional Plan-related litigation, TRPA initiated the process of amending the 1981 208 plan to make it consistent with the new Regional Plan package. TRPA, the Lahontan Regional Water Quality Control Board, the California State Water Resources Control Board, the Nevada Division of Environmental Protection, and the U.S. Environmental Protection Agency, Region IX, convened a working group to identify and discuss 208-related issues and to recommend acceptable strategies and approaches to those issues. The working group met eleven times between August, 1987, and August, 1988. The Lahontan Board gave notice of each meeting of the working group, all meetings were open to the public, and public comment was invited. The proceedings of the working group are documented in four quarterly reports from TRPA to EPA Region IX (October 20, 1987; January 12, 1988; April 28, 1988; and July 28, 1988).

TRPA initiated public circulation of a draft Water Quality Management Plan on June 10, 1988. Pursuant to Article VII of the Tahoe Regional Planning Compact, TRPA accepted comments for 60 days on the draft plan, which constitutes an Environmental Impact Statement under the Compact. A joint workshop of the APC and the Lahontan Board subcommittee on the 208 amendments, noticed and open to the public, took place on August 3 to review and discuss the draft amendments. TRPA conducted public hearings on the draft amendments, as follows:

Advisory Planning Commission

July 13, 1988  
August 10, 1988  
September 14, 1988  
October 19, 1988

TRPA Governing Board

July 27, 1988  
August 24, 1988  
October 26, 1988  
November 30, 1988

2. Advisory Planning Commission

In accordance with Article III(h) of the Tahoe Regional Planning Compact, TRPA's Advisory Planning Commission (APC) includes:

The chief planning officers of Placer County, El Dorado County, and the City of South Lake Tahoe in California and of Douglas County, Washoe County and Carson City in Nevada, the executive officers of the Lahontan Regional Water Quality Control Board of the State of California, the executive director of the Air Resources Board of the State of California, the director of the State department of conservation and natural resources of the State of Nevada, the administrator of the division of environmental protection in the State department of conservation and natural resources of the State of Nevada, the administrator of the Lake Tahoe Management Unit of the United States Forest Service, and at least four lay members with an equal number from each State, at least half of whom shall be residents of the region. Any official member may designate an alternate.

The APC makes recommendations to TRPA on matters over which TRPA has jurisdiction and exercises powers. TRPA plans and ordinances are first submitted to the APC for review and recommendation, and the APC submits reports and recommendations on the pertinent matters to the Governing Board. Meetings of the APC are held on the second Wednesday of every month. (See TRPA Rules of Procedure, amended November 18, 1987.)

The names and addresses of the members of the APC, and identification of their affiliation, if any, are listed in Attachment 1.

### 3. TRPA Governing Board

Pursuant to Article III(a) of the Tahoe Regional Planning Compact, the TRPA's board consists of a California delegation and a Nevada delegation. The California delegation includes: one member appointed by each of the county boards of supervisors of El Dorado and Placer counties and one member appointed by the city council of the City of South Lake Tahoe; two members appointed by the Governor of California; one member appointed by the speaker of the assembly of California; and one member appointed by the senate rules committee of the State of California. The Nevada delegation includes: one member appointed by each of the boards of county commissioners of Douglas and Washoe Counties and one member appointed by the board of supervisor of Carson City; one member appointed by the Governor of Nevada; the secretary of State or her designee; the director of the Nevada Department of Conservation and Natural Resources or his designee; and one member appointed by the six other members.

The names and addresses of the members of the Board, and identification of their affiliation, are listed in Attachment 2.

Under Article II of the TRPA Rules of Procedure, the Board meets on the fourth Wednesday (and Thursday, if necessary) of each month, except in November and December, when the meetings are held on the third Wednesday and Thursday. Four members from each state constitute a quorum for the transaction of business. Voting procedures vary, depending on the type of action contemplated: adopting, amending or repealing environmental thresholds, the regional plan, ordinances, rules and regulations, and variances; approving projects; or conducting routine business and directing TRPA staff.

### 4. Public Hearings, Notice, and EISs

In accordance with Article IV of the TRPA Rules of Procedure, adoption of the regional plan and amendments shall be by ordinance. The Board shall conduct a public hearing prior to adoption of a proposed ordinance, noticed at least 20 days in advance by publication in local newspapers with general circulation throughout the Region. For TRPA's mailing list for notices and agendas, see Attachment 3.

For matters on which TRPA determines an Environmental Impact Statement (EIS) is required, TRPA shall prepare or cause to be prepared a draft EIS, set a meeting of the APC to consider the adequacy of the EIS, distribute copies of the draft for comments to be submitted within 60 days, and notify the Board and the public at the next Board meeting that an EIS has been prepared and is available for review, requesting comments to be submitted within 60 days. After the 60-day comment period, the Board shall accept public testimony on the EIS and consider certification of the EIS. Assuming TRPA has determined an EIS is required, TRPA may not approve a plan or plan modification prior to certification of an EIS. (See TRPA Rules of Procedure, Article VI.)

To facilitate consultation on EISs with State agencies which have jurisdiction or special expertise, TRPA requests the Nevada and California state clearinghouses to circulate EISs to the appropriate state agencies and to collect the comments of those agencies for transmittal to TRPA.

#### 5. Chronology of Public Participation Activities

A selected chronology of public participation activities pertaining to the amendments to the water quality management (208) plan, and related matters, appears in Attachment 4. The chronology covers development and adoption of water quality thresholds, TRPA Goals and Policies directly and indirectly related to water quality, the TRPA Code of Ordinances, and the 208 amendments themselves. Public participation activities related to the amendment of the water quality management plan cover an eight-year period, and include public hearings, meetings, and workshops involving hundreds of interested and affected persons.

### E. MATTERS ON WHICH TRPA CONSULTED THE PUBLIC

#### 1. Overview

Since 1980, TRPA has consulted with the public on development and refinement of the entire Regional Plan package, including the environmental threshold carrying capacities, the Goals and Policies, the Code of Ordinances, the Plan Area Statements and Maps, and the Regional Transportation Plan, as well as the amendments to the 208 plan. The anticipated environmental impacts of all these parts of the Regional Plan package were also disclosed in certified TRPA EISs, on which TRPA also consulted with the public.

The environmental thresholds cover nine components of the environment: water quality, soil conservation, air quality, vegetation preservation, wildlife, fisheries, noise, recreation, and scenic resources. The complete text of the adopted thresholds appears in Volume I, Attachment 1 of this 208 plan.

The Goals and Policies cover the following areas: land use (including air quality and water quality), transportation, conservation, recreation, public services and facilities, and implementation.

The Code of Ordinances includes, to date, 53 chapters covering the general functional areas of: planning, land use, site development, growth management, the shorezone, grading and construction, resource management, water quality, and air quality.

The Regional Transportation Plan includes assumptions and analytical results, goals and policies, an action element, and financial plan.

## 2. Consensus Building Workshop

TRPA established the Consensus Building Workshop in 1985 to make recommendations to TRPA on resolving issues which were delaying implementation of the Regional Plan. Although the Workshop was most active between July, 1985 and April, 1986, TRPA regularly consults with Workshop members on controversial and complex issues related to the Regional Plan. (A list of the members of the Workshop and their affiliations appears in Attachment 5.)

The Workshop addressed six major issues in 1985 and 1986 to facilitate settlement of Regional Plan-related litigation: (1) the rate of development of single-family dwellings and commercial development, (2) annual allocations of development, by county, (3) regulation of allowable land coverage for residential and commercial development, (4) protection of sensitive lands, (5) community involvement in the planning process, and (6) the proper balance between environmental protection and economic health.

Issues (3) and (4) are directly related to the proposed 208 plan amendments, and the TRPA Board gave close consideration to the recommendations of the Workshop on the affected Goals and Policies and Code chapters. The broad membership of the workshop, the dedication of its members, and the conscious process of working for consensus resolutions on these controversial issues resulted in a strong base of public support for the entire package, much of which is reflected in the proposed 208 amendments. (For more information on the Workshops, see The Contribution of Consensus Building Workshops to Regional Planning in Lake Tahoe, Barbara L. Ingrum and TRPA, January, 1987.)

### 3. Working Group on the 208 Amendments

The working group on the proposed amendments to the 208 plan has been meeting since July, 1987, and involves the Lahontan Board, California SWRCB, NDEP, EPA Region IX, and TRPA. As discussed above, the meetings of the working group have been noticed and open to the public, and public comment has been invited.

The working group has discussed both the main components of the 208 plan and the analysis of anticipated environmental, social, and economic impacts. The main components of the 208 plan are: (1) control needs and programs, (2) the Handbook of Best Management Practices, (3) the SEZ Protection and Restoration Program, and (4) the watershed improvement program for erosion and runoff control. The working group advised TRPA on the identification and resolution of the most significant issues affecting adoption, certification, and approval of the 208 amendments, summarized herein.



C. SUMMARY OF THE PUBLIC'S VIEWS, SIGNIFICANT COMMENTS, CRITICISMS,  
AND SUGGESTIONS, AND SPECIFIC RESPONSES

Based on both the oral and written public input on the proposed 208 plan amendments, TRPA has identified thirteen issues which are the most significant. These issues are presented here with discussions of the background, the various concerns, and TRPA's responses to the issues. These issues represent the main areas of controversy or concern in the consultations with the public, but they do not cover the entire range of comments received. The reader should also review Chapter II of this document for the complete list of individual comments and responses.

1. Issue: Criteria for Movement of the IPES Line

Background. TRPA developed the Individual Parcel Evaluation System (IPES), based on the recommendations of the Consensus Building Workshop, as an improved method for classifying the sensitivity to development of vacant single-family parcels in the Tahoe Region. IPES helps TRPA protect water quality in the Region by directing residential development first to those areas most suitable for development from the standpoint of relative water quality impacts.

Commencing January 1, 1989 (or upon EPA approval of the proposed 208 amendments, whichever is later) all new single-family construction will be evaluated in accordance with IPES, which will rank vacant parcels with respect to their relative suitability for development. IPES is an objective and scientific systems which evaluates a parcel with respect to: (1) relative erosion hazard, (2) runoff potential, (3) degree of difficulty to access the building site, (4) water influence areas, (5) condition of the watershed, (6) ability to revegetate, and (7) the need for water quality improvements in the vicinity of the parcel.

Under IPES, TRPA will rate all vacant residential parcels numerically and rank them from most suitable to least suitable, by jurisdiction. TRPA shall also establish a level in the ranking immediately above the most sensitive parcels, based on recommendations from the IPES technical committee. Only parcels above this level, as it may subsequently be adjusted, comprise the "top rank" and may pursue a building permit. Owners of parcels not in the top tank have a number of options: they can simply wait for the top rank to expand to reach them (see below); they can participate in TRPA's various transfer of development programs; or they may wish to sell their property to one of the three land acquisition entities operating in the Region independent of TRPA.

The numerical level defining the top rank for any jurisdiction shall be lowered annually by the number of allocations utilized in that jurisdiction during the previous year, provided that five conditions are met:

- (1) All parcels in the top rank are otherwise eligible for development under state water quality plans and other legal limitations,
- (2) a monitoring program for that jurisdiction is in place as set forth in the Monitoring and Evaluation Subelement of the TRPA Goals and Policies,
- (3) demonstrable progress is being made on the Capital Improvements Program for erosion and runoff control within that jurisdiction,

- (4) there is a satisfactory rate of reduction in the inventory of vacant parcels (with respect to which criteria are set for each county), and
- (5) the level of compliance with conditions of project approval within that jurisdiction is satisfactory.

Unlike the system in the 1981 208 plan, IPES is a priority system or indexing system for classifying the suitability of parcels for development, rather than a pass-fail system which divides the Region into two large groups of "buildable" and "unbuildable" parcels. Although there are the five safeguards, above, IPES may over time allow owners of some parcels which were deemed sensitive under the 1981 plan to pursue building permits. The only class of parcels which could never be developed under IPES is those which are 100 percent stream environment zone (SEZ).

Concerns. Some members of the public have said that the 208 plan amendments should provide more explicit guidance or criteria for determining whether the conditions controlling movement of the IPES line in a given jurisdiction have been met. These persons are particularly concerned that conditions (2), (3), and (5) are vague, and should be more-clearly defined in the 208 plan. They are concerned that the phrases "monitoring program . . . is in place," "demonstrable progress," and "level of compliance . . . is satisfactory" are too subjective and, therefore, do not constitute adequate safeguards on movement of the IPES line. They argue that the 208 plan, as the certified and approved compilation of water quality policies for the Tahoe Region, must be clear on the meanings of conditions (2), (3), and (5).

TRPA and other members of the public, on the other hand, are concerned that the 208 plan risks becoming too detailed and complicated, and that if more detailed criteria are included in the 208 plan, any future change in the wording of those criteria which may subsequently become necessary will require certification by California and Nevada and approval by EPA Region IX before they are implemented, placing an undue administrative burden on TRPA. TRPA and these other members of the public feel that conditions (2), (3), and (5) should be defined more clearly, but that those definitions should not be made a part of the 208 plan.

Response. Because of the strength of the concerns regarding this issue, TRPA has agreed to include more detailed information in the 208 plan regarding how TRPA will determine when conditions (2), (3), and (5) have been met in a given jurisdiction.

With respect to the requirement that a monitoring program be in place in a given jurisdiction, the TRPA Goals and Policies provide additional guidance that is incorporated in the final 208 plan. They require TRPA to monitor

representative tributaries to provide a basis for evaluating the relative health of the watershed within which development is contemplated and progress toward meeting thresholds. The monitoring program will monitor stream flows and concentrations of nutrients and sediments, to determine annual pollutant loads. This monitoring program shall be in place in a local jurisdiction, and shall establish baseline water quality conditions, before the numerical level defining the top rank for the jurisdiction is lowered (Goals and Policies, p. VII-25). TRPA interprets "in place" to mean that a TRPA-approved monitoring system, with established procedures and responsibilities, is physically located on the selected tributaries, and samples have been collected and analyzed for a least one representative water year.

The location of sampling sites, frequency of sampling, and financial responsibilities for monitoring will be set forth in TRPA's Monitoring Program pursuant to the Goals and Policies (p. VII-25) and the Code of Ordinances (section 32.10), based on the recommendations of the TRPA Monitoring Committee. However, the final 208 plan is revised to include the objectives of the intended monitoring program, a general description of the monitoring program, a list of the water quality parameters which will be monitored, and a discussion of the costs and funding sources for the monitoring program.

Since IPES is a program related to the eligibility for construction of single-family residences, the objectives of the monitoring program are to: (1) characterize the water quality of streams draining affected residential areas in relationship to the overall water quality observed in the watershed, (2) identify short-term changes in water quality from affected residential areas, and (3) ensure that TRPA and state water quality standards are being attained and maintained. The monitoring program will include quality control and quality assurance (QA/QC) procedures to ensure that the data accurately represent the actual water quality conditions.

Monitoring will normally occur not only at the mouths of streams, but also at locations in closer proximity to residential subdivisions. While the stream mouth monitoring will generally cover the entire water year, monitoring at other locations higher in the watershed will be geared toward the spring snowmelt period and the fall storm season to contain costs. In addition to the presently established monitoring stations, TRPA estimates that 30 to 40 additional stations will be required throughout the Region to support the IPES conditions.

With regard to the requirement that demonstrable progress is being made on the Capital Improvements Program for water quality within a given jurisdiction, TRPA's evaluation will include consideration of indicators of progress and anticipated implementation schedules in Volume IV of the 208 plan. Pursuant to the Goals and Policies, the final 208 plan establishes benchmarks against which progress on the CIP can be evaluated (Goals and Policies, p. VII-26).

To make a finding of demonstrable progress in a local jurisdiction, TRPA will review the progress of that jurisdiction over a three-year period covering the previous year, the current year, and the upcoming year. For the demonstrable progress criteria to be met, TRPA must make one of the following findings: (1) funding is committed and there is a strong likelihood that construction will commence on one or more high priority watershed improvement projects in the current or upcoming year and construction of one or more high priority watershed improvement projects has taken place in the previous or current year, or (2) the performance of the local jurisdiction on implementation of capital improvement projects exceeds the established benchmarks.

Regarding condition (5), which requires a satisfactory level of compliance with conditions of project approval in a jurisdiction, the Goals and Policies do not provide any additional detail. Nevertheless, the final 208 plan is revised to include a description of TRPA's ongoing compliance inspection program and the following detailed policies:

To determine whether the level of compliance in a jurisdiction is satisfactory, the TRPA Board will evaluate: (1) the percentage of projects which commenced construction three or more years earlier but which have not had their securities returned for water quality-related practices, (2) the number of projects which are behind on approved schedules in project approvals for BMP retrofit, compared to those on schedule, (3) the number of projects which required TRPA issuance of cease and desist orders for failure to observe conditions of approval within the previous fiscal year, as compared to the number of projects inspected, and (4) the number of projects on which violations remain unresolved, compared to the number resolved. TRPA will review compliance data at the end of the 1989 building season, and will then set specific numerical performance standards for the four criteria above.

2. Issue: Criteria for the Identification and Protection of Stream Environment Zones (SEZs)

Background. It is widely understood that SEZs are very important to the ecology of the Tahoe Region, and that their protection is crucial to attaining and maintaining water quality goals. The existing policies which apply to SEZs are the policies of the 1981 208 plan. The identification of SEZs follows the system of the BMP Handbook (TRPA, 1978), which relies on the following four indicators: alluvial soils, riparian vegetation, 100-year flood plain, and minimum buffer strip. Construction, grading, and vegetation removal are prohibited in SEZs, with exceptions only for environmental projects, public outdoor recreation, and public health, safety, and welfare.

The proposed 208 amendments include updated criteria for identification of SEZs. An SEZ is determined to be present if any one of the following key indicators is present or, in the absence of a key indicator, if any three of the secondary indicators are present or, where Lo, Co, or Gr soils are found, any two of the secondary indicators are present:

Key Indicators: evidence of surface water flow, including perennial, ephemeral, and intermittent streams; primary riparian vegetation; near-surface groundwater; lakes, ponds, or lagoons; beach (Be) soils; or one of the following alluvial soils: Ev and Mh.

Secondary Indicators: designated 100-year flood plain; groundwater between 20 and 40 inches; secondary riparian vegetation; and one of the following alluvial soils: Lo, Co, or Gr.

The proposed amendments permit no new land coverage or other permanent disturbance in SEZs except: (1) facilities for public health, safety, environmental protection, and outdoor recreation with required findings and 1.5:1 offsets and (2) for projects which require access across SEZs to otherwise buildable sites, with required findings and 1.5:1 offsets.

Concerns. Through the public participation process on the 208 plan amendments, the public has expressed concerns about SEZ identification and protection. In general, the concerns are: (1) the revised criteria for identification of SEZs may give less protection to sensitive areas, including flood plains, than the 1981 208 plan, (2) the revised exceptions to the prohibitions on disturbance in SEZs may allow more SEZ disturbance than the 1981 208 plan, and (3) TRPA does not have adequate SEZ maps.

In the area of SEZ mapping, members of the public are concerned that the lack of adequate SEZ maps compromises TRPA's ability to plan and implement the SEZ restoration program and other planning programs. The proposed 208 amendments and the overall Regional Plan package include many separate but related requirements for SEZ protection, wetlands protection, SEZ restoration, and flood hazard management. Community plans, redevelopment plans, master plans, recreation plans, and resource management activities all require improved SEZ maps, as do programs to monitor the acreage of SEZs disturbed and restored in the future.

Response. The revised criteria for identification of SEZs will be superior to the criteria in the 1981 208 plan in several respects, and the revised rules regarding exceptions to the prohibitions on disturbance are actually more stringent than the rules in the 1981 plan. However, TRPA agrees that its existing SEZ maps need to be improved, and has added a commitment to the 208 plan for both improving its SEZ maps and ensuring that the absence of accurate maps does not cause adverse impacts.

The criteria for SEZ identification in the 1981 208 plan have potential impacts on SEZs in two areas: (1) the buffers, which are based on stream order, do not provide setbacks in situations where a channel is absent or where riparian vegetation extends beyond the minimum buffer strip, and they do not rationally relate the width of the buffer to the stability of the channel, and (2) they may not identify as SEZs certain soils with high groundwater.

The 25-, 50-, and 100-foot minimum buffer zones of the 1981 208 plan frequently do not extend to the outer limit of the existing riparian vegetation surrounding a stream channel, leaving the sensitive riparian vegetation without the protection of a buffer or setback. Where SEZs exist in the absence of a channel, such as a pond or marsh, there is no buffer, and no protection of the valuable edge zone between the SEZ and the surrounding land, which is valuable for water quality, wildlife, and scenic considerations. Finally, the width of the buffer in the 1981 208 plan is not necessarily related to the sensitivity of the SEZ, since it is based on stream order alone and does not reflect the stability, or lack of stability, of the channel. The fixed width of the buffer, in effect, ignores valid scientific input from hydrologists regarding the sensitivity of any given channel and the degree of protection it really needs in its given location.

In contrast, the proposed amendments establish setbacks of different widths for six classes of SEZs representing different classes of stability and sensitivity. Unlike the buffers in the 1981 208 plan, which vary in width depending on stream order, the proposed setbacks are dependent on the condition and sensitivity of the SEZ, particularly in terms of channel type and stability. The widest setbacks are provided for the most unstable channels, and the narrowest setbacks for the most stable SEZs. The proposed amendments provide setbacks from all SEZs, protecting the water quality, scenic, and wildlife values of the edge zone and well as the SEZ itself.

Where field investigations show soils to be wetted, or subject to periods of high groundwater, they should be provided the protection associated with an SEZ designation because the soils at the surface may become saturated with water during snowmelt, creating a variable source area for nutrient and sediment discharges. Under the SEZ identification criteria of the 1981 plan, such areas may not be considered SEZs, while the proposed amendments

will tend to identify more wetted soils and soils with high groundwater as SEZs. Based on approximately 850 IPES parcels that TRPA has found to date to be 100 percent SEZ, high groundwater frequently affects parcels which had previously been mapped as land capability 5.

Based on a sample of over 10,100 IPES parcels evaluated in 1987 and 1988, the revised SEZ criteria identify 360 acres of SEZ and an additional 52 acres of area protected by SEZ setbacks, for a total of 412 acres or 14 percent of the area of all the parcels evaluated. Using the criteria of the 1981 plan would have resulted in 380 acres of SEZ, including buffers, or about 13 percent of the area of all the parcels evaluated.

Although the presence of the 100-year flood plain, alone, does not constitute an SEZ under the proposed amendments, development in the flood plain is still restricted. Construction, grading, and filling of lands within the 100-year flood plain is prohibited, except as necessary to implement the Goals and Policies. All public utilities, transportation facilities, and other necessary uses located in the 100-year flood plain must be constructed and maintained to prevent damage from flooding and to not cause flooding (Goals and Policies, p. II-24). Development in the 100-year flood plain shall be found to be necessary to implement the Goals and Policies only for:

- (1) Public outdoor recreation facilities if: (1) the project is a necessary part of a public agency's long range plans for public outdoor recreation, (2) the project is consistent with the recreation element of the Regional Plan, (3) the project, by its very nature, must be sited in a flood plain, (4) there is no feasible alternative which would reduce the extent of encroachment in a flood plain, and (5) the impacts on the flood plain are minimized,
- (2) Public service facilities if: (1) the project is necessary for public health, safety, or environmental protection, (2) there is no reasonable alternative, including spans, which avoids or reduces the extent of encroachment in a flood plain, and (3) the impacts on the flood plain are minimized,
- (3) Projects which require access across flood plains to otherwise buildable sites if: (1) there is no reasonable alternative which avoids or reduces the extent of encroachment in the flood plain and (2) the impacts on the flood plain are minimized, and
- (4) Erosion control projects, habitat restoration projects, stream environment zone restoration projects, and similar projects provided that the project is necessary for environmental protection and there is no reasonable alternative which avoids or reduces the extent of encroachment in the flood plain.



The 1981 208 plan prohibits construction, grading, and vegetation removal within SEZs, with exceptions allowed for approved erosion control projects, projects necessary to implement the approved air quality nonattainment plan or the transportation element of the Regional Plan, public outdoor recreation, and the public health, safety, and welfare, provided all other feasible alternatives have been considered. When exceptions to the prohibition are allowed, mitigation is required, but it may or may not consist of direct offsets by restoration of other disturbed SEZs. (See the responses to individual comments B-10c and B-79.) TRPA estimates that, over the next 20 years, the 1981 208 plan could allow 5 to 10 acres of SEZ encroachment for public service and public outdoor recreation projects. (For details, see Volume I, Section II, Stream Environment Zones.)

Unlike the 1981 plan, the proposed 208 amendments permit no new land coverage or other permanent disturbance in SEZs without an offsetting SEZ restoration of 1.5 times the disturbed area. Although an additional exception to the prohibition on SEZ disturbance is allowed, for access across SEZs to otherwise buildable sites, the proposed amendments will increase the amount of naturally-functioning SEZs by virtue of the required 1.5:1 restoration. TRPA anticipates that much of the required restoration projects will occur with the assistance of the land banks; TRPA has already signed an MOU with the California Tahoe Conservancy to operate a land bank in California, and is negotiating an MOU for a Nevada-side land bank.

In the area of mapping, the final 208 amendments include a discussion of the need for better maps, a list of watersheds which are high priorities for SEZ and flood plain mapping, a commitment to prepare improved maps prior to approving any community plan or master plan or committing significant resources to development or restoration in affected watersheds, and a commitment to assemble a scientific and technical advisory committee to assist the TRPA with SEZ and flood plain mapping and refinement of the SEZ restoration program. (See also Issue 3, below.)

The final 208 plan also adds a policy stating that, in remote locations and other locations where TRPA or the Corps of Engineers has not yet prepared 100-year flood plain maps and TRPA has reason to believe that a flood hazard may exist, TRPA shall require project applicants to map the 100-year flood plain as part of their project applications. This policy is similar to the operating procedures the Lahontan Board follows in the portion of the Region in California at this time.

### 3. Issue: Adequacy of the SEZ Restoration Program

Background. Volume III of this water quality management plan includes an SEZ restoration program designed to comply with the TRPA threshold which calls for restoration of all disturbed SEZ lands in the Region that are undeveloped or un-subdivided (in general, rural areas), and restoration of 25 percent of the SEZ lands that have been identified as disturbed, developed, or subdivided (that is, in urban areas). The proposed 208 amendments rely on SEZ restoration for substantial improvements in tributary water quality and the quality of Lake Tahoe itself.

As a new TRPA program, and a new part of the Regional Plan package, Volume III will clearly need revisions, expansions, and refinements over the next several years. Nationally, the subject of stream restoration is relatively new, and more information on research and applications is rapidly becoming available to TRPA. However, Volume III does identify both projects and programs which will allow TRPA to attain and maintain the restoration threshold.

Concerns. Through the public participation process, the public has expressed a number of concerns about the SEZ restoration program. First, little data are currently available to determine the actual condition of SEZs in the Tahoe Region or the relative importance or cost-effectiveness of potential SEZ restoration projects. Thus, it is difficult or impossible to set priorities among the restoration projects in Volume III. It is also difficult to compute the exact area of SEZ available for restoration or to determine how much restoration credit should be attributed to each restoration project.

Members of the public have also commented that TRPA should establish an advisory group to assist the SEZ restoration efforts, and should incorporate new information on SEZ restoration techniques and benefits into the program, including information presented at the International Mountain Watershed Symposium held at Lake Tahoe on June 8-10, 1988.

Response. In response to the public's concerns, the final SEZ Restoration Program (Volume III of the plan) is revised, and commits TRPA to a process to refine the program over time.

The final Volume III identifies streams that have a high potential for sediment and nutrient delivery to Lake Tahoe, provides guidance on identifying priority areas for restoration, and includes a discussion of available methods for SEZ restoration.

In Volume III, TRPA also commits itself to a process for updating and refining the SEZ Restoration Program which includes: (1) classification and mapping of stream reaches according to their stability classification, (2) matching restoration methods and disturbed reaches based on their stability classification, (3) identification of major problem areas and project sites for use in the community planning process, public works planning, and other programs, (4) development of guidelines for planning and designing SEZ restoration projects, (5) integration of SEZ mapping for purposes of identification, restoration, and flood hazard determination, and (6) establishment of a scientific and technical advisory committee to guide the SEZ restoration program. The description of the process includes a schedule of the actions, above, and the steps TRPA will take to obtain the necessary funding.

4. Issue: Attainment and Maintenance of TRPA Water Quality Thresholds and State Water Quality Standards

Background. Through a variety of inter-related laws, regulations, policies, and programs, TRPA, Nevada, California, and the federal government desire to maintain the outstanding water quality of Lake Tahoe and its tributaries. Under section 303 of the Federal Clean Water Act, the U.S. EPA has approved Nevada and California water quality standards for Lake Tahoe and its tributaries, listed in Attachment II, Volume I of this plan. Under Article V(b) of the Tahoe Regional Planning Compact, TRPA has also adopted threshold standards for water quality, listed in Attachment I of Volume I. Although they are worded differently, the state and TRPA standards are generally consistent.

To ensure that the water quality of Lake Tahoe is preserved for the enjoyment of future generations, the federal government and the two states have adopted antidegradation policies which apply to Lake Tahoe and its tributaries, as follows:

Federal. [States] shall develop and adopt a statewide antidegradation policy and identify the methods for implementing such policy . . . . The antidegradation policy and implementation methods shall, at a minimum be consistent with the following: (1) Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected. (2) Where the quality of the waters exceed levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality shall be maintained and protected unless the State finds, after full satisfaction of the intergovernmental coordination and public participation provisions of the State's continuing planning process, that allowing lower water quality is necessary to accommodate important economic or social development in the area in which such waters are located. In allowing such degradation or lower water quality, the State shall assure water quality adequate to protect existing uses fully. Further, the state shall assure that there shall be achieved the highest statutory and regulatory requirements for all new and existing point sources and all cost-effective and reasonable best management practices for nonpoint source control. (3) Where high quality waters constitute an outstanding National resource, such as waters of National and State parks and wildlife refuges and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected. (40 CFR 131.12)

California. Lake Tahoe Water Quality Control Policy (1966) requires maintenance of waters of Lake Tahoe in their present natural state of crystal clarity and pristine purity and protection of all beneficial uses of the lake waters. SWRCB Resolution 68-16, Statement of Policy with respect to Maintaining High Quality of Waters in California,

states that whenever the existing quality of water is better than the quality established in policies as of the date on which such policies become effective, such existing high quality will be maintained until it has been demonstrated that any change: (1) will be consistent with maximum benefit to the people of the state; (2) will not unreasonably affect present and anticipated beneficial uses of water; and (3) will not result in water quality less than prescribed in water quality control plans or policies. Resolution 68-16 also states that any activity which may produce an increased volume or concentration of waste and which proposes to discharge to existing high quality waters will be required to meet waste discharge requirements which will result in the best practicable treatment or control of the discharge necessary to assure that the highest water quality consistent with maximum benefit to the people of the state will be maintained. California designated Lake Tahoe an outstanding water resource under the Federal standard in 1981.

Nevada. Interstate Water Quality Standards and Plan of Implementation (1967) states that to enhance water quality (1) waters affected by pollution shall be upgraded and protected, and (2) the quality of waters that are presently of high or suitable quality shall be perpetually maintained at that quality. Nevada Revised Statutes (1979), Chapter 445.253 requires nondegradation of any surface waters whose quality is higher than the applicable standard for water quality as of the date the standard becomes effective.

The water quality problems of the Tahoe Region are almost exclusively related to nonpoint (i.e., diffuse) sources of pollution. Section 201 of the federal Clean Water Act requires areawide waste treatment management programs to provide control of nonpoint sources of pollution "to the extent practicable." Section 208 requires control of nonpoint sources "to the extent feasible." The federal regulations covering water quality management plans require that 208 plans be consistent with the water quality standards in state 303(e) plans (40 CFR 130.6(e)), and that they describe programs and Best Management Practices selected as the means to control nonpoint source pollution and protect water uses (40 CFR 130.6(c)(4)).

The Tahoe Regional Planning Compact, in Article V(c), requires the TRPA Regional Plan to achieve and maintain the the adopted environmental threshold carrying capacities. Article V(d) also says that the Regional Plan shall "provide for attaining and maintaining Federal, State, or local air and water quality standards, whichever are strictest, in the portions of the region for which the standards are applicable." In addition, the Regional Plan must identify the means and time schedules by which air and water quality standards will be attained. Pursuant to Articles V(g) and VI(b) of the Compact, TRPA must review all projects in the Region and make specific written findings before approving any project that "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."

To implement these requirements of the Compact, TRPA adopted Chapters 6 and 32 of the Code of Ordinances in 1987. Chapter 32 sets forth a process to identify the means and time schedules by which thresholds and water quality standards will be attained and maintained; procedures to determine the status of progress on attainment; and measures required to ensure progress. Chapter 6 sets forth the process for making the required findings.

Various entities, notably the Tahoe Research Group (TRG) of the University of California-Davis, have been monitoring water quality in the Tahoe Region since the 1960's. The Lake Tahoe Interagency Monitoring Program (LTIMP) was established in 1980 to acquire and disseminate water quality information for Lake Tahoe necessary to support the regulatory, management, and planning activities in the Region. The main participants in the LTIMP have been the California State Water Resources Control Board (SWRCB), the Lahontan Board (LRWQCB), California Department of Water Resources (DWR), United States Geological Survey (USGS), the Lake Tahoe Basin Management Unit of the USFS, the Tahoe Research Group, and TRPA. At the current time, the TRG and USGS carry out regular sampling of pelagic (off-shore) Lake Tahoe and nine tributary streams, with funding support from the SWRCB and TRPA. The Lake Tahoe Basin Management Unit of the USFS also monitors stream water quality on lands it manages and monitors the effectiveness of all erosion control projects funded through the Santini-Burton program, regardless of their location.

As described in detail in Volume I of this plan, water quality monitoring data show that the quality of the waters of pelagic Lake Tahoe has been in decline over the entire period of record, with increasing algal productivity and decreasing clarity. At TRG's index station, algal primary productivity has increased 150 percent since 1968. Over the same period, clarity has decreased by approximately 20 percent. The increasing algal productivity of Lake Tahoe results from eutrophication of the Lake, which in turn is the result of liberation and reduced filtration of nutrients in the watershed; altered hydrology; vegetation displacement; addition of nutrients from fertilizer and sewage; and atmospheric deposition.

Where data are available to evaluate tributary water quality, they reveal frequent exceedences of the state tributary standards. Data on the quality of surface runoff (localized surface flow from rainfall and snowmelt draining small sub-watersheds) show that urban runoff exceeds the TRPA and state guidelines for discharge to surface waters in greater than 90 percent of the samples taken. However, urban runoff generally meets the TRPA and state guidelines for discharges to groundwater, with the exception of the dissolved phosphorus guideline. Exceedences of tributary and surface water standards generally result from the same sources that affect Lake Tahoe, except that atmospheric deposition is not considered a major problem. Impervious coverage, loss of vegetative uptake, hydrologic short-circuiting, fertilizer over-use, soil disturbance, and poor housekeeping practices contribute to the problems.

With respect to water quality in the littoral (near-shore) zone of Lake Tahoe and in the other lakes of the Tahoe Region, there are not enough data to determine whether the thresholds and standards are being attained and maintained. Additional monitoring efforts are being established to evaluate the littoral zone and the other lakes.

Concerns. During the public participation process, some members of the public have expressed the concern that the proposed 208 amendments would result in a 27 percent increase in the population of the Tahoe Region, at the expense of water quality. They argue that since the federal and state laws allow no degradation in water quality, and call for transparency and algal productivity to meet the conditions observed in 1967 through 71, the plan must contain measures which are certain to reverse the historical trends of declining water quality.

These members of the public have said that the proposed 208 amendments are vague, and that they must state in clearly measurable terms what TRPA will do, when TRPA will do it, how TRPA will monitor achievement, and what specifically TRPA will do if the anticipated results do not occur. According to these persons, triggering mechanisms are needed which will link failures to meet pre-stated schedules and objectives with adequate remedial measures. They point out that TRPA has not yet fulfilled its commitments under Chapter 32 of the Code of Ordinances; they state that the monitoring program is vague and dependent upon funding that may not materialize; and they ask for TRPA to release its proposed Chapter 6 findings on adoption of the 208 amendments in advance of taking action on the amendments.

Response. Although the proposed 208 amendments do not include any changes in water quality objectives for Lake Tahoe and its tributaries, the amendments must still comply with both state and federal antidegradation policies because they include changes in discharge prohibitions, for example, changes in the criteria for identifying SEZs and changes in the criteria for locating additional land coverage or disturbance in SEZs.

The proposed amendments are consistent with California SWRCB resolution 68-16 since: (1) beneficial uses of Lake Tahoe and its tributaries are not threatened or affected by the proposed amendments, (2) the proposed amendments are designed to return water quality to the levels prescribed in applicable state policies, and (3) the control measures included in the 208 amendments are the best practicable control measures and are consistent with the maximum benefit to the people of the state, since the amendments will attain and maintain environmental threshold carrying capacities while providing opportunities for orderly growth and development consistent with such capacities, as required by Article I(b) of the Tahoe Regional Planning Compact.

According to U.S. EPA guidelines on implementation of the federal anti-degradation policy (USEPA, 1983a, 1983b), the intent of the federal policy on Outstanding National Resource Waters is to limit water quality degradation to the shortest possible time. All practical means of minimizing

the degradation shall be implemented, but temporary and short-term degradation is allowed while maintaining existing or new land uses consistent with the purpose of management of the area, provided the degradation does not alter the essential character or special uses which make the water an outstanding national resource. According to EPA guidance, the federal policy should not be considered a "no-growth" rule, and the 208 planning process should evaluate alternatives which can be implemented to preserve water quality.

The proposed 208 amendments are also consistent with the federal policy and guidelines since: (1) they involve implementation of all practical means of minimizing degradation, (2) degradation of water quality, which will occur as long as the nutrient budget of Lake Tahoe remains out of balance, will not result from land uses inconsistent with management of the Tahoe Region and will occur under any alternative plan for water quality management, (3) anticipated changes in water quality will not alter the essential character of Lake Tahoe and its tributaries or affect the present uses of those waters, and (4) TRPA has evaluated alternative plans which could be implemented to preserve water quality, has selected the proposed 208 amendments, and has found that the economic recovery which will be assisted by implementation of the 208 amendments is an essential part of the selected control strategies.

Since there is no predictive water quality model for Lake Tahoe (in fact, the Tahoe Research Group is attempting to develop such a model at this time with assistance from TRPA), it is impossible to accurately predict when water quality will return to 1968-71 conditions with application of various possible control measures. The algal productivity and clarity of pelagic Lake Tahoe are strongly influenced by three phenomena over which TRPA has little or no control: Lake mixing, atmospheric deposition, and the weather.

TRPA does have an approximate model of Lake Tahoe which gives insight into its water quality dynamics, but the model has a number of limitations. The Study Report for the Establishment of Environmental Threshold Carrying Capacities (TRPA, 1982d), which contains the model, acknowledges significant uncertainties involved in its application. Nevertheless, it is clear that to achieve a leveling-off of algal productivity and clarity trends, nutrient inputs to and outputs from Lake Tahoe must be balanced, and to reverse the trends, nutrient outputs must exceed inputs. The only significant output of nutrients is the Lake's ability to cleanse itself by settling nutrients to the bottom sediments.

The Threshold Study Report recommends a threshold standard of a 25 percent decrease in annual loads of dissolved inorganic nitrogen (DIN) to Lake Tahoe, as a reasonable estimate of what is required to bring nutrient inputs and outputs into balance. TRPA feels that a 25 percent decrease in DIN loads is attainable, but it most certainly cannot be achieved overnight, since the imbalance in the nutrient budget is the result of



roughly 40 years of development and other human activities in and around the Tahoe Region. Even the most stringent plan (for example, closing the Tahoe Region to all human activity) could not achieve a sudden, dramatic decrease in nutrient loads to the Lake. The TRPA recognized this fact in Resolution 82-11, which adopted the environmental thresholds, finding that some of the water quality thresholds "are currently being, and will likely continue to be, exceeded until some time after the full implementation of the loading reductions prescribed by the thresholds."

The state and federal antidegradation standards, which the TRPA thresholds reinforce, have their philosophical roots in the conservation ethic, that is, the concept of preserving prized resources for future generations. In those areas of water quality the 208 plan can immediately control, the proposed 208 amendments reflect a strong conservation ethic. Despite the population growth they accommodate, they will result in over 1000 acres of SEZ restoration (a program not included in the 1981 208 plan), they will reduce local sources of airborne nutrients, they will result in a net decrease of about 30 acres of land coverage in land capability districts 1, 2 and 3, and they will significantly reduce sediment and nutrient loads to the Lake Tahoe and its tributary streams from surface runoff and groundwater. (TRPA estimates the reduction in annual loads of dissolved inorganic nitrogen from tributary streams will be over 50 percent.)

Furthermore, the proposed amendments represent over six years of planning effort, three years under a federal injunction, and two years of intense settlement negotiations involving all sectors of the public interest in and around the Tahoe Region. The amendments have the broad-based public support necessary for their implementation, polarization in the Region has been dramatically eased, and other governmental agencies such as the U.S. Forest Service, California Tahoe Conservancy, and Nevada Tahoe Basin Act are implementing their own programs which will enhance the environment of the Region and contribute to the attainment of thresholds and standards. Based on the best available information, TRPA believes the water quality conditions existing in 1968-71 will be attained at some time in the future, following completion of all the control measures in this plan. Those measures are to be in place by 2007. The amount of time after 2007 needed for the waters of Lake Tahoe to return to 1968-71 conditions cannot be accurately estimated at this time. The standards for tributaries, surface runoff, groundwater, and other lakes will be met by 2007.

In response to the public's concerns described above, TRPA also agrees to take steps to further reduce the risks to water quality. TRPA is taking action on the requirements in Chapter 32 as they pertain to water quality and soil conservation prior to adopting the 208 plan. TRPA will adopt documentation concurrently with adoption of the 208 plan which identifies the monitoring programs and supplemental (or contingency) control measures which TRPA will implement as necessary to attain and maintain the thresholds and standards, and will set realistic short-term goals and benchmarks for evaluation.

The final 208 plan also adds more information on the periodic process of evaluating progress toward thresholds and standards, and clarifies the linkage between the Chapter 32 requirements and the 208 plan. The evaluation program identifies key dates or check-points on which TRPA will evaluate the results of its monitoring programs, and includes interim targets for all the water quality indicators and closely-related air quality indicators for the first major check-point in 1991.

As a matter of law, TRPA is required to review all projects and make detailed findings related to the thresholds, pursuant to Articles V(g) and VI(b) of the Compact and Chapter 6 of the Code of Ordinances. Thus, the regulatory structure of the Compact sets the stage for effective implementation of the 208 plan and provides added insurance of progress toward the attainment of thresholds and antidegradation standards.

Finally, the final plan includes more documentation on cause-effect relationships affecting water quality, and revisions to the problem assessment (Volume I, Section I, Chapter III) which help identify the most important and cost-effective control measures TRPA is relying on to attain and maintain the water quality goals.

## 5. Issue: Watershed Improvement Priorities

Background. The 208 plan for the Tahoe Region relies heavily upon implementation of watershed improvements to reduce sediment and nutrient loads from the watershed of Lake Tahoe and improve water quality in the Region. The cost of these improvements, which are described in Volumes III and IV of the plan, is high, currently estimated at over \$300 million. To achieve the most cost-effective and timely improvements in water quality, it is necessary to set priorities among the many watershed improvement projects.

