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I. INTRODUCTION

A. Context

The extraordinary mountain beauty and the startling clarity of Lake Tahoe combine to create a unique international treasure. The Lake is the one of the largest and deepest in the world, and its stunning blue color has drawn people to its shores for centuries. Lake Tahoe as an international treasure is further acknowledged by its designation as an Outstanding National Resource Water under the Federal Clean Water Act. Over the past 50 years, our enjoyment of this special place has damaged fragile ecosystems and altered its watershed. In much of Lake Tahoe's developed areas, the built environment does not reflect the natural beauty of the surroundings. Community planning efforts over the last 10-15 years have identified an urgent need to restore, improve and enhance the built and natural environments. The Community Enhancement Program is consistent with these efforts and provides another tool to help achieve the visions characterized in this document.

B. The Community Enhancement Program

The Community Enhancement Program (CEP) has been conceived as an integral part of the Lake Tahoe regional plan update process (Pathway 2007) to serve a number of important roles. The Program is intended to provide a means to demonstrate implementation of the regional through the implementation of selective projects. The Special Projects section of the TRPA Code provides the opportunity for TRPA and our local jurisdiction partners to create the CEP (a.k.a. demonstration program) under the existing TRPA Code of Ordinances. The CEP builds upon Special Projects criteria and incorporates elements of the regional vision obtained through the Placed Based planning process. These elements further clarify the goals of the Special Projects and are aimed to assist in moving the Lake Tahoe Basin toward attainment of the environmental thresholds.

The focus of the CEP is to implement projects that demonstrate substantial environmental, as well as, social and economic benefits through mixed-use development projects on existing disturbed and/or underutilized sites. The program is competitive and is designed to encourage the "best" projects that will demonstrate the desires of the community captured in the regional vision and outlined in the Special Projects code section. The CEP is front loaded to shape projects early in the design stages to ensure they meet the criteria, rather than react to projects that are completely designed before submittal. It is hoped that these projects, in turn, will be catalysts for further upgrade of Basin community centers, transit nodes and neighborhood centers.

The CEP is intended to inform the Lake Tahoe regional plan update. We expect to learn how to encourage "net gain" results from proposed community reinvestment and redevelopment activities. By 'net gain', we mean we hope to achieve improvements that benefit the built and natural environments. The CEP provides a framework and a process to identify and facilitate projects that help to demonstrate the success of regional planning principles, accelerate attainment of environmental thresholds, and achieve community revitalization with local and regional benefits.

What do we mean by Net Gain?

The concept of ***net gain*** is when a program or project:

- ***provides a net environmental gain*** for environmental values relevant under the Compact (i.e., accelerates attainment of thresholds), and
- ***is consistent with social and economic goals*** of local jurisdictions or development partners.

Net gain means that improvements **benefit both the built and natural environments**.

Net gain does not mean that there is equal weight placed on one or the other, but that there are **positive outcomes rather than one element benefiting at the expense of the other.**

The CEP is not a code avoidance program. Community Enhancement Projects are intended to provide clear public benefit, feature public-private partnerships and help inform possible improvements to local/regional codes and regulations. In addition, the CEP will showcase a commitment to timely revitalization with incentives related to successful implementation.

Collaboration between the community, TRPA, local jurisdictions, institutional partners and developers is the key to a successful program.. The CEP includes a single consolidated system that works at all levels among the various jurisdictions and entities.

Implementation of the Program is based on a partnership approach that has been organized into four steps:

1) Pre-application – does the project concept plan meet the pre-requisite criteria to be considered a CEP project,
2) Application for Review of specific CEP selection criteria,
3) Approval/Award of Commodities/CEP project designation by TRPA Governing Board,
4) Project delivery – Full project application to TRPA Environmental Review Services and local jurisdictions project review within one year of award of commodities, see Section IV.

Applicants are encouraged to submit or be prepared to present their concept plans at up to three coordinated pre-application meetings scheduled during the 90-day submittal window. Only new project applications will be accepted. See Section VII Project Proposal Submittal Requirements, for additional details and pre-application meeting deadlines.

II. GOALS AND OBJECTIVES

Projects implemented through the CEP are intended to be consistent with the Regional Vision and Planning Concepts for the Lake Tahoe Basin (2007) (Attachment A). The Program focuses on the more urban areas of the Basin as much of the past development in these areas offers the greatest potential for environmental, social and economic improvement. Many of these goals and objectives overlap and weave together to create the types of communities this program is promoting. Specifically, the goals and objectives of the Program are as follows:

A. Place- Based Program Goals and Objectives:

1. **Create/Enhance mixed-use Community Centers**

   General
   - Enhance community character in urban centers
   - Encourage mix of quality housing options, tourist accommodation options and compatible commercial uses that will serve the local population and the tourist population.
   - Provide a variety of sustainably designed housing, lodging and commercial choices to meet the needs of locals and visitors
   - Implement Green Building Design

   Housing
   - Provide a variety of sustainably designed housing,
   - Provide housing that is economically attainable for basin employees
   - Maximize density to achieve transit oriented development

   Commercial
   - Consolidate commercial uses for economic, social and environmental gain

2. **Create a multi-modal transit future**

   Pedestrian Oriented/Transit Accessible
   - Enhance and/or create multi-functional pedestrian activity centers that are walkable and provide multi-modal transportation linkages
   - Reduce dependence on the automobile

3. **Strengthen and create gathering places and economic centers**

   Gathering Places
   - Enrich the Lake Tahoe region and improve resident's quality of life by providing new and improved gathering places, community services and cultural centers
   - Encourage incorporation of cultural features, public spaces, public service areas within project designs

B. Special Project Goals and Objectives

Environmental Improvements

4. **Promote projects that result in the construction of threshold-related environmental improvements**
    - Provide area-wide (not parcel by parcel) urban water quality improvements that leverage private investment for environment gain, link to existing or future systems, and are maintained in the long term.
    - Respond to site location and typical neighborhood contextual situations through site design, arrangement of building volumes, and the natural surroundings.
    - Enhance visual quality of and views from scenic roadway units, shoreline units, and resource areas. Increase/enhance viewsheds from these areas to Lake Tahoe
    - Provide public access and opportunities to recreational facilities such as trails, bike paths, beaches, and playgrounds/parks.
    - Be located in urban core areas and promote pedestrian friendly/ transit oriented development.
    - Restore and/or protect native vegetation to reduce erosion potential and promote wildlife benefits
    - Provide a reduction in overall land coverage
    - Protect and enhance existing cultural/historic resources
    - Ensure compatible land uses that minimize noise
    - Implement an EIP Project

5. **Promote transfer of development that results in substantial environmental benefits**
    - Maximize density to achieve transit oriented development by transferring existing units of use from outside the urban core
    - Transfer existing development from sensitive lands and restoration of those lands
    - Provide a variety of housing options utilizing existing units of use

6. **Rehabilitate substandard development**
    - Create consolidated commercial and mixed-use development in the urban core
    - Implement 'green' building design
    - Rehabilitate disturbed sites and restore sensitive lands

C. Process Goals and Objectives

7. **A process and projects that will inform the new Regional, Local and Community Plan updates**

8. **Projects that feature a public/private partnership for cooperative implementation.**
    - Provide projects that have clear public benefits with strong public support.
    - Leverage private investment to provide the local share of Environmental Improvement Program.
    - Projects are catalysts for further community revitalization.

9. **A model process for multi-jurisdictional review of project permits, implementation and monitoring.**

    - Implement on-the-ground projects in a reasonable and timely fashion.
    - Provide an effective program designed to facilitate both large-scale and small-scale projects.

III. PROJECT DEFINITION, PRE-APPLICATION CRITERIA AND PREREQUISITE INFORMATION REQUIREMENTS

The CEP is built off of the TRPA Special Projects (TRPA Code Section 33.3.D (3). Community Enhancement Projects must be defined by the planning, land use/transportation, environmental, public benefit and economic/financing factors listed below and in the criteria outlined in Section VI.

The following are the pre-application requirements for a Community Enhancement Project. These required criteria are the basis for project evaluation consistent with the process set forth in this document. Only those proposed projects that meet all requirements listed below, as determined by TRPA and the applicable local jurisdiction, are eligible to move forward in the process. TRPA retains the discretion to accept or reject any or all pre-applications or applications.

1. Be consistent with the Regional Vision and Planning Concepts. (See Attachment A)

2. Located in an approved Community Plan or Master Plan area (Note: Industrial Community Plans are not eligible). Projects located in areas currently in the approval process for new Community Plans and/or Master Plans may be considered under this program. This will be subject to the timely approval of the Community Plan and/or Mater Plan in relation to the timing of the CEP implementation. Additionally, the Special Projects Criteria in the TRPA Code will need to be amended to accommodate projects in this category.

3. Be consistent with those provisions of the approved Community Plans or Master Plans that reflect the vision, goals and objectives of the Regional Plan Update and Pathway 2007 Planning Process (including the established overall planning themes, principles and environmental thresholds/targets);

4. Implement or substantially contribute toward the implementation of an Environmental Improvement Program (EIP) project (based on priority projects and contribution to the EIP) as a part of the overall project. The EIP project chosen must address a Threshold standard found not to be in attainment per the 2001 Threshold Evaluation, and provide substantial environmental benefits or mitigation in excess of TRPA's project mitigation requirements. See Attachment B for EIP list of projects.

5. Where applicable, projects should include a transfer of existing development from sensitive lands that result in significant net environmental benefits including restoration of the sensitive lands,

6. Provide for significant environmental benefits as judged by the nine threshold categories of TRPA's Special Project Program, the amount of threshold improvement based on the project and the number of thresholds improved. Specific categories include but are not limited to improved recreation access to the lake, scenic improvements, vegetation restoration, large scale drainage improvements, etc.

7. Establish successful relationships between all partners (public and private) including public and local jurisdiction support, financing assurances and a commitment for timely completion (including a construction schedule) to ensure successful implementation;

8. Provide for other benefits such as community character enhancements, green building and neighborhood design, redevelopment and/or revitalization of existing substandard properties;

9. Include considerations for measuring immediate and long-term net gain (i.e. environmental, social and economic performance).

10. Demonstrate market demand/support, economic feasibility and financial benefits (i.e. additional net new public tax revenue) to the applicable local jurisdictions.

See Section VII for Submittal Requirements.

IV. DEVELOPMENT COMMODITIES AND INCENTIVES

TRPA and its local government partners have certain financial and non-financial incentives available to assist proposed projects that meet the established project requirements and selection criteria. These incentives include:

A. Regionally Available Commodities: Commercial Floor Area, Tourist Accommodation Bonus Units and Multi-Residential Bonus Units

Under the CEP approximately 180,000 square feet of available Commercial Floor Area (CFA) and 172 Tourist Accommodation Bonus Units (TABU), and approximately 850 Multi-residential Bonus Units (MRBU)(subject to change based on existing projects currently being reviewed) are being made available for assignment to proposed projects in the Lake Tahoe Basin that are consistent with the approved requirements and selection criteria, and the Tahoe Regional Planning Agency and local jurisdiction's Code of Ordinances. Projects shall be selected pursuant to the process set forth in this document.

For the purposes of the CEP, the available commodities could be used in any of the local jurisdictions within the jurisdiction of TRPA, including El Dorado County, Placer County, City of South Lake Tahoe, Douglas County and Washoe County. Each local jurisdiction will receive a base allocation of 10,000 square feet of CFA. The balance of the commodities (130,000 sf of CFA, 172 TABU, & ~800 MRBUs) are available to be applied for by any project within any local jurisdiction. The projects that best meet the criteria laid out in this Program will receive these additional commodities. Projects that do not meet the criteria, will not be allowed to proceed through the process and will not be allocated any commodities.

Any portion of the subject commodities not applied for within ninety (90) days from the date of the Community Enhancement Project Call for Submissions, or committed to an approved project(s) per the proposed project requirements and selection criteria shall be returned to the pool of available commodities for potential allocation for other projects in the subject jurisdictions. If additional commodities are left available, TRPA may choose to reissue these commodities under this program for subsequent years until the new regional plan is implemented. This will be determined at a later date.

Likewise if a proposed Community Enhancement Project receives an assignment of commodities but the proposed project does not commence construction in accordance with an agreed upon development schedule, such commodities would be returned to the available pool for potential assignment to other projects.

In accordance with the TRPA Special Projects (Code Subsection 33.3.D (3)): 1) the maximum allocation that may be approved for a special project/Community Enhancement project area within a calendar year is 50,000 square feet of CFA; and 2) assignments of Community Enhancement Project allocations shall be valid for one (1) year unless extended by TRPA and the applicable local jurisdiction upon showing adequate progress toward a project approval.

B. Other Incentives

TRPA

i. TRPA and local jurisdiction joint streamlined project application process for the CEP projects selected;
ii. Established priorities for EIP projects with joint funding opportunities for environmental enhancement costs associated with approved CEP projects;
iii. Project will be evaluated based on the merits, relevance to the purposes and goals to this program. Specific development standards (height and density) may be able to be amended to facilitate the chosen demonstration project. These standards have been found to be limiting factors in providing the types of mixed use developments promoted through this program. Changes will be site specific and context sensitive in nature. There will be standards in place to protect the community character. Each project will be evaluated against its contribution to overall benefits of the program.

Local Jurisdictions

1. Established priorities for allocation of Capital Improvement Program (CIP) funding for public infrastructure/improvement costs associated with approved Community Enhancement Projects;
2. Potential redevelopment public financing assistance (in applicable established redevelopment project areas);
3. Project will be evaluated based on the merits, relevance to the purposes and goals to this program. Specific development standards (height, density, and parking restrictions) may be able to be amended to facilitate the chosen demonstration project. These three standards have been found to be limiting factors in providing the types of mixed use developments promoted through this program. Changes will be site specific and context sensitive in nature. There will be standards in place to protect the community character. Each project will be evaluated against its contribution to overall benefits of the program.
4. Each Community Plan may have additional commodities (CFA, TABUs) available depending on the location of your project. Use of these additional commodities is subject to the local jurisdictions and TRPA's Codes and approvals.
5. Establishment of pre-land use entitlement designations that would accommodate proposed land uses of an approved project;
6. Efforts to secure other third-party state and federal funding sources that could potentially assist in funding of applicable cost of an approved project.

V. PROJECT SELECTION/REVIEW PROCESS

The process for submittal, selection/review, recommendation and consideration/approval of both pre-applications and project applications is presented below. The proposed time schedule for processing, review and approval of the proposed Community Enhancement Project applications is presented in Attachment 1.

Step 1: Issuance and Circulation of Call for Submissions
Issuance of Community Enhancement Projects Call for Submissions, including press releases, marketing, noticing, advertisement and outreach to the development, business, environmental communities related to issuance of the Call for Submissions.

Step 2: Public Notice Re: Intention to Assign Commodities (90-day notice)
Issuance of the required 90-day public notice regarding the intent of TRPA Board to consider/approve assignment of commodities. This will occur simultaneously with Step 1.

Step 3: Submittal of Pre-Applications
Submittal of pre-applications by proposed project proponents (in conjunction with local government jurisdictions)

Step 4: Pre-Application/Best Practices Pre-Meetings
Pre-application meetings with TRPA and applicable local jurisdiction staff representatives, and proposed project proponents for review of proposed projects based on Community Enhancement Project requirements and selection criteria. Staff may request additional information as may be necessary.

Step 5: Review of Pre-Application
Review of pre-applications by TRPA/applicable local jurisdiction staff representatives regarding: 1) determination of consistency/compliance with Community Enhancement Project pre-requisites; and 2) recommendations regarding which proposed projects are designated for submittal of project applications.

Step 6: Public Meeting
To provide the public the opportunity to review the applicant's development proposals early in the process, CEP applicants will be asked to present their concept plans to the public at an evening meeting. Depending on the number of applicants, a north shore and south shore meeting may be scheduled. The public may provide initial feedback at this meeting or provide verbal or written comments to the APC and Governing Board (See Step 7).

Step 7; Joint APC/Governing Board Meeting Public Comment
Public comments to be received based on the applicant's presentation at the public evening meetings (See Step 6). This will provide the APC and Governing Board members the opportunity to listen to the interests of the public prior to TRPA staff making a determination as to which projects will be given the opportunity to make application for the award of commodities and/or designation as a CEP project under the program.

Step 8: Notification to Project Proponents
Notification to proposed project proponents by TRPA staff regarding: 1) determination of compliance or non-compliance with Community Enhancement Project requirements; 2) invitation to submit complete application package. Staff shall have the ability to assign, modify and/or recommend project area boundaries to encourage coordinated planning, site design and opportunities for environmental improvement. Information regarding recommendations for projects invited to submit project applications provided to local jurisdiction governing boards, APC and TRPA Board – informational purposes only.

Step 9: Submittal of Project Applications
Submittal of complete project application package by invited project proponents for CEP review.

Step 10: Review of Applications
Review of proposed project applications by TRPA/applicable local jurisdiction staff representatives based on established CEP selection criteria.

Step 11: Recommendation for Assignment of Commodities/CEP Project Designation
Staff recommendations for assignment/award of commodities by TRPA staff based on established CEP selection criteria.

Step 12: Review/consideration of Assignment of Commodities/CEP Project Designation Recommendations by Project Review Committee (PRC) / Advisory Planning Commission (APC)
Review and consideration for approval of TRPA staff recommendations regarding proposed assignment/award of CEP commodities and/or designation as a CEP project.

Step 13: Review/approval of Proposed Commodities/CEP Project Designation by TRPA Governing Board
Review, consideration and approval of recommendations regarding proposed assignment/award of CEP commodities and/or designation as a CEP project by TRPA Board.

Step 14: Submittal of Project Application to Local Jurisdiction and TRPA for Joint Project/Environmental Review within 1 year of Assignment/Award of Commodities

VI. PROJECT SELECTION CRITERIA

The following is the specific criteria to be used to review and evaluate proposed Community Enhancement Project applications. CEP projects are to reflect the revitalization opportunities, the context and the needs of the local community in which they are proposed to be located. Projects will be selected based on their ability to offer 'net gain' solutions for Lake Tahoe Basin communities. Projects will be reviewed against the criteria below and against each other for their overall quality, character and suitability. TRPA retains the discretion to accept or reject any or all pre-applications or applications. Projects selected will be recommended to the APC and GB to receive certain commodities, and for designation as a CEP project.

Place-based Goals and Objectives:

Goal 1: Create/Enhance mixed-use Community Centers

General:

A. Enhance community character in urban centers
   a. proposed project is compatible with the scale, massing with existing neighborhood character; provides for appropriate scale transitions
   b. proposed project design includes relationship/orientation of buildings toward public street frontage; use of transparent ground floor elements including windows and locating commercial buildings abutted to the street with parking located to the rear/side of building(s)
   c. enhances public street rights-of-way through streetscape improvements
   d. compatibility with existing/planned uses in neighborhood/area
   e. proposed project design is responsive to the Lake Tahoe region

B. Encourage mix of quality housing options, tourist accommodation options and compatible commercial uses that will serve the local population and the tourist population.
   a. proposed uses are compatible with adjacent existing and/or planned land uses
   b. includes a combination of land uses including residential, commercial (e.g. retail, office, etc.), recreation, and/or public uses (e.g. civic , governmental, quasi-governmental) - not industrial uses
   c. located on a site already served by existing public infrastructure (water, sewer, drainage, utilities, etc.) or in an area planned for extension/improvement of such public infrastructure

C. Provide a variety of sustainably designed housing, lodging and commercial choices to meet the needs of locals and visitors
   (See Goal 1 and Goal 6 criteria)

D. Implement Green Building Design
   (See Goal 6 criteria)

Housing:

E. Provide a variety of sustainably designed housing
   (See Goal 1 and Goal 6 criteria)

F. Provide housing that is economically attainable for basin residents and employees
   a. includes employee, affordable and moderate income housing in the context of a mixed-income project; housing units being comparable in type and quality as market rate units
   b. replaced affordable housing units (if any) provide for similar type, size, and tenure (ownership, rental, etc.) as those units planned to be removed from the site. Also results in reasonable rents and/or per unit prices.
   c. provides for a variety of housing types, sizes, prices/rents and tenure (ownership, rental, etc.) to serve a wide range of economic levels and age groups
   d. no net loss of affordable residential units (as defined by HUD and TRPA)
   e. includes development of workforce housing as a substantial component of the proposed project (e.g. at least 20% of the number of residential units based on CA Redevelopment legislation)
   f. provides assurances for ongoing long-term use/operation as employee, affordable or moderate income housing through regulatory provisions/deed restrictions

G. Maximize density to achieve transit oriented development

Commercial

H. Consolidate commercial uses for economic, social and environmental gain
   a. contributes to approved strategies for achieving a mixture of commercial retail/business uses
   b. provides for, and promotes opportunities for local and/or regional business ownership
   c. provides commercial uses that result in a concentration of jobs/employees
   d. proposed uses are compatible with adjacent existing and/or planned land uses
   e. includes a combination of land uses including residential, commercial (e.g. retail, office, etc.), recreation, and/or public uses (e.g. civic , governmental, quasi-governmental) - not industrial uses
   f. located on a site already served by existing public infrastructure (water, sewer, drainage, utilities, etc.) or in an area planned for extension/improvement of such public infrastructure

Goal 2: Create a multi-modal transit future

Pedestrian Oriented/Transit Accessible

A. Enhance and/or create multi-functional pedestrian activity centers that are walkable and provide multi-modal transportation linkages
   a. context sensitive road/highway improvements
   b. improvements to pedestrian sidewalks, trails and lighting
   c. incorporates high levels of internal and external connectivity between parcels and uses; including through-connections at end of streets or cul-de-sacs
   g. contributes to the development of an integrated neighborhood by linking housing to neighborhood shopping, employment, transit, parks, schools, trails, bikeways and other public facilities
   h. proposed streets and sidewalks installed as part of the project, or serving the project, are available for general public use
   i. location of proposed project is well served by facilities and services e.g. neighborhood shopping, employment, schools, parks, trails, transit etc.
   j. provides high density and intensity uses conducive to alternative forms of transportation

B. Reduce dependence on the automobile
   a. provides for a direct physical connection/linkage between the proposed land use and near-by public transportation
   b. enhances access to public transit/transportation
   c. financially contributes to creation/enhancement of transit services
   d. provides opportunity for private transit services
   e. provides enclosed/covered shelters with adequate lighting; and kiosks, bulletin boards, signs, etc. devoted to providing transit information
   f. on-site parking designed to increase pedestrian orientation of the project and minimize environmental effects of parking by reducing amount of the site area designated for on-site surface parking facilities (including at-grade parking structures)
   g. location of project and project site plan encourages walking, bicycling and transit use
   h. located adjacent to/near existing/planned bicycle network, trails, etc
   i. provides bicycle parking spaces/storage in non-residential or multiple family residential development
   j. project implements transportation management plans and related measures to encourage alternative transportation and reduced parking demand
   k. located within one-quarter (1/4) mile of an existing/planned transit node (transit-oriented development)

Goal 3: Strengthen and create gathering places and economic centers

Gathering Places

A. Enrich the Lake Tahoe region and improve resident's quality of life by providing new and improved gathering places, open spaces. community services and cultural centers.
    a. provides for open space and gathering places (private and/or public) that is integrated with new buildings to enhance living and working areas
B. Incorporation of cultural features, public spaces, public service areas within project designs
    a. Creation of new/updated cultural centers (as a part of a mixed use development)

Special Projects Goals and Objectives:

Environmental Improvements (Goals 4-6):

Goal 4: Promote projects that result in the construction of threshold-related environmental improvements (See Attachment 3)

A. Provide areawide (not parcel by parcel) urban water quality improvements that leverage private investment for environment gain, link to existing or future systems, and are maintained in the long term.
    a. provides for area-wide storm water treatment system; treatment beyond the specific proposed project site/parcel, ability for other projects to link
    b. proposed site design would implement all required BMPs to reduce erosion, and go above and beyond to reduce (net) impervious surfaces and infiltrate, capture and potentially reuse run-off. Priority will be given to projects that propose use of new/innovative treatment technologies, such as, the use of wetlands/bio-filters.

B. Respond to site location and typical neighborhood contextual situations through site design, arrangement of building volumes, and the natural surroundings.
(See Goal 1)

C. Enhance visual quality of and views from scenic roadway units, shoreline units, and resource areas. Increase/enhance viewsheds from these areas to Lake Tahoe.
    a. located in a scenic non-attainment area
    b. project site plan and proposed building locations/orientation provide for view corridors to the lake, public recreational areas, open space, etc.

D. Provide public access and opportunities to recreational facilities such as trails, bike paths, beaches, and playgrounds/parks.
    a. Projects with existing public access to the shore of Lake Tahoe, or to trail, greenway and other pedestrians systems will preserve and enhance the public access portion of the projects.
    b. Where feasible, additional public access to the shore of Lake Tahoe, or to other trial connections will be created with the project.
    c. Where the opportunity exists, urban recreation centers such as parks, courts, playgrounds and other developed facilities will be included where there is a need for these amenities and that support the mixed use style of development.

E. Be located in urban core areas and promote pedestrian friendly/ transit oriented development.
(See Goal 5)

F. Restore and/or protect native vegetation, waterways, wetlands and slopes to reduce erosion potential, promote wildlife benefits, and achieve healthy forests and fuels reduction.
   a. restores native habitat or wetlands that have been harmed by previous activity;
   b. re-establishes connections between existing/proposed habitat areas
   c. includes management plan for on-site native habitats and buffers
   d. utilizes only native plants and removes invasive species from the site
   e. minimizes potential erosion by preserving steep slopes in a natural, vegetated state
   f. located on a site that does not contain any land within the 100-year floodplain as designated by FEMA; compliance with National Flood Insurance Program requirements
   g. restoration of FEMA floodplain areas
   h. restoration of forests and reduction of fuel to more closely represent the forest's natural condition, especially at the Wildland Urban Interface (WUI).

