



Figure 105. Dawn Near Rush Creek
Photo: Eric Haley 2013



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Though almost a prerequisite for urban expansion, large water projects across the globe now balance between catastrophe and a precarious maintenance of the status quo. Within the United States, the water resources of the American southwest are severely over allocated, and the Colorado River, which supplies water to seven states in addition to Mexico, is projected to run dry by the year 2050 (Callison 2009). Growing populations, political manipulations, and mismanaged resources have created a demand for water that is, in many places, well over available supply. California is home to several of the largest water infrastructure projects in the United States, many of which will be stressed in the coming decades by the reduced precipitation caused by climate change (CDWR). As evidence of an already tenuous water supply, portions of the San Joaquin Valley have subsided over 29 feet (9 meters) from their original elevation due to groundwater extractions (Zektser, Loaiciga, and Wolf 2004). Against this backdrop of conflicting demand and supply throughout

the state, both the issues and possibilities that exist in the relationship between Los Angeles and the Eastern Sierra have a loud resonance for the future of sustainable resource use.

Recommended Planning Areas

There are many possibilities for land use planning in the Eastern Sierra that will contribute to the future of the area. This vision planning document does not recommend specific sites or projects that should be undertaken. Rather, it is suggested that areas of high conflict should be prioritized for planning efforts and projects (Figure 106). With analysis of the physical characteristics of the sites as well as their surrounding context, planning projects will be more sensitive to the local and regional needs of both human and ecological systems. Suitable planning guidelines for the areas with the potential for multiple, possibly conflicting uses can then be chosen and used to guide future projects to successful completion.

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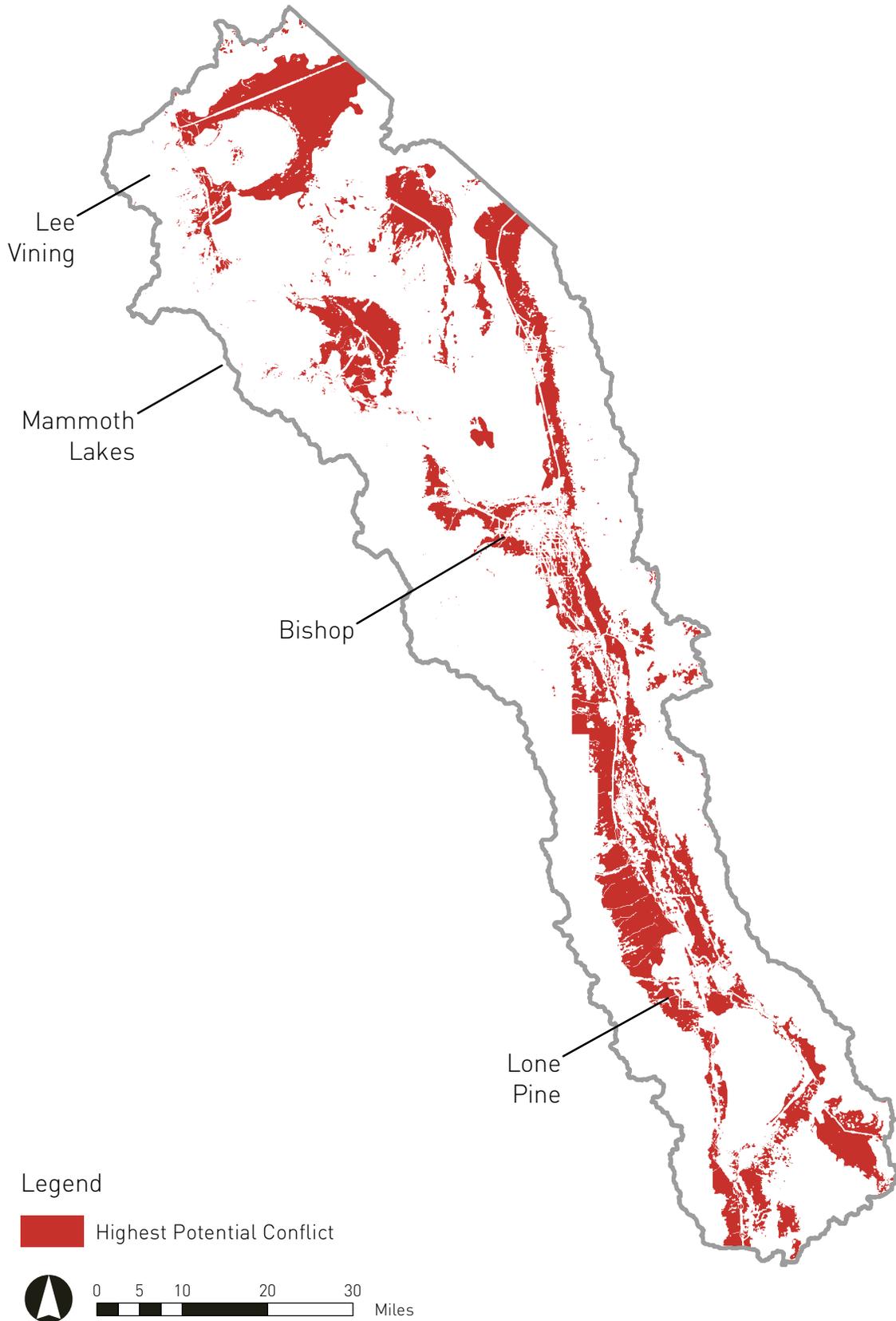