In the 1981 208 plan, TRPA adopted the priority system established by the SWRCB in the Lake Tahoe Basin Water Quality Plan (SWRCB, 1980). This system set priorities for erosion and runoff control projects based on their cost-effectiveness in controlling erosion, expressed in terms of kilograms of sediment reduction per dollar expended. Twelve priority groups were identified based on the cost-effectiveness of five kinds of projects (revegetation of bare areas, slope stabilization and revegetation, protective surface cover on dirt roads, roadside drainage, and storm drainage) on high, moderate and low erosion hazard lands.

In the SWRCB system, the highest priority groups addressed erosion control on steep slopes and revegetation of bare areas on all land capabilities. The next groups dealt primarily with dirt roads, eroding shoulders, and drainage control on high erosion hazard lands. The lowest priority groups addressed dirt roads, eroding shoulders, and drainage control on moderate and low erosion hazard lands. The Lahontan Board used this priority system to help administer erosion control grant funds from 1980 to 1987.

In 1987, the California Tahoe Conservancy also established a priority system for their Report on Soil Erosion Control Needs and Projects in the Lake Tahoe Basin. This priority system was updated in guidelines adopted by the Conservancy in 1988, and includes the following criteria: (1) significant and documentable benefit to Lake Tahoe water quality, (2) adequacy of design, (3) comprehensiveness, (4) cost-effectiveness, (5) implementation, (6) model for future projects, (7) cooperation and support.

In the draft of the proposed 208 amendments, TRPA proposed an alternative means of establishing project priorities. TRPA said that the highest priorities for erosion and runoff control projects should be projects that address the most-critical water quality problems in individual local jurisdictions, especially where roads and other types of development cross tributary streams. Within a given jurisdiction, TRPA would attach a high priority for erosion and runoff control to projects which affect stream

environment zones, particularly wetland and riparian areas; which reduce or repair disturbance of seasonally-saturated variable source areas; and which attempt to restore a more-natural hydrologic response in the watershed by infiltrating runoff and reducing drainage density, especially in areas near tributary streams.

Concerns. Several members of the public are concerned that Volumes III and IV of the proposed 208 amendments do not contain enough specific information on project priorities to guide the expenditure of limited available funding.

Some members of the public are also concerned that TRPA's guidance on priorities for watershed improvement projects is not consistent with the priority system in the 1981 208 plan or the California Tahoe Conservancy's system. Since the Conservancy uses its system as the basis for annual erosion control budget requests and for making erosion control grants, and since Nevada's Tahoe Basin Act Land Acquisition Program has said it will use a similar priority system, TRPA's priority guidance may cause inconsistent treatment of project proposals. It is possible that a unit of local government may apply to both TRPA and the state for erosion control funds, only to get conflicting answers.

Another member of the public has suggested a different priority system, one which would focus limited erosion control funds, in the short term, on just a few selected watersheds, so that TRPA and other entities could determine in actual field testing how much benefit can be gained from application of erosion and runoff controls in a given watershed. Without the focus on a small number of watersheds, this person argues, it will be many years before TRPA determines how much water quality benefit to attribute to erosion and runoff controls.

Response. In developing the systems model in Volume I of this plan, TRPA's goal was to describe the current state of knowledge on watershed processes in the Lake Tahoe Region and their effects on water quality. The systems model identifies the main pathways by which sediments and dissolved nutrients are delivered to Lake Tahoe and its tributaries, including atmospheric deposition, groundwater, and overland flow. TRPA continues to believe that watershed improvements priorities should address problem areas which have the highest potential for sediment and nutrient delivery to Lake Tahoe and its tributaries.

TRPA believes a priority system should address sediment and nutrient delivery. However, different systems, which incorporate this consideration to varying degrees, along with other implementation considerations, can coexist and be more fully integrated in the long term. The overriding goal is full program implementation, which can only be accomplished through effective inter-agency communications, cooperation, and flexibility. TRPA will work with the various implementing agencies to incorporate the 208 priority guidance into their long range programs and evaluate their progress at regular five-year intervals.

6. Issue: Validity of Assumptions in the EIS Regarding  
Additional Development in the Tahoe Region

Background. As discussed elsewhere in this Volume, the 208 plan amendments also constitute an environmental impact statement (EIS) under Article VII of the Tahoe Regional Planning Compact. To avoid repetitiveness, and to focus the disclosure of environmental impacts on issues which are ripe for decision in the 208 amendments, TRPA tiered the EIS off a number of other environmental documents which TRPA has certified since 1982. These documents, listed in Volume I, Section II, p. I-1, cover the environmental impacts of the environmental thresholds, the Regional Plan Goals and Policies, the Code of Ordinances, the Plan Area Statements and Maps, and the Regional Transportation Plan.

TRPA's three most-recent EISs have used a consistent set of assumptions regarding future land use and additional development in the Tahoe Region. These EISs are:

1. TRPA, 1987. Final Environmental Impact Statement: Plan Area Statements and Implementing Ordinances of the Regional Plan.
2. TRPA, 1988. Final Environmental Impact Report/Environmental Impact Statement, Regional Transportation Plan: Lake Tahoe Basin.
3. TRPA, 1988. Draft Water Quality Management Plan for the Lake Tahoe Region.

The assumptions regarding future land use and additional development are that over the 20-year period from 1986 to 2006, the Tahoe Region will undergo the following levels of growth:

850,000 square feet of additional commercial floor area,  
400 additional hotel/motel units,  
1,600 additional multi-family units,  
6,000 additional single-family homes,  
6,114 PAOTs (persons-at-one-time) in overnight recreation sites,  
6,761 PAOTs in summer recreation day use,  
12,400 PAOTs in winter recreation day use, and  
a congruent level of growth in the public service sector

The bases for the assumptions are as follows:

Commercial floor area. The TRPA Goals and Policies limit additional floor area to 400,000 square feet over the first 10 years of the plan. TRPA considers 850,000 square feet over 20 years to be a reasonable long-term projection, and has used this projection in TRPA EISs since 1983. It represents a modest rate of growth in commercial facilities, consistent with the knowledge that the current inventory is capable of accommodating considerable economic growth.

Hotel/Motel Units. The TRPA Goals and Policies limit additional tourist accommodations to 200 for the first 10 years of the plan. TRPA has doubled the 10-year limit for the 20-year projection.

Multi-family Units. The TRPA Goals and Policies limit additional multi-family units to 1,600 units for 20 years.

Single-family Homes. The TRPA Goals and Policies provide for annual allocations of additional residential units from 1986 to 1991, inclusive, totalling 2000 units. In 1990 and 1991, the annual allocation is 300 units per year. TRPA has projected 6000 additional units over the 20-year period starting in 1986, based on an average growth rate of 300 units per year, a rate which equals or exceeds recent demand for building allocations. TRPA's 1987 FEIS concluded that the air quality thresholds could accommodate 6000 additional single-family units only with little or no reserve capacity ("headroom") to allow for shortfalls in the effectiveness of transportation control measures. Therefore, the assumption of 6000 additional single-family units was carried forward into the EIR/EIS on the Regional Transportation Plan and the draft Water Quality Management Plan. This represents about 60 percent of the inventory of vacant parcels expected to be available for development.

Recreation PAOTs. The TRPA Goals and Policies state that the total additional capacity of additional outdoor recreation facilities shall not exceed the stated levels.

Public Service. The Goals and Policies provide that, "Additional public service development shall be limited to those projects needed to serve the other development permitted by this plan."

TRPA used these assumptions regarding future land use and development to provide a consistent framework for the analysis of impacts, to allow comparisons among the conclusions of the three most-recent EISs.

In the draft 208 amendments, TRPA incorporated these assumptions into the description of Alternative 3, the hybrid plan, and Alternative 4, the proposed amendments, but not Alternative 1, the no-growth scenario. In Alternative 2, implementation of the 1981 208 plan, TRPA constrained additional commercial, tourist, multi-family, public service, and recreation development in accordance with the above assumptions, but projected additional single-family development at 9,200 homes, representing buildout of the estimated number of existing vacant parcels in land capability districts 4, 5, 6 and 7. The rationale for not constraining Alternative 2 to 6,000 additional homes was that Alternative 2 represented a pre-thresholds plan based exclusively on meeting water quality goals which clearly contemplated build-out of all class 4-7 parcels.

Concerns. In the public comments on the draft amendments, several comments objected to TRPA's use of the above assumptions in Alternatives 3 and 4 of the environmental analysis. One comment said that the growth assumptions bear no relationship to the differences among the alternatives. Another comment, from the California State Water Resources Control Board, said that the assumptions "undermine the entire document," that they are artificial, and "as a result the environmental analysis is useless." Another comment said that the land use assumptions are flawed and, therefore, the population and land coverage projections are also flawed. Their concern seems to be, in part, that applying the land use assumptions to Alternatives 3 and 4 places Alternative 2 at an unfair disadvantage.

Another member of the public commented that, because the assumptions cover only a 20-year planning horizon, that they do not truly represent the environmental impacts of full buildout of the Tahoe Region.

Response. In selecting alternatives for analysis in the draft Water Quality Management plan, TRPA had to choose among a literally infinite number of possible alternatives. The four alternatives TRPA selected give decision makers a range of possible options that allow them to make an informed decision on the proposed amendments, while not re-opening land use issues which TRPA has previously addressed and which are not ripe for decision during consideration of the 208 amendments.

TRPA does not intend to place any alternative in a disadvantageous or advantageous position relative to another alternatives. Instead, TRPA's intent is to provide a dispassionate analysis of a reasonable range of alternatives including the proposed action, a no-growth scenario, a no-action scenario, and a status quo scenario.

Utilizing the same assumptions regarding additional development in Alternatives 3 and 4 allows TRPA to identify and focus on the actual differences between them--implementation of IPES, limited provisions for coverage transfers, and different criteria for the identification and protection of SEZs. TRPA analyzed the No-Action alternative, implementation of the 1981 208 plan, without the same constraint on the numbers of additional single-family homes since the 208 plan clearly contemplated build-out of all capability 4, 5, 6 and 7 parcels without reference to annual allocations. In addition, it is not necessary to add the 6,000-home limit to the No-Action Alternative since the hybrid plan, Alternative 3, represents the existing 1981 208 plan with the 6000-home limit and implementation of the remedial programs of the new Regional Plan.

Although most of the comments about the growth assumptions express a concern that TRPA's assumptions about future development are too low, and that actual development will outstrip the assumptions, TRPA's Governing Board expressed an opposite concern during discussions on this issue at its meeting of August 24, 1988. The Board was concerned that the public would get the impression that the EIS guaranteed a long-term allocation of 6000 single-family homes, 850,000 square feet of new commercial floor area, and related development in other sectors, when the Board has actually authorized only a 6-year allocation of 2000 homes and a 10-year allocation of 400,000 square feet of commercial floor area. The Board directed the staff to include an explicit statement in the environmental document that the land use assumptions are only for the purpose of analyzing possible environmental impacts, and do not constitute a commitment on the part of TRPA. If future events indicate that development in the Region may exceed the assumptions, TRPA will perform a new analysis of environmental impacts, and the plan places the public on notice that actual rates of development may well be much lower than the assumptions indicate.

With respect to the comment that the 20-year projections of additional development in the Region do not allow the reader to compare the impacts of the various alternatives at full build-out, TRPA believes that a 20-year horizon is a fair basis for comparison, especially given that TRPA will evaluate the environmental thresholds and the entire Regional Plan package at least every five years starting in 1991. Over the past 20 years, TRPA has adopted four different Regional Plans in response to an expanding environmental data base and changes in legislative mandates. It would be unreasonable to assume that the 1986 Goals and Policies or the proposed 208 amendments would be the final plans ever to be adopted for the Tahoe Region in the decades to come.



7. Issue: Adequacy of Information on Public Facilities--  
Sewage Treatment Capacity

Background. Under the applicable federal regulations (40 CFR Parts 35 and 130), water quality management planning is a cooperative effort of state agencies and other agencies, such as TRPA, under sections 205, 208, 303, 305, 314 and 319 of the federal Clean Water Act. One of the required elements of a statewide water quality management plan is an identification of anticipated municipal waste treatment works, including establishment of construction priorities and schedules for initiation and completion of such treatment works (40 CFR 130.6(c)(3)).

There are five major wastewater treatment districts in the Tahoe Region, described in Volume I, Section II (p. II-75). STPUD, IVGID, and DCSID treat sewage at plants within the Region, then export their treated effluent for disposal outside the Region. NTPUD and TCPUD contract with TTSA for treatment outside the Region.

The 1981 208 plan incorporates the California and Nevada prohibitions on the discharge of sewage in the Tahoe Basin, and says that each sewage disposal agency should prepare annual reports on: (1) the capacity of all components of their systems, (2) present needs and capacity demands, (3) project needs and capacity demands for the next 10-year periods together with population projections on which those needs are based, and (4) proposed actions, including time schedules, financial requirements, and sources for providing the necessary capacity, including programs to control infiltration, programs to implement water conservation, and plans to increase capacity.

Other than restating the prohibition on discharge of municipal and industrial wastewaters to Lake Tahoe, its tributaries, or the groundwaters of the Tahoe Region, the draft of the proposed 208 amendments did not include policies establishing construction schedules and priorities for anticipated waste treatment works, nor did it carry forward the requirement in the 1981 208 plan for annual reports. In the analysis of environmental, social, and economic impacts (Volume I, Section II) TRPA predicted IVGID and DCSID would have adequate capacity to meet the demand for approximately 20 years, that STPUD would face an immediate need to expand, and that new connections to TTSA over the next 20 years would remain well within the court-ordered limit of 3,500 new connections.

Concerns. During the public participation process, members of the public have expressed concerns that the draft plan lacks specificity regarding the required sizing of sewage treatment plants, and that projections of future needs are not included.

Response. In response to the public's concerns, TRPA has agreed to include in the 208 plan population projections for each major sewer district's service area. TRPA has also agreed to reevaluate the adequacy of reserve capacity for each major district, considering the population projections,

and prescribe measures to address capacity problems when they arise. TRPA has also added a policy to the 208 plan under which TRPA will require a report from any district whose plant reaches 85 percent of its design capacity. The report will identify what measures, if any, will be needed to accommodate the projected population increases consistent with the Regional Plan.

In accordance with the Goals and Policies, public services and facilities, including sewage conveyance and treatment facilities, should be allowed to expand to support existing and new development consistent with the Regional Plan (Goals and Policies, p. VI-1). TRPA shall interpret "consistent with the Regional Plan" to mean consistent with the population projections set forth in Volume I, Section II.

TRPA will also add policies to the 208 plan requiring sewage collection and treatment entities to continue to inspect their facilities for infiltration and exfiltration problems, and to address these problems as they are identified. The plan will recommend that STPUD relocate pressurized export lines from SEZs, where feasible, and enlarge their emergency storage capacity.

## 8. Issue: Changes to the Handbook of Best Management Practices

Background. TRPA adopted its original Handbook of Best Management Practices in 1978. In 1981, the Handbook was made part of the 1981 208 plan. Since its adoption, TRPA and others in the Tahoe Region have gained much experience in the design, applicability, and usefulness of individual BMPs in the Region and, for the past several years, TRPA has been developing a revised Handbook.

TRPA's proposed revisions to the BMP Handbook are included in Volume II of this 208 plan. Of the 66 total practices included in the 1978 version of the Handbook, 25 have been deleted in the revisions, leaving 41 which are carried over into Volume II of this plan. TRPA has also added 44 new practices, for a total of 85 practices in the revised Handbook.

In general, TRPA has attempted to separate the water quality management policies from the best management practices in the proposed 208 amendments. Volume I, Section I, Control Needs and Programs, includes the water quality policies. Volume III, the Handbook of Best Management Practices, covers recommended techniques and specifications of practices to protect water quality. The policies of Volume I apply to all activities in the Region, while the practices of Volume III must be tailored to individual settings throughout the Region.

Concerns. Through the public participation process on the draft amendments, the public has raised several concerns about the BMP Handbook. Specifically, several members of the public have commented that the revised Handbook relaxes provisions which were included in the previous version for livestock confinement facilities and outdoor recreation uses such as golf courses, ski areas, campgrounds, and off-highway vehicle (OHV) trails.

Response. With respect to BMPs for livestock confinement facilities, TRPA agrees that they should be included in the BMP Handbook, and has added them to Volume III. However, TRPA feels that the BMPs in the 1981 plan for ski areas and golf courses were policy statements, rather than management practices, and are inappropriate for inclusion in Volume II.

Nevertheless, the issue remains: do the proposed 208 amendments constitute a relaxation of TRPA's policies regarding water quality impacts of outdoor recreation facilities? (To make it easier for the reader to compare the proposed policies to the policies of the 1981 plan, Tables 1 and 2 include side-by-side comparisons of the ski area and golf course policies.)

TABLE 1

COMPARISON OF 1981 AND PROPOSED POLICIES ON  
CONTROL OF WATER QUALITY IMPACTS FROM SKI AREAS

<u>1981 208 Plan</u>	<u>Proposed 208 Amendments</u>
<p>Ski areas must file an annual report identifying water quality, revegetation, and slope stabilization problems, efforts in the past year to solve the problems, and a schedule for correcting problems.</p> <p>Ski areas shall immediately stabilize and revegetate all slopes upon completion of grading, construction, or vegetation removal.</p> <p>Channelization, diversion, or other manipulation of streams is prohibited. No physical structures or other improvements are allowed in SEZs. No riparian vegetation may be removed. Crossing of any SEZ with a ski run shall be accomplished with as little disturbance to the SEZ as possible.</p> <p><u>For portions of the Region within California:</u></p> <p>Ski run maintenance vehicles must not be operated in a manner that disturbs the soil.</p> <p>For new ski resorts, (1) new roads are prohibited on high erosion hazard lands and in SEZs, (2) there shall be no soil disturbance greater than 1% on high hazard lands, (3) stream crossings shall not affect greater than 5% of the SEZs in the ski area, with no cuts or fills in any SEZ, no SEZ relocation, and grades maintained at all crossings, (4) no soil disturbance permitted in SEZs except for stream crossings, and (5) where vegetation is removed, revegetation shall take place with native plants and rhizomatous grasses.</p>	<p>Skiing facilities are permissible uses as set forth in the Plan Area Statements.</p> <p>Expansion of ski facilities may be permitted based on a master plan for the entire ski area which must demonstrate: (1) consistency with the Regional Plan and the Compact, (2) consistency with availability of accommodations and infrastructure, and (3) that expansion of existing parking facilities for day use does not occur.</p> <p>Ski areas are subject to the BMP requirements of the Regional Plan. New projects on undeveloped parcels shall require application of BMPs as a condition of project approval. Projects which expand structures or land coverage shall require application of BMPs to those areas affected by the project, and the balance of the project area shall be treated as a rehabilitation. Rehabilitation projects shall require preparation of a plan and schedule for retrofit of BMPs to the entire project area.</p> <p>Ski areas may encroach on land capability districts 1-3 and SEZs, provided TRPA makes the required findings to protect water quality and ensure provision of mitigation. Land coverage for ski areas is limited to the Bailey coefficients, without the availability of excess coverage by transfer.</p>

TABLE 2

COMPARISON OF 1981 AND PROPOSED POLICIES ON  
CONTROL OF WATER QUALITY IMPACTS FROM GOLF COURSES

1981 208 Plan

Slow release fertilizers which release nutrients due to bacterial action are preferred for use on golf courses. Application rates shall not exceed the rates stated in the BMP Handbook.

State water quality agencies may use NPDES permits or similar mechanisms to control the discharge of nutrients from fertilizer.

For portions of the Region within California:

Golf courses should have a control plan covering nutrient loads, nutrient pathways, and control strategies. Fertilizer use must be strictly limited in SEZs. The control strategies shall include (1) annual, monthly, and daily fertilizer limits, (2) controlled drainage, (3) maintenance of drainage systems, and (4) surface and groundwater monitoring.

Fertilizer use at existing golf courses is limited to the minimum necessary to maintain the facilities. Further encroachment of golf courses into SEZs is prohibited. Fertilizer use on new or expanded golf courses except where they are relocated away from SEZs is prohibited.

Proposed 208 Amendments

Golf courses are permissible uses as set forth in the Plan Area Statements.

Golf courses may encroach on land capability districts 1-3 and SEZs, provided TRPA makes the required findings to protect water quality and ensure provision of mitigation. Land coverage for golf courses is limited to the Bailey coefficients, without the availability of excess coverage by transfer.

Fertilizer use is restricted to uses, areas, and practices identified in the BMP Handbook.

Projects that include landscaping or revegetation shall be required to prepare fertilizer management programs that address: (1) the appropriate type of fertilizer to avoid the release of excess nutrients, (2) the rate of application, (3) the frequency of application, (4) appropriate watering schedules, (5) preferred plant materials, (6) landscape design that minimizes the use and impacts of fertilizer application, (7) critical areas, (8) the design and maintenance of drainage control systems, and (9) surface and groundwater monitoring programs, where appropriate.

TRPA may require golf courses to submit fertilizer management programs for review and approval and to initiate a tracking program to monitor fertilizer use. TRPA may require annual reports on the rate, amount, and location of fertilizer use.

Clearly, the 1981 208 plan and the proposed 208 amendments use different approaches to controlling the water quality impacts from ski areas, golf courses, and other outdoor recreation uses. The 1981 plan treats individual uses with specific policies, while the proposed amendments apply Region-wide policies to all outdoor recreation.

In the proposed 208 amendments, TRPA relies partly on the required findings regarding encroachment of public recreation facilities in land capability districts 1, 2 and 3 and SEZs to protect water quality. To allow encroachment of public recreation facilities, TRPA must find: (1) the project is necessary as part of a public agency's plans for public outdoor recreation, (2) the project is consistent with the Recreation Element of the Regional Plan, (3) the project, by its nature, must be sited there, (4) there is no feasible alternative which avoids or reduces the encroachment, (5) the impacts are fully mitigated, and (6) lands in capability districts 1, 2 and 3 are restored in an amount 1.5 times the area disturbed beyond the Bailey coefficients and SEZ lands are restored in an amount 1.5 times the SEZ area disturbed.

Through the public participation process, several members of the public have asked for clarification on finding (3), that the project, by its nature, must be sited in land capability districts 1, 2 or 3 or in an SEZ. TRPA's response is contained in Table 3.

Although the approach to controlling water quality impacts from outdoor recreation facilities in the proposed 208 amendments is different than the approach in the 1981 208 plan, TRPA feels it gives equal or better protection to water quality.

TABLE 3. Guidelines Regarding Public Outdoor Recreation Facilities and Activities Which Create Additional Land Coverage or Permanent Disturbance and Which By Their Very Nature Need Not Be Sited in Sensitive Lands (1a, 1b, 1c, 2, 3 or SEZs)

Category	Sensitive Lands	
	SEZs and 1b	(Capabilities 1a, 1c, 2, 3)
Ski Areas	Any activity or facility which causes additional land coverage or permanent disturbance, except for stream crossings for ski runs provided no more than five percent of SEZ area in the ski area is affected by the stream crossings and except for facilities otherwise exempted such as utilities and erosion control facilities	Activities or facilities such as parking areas, base lodge facilities and offices, and retail shops (unless there is no feasible non-sensitive site available, the use is a necessary part of a skiing facility, and the use is pursuant to a TRPA-approved master plan), except for facilities otherwise exempted such as utilities and erosion control facilities
Campgrounds	Facilities and activities such as campsites, toilets, parking areas, maintenance facilities, offices, lodges, and entrance booths, except for facilities otherwise exempted such as pedestrian and vehicular stream crossings, utilities and erosion control facilities	Facilities and activities such as campsites, toilets, parking areas, maintenance facilities, offices, lodges, and entrance booths, except for facilities otherwise exempted such as utilities and erosion control facilities
ORV Courses	Facilities and activities such as ORV trails, staging areas, parking areas, maintenance facilities, and first aid stations, except for bridged stream crossings, and facilities otherwise exempted such as erosion control facilities	Facilities and activities such as ORV trails, staging areas, parking areas, maintenance facilities, and first aid stations, (unless the ORV course is pursuant to a comprehensive TRPA-approved ORV management plan for resolving resource management problems associated with ORV activity), except for facilities otherwise exempted such as erosion control facilities
Golf Courses	Facilities and activities such as tees; greens; fairways and driving ranges which require mowing, vegetative disturbance or fertilizer; clubhouses; retail services; proshop; parking areas; offices; maintenance facilities; and accessory uses, except for facilities otherwise exempted such as pedestrian and vehicular stream crossings, utilities, and erosion control facilities	Facilities and activities such as tees; greens; fairways and driving ranges which require mowing, vegetative disturbance or fertilizer; clubhouses; retail services; proshop; parking areas; offices; maintenance facilities; and accessory uses, except for facilities otherwise exempted such as utilities and erosion control facilities

## 9. Issue: Control of Airborne Nutrients

Background. For more than 20 years, scientists observing water quality at Lake Tahoe have identified the atmosphere as a significant source of nutrients in Lake Tahoe's nutrient budgets. Although there is great uncertainty involved in all estimates of atmospheric loading, the Threshold Study Report (TRPA, 1982d) estimated direct annual loading to Lake Tahoe of dissolved inorganic nitrogen from the atmosphere at 40 to 66 metric tons (as N), which would make atmospheric deposition the largest source of DIN. The Radian report (Balentine et al., 1985) said that the most representative estimate of total nitrogen deposition in the Tahoe Region is 600 to 1000 metric tons per year (as  $\text{NO}_3$ ), which would also translate to a very significant loading on Lake Tahoe. Radian estimated that 60 to 80 percent of the atmospheric nitrogen loading is the result of transport from upwind areas.

The TRPA thresholds, Regional Plan, and proposed 208 amendments all call for controls on airborne nutrients from both upwind and in-Basin sources. The threshold which calls for a 10 percent reduction in vehicle miles travelled (VMT) in the Region will result in a 2 to 4 percent decrease in atmospheric nitrogen loading to Lake Tahoe.

Concerns. Some members of the public have expressed a concern that the proposed 208 amendments do not show a strong enough commitment from TRPA to mass transit as a strategy for reducing atmospheric deposition of nitrogen compounds on Lake Tahoe. They are concerned that the plan contains no incentives for persons to use mass transit, and no disincentives for persons using private automobiles.

Other members of the public have concerns about TRPA's technical documentation on transport and deposition of airborne nutrients, and believe that the plan should include additional documentation. One person said that the Radian report was based on very short-term data, and this should be mentioned. Another person identified additional reports and data sources on deposition and transport that could have been cited, and said that a more thorough literature review would have been helpful.

Finally, several members of the public commented that TRPA's control program for reducing atmospheric deposition is vague, and should contain a schedule of action items. They note that trends in  $\text{NO}_x$  emissions from upwind areas are not analyzed and, therefore, the claim that atmospheric nitrogen loading can be reduced by 20 percent with cooperation from upwind areas is unsubstantiated.

Response. TRPA agrees with the comments about data on airborne nutrients, and includes additional data and references in Volume I of the proposed 208 amendments. However, the matter of incentives and disincentives to enhance the utility of mass transit is more properly addressed in the Regional Transportation Plan than the Water Quality Management Plan. TRPA's



Regional Transportation Plan is updated every other year, and additional refinements are scheduled for 1988-89. The RTP updates will consider both incentives (e.g., reduced fares, free fares, incentive packages, more attractive transit vehicles) and disincentives (e.g., parking constraints).

From a water quality point of view, parking constraints could have disadvantages if they create illegal overflow parking on unpaved, unstabilized areas. They could also contribute to air quality and enforcement problems. However, some parking controls may be useful to promote transit ridership, and they will be addressed in upcoming RTP updates.

An analysis of upwind emissions of oxides of nitrogen (NOx) by TRPA in October, 1988, concluded that emissions of NOx upwind of Lake Tahoe in 2005 will be 13 to 17 percent lower than 1983 emissions. In this analysis, TRPA used a distance of 250 km to delimit contributing air basins; contributing air basins were further limited to those west and south of Lake Tahoe. The analysis utilized baseline population and emission data from 1983, and used vehicle emission factors developed for TRPA by Sierra Research in 1987. TRPA concluded that typical 2005 NOx emissions for individual motor vehicles upwind of Tahoe will be about 40 percent of 1983 emissions. Accounting for growth in population, vehicle miles travelled (VMT), and industrial emissions upwind, TRPA concluded overall upwind NOx emissions will be reduced 13 to 17 percent in 2005. (For details, see the Technical Appendix.)

To give additional clarity to TRPA's programs to reduce atmospheric deposition of nutrients on Lake Tahoe from both local and distant sources, TRPA commits to the following actions:

1. Additional supplemental control measures to control local NOx emissions have been added to the documents prepared pursuant to Chapter 32 of the TRPA Code. If progress toward reducing atmospheric deposition does not keep pace with projections, the TRPA Governing Board will implement these supplemental measures or take other action to correct the problem.
2. Through the Legislation Committee of the TRPA Governing Board, TRPA will work with lawmakers in California to encourage additional research into the generation and transport of nitrogen compounds, to require regular reports on the subject from the California Air Resources Board, and to provide incentives or disincentives to control known sources of NOx emissions.

3. TRPA will ask to be placed on the mailing lists for upwind air quality management districts, and will actively participate in the review and comment on draft air quality control plans to encourage additional NOx control measures.
4. Upon achieving successful installation and operation of the visibility monitoring program funded by California and Nevada in FY 87-88 and 88-89, and no later than July 1, 1991, TRPA will design and implement a monitoring program or project to further examine the nature and extent of transport of airborne nutrients into the Tahoe Region.

#### 10. Issue: Capital Improvements Program Funding

Background. Since TRPA began preparation of its first water quality management plan in the mid-1970's, TRPA has recognized that the costs of implementing the water quality control measures far exceed both the historical rate of expenditures and the anticipated revenues that could be directed at the problem.

The 1981 208 plan included the financial program from the Lake Tahoe Basin Water Quality Management Plan, Volume I, Water Quality Problems and Management Program (TRPA, 1977b), but acknowledged that the program recommendations needed to be updated and revised to incorporate the implementation schedule of the 1981 plan. The financial program from 1977 included the following features:

- baseline information on the financial capabilities of existing agencies,
- costs associated with the implementation of the CIP,
- evaluation of alternative revenue sources including: (1) fees for review and evaluation of projects, (2) retail sales tax, (3) Tahoe Basin user charges, (4) property taxes and assessments, (5) federal and state grant programs, (6) land acquisition programs of other agencies, (7) state and local appropriations, and (8) general funds of local, state, and federal agencies,
- allocation of feasible revenue sources to implementation costs,
- implementation schedule, and
- recommended financial program including: (1) increased local and TRPA filing fees, (2) state and federal financial support to TRPA, (3) development and initiation of local property tax increases or other mechanisms to support planning and design of high-priority erosion control projects, and (4) a user fee program to finance the major program costs.

For the portions of the Region within California, the 1981 208 plan also adopted the financial program of the Lake Tahoe Basin Water Quality Plan (SWRCB, 1980). That program included an evaluation of existing sources of funding, potential new sources of funding, and a financial strategy. The SWRCB financial strategy included the following elements:

- Concentrating existing revenues on high priority projects while additional sources of funding are being developed,
- Requiring local government to pay a fair share of erosion control costs,

- Committing \$10 million from the Clean Water and Water Conservation Bond Law of 1978 for erosion and runoff control projects at Lake Tahoe, to construct the projects scheduled for implementation in the first five years of the plan,
- Committing Caltrans to pay for the costs of erosion and runoff control projects on state highways, and
- Using the enforcement authority of the State Board and the Lahontan Board to make sure that local government bears its fair share of the cost of erosion and runoff control projects, estimated to be about \$500,000 per year for 20 years.

In 1983, TRPA contracted with Peat Marwick (Los Angeles) to assist with the development of a financial strategy for implementation of the Regional Plan. Peat Marwick prepared a financing strategy which TRPA adopted as part of the Regional Plan. The strategy said that:

- the water quality and transportation capital improvements programs are best achieved through a regional approach,
- TRPA should take immediate steps to establish the institutional arrangements necessary to implement the capital improvements program,
- TRPA should prepare a five-year CIP which should be updated annually, including a detailed listing of projects, establishment of construction priorities, estimated costs, proposed phasing, and funding sources and financing techniques,
- TRPA should establish a capital financing committee to seek outside funding sources to accompany local funding of a fair share of the improvements,
- TRPA should coordinate its regional capital program with local government and utility district programs,
- TRPA should assess the long-term availability on non-debt financing (taxes and grants), and
- TRPA needs to reassess the 20-year CIP for water quality and transportation.

The TRPA Goals and Policies (1986) create a linkage between the rate of funding for the CIP, management of new development, and the environmental thresholds. If progress toward meeting the environmental thresholds is slower than anticipated, the Goals and Policies call for adjustments in the rate of both capital improvements and new development (Goals and Policies, p. VII-17). Local units of government, state transportation departments, and other agencies are responsible for carrying out the CIP, with oversight from TRPA (Goals and Policies, pp. VII-19, 20).

Volume IV of this 208 plan, Capital Improvements Program for Erosion and Runoff Control, documents the erosion and runoff control projects completed on public rights-of-way in the Tahoe Region since 1979. Sixty-one projects have been completed at a cost of about \$35 million. In California, Caltrans has completed 23 projects at a cost of \$7.98 million and local government has completed 25 projects at a cost of \$15.49 million. In Nevada, NDOT has completed four projects at a cost of \$4.32 million and local government has completed nine projects at a cost of \$3.98 million.

Progress by local units of government has been greatly enhanced by two sources of grant funds which did not exist when the 1981 208 plan was adopted: Burton-Santini erosion control grants administered by the Lake Tahoe Basin Management Unit of the USFS, and erosion control grants administered by the California Tahoe Conservancy. Progress in Nevada will again improve starting with the 1989 building season as a result of erosion control grants from the \$35 million Tahoe bond act administered by the Nevada Division of State Lands.

Despite the substantial progress made to date, each unit of local government and each state highway department has substantial needs remaining to fund erosion and runoff control projects. Remaining project costs have increased in California as a result of the California Tahoe Conservancy's Report on Soil Erosion Control Needs and Projects in the Lake Tahoe Basin (March, 1987) which reported remaining needs of \$160 million (1988 dollars). TRPA's present Region-wide estimate of the remaining costs of the CIP over the next 20 years is \$270 million, which translates into four five-year phases with a cost of \$67.5 million each (1988 dollars) or an annual cost of about \$13.5 million (1988 dollars).

From the following revenue sources, TRPA projects short-term revenues for erosion and runoff control projects of about \$6 million annually: Burton-Santini grants, California Tahoe Conservancy grants, Caltrans, NDOT, Nevada Tahoe Area Land Acquisition Commission, and TRPA water quality mitigation funds.

Concerns. Through the public participation process on the 208 plan amendments, the public has raised a number of concerns about the funding of the capital improvements program. First, there is concern that the plan lacks an adequate financial element and, since the CIP is intended to offset the effects of additional development and existing development, additional development cannot be justified without additional CIP funding. In addition, there is no adequate demonstration of the capability of local government to carry out their share of the CIP.

Second, members of the public have said that since full CIP funding is not assured, the analysis of environmental impacts cannot assume that the necessary projects will be completed on schedule. They say that the water quality impacts of stretching the remedial work over a longer time need to be analyzed, and additional mitigation may be needed.

Third, some comments have said that the cost estimates may be low, since they don't include funding for the replacement of failed BMPs, unforeseen new problems, and ongoing maintenance of BMPs.

Members of the public have recommended that TRPA raise its water quality mitigation fees and mount a campaign to obtain more local, state, and federal funding commitments for erosion control projects.

Response. In accordance with the requirements of Chapter 32 of the TRPA Code of Ordinances and with agreements reached with the public during the review of the draft 208 plan amendments, TRPA has established targets for the achievement of water quality thresholds and standards and for implementation of the CIP. Selected targets have been incorporated into the 208 plan itself in Volume I, Section I, Chapter VII, Plan Evaluation and Revision. If progress toward the thresholds and other targets does not keep pace with TRPA's expectations, for the Region as a whole or for any part of the Region, the TRPA will take corrective action pursuant to Chapters 6 and 32 of the Code of Ordinances. TRPA will either implement supplemental compliance measures ("contingency" measures), make adjustments to allocations of additional development, or take other actions to resolve the discrepancy between actual and projected progress.

Although substantial improvements in the rate of CIP implementation have taken place in the last few years, TRPA needs time to implement the new Regional Plan package without the shadow of actual or threatened litigation over its actions. The Urban Land Institute, in its 1985 advisory panel report on governmental, planning, environmental, and infrastructure financing issues in the Tahoe Basin, said that polarization and in-fighting within the Region were inhibiting direct attention to the problems of the area. The conclusions of the ULI report with respect to funding included the follow paragraph:

The panel has become familiar during its short time in the region with an extensive list of communitywide concerns and priorities involving capital expenditures. The potential costs of these are staggering and well beyond the ability of the local economy to absorb. Also, funds from outside sources are becoming increasingly difficult to obtain and require ever-increasing local contributions. Reaching communitywide goals for revitalization and improvement will call for a combination of resources, including bonded indebtedness. Even then, shortfalls will undoubtedly occur if an aggressive implementation program is pursued.

The ULI report also said that meeting community goals will demand an ability to "sell the perceived needs to a wider audience" in the two states. Some relief for the funding shortfall may come from user fees, the report said, but such fees "must bear a reasonable relationship to the value of the experiences they cover."

TRPA's financial strategy for implementing the capital improvements program incorporates many of the strategic elements which have existed since 1977, and is as follows:

#### Local Funding

- TRPA will conduct additional research into the concept of user fees, with a goal of completing a study of user fees and selecting a preferred approach no later than two years from the date of EPA approval of these 208 plan amendments.
- The Lahontan Board, NDEP, and TRPA will use their regulatory powers to ensure that local units of government and other local agencies bear a fair share of the costs of erosion and runoff control projects, while recognizing that voluntary cooperation is preferred to mandatory action. (See also Issue No. 12, Regulatory Aspects of the BMP Implementation Program.)
- TRPA will encourage the creation of additional benefit assessment districts at the local level to assist with funding of local erosion and runoff control projects.
- TRPA will evaluate the water quality mitigation fee schedule and recommend adjustments to the fee schedule, if appropriate, no later than two years from the date of EPA approval of these 208 plan amendments.

#### State and Federal Funding

- TRPA will work with the California Transportation Commission, Caltrans, NDOT, and the two state legislatures to ensure that erosion and runoff control projects on state highway rights-of-way are given a high priority in their planning and construction programs.
- TRPA will encourage and cooperate with the California Tahoe Conservancy and the Nevada Tahoe Basin Act Land Acquisition Program to pursue additional bonding authority for construction of remedial erosion and runoff control projects in the Tahoe Region.
- TRPA will work with U.S. EPA and other federal agencies to pursue federal grants for remedial erosion and runoff control projects in the Region (e.g., federal Clean Lakes grants under the Clean Water Act).

#### General

- TRPA will prepare a five-year CIP and update it annually, including a detailed listing of projects, guidance on project priorities, estimated costs, proposed phasing, and funding sources and financing techniques.

- TRPA will establish a capital financing committee to seek outside funding sources to accompany local funding of a fair share of the improvements.
- TRPA will coordinate its regional capital program with local government and utility district programs.



## 11. Issue: Water Quality Impacts of Land Coverage Transfers

Background. Both the 1981 208 plan and the proposed 208 amendments require new development in the Tahoe Region to conform to the coefficients of allowable land coverage set forth in the Bailey Report (1974). However, the two plans differ in the detailed rules which implement the limits on land coverage.

The 1981 plan requires future development to comply with the Bailey coefficients on a lot-by-lot basis. Lot consolidation or expansion of the project area to satisfy the Bailey coefficients is acceptable. The 1981 plan includes general policies which encourage transfers of development but, except for a limited transfer program for commercial uses within individual watersheds in Nevada, the 1981 plan does not allow transfers of land coverage which would result in coverage on the receiving parcel in excess of the Bailey coefficients.

In the proposed 208 amendments, provisions are made to allow additional land coverage above Bailey on certain parcels by transfer. Allowed base coverage may be increased by transfer within hydrologically-related areas up to the limits set forth in Table 2; the boundaries of the hydrologically-related areas are shown in Figure 1.

The intent of the coverage transfer provisions is to allow greater flexibility in the placement of land coverage within hydrologically-related areas, utilizing land banks, lot consolidations, land coverage restoration, and transfers.

Coverage transfers for commercial and tourist accommodation projects must be from existing hard coverage (i.e., pavement, structures) except where TRPA finds there is an inadequate supply of hard coverage at a reasonable cost, in which case TRPA may increase the supply in this order of priority: (1) by allowing transfer of existing soft coverage (i.e., legally-established compacted areas without structures), (2) by allowing transfer of potential coverage (i.e., base allowed coverage), and (3) by redefining the hydrologic boundaries.

Coverage transfers for residential, outdoor recreation, public service, regional public facility, and public health and safety projects may utilize existing hard or soft coverage or potential coverage. Coverage transfers for linear public facilities may utilize existing hard or soft coverage.

In accordance with the Goals and Policies, TRPA, in conjunction with other agencies, shall establish a land coverage banking system. TRPA has entered into an MOU with the California Tahoe Conservancy to establish a California-side land bank, and will negotiate an MOU to set up a separate Nevada-side land bank. Private coverage transactions are also allowed in both states.

All land coverage transfers are subject to the following rules:

- transfers shall be at a ratio of 1:1 or greater,
- coverage transferred to a single-family house shall be from a parcel equal to, or more environmentally sensitive than, the receiving parcel, and
- where parcels contain an SEZ, the amount of coverage attributable to the SEZ portion may be transferred to the non-SEZ portion.

Concerns. In oral and written comments on the draft 208 amendments, the public has expressed a number of concerns about transfers of land coverage. In general, members of the public are concerned that the effects of the transfers on water quality are not adequately discussed, and that TRPA cites no studies to support its contention that land coverage transfers are consistent with programs to attain and maintain water quality thresholds and standards. The public is concerned that coverage transfers will allow for increased development, more concentrated development, increased drainage density, increased sediment and nutrient yields, and concentration of coverage adjacent to Lake Tahoe. The public has said that the extent and location of coverage resulting from transfers should be projected, and where transfers will create substantial areas of new coverage, the capacity of the watershed to handle the increased runoff should be evaluated.

The public has also expressed concerns about the hydrologically-related areas. They are concerned that provisions allowing for the redefining of hydrologic boundaries will exacerbate water quality impacts of coverage transfers, that the hydrologic boundaries were drawn to facilitate coverage banking rather than protect water quality, and that alternative boundaries were not evaluated.

Two other concerns have been expressed by the public: the concern that allowance for transfers of soft coverage will create a disincentive for revegetation of disturbed areas and the concern that since full restoration of donor areas may not be possible that coverage transfers based on a ratio of 1:1 will result in increased sediment and nutrient loads to receiving waters.

One comment said that TRPA should consider changing the land coverage transfer rules to eliminate transfers of potential coverage, eliminate transfers of soft coverage, and increase the retirement ratio.

Response. As discussed elsewhere in this responsiveness summary (see Issue No. 4), the analytical tools available to TRPA to evaluate the water quality impacts of land coverage transfers are limited. Nevertheless, TRPA has applied models developed by TRPA and the SWRCB in two separate analyses, documented in the Technical Appendix, and concludes that the proposed rules which allow for transfers of land coverage have virtually the same impacts on sediment and nutrient loads as the rules from the 1981 208 plan. For example, in the detailed simulations of nutrient and sediment generation from the Tahoma and Incline Village watersheds using the TRPA model, loads from the 1981 208 plan and the proposed 208 amendments differed by no more than one percent.