G. Provide a reduction in overall land coverage
   a. results in reduction of overall site coverage from existing site coverage

H. Protect and enhance existing cultural/historic resources
   a. renovates/restores valued historic building(s) that preserves historic character and/or cultural assets (if applicable) as part of project

I. Ensure compatible land uses that minimize noise
   a. compatibility with noise environment of the project location; sound mitigation measures integrated into project design

J. Implement an EIP Project.
   a. importance of project to TRPA and local jurisdiction needs and benefits,
   b. costs and magnitude of project relationship to community planning efforts,
   c. need for project assistance
   d. Amount of applicant's contribution to EIP project as percentage of total project cost
   e. Assurances related to property acquisition, financing, grants, committed funding and timing for project completion
   f. Matching of transfers of development with allocations for the proposed project is encouraged. The more transfers that result in environmental benefits; the higher the points. Transfers from sensitive lands will score higher than transfers from high capability land.
   g. The ability to leverage private investment to provide the local share of Environmental Improvement Program.
   h. Using EIP Indicator/MOPS list, net number of indicators positively impacted by the project.(See Attachment 4)

Goal 5: Promote transfer of development that results in substantial environmental benefits

A. Maximize density to achieve transit oriented development by transferring existing units of use from outside the urban core
   a. includes residential development at a minimum density of 8 dwelling units per acre
   b. provides for high density and intensity mixed uses conducive to alternative forms of transportation

B. Transfer existing development from sensitive lands and restoration of those lands
    a. amount of development removed from sensitive lands, including the backshore (either transferred from a separate site or removal from sensitive portions of proposed development site)
    b. Level of restoration of those sensitive lands

C. Providing a variety of housing options utilizing existing units of use
    a. Use of existing units of use for project.

Goal 6: Rehabilitate substandard development

A. Create consolidated commercial and mixed-use development in the urban core (See Goal 1)

B. Implement 'green' building design

a. utilizes green construction methods and materials;
b. promotes energy efficiency and reduces overall energy consumption (i.e. appliances, solar applications, etc.)
c. proposes orientation of building openings for natural heating, cooling and lighting; building orientation is primarily east-west to create opportunities for use of passive and active solar strategies
d. addresses potential effects of shade on adjacent properties and buildings
e. provides for mechanisms to achieve waste reduction, reuse and recycling during construction and operation of project
f. incorporates reuse of an existing building(s) as part of the project (if applicable)
g. Buildings meet LEED certification standards, and/or a similar green rating system (i.e. the Greenpoint, Greenglobe rating systems)
h. use of street lights (light emissions which are consistent with "Dark Sky" technology), water and wastewater treatment systems that help achieve energy reduction; use of LED technology for proposed traffic signals

C. Rehabilitate disturbed sites (infill development) and restore sensitive lands

a. located on a underutilized, disturbed, blighted, over-covered and/or brownfield sites (Brownfields, as defined by the U.S. Environmental Protection Agency are "abandoned, idled, or under-used industrial and commercial facilities where expansion or redevelopment is complicated by real or perceived environmental contamination.").
b. provides for restoration of native vegetation and improves soil stability
c. See Goal 4 criteria

C. Process Goals and Objectives

Goal 7: A process and projects that will inform the new Regional, Local and Community Plan updates

a. Provides innovative approaches and long term solutions to meet Program goals and objectives
b. Clearly demonstrates adherence to the local and regional visions

Goal 8: Projects that feature a public/private partnership for cooperative implementation.

A. Provide projects that have clear public benefits with strong public support.
   a. Includes public and private partnership
   b. project clearly and specifically demonstrates financial/economic feasibility
   c. contributes to the overall balance and diversification of the local economy
   d. results in net new job/employment creation
   e. demonstrate considerable environmental, social and economic benefits
   f. Proven local jurisdiction support
   g. A public outreach strategy and documented consistency with Regional Vision

B. Leverage private investment to provide the local share of the Environmental Improvement Program.
   a. See Goal 1.J

C. Projects are catalysts for further community revitalization
   a. The degree of expectation that the projects are catalysts for further community revitalization.
   b. Incorporates multiple parcels or links to multiple parcels

Goal 9: A model process for multi-jurisdictional review of project permits, implementation and monitoring.

A. Implement of on-the-ground projects in a reasonable and timely fashion.
B. Provide an effective program designed to facilitate both large-scale and small-scale quality projects.

VII. PROJECT PROPOSAL SUBMITTAL REQUIREMENTS

A. Pre-application Submittal Requirements:

The following is a description of the requirements for the development proposals. A proposal shall consist of five (5) written sets and ten (10) digital compact discs of the completed "Pre-application Submittal Package" including all of the following information as it directly relates to urban scale, mixed-use development. The written portions of the submittal shall be in an 8½" by 11" format. Provide drawings to present the project design including the scale, scope, size and mixture of project elements. Large-scale presentation drawings may be provided, however, reductions of such drawings to 8 ½" by 11" must be included in the development proposal submittal.

1. Cover Letter

A cover letter addressed to the TRPA that summarizes the proposed development team's qualifications, their preliminary development approach, and their intention to build the project the proposed project. This program is about implementation of CEP projects, applicants that are only seeking the entitlements to build the project will not be considered.

2. Pre- application Criteria

A detailed written document specifically outlining how the proposal meets each element of the pre-application criteria outlined above (See Section III).

3. Site Analysis and Project Context Assessment

A detailed written document with renderings/photos/maps/plans at a scale and level of detail necessary to accurately depict the project development and operation components that identify:

- Maps and Drawings that include the existing conditions including existing land uses, existing commodities, existing land coverage, land capability, parking, ingress/egress, natural and built site features, Community character, surrounding land uses, erosion control, non-motorized and motorized transportation linkages, recreation access, etc. and,
- Data and Analysis that includes existing Vehicle Miles Traveled (VMT), land capability and land coverage details, existing commodities including Commercial Floor Area (CFA), Tourist Accommodation Units (TAU), density, and Residential Units (preferably previously verified by TRPA).

4. Project Concept Plan
   - Detail how the proposed project fits within the Community context. Specifically, how the proposal fits in with the existing built and natural environment. How the proposal meets some needs of the Community, and how the proposal could be a catalyst for other types of projects.
   - Proposed site conditions including product concepts, type of construction, building heights, building areas (square footage), number, type and size of residential units, CFA and TAUs (if applicable), density, on-site improvements including access, parking and landscaping; and those listed above

5. Using the criteria in Section VI of the CEP as a checklist, provide a written statement that outlines how your project proposal responds to and/or meets the CEP selection criteria .

6. Areas where the proposal may need additional height, density, or a change in parking requirements.

7. A $1000.00 Pre-application fee.

8. Additional information may be requested by TRPA and the local jurisdiction to facilitate review of the pre-application.

Please note: For projects in Nevada – By entering into the Community Enhancement Program, the applicant must agree to waive the application time limits for Nevada project approvals (60 days).

Applicants are encouraged to submit or be prepared to present their concept plans at up to three coordinated pre-application meetings scheduled during the 90-day submittal window. Tentative dates for these meetings are August 29th, September 27th, and October 17th, 2007. Meeting times may be changed to facilitate North Shore vs. South Shore applications, depending on the number of pre-applications received. At these meetings staff from TRPA, the local jurisdictions, and the local planning working groups will be available to discuss the projects and provide early feedback. These meetings will not be open to the general public; however, a future public meeting will allow additional public input.

This public meeting will be held during the first week of November 2007 (See Schedule Attachment 1). At this meeting, each pre-applicant will be asked to present a brief summary of their projects and provide a one-page description to the public. The public will be given the opportunity to ask questions and provide comments to the pre-applicants. Further public comment will be heard at a joint APC/Governing Board hearing November 14, 2007. This will allow the APC Commissioners and the Governing Board Members the opportunity to directly hear the public input. These meeting dates and times may be subject to change.

B. Application Phase

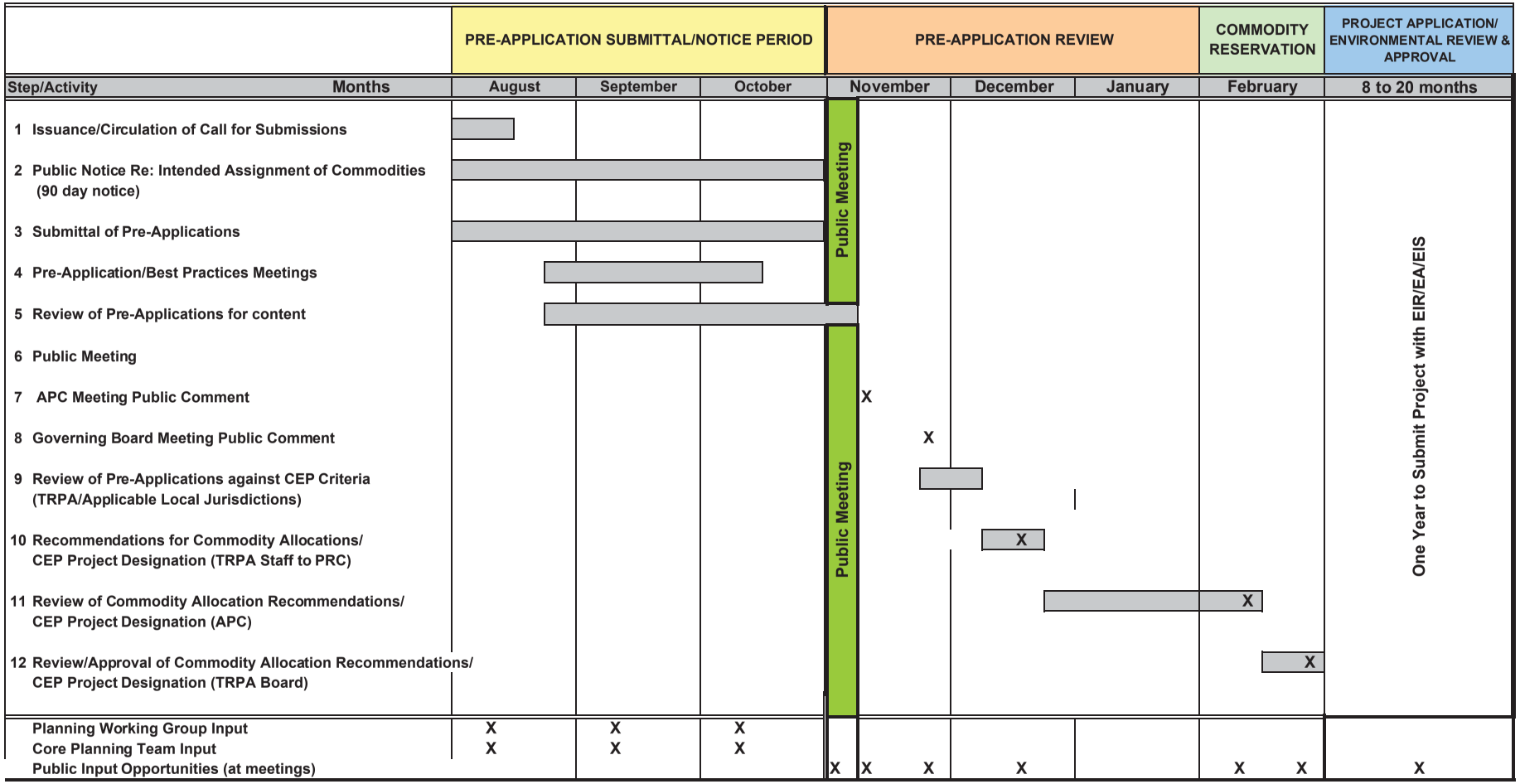
Once the Pre-application process is completed, and applicant may be invited to submit a full application. This application will be based on similar type development applications currently available through the TRPA Environmental Review Services Branch. This application and any specific modifications are yet to be developed.

VIII. TRPA AND LOCAL JURISDICTION ROLES AND RESPONSIBILIITES

It is the intent of TRPA and its local jurisdiction partners to create a simplified and streamlined process for selection of a Community Enhancement project, assignment of commodities and project approval. This will include a joint review of pre-application, application, and project and environmental review/documentation and approval process. Joint meetings between Agency and local partner staff, applicants will be conducted to help shape projects and provide early feedback.

In general, local jurisdiction staff representatives are responsible for review, evaluation and recommendations regarding proposed Community Enhancement Projects within their respective jurisdictions. Local jurisdiction staff representatives and TRPA staff are responsible for review, evaluation and recommendations regarding proposed assignment of CEP commodities and designation of CEP projects.

Attachment 1:
Process and Time Schedule for Community Revitalization Program



Revised 12/27/07

Attachment No. 2:
Threshold Related Environmental Improvements and Benefits

Primary Environmental Benefits	Threshold Issue/Need
Scenic	Community character/design; remove non-conforming uses and create physical character consistent with community design; create viewshed or gathering spaces; implement SQIP requirements
SEZ	Sensitive land restoration; meadow restoration and/or creek restoration
Soil Conservation	Reduce land coverage and increase sediment control; reduction in overall site coverage; compliance with Bailey Land Capability System, maintain/restore native vegetation on eroded sites (slopes, fire areas, etc.)
Land Use/Transportation	Consistency with adjacent uses; transit oriented development and congestion reduction; create transportation management plan for encouragement of transit use; create pedestrian and bicycle connectivity; create transit center (shelter, bus loading zone)
Water Quality	Lake clarity, reduction of nutrients and suspended solids; water quality ponds, swales for project and adjoining roads; pump and treat solutions
Vegetation	Encourage native landscaping; reduce irrigation needs, reduce fertilizer use, reduce lawn; restore/maintenance of native vegetation
Air Quality	Pollutant reduction (reduction in VMT),
Recreation	Access; pedestrian and bike trails and linkages; public; access to adjacent recreational areas and open spaces; shorezone public access

(Attachment No. 2 continued: Threshold Related Environmental Improvements and Benefits)

Secondary Threshold Benefits	Threshold Issue/Need
Energy	Low impact design, Green Building, LEED Certification, Green Rating System, energy efficient appliances
Fish and Wildlife	Habitat encroachment; garbage and litter control; buffer strips to cool run-off; daylight culvert streams, shorezone/streamzone restoration
Housing	Affordability, employee/workforce access, centralized location
Noise	Noise reduction
Open Space	Passive recreation, secondary water quality benefits
Shorezone	Increase/Improve Physical and Visual Access, SQIP, reduce land coverage in backshore, reduce lawn in backshore,

ATTACHMENT 3

PROJECT NAME	PROJECT	COMMUNITY PLAN
BIJOU HWY 50 SCENIC IMPROVEMENTS	2	BIJOU/AL TAHOE CP
HWY 50 ECHO SUMMIT TO SR 89 RUNOFF TREATMENT	9	MEYERS
BROCKWAY SUMMIT EROSION CONTROL	13,14 & 15	INDUSTRIAL TRACT/KINGS BEACH COMMERCIAL
SCENIC ROAD UNIT #1 TAHOE VALLEY IMPROVEMENT	82	SOUTH Y COMMERCIAL
SCENIC ROAD UNIT #9 TAHOMA IMPROVEMENT	84	TAHOMA COMMERCIAL
SCENIC ROAD UNIT #10 QUAIL CREEK IMPROVEMENT	85	HOMEWOOD COMMERCIAL
SCENIC ROAD UNIT #11 HOMEWOOD IMPROVEMENT	86	HOMEWOOD COMMERCIAL
SCENIC ROAD UNIT #13 SUNNYSIDE IMPROVEMENT	87	SUNNYSIDE
SCENIC ROAD UNIT #14 TAHOE TAVERN IMPROVEMENT	88	TAHOE CITY
SCENIC ROAD UNIT #15 TAHOE CITY IMPROVEMENT	89	TAHOE CITY
SCENIC ROAD UNIT #20 TAHOE VISTA IMPROVEMENT	93	TAHOE VISTA COMMERCIAL
SCENIC ROAD UNIT #25 PONDEROSA AREA IMPROVEMENT	95	PONDEROSA RANCH
SCENIC ROAD UNIT #31 MEADOW IMPROVEMENT	96	KINGSBURY COMMUNITY PLAN
SCENIC ROAD UNIT #32 CASINO AREA IMPROVEMENT	97	STATELINE/SKI RUN
SCENIC ROAD UNIT #33 THE STRIP IMPROVEMENT	98	STATELINE/SKI RUN
SCENIC ROAD UNIT #35 AL TAHOE IMPROVEMENT	99	SOUTH Y COMMERCIAL
SCENIC ROAD UNIT #36 AIRPORT AREA IMPROVEMENT	100	SOUTH Y COMMERCIAL
SCENIC ROAD UNIT #42 OUTLET IMPROVEMENT	101	TAHOE CITY
SCENIC ROAD UNIT #44 KINGSBURY GRADE IMPROVEMENT	102	KINGSBURY COMMUNITY PLAN
SCENIC ROAD UNIT #45 PIONEER TR. SOUTH IMPROVEMENT	103	STATELINE/SKI RUN
SCENIC ROAD UNIT #40 BROCKWAY CUTOFF IMPROVEMENT	104	KINGS BEACH INDUSTRIAL
SCENIC SHORE UNIT #19 CARNELIAN BAY IMPROVEMENT	108	CARNELIAN BAY
NORTH STATELINE CP LAKE VISTA MINI-PARK	114	NORTH STATELINE
I. V. COMMERCIAL SEZ RESTORATION	118	INCLINE VILLAGE COMMERCIAL
MEYERS HWY 50 CENTER LANDSCAPED MEDIAN	140	MEYERS
USFS MEYERS VISITORS CENTER: PHASE 2	141	MEYERS
BURKE CREEK TAHOE NUGGET SEZ RESTORATION	161	KINGSBURY COMMUNITY PLAN
BIJOU AREA WQ	172	STATELINE/SKI RUN
BIJOU PINES AREA WQ	175	BIJOU/AL TAHOE CP
MEYERS RESIDENTIAL	191	MEYERS
Tahoe Estates ECP	212	TAHOE VISTA COMMERCIAL
LOWER WARD VALLEY/PINELAND ECP	219	SUNNYSIDE
LOWER KINGSBURY	239	KINGSBURY COMMUNITY PLAN
SIERRA PACIFIC INDUSTRIAL YARD SEZ REST	257	TAHOE VISTA COMMERCIAL
CSLT BIJOU GOLF COURSE/X-COUNTRY SKI IMPROVEMENTS	284	BIJOU/AL TAHOE CP
BIJOU FAIRWAY AND MEADOW SEZ RESTORATION	319	BIJOU/AL TAHOE CP
TAHOE MEADOWS LINEAR PARK	336	STATELINE/SKI RUN
DOUGLAS COUNTY KINGSBURY-LAKE TRAIL	369	KINGSBURY COMMUNITY PLAN
EDGEWOOD CREEK - MARKET STREET	373	KINGSBURY COMMUNITY PLAN

PROJECT NAME	PROJECT	COMMUNITY PLAN
NTPUD REGIONAL PARK CROSS-COUNTRY SKI TRAILS	389	TAHOE VISTA COMMERCIAL
UPPER NATIONAL SEZ	391	TAHOE VISTA COMMERCIAL
BURKE CREEK RESID FISH PHASE I- STREAM HABITAT RESTORE	409	KINGSBURY COMMUNITY PLAN
GRIFF CREEK - STREAM HABITAT RESTORATION	410	KINGS BEACH INDUSTRIAL
CARNELIAN BAY SR 28 UTILITY UNDERGROUNDING	420	CARNELIAN BAY
THIRD CREEK MIGRATORY PHASE II - STREAM HABITAT RESTORATION.	443	INCLINE VILLAGE TOURIST
E. OF KINGS BEACH BOAT RAMP SPAWNING HABITAT RESTORATION	530	KINGS BEACH COMMERCIAL
CARNELIAN BAY SPAWNING- LAKE HABITAT RESTORATION	532	CARNELIAN BAY
THIRD CREEK - LOWER REACH SEZ RESTORATION	562	INCLINE VILLAGE TOURIST
SUNNYSIDE SPAWNING-LAKE HABITAT RESTORATION	598	SUNNYSIDE
BURTON CREEK STATE PARK IMPROVEMENTS	613	TAHOE CITY INDUSTRIAL
KINGS BEACH STATE REC AREA PUBLIC PIER	619	KINGS BEACH COMMERCIAL
CTC TAHOE VISTA BEACH IMPROVEMENTS	624	TAHOE VISTA COMMERCIAL
CTC SECLINE BEACH IMPROVEMENTS	625	KINGS BEACH COMMERCIAL
SKI HOMEWOOD SKI AREA MASTER PLAN	632	HOMEWOOD COMMERCIAL
SEZ RESTORATION ON PUBLIC LANDS	640	STATELINE/SKI RUN
INCLINE CK MIGRATE. PHASE I - STREAM HABITAT. RESTORE	660	INCLINE VILLAGE TOURIST
NORTH STATELINE AREA	668	NORTH STATELINE
EAST PIONEER TRAIL and Rocky Point	695	STATELINE/SKI RUN
AL TAHOE BMP	696	BIJOU/AL TAHOE CP
CHRISTMAS VALLEY	708	MEYERS
TAHOE VISTA - TAMARACK	716	TAHOE VISTA COMMERCIAL
HOMEWOOD RESIDENTIAL	725	HOMEWOOD COMMERCIAL
BROCKWAY RESIDENTIAL	732	NORTH STATELINE
BURKE CREEK MIGRATION PHASE II - STREAM HABITAT RESTORE	734	KINGSBURY COMMUNITY PLAN
CLASS TWO: S.R. HIGHWAY 89 U.S. HIGHWAY 50 TO BASIN BOUNDARY	749	MEYERS
CLASS TWO: D STREET U.S. HIGHWAY 50 TO LAKE TAHOE BLVD.	751	SOUTH Y COMMERCIAL
CLASS ONE: UNCONSTRUCTED ROUTE U.S. 50 RIGHT-OF-WAY	752	BIJOU/AL TAHOE CP
CLASS TWO: KINGSBURY GRADE U.S. HIGHWAY 50 TO SUMMIT	753	KINGSBURY COMMUNITY PLAN
CLASS TWO: SKI WAY COUNTRY CLUB DRIVE TO FAIRVIEW BLVD.	754	INCLINE VILLAGE TOURIST
CLASS ONE/TWO: INCLINE WAY COUNTRY CLUB DRIVE TO SOUTHWOOD BLVD.	757	INCLINE VILLAGE TOURIST
CLASS ONE: NORTHWOOD BLVD. VILLAGE BLVD. EAST TO S.R. HIGHWAY 28	758	INCLINE VILLAGE COMMERCIAL
CLASS ONE: COUNTRY CLUB DRIVE LAKESHORE BLVD. TO DRIVER WAY	759	INCLINE VILLAGE TOURIST
CLASS THREE: S.R. HIGHWAY 28 NORTH STATELINE TO S.R. HIGHWAY 431	760	NORTH STATELINE
CLASS TWO: S.R. HIGHWAY 28 DOLLAR HILL TO NORTH STATELINE	762	TAHOE VISTA COMMERCIAL
TAHOE CITY LAKESIDE BIKE TRAIL	763	TAHOE CITY
CLASS TWO: U.S. HIGHWAY 50 STATELINE TO EL DORADO BEACH	768	STATELINE/SKI RUN
CLASS ONE: U.S. HIGHWAY 50 ZEPHYR COVE TO ROUND HILL	769	ROUND HILL COMMUNITY PLAN
S.R. HIGHWAY 89: HOMEWOOD AREA PEDESTRIAN FACILITIES	775	HOMEWOOD COMMERCIAL
U.S. HIGHWAY 50 SIDEWALKS: SKI RUN BLVD. TO SOUTH Y COMMERCIAL AREA	776	BIJOU/AL TAHOE CP
CASINO CORE: LAKE PARKWAY PEDESTRIAN FACILITIES	777	STATELINE COMMUNITY PLAN

PROJECT NAME	PROJECT	COMMUNITY PLAN
CASINO CORE: MOUNTAIN TO LAKE PEDESTRIAN FACILITY	778	STATELINE COMMUNITY PLAN
CASINO CORE: U.S. HIGHWAY 50 PEDESTRIAN IMPROVEMENTS	779	STATELINE COMMUNITY PLAN
U.S. HIGHWAY 50 AND JOHNSON AVENUE INTERSECTION IMPROVEMENTS	782	BIJOU/AL TAHOE CP
U.S. HIGHWAY 50: KINGSBURY TO KAHLE ROADWAY AND SIDEWALK IMPROVEMENTS	783	KINGSBURY COMMUNITY PLAN
U.S. HIGHWAY 50 AND TAHOE KEYS BLVD INTERSECTION IMPROVEMENTS	784	SOUTH Y COMMERCIAL
PIONEER TRAIL ROADWAY AND SIDEWALK IMPROVEMENTS	786	STATELINE/SKI RUN
KINGS BEACH ROADWAY CURB/GUTTER SIDEWALK AND BICYCLE TRAIL IMPROVEMENTS	787	KINGS BEACH COMMERCIAL
S.R. HIGHWAY 28 AND S.R. HIGHWAY 267 INTERSECTION IMPROVEMENTS	788	KINGS BEACH COMMERCIAL
U.S. HIGHWAY 50 AND LAKE PARKWAY INTERSECTION IMPROVEMENTS	791	STATELINE COMMUNITY PLAN
U.S. HIGHWAY 50 AND S.R. HIGHWAY 89 (SOUTH Y) INTERSECTION IMPROVEMENTS	795	SOUTH Y COMMERCIAL
KINGSBURY TRANSIT FACILITY	814	KINGSBURY COMMUNITY PLAN
SKI RUN TO SOUTH STATELINE FIXED GUIDEWAY/LIGHT RAIL	819	STATELINE/SKI RUN
U.S. HIGHWAY 50 DEDICATED TRANSITWAY EASEMENT ACQUISITION	822	STATELINE/SKI RUN
SOUTH SHORE TRANSIT MAINTENANCE FACILITY EXPANSION	823	Industrial Tract
S.R. HIGHWAY 89 REALIGNMENT	855	TAHOE CITY
SCENIC ROAD UNIT #22 CRYSTAL BAY: PHASE II	869	INCLINE VILLAGE COMMERCIAL
INCLINE CREEK MIGRATION. PHASE II - STREAM HABITAT RESTOR	877	INCLINE VILLAGE TOURIST
HABITAT RESTORATION- WOOD CK PHASE I IMPROVEMENTS	895	INCLINE VILLAGE COMMERCIAL
HABITAT RESTORATION-UPPER TRUCKEE/UPPER SECTION	908	MEYERS
SCENIC ROAD RESOURCE #41.2 BROCKWAY IMPROVEMENT	912	KINGS BEACH INDUSTRIAL
EAST SHORE WATERSHEDS FURBEARER SURVEY	933	STATELINE COMMUNITY PLAN
LAKE HABITAT RESTORATION-PLACER COUNTY	974	KINGS BEACH COMMERCIAL
BURKE CREEK PHASE 2	986	KINGSBURY COMMUNITY PLAN
HWY 50 MEYERS TO THE "Y"	993	SOUTH Y COMMERCIAL
HWY 50 SOUTH TAHOE "Y" TO STATELINE	994	STATELINE/SKI RUN
SR 89 SOUTH LAKE "Y" TO PLACER COUNTY LINE	995	TAHOMA COMMERCIAL
SR 89 EL DORADO/PLACER LINE TO SR 28 INTERSECTION	996	TAHOE CITY
SR 28 TAHOE CITY TO SR 267 INTERSECTION	998	TAHOE VISTA COMMERCIAL
SR 89 TAHOE CITY TO ALPINE MEADOWS RD	999	TAHOE CITY
SR 28 CRYSTAL BAY	1000	NORTH STATELINE
SR89 LUTHER PASS TO HWY 50 JUNCTION	1012	MEYERS
CLASS ONE: ELDORADO BEACH TRAIL TO SKI RUN TRAIL	10033	STATELINE/SKI RUN
CLASS ONE/TWO: LINEAR PARK TRAILTO STATELINE	10037	STATELINE/SKI RUN
USFS CAMPGROUND BEAR PROOF RETROFIT	10043	SUNNYSIDE
ASPEN COMMUNITY RESTORATION PROJECTS	10080	SOUTH Y COMMERCIAL
NORTHERN GOSHAWK NESTING TERRITORY NEEDS ASSESSMENT	10081	SOUTH Y COMMERCIAL
WILD HABITAT RESTORATION AT TAHOE BASIN STATE PARKS (PHASE 1)	10083	TAHOE CITY INDUSTRIAL
CAMPGROUND BY THE LAKE FACILITIES IMPROVEMENT	10091	BIJOU/AL TAHOE CP
COMMONS BEACH IMPROVEMENTS	10127	TAHOE CITY
Tahoe City Intermodal Transit Project		TAHOE CITY
Kings Beach Commercial Core ECP(I think this is within the CP, but not shown above)	10060	Kings Beach Commercial

