

Summary Report

Forest Plan Revision Workshops
November 3rd & 12th, 2008

Convened by:
U.S. Forest Service, Lake Tahoe Basin Management Unit

November 3rd & 12th, 2008
South Lake Tahoe, CA

Prepared by:

Eric Poncelet and Briana Moseley
Kearns & West, Inc.

November 20, 2008

K E A R N S  W E S T

INTRODUCTION – WORKSHOP PURPOSE AND ORGANIZATION

This report summarizes the key outcomes from two public workshops convened by the U.S. Forest Service Lake Tahoe Basin Management Unit (LTBMU) in November 2008. The workshops were held on November 3rd & 12th in South Lake Tahoe, CA at the LTBMU Forest Supervisor's Office.

Workshop Goals and Intended Outcomes

The goal of these two public workshops was to receive public input on the broader topic of forest health to inform the revision of the Forest Plan. Each workshop focused on different elements of this topic:

- The November 3rd Workshop focused on how to balance forest health with fuels management and wildlife habitat
- The November 12th Workshop focused on how to balance forest health with water, soil, and air quality

A key intended outcome of the workshops was to receive public input on: 1) proposed *desired conditions* relating to the above topics, 2) proposed *objectives*, and 3) proposed supporting *strategies*. Desired conditions are the social, economic, and ecological attributes toward which management of the land and resources are to be directed. Desired conditions are aspirations and are not commitments or final decisions approving projects and activities, and may be achievable only over a long period. Objectives are concise projections of measurable, time-specific intended outcomes. The objectives for a plan are the means of measuring progress toward achieving or maintaining desired conditions. Strategies are the management approaches used to achieve the desired conditions.

LTBMU planning staff will consider the public input provided as they develop a Proposed Forest Plan Revision.

Workshop Participation and Organization

Approximately 45 members of the public participated in the two workshops (about 18 participants on November 3rd, and 27 participants on November 12th). Participants represented a wide variety of interests, including federal and state agencies, local planning agencies, local businesses, conservation groups, local residents, and concerned citizens. The workshops were facilitated by Eric Poncelet and Briana Moseley of Kearns & West, Inc.

The November 3rd and 12th workshops were identical in structure.

November 3rd Workshop

Balancing Forest Health with Fuels Management and Wildlife Habitat

The workshop opened with self introductions of LTBMU staff and workshop participants. Next, the LTBMU Deputy Forest Supervisor, Eli Ilano, presented an overview of the Forest Plan Revision process, public input received at the September 29-30, 2008 workshops, and the goals of the present workshop. LTBMU staff members Victor Lyon and Duncan Leao followed with a presentation of proposed *desired conditions* and *strategies* to be incorporated into the Forest Plan on the topics forest health, fuels management, and wildlife habitat. Participants were given an opportunity to ask clarifying questions after each presentation. In the second half of the workshops, participants were organized into breakout

groups of 8-10 individuals and asked to provide comments on the desired conditions and strategies as they relate to balancing forest health with fuels management and wildlife habitat. Participants were also asked to share their thoughts on challenges and tradeoffs the Forest Service might encounter in attempting to reach the desired conditions. Comments were recorded on flip charts by a note-taker. Each breakout group then reported back to the full group on key issues discussed. The workshop concluded with a recap of upcoming opportunities for public input on the Forest Plan.

November 12th workshop

Balancing Forest Health with Water, Soil, and Air Quality

The workshop opened with self introductions of LTBMU staff and workshop participants. Next, the LTBMU Deputy Forest Supervisor, Eli Ilano, presented an overview of the Forest Revision Process, public input received in the September 29-30 and November 3 workshops, and the goals of the present workshop. LTBMU staff members Randy Striplin and Sue Norman followed with a presentation of proposed desired conditions, strategies, and objectives to be incorporated into the Forest Plan on the topic of balancing forest health with water, soil, and air quality, and Stream Environment Zones (SEZs). As before, participants were given an opportunity to ask clarifying questions after each presentation. In the second half of the workshops, participants were again organized into breakout groups of 8-10 individuals and asked to provide comments on the desired conditions, strategies, and objectives as they relate to balancing forest health with water, soil, and air quality and SEZs. Participants were also asked to share their thoughts on what challenges and tradeoffs the Forest Service might encounter in achieving the desired conditions. Comments were recorded on flip charts by a note-taker. Each breakout group then reported back to the full group on key issues discussed. The workshop concluded with a recap of upcoming opportunities for public input on the Forest Plan.