In simulations of sediment generation from two watersheds, one in Kings Beach and one in Douglas County, using the SWRCB model, loads from the proposed 208 plan were exactly the same as from the 1981 plan in one watershed, and differed by about 3 percent in the other, prior to application of BMPs. One should keep in mind that, given the margin of error inherent in these models, the results from application of the 1981 208 plan and the proposed amendments should be considered about equal. (For details on these simulations, see the Technical Appendix.)

If one applies a common-sense analysis to the issue of land coverage transfers, starting with the assumption that concentration of land coverage increases yields of sediments and dissolved nutrients from a given area, one concludes that there is a beneficial impact on sediment and nutrient yields from the donor location, and an adverse impact on sediment and nutrient yields from the receiving location. In both cases, the impacts are localized to the vicinity of the donor or receiver location. It is important to understand that localized impacts at the receiving site will be mitigated by BMPs and--for transfers into community plan areas--by community drainage, stabilization, and rehabilitation plans.

If the transfer involves transfer of potential land coverage, the beneficial impact on the donor location involves avoidance of a possible future impact rather than an actual decrease in sediment and nutrient yields. Transfers of potential coverage have the effect of consolidating non-contiguous parcels for purposes of coverage calculations, a concept not far removed from the 1981 208 plan, which encouraged parcel consolidations to meet the land coverage constraints and actually permitted such transfers for commercial purposes within single watersheds in Nevada (TRPA Ordinance 81-5).

Since the 1981 208 plan allowed overrides of the Bailey coefficients for creation of coverage by a public entity where necessary for the implementation of the air quality nonattainment plan or the transportation element of the regional plan, public recreation, or protection of the public health, safety, and welfare, provided all feasible alternatives were exhausted and mitigation was provided, the 1981 208 plan actually allowed de facto coverage transfers for implementation of the air quality and

transportation plans and for public health, safety, welfare, and recreation projects. Thus, except for transfers of coverage into approved community plan areas for commercial, tourist, and multi-family projects and transfers for single-family dwellings reviewed and approved pursuant to IPES, the 1981 plan and the proposed amendments are very similar.

With respect to transfers of existing coverage into community plan areas for commercial, tourist, and multi-family projects, it is important to keep the relative scope of the transfer program in mind. Region-wide, under either the No-Action, Hybrid, or Proposed alternatives, additional commercial, multi-family, and tourist land coverage will involve approximately 75 to 85 acres of new coverage, which represents an increment of only 1.1 to 1.2 percent over coverage existing in the Region today. Under the No-Action or Hybrid alternatives, that coverage would be distributed around the Region on vacant commercial, multi-family, and tourist parcels. Under the proposed action, about 90 percent of that coverage will be directed to the 23 community plan areas.

The 23 community plan areas represent a total land area of about 2540 acres and about 1720 acres of existing coverage. If two-thirds of the commercial, tourist, and multi-family coverage directed to these areas is provided by virtue of transfers of existing coverage, the increment of coverage created by transferred coverage is 45 to 51 acres, or about three percent over existing land coverage. (Note that this conclusion is consistent with the simulation of the Kings Beach watershed, a community plan area.)

Since TRPA cannot approve coverage transfers into community plan areas until it adopts community plans which must include schedules for implementation of remedial water quality projects that achieve applicable goals and water quality standards, and since the increment of transferred coverage is small, it is quite reasonable to assume that community-wide BMPs and restoration programs will still attain and maintain water quality thresholds and standards. Furthermore, the 45 to 51 acres transferred into the community plan areas would be offset by retirement of existing land coverage elsewhere, with benefits to water quality not realized under the No-Action or Hybrid alternatives. (For further documentation of this analysis, see the Technical Appendix.)

One should note that even the above estimates of coverage which will be transferred into community plan areas may be high, since much of the anticipated additional commercial floor area in the Region will probably be utilized on sites with existing land coverage, either as rehabilitations or second-story commercial areas. According to TRPA staff working with the Tahoe City community plan, in progress, additional commercial floor area may add no additional land coverage to Tahoe City in the first ten years of the plan. For community plan areas throughout the Region, this may prove to be the rule, rather than the exception.

TRPA believes, based on the above analysis, supported by additional documentation in Volumes I and VII of the 208 plan, that the proposed program of land coverage transfers is consistent TRPA's efforts to attain and maintain environmental thresholds. While many of those who commented on the proposed plan were concerned about the possible problems with transfers of land coverage, none of the comments acknowledged the potential benefits. As already stated in the discussion of the Region's economy (Volume I, Section II), the transfer of coverage provisions of the proposed amendments, which will be facilitated by land banks, will create incentives to rehabilitate or replace obsolete uses, reduce unconsolidated strip development, and contribute to upgrading of the built environment and economic recovery. These improvements, in turn, will bring about improvements in water quality, transportation, air quality, community design, energy use, housing, and scenic resources.

The Urban Land Institute advisory panel recognized the benefits of a flexible approach to regulation of land coverage in its 1985 report:

Asked whether the objectives of revitalization can be achieved with strict interpretation of the Bailey System, of threshold attainment, and of the regional plan, the panel has replied that it believes the issue revolves around the term "strict interpretation." This is not to suggest tactics to evade the adopted standards, but rather to suggest the aptitude to use them flexibly in a mix-and-match fashion. The sum of mixing and matching will then maintain the desired environmental qualities. Substantial sections of the Tahoe Basin are not aging well, and substantial measures of rehabilitation, modernization, conversion to alternate use, and replacement will be required to maintain the vitality of the area, its visual impact, and certainly its economic base.

The cost of a completely dogmatic interpretation that yields inflexible rules is the threat of a virtual halt of redevelopment efforts in the basin. Such a situation promises, not a static system, but rather a continued degeneration--not only of the economy, but also, ultimately, of the infrastructure and desirability of this area, whose salvation is desired by all of the players on the scene. And the degeneration will be accompanied by drastic fiscal stresses on local government.

With respect to the comment that TRPA set the boundaries of the hydrologically-related areas to facilitate land banking and not to protect water quality, it is important to understand the role of the hydrologic boundaries in the transfer of land coverage programs. The hydrologic boundaries are essentially a risk management mechanism to prevent any given hydrologic or geographic subregion from absorbing a disproportionate amount of impacts from transfers of land coverage. The risk--which the boundaries are intended to mitigate--is that there would not be a reasonable

hydrologic and geographic connection between donor areas and receiving areas. With over 100 separate watersheds in the Tahoe Region, many of them less than one square mile in size, it is not reasonable to establish individual coverage transfer markets in each watershed. It is necessary to group watersheds together into reasonably-sized market areas. Also, TRPA did consider many alternative boundaries for the hydrologically-related areas during the development of the Goals and Policies, the Plan Area Statements, and the Code of Ordinances.

With respect to the comment that a coverage transfer program based on a 1:1 transfer ratio will result in increased sediment and nutrient loads, since it will be difficult or impossible to restore disturbed areas 100 percent, there are several aspects of the proposed amendments which tend to mitigate this risk. First, as discussed above, the commercial, tourist, and multi-family transfer programs will result in significantly less land coverage under the proposed plan than under the Hybrid and No-Action alternatives, which don't allow transfers. Second, although nutrient and sediment loads from restored parcels may not initially reflect truly-natural conditions, over the 20-year timeframe of the 208 plan they will approach natural conditions more and more. Third, TRPA has added a supplemental compliance measure to the list of compliance measures prepared pursuant to Chapter 32 calling for changes in transfer of coverage regulations, including the possibility of higher transfer ratios, if future program evaluations demonstrate that need.

Finally, it is appropriate to clarify that transfers of soft coverage (denuded or compacted areas without structures) are allowed only where the soft coverage was established legally. Thus, transfer of soft coverage does not constitute a disincentive to rehabilitate disturbed areas, since legally-established soft coverage can--and should--be legally paved. To have been legally established, soft coverage must be: (1) established prior to 1972, (2) compacted such that 75 percent of normal precipitation runs off the surface. In fact, the provisions which allow transfers of legally-established soft coverage actually create an incentive for water quality protection, since the restoration of the donor site will eliminate a use with serious water quality impacts.

## 12. Issue: Regulatory Aspects of the BMP Implementation Program

**Background.** The 1981 208 plan relies on the regulatory powers of TRPA to remedy existing on-site runoff problems wherever they are identified in the Region. The plan states that a regulatory program will also be used to ensure that each phase of the capital improvements program (CIP) is completed according to the implementation schedule in the 1981 plan, and that NPDES permits or similar mechanisms will be required to ensure timely implementation of all phases of the CIP (TRPA, 1981d, pp. 95, 96).

Both the California State Water Resources Control Board and EPA placed conditions of certification and approval on the 1981 208 plan requiring TRPA to adopt the proposed regulatory program and submit it for certification and approval.

In 1982, TRPA adopted Ordinance 82-4 to fulfill the state and EPA conditions calling for adoption of a regulatory program to correct existing water quality problems in the Region. Under the provisions of Ordinance 82-4, TRPA was to work with affected units of local, state, and federal government to identify areas with significant erosion or runoff problems and to develop the implementing program and financial strategies necessary to carry out the ordinance.

The procedure for implementing the regulatory program under Ordinance 82-4 was as follows: First, having identified the problem, TRPA would request a voluntary action plan, and assist the responsible party in the preparation of such a plan. Upon TRPA approval, the responsible persons would implement the action plan voluntarily, with tracking and oversight by TRPA. If a person, after a request from TRPA staff, failed or refused to prepare an action plan or to comply with the terms of an approved action plan, the TRPA Board could issue a notice to prepare a mandatory action plan. If that person still refused to prepare or implement an action plan, TRPA staff would prepare the plan for Board approval, and that person would be held liable for the cost of preparation. If the responsible person still failed to implement the action plan, TRPA would schedule a show cause hearing before the Board, and after the hearing, the Board would take appropriate action, including commencement of legal action for the assessment of civil penalties.

TRPA did not process many actions pursuant to Ordinance 82-4, and the TRPA Board was not asked to approve any action plans. Part of the reason for TRPA's lack of emphasis on the program was the adoption of the environmental thresholds in 1982, the Regional Plan in 1984, and the subsequent litigation, which lasted until 1987. In 1987, Ordinance 82-4 was superseded by Chapter 9 of the TRPA Code of Ordinances, which TRPA modeled after Ordinance 82-4.

Along with TRPA, the state water quality agencies can also take regulatory action to require correction of water quality problems. The 1981 208 plan stated that the Lahontan Board issues Waste Discharge Requirements (WDRs) and other orders requiring the correction of erosion and runoff problems, and WDRs are required for any discharge that may affect water quality unless the Lahontan Board waives the requirements (SWRCB, 1980, p. 142). WDRs require schedules of compliance of specific actions. For failure to comply with a WDR, the Lahontan Board may issue a cease and desist order, seek an injunction, or undertake the work itself and charge the property owner for the costs of the project.

The 1986 TRPA Goals and Policies require all persons who own land, and all public agencies which manage public lands in the Region to put BMPs in place and maintain the BMPs to protect water quality. The program of implementation, set forth in the Goals and Policies and Chapter 25 of the Code of Ordinances, and included in the proposed 208 amendments, involves voluntary, regulatory, and remedial aspects.

With respect to regulatory aspects, application of BMPs is required for every project as a condition of approval. Where the project involves modification of an existing structure or use, TRPA shall also require preparation of a plan or schedule for retrofit of BMPs to the entire project area. The proportion of retrofit work required at the time of project implementation is a function of the cost and nature of the project in question.

Where significant environmental problems are identified resulting from a lack of BMPs, TRPA may also request or require a remedial action plan. TRPA shall develop problem assessments in consultation with affected local, state, and federal agencies. Upon completion of a problem assessment, TRPA may request voluntary preparation of an action plan, require a mandatory action plan, or prepare an action plan itself. Once an action plan is approved by the TRPA Board, the affected parties must comply with all the provisions, including the schedule of implementation.

Where the regulatory and remedial aspects of the BMP implementation program do not apply, TRPA will rely initially on voluntary compliance with the BMP Handbook. TRPA will undertake a public education program and, if implementation does not proceed on schedule, will enact additional regulations to obtain compliance with BMP requirements.

Concerns. One comment on the draft 208 plan said that the draft plan eliminates the "automatic mandatory requirements" of the 1981 plan, which requires regulatory programs that will ensure that surface runoff management systems, including BMPs are applied to sites which do not come forward for development or use permits. The comment says that the 208 amendments call only for a public education program, with mandatory requirements only if installation of BMPs does not proceed on schedule.



Another concern is that there is no explanation of the success of public education efforts under the 1981 plan, the justification for eliminating the 1981 plan's "automatic mandatory requirements," or a schedule that will trigger mandatory requirements.

Another comment says that in the portions of the Region in California, where the Lahontan Board has a regulatory program, progress on the CIP has been far greater than in Nevada, where TRPA enforces no comparable controls. If TRPA implemented a regulatory program, the comment says that it would probably result in application of BMPs sooner than the voluntary program of the proposed amendments.

An additional concern is that, since TRPA is relying on a voluntary program for BMPs and capital improvements, the environmental document cannot assume that those programs will be carried out, and a worst case scenario based on current trends should be analyzed.

Response. There are over 65,000 individual parcels of land in the Tahoe Region, and approximately 1000 miles of streets and roads, the vast majority of which do not have the benefit of adequate BMPs to control erosion and runoff control. Realistically, any program of BMP implementation will have to include a combination of voluntary and regulatory aspects, unless TRPA, the Lahontan Board, and NDEP wish to process over 60,000 separate regulatory actions in the next 20 years.

Not only does TRPA have ordinances in place which allow TRPA to require compliance with the BMP Handbook and the Capital Improvements Program for erosion and runoff control, but also the Lahontan Board and NDEP exercise their regulatory authority over discharges of surface runoff to the receiving waters of the Tahoe Region. The regulatory processes of the two states are more straightforward than TRPA's process, in which the only legal remedy when a person fails to comply with TRPA's regulatory program is civil litigation.

TRPA's track record on implementation of Ordinance 82-4 and its successor, Chapter 9 of the Code of Ordinances, is admittedly weak. However, it has only been since July, 1987 that TRPA has been able to turn its attention to implementation of the Regional Plan, rather than the consuming tasks of plan development and resolution of plan-related litigation.

In accordance with Chapter 32 of the Code of Ordinances, TRPA has identified indicators and set interim targets related to attainment and maintenance of water quality thresholds and standards. As a part of this 208 plan, TRPA has also set interim targets and long-term performance targets related to implementation of the Capital Improvements Program and the BMP requirements of the Regional Plan. If progress does not measure up to those targets, TRPA will make adjustments in the Regional Plan package to ensure that thresholds and standards are attained and maintained. These adjustments include adjustments to the program of BMP implementation, as set forth in the Goals and Policies.

In addition, the final plan includes more explicit language regarding the role of NPDES permits and waste discharge requirements (WDRs) in implementation of the 208 plan. The final plan states that California and Nevada shall continue to administer effluent limitations in accordance with the Clean Water Act and, in California, the Porter-Cologne Act to help control water quality problems resulting from discharges from urban drainage systems. The final plan also states that TRPA considers large parking areas, the South Tahoe Airport, golf courses, and ski areas high priorities for retrofitting with BMPs and encourages the states to issue NPDES permits or WDRs to these facilities. If, following TRPA's comprehensive review of progress under the 208 plan in 1991, facilities in those categories have not established retrofitting schedules, TRPA, in cooperation with the states, will require such schedules to be established.

Although California-side units of local government and Caltrans have expended very significant resources on correction of erosion and runoff problems, only two projects (Rubicon and portions of the South Wye) were the result of regulatory actions, which were taken by the Lahontan Board rather than TRPA. In any case, all three local jurisdictions in California have remaining erosion and runoff control needs totalling from \$50 to \$70 million. These needs will not and cannot be satisfied through purely regulatory approaches.

### 13. Issue: Segmentation of 208 Amendments

Background. The process of adopting environmental threshold carrying capacities, amending the Regional Plan, and amending the 208 plan started in 1980 and 1981. Since the settlement of Regional Plan-related litigation in July, 1987, TRPA has been working closely with the interagency working group and the public to finalize the 208 amendments for submission to Nevada, California, and U.S. EPA. A number of the key provisions of the amended Regional Plan, such as coverage transfers, the Individual Parcel Evaluation System (IPES), and the revised criteria governing identification and protection of SEZs cannot be implemented without state certification and federal approval of the 208 amendments.

In addition, a complete Regional Plan package must include a revised Handbook of Best Management Practices, revised Capital Improvements Program for erosion and runoff control, and a Stream Environment Zone Protection and Restoration Program, all of which are a part of the proposed amendments to the 208 plan.

IPES is scheduled to go into effect on January 1, 1989, or upon EPA approval of an amended 208 plan, whichever is later. By October, 1988, TRPA will have evaluated over 12,000 residential parcels under the IPES criteria and notified the property owners of the results. Also, community planning is underway in three commercial zones around Lake Tahoe (Tahoe City, Douglas County, and the South Lake Tahoe Redevelopment Area) and scheduled to begin soon in several additional areas. Coverage transfers are a key incentive for community planning.

Concerns. In the public participation process on the proposed 208 amendments, some members of the public have expressed a concern that the proposed amendments are too lengthy, too complex, and too controversial to process swiftly through TRPA adoption, state certification, and EPA approval, and have suggested that the proposed amendments be segmented, or "bifurcated." They have suggested that IPES, and perhaps other elements of the amendments which are not controversial, could be processed first, and that the remaining amendments could be processed later. They argue that this process would allow them additional time to review and make comments on the proposed amendments, and allow TRPA, Nevada, California, and EPA to focus on a few issues at a time, rather than the whole package of 208 amendments at once.

TRPA and other members of the public, on the other hand, are concerned that segmenting the 208 amendments would further extend the process of amending the 208 plan, which has already taken almost seven years. They argue that segmentation adds complexity to the amendment process, rather than simplifying it, and point out that TRPA's constituencies within the Region and in California, Nevada, and the nation as a whole would be harmed by further delays in processing the 208 amendments. EPA Region IX has, for several years, urged TRPA to complete the 208 amendments as rapidly as possible.

Response. TRPA feels that the strengths of the proposed 208 amendments lie not only in individual elements such as IPES and the revised BMP Handbook, but in the package as a whole. The analysis of anticipated environmental, social, and economic impacts of the proposed action and the alternatives demonstrates that the package is equal or superior to the alternatives. TRPA desires not only to implement IPES in 1989, but also to approve several community plans, for which coverage transfers are a key incentive. If TRPA does not adopt a complete amended water quality plan and submit it to Nevada, California, and EPA for approval in 1988, the Nevada legislature and its subcommittee on TRPA oversight will be critical of TRPA's commitment to implement the Regional Plan and the settlement of Plan-related litigation, with possible adverse impacts on TRPA's overall operations.

D. EVALUATION OF THE EFFECTIVENESS OF THE PUBLIC PARTICIPATION PROGRAM

Pursuant to the federal regulations regarding public participation in the development of the 208 plan amendments, the Responsiveness Summary shall include an evaluation by TRPA of the public participation program. TRPA shall request such an evaluation from its advisory group and provide an opportunity for the public to contribute to the evaluation. (See 40 CFR 25.8.)

At the meeting of the Advisory Planning Commission on September 14, 1988, TRPA staff summarized the public participation program, described herein, and requested an evaluation of the program from the APC. Members of the public in attendance were also given the opportunity to contribute to the evaluation. The APC unanimously adopted a motion finding that TRPA had given the public many opportunities to participate in the development of the 208 amendments. However, members of the APC commented that the public had not taken full advantage of the opportunities, as evidenced by low public turn-out at the public meetings and hearings.

In the oral and written comments on the 208 amendments and the EIS, some comments said that opportunities for public input had been adequate, and that TRPA had done a good job of soliciting input from the public and resolving the issues raised. Other comments said that the TRPA had not allowed enough time for public review and comment on the draft documents. However, given that the documents have been available for public review and comment for almost five full months, TRPA feels that the opportunities for review and comment have been adequate, and the APC agrees. (For more detailed discussion, see the Response to Comments, herein.)

### III. RESPONSE TO COMMENTS

#### A. LIST OF PERSONS, ORGANIZATIONS, AND PUBLIC AGENCIES COMMENTING ON THE DRAFT

1. Daniel L. Siegel, Deputy Attorney General, State of California Department of Justice
2. O. R. Butterfield, Executive Office, California Regional Water Quality Control Board, Lahontan Region
3. Edward C. Anton for Jesse M. Diaz, Chief, Division of Water Quality, California State Water Resources Control Board
4. Alan A. Oldall, Deputy Executive Officer, California Environmental Affairs Agency, California Waste Management Board
5. Carol Federighi, President, and Myrtle Osner, Natural Resources Director, League of Women Voters of California
6. E. Clement Shute, Jr., Shute, Mihaly & Weinberger, Attorneys at Law, on behalf of the League to Save Lake Tahoe
7. Chris K. Freeman, Management Analyst II, Nevada Department of Conservation and Natural Resources, Division of Conservation Districts
8. Wendell D. McCurry, P.E., Water Quality Officer, Nevada Department of Conservation and Natural Resources, Division of Environmental Protection
9. Michael Paparian, State Director, Sierra Club California
10. Michael A. Harper, AICP, Assistant Director, Washoe County Department of Comprehensive Planning
11. Steve Teshara, Director, Tahoe Sierra Preservation Council
12. Brent Thrums, member, TRPA Advisory Planning Commission
13. William Molini, Director, Nevada Department of Wildlife
14. Wendell Smith, U.S. Environmental Protection Agency, Region IX, San Francisco, CA

[Note: The following individuals commented on the description of the Setting, Volume I, Section I. Their comments were incorporated.]

15. Clarence M. Skau, Ph.D., member, IPES technical committee
16. I. G. Poppoff, member, TRPA Advisory Planning Commission
17. Jon Rhodes, hydrologist
18. Dr. Charles R. Goldman, Tahoe Research Group, University of California at Davis

[Note: The following individuals commented on the Handbook of Best Management Practices. Their comments were incorporated.]

19. Richard Pyle, U.S. Soil Conservation Service, South Lake Tahoe
20. Jim Haen, P.E., El Dorado County Department of Transportation
21. Al Todd, hydrologist, Lake Tahoe Basin Management Unit, U.S. Forest Service

### III. RESPONSE TO COMMENTS

#### B. COMMENTS AND RESPONSES

#### California Department of Justice, Attorney General

A-1 The draft plan does not contain substantial evidence that the proposed alternative will meet antidegradation requirements. The draft plan cannot be approved unless TRPA makes findings, based upon substantial evidence in the record, that the plan will achieve and maintain thresholds. The thresholds require a substantial reduction of nutrients entering the Lake, and a substantial improvement of water quality. The draft plan similarly must meet the California and Nevada requirements that the Lake be returned to its late 1960s condition. Finally, the draft plan must meet the federal Clean Water Act mandate that there be no degradation of the Lake (40 CFR Section 131.1(a)(3)).

There is no substantial evidence in the record that existing management policies are leading to improved Lake quality, as mandated by the above requirements. Indeed, all evidence indicates that policies have not even been able to stop the Lake's decline.

The draft plan proposes to permit the continued decline in Lake quality over the years until, at some still further degraded condition, it will no longer get any worse. This does not meet the state and federal requirements that the plan provide for an improvement over current Lake quality.

The most significant contributor to the Lake's degradation is development. Nevertheless, the proposed alternative calls for a 27 percent increase in population over the next twenty years, with increased development in order to accommodate that growth.

The plan attempts to justify this increase by generalized claims that the increases will be offset by reductions from application of BMPs, implementation of the CIP, SEZ restoration, and fertilizer management. No evidence is presented that these earlier programs have achieved the required standard. To the contrary, as outlined above, the draft plan admits failure. Further, no meaningful evidence is presented that these programs will lead to the future attainment of standards.

TRPA Response: See the Responsiveness Summary, Issue No. 4, Attainment and Maintenance of TRPA Water Quality Thresholds and State Water Quality Standards.



A-2 The draft plan eliminates two major water quality protections of the current Plan. It eliminates the prohibition of single-family home construction on low capability lands. It also allows for increased development, and more concentrated development, by eliminating the current prohibition of transfers of coverage.

Additional development and an easing of restrictions in the current 208 plan can be justified only if a) the plan contains effective attainment procedures, including adequate new control measures and mitigation programs, and b) a systems model is developed that 1) quantifies the effect of development throughout the basin and the effect of the control measures and mitigation programs, and 2) demonstrates that, in totality, the plan will meet thresholds. The draft plan fails to incorporate these essential elements.

TRPA Response: See the Responsiveness Summary, Issue No. 4, Attainment and Maintenance of TRPA Water Quality Thresholds and State Water Quality Standards. The 1981 208 plan does not prohibit, for portions of the Region within California, development of single-family homes in land capability districts 1, 2 or 3. It does require future development to comply with the Bailey coefficients on a lot-by-lot basis and prohibits, for portions of the Region within California, the discharge or threatened discharge of solid or liquid wastes attributable to new development not in accordance with land capability. The 1981 208 plan also allows coverage transfers within individual watersheds in Nevada.

The 1981 plan allows exceptions to the Bailey coverage coefficients for approved erosion control projects or creation of coverage by a public entity where necessary for the implementation of the air quality non-attainment plan or the transportation element of the regional plan, public recreation, or protection of the public health, safety, and welfare, provided all other feasible alternatives have been exhausted. The proposed amendments are more stringent than the 1981 plan in this area.

A-3 To stop and reverse the continuing deterioration of Lake Tahoe, a management plan must state in clearly measurable terms, what will be done, when it will be done, how achievement will be monitored and determined, and what adequate supplemental measures will be implemented if anticipated results do not occur. The draft plan fails to meet this elementary requirement.

TRPA Response: See the Responsiveness Summary, Issue No. 4, Attainment and Maintenance of TRPA Water Quality Thresholds and State Water Quality Standards.

A-4 For each assumption the plan must include the following attainment procedures:

- a. Specify the baseline (i.e., the current status, including where applicable, an identification of the specific acres or other items which comprise the baseline);
- b. Specify the specific target, and the date that the target will be achieved;
- c. Specify the schedule listing interim targets, and the dates (e.g., every two years) that the interim targets will be achieved;
- d. Specify the monitoring program which will be utilized to determine whether interim and ultimate targets are being met. For many items, this would consist of the tracking and accounting system required by Chapter 32.7.B of the TRPA Code of Ordinances;
- e. Specify the supplemental compliance measure(s) which will be implemented if interim targets are not being met;
- f. Specify the supplemental compliance measure(s) which will be implemented if the ultimate target is not met; and
- g. Where applicable, repeat steps "a" through "f" for supplemental compliance measures.

TRPA Response: Chapter 32 of the TRPA Code of Ordinances requires TRPA to prepare this type of information for TRPA thresholds and applicable local, state, and federal water quality standards including standards for U.S. 50 traffic volumes; vehicle miles travelled; impervious coverage; and naturally-functioning SEZs as well as in-Lake, in-stream, and surface runoff water quality. TRPA will also track progress on implementation of the CIP and BMP requirements in a similar fashion. No federal, state, or TRPA regulation requires this type of tracking for other items.

A-5 Some of the assumptions and related factors upon which the draft plan relies and for which the above attainment procedures need to be specified are the following:

- a. The assumption in the proposed alternative that the actual number of single-family homes which can be developed is constrained to approximately 6000 over 20 years.

TRPA Response: See the Responsiveness Summary, Issue No. 6, Validity of Assumptions in the EIS Regarding Additional Development in the Tahoe Region.

- b. The assumption that the ultimate population of residents and overnight visitors will not increase by more than 27% of the 1985 level during the next twenty years.

TRPA Response: This is not an assumption, but an estimate or projection based on the projected additional development in the Tahoe Region over the next 20 years. The detailed basis for the population projections appears in the Technical Appendix, Volume VII.

- c. The assumption that 80 percent of the Region's disturbed areas will be restored with Best Management Practices (BMP's).

TRPA Response: The TRPA Goals and Policies include this policy: "Restore at least 80 percent of the disturbed lands within the Region" (Goals and Policies, p. II-42). As mentioned in the response to comment A-4, TRPA will track progress on implementation of BMPs, including restoration of disturbed areas, and will make adjustments in the Regional Plan depending on progress toward the restoration goal. Restoration of disturbed lands is one BMP to be implemented through retrofit programs. TRPA has voluntary, regulatory, and remedial programs to accomplish retrofit of BMPs.

- d. The assumption that the Capital Improvement Program will rectify the largest and most visible sources of erosion in the Region (including the underlying assumption that the Capital Improvement will be fully implemented on schedule).

TRPA Response: This is not an assumption, but a statement of fact. The CIP lists for Caltrans and NDOT include stabilization of highway cuts and fills, the largest and most visible sources of erosion in the Region. Regarding TRPA's ability to implement the CIP, see Issue No. 10, Capital Improvements Program Funding.

- e. The assumption that new SEZ disturbance will be limited to a total of 25 to 35 acres.

TRPA Response: This is not an assumption, but an estimate based on projected public service, public recreation, and access encroachment into SEZs.

- f. The assumptions that 1100 acres of SEZ will be restored in urban areas, and 200 acres of SEZ will be restored in undeveloped areas.

TRPA Response: This is not an assumption, but a quantification of a TRPA threshold. As a provision of the 208 plan, it will be implemented through Volume III, SEZ Protection and Restoration Program.

- g. The assumption that Vehicle Miles Traveled will be reduced to 1.64 - 1.50 million for a peak summer day.

TRPA Response: TRPA air quality thresholds require regional VMT to be reduced 10 percent, from 1.70 million (peak summer day) to 1.53 million. TRPA has adopted a program to implement this threshold in the Regional Transportation Plan, Lake Tahoe Basin (1988).

- A-5      h.      The assumption that winter-evening traffic volumes at the intersection of U.S. 50 and Park Avenue will be reduced approximately 30 percent from the 1985 levels.

TRPA Response: This is not an assumption, but an estimate of traffic volumes at the intersection of U.S. 50 and Park Avenue subsequent to implementation of the circulation improvements of the South Tahoe Redevelopment Plan. TRPA bases this estimate on traffic modeling documented in the Final EIR/EIS, Regional Transportation Plan, Lake Tahoe Basin (1988).

- i.      The explanation that with respect to air quality indicators, TRPA relies on analysis of trends in key indicators such as implementation of BMPs for dust control and wood smoke emissions.

TRPA Response: This statement is self-explanatory. TRPA does rely on these indicators.

- j.      The assumption that total direct deposition of nitrogen will be reduced approximately 2 to 4 percent by controls within the Region.

TRPA Response: This is not an assumption, but an estimate, based on the following considerations: (1) mobile sources are the dominant source of airborne nitrogen within the Tahoe Region, (2) implementation of the Regional Transportation Plan will result in a 10 percent reduction in vehicles miles travelled (peak summer day), and (3) the Radian Report estimated that 20 to 40 percent of the deposition of nitrogen in the Tahoe Region came from automobiles in the Region. Thus, a ten percent reduction in VMT will result in approximately a ten percent reduction in in-Basin NOx emissions, and a 2 to 4 percent decrease in direct deposition of nitrogen compounds in the Region. The cleaner in-Basin vehicle fleet will result in greater reductions in direct deposition of nitrogen.

- k.      The assumption that with cooperation from upwind areas, dissolved inorganic nitrogen loading to the Lake from atmospheric deposition will be reduced by 20 percent.

TRPA Response: See the Responsiveness Summary, Issue No. 9, Control of Airborne Nutrients.

A-5

1. The assumption that the implementation of BMPs and the CIP will reduce the overall developed drainage density more than additional development will increase it.

TRPA Response: The water quality problems in Lake Tahoe and its tributaries result, in large part, from existing development within the watershed of Lake Tahoe. The vast majority of this development pre-dated requirements that development comply with the Bailey coefficients and include both temporary and permanent BMPs. Existing development has greatly increased drainage density and the delivery of sediment and nutrients to receiving waters. Application of BMPs and implementation of the CIP will, by infiltrating runoff waters wherever possible, have the effect of substantially reducing the existing drainage density. Additional development permitted under the 208 plan will increase land coverage in the Region by less than five percent, and increase drainage density by less than two percent. Since all additional development will incorporate infiltration facilities to infiltrate runoff from the design storm, the actual increase in drainage density will be even less. Although it is qualitative judgment, it is reasonable to conclude that implementation of BMPs and the CIP will reduce the overall drainage density more than additional development will increase it.

- m. The assumption that Region-wide DIN load reduction from the watershed would be about 57 percent.

TRPA Response: This is not an assumption, but an estimate based on application of the TRPA procedure for estimating nutrient and sediment loads set forth in the EIS for the Adoption of a Regional Plan for the Lake Tahoe Basin (TRPA, 1983). The TRPA procedure is, in turn, based on regression analyses relating average sediment and nutrient concentrations to weighted coverage in a given study area, and estimates of the effectiveness of BMPs, SEZ restoration, and fertilizer management.

A-6

The above attainment procedures (a to g) need to be applied to each of the more than 30 separate water quality standards (other than those already listed among the above assumptions) for Lake Tahoe and its tributaries. See the reference to those standards at Volume I, Section II, page II-46.

TRPA Response: Under the requirements of Chapter 32, TRPA identifies indicators, attainment status, target dates, interim targets, applicable compliance measures, supplemental compliance measures, and the effectiveness and adequacy of compliance measures for state and TRPA standards in the following seven categories: (1) turbidity of the shallow waters of Lake Tahoe, (2) winter clarity of pelagic Lake Tahoe, (3) phytoplankton primary productivity, pelagic Lake Tahoe, (4) tributary water quality, (5) runoff water quality, (6) groundwater, and (7) quality of other lakes in the Region. TRPA selected these seven categories as adequately

covering the full range of water quality issues in the Tahoe Region. To apply the requirements of Chapter 32 to additional state standards (e.g., algal growth potential, plankton count, zooplankton biomass) would be redundant and would be hampered by the lack of available data. For a complete listing of all applicable TRPA and state water quality standards, see Volume I, Attachments 1 and 2.

A-7 The draft plan fails to analyze and utilize numerous control measures. The effect on water quality of the following measures should be analyzed. Given the admitted failure of current water quality management policies to stop and reverse the Lake's decline, many of these measures should be instituted outright. Others should be incorporated into the proposed alternative as supplemental control measures.

- a. Transfer of coverage (changes can apply to one, two or all three categories, i.e., commercial/tourist; residential, recreational, etc.; linear public facilities):
  - i. Objectively define "inadequate supply at reasonable cost."  
(For commercial coverage, soft or potential coverage may be retired where there is an "inadequate supply [of hard coverage] at a reasonable cost.");
  - ii. Eliminate transfers of potential coverage;
  - iii. Eliminate transfers of potential and soft coverage;
  - iv. Increase retirement ratio from 1:1 to 2:1 or greater.

TRPA Response: Until completion of the first major five-year evaluation of progress under the TRPA Regional Plan, scheduled for September, 1991, TRPA has no basis for changing its transfer of coverage regulations, which were adopted in 1987 and have not yet been implemented pending state certification and EPA approval of these 208 plan amendments. The coverage transfer rules were adopted following lengthy negotiations involving the Consensus Building Workshop and the TRPA Governing Board and, at the time of their adoption, represented a consensus agreement of all the involved parties. TRPA's analysis shows that the transfer programs can be implemented in the context of the 208 plan without adverse effects on water quality. However, TRPA has listed changes in the transfer of coverage regulations as a supplemental compliance measure under the provisions of Chapter 32 of the Code of Ordinances.

- b. Raise mitigation fees which are required for modification or rehabilitation of projects where existing development exceeds Bailey coefficients.

TRPA Response: TRPA identifies the excess coverage mitigation program as an in-place control measure pursuant to the provisions of Chapter 32 of the TRPA Code. TRPA is developing a permanent fee schedule pursuant to the Land Use Subelement of the Regional Plan Goals and Policies, which directs TRPA to establish a special task force to recommend excess coverage mitigation fees which will: (1) provide a reasonable level of funding for the land banking program taking into account alternative sources of funding, (2) not unduly restrict or deter property owners from undertaking projects involving rehabilitation of existing structures, (3) carry out an effective coverage reduction program. Raising the fees significantly could be counter-productive, because it could discourage rehabilitation and, therefore, adversely affect coverage reduction programs. TRPA will continue to rely on the procedure set forth in the Goals and Policies for the establishment of excess coverage mitigation fees.

- c. Eliminate various exemptions and special provisions of the TRPA Code of Ordinances, Chapter 4.

TRPA Response: TRPA includes modifications to the list of exempt activities in Chapter 4 of the Code as a supplemental compliance measure, pursuant to Chapter 32 of the Code.

- d. Freeze the IPES line (by jurisdiction).

TRPA Response: There are five separate safeguards on the movement of the IPES line in a given jurisdiction. (See the Responsiveness Summary, Issue No. Criteria for Movement of the IPES Line.) Nevertheless, the TRPA Goals and Policies say that TRPA shall evaluate the success of IPES after five years, based on a special component of the monitoring program, which component shall be the basis for extending, modifying, or eliminating IPES. Freezing the IPES line would constitute a modification to IPES and, therefore, is within the meaning of the Goals and Policies. TRPA includes freezing the IPES line as a supplemental compliance measure under Chapter 32 of the Code of Ordinances.

- e. Stop or slow all new development (or all development of certain categories). This can be basin-wide or by jurisdiction. Although the draft plan does present a no-growth alternative, the draft utilizes an all or nothing approach. The plan should consider the use of this approach as a supplemental control measure (i.e., one that will be required if various interim targets are not being reached).

TRPA Response: Pursuant to Chapter 32 of the TRPA Code of Ordinances, TRPA identifies restrictions on the rate and/or amount of additional development as a supplemental compliance measure for attainment and maintenance of the water quality and soil conservation thresholds.

- f. Subsidize BMP installations. Monies could come from legislative appropriations and/or increases in fee collections.

TRPA Response: Pursuant to Chapter 32 of the TRPA Code of Ordinances, TRPA identifies an improved BMP implementation and enforcement program as a supplemental compliance measure for attainment and maintenance of the water quality and soil conservation thresholds. As defined in the TRPA documents prepared pursuant to Chapter 32, this supplemental compliance measure includes the possibility of subsidies for BMP installations.

- g. Increase CIP funding. Once again, monies could come from legislative appropriations and/or increases in fee collections.

TRPA Response: Pursuant to Chapter 32 of the TRPA Code of Ordinances, TRPA identifies increased funding for the CIP for erosion and runoff control as a supplemental compliance measure for attainment and maintenance of the water quality and soil conservation thresholds.

- h. Reduce the 400,000 square foot commercial cap on new development over the next 10 years.

TRPA Response: Pursuant to Chapter 32 of the TRPA Code of Ordinances, TRPA identifies restrictions on the rate and/or amount of additional development as a supplemental compliance measure for attainment and maintenance of the water quality and soil conservation thresholds. This includes the possibility of a reduction in the commercial allocation.

- i. Require mandatory BMP compliance when any property is sold.

TRPA Response: Pursuant to Chapter 32 of the TRPA Code of Ordinances, TRPA identifies an improved BMP implementation and enforcement program as a supplemental compliance measure for attainment and maintenance of the water quality and soil conservation thresholds. This includes the possibility of mandatory BMP compliance upon sale of property.

- j. Ban fertilizers (at least on golf courses or golf courses in SEZs).

TRPA Response: Pursuant to Chapter 32 of the TRPA Code of Ordinances, TRPA identifies additional restrictions on fertilizer use as a supplemental compliance measure for attainment and maintenance of the water quality and soil conservation thresholds. The definition of the compliance measure includes selected prohibitions of fertilizer use and prohibitions of fertilizer use in SEZs.



- A-7 k. Require new gravel-filled wetlands for golf courses and ski areas.

TRPA Response: TRPA is not familiar with the terminology, "gravel-filled wetlands." Pursuant to Chapter 32 of the TRPA Code of Ordinances, TRPA identifies an artificial wetlands and runoff treatment program as a supplemental compliance measure for attainment and maintenance of the water quality and soil conservation thresholds.

1. Restrict the development of new public facilities. This can be done by:
  - i. establishing allocation limits (e.g. a square footage limitation);
  - ii. setting priorities (e.g. an "A" list for fire, police, and other critical services; a "B" list of all other services; and/or
  - iii. requiring that all new facilities (other than those on the "A" list) be constructed outside of the Tahoe Basin, as in Yosemite Valley.

TRPA Response: Pursuant to Chapter 32 of the TRPA Code of Ordinances, TRPA identifies restrictions on the rate and/or amount of additional development as a supplemental compliance measure for attainment and maintenance of the water quality and soil conservation thresholds. The definition of this compliance measure includes the possibility of these types of restrictions on public service facilities.

- m. Airborne nutrients can be reduced by:

- i. Requiring mandatory vehicle inspections. Although the draft plan indicates that the 1982 Air Quality Plan considered this a highly effective measure, the draft simply states that it is not being implemented "due largely to technical uncertainties regarding its effectiveness." Any technical uncertainties (including the studies underlying any uncertainties) should be fully described in the plan. If the uncertainties justify withholding the inspection requirement for out-of-Basin vehicles which are normally driven at low altitudes, then at a minimum, the plan should require inspections for vehicles registered to a Tahoe Basin address.

TRPA Response: The 1982 Air Quality Plan (AQP) is a carbon monoxide control plan. The uncertainties referred to in Volume I, Section II have to do with the effectiveness of vehicle inspection/maintenance programs with respect to decreasing the number of CO violations at the Stateline-California hotspot. Analyses by TRPA and CARB indicate that I/M for vehicles registered in the Tahoe Basin would have no effect on the

number of CO violations at Stateline-California. During peak travel periods, CO emissions from out-of-Basin automobiles dominate the emissions inventory. The AQP is being revised to incorporate these analyses. Although it is not required by the AQP, which is a CO control plan, an I/M program could be used to control NOx emissions in the Region. However, the same uncertainties about effectiveness would apply to NOx. Also, NOx testing requires either a functional test or a loaded test, both of which are more time-consuming and expensive than CO testing.

- ii. Requiring vapor recovery devices on gas pumps throughout the Tahoe Basin. (They are currently only required in the Placer County portion of the Basin.)

TRPA Response: Vapor recovery devices on gas pumps are used to control volatile organic compounds (VOCs), not NOx emissions. They are not required in the Placer County portion of the Region.

- iii. Reducing diesel engine idling time from 30 to 15 minutes.

TRPA Response: The documents prepared pursuant to Chapter 32 of TRPA's Code include additional controls on diesel emissions as a supplemental compliance measure for water quality. The definition of the compliance measure includes further restrictions on idling. The City of South Lake Tahoe recently passed an ordinance limiting idling of transit buses and similar vehicles to 15 minutes.

- iv. Requiring mandatory review of the Regional Transportation Plan if any element of the air quality schedule (e.g., Vehicle Miles Traveled targets) is not being met.

TRPA Response: The provisions of Chapter 32 of the TRPA Code of Ordinances require such a review.

- v. Restricting or eliminating new road construction.

TRPA Response: Restricting or eliminating new road construction would limit atmospheric deposition of nitrogen on Lake Tahoe only if the new road construction would otherwise contribute to Regional vehicle miles travelled (VMT). TRPA has a threshold calling for a 10 percent reduction in VMT and the Regional Transportation Plan (RTP) includes no new alignments which would significantly affect VMT. TRPA could not approve a new road alignment that increased VMT unless full mitigation was included in the project. Thus, restricting or eliminating new road construction would have no positive effect on water quality, and could have negative effects on TRPA's efforts to control carbon monoxide, reduce congestion, and improve level-of-service.