Figure 106. Areas with High Potential for Land Use Conflict

Recommendations for Future Actions

Though the scope of this project does not allow for implementation of actions that would directly address the issues, it is hoped that the research and land management guidelines presented here will be able to inform future studies and actions by decision makers within the Eastern Sierra. The issues addressed within this vision plan were deemed to be within the scope of this project through a process of refinement guided by faculty of the Cal Poly Pomona Department of Landscape Architecture's 606 Studio and the project's principal investigator. Working from these guiding principles, this vision plan provides a picture of the complex interactions that have occurred between people and their environment within the Eastern Sierra while looking forward to the possibilities that will shape the area's future. These recommendations are listed below because they fell outside of the study area and the project scope. This study also offers recommendations for action that could not be included within the guidelines developed by this vision-planning document:

Create an interagency cooperation plan.

This plan would function as a guiding protocol for initiating, coordinating, and facilitating projects that cross jurisdictional boundaries, both physically and through policy. Ideally, this plan should be tailored to the specific needs of all involved agencies and have flexible components that can be adapted to new intra-agency policy and structure changes, as well as be able to accommodate additional inputs from stakeholder organizations. This suggestion is related to the community concern for transparency and cooperation between agencies and with the public, as well as to the complexity of existing overlapping plans and land ownership in the area. Identifying common goals and strategies for addressing those goals should help to streamline their implementation, while avoiding potential interagency conflicts. An example of similar cooperation on a large socio-environmental scale is the Coastal America Partnership (Coastal America 2013).

Create new guidelines for balanced water withdrawals, use, and related issues.

Water withdrawals from the valley, both surface and groundwater, have been a defining political and environmental factor for the last century. These withdrawals are controlled almost entirely by the LADWP, as is data regarding the amount and timing of withdrawals. While these items are addressed

to some extent in Green Book updates (Inyo County 2008), and in the annual groundwater plan that LADWP submits to Inyo County, these processes take many years to happen and are perceived as lacking transparency. Additionally, the limits to these planned withdrawals are based on thresholds below which environmental mitigation projects are not required by law, rather than on the programs presented herein or on possible conservation practices in Los Angeles City. Most of the issues that drive this project could be addressed in part or in full by a reduction of water withdrawals from the study area.

Increase ecological stewardship through outreach and tourism.