The workshop agendas, desired conditions summaries, and PowerPoint presentations can be found on the LTBMU website: <http://www.fs.fed.us/r5/lbmu/forest-plan/>.

Note: This Summary Report represents our efforts to synthesize the input received by workshop participants during breakout group discussions (captured on flip charts). This report focuses on summarizing the public's input on key forest management and planning issues; it is not intended to serve as a transcript of all issues discussed or points made.

SUMMARY OF LTBMU STAFF PRESENTATIONS

In both workshops, LTBMU staff presented an overview of the historic conditions and current conditions of the Lake Tahoe Basin as these relate to forest structure and health. The staff also presented proposed desired conditions for the focal topics, as well as proposed strategies for achieving these desired conditions. The proposed desired conditions and strategies presented by staff are summarized below. A more detailed description of the desired conditions (handed out at the workshops) is found in Appendix A. At the November 12th workshop, LTBMU staff also presented proposed *objectives* to be achieved by the proposed strategies.

Balancing Forest Health with Fuels Management and Wildlife Habitat *November 3rd Workshop*

Proposed desired conditions for forest health, fuels, and wildlife habitat were summarized as follows:

- Resembles pre-settlement conditions

- Range of wildlife habitat
- Resilient to disturbance
- Natural processes or surrogates occur within the natural range of variation
- Fuel conditions pose low wildfire risk to communities

Proposed strategies to achieve the above desired conditions were summarized as follows:

- Allow natural processes or provide surrogates to restore forest structure, density, and composition
 - Wildland fire use, thinning, prescribed burning, other
- Manage risks
 - Reduce risks to communities and wildlife habitat from catastrophic fire
 - Reduce risks of competition and drought related mortality
 - Reduce risks from bark beetle outbreak
 - Reduce risks from the effects of climate change

Balancing Forest Health with Water, Soil, and Air Quality

November 12th workshop

Proposed desired conditions for physical resources (water, soil, air) and SEZs were summarized as follows:

- Water quality benefits humans and the environment
- Air quality benefits humans and the environment
- Effective erosion control minimizes sediment and nutrient support
- Healthy soils help control runoff and maintain SEZ vegetation
- Stream channel processes operate in harmony with their setting (dynamic equilibrium)

Proposed objectives to be used to measure achievement of the desired conditions include:

- Water & Soil Quality
 - No increase in background levels of annual sediment and nutrient loading from forest uplands on USFS lands as measured/modeled for TMDL
 - Achieve 95% implementation and 90% effectiveness ratings for soil and water protection Best Management Practices (BMPs)
- Air Quality
 - Do not exceed state air quality standards for visibility and human health

Proposed strategies for achieving the above desired conditions include:

- Water & Soil Quality
 - Use techniques appropriate for fuel loads and resiliency/sensitivity of landscape (soil moisture, slope, and distance to water)
 - Employ additional water, soil, and air BMPs
- Air Quality
 - Burn on approved burn days
 - Control dust on roads and landings

SUMMARY OF PUBLIC INPUT ON FOREST PLANNING

In the breakout sessions of each public workshop, participants were asked to address the following questions on the Forest Service's proposed approach to balancing either forest health with fuels management and wildlife habitat (November 3 workshop) or forest health with water quality, soil quality, air quality, and SEZs (November 12 workshop):

1. What are your thoughts on the proposed desired conditions? [Note: Only general comments were requested here, as a substantial amount of public input had already been received and incorporated into the proposed desired conditions through the Pathway Process.]
2. What are your thoughts on the proposed strategies and objectives?
 - a. Are there other strategies and objectives the Forest Service should consider?
 - b. What challenges and tradeoffs do you see in attempting to utilize these strategies?