## vi. Banning new fireplaces.

TRPA Response. Chapter 91 of the TRPA Code presently bans new fireplaces in the Tahoe Region. Fireplaces do contribute to the NOx emissions inventory, although the emissions are not well-quantified.

## vii. Requiring sealed high efficiency stoves in existing structures 1) upon sale; or 2) now.

TRPA Response. The TRPA documents prepared pursuant to Chapter 32 of the TRPA Code include additional restrictions on wood heaters as a supplemental compliance measure for water quality. Wood heaters contribute to the NOx emission inventory. The definition of the compliance measure includes the possibility of requirements for certification of wood heaters upon sale of a home.

## viii. Banning the use of stoves on high air pollution days.

TRPA Response: TRPA has not identified a need to include this as a supplemental compliance measure prior to the first five-year review of progress under the Regional Plan. In general, atmospheric deposition of nitrogen on Lake Tahoe results from chronic, rather than acute, emissions of nitrogen compounds into the air. Thus, measures which address chronic emissions, rather than acute air quality events, will probably be most useful in controlling deposition.

## n. Prohibiting any new SEZ disturbances.

TRPA Response: The TRPA documents prepared pursuant to Chapter 32 of the TRPA Code of Ordinances include more stringent SEZ encroachment rules as a supplemental compliance measure for attainment and maintenance of the water quality and soil conservation thresholds. The definition of the compliance measure includes possible prohibitions on new SEZ disturbances.

## o. Removing development from SEZs.

TRPA Response: The TRPA documents prepared pursuant to Chapter 32 of the TRPA Code of Ordinances include transfer of development from SEZs as a supplemental compliance measure for attainment and maintenance of the water quality and soil conservation thresholds.

## p. Curtailing Recreational development.

TRPA Response: The TRPA documents prepared pursuant to Chapter 32 of the TRPA Code of Ordinances include restrictions on the rate and/or amount of additional development as a supplemental compliance measure for attainment and maintenance of the water quality and soil conservation thresholds. The definition of the compliance measure includes the possibility of curtailing recreational development.

- A-8 The plan fails to establish, via a systems model or otherwise, that despite the proposed 27 percent increase in population of the Region, the draft plan will stop and reverse the current degradation of the Lake.

The draft plan contains a systems model which describes the overall theoretical setting. However, the draft plan fails to develop the model by quantifying the effect of development and of control and mitigation measures. Absent that quantification, the model is of no use in establishing that thresholds will be met despite additional development and the weakening of existing water quality protections.

TRPA Response: See the Responsiveness Summary, Issue No. 4, Attainment and Maintenance of TRPA Water Quality Thresholds and State Water Quality Standards.

- A-9 The yield or improvement to be obtained from each control measure or mitigation program is not stated. This problem is critical in trying to evaluate, for example, whether the losses from SEZ destruction will in fact be offset by restoration, or whether the development of low-capability lots under the Individual Parcel Evaluation System will cause more damage than can be offset by BMPs.

TRPA Response: Where TRPA has reliable technical information on the yield of a given control measure, the final plan includes it in the systems model (Volume I, Section I, Chapter II) and the problem assessment (Volume I, Section I, Chapter III).

- A-10 There is no systematic overview of how the control system and strategies fit together, or how various programs are interlinked. Thus, one cannot evaluate the impact of a failure to implement an element of the plan, or the failure of an element to produce expected benefits.

TRPA Response: Volume I, Section I, Chapter IV describes the control measures of the 208 plan in detail. If certain control measures fail to produce the anticipated results, Chapter 32 of the TRPA Code of Ordinances establishes a process to correct the problem through adjustments to the Regional Plan. The TRPA documents prepared pursuant to Chapter 32 link individual control measures with the attainment of individual water quality thresholds and standards.

- A-11 The Development Impacts section (Volume I, Section I, pages II-64 to 68) needs to go beyond its current academic approach. The analysis must be linked to specific control measures. For example, the analysis may show that BMPs should be emphasized in one watershed, while SEZ restoration should be emphasized in another. Further, the combination of a stronger analytical approach plus linkage to specific control measures will enable the plan to outline priorities for various appropriations, such as those under the Capital Improvement Program and under the SEZ restoration program.

TRPA Response: The final plan includes an expanded discussion of development impacts. With over 100 individual watersheds in the Region, not to mention sub-watersheds, it is not practical for the discussion of development impacts to specify which control measures should be applied in which watersheds. Volume III, SEZ Restoration and Protection Program, and Volume IV, Capital Improvements Program for Erosion and Runoff Control, include watershed-specific and area-specific remedial projects. See also the Responsiveness Summary, Issue No. 5, Watershed Improvement Priorities.

- A-12 The method for identifying stream environment zones is not adequate. During discussions at a number of working group meetings, we described the type of Stream Environment Zone (SEZ) and flood zone mapping needed to accurately identify these areas. Proper identification of these areas is critical, since SEZs are vitally important to the preservation of good water quality. The draft plan ignores our input.

Most significantly, there is no attempt to gain a hydrologically sound overview of SEZs. An overview is required to properly identify the location of SEZs. Viewing individual parcels is inadequate. The plan should require that maps of each stream zone should be developed, and provide guidance as to how those maps are to be developed.

TRPA Response: See the Responsiveness Summary, Issue No. 2, Criteria for Identification of SEZs and Issue No. 3, Adequacy of the SEZ Restoration Program.

- A-13 As to flood zone maps, the draft plan fails to state what will be done to effectuate the flood zone protection policy where no flood zone maps exist. By using the term "designated" 100-year floodplain does the draft plan intend to eliminate flood plains that have not been mapped? Assuming that unmapped flood plains are to be included as secondary indicators, analysis should be done to show where a lack of maps may be a problem (e.g. small urban areas and ski areas), and what procedures should be followed to complete flood zone mapping prior to approving community plans and other plans or projects in non-mapped areas.

TRPA Response: See the Responsiveness Summary, Issue No. 2, Criteria for Identification of SEZs and Issue No. 3, Adequacy of SEZ Restoration Program.

- A-14 The 1981 208 plan requires regulatory programs that will insure that surface runoff management systems (including Best Management Practices) are applied to sites which do not come up for development or use permits. The 1981 plan further calls for public education programs to encourage use of best management practices. The draft plan eliminates those automatic mandatory requirements. Instead, it once again calls for a public education program, with subsequent mandatory requirements only if installation of BMP's does not proceed on schedule. There is

no explanation of: 1) the success of the public education program required by the 1981 plan, 2) the justification for eliminating that plan's automatic mandatory requirements, 3) the document which contains the schedule which will trigger mandatory requirements, nor 4) what the mandatory requirements are.

TRPA Response: See the Responsiveness Summary, Issue No. 12, Regulatory Aspects of the BMP Implementation Program.

- A-15 In assuming that at least 80 percent of disturbed lands will be restored to a natural or near natural state by application of Best Management Practices, the draft plan provides less than full disclosure. It omits to mention that the 80 percent requirement has been contemplated since at least 1983. More significantly, it fails to report and evaluate the degree of compliance which has been achieved with that 1983 policy, although the Response to Comments on the 1983 Volume I, Section II states that the Agency will carry out a monitoring and evaluation program to determining the efficiency of BMP's and the rate of compliance with Agency policy. What is TRPA's 1983 monitoring and evaluation program? Did TRPA carry out that program? If so, what are the results of that program? If such a program was implemented, and results exist, decision makers must be informed of the results of that program so that they can make reasoned decisions about the draft plan's reliance on similar if not identical measures.

TRPA Response: The monitoring and evaluation program contemplated in 1983, along with several other programs of the TRPA, was postponed for several years while TRPA contended with a lawsuit filed by the California Attorney General which resulted in a preliminary injunction against TRPA. Until the Regional Plan was revised in 1987 and the lawsuit dismissed, TRPA was forced to devote considerable resources to resolving the issues that led to the suit. Fortunately, work on restoring disturbed lands by agencies such as Caltrans, the USFS, and local governments continued. An accounting of all that was achieved has not yet been compiled, but will be after this 208 plan amendment has been completed.

- A-16 To a significant extent, the draft plan's effectiveness rests upon TRPA's interpretations of various requirements and TRPA's enforcement efforts. For example, the extent of retrofit BMP's required on various projects is based on "the cost and nature of the project." (Volume I, Section I, pages IV-2 and 4.) Similarly, coverage transfers for commercial and tourist accommodation projects need not be from existing hard coverage "where TRPA finds that there is an inadequate supply at a reasonable cost" of hard coverage. (Volume I, Section I, page IV-17.) The terms "inadequate" and "reasonable" are not objectively defined. These requirements need to be stated more objectively. If terms are subjectively applied on a case by case basis, they will be ineffective and inconsistently utilized, and thereby fail to protect Lake quality.

TRPA Response: The extent of retrofitting responsibility is not a subjective determination but is based on specific provisions of TRPA ordinances. The matter of concluding there is an inadequate supply of hard coverage at a reasonable cost is less objective at this time because no one has any experience in the matter. The absence of a specific criteria at this time is not a basis to conclude the program will be ineffective, inconsistent, or fail to protect water quality.

- A-17 There needs to be a Region-wide assignment of targets for stream environment zone restoration, coverage reductions, and other threshold-related targets before any community plans are developed, to insure that Basin-wide targets are met. The draft plan only provides for a case-by-case approach: the target for a particular community plan will be set before work on that specific plan is initiated. (Volume I, Section I, page IV-8.) This will significantly reduce the chances that Basin-wide targets will be met. The first plans may result in inadequate reductions, leading to substantial pressure to also permit inadequate reductions in the remaining plans. Overall Basin requirements need to be analyzed and set before individual area requirements are set.

TRPA Response: The SEZ restoration program, which identifies several specific locations where SEZ restoration opportunities exist, provides a basis for setting targets for community plans. Other programs, such as the Regional Transportation Plan, also provide a basis for setting targets. There is no Region-wide target for coverage reduction, however, whether community plans are completed or not, coverage reductions will occur. Furthermore, the Plan Area Statements already provide guidance for community planners to follow in developing remedial programs. The community plan areas, though important in many respects, are a relatively small part of the total Region within which the targets are to be attained.

- A-18 The proposed monitoring program assumes that uncertain funding will be received. A number of agency participants at the March 17, 1988 working group meeting stated that funding for some monitoring programs is unlikely. This needs to be addressed. Specifically, the plan needs to acknowledge and describe the adverse effect on the ability to determine compliance with interim and ultimate targets if funds do not materialize, and include contingency plans that will remedy that inability to determine compliance.

TRPA Response: Recent experiences with the Nevada and California legislatures indicates that the monitoring funds requested by TRPA will be provided. The states have funded major expansions in the monitoring program which TRPA requested in each of the last two fiscal years.

- A-19 Golf courses should not be permitted to expand into SEZs. The proposed alternative eliminates the current California prohibition on expansion of golf courses in SEZs. There is no evidence that this important restriction is no longer necessary. To the contrary, the draft plan cites numerous studies which show that protection of SEZs in their natural state is critical. The draft plan further indicates that fertilizer use on golf courses is a major source of nutrients, especially when the golf courses are located adjacent to SEZs. Thus, expansion of golf courses in SEZs hurts Lake quality in two major ways: it disturbs the SEZ and it adds fertilizers to these extremely sensitive areas.

TRPA Response: See the Responsiveness Summary, Issue No. 8, Changes to the Handbook of Best Management Practices.

- A-20 Funding priorities are needed for spending mitigation fees and for CIP expenditures. The draft plan does not establish priorities for spending mitigation fees, nor for CIP funding. Looking at Basin (or even jurisdictional) requirements as a whole, and establishing priorities for expenditures, will lead to significantly greater benefits for each dollar spent than will case by case determinations.

TRPA Response: See the Responsiveness Summary, Issue No. 5, Watershed Improvement Priorities.

- A-21 TRPA should develop a SEZ restoration program. TRPA needs to develop a SEZ restoration program which identifies the problem areas and allows for a prioritization of projects. A proposed program is outlined in Doctor Robert Twiss's July 24, 1988 memorandum (which was given to TRPA staff on July 25, 1988). Such a program will significantly increase the effectiveness of expenditures.

TRPA Response: See the Responsiveness Summary, Issue No. 3, Adequacy of the SEZ Restoration Program and Issue No. 5, Watershed Improvement Priorities.

- A-22 The plan concedes that only minimal CIP funding is provided for the first five years. The Capital Improvement Program is intended to offset the negative effects of new development, as well as existing development. It is one of the central justifications for permitting new development. However, the first five years of implementation is projected to be at a relatively minimal level. Given the fact that the Lake will continue to degrade even with the current level of development, additional development over the next five years cannot be justified by a relatively minimal Capital Improvement Program.

TRPA Response: See the Responsiveness Summary, Issue No. 10, Capital Improvements Program Funding.



- A-23 There is no justification for the elimination of ski area BMPs. The draft plan fails to prevent ski area intrusions into SEZs. It eliminates existing BMPs, and simply defers to decisions made in master plans. Given the fact that SEZs are vitally important to protecting the Lake, the plan should maintain the current ski area BMPs and continue to prohibit ski area intrusions into SEZs.

TRPA Response: See the Responsiveness Summary, Issue No. 8, Changes to the Handbook of Best Management Practices.

- A-24 The harmful effects on Lake quality resulting from the proposed transfer of coverage provisions are not discussed. The adoption of proposed transfer of coverage provisions will adversely affect Lake quality in numerous ways. The provisions will lead to an increase in drainage density and a resultant increase in sediment and nutrient yields. This will be exacerbated by provisions allowing for the redefining of hydrologic boundaries.

No studies are cited which support the underlying premise of the transfer of coverage provisions: that elimination of one unit of actual, soft or potential coverage will fully offset one unit of new actual coverage. To the contrary, since the transfer of coverage means that construction will generally take place on both the new unit and the retired unit (in that structures or other coverage will be removed), and construction harmfully impacts Lake quality.

TRPA Response: See the Responsiveness Summary, Issue No. 11, Water Quality Impacts of Land Coverage Transfers.

- A-25 The 1981 208 plan prohibits transfers of coverage within lots (e.g. from the land capability 3 portion of a lot to the land capability 4 portion of the lot). The draft plan will permit these transfers. This change will allow for additional coverage and will, therefore, lead to increased development.

TRPA Response: The 1981 208 plan requires future development to comply with the Bailey coefficients on a lot-by-lot basis and prohibits, for portions of the Region within California, the discharge or threatened discharge of solid or liquid wastes attributable to development not in accordance with land capability, with exceptions as noted elsewhere herein. For portions of the Region within Nevada, TRPA Ordinance 81-5 also prohibits creation of land coverage in land capability districts 1, 2 and 3, again with certain exceptions.

The proposed 208 amendments require all new development to conform to the Bailey coefficients. In some instances, provisions are made to allow additional coverage by transfer programs, which are based on direct offsets. Additional land coverage in capability districts 1, 2 and 3 is prohibited, except for single-family dwellings reviewed and approved pursuant to IPES and for public health, safety, and outdoor recreation facilities provided the required findings are made.

Although the proposed amendments do include a policy allowing transfer of the allowed one percent coverage in SEZs to other portions of a parcel, neither the 1981 plan nor the proposed amendments contains policies generally addressing transfers of land coverage within parcels. These matters have been left to the interpretation of the implementing agencies. While one might argue that the provisions of the proposed amendments would result in the creation of more coverage than the 1981 plan on certain types of parcels, the opposite could also be argued. The EIS (Volume I, Section II) concludes that the proposed amendments would result in less land coverage than the 1981 208 plan and the hybrid plan over a 20-year horizon.

- A-26 The findings required before the IPES line can be lowered need to be made more specific. In addition, the current formula for determining where the line will be drawn will be significantly altered, to the detriment of the environment, if many individuals successfully appeal their IPES scores and have them raised. The plan needs to prevent that distortion by providing that the raising of scores via appeal will result in a corresponding raising of the line (so that appeals do not increase the number of lots that can potentially be developed.)

TRPA Response: See the Responsiveness Summary, Issue No. 1, Criteria for Movement of the IPES line.

- A-27 The draft plan fails to describe the adverse impact on Lake quality that will occur if up to 1020 homes are developed on low capability lands which are currently protected from such development.

TRPA Response: This comment presumes that the impacts of development on parcels mapped in land capability districts 1, 2 and 3 would be adverse. Based on actual site analysis of over 10,000 vacant single-family parcels in 1987, and considering the five safeguards on the movement of the IPES line, TRPA concludes that the parcels which would be developed under IPES are no more sensitive to development than the parcels which would be developed under the 1981 208 plan, except in Douglas County, where the average parcel developed under IPES would be more sensitive to development impacts. However, the incremental impact on sediment and nutrient loading to Lake Tahoe from the additional residential development in Douglas County will be quite small, based on the low ability of tributary streams in Douglas County to deliver sediments and nutrients to Lake Tahoe.

- A-28 The storm sewer permit requirement should not be dropped. The current 208 plan requires the issuance of storm sewer permits. See the Lake Tahoe Basin Water Quality Plan, California State Water Resources Control Board, 1980, Pages 143, 144 (adopted by TRPA on June 25, 1981). The draft plan weakens that requirement, only providing that permits should be used to control water quality problems. The draft plan fails to justify this weakening of the existing requirement.

TRPA Response: The interagency working group established to review these amendments to the 208 plan discussed the proper role of NPDES permits and California waste discharge requirements (WDRs) in the 208 plan on September 10, 1987 and March 17, 1988. Given the absence of clear guidance from U.S. EPA on the application of NPDES permits to storm water discharges, the consensus of the working group was that both NDEP and the Lahontan Board have the necessary authority in place to issue discharge permits for storm sewers, and that they shall issue, administer, and enforce such permits in accordance with the 208 plan. The Lahontan Board has already issued WDRs for the three units of local government in California. NDEP has issued NPDES permits to individual property owners who discharge to the surface waters of the Tahoe Region. TRPA has similar authority, under Chapter 9 of the TRPA Code of Ordinances, to regulate discharges to surface or groundwaters.

- A-29 The description of the potential hazardous spill control plan is inadequate. The draft plan's statement that TRPA shall cooperate with other agencies regarding hazardous spill control plans provides little information as to what TRPA actually intends to do. Will TRPA passively wait for other agencies to request its cooperation, or does TRPA intend to actively initiate the creation and implementation of these plans? If the latter is the case, the draft plan should state what TRPA intends to do and when it intends to do it.

TRPA Response: TRPA does not wish to develop or implement hazardous materials programs independent of, or redundant with, local and state agencies with jurisdiction. In California, local governments are developing hazardous waste management plans. TRPA will participate on technical advisory committees, review and comment on management plans, and implement hazardous material control measures through the project review process, as appropriate, upon receiving requests to do so from local or state units of government. In relation to five-year reviews of the progress under the Regional Plan, TRPA will determine the extent to which these plans are complete. If they are lacking, TRPA will take steps to cause the states or local governments to provide them.

- A-30 The draft plan fails to provide a remedy for the inadequate supply of pump-out facilities. The draft plan states that there is a present shortage of pump-out facilities, but fails to state what will be done to either require that adequate facilities are developed or to mitigate the problem.

TRPA Response: Under Volume II of the 208 plan, the Handbook of Best Management Practices, pump-out facilities are listed as a BMP for marinas. TRPA's implementation program for pump-out facilities at marinas includes voluntary, regulatory, and remedial aspects, as it does for all BMPs. Chapter 25 of the TRPA Code of Ordinance sets forth rules for applying BMPs. When a marina owner or operator applies to TRPA for approval of a project, TRPA will require application of BMPs to the project as a condition of project approval. If the project involves modification of an existing marina, TRPA shall also require preparation

of a plan and a schedule for retrofit of BMPs to the entire marina. Normally, the schedule could cover a period of up to 10 years, but TRPA may require an accelerated schedule to avoid water quality problems.

If the marina operator has no cause to come to TRPA for a project approval, TRPA will rely initially on voluntary compliance with the BMP Handbook. However, in response to a significant environmental problem, TRPA may also require a remedial action plan to correct the problem, pursuant to Chapters 9 and 25 of the TRPA Code of Ordinances.

Under Chapter 54 of the Code of Ordinances, pump-out facilities for boat sewage shall be provided at all new and expanded commercial marinas and harbors, and may be required by TRPA at other existing marinas as conditions of project approval.

TRPA will immediately initiate a program, coordinated with the Lahontan Board, NDEP, and the sewage collection and treatment districts, to obtain prompt compliance with the BMP calling for pump-out facilities at marinas, with a goal of obtaining either immediate compliance or agreement to a compliance schedule at every commercial marina by June 30, 1990.

- A-31 The draft plan's discussion of the financial capability of management agencies fails to indicate whether they have the ability to obtain funding required for implementation of the draft plan. Moreover, the description of past expenditures does not state whether or not those expenditures comply with the 1981 plan's requirements. Since projected expenditures by these agencies provide the foundation of the draft plan's conclusion that water quality standards will be met, reasonable assurances are required that these agencies will in fact be able to meet their commitments.

TRPA Response: The final plan includes information on past expenditures, projected capability, and projected costs of watershed improvement projects for units of local government and state highway departments. See also the Responsiveness Summary, Issue No. 10, Capital Improvements Program Funding.

- A-32 The attainment procedures section of this comment letter lists the assumptions upon which the draft plan bases its conclusion that thresholds will be met. As they currently stand, those assumptions are unsupported optimistic projections. The EIS should list the adverse impacts which are likely to occur if the assumptions do not actually occur.

TRPA Response: Since the range of possibilities of the varying degrees to which assumptions could become realistic is limitless, to speculate is an interesting but academic exercise. TRPA's monitoring and evaluation program provides the means to get answers and to adjust accordingly.

A-33 To the extent that the draft plan relies on the Regional Transportation Plan, please see the comment in Kenneth R. Williams' letter of April 26, 1988, which is incorporated herein by reference. Also, please see Mr. Williams' prior written and oral comments regarding the February 1988 draft Regional Transportation Plan, which are incorporated herein by reference.

TRPA Response: Mr. Williams submitted written comments dated January 15, 1988 on the draft EIR/EIS, Regional Transportation Plan, Lake Tahoe Basin (TRPA, 1987). Responses to these comments are included in the final EIR/EIS, Regional Transportation Plan, Lake Tahoe Basin (TRPA, 1988).

On April 27, 1988, Mr. Williams delivered copies of a letter dated April 26, 1988 to the TRPA Governing Board and staff at the regular April Board meeting. The letter is lengthy. In summary, it made the following points:

- The proposed findings under Chapter 6 of the TRPA Code pertaining to adoption of the Regional Transportation Plan were inadequate.
- The Regional Transportation Plan could not demonstrate attainment of TRPA thresholds. The RTP should make it clear that mitigation measures must be directly coordinated and integrated with the implementation of the TRPA Regional Plan to prevent land development from getting out of line with mitigation.
- The RTP and its EIR/EIS were inconsistent in that, by making light rail a study item, the RTP failed to achieve thresholds.
- The RTP and EIR/EIS should develop and consider alternative strategies to deal with the very likely failure to obtain funding for certain non-auto action elements.
- The analysis in the RTP and EIR/EIS did not accurately assess the traffic problems in the Tahoe Region.
- There was no correlation between the analysis and the action plan.
- The conclusions in the RTP and EIR/EIS were based on a series of assumptions that were not factually based.
- The proposed mitigation measures were voluntary or speculative.
- The RTP was not integrated, as required by the Tahoe Regional Planning Compact.
- The RTP failed to deal realistically with the topic of funding necessary to pay the capital costs of proposed transit improvements.

At the April 27 meeting, the TRPA Governing Board heard oral testimony from Mr. Williams, along with other oral testimony, and discussed the written and oral testimony at length. Based on that discussion, the Board then certified the EIR/EIS, approved three sets of findings required for the adoption of the RTP including the findings required by Chapter 6 of the Code, and adopted the Regional Transportation Plan. (For details, see the TRPA Regular Meeting Minutes of April 27, 1988.)

The issues raised by Mr. Williams on the Regional Transportation Plan are similar to the issues raised in the above comments from the California Attorney General's office on the proposed 208 plan amendments. In response to these comments, the reader should refer to the Responsiveness Summary, Issue No. 4, Attainment and Maintenance of TRPA Water Quality Thresholds and State Water Quality Standards and Issue No. 10, Capital Improvements Program Funding.

Comments of Charles R. Goldman, Professor of Limnology and Director of  
Tahoe Research Group, University of California, Davis on behalf of  
the California Attorney General.

- A-34a (Volume I, Section I, Control Needs and Programs, p. II-22 and p. II-23.)  
Statement: "In a system where nutrient inputs remain constant, algae establish themselves at a population level and growth rate to exploit the available nutrients. The population will remain relatively constant as long as nutrient sources remain constant . . . ."

Comment: The above statement is not always true, especially in the case of Lake Tahoe. The statement disregards time as a variable and does not take into account the fact that in Tahoe, nutrient input is greater than output, resulting in a net accumulation of nutrients in the Lake. Even if loading remains constant, nutrient levels will continue to build up in the Lake. It may take many years before the system either recovers from a perturbation or reaches a new equilibrium state. The Lake Tahoe system has been perturbed; even if the nutrient inputs remain constant, it is likely that productivity will continue to increase for a significant time to come.

Additionally, if nutrient sources remain constant, algal growth rate (not population) will remain constant. Given the long residence time of the Lake and the efficient recycling of nutrients, algal biomass should increase over time even if nutrient loading remains constant.

TRPA Response: The final plan (Volume I, Section II, Chapter II) reflects these comments, which TRPA agrees with.

- A-34b (Volume I, Section I, p. II-23, paragraph 5, last line) 1980 should be 1973.

TRPA Response: The final plan incorporates this correction.

- A-34c (Volume I, Section I, p. II-26, paragraph 3) Primary productivity (PPR) is also significantly correlated with nitrate accumulation in the Lake. It is very important to remember that deep mixing is only the mechanism which introduces nutrients to the euphotic zone. The ultimate sources of those nutrients are watershed/stream runoff, ground water, fertilizers, and atmospheric deposition. The importance of deep mixing can only be moderated by reducing nutrient loading to the Lake, which will reduce the accumulation in the system.

TRPA Response: TRPA agrees with this comment. The final plan incorporates this comment in Volume I, Section I, Chapter II, in the expanded discussion of in-Lake nutrient cycling and limnology.

- A-34d (Volume I, Section I, p. II-26) The plan should more clearly state that the decline in transparency is directly related to the increase in algal material and not suspended sediment. There is in fact very little inorganic turbidity in all but the nearshore waters of Tahoe during storms or heavy runoff.

TRPA Response: The final plan incorporates this comment.

- A-34e (Volume I, Section I, p. II-31) Loading rates of DIN must be refined on the basis of the expanding data base. Additionally, loading to and accumulation of nitrogen in the Lake should include estimates of dissolved organic N. While we know very little about the fate of these compounds in the Lake, they are much more abundant than DIN compounds and can be used by algae following bacterial decomposition. While nitrate is an important form of N in the Lake, DON cannot be ignored.

TRPA Response: The final plan includes an expanded discussion of Lake Tahoe's nutrient budget, including more information on loading rates of inorganic and organic nitrogen.

- A-34f The data given for the DIN leaving the Lake via the Truckee River (22.5 to 52.5 tons/year) is unrealistically high (DIN concentration in the River should then be around 0.1 mg/l, which seems too high for the average concentration given the average outflow volume of 6.5 m<sup>3</sup>/sec (data from Lake Tahoe Basin Study)). This modification to the budget underscores the fact that nutrients continue to accumulate in the Lake and that good data is essential for planning.

TRPA Response: The final plan incorporates a corrected estimate of DIN losses from Lake Tahoe via Truckee River outflow. The Threshold Study Report (TRPA, 1982d, Figure 4-3) estimated the DIN outflow via the Truckee River at 1 to 5 metric tons/year.

- A-34g (Volume I, Section I, pp. II-42, 43) The contribution of atmospheric deposition to the Lake's nutrient budget is almost certain to be very important. In light of this, the plan should include more data and discussion of this topic. The data base has been expanding as part of the Lake Tahoe Interagency Monitoring Program and there is much more information available than indicated in the plan.

TRPA Response: The final plan incorporates an expanded discussion of nitrogen contributions from atmospheric deposition in Volume I, Section I, Chapter II. See also the Responsiveness Summary, Issue No. 9, Control of Airborne Nutrients.

- A-34h (Volume I, Section I, p. II-48) The systems model is qualitative in nature and makes no attempt to predict water quality conditions. While this approach is instructive at a beginning level, it does not allow us to quantify the impacts of individual planning measures.



TRPA Response: The interagency working group on the proposed 208 plan amendments discussed the issue of predictive models for Lake Tahoe and tributary water quality on January 21, 1988 and February 11, 1988. In general, all the models have small data sets, highly variable data, and weak correlations. The working group felt that none of the available models was particularly well-suited to evaluating the proposed 208 plan amendments. The Tahoe Research Group is attempting to develop a dynamic water quality model for Lake Tahoe at this time, and TRPA has obtained state funding to contribute to research to assist with model development. In the meantime, TRPA relies on the planning-level model developed in the Threshold Study Report (TRPA, 1982d) and the 1983 EIS (TRPA, 1983).

The qualitative nature of the systems model is intentional. Attainment and maintenance of water quality thresholds and standards must stem from a thorough understanding of the processes in the watershed, the airshed, and the Lake itself which drive water quality. Previous discussions of these processes have tended to oversimplify the complex processes involved, leaving the reader with an incomplete or incorrect understanding of cause-effect relationships. Predictive models based on incorrect or incomplete assumptions likewise may give misleading answers to the questions of those interested in maintaining the quality of Lake Tahoe and its tributaries. Where reliable technical data is available to quantify aspects of the Systems Model, the final plan includes it.

- A-34i (Volume I, Section I, p. II-54) An additional important impact of sediment loading to the Lake is that phosphorus inputs are typically chemically bound to sediment particles. Therefore, increased sediment from erosion results in an increase in both P and Fe loading. This is increasingly important as the Lake has become progressively more sensitive to phosphorus addition over the last decade.

TRPA Response: The final plan incorporates an expanded discussion of nutrient inputs to Lake Tahoe in Volume I, Section I, Chapter II, including an expanded discussion of phosphorus inputs and their effects.

- A-34j (Volume I, Section I, p. II-58) The discussion of nitrogen inputs to the Lake does not include urban runoff, which is an extremely important issue, especially at South Lake Tahoe.

TRPA Response: The final plan incorporates this comment. Urban runoff may reach Lake Tahoe via tributary streams or man-made urban drainage systems.

- A-34k (Volume I, Section I, p. II-59) Rates of denitrification in wetland environments are currently being measured by the TRG (Goldman et al. 1988; Reuter, unpublished data). This data is showing the importance of both natural and artificial wetland habitats as areas of NO<sub>3</sub>-removal. At this early time in the research effort, there is insufficient data to allow us to give a Basin-wide estimate of annual N-loss or to determine the potential capacity of these systems to function as water treatment systems. Since wetland/SEZ treatment of runoff is central to achieving

the objective defined in the thresholds plan, it is unfortunate that our present understanding of this process is so limited. The plan should indicate the importance of developing the data base for SEZ's and associated wetlands.

TRPA Response: The final plan incorporates this comment in Volume I, Section I, Chapter VII, in the discussion of important areas for future research.

- A-34l (Volume I, Section I, p. II-61) Permanent burial data given here seems to be too high. The TRG's latest sediment trap data shows much lower values, but at this time we have only six months of measured sedimentation.

TRPA Response: The estimates on permanent sedimentation in the draft plan came from Tahoe Research Group estimates reported in the Threshold Study Report (TRPA, 1982d). The final plan indicates that these estimates are the subject of ongoing research, and may be too high.

- A-34m (Volume I, Section I, pp. II-61, 62) A fourth, and important, difference between N and P is that the uptake and recycling time for ortho-P is very rapid relative to nitrogen, especially in nutrient-poor waters such as Tahoe, where ortho-P is rapidly incorporated into living biomass and other organic complexes. This makes it very difficult to measure net accumulation over time. Therefore, the fact that P does not show the same patterns (with depth over time) as N does not detract from its importance as a biostimulatory nutrient whose input from the watershed can be largely controlled by reducing erosion. The declining N/P ratio in the Lake underscores the increasing importance of phosphorus as a limiting nutrient.

TRPA Response: TRPA agrees with this comment. The final plan incorporates this comment into the expanded discussion of in-Lake nutrient cycling and limnology.

- A-34n (Volume I, Section I, p. III-2) All categories of development do not affect runoff quality to the same magnitude; however, all development will act to increase sediment and nutrient transport off-site.

TRPA Response: TRPA agrees with this comment. This comment is consistent with the discussion in Volume I, Section I, Chapter III.

- A-34o (Volume I, Section I, p. III-3) In paragraph 2, the need for erosion control in addition to water treatment should be stressed--control the problem at its source. The use of wetland or meadow grass areas should be considered as treatment, and before infiltration is recommended, its potential impact on groundwater should be evaluated.

TRPA Response: The final plan incorporates changes in response to this comment.

- A-34p (Volume I, Section I, pp. III-3, 4) Our data base on quantity and quality of urban runoff is woefully inadequate to determine control needs. More detailed studies are needed to identify those areas where problems exist and to determine the contribution of urban runoff to the Lake's nutrient budget. Erosion control projects need to be carefully monitored and evaluated for effectiveness.

TRPA Response: The final plan incorporates this comment in Volume I, Section I, Chapter VII, in the discussion of important areas for future research. TRPA's monitoring committee has discussed the problems associated with monitoring and evaluating erosion control projects, and will prepare guidelines for such monitoring and evaluation in the future.

- A-34q (Volume I, Section I, p. III-6, paragraph 2) While infiltration is indeed an important form of water treatment, the emphasis should be placed on nutrient/pollutant removal by passing water through natural or restored systems which will utilize biological, chemical and physical processes to remove nutrients and other pollutants. These types of system include wetlands.

TRPA Response: The final plan incorporates this comment by including the use of natural and artificial wetlands in the discussion of infiltration and vegetation protection.

- A-34r (Volume I, Section I, pp. III-13, 14) The plan should discuss in more detail the conceptual relationship between land use along the shoreline (e.g. rock-crib pier, creation of beaches, construction) and shoreline erosion potential. What activities will actually increase erosion and which are relatively safe?

TRPA Response: In general, shoreline structures supported on pilings have little impact on longshore sediment transport, while structures supported by rock cribs can cause extensive shoreline erosion and deposition of sediments. Vertical bulkheads result in beach erosion and deep-water beaches, and are not included in Volume II, the Handbook of Best Management Practices. In many cases, beach replenishment with appropriate materials may be a good mitigation for beach erosion. For more discussion of this relationship, see The Effect of Structures Supported by Pilings on Longshore Sediment Transport, Lake Tahoe, California and Nevada (Moory et al., 1985, California Division of State Lands Technical Paper).

- A-34s (Volume I, Section I, p. III-15) The overall impact of dredging in Lake Tahoe is still poorly defined, although a small study for CTRPA indicated that some of the littoral zone sediments, having been extensively washed by wave action, are relatively free of nitrogen and phosphorus. It is particularly evident during drought years that dredging will be necessary if boat harbors are to function. All permits should require a detailed evaluation of the chemical nature of the material to be dredged and the

short-term, long-term, and cumulative impacts. Further, permits should clearly state what mitigation is to be imposed by the permitting agencies.

TRPA Response: The impacts of dredging are not well understood. Recent project evaluations indicate that some dredged sediments do contain significant amounts of nutrients, while others do not. Permits recently issued were designed to avoid mixing of dredging spoils and the inevitable turbid waters with the Lake's waters, on the assumption that adverse impacts would otherwise occur.

A-34t (Volume I, Section I, p. IV-19) Given the importance of SEZ and wetland habitats to achieving the water quality standards defined in the thresholds, the stated SEZ restrictions appear to allow for too many exceptions. For example: (1) recreational elements of the Regional Plan should conform with the 208 plan and not vice-versa, (2) the no-feasible-alternative argument should be eliminated, (3) the 208 plan should provide protection against projects which "must be sited in an SEZ," (4) land mitigation for SEZ's should be much more than 1.5:1. For these types of sensitive areas a ratio of 5:1 or larger is not uncommon.

TRPA Response: Part of TRPA's mission is to provide a balance between opportunities for development and the Region's environmental limitations. The exceptions to the prohibitions protecting SEZs are necessary to achieve that balance, with various mitigations to offset the impacts. TRPA's judgment at this time is that 1.5:1 is sufficient mitigation. The ongoing process of monitoring, evaluating, and revising the Regional Plan may result in different ratios in the future.

California Regional Water Quality Control Board--Lahontan Region

- B-1 TRPA contends the new plan has no environmental impacts which cannot be mitigated to less than significant levels. The draft documents do not support these conclusions.

TRPA Response: TRPA believes the final document does support these conclusions.

- B-2 The TRPA schedule for completion and approval of the plan does not allow adequate time for review of the response to comments and draft final plan and EIS. Because of the length and complexity of the plan, and the importance of ensuring nondegradation of Lake Tahoe, time should be provided for careful evaluation and further comment on the draft final plan.

TRPA Response: TRPA provided the Lahontan Board and other members of the interagency working group on the 208 plan amendments with an administrative draft of Volume I on May 19, 1988. Additional administrative draft sections of Volume I were distributed May 25. TRPA initiated circulation of the draft Water Quality Management Plan on June 10, 1988, and on June 9 and 13, 1988, provided the California State Clearinghouse with copies of the five draft volumes for the affected state agencies. Additional copies were hand-delivered to the Lahontan Board. TRPA's required 60-day comment period ended August 8, 1988. TRPA has also provided additional time to review and comment on the final plan.

- B-3 TRPA is being urged to expedite the 208 plan amendment process to begin implementation of IPES in January 1989. However, neither the Regional Board nor the State Water Resource Control Board was a party to the consensus process on which the 1987 Regional Plan is based, and these agencies have a responsibility to evaluate the 208 plan amendments on their own merits in relation to state and federal standards and regulations.

TRPA Response: I.G. Poppoff, member of the Lahontan Board and TRPA's Advisory Planning Commission, represented the Lahontan Board in the Consensus Building Workshop. TRPA desires to expedite the 208 amendment process for a number of reasons, including: the need to make the 208 plan and the Regional Plan package consistent; the need to amend the 208 plan to incorporate the regional consensus on many important water-quality related issues; and EPA's desire to achieve closure on the most-recent set of amendments which TRPA initiated with a section 208 grant from EPA in 1981, seven years ago.

B-4 TRPA has stated that the plan should be mainly a collection of water quality-related policies from the Goals and Policies section of the land use plan. TRPA has opposed providing ordinance-level detail to avoid the need for further 208 plan amendments if minor changes are subsequently made in ordinances. However, more detail than is provided in the Goals and Policies is necessary in some cases to ensure the adequacy of mitigation.

TRPA Response: TRPA believes that the 208 plan should be primarily a policy document with a level of detail similar to the TRPA Goals and Policies. TRPA does not wish to seek state certification and federal approval of detailed ordinance language, unless it is necessary to clarify portions of the 208 plan. In some instances, the provisions of ordinances have been included, if needed to supplement policy language. The policy language in the proposed 208 amendments is more detailed than that in other 208 plans in California and Nevada.

B-5 TRPA has stated its intent to adopt future amendments to the BMP Handbook, CIP, and SEZ restoration program without submitting them for certification as 208 plan amendments. The current BMP Handbook and CIP are certified portions of a package which the SWRCB found to be the minimum level of effort necessary to prevent further degradation of Lake Tahoe. If similar findings are to be made in connection with an amended plan, the level of future changes which can occur without recertification needs careful consideration, and should be defined in the plan itself.

TRPA Response: TRPA needs to have the flexibility to update Volumes II, III, and IV of the 208 plan without being required to submit the updates to the states and EPA for certification and approval. Updates will occur annually. TRPA will submit any significant or substantial revisions to Volumes II, III, and IV for state and EPA certification and approval. The final plan incorporates additional discussion of the update and revision process in Volumes II, III, and IV.

B-6 TRPA is using a "bubble" approach, relaxing some control measures in the 1981 208 plan; providing some additional remedial measures; and relying on the entire plan package to provide the level of control necessary to protect water quality. TRPA contends that the new plan is better than the old one, but has not provided new quantitative evidence requested by Regional Board staff to support that claim. TRPA's qualitative evidence has several flaws. Several of the plan's programs and assumptions have been criticized by SWRCB and/or Regional Board staff in the past. SWRCB and Lahontan Board concerns which have never been fully resolved include:

- a. The concept that development with mitigation is possible on high hazard lands without harming water quality. This was the basis of the case-by-case review system which was rejected by the SWRCB for California but which was implemented briefly in Nevada. Information on the case-by-case review system's impacts would have been useful for evaluation of the IPES, but is not presented.

B-6, cont. Mitigation for the impacts of IPES is to be assured by a requirement for a number of specific findings before the line between buildable and unbuildable lots is lowered. The IPES line will not be established until November, 1988. More clarification on criteria for moving the line is to be provided in the draft final plan and EIS. Without reviewing the final criteria, Regional Board staff cannot be satisfied that the plan adequately mitigates IPES impacts.

TRPA Response: The 1981 208 plan does not prohibit development on low capability lands for portions of the Region in California. It does prohibit the discharge or threatened discharge of solid or liquid wastes from future development not in accordance with the Bailey system. The comparison of the proposed amendments to case-by-case review is inappropriate. Unlike case-by-case review, the Individual Parcel Evaluation System is based on field investigations of over 12,000 vacant single-family parcels; the subsequent ranking of those parcels according to their sensitivity; and an assignment of base land coverage according to the same factors--relative erosion hazard and runoff potential--on which the Bailey system is based.

Although IPES will permit some parcels in land capability districts 1, 2 and 3 to pursue building permits, it also will restrict development on some parcels in capability districts 4, 5, 6 and 7 which are relatively sensitive due to poor access, high groundwater, and other considerations. Following comparisons of over 10,000 vacant parcels, TRPA has found that many capability 4, 5, 6 and 7 parcels are more sensitive than parcels in capabilities 1, 2 and 3. These parcels will become ineligible for development until safeguards against adverse impacts are in place. The transfer of coverage to parcels evaluated under IPES has the effect of consolidating sensitive parcels, an option that the 1981 208 plan encourages.

For discussion of the IPES line, see the Responsiveness Summary, Issue No. 1, Criteria for Movement of the IPES Line.

- b. The concept that restoration or retirement of land coverage elsewhere in a watershed or hydrologically related area mitigates the adverse water quality impacts of increasing coverage over land capability system limits on lots in already overcovered areas. The land capability system is designed to provide natural treatment capacity for pollutants in surface runoff by preserving natural soils and vegetation conditions adjacent to areas where runoff is generated. Retirement of coverage in the upper portions of a watershed does not provide such treatment for runoff from increased coverage in downgradient areas. The TRPA plan addresses this concern by recognizing that coverage transfer has both advantages and disadvantages. TRPA has emphasized the need for runoff treatment facilities in overcovered areas. Such facilities are being considered for the South Lake Tahoe Redevelopment Project, and have not yet been shown to be capable of meeting runoff quality standards for discharge to Lake Tahoe.