Attachment 4:
Measures of Progress Environmental Improvements Projects

⇒ Improved Transit Level of Service (TLOS)
⇒ Includes bus shelters, transit centers, other facilities designed to enhance public transit accessibility and convenience.
⇒ Pounds of Emission Reductions
⇒ Miles of pedestrian and bicycle facilities constructed
⇒ Miles of pedestrian and bicycle facilities constructed
⇒ Linear feet of Stream Habitat Enhanced or Restored.
⇒ Removal of Barriers to Fish Passage
⇒ Facilities constructed or rehabilitated to Increase public accessibility and the quality of recreational experience
⇒ Miles of Trails developed or improved
⇒ Acres Acquired to increase recreational use.
⇒ Linear Feet of Lake Shoreline Acquired for public use.
⇒ Increased PAOTs
⇒ Increased capacity for public access
⇒ Square Feet of Impervious Cover Removed.
⇒ Square Feet/Acres treated and/or re-vegetated
⇒ Acres Retired
⇒ Miles of Roadway Obliterated and Treated
⇒ Square Feet/Acres of Sensitive Land Acquired
⇒ Acres of SEZ enhanced or restored
⇒ Miles of underground utility lines installed.
⇒ Linear Feet of streetscape improvements
⇒ Acres of re-vegetation
⇒ Number of structures removed, relocated, or improved
⇒ Linear feet of highway right-of-way improved
⇒ Capacity of constructed scenic turnouts
⇒ No. of public recreation sites that implement community design guidelines on existing structures and plans to reduce visual dominance of parking lots from scenic corridors
⇒ No. of sites that implement community design guidelines on existing structures and plans to reduce visual dominance of parking lots from scenic corridors
⇒ Acres treated with prescribed burns

⇒ Acres mechanically treated
⇒ Acres Re-vegetated
⇒ Increased number of population sites for uncommon communities or sensitive species
⇒ Acres of special specie sites protected.
⇒ Acres of Wildlife Habitat Improved
⇒ Acres of Wildlife Habitat Acquired
⇒ Square Feet/Acres treated with erosion source control and runoff practices
⇒ Square Feet/Acres treated with erosion source control and runoff practices
⇒ Square Feet/Acres of Roadway Storm-water Treated

(E) the enactment of section 382 of the Tax Relief and Health Care Act of 2006 (Public Law 109–432; 120 Stat. 3045), which amended the Southern Nevada Public Land Management Act of 1998 (Public Law 105–263; 112 Stat. 2346) to authorize development and implementation of a comprehensive 10-year hazardous fuels and fire prevention plan for the Lake Tahoe Basin;

(11) the Assistant Secretary was an original signatory in 1997 to the Agreement of Federal Departments on Protection of the Environment and Economic Health of the Lake Tahoe Basin;

(12) the Chief of Engineers, under direction from the Assistant Secretary, has continued to be a significant contributor to Lake Tahoe Basin restoration, including—

(A) stream and wetland restoration; and

(B) programmatic technical assistance;

(13) at the Lake Tahoe Presidential Forum in 1997, the President renewed the commitment of the Federal Government to Lake Tahoe by—

(A) committing to increased Federal resources for ecological restoration at Lake Tahoe; and

(B) establishing the Federal Interagency Partnership and Federal Advisory Committee to consult on natural resources issues concerning the Lake Tahoe Basin;

(14) at the 2011 and 2012 Lake Tahoe Forums, Senator Reid, Senator Feinstein, Senator Heller, Senator Ensign, Governor Gibbons, Governor Sandoval, and Governor Brown—

(A) renewed their commitment to Lake Tahoe; and

(B) expressed their desire to fund the Federal and State shares of the Environmental Improvement Program through 2022;

(15) since 1997, the Federal Government, the States of California and Nevada, units of local government, and the private sector have contributed more than $1,740,000,000 to the Lake Tahoe Basin, including—

(A) $576,300,000 from the Federal Government;

(B) $654,600,000 from the State of California;

(C) $112,500,000 from the State of Nevada;

(D) $74,900,000 from units of local government; and

(E) $323,700,000 from private interests;

(16) significant additional investment from Federal, State, local, and private sources is necessary—

(A) to restore and sustain the ecological health of the Lake Tahoe Basin;

(B) to adapt to the impacts of fluctuating water temperature and precipitation; and

(C) to prevent the introduction and establishment of invasive species in the Lake Tahoe Basin; and

(17) the Secretary has indicated that the Lake Tahoe Basin Management Unit has the capacity for at least $10,000,000 annually for the Fire Risk Reduction and Forest Management Program.

(b) PURPOSES.*—The purposes of this Act are—*

(1) to enable the Chief of the Forest Service, the Director of the United States Fish and Wildlife Service, and the Adminis-

As part of this partnership, Congress passed the Lake Tahoe Restoration Act (P.L. 106–506; 114 Stat. 2358), which was originally passed in 2000 and authorized $300 million over ten years to restore the Lake. The funding supported land acquisition, erosion control, forest management, fire suppression, and improving local watersheds and water quality. The 2000 Lake Tahoe Restoration Act has enabled over 270 environmental projects and restoration activities around the Lake.

In 2003, Congress established an ongoing source of funding for Tahoe restoration efforts. Proceeds from federal land sales in the Las Vegas area are set aside to fund the annual federal contribution to the restoration of the basin.

The Lake Tahoe Restoration Act of 2015 authorizes $415 million over 10 years to be spent in the Tahoe Basin for wildfire prevention, invasive species management, storm water protection, trout recovery, and overall management, among other things.

OBJECTIVES OF THE LEGISLATION

A bill to provide for environmental restoration activities and forest management activities in the Lake Tahoe Basin, and for other purposes.

SECTION-BY-SECTION ANALYSIS

Section 1. Short title

Section 1 notes that this Act may be cited as the "Lake Tahoe Restoration Act of 2015".

Sec. 2. Findings and purposes

Section 2 amends the Lake Tahoe Restoration Act by updating its "Findings and Purposes" section to include relevant findings and actions since 2000, including references to the 2011 and 2012 Lake Tahoe Forums and updated estimates of the level of support provided by the Federal Government, the States of California and Nevada, units of local government and the private sector to the Lake Tahoe Basin since 1997.

Sec. 3. Definitions

Section 3 amends the Lake Tahoe Restoration Act by revising and expanding the definitions sections to include additional terms.

Sec. 4. Improved administration of the Lake Tahoe Basin Management Unit

Section 4 amends Section 4 of the Lake Tahoe Restoration Act (Public Law 106–506; 114 Stat. 2353) to add subsections (c) through (f), which include additional requirements and authorities for the management of the Lake Tahoe Basin.

Subsection (c) requires the Secretary to coordinate with the Administrator of the Environmental Protection Agency (Administrator) as well as State and local agencies and organizations, including local fire departments and volunteer groups.

This subsection also requires the Secretary to: (1) conduct forest management activities in the Lake Tahoe Basin in a manner that helps achieve and maintain the environmental threshold carrying capacities established by the Tahoe Regional Planning Agency

The partnership will address opportunities for securing long term stable funding for stormwater operations and maintenance. Some of the funding initiatives being pursued by others are:

City of South Lake Tahoe – possible ballot measures for infrastructure and recreation
Placer County Transportation Planning Agency - sales tax for transportation
El Dorado County - snow removal ballot measure
Douglas County – gas tax for road maintenance
Carson City – successful Stormwater Utility Fee

This initiative began in August 2015. Three core group meetings were held, one on one meetings with key stakeholders, including community, business leaders, agency staff, and a leadership stakeholder workshop.

Stormwater programs implement capital projects, roadway treatments, maintain the capital projects implemented, and other miscellaneous activities. TMDL science shows that roadways contribute the dirtiest runoff. The biggest opportunity to reduce pollution is in infrastructure maintenance and roadway treatments. In fiscal year 2014/15 stormwater programs costs $2,500,000. There will be an increase in stormwater program cost over the next permit term. The low hanging fruit has been picked so it will be more difficult and more expensive to meet load reduction goals in the next permit term. Many of the roadway maintenance programs are locally funded and are ineligible for grant funding.

Funding possibilities: They include a mix of measures, each with its own set of pros and cons. Some tend to affect local residents more than visitors and vice versa, some require voter approval while others do not, and some require jurisdictions to work together and others allow jurisdictions to go forward individually. There are some options that wouldn't create the revenue to meet the program need and so a portfolio approach being evaluated that combines two or three funding options. These options were vetted with stakeholders and agency representative through one-on-one interviews.

The consulting team was able to provide us with issues that tested favorably in other communities. Communities have been more successful when they've tied stormwater to the message of protecting water quality or reducing pollution. We can use this as a starting point with our own polling effort.

Key Takeaways: It is important to be transparent, why is funding is needed, what will it be used for and how will it benefit people individually. Local jurisdictions can only provide information but not advocate for a position so it's important to find third party champions to campaign for "Friends of Road to Blue." There is also only so much appetite for fees, partner with other resource initiatives where it makes sense and develop coordinated big picture to communicate to the public, conduct polling to determine public appetite and level of support.

Next Steps for Road to Blue: Outreach to and work with agency staff from Nevada and other resource areas such as transportation and public works to coordinate since other jurisdictions are pursuing funding for other initiatives. We want to identify a funding strategy that meets TMDL requirements while not competing with or distracting from funding initiatives for other resource areas as well as respond to what we heard from stakeholders about not having

Homes built in high fire hazard areas increase the risk of catastrophic fire.

photo: Solomon Henson

94% of the land slated for residential development in the Sierra is in extreme or very high fire threat areas.

An area that has been severely burned becomes hydrophobic and acts like a giant impervious surface causing extremely rapid runoff of sediment and other pollutants, which enter lakes and streams and cause water quality problems.

One factor that points to the relationship of wildfire risk and the presence of homes and their residents in high fire hazards areas is the increase in ignition sources when more homes are built in the WUI. CalFire data shows that, between 2000 and 2005, the majority of fires within CalFire's jurisdiction were caused by humans. Equipment, vehicles and debris burning were among the largest ignition-source culprits.[5]

Another factor increasing wildfire risk is the limitation that development in the WUI places on fuel reduction and fire prevention efforts. Once homes are introduced into a high fire threat area, fire managers no longer have the same range of options to manage fire and reduce fuels. The result: a large portion of the WUI in the Sierra lacks consistent fuel-reduction treatments.

Combined, these risks increase the threat of catastrophic wildfire and the threat of damage to both property and watersheds.

Recognizing the connections between development patterns, catastrophic wildfire and water quality impacts highlights the need for coordinated planning in the Sierra. With these connections in mind, aligning land use planning with both fire management and water management goals is a sound watershed protection strategy.

Protecting Ecologically Valuable Areas as Natural Infrastructure

Once areas are identified for protection, the community(s) involved must pursue planning strategies to actively protect those areas identified. The following planning strategies are some common options for diverting development away from those areas important to protect and into those areas most suitable for accommodating growth.

■ Use Zoning Tools to Maintain Rural Development Patterns

Zoning codes, established within a city or county's land development regulations, are the primary policy instrument for determining what gets built and where. The quality of development in recent decades highlights the inadequacies of local zoning. Though not the sole culprit, conventional zoning is a chief driver of sprawl development patterns. Despite these shortcomings, local zoning is a powerful tool for shaping and maintaining rural development patterns by directing growth to certain areas and away from others.

For land conservation purposes, zoning codes are commonly used to establish land use designations and development densities that support open space and farmland protection goals.

the County, the area starting in the foothills just east of Auburn and extending east and north to the County line is most prone to wildfire due to its terrain and vegetation.

Generally, there are four major factors that sustain wildfires and allow for predictions of a given area's potential to burn. These factors include fuel, topography, weather, and human actions.

- **Fuel** – Fuel is the material that feeds a fire and is a key factor in wildfire behavior. Fuel is generally classified by type and by volume. Fuel sources are diverse and include everything from dead tree leaves, twigs, and branches to dead standing trees, live trees, brush, and cured grasses. Also to be considered as a fuel source are manmade structures, such as homes and other associated combustibles. The type of prevalent fuel directly influences the behavior of wildfire. Fuel is the only factor that is under human control. As a result of effective fire suppression since the 1930s, vegetation throughout the county has continued to grow and accumulate, and hazardous fuels have increased. As such, certain areas in and surrounding Placer County are extremely vulnerable to fires as a result of dense vegetation combined with a growing number of structures being built near and within rural lands. These high fuel hazards, coupled with a greater potential for ignitions, increases the susceptibility of the County to a catastrophic wildfire.
- **Topography** – An area's terrain and land slopes affect its susceptibility to wildfire spread. Both fire intensity and rate of spread increase as slope increases due to the tendency of heat from a fire to rise via convection. The arrangement of vegetation throughout a hillside can also contribute to increased fire activity on slopes.
- **Weather –** Weather components such as temperature, relative humidity, wind, and lightning also affect the potential for wildfire. High temperatures and low relative humidity dry out fuels that feed wildfires, creating a situation where fuel will ignite more readily and burn more intensely. Thus, during periods of drought, the threat of wildfire increases. Wind is the most treacherous weather factor. The greater a wind, the faster a fire will spread and the more intense it will be. Winds can be significant at times in Placer County. North winds in Placer County are especially conducive to hot, dry conditions, which can lead to "red flag" days indicating extreme fire danger. In addition to wind speed, wind shifts can occur suddenly due to temperature changes or the interaction of wind with topographical features such as slopes or steep hillsides. Lightning also ignites wildfires, often in difficult to reach terrain for firefighters.
- **Human Actions** – Most wildfires are ignited by human action, the result of direct acts of arson, carelessness, or accidents. Many fires originate in populated areas along roads and around homes, and are often the result of arson or careless acts such as the disposal of cigarettes, use of equipment or debris burning. Recreation areas that are located in high fire hazard areas also result in increased human activity that can increase the potential for wildfires to occur.

Factors contributing to the wildfire risk in Placer County include

- Overstocked forests, severely overgrown vegetation, and lack of defensible space around structures;
- Excessive vegetation along roadsides and hanging over roads, fire engine access, and evacuation routes;
- Drought and overstocked forests with increased beetle infestation or kill in weakened and stressed trees;
- Narrow and often one-lane and/or dead-end roads complicating evacuation and emergency response as well as the many subdivisions that have only one means of ingress/egress;
- Inadequate or missing street signs on private roads and house address signs;
- Nature and frequency of lightning ignitions; and

- Increasing population density leading to more ignitions.

CAL FIRE has mapped fuel hazards in the County based on vegetation, fire history, and slope, with the hazards ranked as medium, high or very high. This data shows that fuel hazards are generally high throughout the Greater Auburn Fire Safe Council and generally high or very high in the Foresthill/Iowa Hill and Placer Sierra FSC. The highest fuel hazards occur along the Middle and North Forks of the American River: from the American River to Michigan Bluff in the south; from the American River to Sugar Pine and Big Reservoirs east of Iowa Hill; and along I-80 from Gold Run to Nyack in the north. All of the above factors create the potential for very active to severe fire behavior in the Planning Area.

Consequently, wildland fires that burn in natural settings with little or no development are part of a natural ecological cycle and may actually be beneficial to the landscape. Century old policies of fire exclusion and aggressive suppression have given way to better understanding of the importance fire plays in the natural cycle of certain forest types.

Past Occurrences

Disaster Declaration History

A search of FEMA and Cal OES disaster declarations turned up multiple events. State disaster declarations occurred in 1961, 1965, 1973, 1987, and 2010. Federal disaster declarations occurred in 2002, 2004, and 2008.

NCDC Events

The NCDC has tracked wildfire events in the County dating back to 1993. Events in Placer County are shown in Table 4-23.

Table 4-23 NCDC Wildfire Events in Placer County 1993 to 12/31/2014

Date	Event	Injuries (direct)	Deaths (direct)	Property Damage	Crop Damage	Injuries (direct)	Deaths (direct)
6/24/2007	Wildfire	0	3	$500,000,000	$0	0	0
4/18/2008	Wildfire	0	0	$0	$0	0	0
4/18/2008	Wildfire	0	1	$0	$0	0	0
5/12/2008	Wildfire	0	0	$0	$0	0	0
6/21/2008	Wildfire	0	0	$0	$0	12	0
7/1/2008	Wildfire	0	1	$0	$0	0	0
7/26/2009	Wildfire	0	0	$0	$0	0	0
8/1/2009	Wildfire	0	0	$0	$0	0	0
9/13/2009	Wildfire	0	0	$0	$0	0	0
8/17/2013	Wildfire	0	5	$0	$0	0	0
9/1/2013	Wildfire	0	5	$0	$0	0	0
10/1/2013	Wildfire	0	0	$0	$0	0	0

COUNTY OF Placer
COMMUNITY DEVELOPMENT RESOURCE AGENCY

MEMORANDUM

DATE: December 8, 2015

TO: Honorable Board of Supervisors

FROM: Michael Johnson, AICP, Agency Director

BY: Tim Wegner, Chief Building Official

SUBJECT: North Tahoe Fire Protection District Fire Protection Code – Ratification of Amendments

Action Requested
Adopt a Resolution ratifying the North Tahoe Fire Protection District's Ordinance No. 03-2015 amending the 2013 California Fire Code.

Background
The North Tahoe Fire Protection District (NTFPD) Ordinance 03-2015 amends the 2013 California Fire Code to restrict or ban open burning, including recreational fires, during high fire hazard periods.

The California Fire Code establishes minimum standards for protection of life and property from fire, explosion and hazardous materials release. Fire districts are authorized by law to enact more stringent standards than those in State or local codes. In order to do so, the Fire District's legislative body must adopt its own ordinance/resolution implementing the California Fire Code with amendments. The Fire District must also make findings supporting the amendment based on local conditions. No such ordinance of a local fire district becomes effective until it is ratified by the legislative body of the City or County (in this case the Placer County Board of Supervisors) where the ordinance/resolution will apply.

Health and Safety Code section 13869.7(c) outlines the procedure that the Fire District must follow to gain ratification. Specifically, section 13869.7 requires the Fire District to transmit its adopted ordinance/resolution, including findings, to the County or City where the ordinance will apply. After transmittal, the legislative body (Placer County) may ratify, modify, or deny the Fire District's adopted ordinance and transmit its determination to the Fire District within 15 days of the County's action.

The North Tahoe Fire Protection District (NTFPD) is located within the boundaries of Placer County (Exhibit A). On August 19, 2015, the NTFPD's Board of Directors adopted Ordinance No. 03-2015 amending the 2013 California Fire Code. The NTFPD Board previously adopted Resolution 11-2015 on July 15, 2015 establishing findings to support the amendments because of local conditions within the North Tahoe Fire Protection District area. Placer County Building Services Division staff has reviewed the proposed

amendments and findings and recommends ratification. Copies of NTFPD's Board-adopted Ordinance and Resolution establishing findings are attached as Exhibits B and C.

Fiscal Impact
There is no fiscal impact to the County with this matter. The NTFPD Fire Protection Code is enforced by the NTFPD and any appeals will go to the District's Board for resolution and enforcement. This action by the Board of supervisors is simply to comply with and implement State law.

Attachment 1: Resolution Ratifying the North Tahoe Fire Protection District's amendment to the 2013 California Fire Code—Open Burning Ban.
- Exhibit A: North Tahoe Fire Protection District's Boundaries
- Exhibit B: Ordinance 03-2015: An Ordinance of North Tahoe Fire Protection District amending the 2013 Fire Prevention Code
- Exhibit C Resolution 11-2015 Establishing Findings

cc: Michael Schwartz - Fire Chief, North Tahoe Fire Protection District
Michael Johnson - CDRA Director
Karin Schwab - County Counsel
John McEldowney - OES Assistant Director

Before the Board of Supervisors
County of Placer, State of California

In the matter of: Resolution No.: _____

Ratification of the NORTH TAHOE FIRE PROTECTION DISTRICT's Amendments to the 2013 California Fire Code.

The following Resolution was duly passed by the Board of Supervisors of the County of Placer at a regular meeting held _____ by the following vote on roll call:

Ayes:

Noes:

Absent:

Signed and approved by me after its passage.

_____
Chair, Board of Supervisors

Attest:

_____
Clerk of said Board

BE IT RESOLVED BY THE BOARD OF SUPERVISORS OF THE COUNTY OF PLACER, STATE OF CALIFORNIA, AS FOLLOWS:

WHEREAS, California Health and Safety Code section 13869.7 allows a fire protection district to adopt building standards relating to fire and panic safety that are more stringent than those building standards adopted by the State Fire Marshal and contained in the California Building Standards Code; and

WHEREAS, a fire protection district that proposes to adopt such an ordinance must also adopt findings of fact and need for changes or modifications because of local conditions in compliance with Health and Safety Code section 18941.5; and

WHEREAS, Health and Safety Code section 13869.7(c) requires the fire protection district to transmit the adopted ordinance and resolution of findings to the county or city where the ordinance will apply; and

WHEREAS, Health and Safety Code section 13869.7(c) authorizes the legislative body of that county or city to ratify, modify or deny an adopted ordinance and transmit its determination to the district within 15 days of the determination; and

WHEREAS, no ordinance adopted by a fire protection district under Health and Safety Code section 13869.7 shall be effective unless or until it is ratified by the legislative body of the city or county where the ordinance will apply; and

WHEREAS, the NORTH TAHOE FIRE PROTECTION DISTRICT is located within the boundaries of Placer County as depicted in Exhibit "A"; and

WHEREAS, on August 19,2015 the NORTH TAHOE FIRE PROTECTION DISTRICT's Board of Directors passed Ordinance No. 03-2015 effectively amending the 2013 California Fire Code and established findings to support the amendments because of local conditions through the adoption of Resolution 11-2015, attached hereto as Exhibit B and C respectively; and

WHEREAS, the NORTH TAHOE FIRE PROTECTION DISTRICT has transmitted a copy of Ordinance No. 03-2015, and Resolution 11-2015 to the County; and

WHEREAS, this Board has considered Ordinance No. 03-2015 and Resolution 11-2015 as attached hereto and wishes to ratify the same.

NOW, THEREFORE, BE IT RESOLVED by the Placer County Board of Supervisors that it hereby ratifies the NORTH TAHOE FIRE PROTECTION DISTRICT's Ordinance No. 03-2015 amending the 2013 California Fire Code as set forth in Exhibit "B", and Resolution No. 11-2015 establishing findings to support the amendments, as set forth in Exhibit "C",.

BE IF FURTHER RESOLVED, that this resolution shall be effective immediately..