Much of the economy of the study area relies on tourism. Many of those tourists are repeat visitors that live in Southern California. Connecting the end users of the Eastern Sierra water to its source through outreach, education, and interpretation, is a goal that is attainable because many Southern Californians already recreate in and around the Eastern Sierra. This sort of connection could increase water conservation efforts in Los Angeles, and generate the political will to make changes that will benefit the sustainability of their most crucial water source and political cohesion with other regions.

Include Native American communities in planning processes.

A more concerted effort needs to be made by agencies in the Eastern Sierra to include Native American communities in their decision making process. This increased outreach process should include education on opportunities for involvement, transparency of decision making, and follow through on promises.

Create local planning commissions.

While many of the settlements in the Eastern Sierra are not incorporated, they still have the ability to participate in planning commissions. These commissions can make informed recommendations based on local needs. Creating this level of planning will help to bridge the gaps that are created by long distances between settlements and the decision makers, as well as the current technological divide.

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Suggest new ownership strategies for LADWP land.

Community inventory and stakeholder interviews almost unanimously called for the LADWP to release some of their land for economic development in existing town centers. While the Long-Term Water Agreement outlines properties in the Owens Valley to be sold at auction by the LADWP, these auctions are criticized for not meeting realistic market rates. A shift towards private land ownership in the towns along with adequate water supplies could improve economic conditions in the Eastern Sierra. A stable and locally derived tax base could stimulate investment in developing main streets, and in turn improve tourist revenue. This type of shift in ownership would also relieve LADWP of their obligations to maintain appearances on lots in the towns, as well reduce maintenance and administrative costs.

Increase self-sufficiency through local access to food, health care, public transportation, and technology.

The Owens Valley and Mono Basin are remote areas in comparison to much of California, but share many of the same populations through seasonal tourism. However, the facilities that much of the rest of California enjoys are not abundant in the study area. Community input demonstrated a desire for self-sufficiency in the region, both from Native American populations and town residents. Their primary desires are for food security and health care. Local food movements are present in the Owens Valley and Mono Basin, but face the challenge of securing water rights and adequate land for growing and selling food. The climate can also be challenging for growing crops at a scale that enables self-sufficiency. While this report provides the tools for planning the locations of these types of food security projects, complete implementation and maintenance plans would be appropriate for future studies. Additional infrastructure is also needed in the form of public transportation and information technology to support self-sufficiency across the study area.

Develop a water-oriented education program for Los Angeles residents to improve awareness and political will.

As the consumers of Eastern Sierra water, the residents of the City of Los Angeles largely dictate the amount of water that is exported from the study area. However, many Angelenos are unaware of where their water comes from or the social and environmental side-effects that water exports have caused. Adding curriculum to Los Angeles schools to inform families about the source of their water and the impacts of its consumption should improve conservation efforts, and increase the political capacity in Los Angeles to make changes in the water export schedule and LADWP land holdings.

Develop contingency plans for disruption in transportation, food, and water supplies.

The remoteness of the Eastern Sierra means that severance of external inputs to the study area is possible. Few transportation routes connect the area to the rest of the region, and internal resources are lacking. In addition to planning for self-sufficiency, it is important to plan redundant external supply systems in the case of natural and manmade disasters.

Plan for cohesive social and ecologic networks.

Extant conditions in the Eastern Sierra include fragmented habitat and hydrological systems as a result of resource extraction and development. The Eastern Sierra presents an encouraging opportunity to plan for cohesive ecological, social, and economic networks. This document has laid a framework for such network-based planning by identifying areas appropriate for different general land use categories. If used appropriately, the program categories in this document can guide future planning efforts to benefit local food security, recreation-based tourism, local economies, hydrologic systems, animal migration, plant communities, and many other systems that operate simultaneously in the Eastern Sierra.

Planning Need

The importance of planning for the future of the Eastern Sierra, and of management for its continued vitality, cannot be overstated. Not only does Los Angeles depend on the Eastern Sierra for a great deal of its water supply, but the local communities also rely on the area's environmental integrity and attraction for their own livelihoods. Evidence for the importance of land and resource planning can be seen in current efforts by the major decision makers to update all of the management plans for the area.