B-6, cont. The concept of allowing coverage transfer within large hydrologically related areas has also been debated. The boundaries of these areas were established to increase the economic feasibility of land banking, not for specific reasons related to water quality. No modeling of differences in water quality impacts among different sized transfer areas has been presented.

TRPA Response: See the Responsiveness Summary, Issue No. 11, Water Quality Impacts of Land Coverage Transfers.

- c. The assumption that control of dissolved inorganic nitrogen (DIN) is more important than the control of sediment. TRPA's thresholds for surface runoff emphasize DIN, rather than total nitrogen, which is addressed in the SWRCB plan's runoff guidelines. In comments on the threshold EIS, the Regional Board said that USGS studies showed that the majority of the total nitrogen loading from streams in the Incline Area was in organic form, and that much of this was associated with sediment. Organic nitrogen has historically received less emphasis in the Tahoe Basin than DIN because of analytical problems, but this does not mean it is unimportant. State and federal remedial program priorities continue to be based on sediment removal, not DIN removal.

TRPA Response: TRPA does not argue that control of dissolved inorganic nitrogen is more important than sediment control. TRPA does argue, however, that water quality management programs should address both sediments and dissolved nutrients, and concentrate on controlling those mechanisms--such as atmospheric deposition, disturbance of variable source areas, fertilizer usage, and others--which have a strong potential to deliver sediments and dissolved nutrients to Lake Tahoe.

Controlling organic nitrogen loads to Lake Tahoe is indeed important. The final 208 plan includes both the total nitrogen standard from the 1981 208 plan and the dissolved standard from the TRPA thresholds. The final 208 plan also incorporates a more detailed discussion of the various forms of nitrogen and phosphorous in Volume I, Section I, Chapter II. To control both organic and inorganic nutrient loads affecting Lake Tahoe, management agencies must address the sources of those nutrients. Priority systems based on the cost of controlling soil loss from problem sites address primarily erosion of inorganic sediments, not delivery of sediments and dissolved nutrients to Lake Tahoe. For additional discussion, see the Responsiveness Summary, Issue No. 5, Watershed Improvement Priorities.

- d. Assumptions about atmospheric loading of nutrients to Lake Tahoe, and the relative importance of local sources and long-distance transport from upwind sources. TRPA's literature review on this point is not current, and definite conclusions should probably await further study. It is important to control all controllable sources, including inputs from the watershed and groundwater.



B-6, cont. TRPA Response: See the Responsiveness Summary, Issue No. 10, Control of Airborne Nutrients. Volume I, Section I, Chapter II includes an expanded discussion of available information on airborne nutrients and their transport.

- e. The assumption that full voluntary retrofit of BMPs to existing development will be possible without enforcement action or other incentives or disincentives. TRPA adopted an ordinance calling for voluntary retrofit shortly after certification of the 1981 208 plan. However, no records were kept to document its success. The Regional Plan and 208 plan amendments effectively extend the grace period for voluntary compliance without quantifying the water quality impacts.

TRPA Response: See the Responsiveness Summary, Issue No. 12, Regulatory Aspects of the BMP Implementation Program.

- B-7 Regional Board staff have requested clarification on the difference in the total land area considered SEZ under the old and new systems, and the impacts of deleting 100-year flood plains as primary criteria. TRPA staff contend that 100-year flood plains will be adequately protected by the natural hazards ordinance which will not be adopted until after the projected implementation date for IPES. Recently, TRPA has proposed changes in the draft 208 plan which will define more specific procedures for SEZ mapping and flood plain identification in the absence of existing maps. These changes may resolve some of the Regional Board's concerns. The draft plan does not clearly show how the new criteria, which were developed in connection with IPES, will be applied to other project proposals in the Region.

TRPA Response: See the Responsiveness Summary, Issue No. 2, Criteria for Identification of SEZs.

- B-8 The systems model used in the plan is essentially a summary of known information on the nutrient budget of the Tahoe Basin, with the concept of drainage density added. Past quantitative models linking land disturbance or coverage with sediment and nutrient loading are referenced and criticized but are not used to quantify water quality related impacts of different plan alternatives. These impacts are defined mainly in terms of total acreage of coverage, or numbers of dwelling units. The systems model does not incorporate all of the most recent information (e.g., USFS and USGS data) and relies heavily on the 1982 Threshold Study Report. Because TRPA intends to continue tiering future environmental documents on earlier ones, it is important that its technical database be kept up to date.

TRPA Response: The final 208 plan includes additional up-to-date water quality data, including data from the USGS and USFS. See Response to Comment A-34h. The final 208 plan also includes an analysis of water quality impacts utilizing the model set forth in Appendix B of the Lake Tahoe Basin Water Quality Plan (SWRCB, 1980).

- B-9 TRPA has stated its intent to consider revision of priorities for implementation of the CIP and SEZ restoration program in the draft final plan, where the linkage between accomplishment of remedial programs and permitting further new development is also to be clarified. Without reviewing this material, Regional Board staff cannot judge whether the new CIP and SEZ programs are an adequate substitute for the remedial priorities in the 1981 plan.

TRPA Response: See the Responsiveness Summary, Issue No. 4, Attainment and Maintenance of TRPA Water Quality Thresholds and State Water Quality Standards, and Issue No. 5, Watershed Improvement Priorities.

- B-10 The EIS uses flawed assumptions in comparing plan alternatives and says that the 1981 208 plan is inferior for several reasons:

- a. TRPA contends that the 1981 plan is inferior because it lacks certain elements of the TRPA land use plan, such as transportation and air quality control measures. The Regional Board staff believes impacts of the 1981 plan should be analyzed in the context of the complete package of TRPA and CTRPA plans and ordinances which were in effect when it was certified, as well as special provisions of the Tahoe Regional Planning Compact. There is no requirement in EPA regulations that 208 plans include control measures for transportation, air quality, etc.

TRPA Response: Although the 1981 208 plan was adopted at a time when TRPA and CTRPA plans and ordinances existed, it was essentially a "stand alone" plan and did not include the other elements mentioned. EPA regulations do not require these other elements, but TRPA has now concluded that certain features of these elements not in the 1981 plan are necessary to attain water quality standards.

- b. TRPA makes assumptions about population growth rates and residential buildout rates under different alternatives which obscure the differences among alternatives due to water quality control measures. Impacts are forecast for the 20-year lifetime of the plan. TRPA assumes that all class 4 through 7 residential lots will be built upon during that period under the 1981 plan alternative, but that only 6,000 lots, possibly including all capability classes except 1b, will be built upon in 20 years under the proposed amendments. Neither of these assumptions is necessarily correct. Because of the growth scenarios chosen, the 1981 plan is made to seem inferior in terms of the number of impacts related to construction, population, traffic, and threshold attainment. If the alternatives were compared at ultimate residential buildout, the 1981 208 plan would have fewer impacts of this type, and the impacts of developing class 1 through 3 lots under the proposed action would be more apparent.

B-10, cont. TRPA Response: See the Responsiveness Summary, Issue No. 6, Validity of the Assumptions in the EIS Regarding Additional Development in the Tahoe Region. Also, adding growth controls to the 1981 plan would cause it to be a different alternative and of limited value for comparison, considering the fact that a hybrid plan has been analyzed.

- c. The 1981 plan is said to lack the offset provisions of the proposed action, and to allow exemptions for public service projects on sensitive lands without requiring offset. The new TRPA plan would require a 1.5:1 restoration, retirement, or banking of coverage for excess coverage created under the coverage transfer and public service exemption programs. The California side provisions of the 1981 plan do require a 1:1 offset for any permitted encroachment on SEZs for air quality, recreation, and most public service projects. In a sense, the proposed amendments have a more detailed offset program than the one outlined in the 1981 plan. However, the linkage between remedial projects and development phasing still needs to be worked out.

TRPA Response: TRPA Ordinance 81-5, implementing the 1981 208 plan, provided that any TRPA development permit be conditioned upon the implementation of remedial erosion control measures TRPA determined to be adequate to offset increased erosion caused by that development. The applicant would pay a fee based on an assessment of 150 percent of the amount of mitigation necessary to offset increased erosion, or provide services of equivalent value. (Ordinance 81-5, Section 12.50)

Thus, although the 1981 plan allowed overrides of the Bailey coefficients for approved erosion control work or creation of coverage by a public entity where necessary for implementation of the air quality nonattainment plan or the transportation element of the regional plan, public recreation, or protection of public health, safety, and general welfare, provided all feasible alternatives had been exhausted, the 1981 plan did require all such development to offset increased erosion caused by that development through the payment of a mitigation fee or provision of services of equivalent value.

The land coverage provisions of the proposed 208 amendments are more stringent than the 1981 plan in this area, since the proposed amendments explicitly require mitigation in kind through restoration of lands in capability districts 1, 2 and 3 in an amount 1.5 times the area disturbed beyond the Bailey coefficients, and restoration of SEZ lands in an amount 1.5 times the area of SEZ disturbed.

The final plan includes a more detailed discussion of the process of plan evaluation and revision in Volume I, Section I, Chapter VII.

- B-10 d. The 1981 plan does lack the specific SEZ restoration program of the proposed 208 plan. However, SEZ restoration is undoubtedly within the scope of the remedial projects in the 1981 CIP. It is required in some instances, such as mitigation for public service exceptions, and for man-modified determinations. There is nothing in the 1981 plan which would prevent TRPA from adopting and implementing the SEZ restoration program apart from the 208 plan, as part of the offset policy outlined above.

TRPA Response: The SEZ restoration program is indeed consistent with the 1981 plan. The hybrid plan, Alternative 3 in the EIS, adds a stream zone restoration program and other remedial programs to the 1981 208 plan.

- B-11 The EIS may need further revisions to serve as a component of the SWRCB's environmental documentation for plan amendments under CEQA. The draft EIS lacks several details of the EIR contents which are required in the State Clearinghouse guidelines. These include a summary which identifies major controversial issues, page citations for technical information, summaries of documents incorporated by reference, identification of the environmentally superior alternative, and a detailed cumulative impacts analysis. The SWRCB will also need to consult with the Department of Fish and Game regarding impacts on endangered and threatened species under the California Endangered Species Act.

TRPA Response: TRPA is working with the California State Water Resources Control Board to assist them in meeting the State's need for CEQA compliance.

- B-12 The EIS focuses on major impact areas, and on whether specific plan components are implemented under different scenarios. It does not address impacts of changes in specific BMPs, or the other alternative CIP and SEZ restoration priority systems discussed in subsequent volumes. We understand that alternative priorities are to receive more attention in the final plan documents. While detailed discussions on impacts of BMPs are not necessary in most cases, the final documents should show how policies contained in the 1981 BMPs for golf courses, ski areas, and livestock grazing and confinement are addressed in the text of the revised 208 plan.

TRPA Response: See the Responsiveness Summary, Issue No. 5, Watershed Improvement Priorities and Issue No. 8, Changes to the Handbook of Best Management Practices.

- B-13 The remedial and monitoring programs in the new plan are projected to be much more costly than those in the 1981 plan, and they are relied upon to provide the offset for relaxed regulatory programs. However, full funding for these programs is by no means assured. Annual costs of implementing the remedial programs are about twice the projected revenues. If reasonable assurance of funding for a 20-year implementation program cannot be obtained, the water quality impacts of doing the remedial work over a longer period of time need additional analysis, and other portions of the mitigation package may need to be strengthened.

TRPA Response: See the Responsiveness Summary, Issue No. 10, Capital Improvements Program Funding.

- B-14 It would be helpful for the final plan and EIS to include more summary tables of important points such as prohibitions and mandatory control measures under different alternatives, additions or deletions of particular BMPs, and how the revised plan complies with conditions of approval of the 1981 plan.

TRPA Response: Comment noted. TRPA feels the final plan provides sufficient information.

- B-15 TRPA's plan focuses on standards for sediment, nutrients, turbidity, productivity, clarity, and nondegradation. Although the desire has been expressed for a single water quality plan for the Lake Tahoe Basin, additional control measures for other standards (such as taste and odor) may eventually need to be incorporated into the North Lahontan Basin Plan if TRPA does not develop such control measures.

TRPA Response: Comment noted.

- B-16 The proposed action, when compared with the present plan, involves a relaxation of some control measures; a greater risk of water quality impacts related to construction and excessive coverage on class 1-3 lands; greater growth related impacts, including impacts on sewage flows and domestic water supplies at buildout; some uncertainty on SEZ protection associated with the new criteria; and remedial programs with priorities, cost effectiveness, and funding still to be determined.

TRPA Response: The proposed 208 amendments include some new control measures which allow TRPA greater flexibility in attaining and maintaining water quality thresholds and standards, based on the recommendations of the Consensus Building Workshop, which deliberated on the control measures for over a year and included representatives of a broad spectrum of the public, including the Lahontan Board. The proposed amendments are more stringent than the 1981 plan in some areas, and include a broader set of control measures, including an SEZ restoration program and controls on airborne nutrients. The revised criteria for identification of SEZs are superior to the criteria they replace.

See also the Responsiveness Summary, Issue No. 5, Watershed Improvement Priorities, and Issue No. 6, Validity of Assumptions in the EIS Regarding Additional Development in the Tahoe Region.

- B-17 (Volume I, Section I, p. II-11) The discussion of the Bailey system mentions the recommendation that capability class 3 and 4 lands be used for dispersed low density housing. It is likely that a number of the IPES lots currently mapped 3 or 4 are in medium or high density subdivisions.

TRPA Response: The Bailey report says, "Land capability classes 3 and 4 are not suited for urbanization but are suited for forestry and low-density housing use." The report does not define low-density housing, nor does the TRPA Code of Ordinances. TRPA interprets low-density housing to mean single-family homes, the category of development addressed by IPES.

- B-18 (Volume I, Section I, p. II-23) The latest available primary productivity figures for Lake Tahoe should be used.

TRPA Response: The final plan includes the latest available primary productivity data.

- B-19 (Volume I, Section I) Table 8 on quality control measures for the USGS monitoring study should be in the Technical Appendix rather than the text. The table does not give units of measurement for the chemical parameters studied.

TRPA Response: The final plan includes a revised table of Water Quality Parameters Sampled.

- B-20 (Volume I, Section I, p. II-41) The discussion of ground water should refer to nutrient loading to Lake Tahoe from Ward Creek. This page could also include the Tahoe Research Group study of nutrient contributions from vegetation buried during construction of the Tahoe Keys.

TRPA Response: The final plan includes a discussion of data on nutrient loading to Lake Tahoe from Ward Creek.

- B-21 (Volume I, Section I) The discussion of phosphorus limitation could mention the geochemical origin of P in different types of Tahoe Basin rocks. Volcanic rocks are relatively high in phosphorus compared to granite.

TRPA Response: Comment noted.

- B-22 (Volume I, Section I, p. III-2) The plan says that construction of new road networks should be avoided. However, TRPA's 1988 transportation plan calls for the construction or study of new roads in various parts of the Basin, and the Regional Plan would allow resubdivision of existing urban areas for redevelopment, which could include new road networks.

TRPA Response: The plan says that "construction of new road networks should . . . be avoided, such as would be necessary to serve new subdivisions." The new highway alignments in TRPA's Regional Transportation Plan serve the existing urbanized areas of the Region; they do not serve new subdivisions. Resubdivision of existing urban areas for redevelopment would replace existing road networks with revised networks, with the ability to incorporate full water quality control measures in both design and construction.

- B-23 (Volume I, Section I, p. III-4) How can the recommendations on the direction of new development at the bottom of this page be reconciled with the allowance of new construction on class 1 lands under IPES?

TRPA Response: IPES is designed to direct new development to those parcels posing the least risk to water quality from the development of single-family homes. It does not create new subdivisions, it includes the application of temporary and permanent BMPs, it limits impervious coverage, and preserves the natural attributes of the watershed by preserving SEZs and recognizing both the health of the watershed and the need for water quality improvements in the vicinity in its rating criteria.

- B-24 (Volume I, Section I, p. III-5) The plan cites several SEZ values "unrelated to water quality." Fishery, scenic, and wildlife values are related to water quality in that they are components of designated beneficial uses of water, which are part of state water quality standards, and in that these uses depend on the maintenance of water quality or quantity.

TRPA Response: The final 208 plan removes the statement that some SEZ values are unrelated to water quality.

- B-25 (Volume I, Section I, p. III-7) The discussion of atmospheric loading should mention that the Tahoe Research Group has studied pollen loading to Lake Tahoe and concluded it is an insignificant source of nutrients.

TRPA Response: Comment noted. The TRG has studied, and continues to study, bottom sediments in Lake Tahoe for information on historical trends in sedimentation and for information to contribute to a refined nutrient budget. In their studies, they have found intact pollen grains in bottom sediments, indicating that pollen may settle to the bottom of Lake Tahoe without becoming involved in the dissolved nutrient budget.

- B-26 (Volume I, Section I, p. III-8) The correct Porter-Cologne Act code citation for the Lake Tahoe sewage discharge prohibition is Section 13950.

TRPA Response: The final 208 plan incorporates this correction.

- B-27 (Volume I, Section I, p. III-9) The plan assumes that, because the export of solid waste from the Tahoe Basin is mandated, there are no water quality problems related to solid waste. This ignores problems related to litter; dumping of cars and appliances; disposal of dredged material and excavated soil; and disposal of demolition wastes, including asbestos. It also ignores possible problems associated with closed dumpsites in the Region, and potential needs for cleanup under new toxics control laws in California.

TRPA Response: The final plan recognizes that uncontrolled dumping of solid wastes may contribute to water quality problems, and states that control of such problems is the responsibility of local units of government. The final plan also recognizes the water quality problems posed by dredge spoil disposal, and states that the regulatory agencies involved in shorezone protection shall protect water quality from the impacts of spoils disposal through their permit processes.

- B-28 (Volume I, Section I, p. III-10) Discussion of the impacts of pesticides should include impacts of their use as well as impacts of spills, particularly for aquatic pesticides such as rotenone and tributyl tin. Pesticides can have adverse water quality impacts even when used as directed.

TRPA Response: The draft and final plans discuss the use of pesticides under Natural Area Management in Volume I, Section I, Chapters III and IV. Tributyl tin is addressed in both Volumes I and II. The final plan includes identification of rotenone as a pesticide used in the Tahoe Region.

- B-29 (Volume I, Section I, p. III-10) The discussion of snow disposal should recognize the potential erosion problems which can result from mechanical snow removal on unpaved areas.

TRPA Response: The final plan incorporates changes in response to this comment.



- B-30 (Volume I, Section I, p. III-11) The discussion of impacts of campgrounds and trails should be expanded to include all types of related outdoor recreational facilities such as picnic grounds, trailheads, cross county ski courses, and beach recreation day use areas. The discussion should also reference the SWRCB's condition of approval of the 1981 plan which directed that BMPs be developed for campgrounds and consideration be given to removing campgrounds from SEZs. How is this condition addressed?

TRPA Response: The final plan broadens the discussion of impacts of outdoor recreation facilities to include the uses mentioned. There is a variety of development in SEZs in the Tahoe Region. Campgrounds have no greater impact than other uses. Indeed, because they generally have low rates of land coverage, they probably have less impact. TRPA can find no justification for singling out campgrounds for removal. TRPA's SEZ restoration threshold addresses the problem of SEZ impacts impartially.

- B-31 (Volume I, Section I) The discussion of ski areas should show how the plan addresses the SWRCB's condition of approval for the 1981 plan, which endorsed the CTRPA criteria for ski area expansions. TRPA has not yet developed detailed guidelines for ski area master plans, and it appears that such guidelines will be much less specific on regulatory requirements than the CTRPA criteria.

TRPA Response: TRPA does have numerous regulations governing ski area expansion, including coverage restrictions, SEZ protection, BMP retrofitting, monitoring, and BMPs for new facilities. TRPA will have more detail in its upcoming guidelines, but uses the CTRPA guidelines in the interim.

- B-32 (Volume I, Section I, p. III-12) The discussion of off-road vehicle impacts should recognize the potential for erosion following compaction of snow by snowmobiles (SWRCB, 1980, pp. 92-93).

TRPA Response: See the Response to Comment B-56.

- B-33 (Volume I, Section I) The discussion of livestock grazing problems emphasizes grazing on U.S. Forest Service lands. It should also recognize problems associated with private grazing and livestock confinement facilities, including stables, corrals, and back yards, particularly when such facilities are in SEZs.

TRPA Response: The final plan includes an expanded discussion of livestock grazing problems in response to this comment.

- B-34 (Volume I, Section I, p. III-15) The discussion of dredging should cross reference the discussion of the potential for marina construction and expansion in the recreation section of the EIS.

TRPA Response: See the responses to comments A-34s, B-49, B-96, F-33, and F-34.

- B-35 (Volume I, Section I, p. IV-1) The discussion of BMPs should include the need for enforcement to ensure compliance, or the likelihood that BMPs will be implemented without enforcement.

TRPA Response: The final plan includes a description of the compliance and enforcement measures necessary to implement Best Management Practices. See also the Responsiveness Summary, Issue No. 12, Regulatory Aspects of the BMP Implementation Program.

- B-36 (Volume I, Section I, p. IV-5) The state and federal term for "discharge standards" is "effluent limitations."

TRPA Response: The final plan incorporates the term "effluent limitation."

- B-37 (Volume I, Section I, p. IV-7) The Regional Plan would allow resubdivision of existing urbanized areas. The areas are defined to include the 22 areas which are eligible for community plan incentives. They include some areas with steep slopes, where new road construction could have significant water quality impacts.

TRPA Response: As stated in the draft 208 plan, the TRPA Goals and Policies allow for resubdivision of land as part of a TRPA-approved redevelopment plan. At this time, there is only one redevelopment area in the Tahoe Region, the South Tahoe Redevelopment Area from Ski Run Boulevard to the stateline, which includes no steep slopes.

- B-38 (Volume I, Section I, p. IV-12) What is the rationale for permitting extra coverage for "exceptionally long driveways."

TRPA Response: Occasionally TRPA encounters a parcel which is otherwise eligible for a permit for a single-family house, but on which the building site with the least impact on the land is far from the street. In return for sacrificing up to 400 square feet of otherwise available land coverage, and upon a finding that the direct result of the increased coverage is to locate the house on the site with the least impact on the land, TRPA will allow extra land coverage by transfer.

- B-39 (Volume I, Section I, p. IV-14) The concept of linear public facilities needs clarification in terms of coverage exemptions and mitigation.

TRPA Response: The final plan clarifies the allowable land coverage, land coverage mitigation, and water quality mitigation requirements for linear public facilities. New linear public facilities, public health and safety facilities, and access for the handicapped may utilize coverage transfer programs to achieve coverage which is the minimum needed to achieve their public purpose. Repairs to linear public facilities are exempt from excess coverage mitigation requirements. Linear public facilities which create additional land coverage must offset the water quality impacts of that additional coverage, although impervious coverage permitted as a result of transfer of coverage is exempt from water quality mitigation fee requirements.

- B-40 (Volume I, Section I, p. IV-16) The plan states that the requirement for 1.5:1 coverage restoration for new projects permitted exemptions from coverage limitations will be in lieu of other mitigation requirements. It should be clarified that this does not mean "in lieu of BMPs."

TRPA Response: The final plan includes this clarification.

- B-41 (Volume I, Section I, p. IV-17) The plan's discussion of transfer of existing development states that removal of buildings and site restoration would be required for donor sites except in "special circumstances of public benefit." What sorts of public benefits could outweigh the water quality benefits of site restoration?

TRPA Response: The final plan includes a clarification that, for transfers of existing units of use (e.g., tourist accommodations, residential units, commercial floor area), the structures on the donor site shall be removed or modified to eliminate the transferred units. This should not be confused with transfers of land coverage, in which the transferred land coverage must be permanently retired.

- B-42 (Volume I, Section I, p. IV-19) The plan should include a detailed discussion of the types of projects which should, or should not, "by their very nature" be located in SEZs. The SWRCB plan (p. 232) includes such a discussion. However, TRPA seems to be interpreting this finding somewhat differently (e.g., the allowance of coverage of SEZ by a half culvert for a distance much longer than a crossing to allow ski trail construction at Ski Incline).

TRPA Response: See the Responsiveness Summary, Issue No. 8, Changes to the Handbook of Best Management Practices.

- B-43 (Volume I, Section I, p. IV-20) The discussion of man-modified criteria should reference Chapter 20 of the Code of Ordinances, and TRPA's interpretation of the criteria, i.e., the concept of "man-altered" v. "man-modified."

TRPA Response: The final plan incorporates more detail on the findings required for designation of SEZs as man-modified, pursuant to Chapter 20 of the TRPA Code of Ordinances. Under the TRPA Code, only the TRPA Governing Board may designate an area man-modified where man has changed the vegetation type, made cuts, placed fill, compacted the soils, or altered the hydrology, and where TRPA has made the required findings.

- B-44 (Volume I, Section I, p. IV-24) The SEZ setback system does not allow for the remapping of buffer zones following changes in slope conditions, e.g., loss of duff or vegetation due to fire, flooding, or pedestrian, livestock, or ORV traffic. There should be provisions for periodic inspection of buffer zones and remedial action if slope condition changes.

TRPA Response: The plan has no direct provisions for inspection of buffer zones and remedial action if conditions change, nor does it preclude inspection and remedial action. In practice, each time a project is proposed, a site inspection is made to verify conditions. If significant changes are encountered, the proposed project is addressed accordingly. For example, if vegetation is destroyed, a condition would be placed on the project to revegetate. If there are no projects to address, TRPA's programs of monitoring, requiring restoration of disturbed lands, and directing remedial measures to be taken if a threshold standard is threatened, provide for correction of significant problems.

- B-45 (Volume I, Section I, p. IV-33) What are "institutional uses" of road salt? Does this include large casino and commercial parking lots? Could the requirement for revegetation of salt-damaged areas lead to the need for removal and replacement of soil?

TRPA Response: Under Chapter 81 of the TRPA Code of Ordinances, state highway departments and other large users of road salt and abrasives identified by TRPA are subject to the reporting requirements. This could include large commercial sites. The requirement to revegetate salt-damaged areas could lead to the need for removal and replacement of soil.

- B-46 (Volume I, Section I, p. IV-35) The discussion of natural area management should recognize the existence of an independent USFS 208 plan, which applies to all national forests in California, and includes detailed BMPs for silvicultural activities. A separate 208 plan has also been adopted by Caltrans. The USFS and Caltrans plans were incorporated into the North Lahontan Basin Plan in 1979. The SWRCB has approved a California Board of Forestry plan which addresses BMPs for private silvicultural activities.

TRPA Response: The Tahoe Region is covered by the overlapping provisions of a number of water quality management plans prepared under section 208 of the Clean Water Act, certified by the states, and approved by EPA. (See, for example, Water Quality Management for National Forest System Lands in California, USDA Forest Service, Pacific Southwest Region, April 1979.) It is the responsibility of the states and EPA to ensure that 208 plans are consistent with each other. To the extent that the plans may conflict, TRPA's 208 plan would take precedence within the Tahoe Region, since TRPA is the designated areawide water quality management planning agency for the Tahoe Region. Volume II of this plan, the Handbook of Best Management Practices, incorporates the certified and approved USFS Best Management Practices for National Forest Lands in both California and Nevada. For details, see Volume II, Section IX.

- B-47 (Volume I, Section I, p. IV-41) The pesticides discussion should reference California's narrative water quality objectives for pesticides, toxicity, and nondegradation which are contained in the North Lahontan Basin Plan, and current state and federal nondegradation guidelines.

TRPA Response: The final plan incorporates a requirement that pesticide storage and use be consistent with the California and Nevada water quality standards, including the nondegradation policies.

- B-48 (Volume I, Section I, p. IV-44) Are stream deltas the equivalent of biologically important stream inlets in the California water quality plan? Where is protection for these stream inlets provided in the new plan?

TRPA Response: Stream deltas are roughly equivalent to the biologically important stream inlets described in the Lake Tahoe Basin Water Quality Plan (SWRCB, 1980, p. 183). However, the discussion of protection of stream deltas in the proposed amendments has to do with preserving the natural balance between the erosive forces of winds and waves and the protection provided by barrier beaches, while the SWRCB discussion has more to do with protection of fish habitat. The final 208 plan protects stream deltas through restrictions on SEZ and shorezone encroachment and vegetation alteration, and restrictions and conditions on filling and dredging.

- B-49 (Volume I, Section I, p. IV-45) The discussion of dredging should reference state and federal Section 401 permitting authority.

TRPA Response: The final plan includes a reference to state and federal permitting authority under Section 401 of the Clean Water Act in the discussion of dredging.

- B-50 (Volume I, Section I, Chapter V) The discussion of implementation authority omits a number of agencies which have important roles in water quality protection, and does not adequately reflect the roles of the State and Regional Boards. SEZ restoration is accomplished through the efforts of the USFS, California State Parks and Recreation Department, and California Tahoe Conservancy in addition to TRPA. The USFS and Resource Conservation Districts can provide funding or technical ex-

expertise for remedial projects, as can state forestry departments. The USGS and EPA can provide support for monitoring and special studies. EPA is involved in funding of treatment facilities. Public utility districts, especially those which manage recreational facilities, can implement BMPs on their lands, and those which are water purveyors can affect water quality through their management of diversions from streams and SEZs. Water purveyors can also promote water conservation and the use of native plants (e.g., STPUD's demonstration garden). Local governments are responsible for road maintenance and salt management and, in California, are currently in the process of adopting hazardous waste management plans. Other public entities with some role in plan implementation include the California Air Resources Board, the U.S. Army Corps of Engineers, and the University of California and Nevada systems.

TRPA Response: The final plan incorporates these comments into Volume I, Section I, Chapter V in the listing of management agencies, responsibilities, and authorities.

- B-51 (Volume I, Section I, Chapter V) The implementation section completely omits the California State Water Resources Control Board, although it is the funding agency for the Lahontan Regional Board, has provided support to the Interagency Monitoring Program, and has funded several special studies and provided \$10 million in grant funds for the CIP.

TRPA Response: The final plan includes the SWRCB in the listing of management agencies, responsibilities, and authorities, in accordance with this comment.

- B-52 (Volume I, Section I, Chapter V) The discussion of the Lahontan Board's role should be clarified to show that the Board does not receive funds directly from filing fees; such fees are paid to the State Board. The section should also recognize the Regional Board's authority to issue waste discharge requirements for any type of waste discharge which threatens water quality, including storm drains, road maintenance, and commercial establishments. The discussion of funding sources should also mention the potential availability of section 205(j) grants for water quality management planning. The EPA provides 205(j) funding and the State and Regional Boards review project proposals.

TRPA Response: The final plan incorporates these comments in Volume I, Section I, Chapter V, Plan Implementation.

- B-53 (Volume I, Section I) The discussion of monitoring should recognize the Lahontan Board's contributions, including participation in the LTIMP, planning and funding of special studies (shorezone erosion, organic nitrogen budget, urban runoff quality, and Fallen Leaf Lake problem assessment), and ability to support 205(j) funding in the future.

TRPA Response: The final plan includes this information on the role of the Lahontan Board in Volume I, Section I, Chapter VII.

- B-54 (Volume I, Section I, p. V-13) The discussion of regional plan provisions in place does not mention the implementation of new SEZ criteria elsewhere than IPES lots. Such implementation also requires amendment of the 208 plan.

TRPA Response: The final plan includes a clarification that the revised criteria for identification and protection of SEZs will not be implemented prior to state and EPA certification and approval of the 208 amendments. The criteria will apply to all lands in the Region.

- B-55 (Volume I, Section I, p. V-13) The discussion of attainment schedules should mention the USFS plans for watershed restoration.

TRPA Response: The final plan includes a discussion of the implementation schedule for the USFS watershed restoration projects.

- B-56 (Volume I, Section I, Chapter V) The reasons for extending the 20-year CIP schedule which began with the adoption of the 1981 plan to a 20-year period beginning in 1986 should be clearly explained in the new 208 plan.

TRPA Response: The 1981 208 plan had a CIP which was expected to be completed within 20 years. Since 1981, considerable progress has been made, but additional projects and programs have been identified, including SEZ restoration. The result is that the estimated cost of water quality improvement programs has grown to exceed the estimated cost of the 1981 program adjusted to 1988 dollars. It is not practical to expect to maintain the same schedule originally set when the program has grown so much. The new schedule is consistent with the other programs related to attainment and maintenance of water quality standards.

- B-57 (Volume I, Section II, p. I-10) The EIS states that the 1981 208 plan has a stronger emphasis on discharge standards and prohibitions than the proposed plan revisions. The EIS should include a table of all prohibitions in the 1981 plan (including the California side prohibitions on piers and golf courses) opposite brief explanations of control measures in the new plan which are directed toward the same problems.

TRPA Response: The final plan includes complete descriptions of both the 208 amendments and the 1981 plan, and comparison tables including the two plans. These descriptions are formatted to allow easy comparison of the provisions of the two plans. In general, the 1981 plan tends to include more explicit prohibitions, especially for the portions of the Tahoe Region within California.

- B-58 (Volume I, Section II, p. I-13) The statement that man-modified lands are exempt from SEZ development prohibitions needs to be clarified to show the need for specific findings. As it is now worded, the reader could take it out of context to apply to any disturbed lands.

TRPA Response: The final plan includes a clarification that a man-modified determination under the 1981 plan follows a formal process and includes the need for specific findings.

- B-59 (Volume I, Section II) The discussion of off-road vehicle impacts should reference erosion due to snow compaction by snowmobiles.

TRPA Response: TRPA has no verifiable information regarding erosion due to snow compaction by snowmobiles. The SWRCB has stated that snow transformed into ice by snowmobiles causes greater soil and vegetation damage, but the SWRCB has provided no data and cited no source for this information. TRPA agrees that soil compacted by snowmobile use on thin layers of snow will retard vegetation growth and infiltration.

- B-60 (Volume I, Section II, p. I-23) The 1981 plan does include controls on pesticides, insofar as it is committed to meeting the nondegradation standards, and it includes controls on shorezone development insofar as shorezones are treated as SEZs.

TRPA Response: The final plan includes these clarifications in its description of the 1981 208 plan.

- B-61 (Volume I, Section II, p. I-25) The discussion of offsets does not mention TRPA's new plan provisions dealing with linear public facilities.

TRPA Response: See the response to comment B-36. The discussion in Volume I, Section II, p. I-25 is consistent with the response to comment B-36.

- B-62 (Volume I, Section II) Estimates in Table 20 of coverage needs for future recreation projects are probably too low. The list of proposed recreation facilities in the technical appendix is only for a five-year period, and does not include development of Washoe Meadows State Park, or long range plans for recreational development under the Forest Service plan.

TRPA Response: The final plan includes revised estimates of land coverage. The basis for the estimates appears in the Technical Appendix, Volume VII.



- B-63 (Volume I, Section II, p. II-14) The Lahontan Board staff disagree with the conclusion that construction of up to 1,020 single family homes on class 1-3 lands will be more than offset by the coverage transfer and mitigation programs. The location of coverage is important as well as the amount of coverage and, as the EIS says on p. II-19, the success of restoration programs will vary among projects. The models used in the plan do not provide quantitative support for the conclusion on offset. The Incline area, which has more steep lands, would have much more significant water quality impacts than development of the Tahoma area.

TRPA Response: The statement on page II-14 refers to the fact that, quantitatively, the coverage created by an estimated 1020 homes on capability 1, 2 and 3 lands will be offset by the related coverage mitigation and transfer programs. The comments are correct that the location of coverage and the success of restoration programs will vary. That is a qualitative consideration. The proposed plan requires transfers to be from land at least as sensitive as that receiving the coverage. Market conditions should also affect the price and availability of coverage such that the most sensitive lands, on the average, will be relied upon to provide the coverage offsets. Restoration programs have limited application to these transfer programs for single-family homes because coverage transferred will typically be potential coverage, which is functioning naturally and will be protected from development otherwise possible. See also the response to comment B-73.

- B-64 (Volume I, Section II, p. II-18) How would use of the new SEZ criteria affect the estimate of the total acreage needing restoration?

TRPA Response: Pending completion of additional SEZ mapping contemplated in Volume III of the 208 plan, it is not possible to answer this question. The TRPA threshold calling for SEZ restoration is expressed as a percent of disturbed SEZs, rather than an exact acreage. The change in exact acreage which may result from improved mapping should be small. See the Responsiveness Summary, Issue No. 2, Criteria for Identification of Stream Environment Zones.

- B-65 (Volume I, Section II, p. II-23) The EIS does not mention the SWRCB plan's prohibition (p. 229) on exemptions from coverage restrictions for new highways designed primarily to ease traffic congestion.

TRPA Response: The Lake Tahoe Basin Water Quality Plan (SWRCB, 1980, Table IV-5, p. 165) prohibits discharges from new development which is not in accordance with land capability, except as reasonably necessary (1) to control existing sources of erosion or water pollution, (2) to carry out the Lake Tahoe Basin Non-Attainment Plan adopted by the CARB, and (3) for health, safety, or public recreation. The environmental analysis in the SWRCB's 1980 plan, which TRPA did not adopt as part of the 208 plan (see TRPA Ordinance 81-4) states that the prohibitions would "effectively prohibit new highway construction in the Basin" (SWRCB, 1980, p. 229).

TRPA Ordinance 81-5, which implements the 1981 208 plan in California and Nevada, prohibits land coverage in SEZs and in excess of the Bailey coefficients in land capability districts 4, 5, 6 and 7, except for-- among other exceptions--creation of land coverage for a public work by a public entity, provided TRPA finds the work is necessary for implementation of the Non-attainment Plan or the transportation element of the Regional Plan, or is necessary for public recreation or the protection of the public health, safety, or general welfare, and all other feasible alternatives have been exhausted.

Since the language of the exceptions is not consistent, TRPA has used Ordinance 81-5 as the controlling language. Thus, a highway project which is necessary for implementation of the Non-Attainment Plan or the transportation element of the Regional Plan, or protection of the public health, safety, and welfare, would be exempt from the prohibitions in the 1981 208 plan on coverage in excess of the Bailey coefficients. Since carbon monoxide emissions from automobiles are very sensitive to vehicle speed and traffic congestion, TRPA's Regional Transportation Plan (TRPA, 1988) includes new highway alignments to ease congestion in the vicinity of the South Tahoe Redevelopment Area to attain and maintain the federal and state carbon monoxide standards.

- B-66 (Volume I, Section II, p. II-27) The introduction to the transportation section could provide a better summary of the relationship between vehicle miles traveled, nitrogen oxide emissions, and atmospheric deposition impacts on water quality.

TRPA Response: The final plan includes a more complete summary of this relationship in the introduction to the discussion of transportation impacts.

- B-67 (Volume I, Section II, p. II-40) The 1982 Air Quality Plan does not include all of the transportation improvements in the 1988 Regional Transportation Plan, in that the latter includes construction or study of certain new road projects.

TRPA Response: The 1982 Air Quality Plan addresses only the federal air quality standards for carbon monoxide, and affects only the urbanized areas of the South Shore. The 1988 Regional Transportation Plan addresses the attainment and maintenance of all air quality and transportation standards throughout the Region, and includes a broader action element and capital improvements program.

- B-68 (Volume I, Section II, p. II-46) The discussion of water quality standards should recognize the new SWRCB policy on sources of drinking water which effectively assigns a municipal use to all waters on the California side of the Tahoe Basin. Limited exceptions are allowed for naturally poor quality waters and waters in some storm drainage systems.

TRPA Response: Comment noted.

- B-69 (Volume I, Section II, p. II-47) The discussion of attainment of water quality standards for tributaries of Lake Tahoe is based on the analysis in the 1982 Threshold Study Report. More recent data are available from the LTIMP and Forest Service monitoring reports for a number of tributaries. The Regional Board evaluates compliance with standards using the latest available data.

TRPA Response: The final plan includes a revised analysis of attainment of water quality standards for tributaries which considers additional data gathered since the 1982 Threshold Study Report.

- B-70 (Volume I, Section II, p. II-49) The discussion of other lakes should include the recent taste and odor problems at Fallen Leaf Lake, the pending sewerage of homes near Cascade Lake, and the recommendation in the TRPA Plan Area Statements that a nitrogen study be conducted at the Echo Lakes before further development of that area is allowed.

TRPA Response: The final plan incorporates these suggestions into the discussion of existing water quality at other lakes in the Tahoe Region.

- B-71 (Volume I, Section II, p. II-52) The atmospheric deposition model is based on the Radian Report (Balentine, et al., 1985) which was funded by EPA, but not officially released following its completion because it had not received EPA approval. TRPA staff were uncertain whether such approval was ever given. The EIS does not include the conclusions from the TRG buoy study which indicates that much of the atmospheric deposition on the Lake is from local rather than long distance sources. It does not use the results of the CARB's comprehensive study of acid deposition under the Kapiloff Act, the federal Western Lakes Survey, or the USFS's ongoing sampling of Lake LeConte.

The fifth annual report on the Kapiloff program (January, 1988) included tables comparing atmospheric nitrogen fluxes in the Tahoe Basin with those at other stations throughout California, a summary of a comprehensive watershed study being carried out in the southern Sierra Nevada, and the conclusion that: "Modeling studies funded by the Air Resources Board indicate that most nitric acid, its precursors, and related acidic nitrogen compounds deposit soon after they are emitted or formed in the atmosphere. This implies that long-range transport of acidic nitrogen compound[s] is not as significant in California as is local transport phenomena within air basins."

TRPA Response: See the Responsiveness Summary, Issue No. 9, Control of Airborne Nutrients. The TRG has published no conclusions from its study of atmospheric deposition through the use of bouys on Lake Tahoe. The final plan includes data from the bouy study and describes the USFS study of Lake LeConte. The Kapiloff report (CARB, 1988), defines long-range transport as transport greater than 500 kilometers (approximately 300 miles). There are vast urbanized areas within California within 500 km of Lake Tahoe. The report also calls for further research on the extent and impacts of transport.

- B-72 (Volume I, Section II, p. II-53) TRPA's emphasis on dissolved inorganic nitrogen (DIN) in predicting the future trophic status of Lake Tahoe does not recognize the possible importance of shorezone erosion in releasing organic nitrogen and phosphorus from soils, or the recycling of organic nutrients in the water column and bottom sediments.

TRPA Response: See the Responsiveness Summary, Issue No. 4, Attainment and Maintenance of Water Quality Thresholds. See also the response to comment A-34h.

- B-73 (Volume I, Section II, p. II-56) The Tahoma and Incline models indicate that, even with mitigation, the development of an area with predominantly high hazard lands under the new TRPA plan rules would generate about four times as much sediment as the development of a low hazard area.

TRPA Response: The Tahoma and Incline simulations indicate that, with mitigation, the development of the Incline Village area would generate about four times as much sediment per acre as the development of the Tahoma area, under either the 1981 208 plan or the proposed 208 amendments.

- B-74 (Volume I, Section II, p. II-56) The EIS recommends that the SWRCB provide TRPA with reports on measures being taken to reduce the long distance transport of atmospheric nitrogen. The SWRCB has no authority to reduce atmospheric nitrogen transport and, to our knowledge, no plans to provide TRPA with such reports.

TRPA Response: The final plan removes the recommendation that SWRCB provide TRPA with such reports. TRPA shall request that CARB submit such reports.

- B-75 (Volume I, Section II, p. II-57) The EIS projects that nutrient loading from old in-Basin wastewater discharges to land will decrease over time. Although this is true, the EIS should also recognize that, because of Lake Tahoe's long retention time, the impact of these discharges will continue to be felt for years to come.

TRPA Response: The final plan incorporates this comment in the discussion of changes in groundwater quality.

- B-76 (Volume I, Section II, p. II-61) The discussion of the No-Action alternative includes an apparently erroneous reference to the No-Growth alternative.