Exhibits

"A" North Tahoe Fire Protection District Boundaries

"B" North Tahoe Fire Protection District Ordinance 03-2015 amending 2013 Fire Prevention Code

"C" North Tahoe Fire Protection District Resolution 11-2015 Establishing Findings

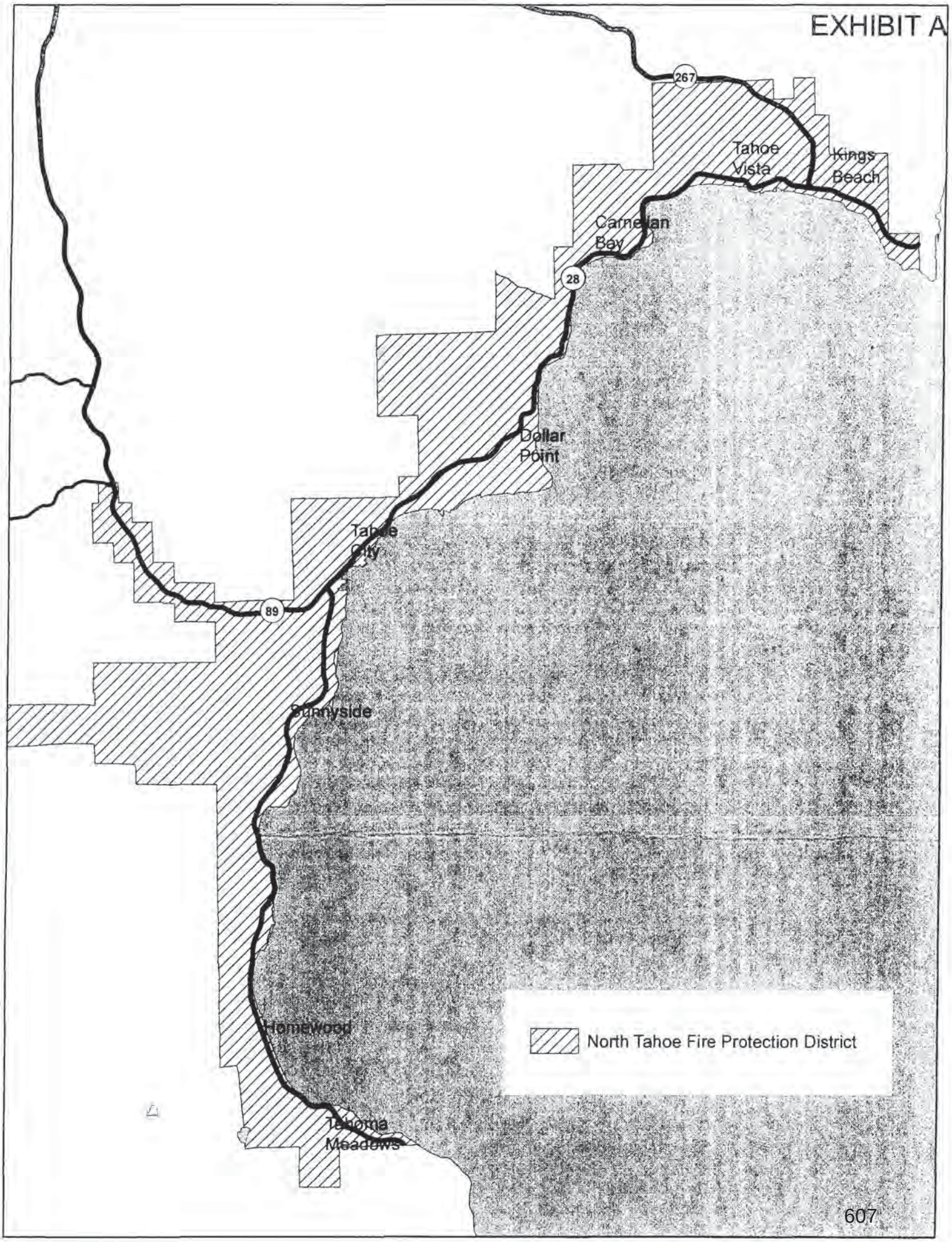


EXHIBIT A
267
Tahoe Vista
Kings Beach
Carnelian Bay
28
Dollar Point
Tahoe City
89
Sunnyside
Homewood
Tahoma Meadows
North Tahoe Fire Protection District

NORTH TAHOE FIRE PROTECTION DISTRICT

ORDINANCE NO. 03 – 2015

AN ORDINANCE FOR THE NORTH TAHOE FIRE PROTECTION DISTRICT AMENDING THE FIRE PREVENTION CODE OF THE DISTRICT PERTAINING TO BANNING OPEN BURNING, INCLUDING CAMPFIRES, DURING HIGH FIRE HAZARD PERIODS

WHEREAS, fire protection districts are generally required to adopt the State Building Standards; and

WHEREAS, Health and Safety Code sec. 13869.7 provides that any fire protection district may adopt building standards relating to fire and public safety that are more stringent than those building standards adopted by the State Fire Marshal and contained in the California Building Standards Code [including the California Fire Code]; and

WHEREAS, the District has the power, pursuant to California Health and Safety Code §13861 to acquire property, to enter into and perform contracts, to adopt ordinances and to establish and enforce rules and regulations for the administration, operation, and maintenance of the services listed in Section 13862 [fire protection, rescue, emergency medical, hazardous materials response, ambulance service and any other service relating to the protection of lives and property]; and

WHEREAS, North Tahoe Fire Protection District has on November 20, 2013 adopted and implemented Ordinance No. 03-2013, Fire Prevention Code of the North Tahoe Fire Protection District ("Fire Prevention Code"), to augment and supplement the California Fire Code ("California Fire Code"); and

WHEREAS, the Fire Code, Chapter 2, Definitions, provides:

> OPEN BURNING. The burning of materials wherein products of combustion are emitted directly into the ambient air without passing through a stack or chimney from an enclosed chamber. Open burning does not include … recreational fires or use of portable outdoor fireplaces.
>
> PORTABLE OUTDOOR FIREPLACE. A portable, outdoor, solid-fuel-burning fireplace that may be constructed of steel, concrete, clay or other noncombustible material. A portable outdoor fireplace may be open in design, or may be equipped with a small hearth opening and a short chimney or chimney opening in the top.

RECREATIONAL FIRE. An outdoor fire burning materials other than rubbish where the fuel being burned is not contained in an incinerator, outdoor fireplace, portable outdoor fireplace, barbeque grill or barbeque pit and has a total fuel area of 3 feet (914 mm) or less in diameter and 2 feet (610 mm) or less in height for pleasure, religious, ceremonial, cooking, warmth or similar purposes.

and

WHEREAS, the U.S. Forest Service, Tahoe Basin Management Unit, and the California Department of Forestry and Fire Protection ("CalFire") in each fire season establish restrictions on open burning within their respective jurisdictions which may limit or ban open burning and recreational fires; and

WHEREAS, the majority of the District's wildland fire related incident responses are related to open burning on private property located within the District.

NOW, THEREFORE BE IT ORDAINED BY THE NORTH TAHOE FIRE PROTECTION DISTRICT, BY THE GOVERNING BOARD OF THE DISTRICT, AS FOLLOWS:

Section 1. North Tahoe Fire Prevention Code, Chapters 2 and 3, Ordinance No. 03 – 2013 is hereby amended and restated to provide as follows [*insertions* and ~~strikeouts~~ as noted]:

NTF Fire Prevention Code

Chapter 2 - DEFINITIONS

Insert the following Definitions from the California Fire Code, as modified:

BONFIRE. An outdoor fire utilized for ceremonial purposes.

OPEN BURNING. The burning of materials wherein products of combustion are emitted directly into the ambient air without passing through a stack or chimney from an enclosed chamber. Open burning does not include road flares, smudge pots and similar devices associated with safety or occupational uses typically considered open flames~~, recreational fires~~ or use of portable *or other* outdoor fireplaces *with a screened chimney and an enclosed chamber*. For the purpose of this definition, a chamber shall be regarded as enclosed when, during the time combustion occurs, only apertures, ducts, stacks, flues or chimneys necessary to provide combustion air and permit the escape of exhaust gas are open.

PORTABLE OUTDOOR FIREPLACE. A portable, outdoor, solid-fuel-burning fireplace that may be constructed of steel, concrete, clay or other noncombustible material. A portable outdoor fireplace may be open in design, or may be equipped with a small hearth opening and a short chimney or chimney opening in the top. *All openings for products of combustion must be covered or screened.*

RECREATIONAL FIRE. An outdoor fire burning materials other than rubbish where the fuel being burned is not contained in an incinerator, outdoor fireplace, *LPG, LNG or other* portable outdoor fireplace, *or* barbeque grill ~~or barbeque pit~~ and has a total fuel area of 3 feet (914 mm) or less in diameter and 2 feet (610 mm) or less in height for pleasure, religious, ceremonial, cooking, warmth or similar purposes.

Chapter 3 - GENERAL REQUIREMENTS

Delete Section 307 of the California Fire Code as adopted and substitute in its place the following:

307.1.1 Prohibited Open Burning, *Bonfires, Portable Outdoor Fireplaces and Recreational Fires*: Open burning, *bonfires and recreational fires*, as defined in the 2013 California Fire Code Section 202, General Definitions and North Tahoe Fire Prevention Code, Chapter Two - Definitions, shall be prohibited when atmospheric conditions or local circumstances make such fires hazardous *including when, in the judgment of the Fire Chief or his designee, the menace of destruction by fire to life, improved property, or natural resources is, or is forecast to become, extreme due to critical fire weather, fire suppression forces being heavily committed to control fires already burning, acute dryness of the vegetation, or other factors that may cause the rapid spread of fire such as high winds, low fuel moistures, Fire Weather or Red Flag Warnings, severe threat of wildland fire, or issuance of Fire Restrictions on lands adjacent to the District by the USFS, Lake Tahoe Basin Management Unit, or CalFire.*

> Exemptions: Gas (LPG, NG) outdoor fire places and BBQ's *shall not be considered open burning for purposes of this Ordinance.*

307.1.2 Declaration of Fire Chief Regarding Prohibited Open Burning. The Fire Chief or his designee may issue a Declaration prohibiting open burning pursuant to Section 307.1.1 when deemed appropriate, which shall be come effective immediately, provided that no citation for violation may be issued pursuant to such Declaration until after the Declaration is published at least once in a newspaper of general circulation in the District and posted in two public places located within the District.

Add the following Section 307.4.3:

307.4.3 Portable outdoor fireplaces. Portable outdoor fireplaces shall be used in accordance with the manufacturer's instructions and shall not be operated within 15' (3048 mm) of a structure or combustible material.

~~Exception: Portable outdoor fireplaces used at one and two family dwellings.~~

Section 2. Findings. The Board makes the following findings in connection with the adoption of this Ordinance.

a. FINDING NO. ONE – Private properties lying within the North Tahoe Fire Protection District are classified as very high wildland fire hazard.

b. FINDING NO. TWO - The menace of destruction by fire to life, improved property, or natural resources may be, or be forecast to become, extreme due to critical fire weather, fire suppression forces being heavily committed to control fires already burning, acute dryness of the vegetation, or other factors that may cause the rapid spread of fire such as high winds, low fuel moistures, Fire Weather or Red Flag Warnings, or severe threat of wildland fire.

c. FINDING NO. THREE - Cooperating federal or state agencies address the threat of wildland fire on lands adjacent to the District by issuance of Fire Restrictions which restrict or ban open burning, including recreational fires.

d. FINDING NO. FOUR – Granting the Fire Chief authority to restrict or ban open burning, including recreational fires, on private property within the District is reasonably necessary because of local climatological, geological or topographic conditions in order to reduce the risk of wildfire and to coordinate District, State and Federal policies to limit or restrict open burning to reduce the risk of wildfire.

PASSED AND ADOPTED at a regular meeting of the Board of Directors of the NORTH TAHOE FIRE PROTECTION DISTRICT, Tahoe City, California, this 19th day of August, 2015, by the following:

ROLL CALL VOTES:

AYES:	Baffone	Carnell	Correa	Loverde	Polt
NOES:	None				
ABSTAIN:	None				
ABSENT:	None				

SEAL

Approved:

_____, President of the Board of Directors, North Tahoe Fire Protection District

ATTEST:

_____

Clerk of the Board

EXHIBIT C

RESOLUTION NO. 11-2015
OF
NORTH TAHOE FIRE PROTECTION DISTRICT
STATE OF CALIFORNIA

A RESOLUTION FOR THE NORTH TAHOE FIRE PROTECTION DISTRICT PROVIDING FOR INTENTION TO ADOPT ORDINANCE NO03-2015, AN ORDINANCE FOR THE NORTH TAHOE FIRE PROTECTION DISTRICT AMENDING THE FIRE PREVENTION CODE OF THE DISTRICT PERTAINING TO RESTRICTING OR BANNING OPEN BURNING, INCLUDING RECREATIONAL FIRES, DURING HIGH FIRE HAZARD PERIODS AND SETTING FORTH FINDINGS WITH RESPECT TO LOCAL CONDITIONS WITHIN THE NORTH TAHOE FIRE PROTECTION DISTRICT WHICH MAKE CERTAIN MODIFICATIONS AND CHANGES TO THE CALIFORNIA FIRE CODE, AS AMENDED BY THE STATE OF CALIFORNIA, REASONABLY NECESSARY FOR PRESERVING FIRE AND LIFE SAFETY IN THE NORTH TAHOE FIRE PROTECTION DISTRICT

Section 1: The Governing Board of the North Tahoe Fire Protection District finds and resolves as follow:

WHEREAS, Health & Safety Code Section 13869.7 permits a Fire Protection District to adopt an ordinance which changes or modifies the California Fire Code adopted pursuant to Health & Safety Code Section 17922 upon determination that such changes or modifications are necessary due to local conditions; and

WHEREAS, Health & Safety Code Section 13869.7 requires that a Board of Directors making any changes or modifications pursuant to Health & Safety Code Section 13869.7 shall make express finding that such changes or modifications are needed; and shall file a copy of change or modification and said finding with the County and with the Department of Housing and Community Development.

NOW, THEREFORE BE IT

RESOLVED AND ORDERED, that Ordinance No03-2015, in the form attached hereto, be introduced at the regular Board meeting of North Tahoe Fire Protection District on July 15, 2015 and be set for noticed public hearing and adoption at the next regular Board meeting scheduled for not less than 30 days thereafter; and further

RESOLVED AND ORDERED that insofar as Ordinance No03-2015 of the North Tahoe Fire Protection District may change or modify the State Housing Regulations, California Fire Code, adopted pursuant to Health & Safety Code Section 17922, as to the requirements listed in the conclusion of this finding, the Board of the North Tahoe Fire Protection District, after having duly noticed and held public hearing, expressly finds that such change or modification is reasonably necessary because of local conditions as more specifically set forth as follows:

FINDINGS OF FACT AND NEED
FOR CHANGES OR MODIFICATIONS
TO THE STATE BUILDING STANDARDS CODE
BECAUSE OF LOCAL CONDITIONS

CHANGES OR MODIFICATIONS: Pursuant to Section 13869.7 of the California Health & Safety Code, the Board of Directors of the North Tahoe Fire Protection District, in its ordinance adopting and amending the 2012 edition of the International Fire Code and the 2013 California Fire Code, changed or modified certain provisions of the 2013 Building Standards Code, Part 9 (Title 24,CCR) [collectively the "Codes"], as it pertains to the regulation of buildings used for human habitation and other types of structures, and general rules for fire safety.

Pursuant to the Findings made in connection therewith, the Board deems it appropriate further to amend the Codes to provide authority to the Fire Chief to restrict or ban open burning during high wildland fire hazard conditions. A copy of Ordinance No 03-2015, with the text of such changes or modifications is attached.

FINDINGS: Pursuant to Sections 13869.7 of the Health & Safety Code, the Board of Directors of the North Tahoe Fire Protection District has determined and finds that the attached changes or modifications to the 2013 California Building Standards Code are needed and are reasonably necessary because of local climatic, geographic and topographic conditions.

LOCAL CONDITIONS: Local conditions have an adverse effect on the prevention and mitigation of wildfires and the potential for life and property loss, making necessary changes or modifications to the aforementioned codes making up the 2013 California Building Standards Code in order to provide a reasonable degree of property security and fire and life safety in this jurisdiction.

Below are listed adverse local climatic, geographic and topographic conditions.

I. Climatic

a. Precipitation.
Annual precipitation fluctuates greatly. Approximately 90 – 95 percent of the precipitation occurs during the months of November though April, and 5 – 10 percent occurs from May through October. This area has experienced major droughts in the recent past; one in 1977 – 1978, one which started in 1989 and lasted into 1994, one from 1999 – 2004, one from 2006 – 2009 and the current drought, in its fourth year, with extreme drought conditions affecting the District and most of California and Western Nevada. It is possible that more droughts will occur in the future. Electrical storms are frequent and are usually accompanied by little rainfall, potentially creating numerous lightening caused fires.

b. Relative Humidity.
During the summer months (June though September), the daily humidity generally ranges around 30 percent, and often drops to the low teens. During a recent wildland fire where 5 homes were lost, the relative humidity was at 9 percent.

c. Temperatures.
During the summer months (June through September), the daily temperatures commonly exceed 70 degrees Fahrenheit, with temperatures having been recorded as high as 90 degrees or more. Winter temperatures can drop to below 0 degrees Fahrenheit.

d. Winds.
The prevailing winds are out of the south and southwest. However, north and east winds occur during the spring (May through June), the fall (late September and October), and occasionally during the summer months (June though September). Wind velocities are generally in the range of five to fifteen miles per hour, gusting to thirty miles per hour during the summer months, with ridge top winds of seventy miles per hour or more.

e. Summary.
These local climatic conditions affect the acceleration, intensity, and size of fire in our service area. Times of little or no rainfall, of low humidity and high temperatures create extremely hazardous conditions, particularly as they relate to the wildland – urban interface. The winds experienced in this area can have a tremendous impact upon structure fires of buildings in close proximity to one another, and to wild lands commonly found in the District. Open burning is recognized as the source of a majority of fire incident responses for North Tahoe Fire Protection District. Federal and State cooperating fire agencies (U.S.F.S. Tahoe Basin Management Unit and California Department of Forestry and Fire Protection) with jurisdiction over lands adjacent to the District periodically issue restrictions or bans on open burning to address periods of heightened wildland fire danger.

II. Geographic and Topographic

The fire environment of a community is primarily a combination of two factors: the area's physical geographic characteristics and the historic pattern of development. These two factors, alone and combined, create a mixture of environments that ultimately determines the area's fire protection needs.

The basic geographical boundaries of the North Tahoe Fire Protection service area include all of Placer County at Lake Tahoe, including along Highway 89 to Alpine Meadows Road. The District has contracts with Alpine Springs County Water District and with Meeks Bay Fire Protection District to provide certain fire service management services as well as fire suppression, rescue and other authorized services in their respective spheres of influence.

Because of the size of our service area (31 square miles) and changes in elevation, the characteristics of the fire environment change from one location to the next. As such, our service area has not one, but a number of fire environments, each of which has its individual fire protection needs.

Our service area has a varied topography and vegetative cover. It has relatively flat area along the shoreline turning to steep hills as part of the Tahoe Basin. The vegetative cover ranges from

stands of manzanita to dense forests of Douglas fir and pines. Development has occurred as the communities have extended north and west.

a. Seismic Location.
The relatively young geological processes that have created our area of service are still active today. Our service area incorporates a portion of the North Tahoe, West Tahoe, and Dollar Point earthquake faults and is adjacent to several other potentially active faults. The District's entire land surface is in the high-to-moderate seismic hazard zones.

b. Size and Population.
Our service area covers 31 square miles with a population of 15,000, swelling to over 50,000 during the summer months. Within our service area are five fire stations and 50 fire district personnel. The Fire District handles diverse responsibilities including fires in the wildland, urban and urban interface and back country environments and paramedical responses.

c. Roads and Streets.
Many areas of our District are served by sub-standard roads. Due to restrictive land use regulations, much of the current development is in-fill, utilizing lots that were previously deemed unusable. Some planned unit developments are served by private roads, which create access problems (e.g., narrow paved widths and on-street parking). Roadways with less than 20 feet of unobstructed paved surface, with dead-ends longer than 150 feet, with cul-de-sac longer than 800 feet, or with a cul-de-sac diameter of less than 68 feet are considered hazardous in terms of fire access and protection. A large number of roadways within our service area fall into one of the restricted access categories. While development has continued throughout the District, access into individual subdivisions has not changed. Street widths remain marginal, on-street parking remains a problem in all but the newest subdivisions and, in general, ingress and egress are difficult if not impossible during peak season population fluctuations. Numerous subdivisions are served by only one road for both ingress and egress, severely restricting emergency vehicle access into the affected area(s).

d. Topography.
The topography of the District varies from near level, to terrain in excess of a 40 percent slope. Correspondingly, there is much diversity in slope percentages. As a basic rule of thumb, the rate of spread on a wildland fire will double as the slope percentage doubles, all other factors remaining the same.

Most structures, both residential and commercial, are in or are surrounded by heavily forested areas. Due to drought conditions, beetle infestations, and lack of vegetation management in the wildland, much of the area is covered with either dead or dying trees, contributing to extreme fire danger. Elevation ranges from about 6,225 feet at lake level to over 7,200 feet on mountain pass roads, with peaks of over 8,000 feet.

e. Vegetation.
Our service area is located in the Sierra Nevada. It varies from sub-alpine forests consisting of aspen and pine trees to pine, fir and cedar forests and substantial brush fields of Manzanita, snow brush, and white thorn. As residential development continues to occur in the District, the

clearances between homes have decreased. Additionally, all new development is directly at the edge of or into heavily forested areas. Both of these situations allow for the fire to travel from home to home, forest to home, or home to forest by radiation, convected heat and/or flying embers. Expansion of the residential community into areas of heavier vegetation has resulted in homes existing in close proximity to dense natural foliage. Often such dwellings are completely surrounded by highly combustible vegetation compounding the fire problem from a conflagration point of view.

f. Summary.
The above local geographic and topographic conditions increase the magnitude, exposure, accessibility problems and fire hazards presented to the Fire District. In addition, fire following an earthquake has the potential of causing greater loss of life and damage than the earthquake itself.

Other variables may tend to aggravate the situation:

1) The extent of damage to water systems;
2) The extent of isolation due to bridge and/or freeway overpass collapse;
3) The extent of roadway damage and/or amount of debris blocking the roadways;
4) Climatic conditions (e.g. hot, dry weather with high winds);
5) Time of day which influences the amount of traffic on roadways and could intensify the risk to life during normal business hours;
6) The availability of timely mutual aid or military assistance; and
7) The large portion of dwellings with wood shingle roof coverings, which could result in a conflagration.

Conclusion:
Local climatic, geographic and topographic conditions impact fire prevention efforts, and the frequency, spread, acceleration, intensity and size of fires involving buildings in this community. Further, such conditions impact potential damage to structures from earthquake and subsequent fire. Therefore, it is found to be reasonably necessary that the International Fire Code and the State Building Standards Code be changed or modified to mitigate the effects of the above conditions. Restricting or banning open burning, including recreational burning, during high fire hazard periods, will provide the District with an important tool to reduce the risk of wildfire and coordinate fire prevention activities of cooperating agencies.

Furthermore, California Health & Safety Code Sections 13869.7 and 17958.7 require that the modification or change be expressly marked and identified as to which each finding refers. Therefore, the North Tahoe Fire Protection District finds that the following table provides code sections that have been modified pursuant to Ordinance No. __-2015 which are building standards as defined in Health & Safety Code Section 18909, and the associated referenced conditions for modification due to local climatic, geographical and topographical reasons.

Section 2: Amendments to the 2013 Edition if the California Fire Code are found reasonably necessary based on the climatic, geographic and/or topographic conditions cited in Section 1 of this Resolution and are listed as follows:

Code Section	Relevant Findings
Chapter 2, Definitions	The following Definitions, as modified from the language of the California Fire Code, shall be added to the North Tahoe Fire Prevention Code in order to grant authority to the Fire Chief to issue a declaration, under specified conditions, restricting or banning open burning, including campfires on private property [*insertions* and ~~strikeouts~~ as noted]. BONFIRE. An outdoor fire utilized for ceremonial purposes. OPEN BURNING. The burning of materials wherein products of combustion are emitted directly into the ambient air without passing through a stack or chimney from an enclosed chamber. Open burning does not include road flares, smudge pots and similar devices associated with safety or occupational uses typically considered open flames~~, recreational fires~~ or use of ~~portable~~ outdoor fireplaces *with a chimney and an enclosed chamber*. For the purpose of this definition, a chamber shall be regarded as enclosed when, during the time combustion occurs, only apertures, ducts, stacks, flues or chimneys necessary to provide combustion air and permit the escape of exhaust gas are open. PORTABLE OUTDOOR FIREPLACE. A portable, outdoor, solid-fuel-burning fireplace that may be constructed of steel, concrete, clay or other noncombustible material. A portable outdoor fireplace may be open in design, or may be equipped with a small hearth opening and a short chimney or chimney opening in the top. *All openings for products of combustion must be covered or screened.* RECREATIONAL FIRE. An outdoor fire burning materials other than rubbish where the fuel being burned is not contained in an incinerator, ~~outdoor fireplace,~~ *LPG or LNG* portable outdoor fireplace, *or* barbeque grill ~~or~~

~~barbeque pit~~ and has a total fuel area of 3 feet (914 mm) or less in diameter and 2 feet (610 mm) or less in height for pleasure, religious, ceremonial, cooking, warmth or similar purposes.

Chapter 3

Chapter 3 - GENERAL REQUIREMENTS

Delete Section 307 of the California Fire Code as adopted and substitute in its place the following:

307.1.1 Prohibited Open Burning. *Bonfires, Portable Outdoor Fireplaces and Recreational Fires*: Open burning, *bonfires, portable outdoor fireplaces and recreational fires, as defined in the 2013 California Fire Code Section 202. General Definitions and North Tahoe Fire Prevention Code, Chapter Two - Definitions,* shall be prohibited when atmospheric conditions or local circumstances make such fires hazardous *including when, in the judgment of the Fire Chief or his designee, the menace of destruction by fire to life, improved property, or natural resources is, or is forecast to become, extreme due to critical fire weather, fire suppression forces being heavily committed to control fires already burning, acute dryness of the vegetation, or other factors that may cause the rapid spread of fire such as high winds, low fuel moistures, Fire Weather or Red Flag Warnings, severe threat of wildland fire, or issuance of Fire Restrictions on lands adjacent to the District by the USFS, Lake Tahoe Basin Management Unit, or CalFire.*

Exemptions: Gas (LPG, NG) outdoor fire places and BBQ's *shall not be considered open burning for purposes of this Ordinance.*

307.1.2 Declaration of Fire Chief Regarding Prohibited Open Burning. The Fire Chief or his designee may issue a Declaration prohibiting open burning pursuant to Section 307.1.1 when deemed appropriate, which shall

be come effective immediately, provided that no citation for violation may be issued pursuant to such Declaration until after the Declaration is published at least once in a newspaper of general circulation in the District and posted in two public places located within the District.

Add the following Section 307.4.3:
307.4.3 Portable outdoor fireplaces. Portable outdoor fireplaces shall be used in accordance with the manufacturer's instructions and shall not be operated within 15' (3048 mm) of a structure or combustible material.
~~Exception: Portable outdoor fireplaces used at one and two-family dwellings.~~

Section 2: Procedures for Adoption.

a. The Board shall, before making any modifications or changes pursuant to Health & Safety Code Section 13869.7, shall make an express finding that such modifications or changes are reasonably necessary because of local climatic, geological or topographical conditions. Such a finding shall be available as a public record.

b. The District shall, not less than 30 days prior to noticing the proposed ordinance for public hearing, provide a copy of that ordinance, together with the adopted findings made pursuant to Section 13869.7(a), to the city, county, or city and county where the ordinance will apply. The city, county, or city and county, may provide the district with written comments, which shall become part of the fire protection district's public hearing record.

c. This Ordinance shall be introduced at the regular meeting of the North Tahoe Board of Directors scheduled for July 15, 2015 and shall be presented for adoption by the Board at a noticed public hearing scheduled for the regular meeting of the North Tahoe Board of Directors scheduled for August 19, 2015. The public meeting is hereby set for August 19, 2015, at 4:30 o'clock p.m., at the administrative offices of the District, 222 Fairway Drive, P.O. Box 5879, Tahoe City, California 96145.

d. The clerk of the Board shall cause the proposed ordinance or proposed amendment to an ordinance, and any ordinance adopted by the Board, to be published at least once, in a newspaper of general circulation published and circulated in the Board's area of jurisdiction. The publication of an ordinance, as required by this subdivision (d), may be satisfied by either of the following actions:

(A) The Board may publish a summary of a proposed ordinance or proposed amendment to an ordinance. The summary shall be prepared by a person designated by the Board. The

summary shall be published and a certified copy of the full text of the proposed ordinance or proposed amendment shall be posted in the office of the Clerk of the Board at least five days prior to the Board meeting at which the proposed ordinance or amendment is to be adopted. Within 15 days after adoption of the ordinance or amendment, the Board shall publish a summary of the ordinance or amendment with the names of those Board members voting for and against the ordinance or amendment and the Clerk shall post in the office of the Clerk a certified copy of the full text of the adopted ordinance or amendment along with the names of those Board members voting for and against the ordinance or amendment.