Public input received is summarized below for each workshop. The comments have been organized under the following topic headings: proposed desired conditions, proposed strategies, proposed objectives (November 12th workshop only), challenges and tradeoffs in attempting to reach the desired conditions, and guiding considerations for the Forest Plan.

Balancing Forest Health with Fuels Management and Wildlife Habitat November 3rd Workshop

Proposed Desired Conditions

Workshop breakout group participants offered the following input on the proposed desired conditions relating to forest health, fuels, wildlife and vegetation:

- General comments on the proposed desired conditions
 - Participants expressed general support for the proposed desired conditions for forest health, fuels, and wildlife habitat. Other comments are described below.
- Comments on the term “pre-settlement conditions”
 - “Properly functioning conditions” is a more appropriate desired condition term than “pre-settlement conditions”
 - The term “pre-settlement conditions” needs to be defined
 - Desired conditions should consider today’s environment in addition to pre-settlement conditions
 - Pre-settlement conditions are not appropriate as a desired condition. It may not be possible to achieve pre-settlement conditions now that the basin is already settled
- Comments pertaining to climate change
 - The desired conditions should consider the potential impacts of climate change

Proposed Strategies

Workshop breakout group participants were asked to comment on the proposed strategies for achieving the desired conditions on forest health, fuels management and wildlife habitat. The following public input was received:

- General comments on the proposed strategies
 - Participants expressed general support for the proposed strategies. Other comments are described below.
- Comments on wildlife habitat strategies
 - Keep protections provided by Home Range Core Areas (HRCAs) and old forest emphasis areas
 - If HRCAs are not used, a scientific explanation for change needs to be provided

- There should be a range of wildlife habitats. When designating a wildlife habitat, fragmentation and quantity of habitat should be considered
- Consider the appropriate use of Protected Activity Centers (PACs)
 - Consider whether PACs limit species' habitats, connectivity of habitat, and sustainability of species
 - PACs should not be isolated
- Consider the effects winter logging has on wildlife habitat. Consider logging in the spring/summer/fall to avoid loss of wildlife habitat in the winter. It is more difficult for wildlife to survive habitat loss in the winter than in other seasons
- Address wildlife habitat in wildland-urban interface (WUI) zones
 - Address how species will be reintroduced to WUI zones
 - Area allocation in the WUI is excessive. Consider whether this amount of land is indeed necessary to protect urban areas, recreation sites, and roads
- Consider individual plant communities when designing thinning, prescribed burn, and planting treatments
- Comments on fuels management strategies
 - Thinning and prescribed burns are effective and are a key tool to achieve properly functioning conditions
 - Prescriptions for specific tree species should be designed
 - Planting should be considered
 - Thinning alone is not a sufficient alternative to wildfires and understory burns
 - Thinning and prescribed fire both need to occur to be effective.
 - Although fire cannot occur the way it did in pre-settlement times, prescribed fire is a step towards forest health
 - Wildfire protection and habitat enhancement should be balanced
 - Prohibit residential building in areas identified as high risk wildfire zones
 - Preventing wildfires is key
 - Put fires out more efficiently
 - Have a fire fighting crew stationed at the airport
 - Fire experts should prioritize areas in need of fire suppression
 - Continued cooperation with agencies is desired
 - Preferred alternatives to pile burning are
 - 1) Use of biomass for energy production, and
 - 2) Understory burning
 - Address smoke management. The Forest Service needs to inform the public of when controlled burns will be implemented so that people will understand why air quality is poor

Challenges and tradeoffs in achieving the desired conditions

Workshop breakout group participants were asked to comment on challenges and tradeoffs the Forest Service might encounter in attempting to achieve the proposed desired conditions for forest health, fuels management, and wildlife habitat. In general, participants acknowledged that the Forest Service faces management constraints and will have to prioritize its actions. The following public input was received:

- Funding challenges
 - The Forest Plan should be tailored to funding levels and priorities
 - Priorities should be determined by values and science: residence, wildlife habitat, water quality, recreation, etc.
 - The Forest Service should prioritize areas for treatment based on a cost/benefit analysis