TRPA Response: The final plan incorporates this correction.

- B-77 (Volume I, Section II, p. II-68) Statistical assumptions regarding average IPES scores of parcels developed under different alternatives do not necessarily predict the environmental impacts of development. Impacts will depend on parcel location, the total amount of disturbance, and the adequacy of mitigation by lot owners during construction and through long-term maintenance.

TRPA Response: The observation in the comment is correct. Variations of the nature mentioned occur under any of the alternatives. For comparative purposes, typical conditions are assumed.

- B-78 (Volume I, Section II, p. II-69) The discussion of concentration of coverage does not include the concept of intervening areas, small watersheds between tributary streams which drain directly to Lake Tahoe and which in many cases are already overcovered. The EIS does not recognize that regional drainage control systems will probably be needed in overcovered areas. However, as indicated by the City of South Lake Tahoe's experience with the Bijou-Wildwood project, it may not necessarily be feasible to obtain the needed space for such projects.

TRPA Response: See the Responsiveness Summary, Issue No. 11, Water Quality Impacts of Land Coverage Transfers.

- B-79 (Volume I, Section II) The projected SEZ acreage for Alternative 2 in Table 24 does not take into account the 1:1 restoration requirements for public service, air quality, and recreation projects which receive exemptions under the California side plan (SWRCB, 1980, pp. 231, 232, and 235.)

TRPA Response: The references cited do not necessary require 1:1 restoration of SEZs for public service, air quality, and recreation projects. Nor are the references cited a part of the 1981 208 plan, pursuant to TRPA Ordinance 81-4. For additional discussion, see the response to comment B-7c.

- B-80 (Volume I, Section II, p. II-75) The EIS refers to NPDES permits for wastewater collection and treatment districts in the Basin. The STPUD facility is the only California facility with an NPDES permit. The other plants do not discharge to surface waters and are covered by waste discharge requirements.

TRPA Response: The final plan incorporates this clarification.

B-81 (Volume I, Section II, p. II-75) The statement that STPUD will expand its facility in 1989 is apparently taken from TRPA's five-year list of projected public service projects and appears to be overly optimistic. Plant expansion would require environmental review under CEQA, NEPA, and TRPA requirements. The District's pump station and export pipeline may need upgrading to handle increased flows. The pipeline is nearing the end of its design life and could require complete replacement. Funding for any expansion of upgrading would also need to be assured. Actual construction will also be time-consuming once environmental review and funding constraints are overcome.

TRPA Response: The document correctly states that STPUD plans to undertake the expansion in 1989. This schedule may not be realistic, for the reasons stated in the comment.

B-82 (Volume I, Section II) Table 26 states that sludge from the Tahoe-Truckee Sanitation Agency is disposed of at the Squaw Valley landfill. There is no active Squaw Valley landfill; the reference should be to the Eastern Regional Landfill, which also handles solid waste from the north shore of Lake Tahoe.

TRPA Response: The final plan incorporates this correction.

B-83 (Volume I, Section II) The discussion of expansion needs for sewage treatment plants should recognize the pending sewerage of the Cascade Lake area, and the potential for rapid growth in the portions of TTSA outside of the Tahoe Basin. The Lahontan Board's recently-approved density criteria for septic tank systems could also result in requirements for the sewerage of additional existing subdivisions in the Truckee area, further depleting TTSA's remaining capacity. Nevada County is conducting a major general plan update for the Truckee and Martis Valley areas, and its planning department should be contacted for growth projections.

TRPA Response: Comment noted.

B-84 (Volume I, Section II, p. II-83) The EIS's estimates of water use are based on the SWRCB's draft EIR for a water use policy, and the public utility district report in response to it. The 1984 draft EIR used 1982 as the base year for "existing water use," and recognized that accurate data were not available for all types of use at that time. 1988 water use could be higher. Projections of future use from the 1984 DEIR do not include a possible need for summer irrigation of artificial wetland systems, or consumptive use by recreationists at recently-acquired State Park or Tahoe Conservancy lands.

TRPA Response: Comment noted.

- B-85 (Volume I, Section II) The list of water purveyors in Table 27, taken from a 1979 SWRCB report, probably does not reflect acquisition of some smaller systems by larger purveyors since that date.

TRPA Response: The list in the final plan includes updated information on acquisitions of which TRPA is aware.

- B-86 (Volume I, Section II, p. II-89) The EIS implies that the 1981 208 plan is inferior to the proposed revisions, citing the 1984 SWRCB water rights EIR's conclusion that the Interstate Water Compact allocation of 23,000 afa to the California side of the Basin would be exceeded at 208 buildout (buildout of class 4-7 lands). However, the conclusion that the proposed amendments would result in 8-9 percent lower water use is based on the assumptions about growth phasing. If impacts of all alternatives were compared at buildout, the proposed amendments would result in the highest water use and the greatest exceedance of Interstate Water Compact allocations.

TRPA Response: See the Responsiveness Summary, Issue No. 6, Validity of Assumptions in the EIS Regarding Additional Development in the Tahoe Region.

- B-87 (Volume I, Section II, p. II-106) The description of the existing situation with respect to fish habitat should recognize the SWRCB plan's prohibition on new piers in certain types of sensitive habitat.

TRPA Response: The draft and final plans refer to the SWRCB prohibition through a cross-reference to the discussion of shorezone impacts.

- B-88 (Volume I, Section II, p. II-109) The comparison of fisheries impacts of different alternatives does not recognize possible differences in sediment and nutrient loading to surface waters as a result of development of class 1-3 lands under IPES. It apparently assumes that BMPs are 100 percent efficient and that all impacts of development can be fully mitigated. The SWRCB plan contradicts these assumptions.

TRPA Response: TRPA does not expect any measurable impacts to fisheries because of development of some capability 1, 2 and 3 lands under IPES. A substantial number of capability 1, 2 and 3 parcels are actually no more sensitive than a typical 4, 5, 6 or 7 parcel. Many parcels classified as 4, 5, 6 or 7 are actually as sensitive as typical 1, 2 or 3 parcels. To a considerable extent, the system is self-mitigating because IPES places the parcels most truly sensitive below the initial eligibility line, to be developed only when certain safeguards are satisfied. Those more sensitive parcels within land capability classes 4, 5, 6 and 7 which now are eligible will be ineligible initially.

Because of the safeguards which govern moving of the IPES eligibility line, which operate as incentives, the results should be at least as good as the current program. If monitoring shows a decline of water quality in tributaries as a result of IPES, the line will not be lowered until mitigation is provided.

- B-89 (Volume I, Section II, p. II-111) If the 1981 plan is understood in the context of then-applicable CTRPA plans and ordinances, this alternative would limit the construction of multi-family housing on the California side of the Basin.

TRPA Response: TRPA believes that the assumption that the No-Action alternative would allow the construction of 1,600 multi-family units in the Region is reasonable. If, however, the construction of multi-family housing in California were further constrained, the No-Action alternative would aggravate the imbalance between low-income households and available affordable housing in California, and cause a shift in construction of multi-family units to Nevada.

- B-90 (Volume I, Section II, p. II-112) As cited here, the TRPA flood plain protection policy could apparently allow the construction of single family homes within 100-year flood plains if their sites were not otherwise classified SEZs under the new criteria.

TRPA Response: See the Responsiveness Summary, Issue No. 2, Criteria for Identification of SEZs.

- B-91 (Volume I, Section II, p. II-116) The discussion of natural hazards does not address the possible increased risk of landslides associated with construction on class 1-3 lands under IPES, and the corresponding benefits of plan alternatives which would preclude such construction.

TRPA Response: Landslides are due to mass instability. There is no particular correlation between mass instability and land capability districts, but such occurrences are more common in oversteepened slopes, which in turn are typically classified in capability 1. Such parcels also will typically score low under IPES. TRPA expects to assess separately the threat of mass instability when reviewing projects on particularly steep lands.

- B-92 (Volume I, Section II, p. II-122) The discussion of the North Tahoe Landfill (now the Eastern Regional Landfill) is out of date. The landfill has been granted permission to expand, but its remaining lifetime is estimated at only about 15 years. There are no suitable sites in the Truckee area for an eventual new landfill, and other alternatives may need to be considered for disposal of solid waste from the northern part of the Tahoe Basin in the future.

TRPA Response: The final plan incorporates this comment.



B-93 (Volume I, Section II, p. II-125) The recreation section should include the latest available projections for long-term recreational growth (see Comment B-59).

TRPA Response: See the Response to Comment B-62.

B-94 (Volume I, Section II, p. II-127) The discussion of off-road vehicles should cross-reference the water quality section of the EIS.

TRPA Response: Comment noted. The final 208 plan includes this cross-reference.

B-95 (Volume I, Section II, p. II-131) A requirement for use of native and adapted plants is cited as an advantage of Alternatives 3 and 4. The use of such plants has been part of regional land use and water quality plan recommendations since the 1970's (e.g., SWRCB plan, pp. 261, 273).

TRPA Response: The Handbook of Best Management Practices (TRPA, 1978) and the Lake Tahoe Basin Water Quality Plan (SWRCB, 1980, p. 107) recommend the use of native plants in revegetation projects. The proposed 208 amendments include an explicit requirement calling for the use of native plants in revegetation projects, and include an approved species list in the Handbook of Best Management Practices, Volume II of the plan.

B-96 (Volume I, Section II, p. II-133) The EIS states that 21 Plan Area Statements allow marinas as a permitted use. How many existing marinas are there, and what is the current potential for expansion or construction of new marinas? Dredging for marina construction and/or maintenance can have significant water quality impacts which should be recognized in the EIS.

TRPA Response: There are 14 existing marinas, with a total of about 950 boat slips, in the Tahoe Region. Nine marinas responded to a TRPA survey of marina operators in 1988, expressing interest in expansions totalling about 850 slips. TRPA is not aware of plans by any public or private entities to construct new marinas. For related discussion, see the responses to comments A-34s, B-49, F-33, and F-34.

- B-97 (Volume I, Section II, p. II-135) TRPA's estimates of the numbers of existing and potential new piers around Lake Tahoe, which were discussed during the formulation of shorezone ordinances, should be made available in this EIS.

TRPA Response: The final discussion of potential environmental impacts on the shorezone in Volume I, Section II, incorporates additional information from The Cumulative Impacts of Shorezone Development at Lake Tahoe, Phillips Brandt Reddick McDonald and Greife, February 1978. There are approximately 1300 littoral parcels on Lake Tahoe. As of 1977, there were 511 single-use piers, 122 multi-use piers, and 25 public marinas and launching facilities. Thus, there over 600 littoral parcels without piers or marinas.

- B-98 (Volume I, Section II, p. II-136) The EIS includes impacts on wildlife as a separate category, but discusses impacts on vegetation in the context of impacts on soils, water quality, and SEZs. The EIS should include a short vegetation section cross-referencing the other material. Also, the EIS does not include specific discussion of impacts on rare and endangered species (e.g., Rorippa subumbellata, Lahontan cutthroat trout).

TRPA Response: The final plan includes a discussion of vegetation in the environmental impact analysis, Volume I, Section II. TRPA thresholds call for TRPA to support, in response to justifiable evidence, state and federal efforts to reintroduce Lahontan cutthroat trout. The final plan includes a discussion of impacts on the Lahontan cutthroat trout. The EISs on the Regional Plan Goals and Policies and the Plan Area Statements and Ordinances, which are incorporated by reference, discuss these issues also.

- B-99 (Volume I, Section II, p. III-3) The SWRCB may need to undertake a more detailed cumulative impact analysis than presented in the EIS to meet CEQA requirements. The TRPA plan amendments have the potential for significant water quality impacts which will occur cumulatively with increased excess land coverage, and construction on high hazard lands.

TRPA Response: Comment noted. However, the draft amendments and the EIS adequately address cumulative impacts.

- B-100 The summary of water quality standards at the end of the EIS does not recognize the beneficial use designations and narrative water quality objectives in the 1975 North Lahontan Basin Plan.

TRPA Response: The final plan adds the beneficial use designations and narrative water quality objectives from the North Lahontan Basin Plan to the summary of water quality standards.

B-101 (Volume II) The revised BMP Handbook is much less detailed than the Handbook which is part of the 1981 208 plan. It includes fewer BMPs, and less specific information within most of the BMPs which are retained. It also omits diagrams illustrating some of the BMPs. Some of this simplification is desirable, since costs of particular practices quickly become obsolete, and explicit detail may not leave room for site-specific design needs. TRPA has indicated that some BMPs were dropped because they were ineffective, and that others are actually policies which are now located elsewhere in the proposed amendments. However, there is no specific explanation in the plan or EIS of the rationale for changing particular practices, or the environmental impacts of the changes. The EIS should include a summary of the changes in the BMP Handbook and should indicate where in the rest of the plan the practices changed to policies can be found. Impacts of the changes should be identified and mitigated.

TRPA Response: Of the 66 total practices included in the 1978 version of the Handbook, 25 have been deleted in the revisions, leaving 41 which are carried over into Volume II of the 208 amendments. TRPA has also added approximately 50 new practices, for a total of about 90 practices in the revised Handbook. The impacts caused by the improved BMP Handbook are not considered to be adverse, because each BMP included is considered to be equal to or better than the current BMPs. In the few instances where the elimination of a BMP previously included has generated a comment, we have addressed the specific issue in our responses. See the Responsiveness Summary, Issue No. 8, Changes to the Handbook of Best Management Practices.

B-102 (Volume II) The 208 plan should discuss the level of alternative BMPs which is acceptable from a water quality standpoint, and the level of change in documented BMPs which would trigger the need for further 208 plan amendments.

TRPA Response: Under Chapter 25 of the TRPA Code of Ordinances, TRPA may approve alternative BMPs to meet water quality standards when special circumstances occur. Such circumstances may include, but are not limited to, streets, highways, and bike trails, existence of high water tables, unusual upstream or downstream flow conditions, and the presence of unusual concentrations of pollutants. Also, construction in SEZs or land capability districts 1, 2 and 3 normally will require special conditions or project approval because of the sensitivity of these areas. (See the TRPA Code of Ordinances, Sections 25.6 and 25.7.) TRPA will submit changes or additions to the BMP Handbook to the states and EPA for certification and approval as 208 plan amendments, except for minor editorial revisions, updates, and additional diagrams and illustrations.

B-103 (Volume II) The introduction should inform the reader that BMPs are generally not 100 percent effective, and that combinations of practices may be needed.

TRPA Response: Comment noted. The introduction to Volume II incorporates this comment.

- B-104 (Volume II) The introduction should ideally include a user-friendly summary of the reason for implementing BMPs and how the Handbook relates to other plan components. The introduction should cross-reference importance Code chapters such as those dealing with grading, forest practices, and livestock grazing.

TRPA Response: Comment noted. The preface to Volume II incorporates this comment.

- B-105 (Volume II, BMPs TCS, TSS, RS, IS, and 26-35, 37-40, and 45-46) Both the existing and proposed BMP Handbooks state that use of BMPs will provide reasonable assurance of compliance with water quality discharge standards. The Regional Board knows of no body of data which indicates that any of these BMPs do or do not provide compliance with specific standards or effluent limitations.

TRPA Response: The final plan does not include these statements. Compliance with water quality discharge standards can only be determined on a site-by-site basis.

- B-106 (Volume II, BMP 7) The BMP on dust control should address the acceptability of the use of chemicals for dust control.

TRPA Response: The final text of the BMP addresses this comment. TRPA generally does not recommend chemicals for dust control because most of the chemicals make the soil water repellent and may interfere with revegetation.

- B-107 (Volume II, BMPs 11 and 12) Diagrams would be useful to clarify the intent of these BMPs. The configuration of hay bales or sandbags around a drop inlet is difficult to visualize from the narrative.

TRPA Response: Comment noted. Not all the diagrams and illustrations are in place at this time. As they are developed, TRPA will add diagrams and illustrations for each BMP, as appropriate.

- B-108 (Volume II, BMP 14) The Handbook says that the use of siltation berms has very little application in the Tahoe Basin and is usually not recommended. If so, why is it included?

TRPA Response: There are rare occasions when that technique might be used. By addressing it, TRPA is able to describe its limitations.

B-109 (Volume II, BMP 35) The installation details for sedimentation basins leave no flexibility for design engineers. Unless there is a compelling need for uniformity in all sediment basins, only essential details and design criteria should be included here.

TRPA Response: The final text of the BMP addresses this comment under planning criteria 16. The BMP addresses various designs. Installation details provide guidelines and allow flexibility.

B-110 (Volume II, BMP 38) The Handbook says that the use of filter fabric behind gabion walls is not recommended. Where flowing water will occur at the base of a gabion wall, as in streambank or lakeshore protection, filter fabric must be used to ensure that fines do not wash out behind the gabions.

TRPA Response: The final text of the BMP reflects this comment.

B-111 (Volume II, BMP 41) The Handbook states that shaping and terraces are not effective in most soils in the Tahoe Basin. If so, why are they listed?

TRPA Response: See Response to Comment B-108.

B-112 (Volume II, BMP IS, p. V-25) The design storm for infiltration facilities is given as the 20-year, 1-hour storm, which is consistent with Regional Board practice. However, the design storm which has been used by the Regional Board is 1.0 inches/hour, not 0.75 as stated in the Handbook. While Regional Board staff recognize that precipitation may be lower on the Nevada side of the Basin, the design storm for the north, west, and south shores in California should be 1.0 inches/hour.

TRPA Response: The final text of the BMP addresses this comment. The reference to 0.75 inches/hour is deleted to avoid confusion.

B-113 (Volume II, BMP 45) The Handbook uses "infiltration trench" to refer to dripline trenches or trenches into which parking runoff flows directly. The Regional Board also uses this term for trenches which receive stormwater after it has passed through sediment and grease traps, drop inlets, and perforated pipe placed the length of the trench. The revised Handbook defines such trenches separately in BMP 47, French Drain.

TRPA Response: Comment noted.

B-114 (Volume II, BMP 45) One of the disadvantages listed for infiltration trenches is that failure of structures can occur due to storm intensities greater than the design storm. How could this occur?

TRPA Response: The term "failure" means the facility no longer functions to infiltrate the runoff. If the capacity is exceeded, infiltration facilities will allow water to run overland.

B-115 (Volume II, BMP 45) The Handbook states that infiltration facilities need to be maintained, but no information is given on how to evaluate the need for maintenance. As a practical measure, ineffective infiltration facilities are not now required to be replaced by any agency. If the facilities may need to be restored or replaced every five years, the Handbook should give details regarding inspection, evaluation, and replacement procedures.

TRPA Response: The final text of the BMP addresses this comment.

B-116 (Volume II, BMP 56) One of the advantages of check dams is said to be reduction of "parking" of runoff. Should this be "peaking"?

TRPA Response: The term is "peaking." The final text incorporates this correction.

B-117 (Volume II, BMP 59) Mountain alder is inaccurately listed as a conifer.

TRPA Response: The final plan corrects this error.

B-118 (Volume II, BMP 63) The irrigation BMP should recognize the legal limits on consumptive water use in the Tahoe Basin and should encourage water conservation.

TRPA Response: At this time, there are no legal limits on consumptive water use in the Tahoe Basin, due to the failure of the U.S. Congress to ratify the 1969 Interstate Water Compact. Nevertheless, the final plan incorporates criteria encouraging water conservation in BMP 63. Over-irrigation can not only cause erosion, but also cause leaching of soil nutrients into surface and groundwaters.

B-119 (Volume II, BMP 70) The Handbook discusses dredging in terms of maintenance dredging, but does not address dredging for the construction of expansion of marinas, which could have more drastic impacts on water quality. The Regional Board's dredging policy is not an ordinance, but may eventually be incorporated into the North Lahontan Basin Plan. It should be noted that this policy defines "clean sand" for use in beach replenishment when dredged material is proposed to be used for that purpose.

TRPA Response: TRPA recognizes the potential impacts of dredging for construction, but there are no BMPs yet written for that activity. Instead, specific measures are developed and required for each case. The balance of the comment is noted.

B-120 (Volume II, BMP 73) The Road Salt Storage Practices BMP should be retitled, since it also includes application.

TRPA Response: The final plan incorporates this suggestion.

B-121 (Volume II) The Handbook should also address the clearing of roadside drainage areas along streets and highways without curbs. Annual use of a grader to clear drainageways often removes material from the toes of slopes and ensures continual erosion. This problem has been acknowledged by several public works agencies and is one of the primary justifications for installation of curbs and gutters.

TRPA Response: There is no BMP available at this time. TRPA will meet with road maintenance organizations to develop improved practices. This may result in a BMP for inclusion later.

B-122 (Volume III) The draft SEZ restoration program includes a number of projects which are essentially an addition of drainage control facilities to roadside areas, sometimes with the planting of riparian vegetation. There is no indication that such projects will result in naturally functioning SEZs, which appears to be the objective of the restoration threshold standard.

TRPA Response: Drainage controls are necessary in some areas where development has short-circuited the natural hydrologic system. The intent of the SEZ restoration program is to offset those factors that cause short-circuiting. Revegetation with appropriate species will accomplish nutrient uptake.

- B-123 (Volume III) The SEZ restoration program includes only about half the acreage needed to meet TRPA's threshold. It is not clear whether the needed additional acreage can feasibly be acquired and restored. The plan also needs to recognize that alternate restoration projects may need to be substituted for other projects (e.g., Tahoe City golf course).

TRPA Response: See the Responsiveness Summary, Issue No. 3, Adequacy of the SEZ Restoration Program. See also the discussion of threshold attainment in Volume III.

- B-124 (Volume III) The introduction should discuss the integration of SEZ restoration goals with other programs such as regulation of livestock grazing and confinement, and waterfowl and stream habitat restoration.

TRPA Response: The final plan includes an expanded discussion of SEZ restoration goals.

- B-125 (Volume III) The SEZ restoration program needs to emphasize that areas where restoration to natural conditions may not be economically feasible (e.g., the South Wye industrial area) still need retrofit of BMPs to minimize water quality impacts.

TRPA Response: Comment noted. The final 208 plan incorporates this suggestion.

- B-126 (Volume III) The summary of SEZ acreage to be restored should recognize the possibility of additional long-range disturbance for public recreation projects (e.g., Washoe Meadows State Park, California Tahoe Conservancy Projects) which was not foreseen when the survey for this volume was conducted. The plan should also recognize the possible need for additional restoration or repair of partially established restoration projects, in the event of damage by flooding, fire, or off-road vehicles.

TRPA Response: Any additional SEZ disturbance permitted will be required to mitigate the impacts by restoring other SEZs at a ratio of 1.5:1. No adjustment in the restoration program is required. The possibility of additional restoration for the reasons mentioned will be addressed by TRPA during its periodic evaluations of progress toward meeting thresholds.

- B-127 (Volume III, p. 17) Does the estimate of private SEZ land needing restoration include parcels which have been acquired by public agencies since the Threshold Study Report?

TRPA Response: Yes. Public agencies such as the California Tahoe Conservancy and the USFS are continuously acquiring parcels containing SEZs.



B-128 (Volume III, p. 25) The discussion of man-modified criteria needs to be elaborated to reflect TRPA staff's recent criteria for interpretation of the ordinance provisions. Discussions at the Advisory Planning Commission on the proposed Tahoe City soils remapping indicate there is confusion about the difference between disturbed ("man-altered") lands and lands which have been so completely changed that restoration is unfeasible.

TRPA Response: See the response to comment B-40.

B-129 (Volume III, p. 32) Section C does not mention the U.S. Forest Service and California Tahoe Conservancy as agencies with the ability to fund SEZ restoration.

TRPA Response: The final plan includes an expanded discussion of sources of SEZ restoration funding.

B-130 (Volume III) Does TRPA intend to implement the recommendations on the page entitled "SEZ Restoration Projects for Meadow Areas, South Shore" immediately, or wait for public acquisition of these areas?

TRPA Response: Implementation of these recommendations does not necessarily depend upon public acquisition of these lands.

B-131 (Volume III, Project PA 118) Since the Sawmill Pond project has been completed, it should be deleted from the list of work to be done, and used in the introduction to Volume III or the main plan text (Volume I) as an example of what is possible.

TRPA Response: Since the Sawmill Pond project was implemented subsequent to the adoption of the threshold calling for restoration of SEZs, TRPA credits the project against attainment of the threshold. The project description makes it clear that the project has been completed. The Sawmill Pond project is indeed a good example of what is possible.

B-132 (Volume III, Project PA 106W) The description of work proposed for Cold Creek upstream of Lake Christopher indicates that previous restoration work has been ineffective. The project appears to duplicate erosion control work funded by the California State Assistance Program in 1985. Regional Board staff have no evidence this project has been ineffective; it appears generally to be successful. Portions of the revegetation attempted on steep slopes failed to establish, and some steep sideslope channel improvements failed. The latter will need to be repaired or replaced in accordance with the 20-year maintenance agreement in the State Assistance Grant contract.

TRPA Response: The final text of the project description incorporates this comment. STPUD has proposed a project for construction in 1989 to stabilize the failures.

B-133 (Volume IV) As currently proposed, the CIP priority system would establish separate lists of projects in each local jurisdiction and allow flexibility to local governments in choosing from the list. This is in contrast to the 1981 plan which classifies priority groups of projects by type and cost effectiveness in preventing erosion. The EIS for the 1981 plan estimated that 52 percent of the sediment problems could be addressed within the first five years of the 20-year program beginning in 1981, at about 28 percent of the total cost.

The SWRCB plan, and the 1981 208 plan, specified 12 priority groups. The Regional Board has attempt to hold to this priority system in funding erosion control projects. However, most funded projects incorporate features from all 12 priority groups. It has proven difficult to generate projects which exclusively or primarily address priority class 1 (revegetation of denuded areas) because such areas are largely in private ownership and not under the control of normal grant recipients--local governments and utility districts.

The California Tahoe Conservancy's CIP list, which forms the basis of the project list in Volume IV, includes projects formulated by normal grant recipients. Because of this, it is limited generally to projects which will have ancillary benefits (storm drainage, roadway improvements, and reduction of roadway maintenance costs). It does not identify significant large areas capable of being revegetated.

Revegetation of large denuded areas remains the most cost effective type of erosion control work, providing large reductions in sediment for the lowest cost. Because of the needs to control organic nitrogen and phosphorus loading, Regional Board staff continue to believe that sediment reduction is very important. The impracticality of revegetating such areas through grant programs such as those currently being used underscores the need for mandatory retrofit of BMPs on private lands. TRPA should consider use of the 1981 priority classes as a tool for beginning to require retrofit under Code Chapter 9. TRPA has expressed dissatisfaction with the cost effectiveness calculations used in assigning SWRCB and Conservancy priorities. If they have a better system, it should be presented in the final draft CIP volume. Because of the large public costs projected, cost-effectiveness is of the utmost importance.

TRPA Response: See the Responsiveness Summary, Issue No. 5, Watershed Improvement Priorities.

B-134 (Volume IV) The CIP volume should explain how priorities might change if progress toward threshold attainment is not made as expected.

TRPA Response: If progress toward threshold attainment is not made as expected, TRPA will make adjustments in the Regional Plan pursuant to the requirements of Chapter 32 of the TRPA Code of Ordinances. The relationship between Chapter 32 and the 208 amendments is set forth in Volume I, Section I, Chapter VII.

B-135 (Volume IV) The cost estimates for the CIP do not appear to include contingency funds for the replacement of failed BMPs or for unforeseen new problems such as mudslides, avalanches, and damage to roadsides by maintenance crews.

TRPA Response: The cost estimates do not include the costs of contingencies. See the Responsiveness Summary, Issue No. 10, Capital Improvements Program Funding.

B-136 (Volume IV) Will the CIP be able to rely on erosion control funds from the Burton-Santini and Conservancy Buyout programs after maximum feasible buyout has been achieved? When is this projected to occur?

TRPA Response: See the Responsiveness Summary, Issue No. 10, Capital Improvements Program Funding.

B-137 (Volume IV) The CIP's discussion of potential funding sources is limited compared to that in the SWRCB plan. The SWRCB discussion could be updated, but all of the funding sources discussed there which are still reasonably feasible should be considered for the revised CIP.

TRPA Response: See the Responsiveness Summary, Issue No. 10, Capital Improvements Program Funding.

B-138 (Volume IV) The CIP's problem inventory is organized by Plan Area Statements. Several plan areas include the statement that no needs were identified in that area. This should be clarified to mean "no public right of way improvement needs." Some publicly owned areas labelled no needs, such as the South Lake Tahoe airport and the Heavenly Valley ski area, certainly have erosion problems needing correction.

TRPA Response: The final plan incorporates this clarification in Volume IV.

B-139 (Volume IV) The discussion of possible prioritization of CIP projects based on location in watersheds of the eight streams which account for 67 percent of the tributary stream inflow to Lake Tahoe fails to point out that six of these streams are largely on public lands, and four of them require little CIP work.

TRPA Response: See the Responsiveness Summary, Issue No. 5, Watershed Improvement Priorities.

- B-140 (Volume IV) The CIP relies to some extent on TRPA mitigation funds. It is not clear whether CIP cost estimates include funding for ongoing maintenance of BMPs. Since part of the mitigation funds are already being allocated for maintenance, the estimates of mitigation funds available for project construction may need to be adjusted.

TRPA Response: See the Responsiveness Summary, Issue No. 10, Capital Improvements Program Funding.

- B-141 (Volume IV, Table 1) The Caltrans project list includes some projects incorporating necessary highway repair and cleanup of slides. Does this list also include pavement overlays, and work to upgrade highways to statewide standards in conjunction with erosion control work? If so, the CIP cost should reflect only the necessary erosion control portion of the improvements.

TRPA Response: The CIP costs includes only water-quality related costs.

- B-142 (Volume IV, Table 1) The El Dorado County Upper Truckee River project (\$57,000) was not constructed in 1987 as shown on Table 1. It is planned to be constructed in 1988.

TRPA Response: The final plan incorporates this correction.

- B-143 (Volume VII) The introduction to the Technical Appendix explains that soft coverage was not adjusted upwards from the 1983 estimate. This does not account for more recent off-road vehicle coverage; gradual new disturbance associated with existing development, snow removal, and road maintenance; landslides, avalanches, shoreline and streambank erosion; and incomplete revegetation of logged areas.

TRPA Response: The estimate of soft coverage in the Region was not adjusted from the 1983 estimate. Although this comment notes factors which could have increased soft coverage, other factors--including public and private restoration efforts--have decreased soft coverage. The estimate is approximate.

- B-144 (Volume VII) The Technical Appendix includes TRPA's five-year lists of projected public service and recreation projects. The SWRCB plan would not necessarily consider all of the recreation and public service projects eligible for exemptions from discharge prohibitions. Not all of the latter involve public health and safety. This could affect coverage projections under Alternative 2.

TRPA Response: Comment noted.

B-145 (Volume VII) Coverage estimates in the Technical Appendix assume no new coverage for transportation facilities under Alternative 2. However, the SWRCB plan does permit exemptions for transportation projects necessary to implement the 1979 air quality plan, such as transit facilities and bike trails, and does permit road construction for public health and safety. The latter rationale was used for the South Lake Tahoe "loop road."

TRPA Response: As defined in Volume I, Section II, the no-action alternative does not include the construction of new highway alignments or mass transit improvements. See also the response to comment C-44.

B-146 (Volume VII) The public service and recreation lists in the Technical Appendix are projections for five years, and do not necessarily reflect all projects which could be proposed within the 20-year lifetime of the plan. Not all projects on the lists will necessarily result in new coverage.

TRPA Response: Comment noted.

California State Water Resources Control Board -- Division of Water Quality

- C-1 State Board staff believes that the review period allowed to date has been inadequate due to limited availability of draft documents, incomplete technical addenda, and the lack of time for coordination among the involved agencies. As it is preferred that concerns of the State Board and the California Regional Water Quality Control Board, Lahontan Region be resolved prior to TRPA adoption and submittal for certification, we strongly urge extension of the review period to September 15, 1988.

TRPA Response: The draft 208 plan has been available for review since June 10, 1988. Copies of the document were sent to both state clearinghouses and were available for review at TRPA's offices. Copies of the document have been available upon request. The technical appendices have been available for review at TRPA's offices since June 10, 1988 and copies have been available upon request.

The review period required by the federal regulations (40 CFR 25.5) is 45 days. TRPA circulated the draft 208 plan, which included an environmental impact statement prepared in accordance with Article VII of the Compact, for a period of 60 days. TRPA did extend the review period on the 208 plan until October 26-27, 1988.

TRPA has coordinated with involved agencies throughout the 208 plan process. Numerous scoping meetings were held with the Lahontan Regional Board committee and other invited agencies, including the SWRCB, EPA, NDEP, the California Attorney General's office and local environmental and property owner organizations. TRPA has continued to conduct coordinated meetings with involved agencies since the circulation of the draft 208 plan. At least six such meetings were held, in addition to numerous public hearings before the TRPA Governing Board and APC.

- C-2 The deterioration of Lake Tahoe's water quality must not only be halted, but reversed, in order to achieve applicable water quality standards and TRPA environmental thresholds. Due to the lack of information in the plan, the draft plan and the environmental document do not provide sufficient information to ensure that the water quality standards, including State Board Resolution No. 68-16, and environmental thresholds will be met. Adequate evidence is not provided in the draft plan and environmental document to properly evaluate the programs which are proposed to replace those in the existing plan.

TRPA Response: See the Responsiveness Summary, Issue No. 4, Attainment and Maintenance of TRPA Water Quality Thresholds and State Water Quality Standards.

- C-3 The Stream Environment Zone (SEZ) restoration program is still not complete. The program is not in place, there is no estimation of costs, and no priority list of restoration projects exists.

TRPA Response: See the Responsiveness Summary, Issue No. 3, Adequacy of the SEZ Restoration Program.

- C-4 The definition of SEZs has been revised, such that it no longer protects flood plains (as under the existing plan) unless they are mapped. Only a few flood plains are mapped out of the 64 watersheds in the Tahoe Basin, and only these few would retain general protection in comparison to that currently provided. The draft plan's environmental document fails to assess the amount of encroachment that would result under the proposed plan.

TRPA Response: See the Responsiveness Summary, Issue No. 2, Criteria for Identification of SEZs.

- C-5 The draft Plan includes the use of the Individual Parcel Evaluation System (IPES) for reviewing the sensitivity of single family lots. The IPES list is to be used to allocate building permits. The cutoff line ("IPES line") may be adjusted pending certain factors, but the draft Plan fails to provide criteria to determine when the IPES line adjustment occurs. Among the areas needing clarification area:

- The draft Plan states that a monitoring program must be in place, but the Plan does not indicate how the monitoring results are to be used.
- The draft Plan states that "demonstrable progress" must be made on capital improvement projects, but the term "demonstrable progress" is not defined.
- The draft Plan states that a "satisfactory" level of compliance with conditions on project approval is required, but no definition of "satisfactory" compliance is provided.

TRPA Response: See the Responsiveness Summary, Issue No. 1, Criteria for Movement of the IPES Line.

- C-6 The draft plan relies heavily on the Capital Improvement Program (CIP) for mitigation, but the draft plan lacks an adequate financial element explaining how the large funding required to run the CIP will be provided.

TRPA Response: See the Responsiveness Summary, Issue No. 10, Capital Improvements Program Funding.

- C-7 The draft Plan also relies on land coverage transfers but fails to calculate the water quality impacts resulting from coverage transfers in separate watersheds.

TRPA Response: See the Responsiveness Summary, Issue No. 11, Water Quality Impacts of Land Coverage Transfers.

- C-8 The use of a word model in the draft plan to assess effectiveness of the Plan in protecting water quality is not an adequate analysis for a 208 Plan of this importance. The draft plan fails to clearly demonstrate that the draft plan will provide a level of protection equal to or better than the existing plan in place for the Lake Tahoe Basin.

TRPA Response: See the response to comment A-34h. Table 30, Comparison of Impacts: Proposed Action and Alternatives, summarizes the findings of the analysis of environmental impacts, which shows that the proposed amendments provide a better level of protection than the 1981 208 plan.

- C-9 (Volume I, Section I, p. III-15) Legislation enacted in 1988 prohibits use of tributyl tin paints, except on aluminum vessel hulls and vessels 25 meters or more in length. Vessels painted with tributyl tin before January 1, 1988 may still be used, but not repainted with tributyl tin, so long as they comply with any other applicable requirements. As vessels painted with tributyl tin before 1988 will still be in use, Best Management Practices (BMPs) are needed to prevent boat scrapings from polluting.

TRPA Response: The final plan clarifies the California prohibitions on the use of tributyl tin paints in Volume I, Section I, Chapter III. The final plan includes a Best Management Practice for marina and boat maintenance practices in Volume II. The BMP incorporates the California rules regarding tributyl tin (TBT). Note that the U.S. EPA has also banned the use of TBT on non-aluminum hulls of vessels less than 82 feet in length and limited the release rate from other hulls to 0.4 micrograms per sq. cm. per day.

- C-10 (Volume I, Section I, p. III-15) There should be some discussion of threats to prime fish aquatic habitat and to significant spawning areas.

TRPA Response: The final plan includes discussion of threats to fish habitat in the problem assessment related to dredging and construction in Lake Tahoe, Volume I, Section I, Chapter III.



- C-11 (Volume I, Section I, p. IV-1) The 1981 208 plan called for a regulatory program for enforcement of best management practices and remedial erosion control. As a condition of certification, the State Board required that TRPA adopt the proposed regulatory program, and submit it to the State Board for certification. U.S. Environmental Protection Agency (EPA) imposed similar conditions. The proposed 208 plan does not explain TRPA's decision to propose a voluntary program instead of proposing a program consistent with the conditions of certification.

TRPA Response: See the Responsiveness Summary, Issue No. 12, Regulatory Aspects of the BMP Implementation Program.

- C-12 (Volume I, Section I) In Chapter V, the progress of Caltrans, Nevada Department of Transportation (NDOT), and local governments with respect to construction of remedial erosion control projects is reviewed. On the California side, where the Regional Board has a regulatory program, progress has been far greater than on the Nevada side, where TRPA enforces no comparable controls. The contrast is particularly striking when Caltrans and NDOT are compared. Caltrans is on schedule without having received any erosion control grants.

TRPA Response: Caltrans' record on installation of erosion controls is very good. However, only in one instance (the South Tahoe Wye project) did Caltrans install erosion control as the result of regulatory action; that action was taken by the Lahontan Board. The extensive Caltrans erosion control work on California 89 at Luther Pass and on the West Shore has been voluntary. Caltrans programs erosion control funds for the state highway system within the Tahoe Region through the STIP process in California.

C-13 (Volume I, Section I, p. IV-9) In 1981, the State Board denied certification for that portion of the TRPA 208 plan which permitted development of sensitive lands, as identified by the land capability circumstances, after case-by-case review of the site. The State Board stated that it could approve TRPA's program only if TRPA can demonstrate that it is consistent with water quality objectives. EPA approved the program, but added a condition requiring TRPA to cease use of the case-by-case program after November 30, 1982 unless TRPA provided a demonstration that the program was consistent with water quality objectives. EPA noted that TRPA's own environmental analysis acknowledged that construction allowed in excess of land capability limitations could cumulatively contribute to disturbance of natural aquatic and terrestrial ecosystems which may not be consistent with the environmental thresholds.

Like the case-by-case review program, the Individual Parcel Evaluation System (IPES) program allows construction on environmentally sensitive lands in excess of land capability limitations. The IPES program shares other features with the case-by-case review program, including reliance on mitigation to allow development of specific parcels. The requirement for a demonstration of consistency with water quality objectives is as much applicable to the IPES system as for case-by-case review. TRPA has not provided the necessary demonstration.

It may be difficult to make a demonstration at this time. The draft 208 Plan indicates that TRPA will not complete its evaluation and ranking until December, 1988. Until then it will be difficult to evaluate the effectiveness of the ranking. More important, it will be impossible to evaluate the effectiveness of the program until it is determined what the cutoff level will be. Depending on what cutoff level is established, the IPES system could be more effective, or far less effective, than the land capability system.

TRPA Response: See the response to comment B-6a.

C-14 The IPES system also includes a provision that the cutoff level shall be lowered on annual basis if certain conditions are met. These conditions do not include a requirement of any demonstrations that the parcels allowed to develop can be developed consistent with water quality objectives. Nor is there any requirement that there be adequate water supply or sewage treatment capacity to serve the parcels already in the top rank. This provision is inconsistent with the conditions imposed by the State Board and EPA as part of 208 plan certification in 1981.

TRPA Response: The analysis of environmental impacts of the 208 amendments in Volume I demonstrates that parcels allowed to be developed for single-family homes under IPES can be developed consistent with water quality objectives. IPES places the most sensitive parcels at the bottom of the ranking and, because of the safeguards in effect on lowering the line, as listed in Volume I, Section I, Chapter IV, only a fraction of those can ever become eligible for building. Under the TRPA Code of Ordinances, no act of development may occur unless there is adequate water supply and sewage treatment capacity to serve that development. This 208 plan also incorporates this rule.

- C-15 (Volume I, Section I, p. IV-17) The transfer of coverage program allows transfers across watershed boundaries. Concentration of coverage, not just the total amount of coverage, causes erosion and runoff. Removal of coverage from another watershed will not mitigate problems resulting from a concentration of coverage. Also, allowance for transfer of excess "soft coverage" creates a disincentive for revegetation of unvegetated or disturbed areas, since transfer rights may be sold if the problem is not corrected.

TRPA Response: See the Responsiveness Summary, Issue No. 11, Water Quality Impacts of Land Coverage Transfers.

- C-16 (Volume I, Section I, p. IV-19) The redefinition of Stream Environment Zones (SEZ) is a deviation from land capability which cannot be approved absent a demonstration of consistency with water quality objectives. The new 208 Plan excludes areas which ordinarily would be considered SEZs:

- a. Only the designated flood plain is now considered SEZ. It is curious that while both the land capability system as previously applied and the IPES system have mechanisms, through site verification or land capability challenges, to correct inaccurate maps, the new SEZ delineation has the map prevail even where it is clearly in error.

TRPA Response: See the Responsiveness Summary, Issue No. 2, Criteria for Identification of SEZs.

- b. Filled lands are not considered alluvial soils.

TRPA Response: Filled lands are not alluvial soils. See Rogers, 1974, p. 14.

- c. Lands which have certain other alluvial soils or riparian vegetation may not be considered SEZs unless other indicators (including a designated flood plain) are present. Of particular concern is the fact that some types of vegetation which unquestionably constitute wetland vegetation are considered only secondary indicators of stream environment zones.

TRPA Response: Types of vegetation which unquestionably constitute wetland vegetation are key indicators of the presence of an SEZ under the 208 amendments. Types of vegetation which may or may not indicate the presence of an SEZ are secondary indicators, and require other evidence of the presence of an SEZ before an SEZ is identified. See Volume III, Chapter IV and the response to comment F-59.

- C-16 d. The buffer strip is narrower (although in some cases it may be as large or larger because it begins at the edge of other areas part of the SEZ).

TRPA Response: The 1981 208 plan includes minimum buffer zones in the definition of an SEZ, measured from the channel. The 208 amendments do not include buffer zones within the SEZ, but require setbacks from the edge of all SEZs. See the Responsiveness Summary, Issue No. 2, Criteria for Identification of SEZs. See also Volume III, Chapter IV.

- C-17 The requirement that three out of four secondary indicators be present could present serious problems. What if an indicator would normally be present, but is not present at the time of site inspection due to unusual circumstances such as site disturbance or drought?

TRPA Response: TRPA uses experts in the fields of hydrology and soil science to make determinations of the presence or absence of SEZs. These persons are trained to make these determinations taking into account short-term climatic fluctuations.