(B) If the person designated by the Board determines that it is not feasible to prepare a fair and adequate summary of the proposed ordinance or amendment, and if the Board so orders, a display advertisement of at least one-quarter of a page in a newspaper of general circulation in the Board's area of jurisdiction shall be published at least five days prior to the Board meeting at which the proposed ordinance or amendment is to be adopted. Within 15 days after adoption of the ordinance or amendment, a display advertisement of at least one-quarter of a page shall be published. The advertisement shall indicate the general nature of, and provide information regarding, the adopted ordinance or amendment, including information sufficient to enable the public to obtain copies of the complete text of the ordinance or amendment, and the names of those Board members voting for and against the ordinance or amendment.

e. The District shall transmit the adopted ordinance to the city, county, or city and county where the ordinance will apply. The legislative body of the city, county, or city and county, may ratify, modify, or deny an adopted ordinance and transmit its determination to the district within 15 days of the determination. No ordinance adopted by the District shall be effective until ratification by the city, county, or city and county where the ordinance will apply. Upon ratification of an adopted ordinance, the city, county, or city and county, shall file a copy of the findings of the District, and any findings of the city, county, or city and county, together with the adopted ordinance expressly marked and identified to which each finding refers, with the Department of Housing and Community Development, California Building Standards Commission.

This Resolution shall take effect and be in force from and after its approval as required by law.

Adopted by the following vote by the Board of Directors of the North Tahoe Fire Protection District this 15 day of July 2015.

AYES: Directors Correa, Lonergde, ~~Saffore~~ Baffone, Cornell

NOES:

ABSENT: Director Potts

President of the Board. North Tahoe Fire District

ATTEST:

Nita Wracker, Clerk of the Board

Dam Protocols

Placer County OES and Placer County Sheriff's Office (PCSO) Dispatch receive printed copies of Emergency Action Plans from FERC regulated dams as well as non-FERC dams such as those owned by PCWA and PG&E. The County receives annual updates for the EAPs and participates in their scheduled annual drills and exercises. The EAPs contain maps of affected downstream areas and include warning levels and protocols/procedures for making notifications and evacuations. Should an event trigger the activation of the EAP including notification protocols, county OES receives this information via direct phone calls from the originating source/agency or from PCSO Dispatch and/or Cal OES. County OES then follows the notification and evacuation procedures called for in the EAP.

Evacuation Procedures

The 2010 Placer County Emergency Operations Plan includes addresses the planned response to emergency situations associated with natural disasters and emergencies in or affecting Placer County. The EOP is intended to facilitate multi-agency and multi-jurisdictional coordination in emergency operations. It seeks to mitigate the effects of hazards, prepare for measures to be taken which will preserve life and minimize damage, enhance response during emergencies and provide necessary assistance, and establish a recovery system to return the County the local jurisdictions to their normal state of affairs.

The EOP includes multiple annexes, one of which is the Mass Evacuation Annex. This Annex addresses evacuation policies and procedures due to natural hazards and other events. Emergency evacuation planning involves multiple governmental agencies and private organizations performing such functions as threat identification, warning, evacuation decision making, communications, traffic control, and shelter and medical needs management.

In addition to the Mass Evacuation Annex to the EOP, the County has several evacuation plans covering various areas of the County:

- East Side Emergency Evacuation Plan
- Emergency Evacuation Plan for Rural Lincoln Communities
- Greater Colfax Area Emergency Action Plan
- Foresthill Divide Iowa Hill Divide Emergency Plan

The purpose of these area-specific Evacuation Plans is to help increase preparedness and to facilitate the efficient and rapid evacuation of threatened communities. These plans include maps and prescribe specific responsibilities for first responders, County staff and other state, federal and non-profit contributing agencies for conducting an emergency evacuation of one or more communities as part of a larger natural disaster or human-caused incident. An overview of a sample evacuation plan, the East Side Evacuation Plan is provided below.

East Side Evacuation Plan

This is a plan for a physical evacuation of one or more communities in the unincorporated Placer County area on the eastern side of the County that is necessitated by a larger incident, most probably a forest fire or flood. For the purposes of this plan, the "eastern side" comprises all of Placer County from just west of

Cisco Grove to the Nevada State line not including the areas within the Tahoe National Forest and the Lake Tahoe Basin Management Unit. The dense forests, rugged terrain, and the scarcity of roads in the area – problems that present difficulties for first responders and residents/transients alike - complicate any evacuation. Many agencies helped to develop this plan to help increase preparedness, and facilitate the efficient and rapid evacuation of threatened communities in the far eastern end of the County. While focusing on fire-induced evacuations, the plan remains applicable to all evacuations in general.

Placer County Post Disaster Mitigation Policies and Procedures

The Placer County EOP is intended to facilitate multi-agency and multi-jurisdictional coordination during emergencies including hazard events. Through it policies and procedures it seeks to mitigate the effects of hazards, prepare for measures to be taken which will preserve life and minimize damage, enhance response during emergencies and provide necessary assistance, and establish a recovery system in order to return the community to their normal state of affairs. The County is in the process of updating the EOP and annexes by July 2016.

Post disaster recovery procedures for all hazards, including flood, are primarily addressed the Recovery Annex to the EOP. As detailed in the EOP, the goal of the recovery phase of an emergency incident or natural disaster is to return the residents, public services and private sector in an impacted area to their pre-disaster state, and through implementation of hazard mitigation measures, seek to prevent, as much as possible, similar damage, destruction or chaos after incidents and disasters in the future. The Recovery Annex includes detailed objectives, responsibilities and procedures for restoration of services and returning of the affected area to its pre-emergency condition. Mitigation is emphasized as a major component of recovery efforts. As part of the recovery planning, a Cal OES approved Debris Management Plan is also being developed for incorporation into the emergency management program for the County.

The Recovery Annex includes and is divided into two parts:

- Part One identifies the organization for and responsibilities of County agencies and Departments specifically for recovery. Since most large incidents are multi-jurisdictional, in all probability, recovery will be coordinated by the County working in its Operational Area (OA) role which allows it to coordinate emergency activities with all political entities in the County, i.e., the cities and special districts. Whereas overall recovery will be coordinated by the OA, in single jurisdiction incidents or disasters as well as multijurisdictional incidents, individual jurisdiction's always work directly with state and federal organizations for much of the recovery effort.
- Part Two is a compendium of information on recovery and provides definitions of the various types, levels and providers of recovery aid and assistance. Numerous types and levels of disaster assistance from federal, state and county sources are available to individuals, businesses and government agencies. The type and extent of the emergency or declared disaster determines which sort and how much of each type assistance is ultimately provided.

The post-disaster recovery annex details roles, responsibilities, and protocols for both short and long term recovery and includes information for:

- Initial Damage Assessment (windshield survey and safety assessment)
- Detailed Damage Assessment, with an initial priority on public and critical infrastructure and services

- Establishing Recovery Assistance Facilities and Information Centers
- Procedures for Individual Assistance, Public Assistance, and Post-disaster Mitigation

Sheltering in Place

All stakeholders (i.e. county, fire districts/departments, special districts, utility districts, ARC, and the community at large) agreed on the need for emergency shelters. Stakeholders participated in regular meetings (monthly, quarterly, or semi-annually) and drills/exercises (annually or bi-annually) where emergency shelter is discussed as one of the topics. Stakeholders conduct planning meetings or phone/televideo conferences for forecasted/anticipated event such as severe weathers as well as unscheduled events wild land fires, floods, and earthquake. These forums foster education and collaborative efforts amongst the stakeholders and better prepare them to respond to emergency events. Good progress has been made in the initiative over the past several years. Some of the significant completed work includes:

Western Placer: Development of the Foresthill Divide & Iowa Hill Divide Emergency Plan first published and disseminated by PCOES in August 2006, updated in January 2009, and is currently being updated. The primary purpose of the plan is to pre-establish evacuation protocols and pre-identified evacuation routes and sites for the emergency responders, local residents, and general public in case of large wildland fires occurring in the areas. Due to the remote location of the two areas and limited road access, the plan provides a contingency plan for the community. Although the plan does not address shelter in place for the individual residents in their home, it does address a contingency plan for the communities to shelter in place in pre-identified sites; thereby minimizing risk and danger due to limited road accesses. Furthermore, the plan addresses facilities and supporting resources for each of the pre-identified sites (e.g. food, water, medical, etc.).

Placer County Water Agency (a special district and not a county department/agency) built a facility in Foresthill. The agency worked with the County to identify the facility as a potential site for use as an emergency shelter.

Eastern Placer: The County worked closely with the American Red Cross (ARC) to identify facilities in the North Tahoe area (including Truckee) for use as emergency shelters. Schools in Tahoe City, Kings Beach, and Truckee have been identified and the ARC continues to conduct on-site assessments of the facilities for suitability as emergency shelters. Additionally, the ARC has fielded three trailers in the areas with each trailer containing 50 cots, blankets, pillows, and a generator to support each shelter.

The County is planning to build a government facility in the North Tahoe area in the future. Discussion are underway to designate the facility as an emergency shelter, equipped with generators and supporting resources.

Crude Oil/Hazmat by Rail Operational Guide, 2015

The production of crude oil in North America has increased by over 500% in the last 5 years - the majority of this product is being transported by rail. First Responders and Emergency Managers are scrambling to address the increased volume over rail. Placer and portions of Nevada County are situated in a rail corridor that connects the Sierra Nevada Mountains to the San Francisco Bay area. While crude oil is not currently

As stated in the Initial Study prepared for the project (included as Appendix A), some potential hydrology and water quality issues will not be addressed in the DEIR. The proposed project would not place any structures, including housing, within a 100-year flood hazard area. The project is not within a watershed that could experience flooding from levee or dam failure. The project is not located near any large water body that could result in inundation by seiche or tsunami. Therefore, these impacts are not evaluated further in this DEIR. Impacts from landslides and mudflows are evaluated in Chapter 12, "Soils, Geology, and Seismicity."

Comment: Water Board staff is aware of two private dams on the South Fork of Squaw Creek, within the ski resort areas, and potentially a third dam near Squaw Valley Ski Resort's Red Dog ski lift. One dam sits just above the base lodge area and a higher, larger dam and water impoundment used for snow-making, Gold Coast Pond, sits higher in the watershed upstream of the Project. The capacity of these dams to withstand flooding, and the risk of failures that would put lives and property at risk is unknown and not evaluated or disclosed in the DEIR due to the above-cited assessment. The potential for both dams to fail and release flood waters, sediment, and debris during a significant runoff event must however be considered, based on the scientific evidence, and the anecdotal evidence of runoff events such as the January 1997 flood event that affected the entire Truckee River watershed, including Squaw Creek and its tributaries.

The potential risk should not be underestimated or limited to "100-year flood" events based on the available probability data from the 20th century or before; recent published scientific data and models from the U.S. Geological Survey provides substantial evidence of the potential for devastating flooding and damage from "atmospheric rivers" of moisture that reoccur with regularity on a scale of one to several centuries, bringing floods potentially much, much larger than experienced in the last century. The DEIR is deficient for failing to analyze the potentially significant threats to life and property associated with the existing dams, their hydrological and structural capacities, and the potential for dam failures and flooding due to significant flood events, such as the January 1997 flood event. Such flood events also have the potential to adversely affect water quality over a significant time period due to the discharge of building materials and waste from damaged infrastructure.

Page 13-45, Section 13.3.4 Impact Analysis
Impact 13-1: Well and sewer line construction and abandonment risks to groundwater and surface water quality.
As stated in the DEIR (page 13-46), "Shall be in conformance with Section 71 of the Placer County Department of Public Works General Specifications." "Because existing codes and regulations…require measures to protect water quality…there is a low risk that water quality would be adversely affected or that any water quality standards would be violated by these activities."
Mitigation Measure 13-1: Implement water and sewer infrastructure water quality protection measures.

DROWNED: A 43-day atmospheric-river storm in 1861 turned California's Central Valley region into an inland sea, simulated here on a current-day map.

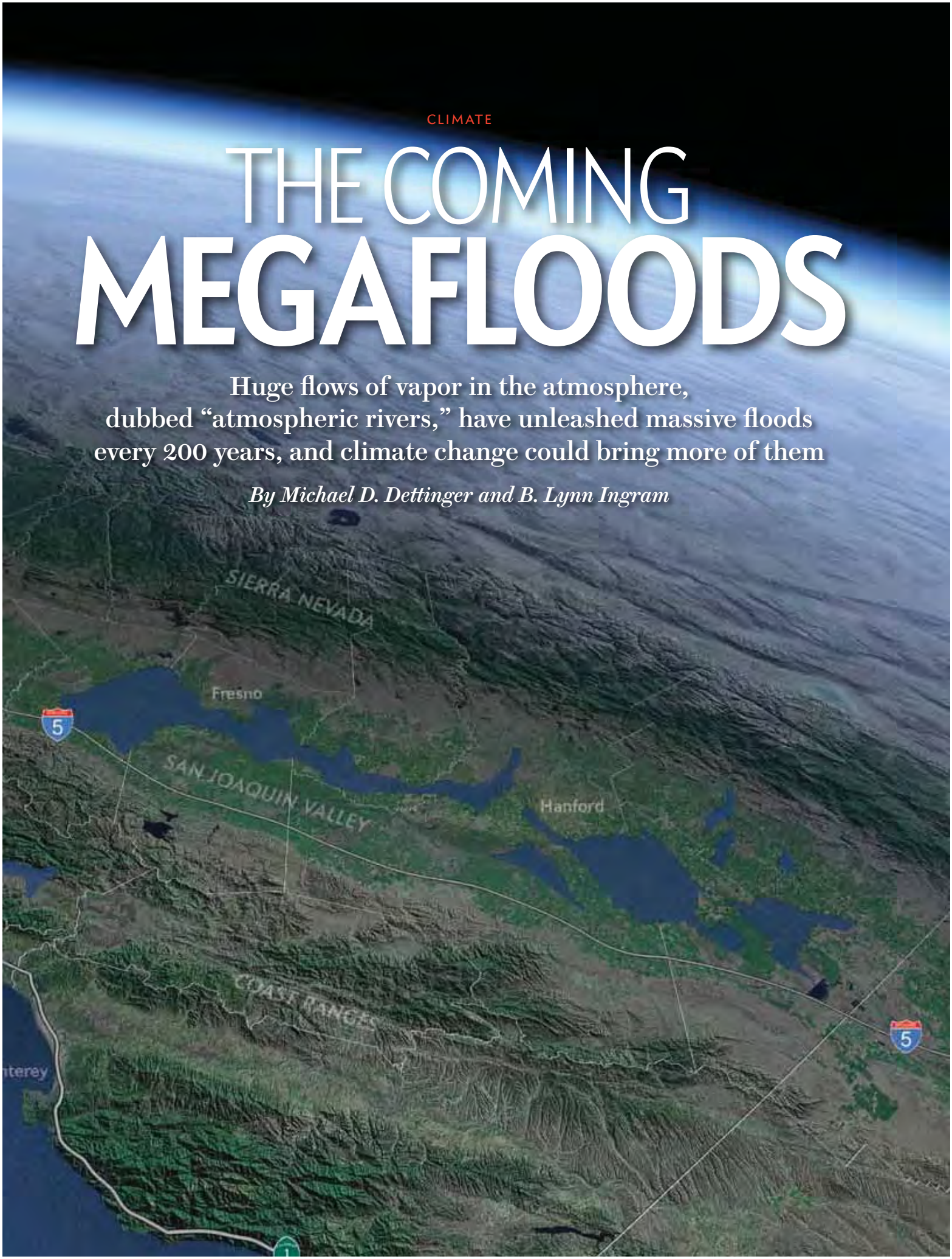
Illustrations by Don Foley

CLIMATE

THE COMING MEGAFLOODS

Huge flows of vapor in the atmosphere, dubbed "atmospheric rivers," have unleashed massive floods every 200 years, and climate change could bring more of them

By Michael D. Dettinger and B. Lynn Ingram



Michael D. Dettinger is a research hydrologist for the U.S. Geological Survey and a research associate at the Climate, Atmospheric Sciences and Physical Oceanography Division at the Scripps Institution of Oceanography in La Jolla, Calif.

B. Lynn Ingram is a professor of earth and planetary science at the University of California, Berkeley, and co-author of *The West without Water* (University of California Press, Spring 2013).

THE INTENSE RAINSTORMS SWEEPING IN FROM

the Pacific Ocean began to pound central California on Christmas Eve in 1861 and continued virtually unabated for 43 days. The deluges quickly transformed rivers running down from the Sierra Nevada mountains along the state's eastern border into raging torrents that swept away entire communities and mining settlements. The rivers and rains poured into the state's vast Central Valley, turning it into an inland sea 300 miles long and 20 miles wide. Thousands of people died, and one quarter of the state's estimated 800,000 cattle drowned. Downtown Sacramento was submerged under 10 feet of brown water filled with debris from countless mudslides on the region's steep slopes. California's legislature, unable to function, moved to San Francisco until Sacramento dried out—six months later. By then, the state was bankrupt.

A comparable episode today would be incredibly more devastating. The Central Valley is home to more than six million people, 1.4 million of them in Sacramento. The land produces about $20 billion in crops annually, including 70 percent of the world's almonds—and portions of it have dropped 30 feet in elevation because of extensive groundwater pumping, making those areas even more prone to flooding. Scientists who recently modeled a similarly relentless storm that lasted only 23 days concluded that this smaller visitation would cause $400 billion in property damage and agricultural losses. Thousands of people could die unless preparations and evacuations worked very well indeed.

Was the 1861–62 flood a freak event? It appears not. New studies of sediment deposits in widespread locations indicate that cataclysmic floods of this magnitude have inundated California every two centuries or so for at least the past two millennia. The 1861–62 storms also pummeled the coastline from northern Mexico and southern California up to British Columbia, creating the worst floods in recorded history. Climate scientists now hypothesize that these floods, and others like them

IN BRIEF

Geologic evidence shows that truly massive floods, caused by rainfall alone, have occurred in California about every 200 years. The most recent was in 1861, and it bankrupted the state.

Such floods were most likely caused by atmospheric rivers: narrow bands of water vapor about a mile above the ocean that extend for thousands of miles. Much smaller forms of these rivers regularly hit California, as well as the western coasts of other countries.

Scientists who created a simulated megastorm, called ARkStorm, that was patterned after the 1861 flood but was less severe, found that such a torrent could force more than a million people to evacuate and cause $400 billion in losses if it happened in California today.

Forecasters are getting better at predicting the arrival of atmospheric rivers, which will improve warnings about flooding from the common storms and about the potential for catastrophe from a megastorm.

in several regions of the world, were caused by atmospheric rivers, a phenomenon you may have never heard of. And they think California, at least, is overdue for another one.

TEN MISSISSIPPI RIVERS, ONE MILE HIGH

ATMOSPHERIC RIVERS are long streams of water vapor that form at about one mile up in the atmosphere. They are only 250 miles across but extend for thousands of miles—sometimes across an entire ocean basin such as the Pacific. These conveyor belts of vapor carry as much water as 10 to 15 Mississippi Rivers from the tropics and across the middle latitudes. When one reaches the U.S. West Coast and hits inland mountain ranges, such as the Sierra Nevada, it is forced up, cools off and condenses into vast quantities of precipitation.

People on the West Coast of North America have long known about storms called "pineapple expresses," which pour in from the tropics near Hawaii and dump heavy rain and snow for three to five days. It turns out that they are just one configuration of an atmospheric river. As many as nine atmospheric rivers hit California every year, according to recent investigations. Few of them end up being strong enough to yield true megafloods, but even the "normal" storms are about as intense as rainstorms get in the rest of the U.S., so they challenge emergency personnel as well as flood-control authorities and water managers.

Atmospheric rivers also bring rains to the west coasts of other continents and can occasionally form in unlikely places. For example, the catastrophic flooding in and around Nashville in May 2010—which caused some 30 deaths and more than $2 billion in damages—was fed by an unusual atmospheric river that brought heavy rain for two relentless days up into Tennessee from the Gulf of Mexico. In 2009 substantial flooding in southern England and in various parts of Spain was also caused by atmospheric rivers. But the phenomenon is best understood along the Pacific Coast, and the latest studies suggest that these rivers of vapor may become even larger in the future as the climate warms.

SUDDEN DISCOVERY

DESPITE THEIR INCREDIBLE DESTRUCTION, atmospheric rivers were discovered only relatively recently and in part by serendipity.

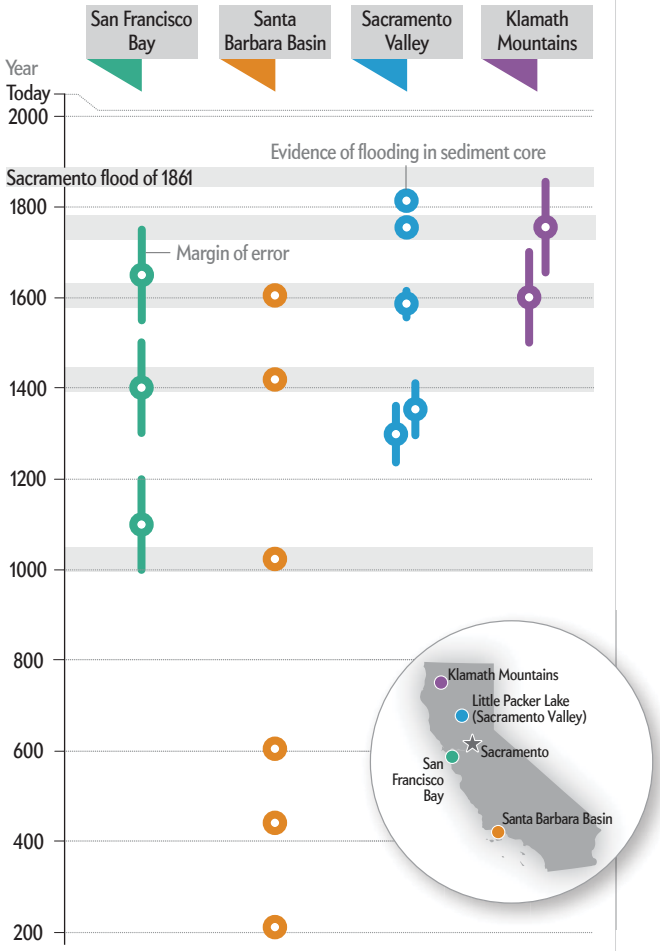
In January 1998 the National Oceanic and Atmospheric Administration's Environmental Technology Laboratory began a project called CALJET to improve the forecasting of large storms that hit the California coast. The lab's research meteorologist Marty Ralph and others flew specially outfitted aircraft over the North Pacific into an approaching winter storm to directly measure the conditions. That storm was described as a "jet"—a zone of high winds. The researchers found that the single storm, for several days running, was carrying about 20 percent of the atmosphere's moisture that was moving poleward at middle latitudes. The jet was concentrated at about a mile above the ocean's surface, high enough to have been difficult to identify using traditional meteorological observations from the ground.

Also in 1998 researchers Yong Zhu and the late Reginald Newell, then at the Massachusetts Institute of Technology, noticed an odd feature in simulations of global wind and water-vapor patterns that had been made by the European Center for Medium-Range Weather Forecasts. They found that, outside of the tropics, an average of about 95 percent of all vapor transport toward the poles occurred in just five or six narrow bands,

TIMELINE

California Megafloods, Every Two Centuries

Massive floods have struck California every 200 years or so, according to analysis of sediment deposits left by the torrents in four widely separated locations. Different dating methods used at the sediment sites have varying margins of error, but the midpoints align fairly well. If the pattern holds, the state could be due for another catastrophe; the most recent megaflood was in 1861, and it left Sacramento underwater for six months (*photograph*).



DAVID JOSLYN COLLECTION/CENTER FOR SACRAMENTO HISTORY

Graphic by Jen Christiansen, Map by XNR Productions

distributed somewhat randomly around the globe, that moved west to east across the middle latitudes. To describe these bands, they coined the term "atmospheric rivers."

At about the same time, satellites carrying the new Special Sensor Microwave Imager were for the first time providing clear and complete observations of water-vapor distributions globally. The imagery showed that water vapor tended to concentrate in long, narrow, moving corridors that extend most often from the warm, moist air of the tropics into the drier, cooler regions outside the tropics. The tentacles appeared and then fell apart on timescales from days to a couple of weeks.

Needless to say, researchers soon put together these three remarkably complementary findings. Since then, scientists have conducted a growing number of studies to better characterize West Coast atmospheric rivers. New observatories with upward-looking radars and wind profilers have been established to watch for them. NOAA's Hydrometeorological Testbed program is peering farther inland to find out what happens when atmospheric rivers penetrate the interior.

Using data from these networks, forecasters are getting better and better at recognizing atmospheric rivers in weather models and at predicting their arrival at the West Coast. In recent years some storms have been recognized more than a week before they hit land. Atmospheric rivers are also appearing in climate models used to predict future climate changes. Forecasters, feeling more confident in their prediction abilities, are beginning to warn the public about extremely heavy rains earlier than they would have in the past. This improvement is providing extra time for emergency managers to prepare.

A MEGAFLOOD EVERY CENTURY?

DESPITE GREATER SCIENTIFIC UNDERSTANDING, the 1861–1862 floods are all but forgotten today. Communities, industries and agricultural operations in California and the West have spent the past century spreading out onto many of the same floodplains that were submerged 150 years ago. Residents everywhere are unaware or unwary of the obvious risks to life and property. Meanwhile, though, anxious climatologists worry about the accumulating evidence that a megastorm could happen again and soon.

The concern grows out of research that is looking 2,000 years back in time to piece together evidence revealing the occurrence and frequency of past floods, like detectives returning to a crime scene of long ago. They are sifting through evidence archived in sediments from lake beds, floodplains, marshes and submarine basins. As floodwaters course down slopes and across the landscape, they scour the hills, picking up clay, silt and sand and carrying that material in swollen currents. When the rivers slow on reaching a floodplain, marsh, estuary or the ocean, they release their loads of sediment: first the larger gravels, then the sands, and finally the silts and clays. Nature rebuilds after such events, and over time the flood deposits are themselves buried beneath newer sediments left by normal weather. Scientists extract vertical cores from these sediments and, back at the lab, analyze the preserved layers and date what happened when.