- Example: Incline Lakes is a lower priority because it lacks developed recreation
 - Partner with other local agencies to meet funding challenges
 - It will be difficult to maintain tree size and structure within budget constraints
 - Biomass needs more subsidies and funding
- Fuels Management Challenges
 - Several participants pointed out that fuels reductions will need to be balanced with other considerations (i.e. wildlife habitat)
 - The Forest Service's management priorities should be (in order of importance):
 - 1) Wildland fire use
 - 2) Prescribed burns
 - 3) Thinning
 - 4) Biomass
- Wildlife habitat challenges and tradeoffs
 - The Forest Service should consider possible tradeoffs in managing for both community protection and PACs. The Forest Service should analyze how much of the PACs are in defense zones and threat zones

Guiding considerations for the Forest Plan on the topic of forest health, fuels management, and wildlife habitat

Workshop participants offered general guidance for Forest Plan implementation:

- Successful forest management is dependent on good science and good judgment
- The Forest Plan needs to define how 10" and 16" diameter trees will be managed

**Balancing Forest Health with Water, Soil, and Air Quality
November 12th Workshop**

Proposed Desired Conditions

Workshop breakout group participants offered the following input on the proposed desired conditions relating to water quality, soil quality, air quality, and SEZs:

- General comments on the proposed desired conditions
 - Participants were generally supportive of the proposed desired conditions relating to water quality, soil quality, air quality, and SEZs. Additional comments are described below.
 - The desired conditions for the WUI should not be the same for other areas (e.g., pre-settlement conditions are not a desired condition for the WUI)
 - The desired conditions should focus on land coverage, and permanent disturbance.
 - The desired conditions should address the impacts of greenhouse gas emissions
 - Some desired conditions may apply to basin-wide management, but others may be more appropriately focused on specific regions
- Comments on soil quality desired conditions
 - For soil quality desired condition #5 (on the desired conditions handout), add "lake clarity" to the end of the statement
 - Soil quality desired condition #1 should read, "soils function commensurate with their land use to sustain *and improve* native plant and animal life, . . ."
 - Soil quality desired condition #4 should read, "Soil productivity is adequate to sustain *and improve* healthy populations . . ."

- Soil quality desired condition #4 uses the phrase “desirable non-native plant communities”. Confirm this intent
- Comments on water quality desired conditions
 - Desired conditions for water quality should be to *improve* lake clarity
 - Water quality desired condition #1 should include “restored to 1972 levels”
 - Water quality desired condition #3:
 - Insert the words “full protection” after “water quality provides . . .”
 - Insert “meets applicable water quality standards and goals”
- Comments on air quality desired conditions
 - Established air quality environmental thresholds are desirable
 - There should be an air quality desired condition for visibility
- Comments on SEZs
 - There should be a desired condition that addresses in-stream habitat
 - The Forest Plan should state that SEZs should be restored to healthy conditions
 - Stream channel processes should reflect naturally functioning conditions, such as sinuosity
 - The Forest Plan should clarify how the desired conditions differ for SEZs and urban areas
- Comments pertaining to climate change
 - The Forest Service should address climate change by monitoring changes from year to year

Proposed Strategies

Workshop breakout group participants were asked to comment on the proposed strategies for achieving the desired conditions for water quality, soil quality, air quality, and SEZs. The following public input was received:

- General comments on the proposed strategies
 - Participants were generally supportive of the proposed strategies described. Additional comments are included below.
 - Forest Plan management strategies should plan for climate change
 - The Forest Service should maximize carbon sequestering
 - Forest Plan strategies should be coordinated with other regional plans (e.g., The Heavenly Master Plan)
 - Work with other agencies to achieve habitat connectivity in WUI zones. There is a need for coordination between agencies to address connectivity issues across jurisdictional boundaries
- Comments on water quality strategies
 - The Forest Plan should address how water quality issues will be addressed with adjacent properties (i.e., across jurisdictional boundaries)
 - The water quality strategy should say that it will rely on Water Erosion Prediction Project (WEPP), an erosion prediction model, and other improved models that examine fine sediment inputs to the lake
 - The Forest Plan should have provisions for road widening to accommodate new equipment
 - Water and air quality strategies should be coordinated to manage sediment from controlled burns
 - There should be an acceptable number of burn days to limit the amount of sediment deposition into the lake
 - Forest Service should work with other agencies on sedimentation studies
- Comments on soil quality strategies