- C-18 (Volume I, Section I, p. IV-32) A policy statement that TRPA will cooperate in the preparation of a hazardous spill control plan accomplishes nothing. What is needed is a specific schedule for preparation and adoption of the Plan.

TRPA Response: See the response to comment A-29.

- C-19 (Volume I, Section I, p. IV-38) In 1981, the State Board required a regulatory program for implementation of best management practices on forest lands. The 208 plan revisions instead provide a voluntary program.

TRPA Response: See the Responsiveness Summary, Issue No. 12, Regulatory Aspects of the BMP Implementation Program.

- C-20 The proposed 208 plan should also specifically address the conditions of certification requiring consideration of modification or relocation of campgrounds in stream environment zones and requiring consideration of problems related to snow grooming at ski areas and ski area expansion.

TRPA Response: See the Responsiveness Summary, Issue No. 8, Changes to the BMP Handbook.

- C-21 (Volume I, Section I, p. IV-44) The need for additional pumpout facilities has long been recognized, but little progress has been made. A regulatory program should be actively implemented. Recent amendments to Section 776 of the Harbors and Navigation Code allow the Regional Board to require pumpout facilities. A regulatory program, with implementation by TRPA, the Lahontan Regional Board, or both should be established as part of the 208 plan. It is particularly important to require installation of the needed facilities in the STPUD service area now, while a limited amount of capacity, reserved for changes in use, is still available.

TRPA Response: See the response to comment A-30.

- C-22 (Volume I, Section I, p. V-1) As a condition of approval of the 1981 plan, EPA required letters of commitment from each identified management agency. See 40 CFR 35.1521-3(c). In some cases, it does not appear that the necessary commitments will be forthcoming. For example, in the absence of state and federal grant funds or any approved local special tax, local governments are unlikely to commit themselves to the transit improvements called for on page IV-28.

In the absence of a proposed regulatory program, it is particularly important to include a commitment and a demonstration of financial capability from each local government that it will construct the necessary remedial erosion control projects. Without this commitment, a regulatory program is essential.

TRPA Response: The federal regulation cited (40 CFR 35.1521-3(c)) has been superseded. The current regulation (40 CFR 130.6(c)(5)) requires the 208 plan to identify agencies necessary to carry out the plan and requires these "management agencies" to "demonstrate the legal, institutional, managerial, and financial capability and specific activities necessary to carry out their responsibilities . . . ." The final plan identifies the legal authorities under which management agencies will implement the 208 plan, and summarizes their implementation capabilities in Volume I, Section I, Chapter V. See also the Responsiveness Summary, Issue No. 10, Capital Improvements Program Funding.

- C-23 (Volume I, Section I, p. V-3) The prohibition against solid waste disposal in the Lake Tahoe hydrological unit is established in the Lake Tahoe Basin Water Quality Control Plan, adopted pursuant to the Porter-Cologne Act.

TRPA Response: The final plan includes this information.

- C-24 (Volume I, Section I, p. V-3) It does not appear that any agency is in fact assuming responsibility for a toxic and hazardous materials spill contingency plan.

TRPA Response: See the response to comment A-29.

- C-25 (Volume I, Section I, p. V-4) California's recently enacted legislation on tributyl tin includes prohibitions against sale of tributyl tin paint, and against sale, rent, or lease of vessels which do not comply with the limitations on use of tributyl tin paint. The Lahontan Regional Board does not have authority to enforce these requirements, although it can ask the District Attorney to prosecute. The Lahontan Regional Board does have authority to regulate discharges of tributyl tin, including ordinary releases from tributyl tin painted boats.

TRPA Response: The final plan includes the clarification that the Lahontan Board's authority is limited to regulation of discharges of anti-fouling coatings.

- C-26 (Volume I, Section I, p. V-4) The reference to Section 303(e) of the Clean Water Act is probably intended to be a reference to Section 401 of the Clean Water Act.

TRPA Response: The final plan incorporates this correction.

- C-27 (Volume I, Section I, p. V-5) The reviews of the various agencies do not provide a demonstration of financial capability. In some cases, past performance is cited, but no indication is given as to whether they are in compliance with the schedule in the 1981 208 plan, let alone whether they have adequate capability to comply with future requirements.

TRPA Response: See the response to comment C-22.

- C-28 (Volume I, Section I, p. V-6) Funding sources for the City of South Lake Tahoe's projects have included mitigation fees, State Assistance Program grants, and Clean Lakes grants. The grant funds are almost exhausted, and mitigation fees may be small because of the lack of capacity for new development at STPUD. There has not been an adequate demonstration of financial capability.

TRPA Response: See the Responsiveness Summary, Issue No. 10, Capital Improvements Program Funding. See also the response to comment C-22.

- C-29 (Volume I, Section I, pp. V-7, 9) As in the case of the City of South Lake Tahoe, the financial capability of El Dorado and Placer Counties should be evaluated based upon reasonable projections as to availability of grant funds.

TRPA Response: See the Responsiveness Summary, Issue No. 10, Capital Improvements Program Funding. See also the response to comment C-22.

- C-30 (Volume I, Section I, p. V-13) The 1981 208 plan established a schedule for completion of remedial erosion control projects by 2001. This plan proposes to extend the schedule until 2008, with no explanation for why the schedule is being extended. Before the schedule is extended, additional measures to get projects back on schedule should be considered, especially since the project construction appears to be on schedule or nearly on schedule in some jurisdictions (Caltrans, the Forest Service, Placer County, and the City of South Lake Tahoe).

TRPA Response: See the Responsiveness Summary, Issue No. 10, Capital Improvements Program Funding, and the response to comment B-56.

- C-31 (Volume I, Section I, p. V-13) A schedule for vessel pumpout facilities should be established, with priority given to facilities in the STPUD area.

TRPA Response: See the response to comment A-30.

- C-32 (Volume I, Section II, p. I-1) To certify the TRPA 208 Plan, the State Board will need an environmental document meeting the requirements of the California Environmental Quality Act (CEQA). Although portions of this document provide thorough, objective analyses of environmental impacts, the document also has serious shortcomings. These shortcomings include:

- A lack of alternatives and mitigation measures;
- Growth projections based upon assumptions that bear no relationship to the differences between alternatives; and
- Failure to acknowledge and evaluate adverse impacts which are likely to occur if capital improvements, for which adequate funding has not been developed, are not implemented.

TRPA's stated reason for preparing these 208 plan amendments is to allow for implementation of the IPES system, a change in SEZ definition, and coverage transfers not allowable under the current system. The most useful information which could be provided by an environmental document is to identify the effect of these proposed changes. But TRPA's environmental documentation provides very little useful information on the effect of these changes. A thorough evaluation of the direct (water

quality) impacts of the changes should be but is not provided. The indirect (growth inducing) impacts of the change cannot be determined because the document assumes that--even though the change affects both allowable coverage and the number of lots eligible for development--neither the number of units built nor the amount of coverage per unit will be affected by the proposed change.

TRPA Response: TRPA included three alternatives in the environmental documentation portion of the 208 plan (Volume I, Section II). Article VII of the Compact requires a TRPA EIS to include "alternatives to the proposed project." Likewise, CEQA requires "a range of reasonable alternatives to the project . . . ." (CEQA Guidelines 15126(d)) TRPA concludes that it has evaluated a reasonable range of alternatives in Volume I, Section II. Further, TRPA identified additional mitigation when needed and when not otherwise already included in the 208 plan. (See, for example, Volume I, Section I, SEZ Encroachment.)

As in most EISs, growth projections are always difficult to make and, by their very nature, speculative. TRPA's alternatives evaluated a range of growth projections, from no-growth through land capability limitations on growth. The bases for those growth projections are explained in the discussion on the various alternatives. It is unclear why the comment concludes that "growth projections [are] based upon assumptions that bear no relationship to the differences between alternatives."

TRPA recognizes that the impacts which would result from a failure to timely implement capital improvements are serious. In order to mitigate any potential adverse impacts which may result, TRPA has included a requirement to monitor CIP progress and to take corrective action if the CIP is not being implemented on schedule. In addition, Volume I, Section I, Plan Evaluation and Revision provides that supplemental compliance measures may be needed to address impacts caused by a failure to keep up with the CIP schedule. Inadequate funding is a common problem and TRPA has included more detail in the final 208 plan on how TRPA proposes to obtain the necessary funding.

TRPA has identified the effect of the proposed major changes in Volume I, Section II, Chapter II. TRPA has estimated the effect of IPES on coverage (see Volume I, Section II, Chapter II and Volume VII, Technical Appendix). Further, the 208 plan provides that the amount of coverage possible under IPES shall be consistent with the amount of coverage possible under the Bailey coefficients (Volume I, Section I).

The 208 plan does discuss the number of parcels eligible for development. (See Volume VII, Technical Appendix.) The 208 plan concludes that, based on IPES and the residential allocation system, the number of eligible parcels and the amount of land coverage will not be significantly affected.



- C-33 (Volume I, Section II, p. I-3) The range of alternatives is inadequate. Two of the alternatives, no-growth and no-action, are not true alternatives, but are included as baselines for comparison. The no-action alternative, in particular, does not appear to be a true alternative. It assumes the repeal of programs which have already been adopted by TRPA, are needed to meet environmental thresholds for soil conservation and air quality, and are assumed to be effective under the other alternatives.

Additional alternatives should be proposed, focusing on proposals which avoid or reduce the adverse impacts of the two true alternatives. In particular, it appears that absent the assumption that development will be limited to 6,000 units, both the hybrid and proposed alternatives would allow more development that can be mitigated consistent with TRPA's environmental thresholds. Other alternatives directed toward reducing water quality impacts should be considered, including a true hybrid which combines features of the IPES and land capability rules, combines features of the current and proposed SEZ definitions, and allows coverage transfers but only where VMT reductions can be documented.

TRPA Response: See the Responsiveness Summary, Issue No. 6, Validity of Assumptions in the EIS Regarding Additional Development in the Tahoe Region.

- C-34 (Volume I, Section II, p. I-4) Pursuant to the Water Quality Act of 1987, all storm sewers will need NPDES permits by October 1, 1992. Permits may be required sooner if the State or EPA determine that storm water dischargers are a significant contributor of pollutants. The State of California has already determined that storm water dischargers are significant contributors of pollutants on the California side of the Lake Tahoe hydrologic unit, and EPA has approved of the determination. California has experienced difficulties in issuing NPDES permits because EPA would not approve issuance of general permits by the State--the only practical means of regulating storm sewers--pending reauthorization of the entire NPDES program in California. The process has been very time consuming, primarily because California does not have an approved pretreatment program, which is part of the State's NPDES program. Reauthorization of the State NPDES program may be anticipated within the next year.

In sum, it appears that the proposed 208 Plan amendments are reducing emphasis on NPDES permits just as the State and federal emphasis on the program will be increasing.

TRPA Response: See the response to comment A-28. It is TRPA's understanding that the requirements of the 1987 Water Quality Act regarding NPDES permits for storm sewers apply mainly to large cities.

- C-35 (Volume I, Section II, p. I-10 and Table 17) Table 17 is inconsistent with the description of the no action alternative. In particular, the existing 208 plan, as approved by EPA, includes a regulatory program to require compliance with best management practices. Categories A.1 and A.2 on Table 17 should be indicated by a "yes" for the no-action alternative.

TRPA Response: See the Responsiveness Summary, Issue No. 12, Regulatory Aspects of the BMP Implementation Program. TRPA Ordinance 82-4 (which gave TRPA regulatory authority to require BMPs on lands not otherwise before the TRPA) and its successor, Chapter 9 of the TRPA Code of Ordinances, call for TRPA to take action only where the TRPA has made a specific finding that a water quality problem exists, similar to a nuisance finding in a local-government code. TRPA's Goals and Policies (1986) contain an explicit requirement for installation and maintenance of BMPs on all parcels in the Tahoe Region. TRPA feels Table 17 correctly represents the differences between the alternatives in categories A.1 and A.2.

- C-36 (Volume I, Section II, p. II-5) Projections as to how many units will be built under each alternative are critical, as they determine most of the projected environmental impacts in other areas, including water quality, water supply, and air quality. The assumption that 6,000 units will be built under alternatives 3 and 4, while 9,200 units will be built under alternative 2, undermines the entire document.

The assumptions on numbers of units to be built effectively rules out alternative 2 from consideration, for reasons which have no relation to the merits of the water quality control measures in alternative 2. Transportation and other thresholds will apply regardless of which alternative is selected. It is artificial and misleading to assume that more units will be built under alternative 2 than under alternative 4, even though construction is allowable on more lots under alternative 4.

Assuming that development will be limited to 6,000 units under alternatives 3 and 4 also undermines the environmental analysis of those two alternatives. The result of the assumption is that environmental impacts that are likely to occur under the two alternatives are ignored. If for any reason development actually exceeds 6,000 units, there will be environmental impacts which have not been evaluated. As each alternative would allow development in excess of 6,000 units--alternative 4 apparently would allow 12,000 units--that additional development is highly foreseeable.

If lots which are thought to be developable under applicable land capability rules (be they IPES or Bailey) are barred from development by transportation thresholds, there will be tremendous pressure on TRPA to reinterpret those thresholds so as to allow additional development. Indeed, the proposed 208 plan amendments appear to reflect a similar phenomenon. The IPES system appears to reflect a reinterpretation of the land capability threshold so as to put more lots into the developable category. Failure to evaluate the possible impacts of development in excess of 6,000 lots under alternatives 3 and 4 means that the environmental impacts of the two alternatives have not been adequately evaluated. Similarly, it is not possible to make a meaningful comparison of the two alternatives using this document as a major difference between the two, the amount of development allowable, is ignored.

TRPA Response: See the Responsiveness Summary, Issue No. 6, Validity of Assumptions in the EIS Regarding Additional Development in the Tahoe Region.

- C-37 (Volume I, Section II, p. II-5) The proposed alternative allows new subdivisions in certain circumstances, apparently including settlement of litigation. The extent and impacts of these new subdivisions should be evaluated.

TRPA Response: The proposed alternative prohibits new subdivisions with certain limited exceptions. Settlement of litigation is a potential source of new subdivisions under any 208 plan and the impacts of such subdivisions cannot be evaluated because the circumstances of litigation are unknown and even the existence of litigation is speculative. The impacts of litigation settlements can only be evaluated on a project-by-project basis and in relation to the potential for, and impact of, an adverse decision in the litigation.

The 208 plan does anticipate certain divisions of land, but only where no new development potential is created. Thus, the 208 plan does permit the subdivision of land for cemetery plots and existing development. Such subdivisions do not create physical impacts. Rather they are merely legal changes in the form of ownership. Resubdivision of land has the potential for environmental impacts, but inherent in the concept of resubdivision is the offset of retirement of the existing parcels. The impacts of a resubdivision will have to be evaluated on a site-specific basis and will depend on the sensitivity of the existing subdivision, the number of parcels involved, and the proposed location of the new subdivision.

- C-38 (Volume I, Section II, p. II-12) The comment that "estimates of additional land coverage which would result under this analysis are based on the land use assumptions . . . ." As a result, what is being compared are not the different regulatory approaches under the different alternatives (e.g. Bailey vs. IPES), but the different land use assumptions. As

the assumptions are artificial, and in fact assume less development under the alternative which imposes the least restrictive controls on new coverage, the analysis provides no basis for comparing the different regulatory approaches. As a result the environmental analysis is useless for purpose of evaluating the very changes which TRPA states are its reasons for amending its 208 plan.

TRPA Response: See the Responsiveness Summary, Issue No. 6, Validity of Assumptions in the EIS Regarding Additional Development in the Tahoe Region.

- C-39 (Volume I, Section II, p. II-12) If a regulatory program were implemented, as envisioned by the State Board and EPA when they certified the 1981 plan, it would probably result in application of BMPs sooner than the voluntary program proposed under alternative 4.

TRPA Response: Comment noted. See the Responsiveness Summary, Issue No. 12, Regulatory Aspects of the BMP Implementation Program.

- C-40 (Volume I, Section II, p. II-12) Where an alternative does not meet an environmental threshold, mitigation measures should be proposed to ensure compliance. Otherwise, an entire alternative may be rejected for what is in fact a minor problem. For example, under the 1981 plan, a transfer could be proposed for projects which are allowed to exceed coverage.

TRPA Response: The environmental documentation portion of the 208 plan (Volume I, Section II) discusses three alternatives. Alternative 3 (Hybrid Plan) includes the combination of excess coverage and mitigation by transfer suggested in the comment. It is unreasonable to expect the environmental document to evaluate the infinite permutations which would result from the recombination of regulatory and rehabilitative programs. The alternatives were chosen as illustrative and the reader is encouraged to extrapolate the impacts of other possible alternatives.

- C-41 (Volume I, Section II, p. II-15) Base coverage under the proposed alternative exceeds that allowable under the Bailey system, in that it is based on the IPES score, not the land capability of the lot. The environmental threshold expressly references the Bailey system.

TRPA Response: The system for assigning base allowable land coverage under IPES was recommended, in concept, by the Consensus Building Workshop, to adhere to the intent of the Bailey system while eliminating some of the weaknesses of the Bailey system, such as the large jump in allowable coverage, from 5 to 20 percent, between capability classifications 3 and 4. Given that IPES is a ranking or indexing system, it would not be appropriate to have a sudden jump in allowable

land coverage at any point in the continuum of scores. A parcel rated under IPES of a given land capability may be assigned more, or less, base allowable land coverage than it would have been assigned under the Bailey system. The total potential land coverage represented by the inventory of vacant residential parcels under IPES is no greater than under the Bailey system. Note that the coverage assigned to parcels evaluated under IPES is based not on total IPES score, but on the "hydro-erosion" score resulting only from evaluation of the erosion hazard and runoff potential, the same factors the Bailey Report evaluates.

- C-42 (Volume I, Section II, p. II-15) It apparently is assumed that coverage per unit is exactly the same whether IPES or the Bailey system is used, and whether or not coverage transfers are allowed. The environmental document appears to be assuming the conclusions to the very question it should be evaluating: what will be the effect of use of the different systems?

TRPA Response: TRPA has no reason to believe that the average single-family home constructed under IPES would be larger, or utilize more land coverage, than the average home constructed under the 1981 208 plan. The analysis of environmental impacts in Volume I concludes that the total land coverage resulting from the 208 amendments will be less than would result from implementation of the 1981 plan and less than would result from implementation of the hybrid plan.

- C-43 (Volume I, Section II, p. II-20) To meet the requirements of CEQA, mitigation must be proposed for the adverse impacts of alternatives. For example, mitigation measures should be proposed under the no-action alternative for SEZ encroachment caused by transportation projects in Nevada. (In California, mitigation is already required pursuant to the Lake Tahoe Basin Water Quality Plan.) Similarly, if the no-action alternative fails to meet the threshold for SEZ restoration, addition of an SEZ restoration program should be considered as mitigation.

TRPA Response: There is no specific requirement in CEQA that alternatives include mitigation measures. Rather, the alternative are, in and of themselves, intended to be a form of mitigation. As acknowledged in the response to comment C-40, recombination of the regulatory and rehabilitative programs in the various alternatives creates endless alternatives.

- C-44 The environmental document appears to be internally inconsistent in its evaluation of the no-action alternative. For purposes of SEZ impacts, it assumes that the transportation projects in the Regional Plan will be built. For purposes of transportation and air quality impacts, on the other hand, it assumes the projects won't be built. In fact, such worst case projections are not necessarily inappropriate, so long as all alternatives are treated consistently. For the proposed alternative, however, the environmental document fails to consider the possibility that transportation projects necessary to reduce VMT either won't be built or won't work as well as anticipated. The environmental document also fails to consider the possibility that proposed SEZ projects either won't be built or won't be as effective as anticipated.

TRPA Response: The final plan eliminates the internal inconsistency described. The No-Action alternative does not include the construction of new highway alignments. If VMT reduction strategies or the SEZ restoration program fall short of expectations, Chapter 32 of the TRPA Code of Ordinances requires TRPA to implement supplemental compliance measures or make other adjustments in the Regional Plan to attain and maintain the environmental thresholds. The final 208 plan includes a linkage to the Chapter 32 requirements in Volume I, Section I, Chapter VII, Plan Evaluation and Revision.

- C-45 (Volume I, Section II, p. II-24) After criticizing the defects in the current SEZ definition, the environmental document ignores the problems with the proposed system. For example, the use of incomplete federal flood plain maps, instead of TRPA maps or field verification, is not mentioned. Nor is the fact that some wetlands will not be included in the absence of other secondary indicators mentioned. These problems should be discussed, and alternatives or mitigation measures proposed to assure protection of all areas which should be classified as SEZ.

TRPA Response: See the Responsiveness Summary, Issue No. 2, Criteria for Identification of SEZs.

- C-46 (Volume I, Section II, p. II-24) The 1.5:1 mitigation requirement, while resulting in an increase in wetland acreage, probably does not result in any improvement from a water quality perspective. In testimony before the State Board in recent proceedings concerning wetlands, most of those testifying agreed that replacement of filled wetlands with restored wetlands of equal value ordinarily requires that the restored acreage substantially exceed the filled acreage. A mitigation requirement of 1.5 acres/acre probably amounts to no better than a 1:1 mitigation requirement in terms of wetland value.

TRPA Response: The comment is unsubstantiated by citations or data which support the conclusions. Part of the rationale for the 1.5:1 restoration ratio is that restoration probably would not immediately return a given piece of disturbed SEZ land to a totally natural condition.

- C-47 (Volume I, Section II, p. II-24) Is the SEZ adjacent to the Truckee River tributary to the Truckee River, or does a portion of the surface and ground water in the SEZ reach Lake Tahoe? The Truckee River has not been identified as an outstanding natural resource water; changes in the Truckee River watershed may be acceptable which would not be acceptable in the Lake Tahoe watershed.

TRPA Response: The TRPA Regional Plan package, and the proposed 208 amendments, apply equally to all portions of the Tahoe Region defined in the Tahoe Regional Planning Compact, including the portion of the Region tributary to the Truckee River.

- C-48 (Volume I, Section II, p. II-25) An effort should be made to provide a better indication of the acreage within the current and proposed SEZ definitions.

TRPA Response: See the Responsiveness Summary, Issue No. 2, Criteria for Identification of SEZs.

- C-49 (Volume I, Section II, p. II-35) If the no-action alternative will not meet transportation and air quality thresholds, mitigation measures, or a modification of the alternative, should be proposed.

TRPA Response: See the responses to comments C-40 and C-43.

- C-50 (Volume I, Section II, p. II-36) The analyses of the hybrid and proposed alternatives fail to take into account the possibility that more than 6,000 units will be built, and that some of the proposed transportation improvements either won't find funding or won't be as effective as anticipated. As a consequence, the environmental document fails to consider significant adverse impacts that are likely to occur. CEQA requires that adverse impacts be considered and alternatives and mitigation measures incorporated where feasible to avoid or reduce those impacts. This document instead avoids consideration of adverse impacts through use of optimistic assumptions.

TRPA Response: See the Responsiveness Summary, Issue No. 6, Validity of Assumptions in the EIS Regarding Additional Development in the Tahoe Region.

- C-51 (Volume I, Section II, p. II-36) Given that final redevelopment plans have not been prepared, and funding will prove hard to obtain, the estimate of a 40,000 to 60,000 reduction in VMT as a result of community planning and redevelopment is highly speculative. The environmental document should consider two other possibilities: 1) that there will be only modest changes from the existing development pattern, with little or no reduction in VMT; and 2) that high quality redevelopment attracts more tourists to the Region, substantially reducing the VMT reduction that would otherwise result from better land use.

TRPA Response: Those are legitimate possibilities, but TRPA believes the estimate used is the most likely.

- C-52 (Volume I, Section II, p. II-41) California has recently reduced its ozone standard. As TRPA must attain state standards, the effect of each alternative on compliance with the new standard should be evaluated.

TRPA Response: California has changed its ozone standard from 0.10 ppm (1-hour average, not to be equalled or exceeded) to 0.09 ppm (1-hour average, not to be exceeded). Because the CARB measures and reports ozone concentrations in hundredths, the effect is not change in the number of violations that would be reported. It is a technical change only.

- C-53 (Volume I, Section II, p. II-44) As in the case of transportation, the air quality analysis is based on optimistic assumptions, without consideration of what will happen if the assumptions prove too optimistic.

TRPA Response: See the response to comment C-44.

- C-54 (Volume I, Section II, p. II-46) As a result of the assumptions made in the environmental document, the water quality section provides very little basis for comparing alternative control strategies. The differences in impacts stem almost entirely from underlying assumptions which are unrelated to the issues of whether the 208 plan should include IPES, a change in SEZ definition, and coverage transfers. The effects of inconsistent assumptions concerning limits on total development imposed by transportation thresholds (assumed under alternatives 3 and 4 but not under alternative 2), and whether transportation improvements and SEZ restoration are included (assumed under alternatives 1, 3, and 4 but not alternative 2) appear to be all that is being evaluated.

TRPA Response: See the Responsiveness Summary, Issue No. 6, Validity of Assumptions in the EIS Regarding Additional Development in the Tahoe Region.

- C-55 (Volume I, Section II, p. II-46) California's policy is properly referred to as the Statement of Policy With Respect to Maintaining High Quality of Waters in California, or as State Board Resolution No. 68-16. It does not use the word "nondegradation." For waters of the United States, the State policy incorporates the federal "antidegradation policy," which is now codified at 40 CFR Section 131.12.

TRPA Response: The final plan incorporates this correction.

- C-56 (Volume I, Section II, p. II-50) EPA has approved the Lake Tahoe Basin Water Quality Plan under Sections 303(c) (water quality standards), 303(d) (waste load allocations), and 303(e) (implementation plans). The Water Quality Control Plan for the North Lahontan Basin has also been approved pursuant to Sections 303(c) and 303(e).

TRPA Response: The final plan refers to section 303 of the Clean Water Act.



- C-57 (Volume I, Section II, p. II-50) Average land capability as well as average IPES score of potential development should be evaluated. Using only IPES as the indicator of erosion hazard assumes the conclusion to the very question TRPA's environmental document should be evaluating: how effective is IPES as compared to land capability?

TRPA Response: The final plan includes additional analysis of the distribution of IPES scores by land capability district (both mapped and field-verified), and additional analysis of the distribution of parcels in various land capability districts relative to the initial IPES line. For development of single-family homes, TRPA does not consider land capability to be an adequate representation of sensitivity to development. This was a major factor in the decision to develop and implement IPES, which decision was concurred in by all members of the Consensus Building Workshop, including the Attorney General of the State of California and a member of the Lahontan Board, and which was one of the bases for the settlement of Regional Plan-related litigation brought against TRPA by the Attorney General and the League to Save Lake Tahoe.

- C-58 (Volume I, Section II, p. II-60) As conditions of approval of the 1981 208 plan, the State Board and EPA required a regulatory program to enforce BMPs.

TRPA Response: See the Responsiveness Summary, Issue No. 12, Regulatory Aspects of the BMP Implementation Program.

- C-59 (Volume I, Section II, p. II-64) Why are there no simulations for the Tahoma and Incline Village areas for the hybrid plan? Considering that the proposed amendments do not perform significantly better than the no action alternative, despite the assumption that more units will be built under the no-action alternative, and the no-growth alternative performs substantially better than either, it appears that the hybrid plan would perform better than the proposed alternative.

TRPA Response: The Tahoma and Incline Village simulations originally appeared in the FEIS: Plan Area Statements and Implementing Ordinances of the Regional Plan (TRPA, 1987), which did not include a hybrid alternative. For the simulations, TRPA assumed that the no-action alternative and the proposed action would result in development of all land capability 4-7 parcels, and that the proposed action would also result in development of 20 percent of the land capability 1-3 parcels in Tahoma and 33 percent of the the land capability 1-3 parcels in Incline Village. These assumptions and additional assumptions regarding commercial and public service development and excess coverage mitigation are documented in the Technical Appendix to the 1987 FEIS. The simulations show that the no-action alternative and the proposed action have very similar impacts on water quality. TRPA concludes that the hybrid plan, which is similar to both the no-action alternative and the proposed action, would also have very similar impacts.

C-60 (Volume I, Section II, pp. II-67, 68) The environmental document appears to assume that IPES is a perfect measure of erosion hazard. If one starts with that assumption, it should not be surprising that the proposed alternative compares favorably with other alternatives not based on IPES (what is surprising is that despite that favorable assumption, the projected effect of the proposed alternative does not score significantly better than the hybrid alternative). A more reasonable assumption would be that neither the Bailey system nor IPES is a perfect measure, and evaluating both IPES scores and average land capability scores of developable parcels would provide more complete information for comparison of alternatives.

TRPA Response: There is no perfect measure of erosion hazard of an unimproved residential parcel in the Tahoe Region, nor is erosion hazard the only determinant of sensitivity to development. (Consider, for example, runoff potential and ease of access.) IPES, which considers seven important variables, is a more objective and scientific system for evaluating the sensitivity of a given parcel to development of a single-family home. At the time TRPA adopted the Bailey system as the means of regulating development of single-family homes, it did not have the benefit of on-site field evaluations of over 12,000 individual parcels, which it now has. The Bailey system was based on the best information TRPA had at the time, but TRPA now has more detailed and complete information at its disposal. This comment does not recommend an alternative model for evaluation of sensitivity.

C-61 (Volume I, Section II, p. II-69) As the alternatives prohibit non-residential construction on land capability 1-3 lands, and coverage transfers under the proposed alternatives are allowed to 4-7 lands, there is no basis for the statement that coverage transfers direct new coverage to high capability lands. With or without coverage transfers, new development will be directed to 4-7 lands. Also, while concentrating land use and reducing VMT may have other benefits, the claim that they will reduce drainage densities is not supported.

TRPA Response: See the Responsiveness Summary, Issue No. 11, Water Quality Impacts of Land Coverage Transfers.

C-62 The environmental impact statement also overlooks a substantial problem with the coverage transfer program. In most cases, all that is required is a 1:1 transfer: for every additional square foot of excess coverage allowed, one square foot elsewhere must be restored. But areas existing coverage seldom if ever will be restored to natural reductions. Studies of the effectiveness of remedial erosion control projects indicate it may be possible to eliminate 50 percent to 90 percent of the increased sediment and nutrient loadings through a restoration project, but full restoration to eliminate 100 percent, bringing conditions all the way back to natural levels, appears to be impossible. As a result, a coverage transfer program based on a 1:1 transfer will result in greater sediment and nutrient loadings than if no transfers are allowed. The total coverage will be the same, but an alternative allowing transfers

will have less natural area and more restored area, with a greater total sediment and nutrient load. As in the case of SEZs, a 1.5:1 transfer should be considered, so that equal value in terms of soil and water quality protection, not just equal acreage, results.

It also appears that the environmental document has simply assumed that coverage transfers, and the concentration of coverage likely to result, will have no impact on water quality.

TRPA Response: See the Responsiveness Summary, Issue No. 11, Water Quality Impacts of Land Coverage Transfers.

- C-63 (Volume I, Section II, p. II-69) The assumption that excess coverage in intervening areas does not pose a risk to water quality from concentration of coverage is unwarranted. Discharges to Lake Tahoe may also occur in storm drains, road drainage, overland flow, and ground water. In all cases, excess coverage, by concentrating flows, reduces the extent to which nutrients may be filtered by soils and vegetation.

TRPA Response: The statement this comment refers to is, "Of the 22 community plan areas where the TRPA Regional Plan may concentrate coverage, ten pose little risk of increasing sediment and nutrient loads to Lake Tahoe because they are not drained by a tributary to Lake Tahoe or are greater than 1/2 mile from the nearest tributary." Although it is correct that discharges to Lake Tahoe may also occur in storm drains, road drainage, overland flow, and ground water, TRPA cannot approve any transfers of coverage into such areas until it adopts a community plan which must include a schedule for implementation of remedial water quality projects that achieve applicable goals and water quality standards (TRPA Goals and Policies, p. II-7).

- C-64 (Volume I, Section II, p. II-71) As TRPA is relying on a voluntary program for BMPs and capital improvements, the environmental document cannot simply assume that these projects will be carried out. A worst case scenario, or at least a scenario based on current trends, is required. Unless substantial revisions are made to the proposed plan, adding both a thorough regulatory program and a solid financial plan, the assumption that the necessary projects will be completed on schedule does not appear to be supportable. The financial program in the Lake Tahoe Basin Water Quality Plan identified several funding sources, including a projected \$20 to \$25 million in Clean Lakes grant funds over a 20-year period. Although that probably constituted a realistic projection at the time, less than a year later the President proposed to eliminate the Clean Lakes Grant program, and California was able to obtain only \$3.5 million for Lake Tahoe before Congress phased out all funding. As part of the Water Quality Act of 1987, Congress modified and reauthorized the Clean Lakes program, but funding for Lake Tahoe is uncertain.

TRPA Response: See the Responsiveness Summary, Issue No. 10, Capital Improvements Program Funding.

- C-65 (Volume I, Section II, p. II-75) Where no NPDES permit is required, because sewage is discharged to land or groundwaters, the Lahontan Regional Board issues waste discharge requirements. The approved T-TSA discharge does not need an NPDES permit.

TRPA Response: The final plan incorporates this correction.

- C-66 (Volume I, Section II, p. II-75) The reserve capacity in T-TSA is available on a first-come first-served basis, to areas both within and outside of the Lake Tahoe Basin. It is unclear whether there is enough reserve capacity to serve projected Tahoe Basin growth. Rapid growth in the Truckee area could exhaust the reserve capacity.

TRPA Response: TRPA agrees with this comment. The environmental analysis in Volume I, Section II does not conclude that T-TSA has enough reserve capacity to serve projected Tahoe Basin growth, for the reasons cited in the comment. The analysis does conclude that development within the Tahoe Region will remain within the court-ordered limit on new residential hook-ups.

- C-67 (Volume I, Section II, p. II-79) In addition to increasing per capita service costs, excess capacity also provides a margin of safety against spills and breakdowns.

TRPA Response: The final plan incorporates this comment.

- C-68 (Volume I, Section II, p. II-90) Mitigation measures should be proposed to avoid water use in excess of that allowable under the California-Nevada Interstate Compact.

TRPA Response: Article X(d) of the Tahoe Regional Planning Compact prohibits TRPA from having any effect upon the storage, distribution, or allocation of interstate waters. Therefore, TRPA is without authority to regulate water allocation. Chapter 27 of the TRPA Code of Ordinances does require all new development to demonstrate an adequate water supply for fire flows and consumption. Further, TRPA has not identified any adverse impacts caused by water allocations and, therefore, mitigation is not needed.

- C-69 (Volume I, Section II, p. II-109) The different approaches to new pier construction under alternatives 3 and 4 should be compared.

TRPA Response: Under the 208 amendments, alternative 4, TRPA shall regulate the placement of new piers to avoid degradation of fish habitat, interference with littoral drift, and other concerns. Access to the shoreline is regulated in accordance with shorezone tolerance district designations. Alternative 3, the hybrid plan, includes these policies as well as a prohibition, for portions of the Region within California, on the discharge or threatened discharge of solid or liquid wastes

attributable to new pier construction in significant fish spawning habitat or areas immediately offshore of stream inlets to a depth of 30 feet. Alternative 3 discourages pier construction in other prime fish habitat, and states that piers should not block currents. Although the hybrid plan includes more detailed policy language, there is no basis to conclude that its impacts on fish would be significantly different. A TRPA study, funded by the federal government, Nevada, and California is currently underway to evaluate the impacts of shorezone development, including new piers, on fish.

- C-70 (Volume I, Section II, p. II-116) The impacts of allowing development in the flood plain, so long as the flood plain has not yet been designated, should be evaluated.

TRPA Response: See the Responsiveness Summary, Issue No. 2, Criteria for Identification of SEZs.

- C-71 (Volume I, Section II, p. II-131) The apparent conclusion that the hybrid alternative will be inconsistent with scenic thresholds, while the proposed alternative will meet those objectives, is highly speculative. Attainment of the scenic thresholds will depend more on the effectiveness of specific programs to meet those thresholds than what coverage and transfer rules apply. Specific mitigation measures could be incorporated into the hybrid plan, rather than characterizing the alternative as unacceptable based upon speculation as to the effect of coverage transfers.

TRPA Response: Incentives for rehabilitation and redevelopment are essential to bring about the changes needed to achieve scenic thresholds. In the development of the Goals and Policies, it became clear that flexibility on land coverage requirements, with transfer arrangements, was an important incentive. The proposed South Tahoe Redevelopment Plan is a good example of the application of flexibility. The Redevelopment Plan is expected to bring about improvements so as to meet scenic thresholds. Without the special coverage transfer provisions the Redevelopment Plan would be infeasible.

Incorporating specific mitigation measures into the hybrid alternative would have the effect of creating a new alternative, one that does not represent the alternative TRPA wishes to evaluate, namely the status quo.

- C-72 (Volume I, Section II, p. II-135) Because lakeside property is more valuable, allowing coverage transfers probably will result in higher coverage in areas near the shorezone. The impacts of this more concentrated development should be evaluated.

TRPA Response: See the Responsiveness Summary, Issue No. 11, Water Quality Impacts of Land Coverage Transfers.

C-73 (Volume I, Section II, p. III-4) The conclusion that the hybrid plan would not meet air quality standards, but the proposed plan will, is not supported. The uncertainties affecting projected VMT and emissions far exceed the small difference between the projections for the two alternatives. Either both will meet air quality standards or both will fail. Likewise, for scenic thresholds, the difference between the two is not sufficient to support the conclusion that one alternative will meet the thresholds while the other will not.

TRPA Response: TRPA has attributed significant reductions in regional VMT (vehicle miles travelled) to the redevelopment and community planning processes, which would not be realized under Alternative 3, the hybrid plan. Since TRPA projects that these programs will be necessary to attain and maintain the air quality threshold which calls for a 10 percent reduction in VMT, it cannot be said that the hybrid plan would attain the air quality thresholds. The 208 amendments include incentives for redevelopment and community planning, and implementation of the first redevelopment and community plans will begin shortly.

California Waste Management Board - Alan A. Oldall

- D-1 Incinerated Sewage. The five main sewage collection and treatment systems include: South Tahoe Public Utility District (STPUD), Tahoe City Public Utility District (TCPUD), North Tahoe Public Utility District (NTPUD), Incline Village General Improvement District (IVGID), and Douglas County Sewer Improvement District (DCSID). STPUD, IVGID, and DCSID treat sewage at plants within the Region. NTPUD and TCPUD do not provide treatment, but contract with TTSA for treatment outside the Region. According to Table 26, Sewage Treatment Capacity and Demand, sludge disposal is accomplished by either land disposal outside the Region or incineration. It would be helpful if the final document specified the final destination of ash needing disposal, as well as addressing possible hazardous constituents in the ash.

TRPA Response: The final plan includes additional information on ash disposal in accordance with this comment.

- D-2 Landfill Capacity. The South Tahoe Refuse Company owns and operates a transfer station in the City of South Lake Tahoe. The same company operates the Douglas County Landfill. An estimated 80 percent of the waste disposed of in the landfill comes from the South Tahoe Refuse Company. Douglas County Landfill is reaching capacity, necessitating either expansion or siting of a new landfill. Expansion plans for the Douglas County Landfill or an alternative landfill site should be identified to address the potential problems of increasing waste generation and decreasing landfill capacities.

TRPA Response: The problem identified is recognized by the State of Nevada and the local governments dependent on that landfill for serving their populations. Measures are underway to resolve the problem.

League of Women Voters of California

- E-1 The League of Women Voters supports your efforts to develop an effective Water Quality Management Plan. Our comments on the Plan address several area which we think should be strengthened.

TRPA Response: Comment noted.

- E-2 As a general concern, we believe that to be effective, any program must set priorities. Therefore, to preserve the water quality of Lake Tahoe the TRPA board must carefully weigh the many options. We urge the board to set priorities for the plan in terms of effort, time, and money.

TRPA Response: See the Responsiveness Summary, Issue No. 5, Watershed Improvement Priorities

- E-3 Your plan states that riparian and wetland areas are critical to good water quality. The League of Women Voters of California believes that the Sensitive Environment Zones (SEZs) should be protected to the fullest extent possible. Identification of SEZs should be made to ensure the same or higher level of protection than that which was provided in the 1981 208 plan, with a goal of zero development in SEZs. Only after hydrologic/environmental impact studies have been done in lands falling within SEZs should the highest quality restoration projects be selected and implemented.

TRPA Response: See the Responsiveness Summary, Issue No. 2, Criteria for Identification of SEZs and Issue No. 3, Adequacy of SEZ Restoration Program.

- E-4 We do not understand why the Plan does not emphasize the connection between air quality and water quality. It is stated in Volume I that "local sources of nitrogen account for 20 to 40 percent of the total atmospheric loading in the Tahoe Basin." We know that California's acid rain problem is chiefly due to the automobile.

TRPA Response: See the Responsiveness Summary, Issue No. 9, Control of Airborne Nutrients.

- E-5 Any program for improving or maintaining the quality of water should have as a priority plans for an effective transit system, with a plan for education, incentives, and disincentives to encourage people to use it. The 208 plan should include a statement of priorities for transit projects in future transportation planning. Unless public transit is available and convenient, those who live in the Basin will obviously never begin to use it.



TRPA Response: Volume I of the final plan does include a provision for an improved mass transit program. Specifically, it references the Regional Transportation Plan and the Short Range Transit Program. Those plans address incentives and priorities. The 208 plan is not the appropriate place to specify priorities for transit projects. Instead, because mass transit involves much more than water quality considerations, with air quality and traffic congestion being some of the other consideration, priority statements belong in the Regional Transportation Plan.

E-6 We are also concerned that extensive highway expansion fails to consider the environmental degradation of the highway construction process itself.

TRPA Response: The analysis of land coverage and water quality impacts in Volume I, Section II considers the additional impervious coverage which would be created by new highway alignments and other transportation improvements under the four alternatives.

E-7 We have only recently received the five-volume Plan and are concerned that there has been insufficient time for the public to study and comment intelligently on it. Meetings must be open and sufficient notice given to everyone.

TRPA Response: All the interagency meetings held by the Lahontan Regional Water Quality Control Board committee were noticed and open to the public. Further, all the public hearings before the TRPA APC and Governing Board were noticed and open to the public. The 208 plan was available for public review for nearly five months. See also the response to comment C-1.

Shute, Mihaly & Weinberger - E. Clement Shute, Jr.  
on behalf of the League to Save Lake Tahoe

- F-1 The League has given close scrutiny to the proposed amended 208 plan and the accompanying Draft Environmental Impact Statement. Unfortunately, both documents are deficient in meeting the legal requirements.

Since substantial new information will be required to respond to our comments and the comments of others, there will be a need to recirculate the proposed amended 208 plan and the Draft Environmental Impact Statement.

TRPA Response: Although this Response to Comments has provided additional information and portions of the 208 plan have been revised to address concerns raised during the review period, the information does not reveal the existence of new adverse impacts or otherwise identify substantial new issues. Accordingly, recirculation of the environmental document is not necessary.

- F-2 The provisions for lowering the IPES line are as much an integral part of the proposed 208 plan amendments as are any other aspects of the IPES system dealt with in the TRPA draft 208 plan. Therefore, we believe that TRPA must include specific requirements in the 208 plan for the conditions under which the IPES line can be lowered.

TRPA Response: See the Responsiveness Summary, Issue No. 1, Criteria for Movement of the IPES line.