For example, flood deposits have been found under tidal marshes around San Francisco Bay in northern California. Typically the inflowing river waters that spread across the marshes deposit only thin traces of the finest sediments—clays and silts. The more vigorous flows of major floods carry larger particles and deposit thicker and coarser layers. The flood layers can be dated using the common radiocarbon-dating method, which in this application is accurate to within about 100 years. A study of the marsh cores by one of us (Ingram) and geographer Frances Malamud-Roam revealed deposits from massive flooding around A.D. 1100, 1400 and 1650. A distinct layer from the 1861–62 event is difficult to distinguish, however, because hydraulic gold mining in the Sierra Nevada foothills during the decade before and after the flood moved enormous volumes of silt and sand that essentially wiped out whatever traces the floodwaters might have left.

Sediment cores taken from beneath San Francisco Bay itself also indicate that in 1400 the bay was filled with freshwater (as it was during the 1861–62 event), indicating a massive flood.

Geologists have found more evidence in southern California, where two thirds of the state's nearly 38 million people live today, along the coast of Santa Barbara. Sediments there settle to the seafloor every spring (forming a light-colored layer of algae known as diatoms) and again in winter (forming a dark-colored silt layer). Because the oxygen concentrations in the deep waters there are inhospitably low for bottom-dwelling organisms that would usually churn and burrow, the annual sediment layers have remained remarkably undisturbed for thousands of years. Sediment cores there reveal six distinct megafloods that appear as thick gray silt layers in A.D. 212, 440, 603, 1029, 1418 and 1605. The three most recent dates correlate well with the approximate 1100, 1400 and 1650 dates indicated by the marsh deposits around San Francisco Bay—confirming that truly widespread floods have occurred every few hundred years. (In October, Ingrid Hendy of the University of Michigan and her colleagues published a paper based on a different dating method; it found a set of Santa Barbara dates that were offset from the six specific dates by 100 to 300 years, but the same basic pattern of megafloods every 200 years or so holds.)

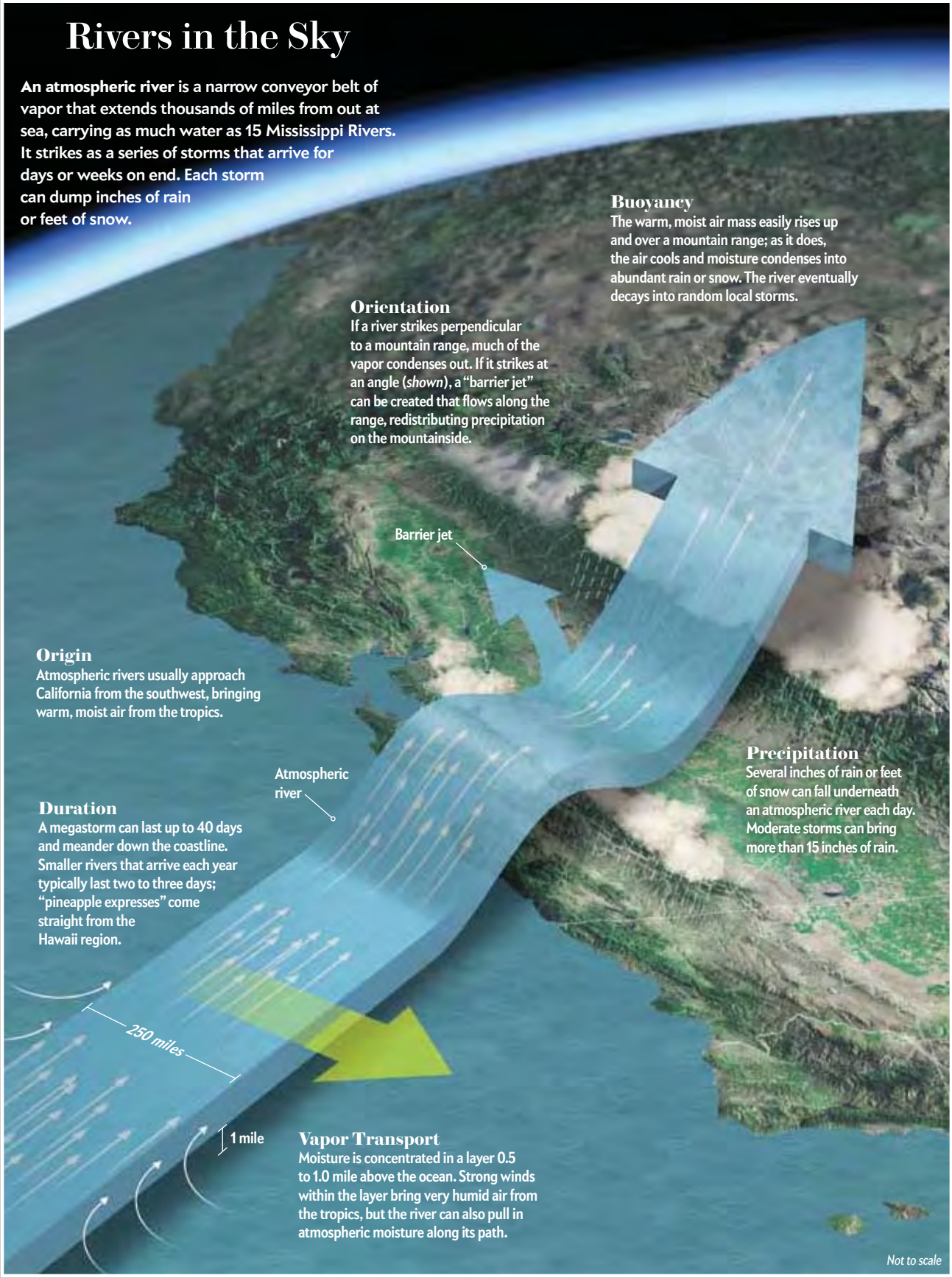
Ironically, smaller atmospheric rivers are not all bad; between 1950 and 2010 they supplied 30 to 50 percent of California's rain and snow—in the span of about 10 days each year.

The thickest flood layer in the Santa Barbara Basin was deposited in 1605. The sediment was two inches thick, a few miles offshore. The 440 and 1418 floods each left layers more than an inch thick. These compare with layers of 0.24 and 0.08 inch near the top of the core that were left by large storms in 1958 and 1964, respectively, which were among the biggest of the past century. The three earlier floods must have been far worse than any we have witnessed.

Evidence for enormous floods has also been found about 150 miles northeast of San Francisco Bay, in sediment cores taken from a small lake called Little Packer that lies in the floodplain of the Sacramento River, the largest river in northern California. During major floods, sediment-laden floodwaters spill into the lake, and the sediment settles to the bottom, forming thick, coarse layers. Geographer Roger Byrne of the University of Cal-

Rivers in the Sky

An atmospheric river is a narrow conveyor belt of vapor that extends thousands of miles from out at sea, carrying as much water as 15 Mississippi Rivers. It strikes as a series of storms that arrive for days or weeks on end. Each storm can dump inches of rain or feet of snow.



Buoyancy
The warm, moist air mass easily rises up and over a mountain range; as it does, the air cools and moisture condenses into abundant rain or snow. The river eventually decays into random local storms.

Orientation
If a river strikes perpendicular to a mountain range, much of the vapor condenses out. If it strikes at an angle (*shown*), a "barrier jet" can be created that flows along the range, redistributing precipitation on the mountainside.

Origin
Atmospheric rivers usually approach California from the southwest, bringing warm, moist air from the tropics.

Duration
A megastorm can last up to 40 days and meander down the coastline. Smaller rivers that arrive each year typically last two to three days; "pineapple expresses" come straight from the Hawaii region.

Precipitation
Several inches of rain or feet of snow can fall underneath an atmospheric river each day. Moderate storms can bring more than 15 inches of rain.

Vapor Transport
Moisture is concentrated in a layer 0.5 to 1.0 mile above the ocean. Strong winds within the layer bring very humid air from the tropics, but the river can also pull in atmospheric moisture along its path.

Not to scale

ifornia, Berkeley, and his then graduate student Donald G. Sullivan used radiocarbon dating to determine that a flood comparable to the 1861–62 catastrophe occurred in each of the following time spans: 1235–1360, 1295–1410, 1555–1615, 1750–70 and 1810–20. That is, one megaflood every 100 to 200 years.

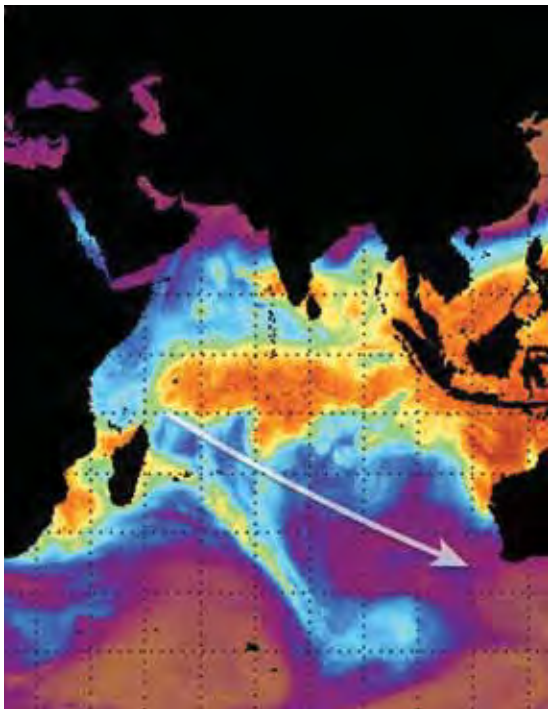
Certain megafloods have also left records of their passage in narrow canyons in the Klamath Mountains in the northwestern corner of California. Two particularly enormous deposits were laid down around 1600 and 1750, once again agreeing with the other data.

When taken together, all the historical evidence suggests that the 1605 flood was at least 50 percent greater than any of the other megafloods. And although the radiocarbon dates have significant uncertainties and could be reinterpreted if dating methods improve, the unsettling bottom line is that megafloods as large or larger than the 1861–62 flood are a normal occurrence every two centuries or so. It has now been 150 years since that calamity, so it appears that California may be due for another episode soon.

GLOBAL CONCERN

All West Coasts Can Be Hit

Atmospheric rivers form over tropical waters and flow poleward toward the west coasts of many continents (one hit England in November 2009). They are prominent along the U.S. Pacific Coast but can occasionally arise in unusual places, such as the Gulf of Mexico (one flooded Nashville in May 2010). Atmospheric rivers could become larger in the future as the climate warms.



Composite of atmospheric water vapor from December 17–19, 2010

Low — High

COURTESY OF UNIVERSITY OF WISCONSIN–MADISON/SSEC (*atmospheric moisture base map*); XNR PRODUCTIONS (*landmass and arrow overlays*)

DISASTERS MORE LIKELY

IRONICALLY, ATMOSPHERIC RIVERS that set up over California are not all bad. The smaller ones that arise annually are important sources of water. By analyzing the amount of rain and snow that atmospheric rivers brought to the U.S. West Coast in recent decades, along with records about long-term precipitation, snowpack and stream flow, researchers have found that between 1950 and 2010, atmospheric rivers supplied 30 to 50 percent of California's water—in the span of only 10 days each year. They are finding similar proportions along the rest of the West Coast. In the same time period, however, the storms also caused more than 80 percent of flooding in California rivers and 81 percent of the 128 most well-documented levee breaks in California's Central Valley.

Because atmospheric rivers play such terrible roles in floods and such vital roles in water supply, it is natural to wonder what might happen with them as climate change takes firmer hold. Recall that Zhu and Newell first coined the term "atmospheric river" to describe features they observed in computer models of weather. Those models are closely related to models used to project the future consequences of rising greenhouse gas concentrations. Scientists do not program atmospheric rivers into weather and climate models; the rivers emerge as natural consequences of the way that the atmosphere and the atmospheric water cycle work, when the models are let loose to simulate the past, present or future. Thus, the rivers also appear in climate projection models used in Intergovernmental Panel on Climate Change assessments.

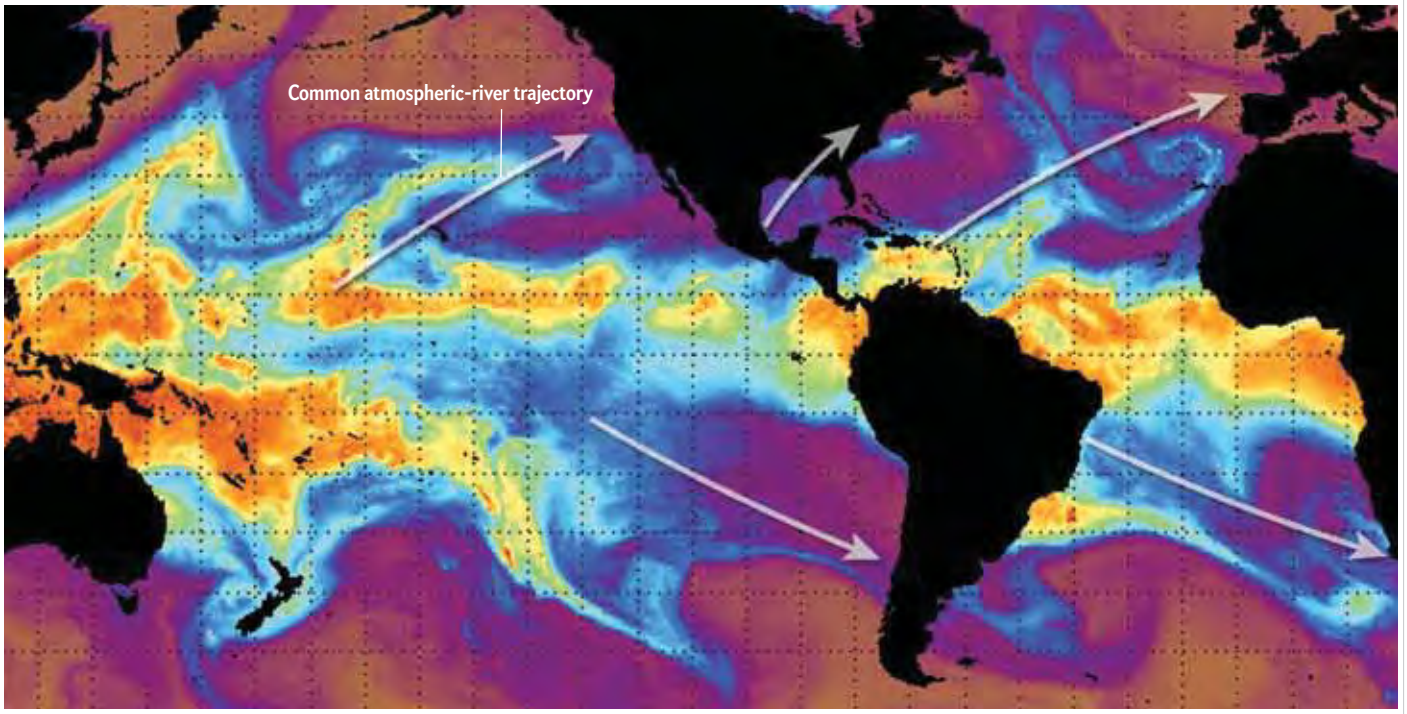
A recent review by one of us (Dettinger) of seven different climate models from around the world has indicated that atmospheric rivers will likely continue to arrive in California throughout the 21st century. In the projections, air temperatures get warmer by about four degrees Fahrenheit on average because of increasing greenhouse gas concentrations. Because a warmer atmosphere holds more water vapor, atmospheric rivers could carry more moisture.

On the other hand, because the tropics and polar regions are projected to warm at different rates, winds over the midlatitude Pacific are expected to weaken slightly. The rain that atmospheric rivers produce is primarily a product of the amount of vapor they hold and how fast they are moving, and so the question arises: Will moister air or weaker winds win out? In six of the seven climate models, the average rain and snow delivered to California by future atmospheric rivers increases by an average of about 10 percent by the year 2100. Moister air trumps weaker winds.

All seven models project that the *number* of atmospheric rivers arriving at the California coast each year will rise as well, from a historical average of about nine to 11. And all seven climate models predict that occasional atmospheric rivers will develop that are bigger than any of the historic megastorms. Given the remarkable role that atmospheric rivers have played in California flooding, even these modest increases are a cause for concern and need to be investigated further to see if the projections are reliable.

TIME TO PREPARE

WITH ATMOSPHERIC RIVERS likely to become more frequent and larger and with so many people now living in their paths, society would be wise to prepare. To provide an example that California emergency managers could use to test their current plans and methods, scientists at the U.S. Geological Survey



recently developed the scenario mentioned at the start of this article: a megastorm that rivaled the 1861–62 storm in size but lasted 23 days instead of 43 (so no one could claim that the scenario was unrealistic). To further ensure that the scenario, which was eventually dubbed ARkStorm (Atmospheric River 1000 Storm), was as realistic as possible, scientists constructed it by stitching together data from two of the largest storm sequences in California from the past 50 years: January 1969 and February 1986.

When project leaders ran the events of ARkStorm through a variety of weather, runoff, engineering and economic models, the results suggested that sustained flooding could occur over most lowland areas of northern *and* southern California. Such flooding could lead to the evacuation of 1.5 million people. Damages and disruptions from high water, hundreds of landslides and hurricane-force winds in certain spots could cause $400 billion in property damages and agricultural losses. Long-term business and employment interruptions could bring the eventual total costs to more than $700 billion. Based on disasters elsewhere in recent years, we believe a calamity this extensive could kill thousands of people (the ARkStorm simulation did not predict deaths).

The costs are about three times those estimated by many of the same USGS project members who had worked on another disaster scenario known as ShakeOut: a hypothetical magnitude 7.8 earthquake in southern California. It appears that an atmospheric-river megastorm—California's "Other Big One"—may pose even greater risks to the Golden State than a large-magnitude earthquake. An ARkStorm event is plausible for California, perhaps even inevitable. And the state's flood protection systems are not designed to handle it. The only upside is that today, with improved science and technology, the megastorms could likely be forecasted anywhere from a few days to more than a week in advance. Proper planning and continuing efforts to improve forecasts could reduce the damage and loss of life.

The same promise, and warning, holds true along the western coasts of other continents. Scientists have studied atmospheric rivers in more depth along California's coast than anywhere else in the world, but they have little reason to expect that the storms would be less frequent or smaller elsewhere. The next megaflood could occur in Chile, Spain, Namibia or Western Australia.

Californians, as well as people all along the West Coast, should be aware of the threats posed by atmospheric rivers and should take forecasts of storms and floods very seriously. Planners and city and state leaders should also take note as they decide on investments for the future. He who forgets the past is likely to repeat it. SA

MORE TO EXPLORE

Holocene Paleoclimate Records from a Large California Bay Estuarine System and Its Watershed Region: Linking Watershed Climate and Bay Conditions. Frances P. Malamud-Roam et al. in *Quaternary Science Reviews,* Vol. 25, Nos. 13–14, pages 1570–1598; July 2006.

Storms, Floods, and the Science of Atmospheric Rivers. Michael D. Dettinger and F. M. Ralph in *Eos,* Vol. 92, No. 32, page 265; 2011.

Design and Quantification of an Extreme Winter Storm Scenario for Emergency Preparedness and Planning Exercises in California. Michael D. Dettinger et al. in *Natural Hazards,* Vol. 60, No. 3, pages 1085–1111; February 2012.

NOAA atmospheric river page: **www.esrl.noaa.gov/psd/atmrivers**

USGS ARkStorm page: **http://urbanearth.gps.caltech.edu/winter-storm-2**

SCIENTIFIC AMERICAN ONLINE

For a historical account that details how extensively the 1861–62 megaflood devastated California, see **ScientificAmerican.com/jan2013/atmospheric-rivers**

ARkStorm Impacts at Tahoe at TERC Jan 31

Posted on December 27, 2012
Filed Under North Tahoe Events

Flooding in all quarters. Decades worth of erosion in a few weeks. Devastating landslides and avalanches. Hurricane force winds and tree falls. Road, power, and business outages. And

then the real impacts to Lake and ecosystems begin…

It sounds like the script to an apocalyptic movie, but the ARkStorm scenario described by USGS hazards experts could really happen. Learn more about ARkStorm Impacts at Lake Tahoe with Dale Cox and Michael Dettinger, U.S. Geological Survey at Tahoe Center for Environmental Sciences starting at 6 p.m. on January 31.

An ARkStorm event would be catastrophic – but it does not have to be. The USGS is now working with local communities to use the science, technology, expertise and meteorological data behind the ARkStorm scenario to test the resiliency of communities and expose vulnerabilities usually only realized following catastrophic events. Modeling such an extreme event allows officials at all levels to be prepared when disaster strikes.

Dale A. Cox is Regional Hazards Coordinator for the USGS Pacific Region and Region IX Chair of the Department of Interior, Regional Emergency Coordination Council. Michael Dettinger is a research hydrologist for the USGS and a research associate at the Climate, Atmospheric Sciences and Physical oceanography Division at the Scripps Institution of Oceanography in La Jolla, Calif.

ARkStorm Impacts at Lake Tahoe with Dale Cox and Michael Dettinger, U.S. Geological Survey

Thursday, January 31, 2013

No-host bar opens 5:30 p.m. Presentation begins 6 p.m.

Tahoe Center for Environmental Sciences building on SNC campus, 291 Country Club Drive, Incline Village, NV

$5 donation suggested

For more information, please contact Heather Segale, 775-881-7562.

- Search for: Search

- **TAMC Links**
  - Healthy Home Consultants
  - Lake Tahoe Art Scene
  - North Tahoe Arts
  - Phyllis Shafer Plein Air Artist
  - Sierra Ski and Cycle Works
  - Squaw Valley Institute
  - Tahoe Art League
  - Tahoe Keepers

ARkSTORM

California's Other "Big One"

Understanding the Impacts of Massive Winter Storms

Most people know that California is at risk from large earthquakes, like the magnitude 7.8 temblor in the ShakeOut scenario (USGS OFR-2008-1150). Relatively few people realize that California needs to be ready for another "Big One," a massive, statewide winter storm. The last such storms occurred in the 19th century, outside the memory of current emergency managers, officials, and communities. Yet massive storms are a recurring hazard in California and a source of costly disasters. Scientists have created a model of a megastorm similar to the storm of the winter of 1862 (described in USGS OFR-2010-1312) and concluded that such a storm could cause more damage than even a big earthquake on the San Andreas Fault.

What is an ARkStorm?

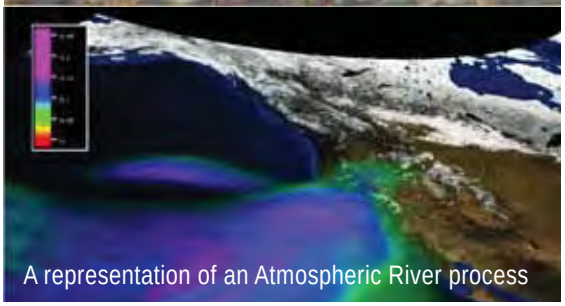
An ARkStorm is a major West Coast winter storm caused by an atmospheric river. These are narrow regions (roughly 240-480 kilometers or 150-300 miles wide) of very moist and fast moving air that carry much of the moisture from the tropics to California. Meteorologists have used recent advances in satellite imagery to study these features. Forecasters can now track the formation of the Atmospheric Rivers and recognize the approach of these storms a week in advance. Because atmospheric rivers bring intense storms that rival hurricanes in the intensity of the rainfall, we call these storms "A(tmospheric)R(iver)k(1,000) Storms," where the k or 1,000 is an indicator of storm size.

Like earthquakes, the biggest storms are very rare events. Similar (though smaller) storms caused significant damage in southern California in 1934, 1938 and 1969 and in northern California in 1986 and 1997. The last great statewide megastorm happened in 1861. Geologic studies of deposits offshore of California's big rivers suggest that storms even bigger than 1861-62 have happened six times in the last 1800 years.

The Storms of 1861-62.

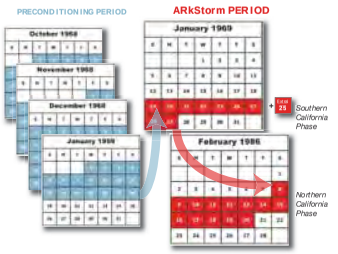
Beginning in early December 1861 and continuing 45 days into 1862, an extreme series of storms struck California. The storms caused severe flooding, turning the Sacramento Valley into an inland sea, requiring Governor Leland Stanford to take a rowboat to his inauguration, and ultimately causing the state capitol to be moved temporarily from Sacramento to San Francisco. Lakes formed in the Los Angeles Basin, Orange County and the Mojave Desert. The mouth of the Santa Ana River moved six miles and the largest community between Los Angeles and New Mexico, ironically named Agua Mansa (Smooth Water) was completely destroyed. The storms destroyed almost one-third of the taxable land of California, bankrupting the state.

View of Sacramento during 1850



A representation of an Atmospheric River process

The ARkStorm Scenario (USGS OFR-2010-1312) was a major scientific study that brought together 120 experts from dozens of agencies to model a great atmospheric river storm on the same scale as the storm of 1861-1862. Many physical scientists, engineers and social scientists worked together to create a synthetic storm, estimate its impact and evaluate the consequences to modern society. The bottom line is that a storm like this one, which only happens once every century or two, could cause damage several times greater than a big San Andreas Fault earthquake.



The ARkStorm scenario was created by combining two major CA storms, 1969 and 1986, in a scientifically plausible way.

Photo credit:
(top and bottom) Courtesy Captain Larry Collins;
(middle) K.Galvin for Federal Emergency Management Agency

HOW THE ARkSTORM SCENARIO WAS MADE

Eleven teams were assembled to model different aspects of the storm.

Meteorology Led by **Dr. Marty Ralph** of NOAA's Earth System Research Laboratory and **Dr. Mike Dettinger** of the USGS's National Research Program, this team created a comprehensive model for the rainfall, air temperature, air pressure and wind speed across California by combining the January 1969 and February 1986 storms in a scientifically plausible way. The result is rainfall of as much as ten feet in some areas of California.

Flooding Led by **Kathleen Schaefer**, Regional Engineer with FEMA Region IX's Floodplain Management program, **Dr. Justin Ferris** of the USGS's California Water Science Center, and **Prof. Keith Porter** of the University of Colorado at Boulder, this team estimated the extent of flooding in this storm by estimating the runoff return periods for each watershed, and then associating runoff return period with flooding return period. From this, the team assigned each watershed to <100 year, 100-year or 500-year flooding categories and used the relevant FEMA Digital Flood Insurance Rate Map to determine the extent of flooding.