- Leverage other technologies (e.g. yarding) for fuels treatments on slopes of 30% grade and greater
- Comments on air quality strategies
 - Control dust on paved land by using vacuum sweeper equipment
 - Burning in the basin has a negative impact on recreation opportunities due to poor air quality. Hand removal of fuel is preferred
 - Include that dust should be controlled on entire project areas
- Comments on SEZ strategies
 - The Forest Service should take a comprehensive approach to restoring SEZs. SEZ restoration projects should address multiple objectives (including fuels reduction, fuels removal, and stream restoration) with a single entry
 - The description for SEZ burning is too vague. The Forest Plan should address how understory burns would be used in SEZs
 - Vegetation should not be burned in SEZs or on 30 degree slopes
 - Consider removal of fuel in the winter as an option
 - Consider alternatives for fuel removal on 30 degree slopes, including by helicopter
 - Explore new biomass opportunities
 - Trails should be constructed to minimize erosion to stream zones and lakes
 - The Forest Plan should state which watersheds are of priority for restoration (i.e., which watersheds need the greatest amount of improvement to achieve the desired conditions)
 - Thin forest in Barton Meadow to:
 - Create a more scenic environment
 - Facilitate monitoring of homeless camp
 - Prioritize fuels management techniques used per project by cost/benefit analysis

Proposed Objectives

Workshop breakout group participants were asked to comment on the proposed objectives for water quality, soil quality, air quality, and SEZs. The following public input was received:

- General comments on the proposed objectives
 - Objectives should be revised in the 5-year Comprehensive Evaluation Report
 - The Forest Plan should have measurable objectives
- Comments on water quality objectives
 - Water quality should be tied to measurable results for all lakes
 - A new water quality objective should be “no increase and a 10% reduction in sediment loading”
 - There is a tradeoff here, as reducing sediment loading by 10% will cost more.
 - Aim for improvement of water quality and a reduction of fine sediment
- Comments on air quality objectives
 - Objectives should include achievement of local air quality standards
- Comments on SEZs objectives
 - Considering the flooding effect of climate change, the Forest Plan should anticipate what will SEZs look like in 20 years

Challenges and tradeoffs in achieving the desired conditions

Workshop breakout group participants were asked to comment on challenges and tradeoffs the Forest Service might encounter in attempting to achieve the proposed desired conditions for forest health, water quality, soil quality, air quality, and SEZs. The following public input was received:

- The Forest Plan should consider whether soil quality is negatively affected by fuels management techniques (including burning)
- There is a tradeoff between timing of pile burning and degree of fire threat if fuel is not removed
- Mechanical fuels management should be a priority over other fuels management techniques when there is limited budget for the urban/wildlife interface
- The phrase “balancing health with water, soil, and air quality” is awkward. A better alternative phrase is “simultaneously achieving a balance between forest health and water, soil, and air quality”

Guiding considerations for the Forest Plan on the topic of forest health, water quality, soil quality, air quality, and SEZs

Workshop participants the offered general guidance for Forest Plan preparation and implementation:

- The Forest Service should provide maps of all streams and rivers to the public
 - This will help educate the public
 - Include water and restoration project sites on this map
 - Also include what has been accomplished. This will help build community morale and public relations
- Comprehensive Evaluation Report reviews should be integrated with other management processes in the basin
- Consider socio-economic impacts of techniques used
 - Consider who is going to benefit economically from timber removed for fuels management
- The Forest Plan should explicitly state in writing that there will be an assessment of the cumulative impacts on environmental values in the basin (or this should be stated in the appropriate management document)
 - The Forest Service should do a cumulative analysis of the plan. The Forest Plan needs to state when and at what level a cumulative analysis will be done
 - Example of an assessment: Utilize watershed models to determine the cumulative impact on lake clarity
 - There should be a cumulative analysis done every 10 years
- The Forest Plan should identify how conflicts will be resolved—e.g., the debate over burn days
- Include “protect recreation values when conducting fuels management and other forest management activities”