- F-3 Before the IPES line can be lowered in any jurisdiction, the monitoring program for that jurisdiction must be in place in accordance with Chapter 32 and the TRPA monitoring plan. The matter of monitoring has been particularly difficult because of the scientific questions posed and the difficulty of securing adequate funding. Nevertheless, TRPA is required to achieve and maintain thresholds. Allowing development of sensitive lots, as would occur if the IPES line is lowered, will likely aggravate threshold violations unless offsetting measures are implemented and monitoring demonstrates progress toward threshold attainment. Therefore, monitoring is an essential ingredient of the IPES system.

The 208 plan must include, at a minimum, a description of the monitoring plan intended for each jurisdiction. The 208 plan should require each monitoring plan to include baseline water quality conditions. The plan should also require each monitoring plan to describe which stream or lake characteristics will be monitored and, at least in general terms, what

kinds of monitoring devices would be utilized and what the specific objectives of the monitoring plans are so that any amendments to those plans over time can be measured against their intended purpose. The 208 plan must also include implementation plans including projects costs, sources of funding and projected timelines for actual implementation of the monitoring programs. Also provisions should be included relating the results of monitoring information to threshold attainment in order to determine whether the line should be allowed to drop further or be raised. Finally, compliance measures which would be invoked if monitoring data indicates that there is insubstantial progress toward attainment of water quality thresholds must be specified.

TRPA Response: See the Responsiveness Summary, Issue No. 1, Criteria for Movement of the IPES Line.

- F-4 Another critical requirement before the IPES line can be lowered is that demonstrable progress is being made on capital improvement programs for water quality within the particular jurisdiction where it is proposed that the line would be lowered. At a minimum the 208 plan must include requirements that there be a capital improvements program for water quality within each jurisdiction including an identification of the likely funding sources and timelines for each project and a ranking of the effectiveness of the projects in terms of water quality benefits. The plan must also provide that if there are not capital improvement projects shown in a particular jurisdiction, the line cannot be lowered in that jurisdiction.

In order for the demonstrable progress criterion to be met, two of the following three findings must be made:

1. There is committed funding and a strong likelihood that construction will commence within one year on one or more significant capital improvement projects in the jurisdiction where the line would be lowered;
2. construction of one or more significant capital improvement projects for water quality is underway within the jurisdiction where the line would be lowered; and
3. There is quantitative improvement measurable in percentage terms or by other appropriate scientific criteria verifying that there has been progress toward attainment of thresholds from the operation of capital improvement projects constructed within the past five years.

TRPA Response: See the Responsiveness Summary, Issue No. 1, Criteria for Movement of the IPES Line.

F-5

The third area requiring specificity in the 208 plan is the requirement that the level of compliance with conditions of project approvals within a particular jurisdiction is "satisfactory." The League proposes that the 208 plan require that TRPA have a specific enforcement program which identifies the number of staff positions devoted to enforcement on a full-time equivalent basis, requirements for thorough inspections prior to construction, during construction, and periodic inspections after completion of construction to ensure continuing compliance over time with all conditions of approval. The enforcement program must also include specific procedures and timelines guaranteeing prompt enforcement when violations are found.

In order for there to be "satisfactory" compliance with project conditions within any given jurisdiction, the 208 plan should provide that the following findings must be made:

1. All required inspections within a given jurisdiction, including those before, during and after construction, have occurred and the written results of such inspections have been filed;
2. Wherever a violation has been noted and such violation has not been resolved, TRPA has commenced enforcement by appropriate means including correction notices, stop work notices, civil penalties or judicial action;
3. No more than 10 percent of the violations in the jurisdiction where the line would be lowered are unresolved.

TRPA Response: See the Responsiveness Summary, Issue No. 1, Criteria for Movement of the IPES line.

F-6

The purposes of the environmental impact statement for the proposed 208 plan should be to objectively evaluate whether the proposed amendments to the 208 plan will in fact not result in degradation of the water quality of Lake Tahoe, and will provide protection for the water quality of the Lake equal or superior to the existing 1981 208 plan. The environmental impact statement should also verify that the amended 208 plan will meet the environmental thresholds adopted by TRPA and, to the extent it does not, the EIS must specify additional plan alternatives, mitigation or control measures which will ensure attainment of the thresholds or document that thresholds cannot be attained. Unfortunately, the draft EIS does not fulfill these purposes. Set forth below are detailed comments regarding the deficiencies in the draft EIS.

TRPA Response: See the Responsiveness Summary, Issue No. 4, Attainment and Maintenance of TRPA Water Quality Thresholds and State Water Quality Standards.

"Tiering" in the case of the proposed 208 plan environmental impact statement is inappropriate. NEPA regulations provide for tiering under the following circumstances:

- a. When the sequence of statements and analysis is from a program, plan or policy environmental impact statement to a program, plan or policy statement or analysis of lesser scope or to a site specific statement of analysis.
- b. When the sequence of statements of analyses is from an environmental impact statement or a specific action at an early stage (such as need and site selection) to a supplement (which is preferred) or a subsequent statement or analysis at a later stage (such as environmental integration). Tiering in such cases is appropriate when it helps the lead agency to focus on the issues which are ripe for decision and exclude from consideration issues already decided or not yet ripe. (Section 1508.28.)

The CEQA Guidelines are very similar. (14 Cal. Admin. Code section 15385.) We are not aware that TRPA has any regulations at all pertaining to tiering.

None of the circumstances appropriate for tiering exist in this case. The 208 plan is not of lesser or more specific scope than matters addressed in the list of tiered documents. In fact, the 208 plan is a parallel program of virtual equal magnitude and importance as the Regional Plan.

Moreover, the documents cited do not adequately address project-related impacts. Thus, tiering off of a series of other documents does not compensate for the lack of adequate discussion in the draft EIS for the 208 plan.

In addition, the sheer number, length and complexity of the documents cited renders the tiering process unreasonable and unworkable. Much of the material in the documents is not relevant to the draft EIS at hand. Other material is outdated and no effort is made to include updated information. Added to the impossible task of reading through the hundreds of pages of uncorrelated technical material is the job of deciding what of the material is relevant and where it fits into the draft EIS. Clearly the tiering concept has been inappropriately used here.

Finally, TRPA, in responding to comments on the Regional Plan EIS Supplement, made clear that detailed technical analyses of water quality impacts would be provided in subsequent EISs. This has not been done in the draft EIS and the deficiency cannot be remedied by the circular device of tiering off of prior environmental documents which represented that the analyses would be in future documents.

TRPA Response: The 208 plan has been prepared pursuant to the Clean Water Act and addresses the issue of water quality. The prior documents listed are broader in scope in that they address the impacts of the thresholds and the Regional Plan. Water quality, though a primary focus of the thresholds and the Regional Plan, is but one facet of the prior documents. Thus, the situation is precisely the type for which tiering is appropriate. The comment confuses the relative importance of the documents with the scope of the documents. TRPA agrees that the 208 plan is virtually as important as the Regional Plan.

The referenced documents address impacts from the thresholds and the Regional Plan. By necessity and the nature of the programs addressed, the prior environmental documents are general and programmatic. The 208 plan is more focused and specific than the prior documents but still more general than a traditional project EIS.

The length and complexity of the prior documents are part of the reason that tiering was used. All the referenced documents contain summaries for the convenience of the reader. To the extent that the 208 plan is part of, and integral to, the Regional Plan and thresholds, all of the prior documents are relevant. The material is not outdated and where new data is available it has been included in the 208 plan. (See Volume VII, Technical Appendix.)

The 208 plan does contain technical analysis of water quality impacts, when appropriate. The lengthy discussion of the systems model and the Technical Appendix are two prime examples.

- F-8 The draft EIS fails to properly incorporate material by reference. Materials said to be incorporated by reference into the draft EIS are not briefly described as required by both the NEPA Guidelines (section 1502.21) and the CEQA Guidelines (14 Cal. Admin. Code section 15150). We are not aware of any TRPA regulations on the subject of incorporation by reference. The problems with tiering are aggravated by the failure to properly incorporate by reference. Thus, the draft EIS tiers off of documents which are cited and allegedly incorporated by reference, but not summarized. If incorporation by reference is to be used, summaries of the relevant portions of those documents must be included.

TRPA Response: Of the nine documents incorporated by reference, seven are incorporated for the purpose of tiering. Neither state nor federal guidelines require a summary of a tiered document. The incorporated documents are briefly described as required by state and federal guidelines. In addition, there are summaries included in the documents themselves.

The remaining two incorporated documents, A Report on Soil Erosion Control Needs and Projects in the Lake Tahoe Basin (California Tahoe Conservancy, 1987) and Watershed Improvements Needs Inventory (Lake Tahoe Basin Management Unit, USFS, 1987), are briefly described in the Introduction to Volume IV, Capital Improvements Program for Erosion and Runoff Control.

F-9

The draft EIS fails to adequately address the significant environmental impacts of the proposed project. The draft EIS assumes for purposes of evaluating the proposed plan that there will be total additional development over the next 20 years of 6,000 single-family units, 1,600 multi-family homes, 400 hotel/motel units, and 1.1 million square feet of commercial floor area. The impact analysis of the proposed 208 plan relies upon these figures as the total development levels for each land use anticipated over the life of the plan. These assumptions are flawed for at least the following reasons:

1. Limitations on residential development exist only until 1991. After 1991 the Regional Plan provides no limits on the total number of new units which could be built.
2. Assumptions regarding new development do not include estimates for affordable units which are not limited in number by the Regional Plan.
3. Limitations on tourist and commercial growth are only imposed for the first ten years of the Regional Plan. Like single-family residential uses, after this period expires there is no limit to the amount of new commercial and tourist uses which could be built.
4. Assumptions regarding new development do not appear to include allowable recreational use development (6,114 additional overnight facility PAOTs, 6,762 additional summer day use PAOTs and 12,400 PAOTs associated with additional winter day use facilities).

TRPA Response: See the Responsiveness Summary, Issue No. 6, Validity of Assumptions in the EIS Regarding Additional Development in the Tahoe Region. The Regional Plan includes affordable housing within the limit of 1600 additional multi-family units. Affordable housing units are exempt only from the requirement for an annual allocation.

F-10

The draft EIS assumes that under the proposed 208 plan the ultimate population of residents and visitors will not increase by more than 27 percent of the 1985 level over the next 20 years. Since the figure is based upon the flawed new development assumptions described above, it underestimates the probable population growth allowed by the Regional Plan for the 20 year period analyzed. In addition to the above-described deficiencies inherent in the development growth projections, other reasons why this growth projection underestimates likely growth in the Basin are as follows:

1. In addition to increased numbers of hotel and motel rooms, new hotel/motel accommodations will replace old, underutilized facilities. This replacement by new, attractive units is likely to increase total visitor population beyond the simple increase in the number of visitor units. Also, a trend in visitor unit construction is the development of suites and multi-bedroom facilities. While these may be counted as one unit, they will accommodate more visitors than a typical retired unit would have.

2. Development in areas just outside of the Tahoe Basin may contribute to increased use.

TRPA Response: TRPA's population projections take into account the possibility of higher occupancy rates in the future, especially for newer, more-attractive facilities. See Volume VII, the Technical Appendix. While growth outside the Region may increase demand, TRPA's plan depends primarily on regulation of supply of facilities that serve demand.

- F-11 The draft EIS assumes total new coverage under the proposed 208 plan at only 255 acres. Assumptions about projected coverage are based on the development projections previously discussed. To the extent that development exceeds predictions, projected coverage data derived from development assumptions is also underestimated. Just as importantly, the coverage prediction under the assumed development levels is underestimated as indicated below in Table 4. The analysis should be revised so that a more accurate projection of new coverage is provided.

TRPA Response: The final plan includes a revised set of coverage estimates.



Table 4

## POTENTIAL COVERAGE IN EXCESS OF PREDICTION

<u>Land Use</u>	<u>Units/Square Feet</u>	<u>Approximate Acres</u>
Single-family	6,000 <sup>(1)</sup> /2,500 s.f. per unit <sup>(2)</sup>	350
Commercial	1,100,000 s.f. <sup>(1)</sup>	24
Tourist	400 units <sup>(1)</sup> /1,000 s.f. per unit <sup>(3)</sup>	10
Multi-family	1,600 units/1,000 s.f. per unit	40
Recreational Areas	NA <sup>(4)</sup>	NA
Public Facilities	NA	NA
Affordable Units	NA	<u>NA</u>
		461 acres

- 
- (1) These numbers of units and square feet are artificially constrained by the draft EIS. Total units and square feet are unrestricted over the 20-year period.
- (2) The draft EIS states that coverage for single-family homes is based on 2,000 s.f. per unit. However, the coverage range, depending on parcel size, for single-family homes is between 1,800 and 4,000 s.f. As such, 2,500-3,000 is a more realistic average coverage figure on which to base new coverage estimates for single-family homes. In fact, in the past TRPA has assumed an average coverage of 3,000 s.f. per single-family home. EIS for Regional Plan, Feb. 1983 at p. 169.
- (3) Average unit size of 400 units is based on survey of hotels, 1,000 s.f. represents the typical square footage in a hotel divided by the total number of rooms (i.e., 1,000 s.f. includes each room's pro-rata share of common area).
- (4) NA means not analyzed by TRPA even though these uses would involve coverage. This illustrates that projected coverage has been underestimated.

F-12 In addition to the above key assumptions, which underlie most of the impact analyses in the draft EIS, other basic assumptions contained in the draft 208 Plan also lack substantiation. The draft EIS should provide data which supports these assumptions. Absent such supporting data, the EIS should not contain conclusions regarding threshold attainment which rely on these assumptions. At least the following questions arise:

- a. What is the basis for the assumption that only 1,020 single-family houses will be built on land capability districts 1, 2 and 3?

TRPA Response: This is not an assumption, but a projection based on the frequency distributions of IPES scores by county, which appear in the Technical Appendix, Volume VII. TRPA did assume that, after 80 percent of the vacant residential parcels in land capability districts 1, 2 and 3 in California, and 67 percent in Nevada, were removed from the inventory, the remaining vacant residential parcels would be eligible to compete for the 6,000 single-family residential building permits over the next 20 years.

- b. What is the basis for the assumption that planned transportation improvements would involve 19.4 acres of SEZ encroachment?

TRPA Response: The Final EIR/EIS on the Regional Transportation Plan: Lake Tahoe Basin (TRPA, 1988) concluded that planned transportation improvements would involve this amount of SEZ encroachment.

- c. What is the basis for the assumption that on average the SEZ encroachment for access to single-family home sites would be 400 sq. ft.? This assumption lies at the heart of the assumption that only five acres of SEZ will be covered as a result of single-family home development. (Volume I, Section II, p. II-29)

TRPA Response: Four hundred square feet is the standard size of a driveway required to provide off-street parking for two automobiles. Due to the assumption that the entire 400 sq. ft. driveway would be in an SEZ, the estimated average SEZ encroachment is probably high.

F-13 Some of the unsubstantiated assumptions are as follows (V-I, II-67):

- a. Alternative 4 (proposed plan) will result in approximately 255 acres of additional impervious coverage.

TRPA Response: The final plan includes revised coverage estimates. The basis for the estimates appears in Volume VII, the Technical Appendix.

- b. 80 percent of existing disturbed acres will be reduced through BMP/CIP programs.

TRPA Response: See the response to comment A-5c.

- F-13 c. 1,100 acres of SEZ's in urban areas and 200 acres in undeveloped areas will be restored. BMP's and the CIP will reduce the overall developed drainage density more than additional development will increase it.

TRPA Response: See the responses to comments A-5f and A-5l.

- d. The average developed parcel under Alternative 4 is no more sensitive than under the 1981 208 plan.

TRPA Response: As set forth in Table 24 of the draft plan, TRPA's analysis of average IPES scores of developing parcels, which is documented in the Technical Appendix, concludes that the average developed parcel under Alternative 4 is no more sensitive than under the 1981 208 plan in El Dorado, Placer, and Washoe Counties. In Douglas County, the average developed parcel would be more sensitive under Alternative 4. This is discussed in the analysis of water quality impacts.

- e. A 20 percent DIN reduction will be achieved with cooperation from upland areas to reduce the transport of nitrate-nitrogen.

TRPA Response: See the Responsiveness Summary, Issue No. 9, Control of Airborne Nutrients, and the response to comment A-5k.

- f. Based on VMT reductions of 10 percent, NO<sub>x</sub> emissions and direct deposition of nitrogen into the Lake is attainable [sic].

TRPA Response: VMT reductions will create corresponding decreases in NO<sub>x</sub> emission in the Region. Lower NO<sub>x</sub> emissions will result in lower deposition of nitrogen on Lake Tahoe. See the analyses of transportation, air quality, and water quality in Volume I, Section II. See also the Responsiveness Summary, Issue No. 9, Control of Airborne Nutrients, and the response to comment A-5j.

- g. Nutrient and sediment loads from new development will be offset by applications of BMP's, CIP's, SEZ restoration and fertilizer management. Resulting DIN load reduction is estimated to be 57 percent.

TRPA Response: See the response to comment A-5m.

- F-14 What is the basis for the assumption that 80 percent of the Region's disturbed acres will be restored through BMPs? At present, there is no regulatory program for BMP retrofitting where persons do not otherwise require a TRPA permit. Also, BMPs do not appear to be evaluated in any of the documents in terms of their respective efficacy in restoring disturbed acreage. In this regard, there is no indication of the gains made to date in restoring denuded acres utilizing BMPs.

TRPA Response: See the response to comment A-5c.

- F-15 What is the basis for the assumption that there will be a net reduction of 36 acres of land coverage during the next 20 years in land capability districts 1, 2 and 3?

TRPA Response: The basis for the estimate that the proposed alternative will result in a net reduction of land coverage during the next 20 years in land capability districts 1, 2 and 3 is set forth in Volume I, Table 20, Land Coverage Summary--Alternative Plans. The coverage estimates have been revised.

- F-16 What is the basis for the assumption that new SEZ disturbance will total 25 to 35 acres?

TRPA Response: The basis for this estimate is set forth in Volume I, Section II, Chapter II, in the analysis of impacts of the proposed 208 amendments on SEZs.

- F-17 What is the basis for the assumption that 1100 acres of SEZ will be restored in urban areas, and 200 acres of SEZ will be restored in undeveloped areas?

TRPA Response: The basis for these estimates of SEZ acreage to be restored is set forth in Volume III, Stream Environment Zone Protection and Restoration Program. See also the response to comment A-5f.

- F-18 What is the basis for the assumption that vehicle miles travelled (VMT) will be reduced from 1.64 to 1.50 million for a peak summer day?

TRPA Response: The Final EIS on the Plan Area Statements and Implementing Ordinances of the Regional Plan (TRPA, 1987a) and the Final EIR/EIS on the Regional Transportation Plan (TRPA, 1988b) document the required transportation control measures and implementation strategy to achieve a 10 percent reduction in VMT from the 1981 value of 1.70 million, peak summer day. See the response to comment A-5g.

- F-19 What is the basis for the assumption that even with a 27 percent growth rate, all key intersections and links in the Region will meet LOS standards?

TRPA Response: The Final EIS on the Plan Area Statements and Implementing Ordinances of the Regional Plan (TRPA, 1987a) and the Final EIR/EIS on the Regional Transportation Plan (TRPA, 1988b) document the required transportation control measures and implementation strategy to achieve the level of service (LOS) standards of the TRPA Goals and Policies.

- F-20 What is the basis for the assumption that total direct deposition of nitrogen will be reduced 2 to 4 percent by controls within the Region?

TRPA Response: See the response to comment A-5j.

- F-21 What is the basis for the assumption that DIN loading to the Lake will be reduced by 20 percent? What does cooperation from upwind areas involve?

TRPA Response: See the Responsiveness Summary, Issue No. 9, Control of Airborne Nutrients.

- F-22 Cumulative contributions to nitrate-nitrogen transported to Lake Tahoe as a result of development upwind are not adequately analyzed. The draft EIS leaves no doubt that needed DIN reductions depend upon cooperation from upwind areas to reduce the transport of nitrate-nitrogen into the region (at II-70). Yet there is no analysis of the likely contribution of nitrate-nitrogen from activities upwind. Nor does the draft EIS determine what is meant by cooperation from upwind areas. DIN levels in turn are related to thresholds for phytoplankton primary productivity, winter clarity of the pelagic zone and turbidity.

TRPA Response: See the Responsiveness Summary, Issue No. 9, Control of Airborne Nutrients.

- F-23 Impacts as a result of population growth in excess of the 27 percent increase over 1985 levels assumed in the draft EIS are not adequately analyzed. Without extension of the allocation system, it is likely that population growth will exceed 27 percent for the reason stated herein. The draft EIS should evaluate the consequences of growth in excess of 27 percent, as well as provide mitigation measures to control growth.

TRPA Response: See the Responsiveness Summary, Issue No. 6, EIS Assumptions Regarding Additional Development. TRPA believes its selection of alternatives is appropriate. Growth controls are a part of the Regional Plan package.

- F-24 Impacts as a result of coverage in excess of that assumed in the draft EIS and based upon non-existent development limits and artificially constructed population growths are not adequately analyzed. It is likely

that unless 20 year limits on all types of development are adopted, new coverage will exceed that predicted in the EIS. This likelihood should be quantified and analyzed.

TRPA Response: Although this comment expresses a concern that TRPA's growth projections are unreasonably low, others--including the TRPA Governing Board--have expressed a concern that they may be unrealistically high. (See the minutes of TRPA Governing Board meeting, August 24, 1988.) TRPA feels that its assumptions regarding future development and its analysis of resulting impacts are reasonable. See the Responsiveness Summary, Issue No. 6, EIS Assumptions Regarding Additional Development.

- F-25 Impacts associated with implementation of IPES are not adequately analyzed. According to the analysis, the IPES program permits, at a minimum, an additional 47 acres of coverage in class 1-3 lands, plus an additional 15 acres of SEZ disturbance due to permitted crossings. There is no analysis of the nutrient inputs from construction on these lands or impacts resulting from the permanent loss of high hazard lands. There is no new water quality information developed to verify that this system can be implemented and still allow TRPA to achieve and maintain water quality thresholds.

TRPA Response: TRPA's estimate of SEZ disturbance due to permitted crossings is under five acres, and would require 1.5:1 restoration of existing disturbed SEZs. As discussed in the analysis of water quality impacts of the proposed action and the alternatives (Volume I, Section II, Chapter II), parcels developed under Alternative 4 in El Dorado, Placer, and Washoe Counties will be no more sensitive, on average, than those developed under Alternatives 2 and 3. In Douglas County, the average developed parcel will be more sensitive under Alternative 3, resulting in a slight increase in sediment and nutrient delivery to Lake Tahoe. The new information which is available to TRPA to verify that IPES can be implemented and still attain and maintain water quality thresholds is the data from over 12,000 site visits to individual single-family parcels, which TRPA gathered in 1987 and 1988.

- F-26 Impacts associated with new SEZ criteria are not adequately analyzed. The amendments propose to significantly alter the 1981 208 plan definition of an SEZ. There is no analysis of the change in acres from the existing definition to the new definition. There is no analysis of the change in the total nutrient release to be expected from the new SEZ areas. Further, it is never clear in the proposed 208 plan, when it refers to SEZ's, if it is using the current or the proposed definition. There is no new water quality information developed to verify that the changed definition can be implemented and still allow TRPA to achieve and maintain water quality thresholds.

TRPA Response: See the Responsiveness Summary, Criteria for Identification of SEZs.

- F-27 Impacts related to golf course fertilizer management are not adequately analyzed. The proposed 208 plan increases the regulation of fertilizer use on golf courses and on other large users in California through action by the Lahontan RWQCB. There is no analysis of the reduction in nutrient inputs to be gained from implementation of this action. Nor is there any evaluation of the impacts of continued use of fertilizers.

TRPA Response: See the Responsiveness Summary, Issue No. 8, Changes to the Handbook of Best Management Practices. Volume I, Section I, Chapter IV sets forth the control measures for fertilizers, which include BMPs, reporting requirements, and effluent limitations. Until additional data are obtained under the reporting requirements, it is difficult to quantify the reduction in nutrient inputs that will be obtained, but the impacts on water quality will unquestionably be positive. In 1980, the California SWRCB estimated that 49 tons per year of nitrogen (as N) and 17 tons per year of phosphate (as  $P_2O_5$ ) were applied to golf courses, yards, and school grounds in 1970, and that 3.5 metric tons of nitrogen (as N) leached to surface and groundwaters in 1970 (SWRCB, 1980, p. 84).

- F-28 Impacts resulting from possible development in flood zones are not adequately analyzed. Under the Bailey system, new development was virtually precluded from flood zones as they were considered SEZ's. The draft 208 plan fails to effectively prevent development in flood zones. Impacts resulting from possible development in these areas should be described, including:

- increased downstream erosion due to increased velocities
- loss of storage area at peak runoff (flood) times resulting in less sediment removal prior to entering Lake Tahoe
- increased destruction of remaining vegetation
- reduction in natural treatment systems available to flood stage waters
- increased damage to and overflow of sewer systems resulting in increased sewage flows to the Lake
- increased volume of urban debris discharged to the Lake
- increased property damage and loss to private property owners

Since the 1981 208 plan did not calculate the sediment loading from disturbance of areas subject to periodic flooding, if the new 208 plan is to permit such encroachment, the sediment and nutrient loading volumes from the additional disturbance will have to be provided in the draft EIS.

TRPA Response: See the Responsiveness Summary, Issue No. 2, Criteria for the Identification of SEZs.

- F-29 Impacts resulting from liberalized development standards for golf courses, ski areas, marinas and other recreational uses are not adequately analyzed. The proposed plan permits golf course, ski area and marina expansion to occur. These activities were more restricted under the 1981 208 plan. Impacts on water quality as a result of these changed standards must be evaluated.

TRPA Response: See the Responsiveness Summary, Issue No. 8, Changes to the BMP Handbook. See also the response to comment F-33.

- F-30 Impacts resulting from modified standards for timber harvest are not adequately analyzed. The proposed plan contains different standards from the 1981 208 plan for these activities. Impacts associated with the modified standards should be specifically evaluated.

TRPA Response: The final 208 plan incorporates the logging BMPs of the United States Forest Service into the Handbook of Best Management Practices by reference. (For details, see Volume II, Section IX and USDA Forest Service, Pacific Southwest Region, 1979.) These same BMPs were incorporated into the 1981 208 plan by reference. In addition to the the BMPs, the proposed 208 amendments include requirements from Chapters 18 and 71 of the TRPA Code of Ordinances on logging roads and ski trails, timber harvesting, tree removal, stocking standards, tree cutting within SEZs, tree removal methods in various land capability districts, and permissible land uses. These requirements are more stringent than the 1981 208 plan. TRPA has no analytical models sensitive enough to evaluate the differences between the two plans with respect to impacts on the receiving waters of the Tahoe Region. However, the water quality impacts of the timber harvest provisions of the proposed 208 plan will be consistent with TRPA's programs to attain and maintain water quality thresholds and standards.

- F-31 Impacts or benefits from land use regulations for OHV use are not adequately analyzed. The proposed 208 plan establishes a three-level system of OHV controls. There is no analysis of the reduction in nutrient inputs to be gained from implementation of this action.

TRPA Response: The 1981 208 plan employed a three-level system of OHV controls. The proposed plan uses land use planning and control, BMPs, and controls on encroachment on SEZs and sensitive areas to control the impacts of OHV use. In general, TRPA applies standards for protection of SEZs, vegetation, and sensitive lands to projects involving OHV use as it does to all outdoor recreation projects. TRPA has insufficient data to precisely estimate the sediment and nutrient load reductions that will result from the proposed controls, but the water quality impacts will be positive. The sediment and nutrient load reductions to be gained from controls on OHVs would be a fairly small part of the overall reductions attributed to implementation of BMPs and the capital improvements program in the Region, which is expected to reduce loads of dissolved inorganic nitrogen from the watershed by over 50 percent, and loads of suspended sediment from the watershed by over 80 percent.



- F-32 Impacts and/or benefits of grazing and livestock confinement are not adequately analyzed. The proposed 208 plan adds standards for grazing and deletes standards for livestock confinement. There is no analysis of the changes in nutrient inputs which will result from implementation of these actions.

TRPA Response: See the Responsiveness Summary, Issue No. 8, Changes to the Handbook of Best Management Practices. TRPA has insufficient data to estimate the sediment and nutrient load reductions that will result from the proposed controls, but the water quality impacts will be positive due to the increased specificity of the regulations on grazing and confinement. See also the response to comment F-31.

- F-33 Impacts associated with marinas are not adequately analyzed. The proposed 208 plan encourages additional pump-out facilities at marinas and endorses the California ban on TBT. There is no analysis of the water quality impacts of implementation of this action. Dredging activities are permitted if they do not result in resuspension of sediments. There is no analysis of subsequent shoreline erosion caused by dredging activities and the water quality impacts of the erosion.

TRPA Response: The final plan includes a control program applicable to both existing and expanding marinas including regulations on shorezone encroachment and vegetation alteration, BMPs, protection of stream deltas, marina master plans, additional pump-out facilities, controls on anti-fouling coatings, and controls on dredging and construction in Lake Tahoe. The BMP Handbook (Volume II) requires pump-out facilities for vessel toilet wastes as a BMP. The implementation program for that BMP involves voluntary, regulatory, and remedial aspects as for all other BMPs. The final plan includes a BMP for marina maintenance and housekeeping practices which, among other requirements, applies controls on tributyl tin (TBT) and other toxic coatings to all parts of the Region.

Because of prevailing low water conditions in 1988, TRPA issued a number of dredging permits to marina operators to keep navigation channels open. TRPA will prepare a report covering the strengths and weaknesses of the dredging operations and the permitting process no later than March 30, 1989. TRPA is aware of no information on the effects of dredging on shoreline erosion in Lake Tahoe on which to base an analysis of that impact. However, see the response to comment A-34r.

Under the provisions of the proposed 208 plan, marina expansions are limited to 10 new boat slips and 10 new bouys (from July 1, 1987) until TRPA adopts a master plan for the marina. TRPA will prepare master plan guidelines and adopt them no later than six months from the date of EPA approval of the 208 plan amendments.

- F-34 Impacts associated with shorezone construction limits are not adequately analyzed. The proposed 208 plan includes previously adopted construction standards in the shorezone. There is no analysis of the changes in nutrient inputs from implementation of this action.

TRPA Response: The proposed 208 plan includes policies controlling shorezone construction impacts through (1) restrictions on shorezone encroachment and vegetation alteration, (2) shorezone BMPs, and (3) restrictions and conditions on dredging and filling in Lake Tahoe and other lakes in the Region. Certain restrictions on shorezone encroachment and vegetation alteration apply throughout the Region, while others depend upon which of the eight shorezone tolerance districts would be affected. The plan prohibits the construction of man-made islands and man-made lagoons connected to any lake in the Region. TRPA is not aware of any information on nutrient inputs from various possible forms of shorezone construction. TRPA's professional judgment is that the constraints of the plan will be effective in keeping impacts to less than significant levels.

- F-35 Impacts other than water quality are not adequately analyzed. Impacts which are inadequately discussed in the draft EIS in addition to water quality impacts include impacts on air quality, transportation, energy, vegetation and wildlife, and growth-inducing impacts. These impact discussions are defective primarily because of fundamental defects in assumptions upon which the discussions are based. In addition, some of the discussions are based on outdated and incomplete information. For example, the discussion of energy impacts is based upon outdated and incomplete material. Conclusions contained in the EIS regarding energy impacts are not supported by data related to energy use, but instead are broad statements of increased demand based on projected population growth. The discussion should be revised, and conclusions substantiated with actual data and more detailed projections of energy use.

TRPA Response: See the Responsiveness Summary, Issue No. 6, EIS Assumptions Regarding Additional Development. Although the data on energy use in the Tahoe Region is from the early 1970's, TRPA is not aware of any more recent data on energy use, nor does the comment identify more recent data reports. There are no TRPA thresholds for energy, and no local, state, or federal standards on energy consumption in the Region. TRPA believes the analysis of other impact areas is adequate. See also the response to comment B-98.

F-36 The draft EIS fails to describe mitigation measures which must be implemented to assure attainment of thresholds and standards in the Region. While the draft EIS predicts that the proposed 208 plan will attain the thresholds, it is clear that flaws and omissions in the evaluation of impacts make this prediction quite illusory. Reasonable mitigation measures which should be discussed in the draft EIS and quantified in terms of their respective contribution toward impact reduction include the following:

- a. Extended allocation limits for all development types.

TRPA Response: See the responses to comments A-7l, A-7m, and A-7p.

- b. Monitoring of actual population increases resulting from new development and imposition of corresponding mitigation measures.

TRPA Response: Monitoring of population changes for regulatory purposes is impractical and inappropriate. TRPA has an extensive monitoring program and related process for making adjustments in the Regional Plan, as set forth in Chapter 32 of the TRPA Code of Ordinances.

- c. Enforcement of permit conditions.

TRPA Response: Enforcement of conditions of project approval is an ongoing TRPA program. The final plan includes a description of TRPA's compliance program.

- d. Specific standards for movement of IPES line.

TRPA Response: See the Responsiveness Summary, Issue No. 1, Criteria for Movement of the IPES Line.

- e. Require mandatory BMP compliance on sale.

TRPA Response: See the response to comment A-7i.

F-37 The draft EIS lacks the information needed to assess the efficacy of various alternatives, programs and mitigation measures in reducing impacts and meeting thresholds. Absent this information it is not possible to support conclusions reached in the draft EIS that the proposed alternative will attain thresholds. In addition, it is not possible to determine where emphasis must be placed in adopting new mitigation measures and enforcing proposed measures. Also, to the extent that programs, alternatives and control measures could be quantified in terms of respective contribution to impact reduction, these programs could be better mixed to form a superior project alternative. The draft EIS should include the following information:

- a. As much quantification as can be provided of the contribution of various activities (new development, trips, control measures, etc.) toward water quality degradation.
- b. As much quantification as possible of the yield or contribution toward attainment of thresholds made by each mitigation measure or program component.
- c. A description of the linkage between measures. For example, it appears that VMT reduction may offset to some extent degradation that may result from coverage in excess of Bailey coefficients. However, the draft EIS does not allow evaluation of such linkage in any meaningful way.
- d. Comparative cost effectiveness of various control measures.

TRPA Response: The final plan includes an expanded systems model (Volume I, Section I, Setting) which provides additional quantification of nutrient inputs from the various sources of nutrients to Lake Tahoe. In addition, the final plan utilizes additional analytical techniques to quantify the impacts of the proposed plan and the alternative plans on water quality. However, the qualitative aspects of the systems model and the subsequent analysis are, to a degree, intentional. For additional discussion, see the response to comment A-34h. The materials prepared by TRPA pursuant to Chapter 32 of the TRPA Code identify the linkages among various compliance measures, to the extent scientifically feasible, and provide information on the comparative cost effectiveness of control measures.

The comment presumes that the proposed plan would allow water quality degradation by allowing land coverage in excess of Bailey coefficients, but this is not the case, since the plan requires all additional land coverage to comply with the Bailey coefficients outright or through carefully-controlled coverage transfer provisions.

- F-38 The draft EIS fails to discuss a range of reasonable alternatives. The range of alternatives discussed in the draft EIS is limited to the current 208 plan, the proposed 208 plan, a hybrid plan and a no-growth alternative. Thus, the draft EIS does not develop the information, based on evaluation of such an alternative or alternatives, to allow evaluation of possible avenues for improving chances for attainment of the thresholds through a different alternative. For example, an alternative which reduces the overall amount of allowable new development over the 20 year life of the 208 plan for each land use should be evaluated and the contribution to threshold attainment quantified.

This analysis is necessary inasmuch as the draft EIS fails to adequately document the conclusion that the proposed 208 plan will attain the thresholds. The draft EIS should provide the information needed from which to construct the most superior alternative by quantifying the impact of new development and the respective impact reduction gained by implementation of each program and control measure that could comprise such an alternative. This would facilitate a rational decision-making process, namely the offsetting of new and existing development and corresponding impacts with the needed mitigation/control measures. In its present form, the draft EIS makes this rational decision-making process impossible by the sheer amount of conclusory, confusing and erroneous information it contains.

TRPA Response: The EIS discusses three alternatives in addition to the proposed 208 plan. Although an infinite number of possible alternatives exists, TRPA is not required or able to evaluate more than a reasonable number. The systems model and Volume VII, Technical Appendix, provide information on the impacts of development. TRPA has quantified the impacts to the extent possible. Estimation of the variation in impacts due to a variation in the level of development may be made by the reader and decision-makers. The no-growth alternative illustrates one end of the spectrum and the 1981 208 plan illustrates the other. The remaining alternative is a mid-range alternative. TRPA recognizes that the lack of precise quantification may frustrate some readers. However, the lack of such precision reflects the limit of scientific knowledge about water quality. Ideally, monitoring and research will improve the situation in the future. See also the responses to comments C-32 and C-40.

F-39 There are many deficiencies in the proposed 208 plan amendments. By letters dated December 21, 1987 and January 21, 1988 the concerns of the League were distributed to the TRPA, the SWRCB, and subcommittee of the Lahontan Board, and interested agencies. The proposed amendments to the 208 plan do not respond to these concerns. In fact, the proposed amendments appear to weaken the existing 208 plan in key areas.

In order to meet the requirements of the Clean Water Act, the 208 Plan must achieve the statutory and regulatory requirements for existing and proposed point and non-point sources. Each element of the proposed amendments must be equal to or better than equivalent elements of the existing 208 Plan. The water quality-related thresholds must be addressed and achieved by the amendments.

TRPA Response: Based on a series of workshops which have taken place since these comments were made and which were attended by the person making the comments, TRPA concludes that the perception of inadequacies and lack of responsiveness has been alleviated. The proposed plan does satisfy the statutory and regulatory requirements, but there is no such requirement that each element of the proposed amendments must be equal or better than the equivalent element in the existing plan.

F-40 The major deficiencies in the proposed amendments to the 1981 208 plan are:

- a. There is no quantitative connection between the proposed amendments and the achievement of water quality-related thresholds.

TRPA Response: See the Responsiveness Summary, Issue No. 4, Attainment and Maintenance of Water Quality Thresholds, and the response to comment A-34h. With the interagency working group, TRPA reviewed the available techniques for making a quantitative connection between the proposed water quality control measures and receiving water quality. TRPA made use of those techniques the working group felt were appropriate. Nevertheless, TRPA's determination that water quality thresholds and standards will be attained and maintained involves qualitative judgments as well.

- b. There is no quantitative connection between the systems model proposed and the implementation measures proposed.

TRPA Response: See the responses to comments A-34h, F-37, and F-40a.

- c. There is no supporting water quality data for the proposed SEZ definition which is substantially different than the existing 208 SEZ definition. There is no documentation of the change in SEZ areas and no mapping is provided.

TRPA Response: See the Responsiveness Summary, Issue No. 2, Criteria for the Identification of SEZs. The final 208 plan includes additional analysis of the impacts of the revised criteria for identification of SEZs in Volumes I and VII. That analysis indicates that the revised criteria give more protection than the criteria in the 1981 plan to SEZs associated with first and second order streams, and to SEZs which exist in the absence of an active channel. These types of SEZs include many of the variable source areas which must be preserved to protect and improve water quality. With respect to third order streams, the revised criteria in some instances protect a narrower area, but nevertheless protect all areas with biological and physical indicators of an SEZ, and provide setbacks from all such areas.

- F-40 d. There are no time lines for implementation of the Capital Improvement Program.

TRPA Response: The materials prepared by TRPA pursuant to Chapter 32 of the TRPA Code of Ordinances identify indicators and set interim targets for progress toward attainment and maintenance of water quality thresholds and standards. The final 208 plan also includes interim targets related to progress on CIP implementation.

- e. There is no overall enforcement strategy, based on the TRPA experience enforcing the 1981 208 plan. There is an array of voluntary programs, but no triggering mechanism to determine when regulatory action is needed.

TRPA Response: The final plan includes a summary of TRPA's compliance program in Volume I, Section I. See also the Responsiveness Summary, Issue No. 12, Regulatory Aspects of the BMP Implementation Program.

- f. There are circumstances where the 1981 208 plan provides rules and regulations but the proposed amendments defer such measures to an indefinite future time (such as ski areas, golf courses, and livestock confinement).

TRPA Response: See the Responsiveness Summary, Issue No. 8, Changes to the Handbook of Best Management Practices.

- g. There is no quantification of the size of the projected sewage and water supply facilities required for the buildout population that results from implementation of the proposed amendments.

TRPA Response: See the Responsiveness Summary, Issue No. 7, Adequacy of Information on Public Facilities--Sewage Treatment.

- h. There is no statement of water quality priorities and no relationship developed between priorities and the Capital Improvement Program.

TRPA Response: See the Responsiveness Summary, Issue No. 5, Watershed Improvement Priorities.

- F-41 Key elements of the 1981 208 plan are proposed to be discarded, including the nutrient budget, the relationship of land use and development to water quality problems and the detailed establishment of a priority system for erosion control projects to address the most serious water quality problems first.

TRPA Response: The final plan includes an expanded discussion of available information on Lake Tahoe's nutrient budget and the relationship of land use and development to water quality problems. For discussion of a priority system, see the Responsiveness Summary, Issue No. 5, Watershed Improvement Priorities.

- F-42 The proposed 208 plan contains no analysis of how the proposed amendments will achieve the adopted water quality and water quality-related thresholds (TRPA Environmental Threshold Carrying Capacities, Resolution 82-11, Exhibit A). Those thresholds require an improvement in water

quality and water quality-related measurements. There are no quantitative evaluations of the proposed amendments and their relationship to those thresholds.

The adopted Environmental Threshold Carrying Capacities establish the levels of water quality that must be achieved in addition to the water quality standards adopted by the State of California in the North Lahontan Basin Plan and by the State of Nevada. The amended 208 plan cannot be less stringent than the 208 plan in existence at the time of adoption of the thresholds.

The adopted thresholds establish the non-degradation policy for the Lake Tahoe Basin. The proposed amendments must assure achievement of those non-degradation standards in order to meet EPA's non-degradation policy for Lake Tahoe as an Outstanding National Resource (40 CFR 35.1550) and the State of California's anti-degradation policy.

TRPA Response: See the Responsiveness Summary, Issue No. 4, Attainment and Maintenance of TRPA Water Quality Thresholds and State Water Quality Standards. EPA's policy is one of antidegradation (as opposed to nodegradation) and is found at 40 CFR 131.12.

- F-43 There is no evaluation of the proposed amendments as to their projected ability to reduce current degradation from existing known sources. The 1981 208 plan assesses the ability of various control measures to reduce ongoing degradation from existing development. The proposed amendments cannot be less stringent than the existing plan.

TRPA Response: The proposed amendments are not less stringent than the existing plan. The analysis of water quality impacts of the proposed plan and the alternatives in Volume I, Section II discusses the ability of control measures to reduce sediment and nutrient loads from existing and future sources of sediment and dissolved nutrients.

- F-44 The proposed 208 plan fails to consider or analyze the impact of IPES on the buyout programs. Both the U.S. Forest Service and California Tahoe Conservancy have reported that acceptance rates for sales have dropped during the development of IPES. Also, these agencies are currently amending their purchase procedures because of IPES. The proposed 208 plan should include projected acquisition rates, then propose alternative policies in the event the buyout programs falter.

TRPA Response: TRPA has no data to indicate that acceptance rates of acquisition programs have dropped during the development of IPES, nor does the League provide any such data. TRPA is aware that the USFS, the California Tahoe Conservancy, and the Nevada Commission on Land Acquisition in the Tahoe Basin are considering incorporating IPES into their acquisition planning programs. The implementation of TRPA's 208 plan does not rely on acquisition programs and TRPA does not participate in the development of acquisition policies. However, acquisition