Landslides Led by **Dr. Christopher Wills** of the California Geological Survey and **Dr. Jonathon Stock** of the USGS's Earth Surface Processes Science Center, this team compiled data for landslide susceptibility across California and developed a relationship between rainfall and rate of failure in susceptible areas to estimate the total losses from landslides. The team also estimated the rate of fire-related shallow landslides, considering the fires from 2009.

Coastal Erosion Led by **Dr. Patrick Barnard** and **Dr. Dan Hoover** of the USGS's Coastal and Marine Geology Science Center, this team developed a model to predict wave heights from windspeeds and coastal bathymetry. They used that information to estimate coastal erosion effects. This model is now being applied to predict wave and current patterns for incoming storms.

Physical Damages Led by **Prof. Keith Porter** of the University of Colorado at Boulder, this team used both FEMA's HAZUS-MH methodology and expert opinion with panels of lifeline operators and government agency representatives to estimate lifeline service interruption, property damage, and property repair costs from wind and floods.

Environmental Damage Led by **Dr. Geoffrey Plumlee** and **Dr. Charles Alpers** of the USGS Crustal Imaging and Characterization Science Center and California Water Science Center, this team evaluated the plausible environmental and human health issues that would arise from the flooding and its impact on EPA-regulated facilities.

Forecasting and Emergency Response Led by **Dr. David Reynolds** of the National Weather Service and **Mitch Miller** of the California Emergency Management Agency, this team developed a series of plausible forecasts and other tools that can be used in emergency exercises about an ARkStorm and is continuing to work with the Meteorology team to develop a scaling system to represent the size of future ARkStorms.

Economics Led by **Dr. Anne Wein** of the USGS's Western Geographic Science Center, this team used the direct losses determined by the physical damages team to estimate the costs of the flooding and then an analysis to estimate the indirect losses from business interruption.

Policy Led by **Dr. Ken Topping** of California Polytechnic Institute at San Luis Obispo, this team investigated the policy implications and identified six policy options that could be used to enhance community resiliency.

Visualizations **Dr. James Done** of the National Center for Atmospheric Research created imagery of the ARkStorm's windspeeds and precipitation. These visualizations helped other ARkStorm authors to understand and convey the meteorological effects of the storm.

KEY FINDINGS

1. Megastorms are California's other "big one." A severe California winter storm could realistically flood thousands of square miles of urban and agricultural land, result in thousands of landslides, disrupt lifelines throughout the state for days or weeks, and cost on the order of $725 billion. This figure is more than three times that estimated for the ShakeOut scenario earthquake, that has roughly the same annual occurrence probability as an ARkStorm-like event. The $725 billion figure comprises approximately $400 billion in property damage and $325 billion in business-interruption losses. An event like the ARkStorm could require the evacuation of 1,500,000 people. Because the flood depths in some areas could realistically be on the order of 10-20 ft, without effective evacuation there could be substantial loss of life.

2. An ARkStorm would be a statewide disaster. Extensive flooding is deemed realistic in the California Central Valley, San Francisco Bayshore, Los Angeles and Orange Counties, several coastal communities, and various riverine communities around the state. Both because of its large geographic size and the state's economic interdependencies, an ARkStorm would affect all California counties and all economic sectors.

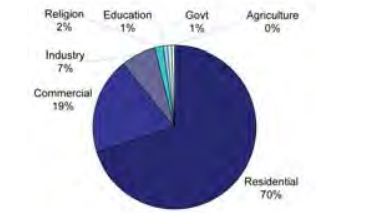
3. An ARkStorm could produce an economic catastrophe. 25% of buildings in the state could experience some degree of flooding in a single severe storm. Only perhaps 12% of California property is insured, so millions of building owners may have limited or no ability to pay for repairs. That degree of damage would threaten California with a long-term reduction in economic activity, and raise insurance rates statewide—perhaps nationwide or more—afterwards.

4. An ARkStorm is plausible, perhaps inevitable. Such storms have happened in California's historic record (1861-1862), but 1861-1862 is not a freak event, not the last time the state will experience such a severe storm, and not the worst case. The geologic record shows 6 megastorms more severe than 1861-1862 in California in the last 1800 years, and there is no reason to believe similar events won't occur again.

5. The ARkStorm is to some extent predictable. Unlike for earthquakes, we have the capability to partially predict key aspects of the geophysical phenomena that would create damages in the days before an ARkStorm strikes. Enhancing the accuracy, lead time, and the particular measures that these systems can estimate is a great challenge scientifically and practically.

6. Californian flood protection is not designed for an ARkStorm-like event. Much has been done to protect the state from future flooding, but the state's flood-protection system is not perfect. The existing systems are designed among other things to protect major urban areas from fairly rare, extreme flooding. The level of protection varies: some places are protected from flooding that only occurs on average once every 75 years; others, on average every 200 years. But the levees are not intended to prevent all flooding, such as the 500-year streamflows that are deemed realistic throughout much of the state in ARkStorm.

7. Planning for ARkStorm would complement planning for earthquakes. The ShakeOut exercise has become an annual activity in California, with more than 7 million people participating each year. Many of the same emergency preparations are useful for a severe winter storm: laying in emergency food and water, shelter preparations, exercising emergency corporate communications, testing mutual aid agreements, and so on.



Fraction of $370 billion in flood- and wind-related building and content property loss, by economic sector, including demand surge. Figure does not include lifeline repair costs, landslide-related costs, or business interruption.

Photo credit:
(top) D.Saville for Federal Emergency Management Agency;
(middle) J.Augustino for Federal Emergency Management Agency; (bottom) California Department of Water Resources

WHAT CAN BE DONE ABOUT THE ARkSTORM?

Photo credit:
(left) D.Hunsinger for Federal Emergency Management Agency; (right) National Oceanic and Atmospheric Administration/ Department of Commerce

California has made great advances over the years in finding engineering solutions to our flood control problems. The network of dams, levees and flood control channels is one of the great engineering feats. But no flood control could or should be built to handle every imaginable flood. We engineer up to a fiscally responsible level and use emergency management after that. So planning for future ARkStorms means making sure the flood control system is as good as it should be and that the emergency responders are prepared for events beyond that.

On October 1, 2010, a team of stakeholders participated in a day-long workshop to start addressing the outcomes of the scenario. This process and continued discussions highlight the value of the USGS scenarios.

Keep on Talking

Several groups of flood managers, scientists, and emergency managers have been meeting to discuss the implications of the ARkStorm. On October 1, 2010, 25 top decision makers spent a day in brainstorming possible approaches to reducing losses. On January 13-14, 2011, USGS, FEMA, and CalEMA are hosting a two-day event to engage hundreds of stakeholders from across California to take action as a result of the ARkStorm scenario's findings, which will be officially released at the Summit.

Consider ARkStorm in flood mitigation decisions

Governments, businesses, public and private utilities, and individuals have the opportunity now to explore the costs and benefits of physical improvements to their infrastructure to reduce future damage. Flood risk mitigation can be highly cost effective, with benefit-cost ratios on the order of 5.0 or more. Enhancing urban sections of the state's flood protection system to 500-year levels could realistically cost $10s of billions. Not doing so could realistically cost $100s of billions when such a storm occurs.

Advance the Science

Scientists from the National Weather Service, NOAA, and USGS are meeting with emergency managers to develop a scaling system to better communicate the possible sizes of different storms and predict their potential impact. Researchers have also identified several products that could improve resiliency including improved hydrologic modeling of flood runoffs, better elevation data and historical landslide maps, and better databases of at risk essential facilities.

Remember Katrina

Hurricane Katrina is a relevant, cautionary experience. Just under one year before Katrina, the USACE requested $4 million from Congress for a study on how to protect New Orleans from a category-4 hurricane, which would have cost on the order of $30 billion. Congress deemed the cost of the study to be too high at the time. The storm ultimately cost the federal government in excess of $100 billion, resulted in perhaps $150 billion in total economic loss, and killed 1800 people.

USGS science for a changing world

FEMA

Cal EMA CALIFORNIA EMERGENCY MANAGEMENT AGENCY

NOAA

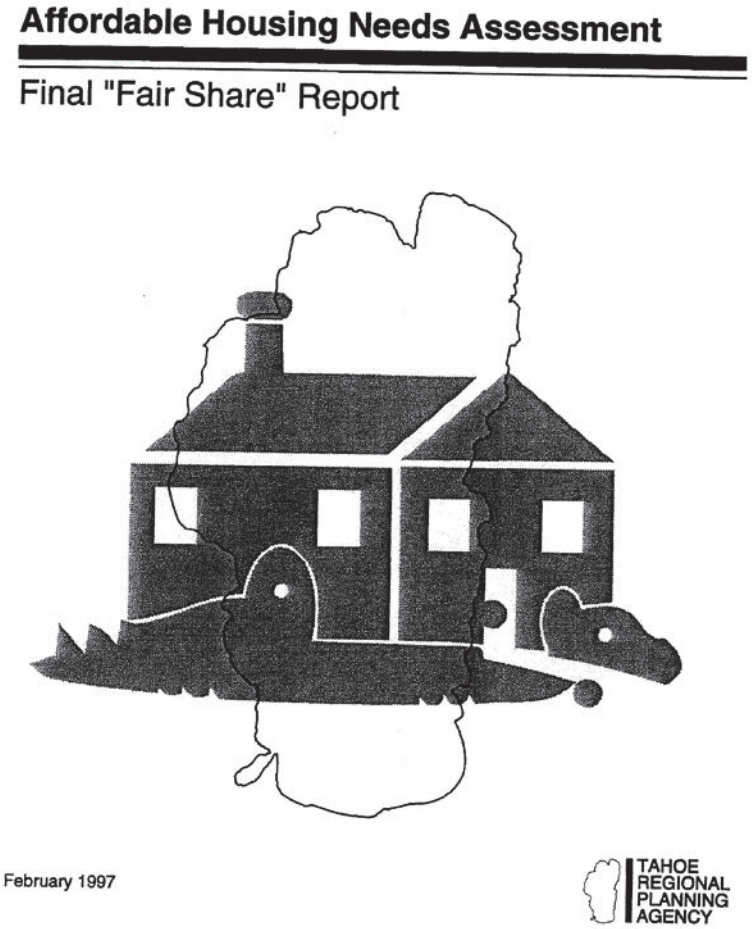
CGS CALIFORNIA GEOLOGICAL SURVEY

Draft Tahoe Regional Housing Needs Program Report

Advisory Planning Commission

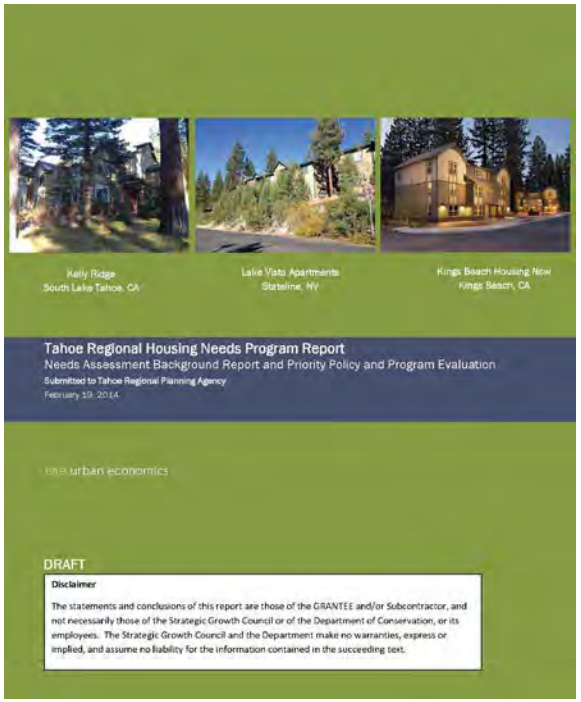
May 14, 2014

Background



- 1997 Assessment required local jurisdictions to provide their “fair share” of very-low and low-income housing
- 1990 census data
- Gaming was strong
- Projected population growth that did not occur

2013 Housing Report

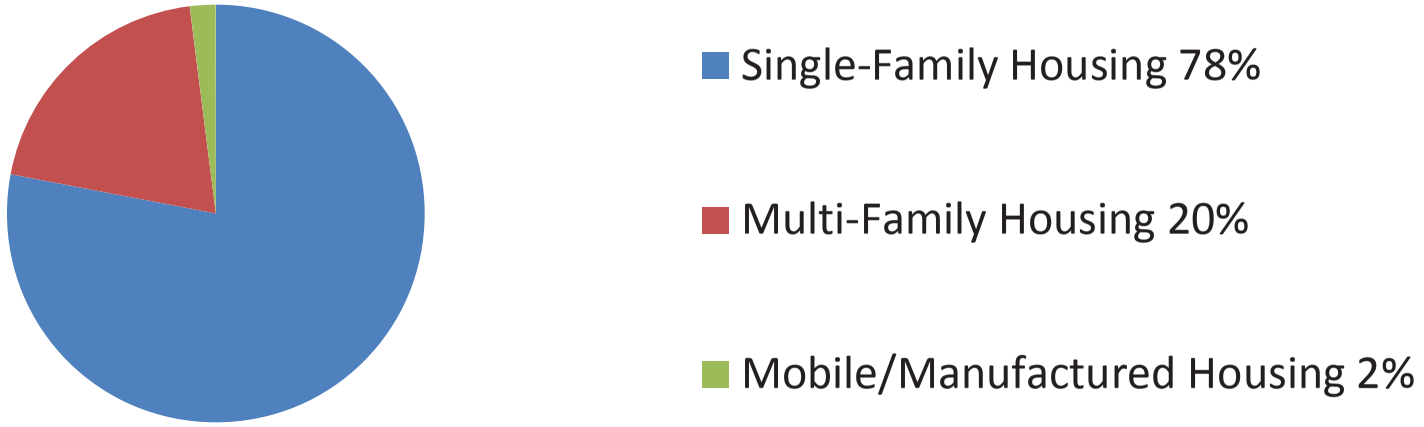


The 2013 Report focuses on:

1) Developing and implementing Area Plans.
2) Removing constraints and barriers.

In order to have sustainable communities and reduce greenhouse gas emissions, we need more mixed-income housing in Centers where public transit, bike connections, and commercial/public services are available.

BAE Findings
Existing Housing Stock Characteristics



- 55% of housing stock is used for seasonal and recreational use.
- 45% of households had housing cost burdens greater than 30%.
- 40% of households are low-income (80% or less of median income) and 21% are moderate-income (80% to 120% of median income).

BAE Findings
Environmental Impact

- The unmet housing need for all income levels is **9,800**.
- On a typical workday, approximately **11,880** workers commute into the Region and **9,980** residents commute out of the Region for work.
- Vehicle emissions negatively impact environmental thresholds.

Affordable Housing

- 14 rental housing complexes subsidized for very low- and low-income households.
- Kings Beach Housing Now is the only one on the north shore, with a waiting list of 150 households.
- The majority of demand for subsidized housing is coming from area employees.

Kings Beach Housing Now, Kings Beach, CA

Evergreen Tahoe Apartments, South Lake Tahoe, CA

Growth Management

2012 Regional Plan Growth Management Provisions:

Commodity Type	Remaining from 1987 Regional Plan	2013 Additions	Total
Residential Allocation	**114**	**2,600**	**2,714**
Residential Bonus Unit*	**874**	**600 (only in Centers)**	**1,474**
Total			**4,188**

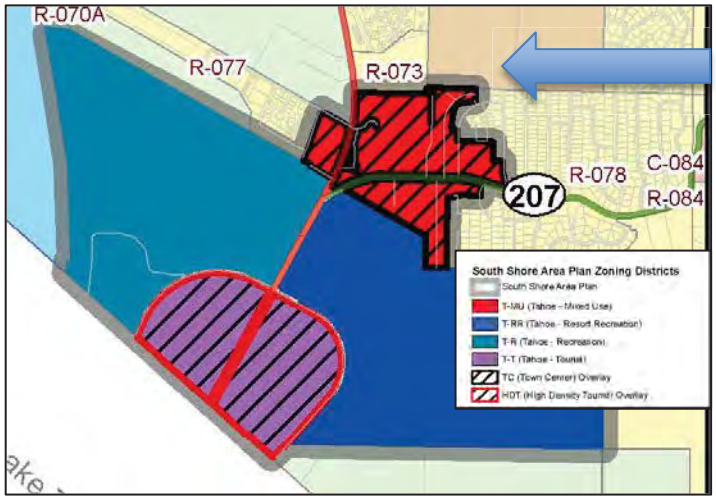
*Residential bonus units may be allocated in conjunction with the transfer of development rights and for affordable housing.

Area Plans

Constraints	Opportunities with Area Plans
Availability of Land	Mixed-Use Districts/Centers/Receiving Areas
Density Limitations	25 dwelling/units per acre in Centers
Height Limitations	56’ in a Town Center, 95’ in the Regional Center, and 197’ feet in the High Density Tourist District
Coverage Restrictions	High capability lands in Centers can be covered up to 70%/Alternative comprehensive coverage management systems
BMP Requirements	Area-wide water quality treatments and funding mechanisms
Design Guidelines and Standards	Develop design guidelines and standards
New Housing Types	Emergency shelters, dormitories, and transitional and supportive housing, etc.
Permit Processing Times and Fees	Delegation of permitting authority under a Memorandum of Understanding

Priority 1 & 2 – TAUs & Mobile Homes

- Promote conversion and transfer of tourist accommodation units (TAUs) into equivalent residential units (ERUs).
- Facilitate redevelopment of older mobile homes.



Kingsbury Manor Mobile Home Park, Douglas County

James Ave., South Lake Tahoe

Priority 3 - Secondary Residences

Allow secondary residences on parcels within ¼ mile (walking distance) of Centers.

Secondary Residences on Lakeview Ave., South Lake Tahoe, CA

Priority 4 – Mixed-Income Housing

Facilitate the development of energy efficient mixed-income housing in Centers.

Sky Forest Acres,
South Lake Tahoe, CA

Kelly Ridge
South Lake Tahoe, CA

Lake Vista
Stateline, NV

Priority 5 - Code Amendments

Update the TRPA Code to:

1) Remove barriers to affordable housing development; and
2) Implement the priorities identified in the Report.

Next Steps

- Present the draft Report to the Governing Board.
- Finalize the Report.
- Continue to work with local jurisdictions on the development of Area Plans.
- Develop code amendments.

Implementation

Phase I: Recommend starting with Priorities 1 and 3:

1. Evaluate policies/a program for removing barriers to the redevelopment/transfer of old tourist accommodation units (TAUs) into low- and moderate-income housing - review by commodities working group.
3. Evaluate the effects of allowing second residential units on smaller lots within ¼ mile of Centers - review by technical working group.

Phase II: To be determined

WRITERS ON THE RANGE 8 COMMENTS

Tiny houses won't solve our affordable housing problem

In Salida, Colorado, little homes come with a big price tag.

Susan J. Tweit | OPINION | March 1, 2016 | *Web Exclusive* | PRINT SHARE SUBSCRIBE DONATE NOW

Note: the opinions expressed in this column are those of the writer and do not necessarily reflect those of High Country News, its board or staff. If you'd like to share an opinion piece of your own, please write Betsy Marston at betsym@hcn.org.

My small rural Colorado town may soon sprout the country's largest tiny home development: 200 micro-sized rental houses clustered on a 19-acre parcel on the banks of the Arkansas River two miles from downtown, a project that is supposed to relieve our growing housing crunch.

There's no doubt we need affordable housing. Mean house prices in Salida (population 5,400) have more than doubled in the past 15 years, from $124,600 in 2000 to $287,400 in 2015, while average household income has crept up just 25 percent, from $28,790 to $38,395.

Which means if you're a teacher or a hospital nurse, you likely can't buy a house here. And good luck finding a place to rent: Like so many scenic towns in the West, "amenity migrants" from elsewhere have snapped up affordable rentals as second homes and vacation-rental investments.

Salida, Colorado's spread, from above.

Ken Lund/Flickr

Tiny houses smaller than 500 square feet are certainly trendy, featured in places like uber-chic *Dwell Magazine*. *Outside Magazine* just ran a story as did *The New York Times*, which reported Daniel Libeskind and other noted architects will design these "bespoke architectural collectibles" – for a price.

That price is the rub. Even when mass-produced, tiny homes are not cheap on a square-foot basis. Rod Stambaugh, president of Sprout Tiny Homes, builder of the proposed Salida community, suggests in the *Outside* story that rental rates would range from $750 a month for the 260-square-foot model to $1,400 for the largest, which boasts an actual bedroom and 493 square feet of space. That is nearly 50 percent higher than what the out-of-town landlord on my block charges for the two-bedroom unit in his historic duplex, which boasts 300 square feet more living space and is walking distance to downtown.

Of course, for the price, mini-home renters get green-built dwellings featuring chic appointments like steel countertops, sliding barn-door dividers and clever built-in storage. The tiny houses will also be constructed locally, either in Sprouts' factory in La Junta, down the Arkansas River, or on-site.

The development is also designed as a walkable neighborhood. The micro-homes will be clustered in "pods" facing adjacent neighbors. There's a community building with exercise facility, kitchen, and laundry; a riverside trail; two small open-space parks; storage units; and possibly a restaurant and small store. The name of the proposed development — River View at Cleora — reflects local history. The site is part of the short-lived town of Cleora, which sprang up in 1878 in anticipation of a coming railroad line, and boomed until a rival railroad established Salida two miles upriver the next year.

But price is not the only downside to the proposed development. There's also its location which is between the city's wastewater treatment plant, with its continuously humming machinery, and occasional odors, and the stockyards. The city will need to annex the parcel and extend city services to the new houses even as Salida struggles to maintain existing streets and infrastructure.

There's also the problem that in a town that prides itself on being bicycle- and pedestrian-friendly, the development will not hook into our town trail system. It is reachable only by a four-lane federal highway, or a county road with blind corners and no shoulders.

I concede that River View at Cleora seems well-designed, and it clearly will provide space for those who can afford the price and don't mind the commute to town, or who want a vacation place in a scenic valley. But it's not a solution to our affordable housing problem.

How many people will really settle down in these expensive micro-rentals? Or will they soon move on, much like those long-ago Cleora residents? They reportedly put rollers under their buildings and relocated themselves — homes and all — to Salida.

Susan J. Tweit is a contributor to Writers on the Range, the opinion service of High Country News. *She once spent a winter in a truly tiny house — a sheep wagon — and writes now from a small house in Colorado.*

Writers on the Range | *Growth & Sustainability* | *Colorado* | *Opinion*

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New condo development planned for property adjacent to Van Sickle Bi-State Park

Submitted by paula on Tue, 05/10/2016 - 7:20pm

Lot outline of Gondola Vista Estates

Paula Peterson

A 3.43 acre piece of land once owned by Randy Lane's Falcon Capital LLC may soon have a 22-unit condominium project built on it. The property (made up from two parcels) is underneath the gondola, adjacent to the Van Sickle Bi-State Park near the state line in South Lake Tahoe, Calif. The listed owner of the property is now Lucky Look LLC.

Randy Lane was a managing member of Lake Tahoe Development Company, the group responsible for the failed convention center project on Highway 50 in South Lake Tahoe that became what many called an “eyesore,” or “the hole” until it was recreated into a retail and condominium project, much of which is currently under construction.

In 2008, as the Convention Center project stalled, plans were moving forward for the Gondola Vista Timeshare Resort which was planned on two lots that Lane owned. Both the Tahoe Regional Planning Agency (TRPA) and SLT City Planning Commission had approved the project, but it was never built due to a lack of financing available due to the economy at the time according to an interview with Lane’s attorney, Lew Feldman.

Since then, the two parcels have changed official ownership and a new plan has emerged, Gondola Vista Estates.

Plans for Gondola Vista Estates were submitted to the SLT Planning Department in February 2016 and evaluation of them should take another two months to complete according to John Hitchcock, Planning Manager for the City. Once approved they do not need to go to the City Planning Commission since the project was previously approved, though the 2008 project called for four affordable-housing units and 20 timeshare units. The new project is 11 different three-story buildings with two units per

building for a total of 22 units. Each of those units will be about 2,500 sq ft and include a garage on the bottom floor.

TRPA will be sending out a letter to neighboring property owners as early as this week that will ask for comments to be submitted within a 14-day window. The notice will only ask for comments and does not include a public hearing date. If no substantial comments are submitted, TRPA can approve at staff level since it is re-permitting the project that was previously approved in 2008. Planners for the agency anticipate Lucky Look LLC being issued a permit by the end of May.

The permit goes with the property, so even though the original permit was issued to Falcon Capital LCC, Lucky Look LLC can be issued the new permit according to TRPA.

While Lane's name is not on the plans submitted to the City, staff members at the California Tahoe Conservancy (CTC), which owns the surrounding park property under the Gondola, told South Tahoe Now that it is Randy Lane who planning to build the condominiums. Both Falcon Capital and Lady Look share the same Post Office Box address in Zephyr Cove, Nevada. A call to both the Nevada and California Secretary of State showed no Lucky Look LLC on file, but there is a Lady Look LLC in Washington. It is unknown at this time if that is the same company as the lawyer listed as the registered agent did not reply to South Tahoe Now's information request.

Falcon Capital's attorney Lew Feldman said at the 2008 approval of the timeshare project that the time was right to plan the development and receive the needed approvals so all would be ready to go when financing materialized.

Gondola View Estates would be built to the southeast of the new Loop Road project should that be approved. The two parcels that will be developed are near the water tower access road off of Loop Road behind Forest Suites, just under the gondola. In 2008, the timeshare development was going to add sidewalks, but it was unsure if the Loop Road Project, planned even back then, would be able to accommodate them due to pedestrian safety.

The TRPA minutes from their August 9, 2006 board meeting stated CTC had the opportunity to buy the two parcels from the Van Sickle Trust, but declined:

CTC was offered the opportunity to acquire the parcels currently owned by Falcon Capital; however, the agency ultimately decided not to purchase these mixed high- and low-land capability parcels from the Van Sickle Trust. The fact that the Community Plan District was themed "Affordable Housing" played a role in the final decision not to acquire them, as the CTC did not want to usurp the opportunity for affordable housing at the site, which was the identified use for the site in the Community Plan.. The agency sought to allow the opportunity for private development to occur consistent with the adopted Community Plan direction.