NEXT STEPS IN THE FOREST PLANNING PROCESS

LTBMU staff outlined the following key next steps in the Forest Plan revision process:

1. LTBMU staff will use the outcomes of the November 3rd and 12th, 2008 public workshops to inform the development of a Proposed Forest Plan Revision.
2. The next forest planning public workshop will focus on recreation management and take place on:
Monday, December 1st, 2008
Location: North Lake Tahoe @ Sierra Nevada College

Time: 6:00pm – 8:00pm

3. The workshop facilitators will prepare a Summary Report of the December 1st workshop. The Summary Report will summarize key outcomes from the workshop and will be posted on the LTBMU website. LTBMU staff will notify workshop participants who signed in when the Summary Report is posted.
4. LTBMU staff is aiming to complete preparation of a “Proposed Forest Plan” for public review in the spring of 2009. At that point, there will be a formal 90-day comment period for the public to review and comment on the entire Plan, as stipulated in the 2008 Planning Rule.
5. LTBMU staff will incorporate and address public comments received on the Proposed Forest Plan into a pre-decisional Forest Plan, which is expected to be released in late summer 2009. At that point, members of the public who have commented previously and are not satisfied with the revisions to the Proposed Forest Plan will have a 30-day period to file formal “objections” for consideration by the Regional Forester for the Pacific Southwest Region.

APPENDIX A



Forest Plan Revision

Lake Tahoe Basin Management Unit November 12, 2008 Public Workshop

Vegetation, Fuels and Forest Health

Past management practices (i.e. heavy logging, fire suppression and grazing) have combined to significantly alter the general ecological conditions within the Lake Tahoe Basin. In recent years, the understanding of ecosystem processes and the management of public land has benefited from the incorporation of new science data.

It is apparent that a more complete integration of restoration efforts are necessary to successfully restore public lands –specifically forested landscapes, natural watershed processes and forest structure. Restoration should be accomplished while also reducing the wildfire hazard to communities and maintaining and enhancing quality habitat for the Basin’s diversity of native plants, fish, and animals. Additionally, climate change is expected to bring rising air temperatures and changes in precipitation patterns in the West; expected to lead to an increased risk of high severity fire and shifts in species ranges (including potential invasion by non-resident native and exotic plants, insects and diseases).

Current –and predicted future– conditions present complex challenges for management in the Lake Tahoe Basin as a result. Perhaps chief among these challenges is sustainably balancing the restoration of fire-adapted ecosystems and the planning and implementation of fuels reduction projects to protect public and private assets, with the legal and biological necessity of preserving habitat for species that require dense canopy, late Seral forest conditions.

APPENDIX A

Forest Plan Revision – Public Workshop Nov. 12, 2008

Integrated Vegetation, Fuels, Wildlife, Forest Health Desired Conditions

1. Diverse forest stand densities, structure, and species are representative of historic disturbance regimes. The overall species mix, size classes, and mixture of stand conditions across the landscape results in a forest that is resilient to catastrophic fire and insect and disease outbreaks, and is characterized by high quality wildlife habitat that supports a diverse range of native species.
2. Disturbance processes such as fire, insects, and disease occur in the ecosystem within the natural range of variability, and where this is not feasible, surrogates that effectively mimic natural disturbance are carefully used. This diversity of vegetation conditions is present throughout the entire forest, including riparian and special areas, supporting a diversity of native plant, fish, and wildlife species while enabling the forest to respond to a changing climate.
3. At both the stand and the landscape level, the Basin's forests more closely resemble vegetative conditions that were shaped by natural disturbance and other evolutionary processes. Because vegetative conditions are shaped by more frequent, low intensity fire, resulting conditions help protect the public from fire hazards.
4. Fuel treatments decrease wildfire intensity and severity while providing firefighters with better opportunities to successfully halt wildfires before they threaten communities. Habitat and ecosystem diversity are maintained or improved during fuel reduction and vegetation treatments to achieve some combination of the following goals:
 - Decrease risk to California spotted owl and northern goshawk PACs from wildfire
 - Create early seral stages
 - Reset the system for long-term old growth restoration
 - Increase tree growth rates to more rapidly generate old forest conditions
 - Release aspen stands and restore riparian areas and meadows
 - Maintain and/or improve habitat connectivity
 - Improve and/or maintain forest health
5. Appropriate ecological conditions are provided throughout the Plan area to recover federally listed species, to support species of concern and avoid their federal listing, and to manage for species of interest.