In order to optimize land management in the area, this vision planning document leveraged the 606 team's position as independent academics. Through intensive research on the state of the entire watershed, meetings with decision makers in both the Eastern Sierra and Los Angeles, and extensive technical analysis, the team was able to create planning guidelines and recommendations unbounded by ownership or political boundaries. It is hoped that this holistic approach will provide a blueprint for interagency cooperation, and promote planning efforts that cross jurisdictional boundaries in favor of environmental and social benefits.

Planning for watershed health can be conducted at various scales, but the core concepts of hydrologic connections and holistic environmental health have been designated as a planning priority for California (SWRCB 2011). This type of planning is especially appropriate for the Mono Basin and Owens Valley, as these watersheds are greatly affected by connections to the larger region of Los Angeles. Only by recognizing and planning for this connection can resources and local communities maintain their health. By focusing on watershed-scale management and programming, this vision plan hopes to contribute to an Eastern Sierra that is stronger, more secure, and resilient in the face of whatever the future brings.

Possibilities for Implementation

In order to maximize the effectiveness of this document, the geospatial information showing program categories and overlap areas have been made available as Google Earth™ layers at <http://aqueductfutures.com>. Necessary steps for using the tools within this document are outlined in beginning of this document as part of the How to Use This Document section. Actual implementation of the plans and guidelines within this document are beyond the scope of the project, but it is hoped that the information will be of benefit to decision makers and stakeholders within the project area. To that end, the guidelines and program mapping have been created at a level that will create specific contributions to watershed health, but are still general enough to be implemented by any agency within the project area. This generality also allows for, and encourages, the creation of partnerships and cooperative planning between agencies that will enhance overall watershed health.

In addition to major decision makers and governmental agencies, it is hoped that this document will also provide information for and guidance to local community members and stakeholders. This may require the alteration of current policies that affect the area, or the implementation of new legislation. To that end, each of the program category guideline sections contain suggestions for policy changes that would help implement or strengthen the function of planning projects. These are, however, optional changes that should be discussed with the decision makers and jurisdictional agencies within the project area. To facilitate these discussions, the land ownership and parcel number of the different areas have also been made available in the Google Earth layers. With the information provided in this document and the downloadable geographic layers, community groups and individuals can follow the necessary steps in the How to Use This Document section to plan their projects. After gaining cooperation from decision makers or local landowners, the plans could be implemented through already existing channels or new partnerships and policies. It is hoped that this document will increase cooperation among individuals, agencies, and policy makers by providing a common planning language and process for the landscape of the Eastern Sierra.

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Figure 107. Trail Camp Lake
Photo: Eric Haley 2010

Future of the Eastern Sierra

The Eastern Sierra has already experienced a tumultuous and litigious past, and the future of the area promises to be affected by many external factors, including the large-scale effects of climate change and continued population growth in Los Angeles. Despite all uncertainties of what is to come, the striking environment and strong communities of the Eastern Sierra will continue to create one of the most unique places in the United States. As one of the first major water infrastructure projects in the country, the Los Angeles Aqueduct had a strong impact on the history of the area. Early water use by indigenous tribes, miners, and farmers was quickly surpassed by the needs of the large urban center of Los

Angeles. Though entangled in legal battles and hampered by environmental degradation, the Eastern Sierra area and its resources provide a foundation for the rapid growth of the of the largest cities in the United States.

As rising populations continue to place pressure on resource availability and supply, Los Angeles and the Eastern Sierra are poised to become leaders in sustainable water management achieve truly cooperative resource use. It is the ultimate goal of this project that the planning resources presented here will help the Eastern Sierra achieve a future that is sustainable, healthy, and sufficiently resilient to thrive through the next 100 years.

Don't cry because it's over, smile because it happened.

– Dr. Seuss