Falcon Capital purchased the two parcels in District 6a with the original intent to build affordable housing. However, given the high costs of land and construction and the inability to obtain a sufficient development subsidy construction of affordable or unsubdivided multiple family housing has not proven financially feasible.

The affordable housing units were required by TRPA only if Tourist Accommodation Units (TAUs) were going to be used on the project, as what was originally planned. A condominium project does not need to use TAUs.

Timeline on the Project Area:

10/23/02 – Lots purchased by Falcon Capital LLC from Jack Van Sickle Trust
5/8/06 – Falcon Capital Lawyer Lew Feldman discusses resort plans at TRPA Board Meeting
4/9/07 – "Quit Claim" filed on lots and ownership transferred from Falcon Capital LLC to Tahoe I LLC
9/11/08 - City of SLT Planning Commission approves Gondola Vista Timeshare Resort
9/15/08 - TRPA hearing officer approves Gondola Vista Timeshare Resort
1/30/15 – Deed to both lots transferred from Tahoe 1 LLC to Lucky Look LLC due to foreclosure
2/17/16 - New plans for Gondola Vista Estates submitted to City of SLT Planning Department by Lucky Look LLC
5/10/16 - TRPA plans to mail out letters to surrounding property owners about estates. Approval expected by end of month.

1 2016 9/11 affordable housing Agent board meeting building california california tahoe conservancy capital city city of slt city planning comments community Community Plan condominium Conservancy construction convention ctc development economy falcon capital family forest gondola group highway highway 50 Housing information interview lady look llc lake Lake Tahoe land loop road lots meeting Nevada News Ownership pedestrian pedestrian safety permit plan planners planning planning commission planning department post Purchase randy lane Real estate resort retail road safety

Sidewalks **slt** **south lake tahoe** **south tahoe** **south tahoe now** **state** **Tahoe** **tahoe conservancy** **tahoe regional planning** **tahoe regional planning agency** **timeshare** **tourist** **tourist accommodation units** **TRPA** **van sickle** **van sickle bi-state park** **water** **Zephyr Cove**

Ms. Marchetta said recently herself, Mr. Hester, and Mr. Yeates went to the office of Sacramento Area Council of Governments (SACOG) to continue discussions on how to improve our inter-regional systems in bringing people to the Basin.

Mr. Hester said when the Regional Plan and the Regional Transportation Plan were done they projected what the out of Basin growth would be and those figures were used as a baseline assumption. For near Basin projects we need to ensure that what they generate is within the assumptions we used or if they are not, the new impacts are addressed. When the out of Basin Environmental Impact Statements and Environmental Impact Reports are prepared they have not shown the level of detail on whether the assumptions comply. Staff has worked with Placer County on conceptual framework on how future EISs will be addressed as will be the same with the other California jurisdictions. Although, Nevada does not have environmental documents; coordination will be done with those counties. Projects or area plans environmental documents needs to have an analysis comparing those to the Regional Plan and an analysis comparing the cumulative totals. The definition will start with all near Basin (resort triangle) projects and will be refined in the future.

Mr. Marshall said we want to develop a model where TRPA's concerns are addressed up front. Placer County currently has two environmental impact reports for projects in circulation. Staff will provide comment on those. They are illustrative of the issues that TRPA and Placer will discussing for future environmental documents; how in Basin impacts from adjacent and very near to the Basin projects can affect internal assumptions and the environmental impacts within the Basin that need to be examined in that contexts.

Board Comments & Questions

Mr. Sevison asked if we are going to draw in outlying communities into this process and what the long term impact may be.

Mr. Marshall said staff discussed the "scope creep" issue with Placer County. Projects such as Martis West and Squaw Valley are going to have direct in Basin impacts because of traffic generation. TRPA's analysis moves not from a specific project basis but are the plans consistent. You lose the geographic nexus and the ability to predict how many trips would be coming into the Basin from a project out of the Basin. This focuses in on the resort triangle; from the modeling, you can have a realistic picture of an impact that can be directly assessed in the Basin. Beyond that it becomes more abstract, this would then move more to visitor levels. The modeling looks at regional growth rather than project by project. Staff is reaching out to the decision makers that are outside the Basin.

Ms. Marchetta said we assumed some of that growth and possibly all of that growth as part of the Regional Plan analysis. From a regional scale, we can start to move away from this project by project. TRPA is in the planning process of reviewing some of the corridor plans. There will be a drive for increased demand for recreation access in the Basin. As a regional entity, TRPA needs to plan and execute on it.

Based on site visits to initial viewpoints, those from which the West Parcel development area clearly could not be seen were eliminated from further consideration. Detailed visual profiles were then prepared for the remaining viewpoints. Ultimately, over 70 profiles were prepared from 44 separate viewpoints, including profiles evaluating project buildings of different heights (from 42-foot-high single-family residential and cabin buildings up to 75-foot-high condominium structures) from the same viewpoints.

These visual profiles evaluated the visibility of the project features from sensitive viewing locations both within and outside of the Lake Tahoe Basin. The Draft EIR included 11 representative visual profiles in Exhibits 9-10 through 9-18, including six visual profiles from viewpoints within the Tahoe Basin. Each visual profile shows the view towards the project site, the distance to the project site, and a topographic profile that demonstrates whether views of structures on the project would be blocked by intervening topography. In addition to the six visual profiles from viewpoints in the Tahoe Basin included in the Draft EIR, another eight visual profiles were prepared to support the analysis of the MVWPSP's visual effects on the Tahoe Basin. These visual profiles analyzed views of the project site from Sand Harbor near Incline Village, additional locations in Kings Beach, Agate Bay, additional locations in Carnelian Bay, Cedar Flat, Dollar Point, and Stateline (see Exhibits F3-1 through F3-8 in response to comment I018-52). In addition, profiles were prepared for the Tahoe Rim Trail from multiple locations (see Exhibits F3-9 through F3-12 in Response to Comment I018-52). As shown in these profiles, only at a substantial distance is the project site visible from portions of the Tahoe Rim Trail. For example, the site can be seen from General Creek, Marlette Peak, and South Camp Peak, but these viewpoints are over 19, 11, and 17 miles, respectively, from the MVWPSP site. At these distances, the proposed project would not be discernable.

The visual profile study reflects an objective approach that definitively determined where sightlines to structures within the project area would be blocked by topography. The study evaluated 44 separate viewpoints that were selected by representatives of regulatory agencies including Placer County and the Tahoe Regional Planning Agency, and environmental advocacy organizations including Sierra Watch and Mountain Area Preservation. The visual profile study identified five viewpoints that "are most likely to be adversely affected by visual changes from the MVWPSP, are publicly accessible by viewer groups who would be most sensitive to visual changes, and represent the major view corridors from which visual changes could be observed." (See Draft EIR pages 9-30 to 9-32). It is important to note that there are innumerable possible viewpoints that could be considered. However, because the visual profile study used an objective approach to identify the viewpoints most likely to be adversely affected, it was not necessary to evaluate visual changes from every possible viewpoint.

VISUAL SIMULATIONS

After the visual profile study identified the viewpoints most likely to be adversely affected by the project, daytime and nighttime visual simulations of the MVWPSP were prepared to provide an analytical tool for assessment of visual impacts. To prepare the visual simulations, photographs were taken from the viewpoints identified as most likely to be affected by the project. Three-dimensional models of the MVWPSP site and surrounding topography were created from engineer's surveys with topographic variation modeled in 10-foot increments. The conceptual site plan included as Exhibit 9-26 of the Draft EIR provided a realistic approximation of the size and location of the maximum amount of development that could be allowed under the MVWPSP. This conceptual plan also identified the likely alignment of roads and driveways, and was used to model structures that could occur as a result of the MVWPSP.

To reflect screening provided by existing trees, a three-dimensional model of existing trees on the project site was created from aerial photographs. The model of existing trees was then modified to display the effects of tree removal associated with project construction, defensible space treatments, and visibility through the branches of remaining trees. All existing trees within the footprint of structures, roadways, and driveways were removed to account for required tree removal. All remaining trees within ten feet of structures or within five feet of roadways or driveways were then removed to reflect tree removal necessary to comply with the applicable defensible space requirements and trees that could be damaged during construction activities. The model was then modified to show 50 percent visibility through the remaining trees. This partial visibility

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Information and education key to eliminating South Lake Tahoe traffic jams

Submitted by paula on Fri, 02/12/2016 - 5:53pm

Paula Peterson

With the massive traffic jam created by travelers trying to get out of South Lake Tahoe during the snowstorm January 31, several options have been discussed to prevent a repeat, especially with a large holiday crowd this weekend.

El Dorado County Supervisor Sue Novasel, South Lake Tahoe Police Chief Brian Uhler, Carol Chaplin and Sue Barton from Lake Tahoe Visitor's Authority, El Dorado County Sheriff John D'Agostini and Lt. Chris Lane of the South Lake Tahoe area office of the CHP all met Thursday with several others, trying to see how they can collectively help to prevent long lines of vehicles trying to get out of town after the weekend.

The meeting was a recap of the tele-conference initiated by South Lake Tahoe City Manager Nancy Kerry last week.

Smart phones with GPS and apps that guide drivers around traffic, tourists having been finding the surface street short cuts normally only known by locals.

"The situation is not going to go away," said Supervisor Novasel. "We will continue to see cars on North Upper Truckee when there are Highway 50 backups."

Since the county roads are public roads, and under the jurisdiction of the California Highway Patrol, Lt. Lane said he cannot restrict access to anyone unless there is an emergency.

"People have the right to travel," said Novasel.

One solution to aiding the driver has already been implemented. The Caltrans message boards that were installed in 2015 have changed their message. The signs displayed travel time to Strawberry and Pollock Pines, but now they'll list the travel times to Placerville and Sacramento, places the drivers will typically be driving through.

The group discussed ways to ease the traffic and communicating to the tourist how to not get stuck in it. Lodging properties are trying to stagger check-out times, desk clerks are advising people to put chains on while at the hotel or motel, thus relieving the backup in chain areas in Meyers. Some properties are offering lower Sunday rates to encourage Monday morning travel as well.

One suggestion that has been made is to have road controls go up in the city, so vehicles will

already have their chains on, but that would affect all drivers, locals included. Another suggestion is to send some drivers over Hwy 88/89, but with an extra mountain to cross and a tendency for more avalanche controls, this isn't a feasible solution.

The success of any plan will be by educating, and communicating with, drivers how and when to leave.

The new signs are a start. Those, combined with the Caltrans Quickmap that displays message boards, cameras and CHP incidents along the whole route, and a continued conversation with the guests, the problem should be somewhat alleviated.

"Two weeks ago was just a perfect storm," said Novasel. Not only was there snow and chain controls, the road had to be closed for 42 minutes for avalanche control and Highway 80 over Donner Pass was closed.

Caltrans is paying for an extra CHP officer to be placed at the intersection of Hwy 50 and North Upper Truckee Road on busy travel days. Two weeks ago, one in five drivers that tried to get onto Echo Summit from this route did not have the required chains on their car, a dangerous situation for everyone. This added CHP officer will be watching for chains.

Novasel there isn't any one solution to the problem. Communicating to the visitor to have a longer stay is a start. Telling them sitting in traffic isn't necessary and leaving later will get them home at the same time.

After her meeting with the South Lake Tahoe group, Novasel went to Placerville to meet with the CHP commander there because the Strawberry area is under his jurisdiction. The massive number of cars pulled off the road to go sledding is also adding to the traffic problem.

"We can stop people from wanting to come to enjoy the snow," she said.

Attached to this story is a flyer being circulated by Caltrans to help inform and educate.

2015 apps avalanche barton brian uhler california california highway patrol Caltrans chain controls chief chief brian uhler chp chp holiday city city manager county county supervisor d'agostini donner pass echo summit education el dorado el dorado county el dorado county el dorado county sheriff el dorado county supervisor group Help! highway highway 50 highway patrol holiday home hotel hwy 50 information lake Lake Tahoe lake tahoe visitor's authority locals Lodging meeting message boards Meyers motel nancy kerry News placerville plan police police chief pollock pines road road controls roads sacramento sheriff snow south lake tahoe south lake tahoe police south lake tahoe police chief storm sue novasel summit supervisor Tahoe tahoe city tourist tourists town Traffic travel Truckee upper truckee visitor we can

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Slow moving exodus from South Lake Tahoe

Submitted by paula on Sun, 03/13/2016 - 7:35pm

All day Sunday the traffic heading west out of South Lake Tahoe has been slow moving due to snow, stuck cars, avalanche controls and chain restrictions.

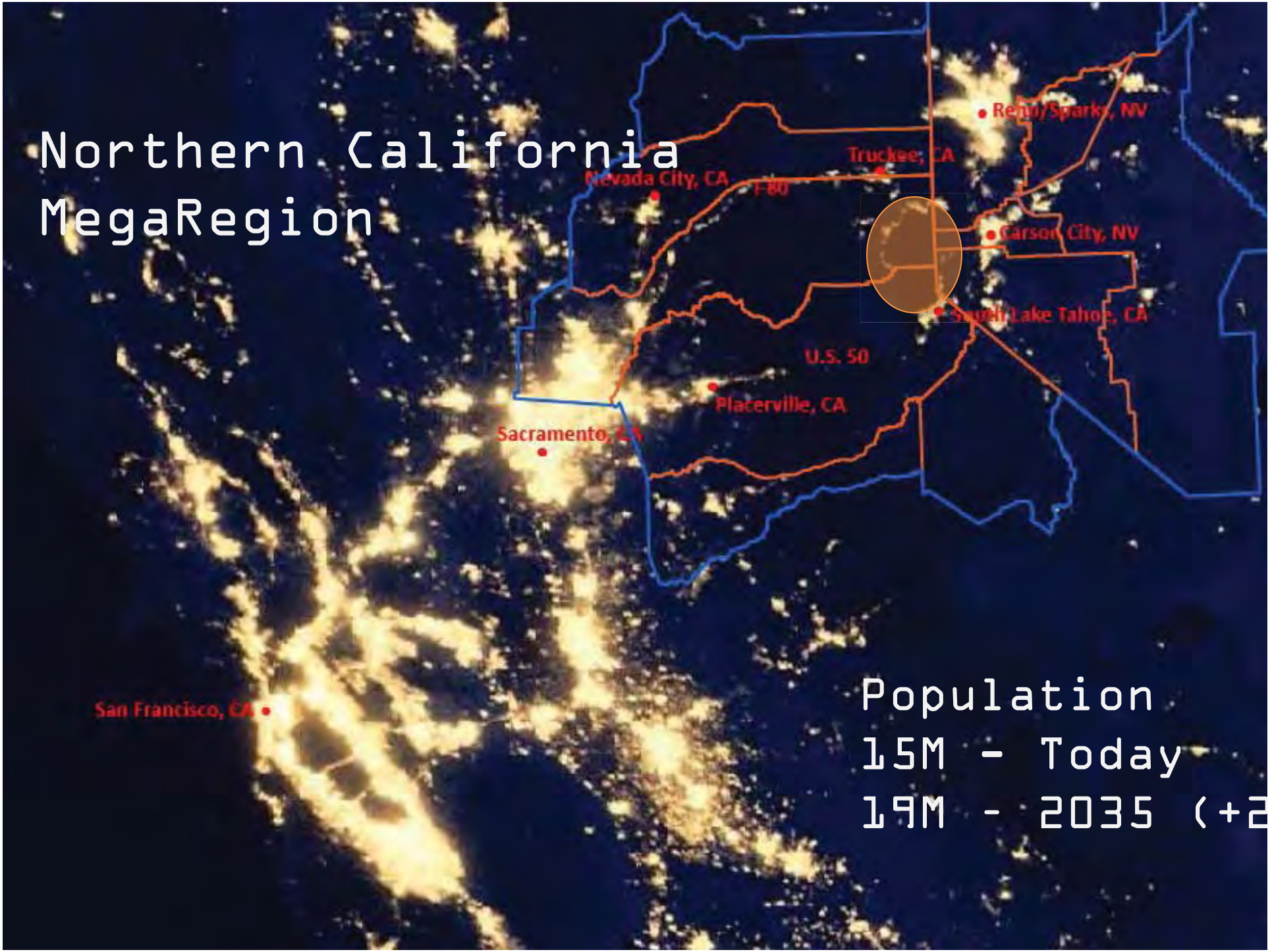
Even with a educational push by the City for travelers to not use the side roads as they travel home, roads such as Upper Truckee, Sawmill and Mandan were heavily traveled by drivers trying to find a quicker way home.

Chains or 4WD vehicles with snow tires are required on higher elevation roads tonight, with chains or snows over SR-267.

Current road conditions.

avalanche city conditions echo summit educational highway 50 home lake Lake Tahoe News restrictions road road conditions roads snow south lake tahoe Tahoe Traffic travel Truckee upper truckee west

North Lake Tahoe Transportation Update


Northern California
MegaRegion
Reno/Sparks, NV
Truckee, CA
Nevada City, CA
I-80
Carson City, NV
South Lake Tahoe, CA
U.S. 50
Placerville, CA
Sacramento, CA
San Francisco, CA
Population
15M - Today
19M - 2035 (+2

Transportation Objectives

- Robust Public Transit
- Complete Bicycle and Pedestrian System
- Complete Streets
- System Efficiency & Technology

tahoe
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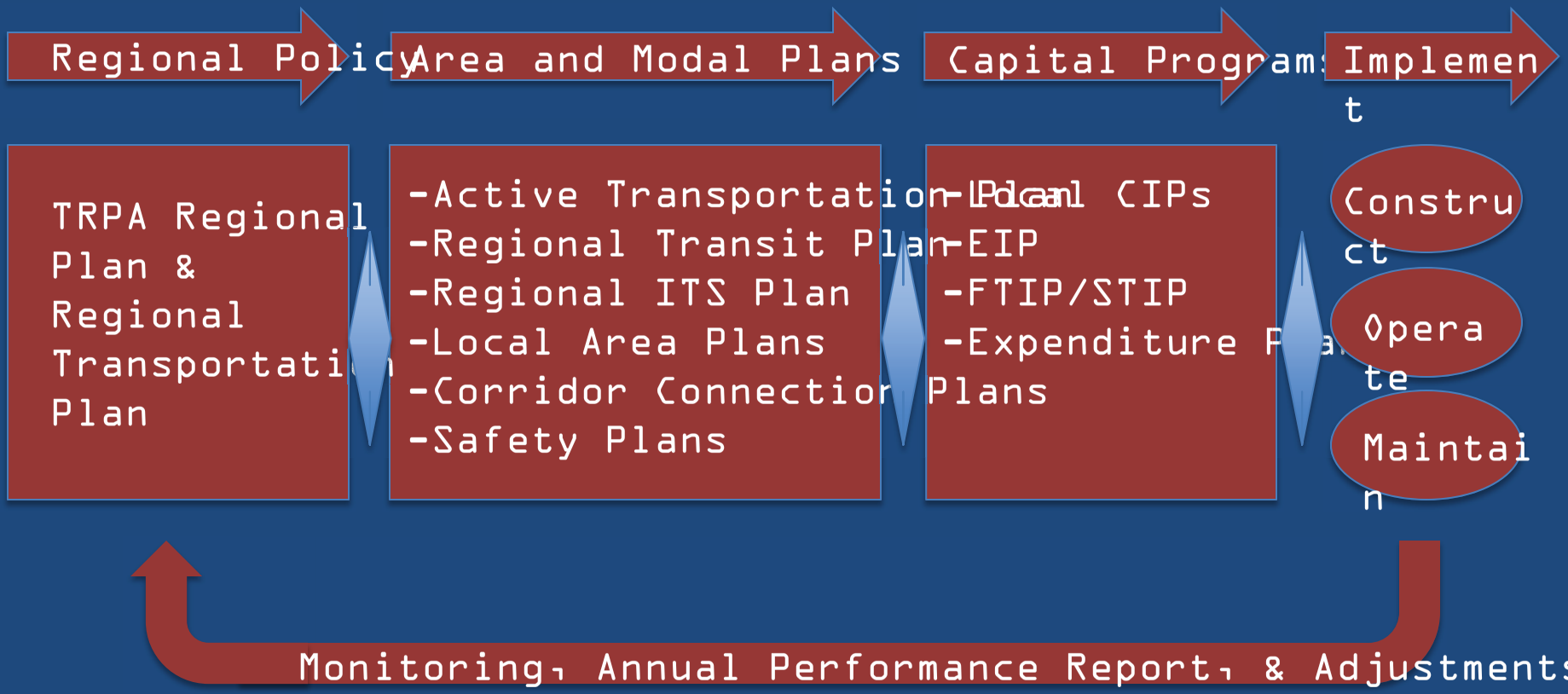
45 YEARS OF PROGRESS
TAHOE REGIONAL PLANNING AGENCY

Regional Policy to Projects



Interior Department Releases Report Underscoring Impacts of Climate Change on Western Water Resources

OFFICE OF THE SECRETARY

New, interactive basin-by-basin visualization tool also released following World Water Day White House Summit

3/22/2016

Date: March 22, 2016
Contact: Jessica Kershaw (Interior), Interior_press@ios.doi.gov

WASHINGTON – Putting the national spotlight on the importance of water sustainability, the Department of the Interior and the Bureau of Reclamation released a basin-by-basin report that characterizes the impacts of climate change and details adaptation strategies to better protect major river basins in the West that are fundamental to the health, economy, security and ecology of 17 Western states.

The SECURE Water Act Report, produced by Interior's Bureau of Reclamation and its state and local partners, was released following today's first White House Summit on Water in observance of World Water Day.

"One of the greatest challenges we face is dealing with the impacts of climate change on our nation's water, which is really the lifeblood of our economy," said Interior's Deputy Secretary Michael L. Connor. "We need to continue to develop collaborative strategies across each river basin to ensure that our nation's water and power supplies, agricultural activities, ecosystems, and other resources all have sustainable paths forward."

The report identifies climate change as a growing risk to Western water management and cites warmer temperatures,

changes to precipitation, snowpack and the timing and quality of streamflow runoff across major river basins as threats to water sustainability. Water supply, quality and operations; hydropower; groundwater resources; flood control; recreation; and fish, wildlife and other ecological resources in the Western states remain at risk.

The report, which responds to requirements under the SECURE Water Act of 2009, shows several increased risks to western United States water resources during the 21st century. Specific projections include:

- A temperature increase of 5-7 degrees Fahrenheit by the end of the century;
- A precipitation increase over the northwestern and north-central portions of the western United States and a decrease over the southwestern and south-central areas;
- A decrease for almost all of the April 1st snowpack, a standard benchmark measurement used to project river basin runoff; and
- A 7 to 27 percent decrease in April to July stream flow in several river basins, including the Colorado, the Rio Grande, and the San Joaquin.

These projections will have specific basin-level impacts that include:

- **Southern California**: In Southern California, warming and population growth are projected to increase water demand, reliance on imported water and the use of groundwater in the area, leading to development of alternative water supplies, such as recycled water.
- **Colorado River Basin**: Reductions in spring and early summer runoff could translate into a drop in water supply for meeting irrigation demands and adversely impact hydropower operations at reservoirs.
- **Klamath and Truckee River Basins**: Warmer conditions may result in increased stress on fisheries, reduced salmon habitat, increased electricity demand, increased water demands for in-stream ecosystems and increased likelihood of invasive species' infestations.
- **Columbia and Missouri River Basins**: Moisture falling as rain instead of snow at lower elevations will increase the runoff during the wintertime rather than the summer, translating to reductions for meeting irrigation demands, adversely impacting hydropower operations, and increasing wintertime flood-control challenges.
- **Sacramento and San Joaquin River Basins**: Earlier season runoff combined with a potential for increasing upper watershed evapotranspiration may reduce the capacity to store runoff in Reclamation's Central Valley Project and state water resources reservoirs.
- **Rio Grande Basin**: Reduced snowpack and decreased runoff likely will result in less natural groundwater recharge. Additional decreases in groundwater levels are projected due to increased reliance on groundwater pumping.

"Reclamation, its customers and stakeholders have adapted to various climate conditions for more than 100 years," the Bureau of Reclamation Commissioner Estevan López said. "Now changing climate is creating a greater challenge; but through collaboration and cooperation, we will work to ensure a sustainable and secure water supply now and into the future."

While climate change poses significant risks to Western water resources management, Reclamation is already addressing vulnerabilities through adaptation strategies being developed with water managers across the West. For example, under the WaterSMART Program, collaborative basin studies evaluate the impacts of climate change and identify a broad range of potential options to resolve current and future water supply and demand imbalances.

Reclamation has forged collaborative relationships in 15 of the 17 Western states with a diverse group of non-Federal partners, including state water resource agencies, tribal governments, regional water authorities, local planning agencies, water districts, agricultural associations, environmental interests, cities and counties. These partnerships focus on identifying and developing adaptation strategies to address the vulnerabilities related to drought and climate change.

In addition to the new Report, the Interior Department launched an online tool enabling the public to visualize the regional impacts and potential adaptation options. The tool allows users to check, by basin, how temperature, precipitation and snowpack are projected to be affected by climate change and how climate change may affect runoff and water supplies. The viewer can also check the projected flow of a river at specific points and times of the year and display adaptation options.

The Report and visualization tool provides a five-year update on the river basins listed in the SECURE Water Act—the Colorado, Columbia, Klamath, Missouri, Rio Grande, Sacramento-San Joaquin and Truckee river basins— as well as other Western river basins.

During the White House Summit, the Administration announced new efforts and commitments from the federal government and more than 100 external institutions to enhance the sustainability of water in the United States. For more information, click here.

The SECURE Water Act Report, fact sheets on projected climate change impacts on the eight western river basins, and the visualization tool are available at www.usbr.gov/climate/secure.

The Bureau of Reclamation is the largest wholesaler of water in the Nation. It provides more than 10 trillion gallons of water each year for municipal use and provides water to approximately 10 million acres of irrigated farmland that collectively produce 60 percent of the Nation's vegetables and 25 percent of the Nation's fruits and nut corps. Additionally, Reclamation is the largest supplier of hydroelectric power in the Western United States, operating 53 power plants that serve 3.5 million households.

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Secretary Jewell Joins Pennsylvania Leaders to Kick Off Innovative Reclamation Project to Help Revitalize Coal Country

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U.S. Department of the Interior

Protecting America's Great Outdoors and Powering Our Future

Who We Are

Our Employees

Bureaus & Offices

Secretary Jewell

Our Priorities

Youth

Climate Change

Native American Issues

New Energy Frontier

Water Challenges

What We Do

Climate Change

Cobell / Land Buy-back

Deepwater Horizon

Hurricane Sandy

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Veterans Employment Program