APPENDIX A



Forest Plan Revision

Lake Tahoe Basin Management Unit

November 12, 2008 Public Workshop

Physical Resources Desired Conditions

Physical resources – soil, water and air – provide the natural physical infrastructure that supports the wide variety of life forms that inhabit the Lake Tahoe Basin - plants, animals, insects, microbes, and others. Ecosystem health is dependent on maintaining the quality of all these resources and on maintaining adequate stream flows, lake levels, and groundwater.

The following are excerpted from the Proposed LTBMU Forest Plan. The Proposed Plan will include additional desired conditions for water use.

Air Quality

1. Air quality in the Lake Tahoe Basin is healthy for humans and ecosystems. (Pathway)

Soil Quality

1. Soils function commensurate with their land use to sustain native plant and animal life, regulate water flow, flooding and infiltration, cycle nutrients, and filter pathogens, excess nutrients and other pollutants.(Pathway)
2. Land coverage does not exceed the capability of the soil resources to offset the effects of impervious cover. The effects of impervious cover and disturbance are fully mitigated on a storm water zone basis. (Pathway)
3. Soils accept (infiltration), transmit (hydraulic conductivity), and store water at rates and in quantities commensurate with the soil and ecosystem type.
4. Soil productivity is adequate to sustain healthy populations of native and desired non-native plant communities appropriate to the soil type.
5. Accelerated (human-caused) soil erosion and resultant sediment and nutrient transport to surface waters do not impact soil productivity or water quality.

APPENDIX A

Forest Plan Revision – Public Workshop Nov. 12, 2008

Water Quality

1. Lake Tahoe's status as one of the few large, deep, ultraoligotrophic lakes in the world with unique transparency, color, and clarity is preserved. (adapted from Pathway)
2. Water quality conditions in the Lake Tahoe Basin protect human and environmental health. (Pathway)
3. Water quality provides for all designated beneficial uses of waters and meets the goals of the Clean Water Act and Safe Drinking Water Act; it is fishable, swimmable, and suitable for drinking after normal treatment.

APPENDIX A

Forest Plan Revision – Public Workshop Nov. 12, 2008

Stream Environment Zone Desired Conditions

Stream environment zones are areas that owe their biological and physical characteristics to the presence of surface or ground water. Stream environment zones include perennial, intermittent and ephemeral streams, meadows and marshes, and other areas of near-surface water influence. This concept is specifically defined by the TRPA and is generally accepted by Tahoe Basin land management agencies, regulatory agencies, and the general public.

SEZs are a land management concept, as well as an ecological concept. They comprise a set of ecotypes, and the ecological and human values of these ecotypes drive use and management policy and regulation. While SEZs constitute a relatively small percentage of the Tahoe Basin's total land area, they are highly valued for their role in providing wildlife habitat, water purification, and flood control, as well as recreational and scenic resources.

The following is a sample of the desired conditions for SEZs. The Proposed LTBMU Forest Plan will include additional desired conditions that expand on the concepts below, as well as a set of aquatic habitat desired conditions for fish, wildlife, and plants.

1. SEZ physical and chemical processes function naturally within the constraints and dynamics of the watershed, including, but not limited to, natural hydrologic processes, water quality, and stormwater treatment capacity. (Pathway)
2. Watershed characteristics, such as hydrologic, fluvial, and littoral geomorphic processes, approximate natural conditions where attainable. (Pathway)
3. SEZ biological processes function naturally within the constraints and dynamics of the watershed. Vegetation, terrestrial wildlife, and aquatic communities are healthy and sustainable. (Pathway)
4. Beneficial uses of SEZ lands for water management, cultural and scientific purposes, limited agriculture, and recreation are compatible with the naturally functioning conditions, as stated by desired conditions for physical, chemical, and biological functioning. (Pathway)