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Nina Danza IH Comments on Mission Rock

Additional submitted attachment is included below.

TO: California Energy Commission
FROM: Nina Danza, PE
Sierra Club Los Padres Chapter
RE: Mission Rock Energy Center (MREC)

7/28/16

We have comments on two areas of the environmental analysis.

FLOODPLAIN SETTING

It's not IF a greater-than-design-storm occurs, it's WHEN. Despite meeting FEMA and LORS conditions, when a 105 or 205 year storm comes along this facility will incur damage because, as you have acknowledged, the project is located completely inside the soon-to-be updated federal 100-yr floodplain. In fact, FEMA and LORS are established as insurance claims criteria when damages are incurred. *FEMA and LORS are not established as a basis of design for building in a floodplain.*

Consider the following statements by the Association of State Flood Plain Managers, one of the most reputable experts in the industry:

“Over the past 50 years a system has developed through which local and individual accountability has been supplanted by federal programs for flood control, disaster assistance, and tax incentives that encourage and subsidize floodplain occupation and development.

At the same time, the minimum floodplain management standards of the National Flood Insurance Program have been accepted by many as the default standards for communities, even though they were designed for the purposes of an insurance program and not necessarily to control escalating flooding.

In view of this nationwide system of federal programs, it is not surprising that many local governments assume that the minimum NFIP standards provide acceptable flood protection and also allow themselves to become financially disconnected from the consequences and impacts of their land use decisions.

(ref: ASFPM No Adverse Impact White Paper 3-10-08)

Consider also that the CURRENT design criteria being used by the County for flood control facilities are from the State Dept. of Water Resources which recognizes:

Finally, it must be remembered that there is a 14 percent chance over the typical 30-year-life of a home mortgage that a flood equal to or greater than a 200-year flood will occur. While improving our levees to a 200-year level of flood protection provides significant reduction in flood risk, there is always the chance that a larger flood will occur and overwhelm the flood protection system.

(ref: Urban Levee Design Criteria, State Dept Water Resources May 2012)

Being the project is a critical utility and knowing a greater-than-design storm will occur, it is irresponsible to build this project in the floodplain, to use FEMA and LORS as a basis of design, and to assume adequate flood protection is provided at this location.

BIOLOGICAL RESOURCES

Another error in the analysis is due to the false information that “the Santa Clara River is 0.45 mile (2,343 feet) from the project site” (ref. Mission Rock Energy Center (15-AFC-02) Data Requests, Set 1 [Nos. 1-107], p. 8 Biological Resources, 6/24/16). Where does the CEC define the River? This river is not biologically defined simply where above-ground water is located. It is more accurately defined based on ecological factors such as the presence of riparian vegetation which otherwise would be absent except for the existence of the river environment. In fact, the project is actually not 0.45 mi from the Santa Clara River. It is located only 500 feet from The Nature Conservancy property line who unquestionably purchased a part of the Santa Clara River.

All of the project impacts must be analyzed on the basis that they encroach within a few hundred feet of the Santa Clara River and that the River is an ecological community containing groundwater, riparian plants and animals, and other biological resources which are specialized and interdependent in the area.

Consider why it is crucial to protect the ecology of the area of River adjacent to the project. The following is excerpted from a biological trade periodical article written by the Ventura Nature Conservancy staff (full article attached):

“The concept of protecting large landscapes to maintain biodiversity has been one of the key applications of island biogeography theory... The Nature Conservancy is applying these principles to the conservation on the Santa Clara River by hypothesizing that the riparian corridor and floodplain would best support native habitat through the protection of larger contiguous sections.” (ref. Ecological Restoration Journal Mar 2014).

Please expand the biological analysis to address impacts due to the noise, light, height/size and emissions from the power plant to the entire ecosystem of the Santa Clara River and not merely what effects will occur to individual plant and animal species from the transmission towers. Include in the analysis associated human activity including traffic and potential emergency events from the project during various times of year, especially sensitive ecological periods such as nesting season. What do the cumulative changes do to long-term population of animal species, common as well as special species, including avian, mammal, reptile, and amphibious.

NAI—No Adverse Impact Floodplain Management



Background

Flood damage in the United States continues to escalate. From the early 1900s to the year 2007, flood damage increased six-fold, and now averages over \$6 billion annually, even when Hurricanes Katrina, Rita, and Wilma (2005) are not included. This has occurred despite the investment of billions of dollars in structural flood control and the application of many other structural and non-structural measures over these many decades. Even in the face of increasing flood losses, we continue to intensify development, and to do so in a manner in which flood-prone or marginally protected structures suddenly become susceptible to damage because the actions of others in and around the floodplain and watershed have worsened the flood hazard.

Current national standards for floodplain management allow development activity to divert flood waters onto other properties; to reduce the size of natural channel and overbank conveyance areas; to fill essential valley storage space; and to alter water velocities—all with little or no regard for how *these changes affect other people and property in the floodplain or elsewhere in the watershed*. The net result is that our own actions are intensifying the potential for flood damage. The current course is one that will result in continually rising costs over time, is not equitable to those whose property is affected, has been shown to be economically and environmentally unsustainable, and is a pattern of conduct generally not supported by the courts.

Over the past 50 years a system has developed through which local and individual accountability has been supplanted by federal programs for flood control, disaster assistance, and tax incentives that encourage and subsidize floodplain occupation and development. Although future funding for projects and programs of the U.S. Army Corps of Engineers, the Natural Resources Conservation Service, and other federal agencies will fluctuate, the general pattern of federal disaster response has become firmly entrenched and is not likely to change in the foreseeable future. At the same time, the minimum floodplain management standards of the National Flood Insurance Program have been accepted by many as the default standards for communities, even though they were designed for the purposes of an insurance program and not necessarily to control escalating flooding. In view of this nationwide system of federal programs, it is not surprising that many local governments assume that the minimum NFIP standards provide acceptable flood protection and also allow themselves to become financially disconnected from the consequences and impacts of their land use decisions. The result is that the burden of those impacts—increased flood damage and flood disasters—is transferred from those who make (and benefit from) the local decisions about land use to those who pay for the flood disaster—principally the federal taxpayers.

No Adverse Impact floodplain management offers local governments a way to prevent the worsening of flooding and other negative impacts on the community—right now. Although some state and local governments may have abandoned their responsibilities for protecting public health, safety, and welfare in the face of flood hazards, most simply have assumed that the federal programs represent an acceptable standard of care. They perhaps do not realize that these very approaches can induce *additional flooding and damage within their communities*. *No Adverse Impact principles give communities a way to promote responsible floodplain development through community-based decision making*. With the No Adverse Impact approach, communities will be able to put federal and state programs to better use—enhancing their local initiatives to their communities' advantage. No Adverse Impact floodplain management empowers the community (and its citizens) to build better-informed "wise development" stakeholders at the local level. It is a step towards individual accountability because it prevents increases in flood damage to other properties. No Adverse Impact floodplain management helps communities identify the potential impacts of development and implement action to mitigate them before the impacts occur.

No Adverse Impact Floodplain Management Defined

“No Adverse Impact Floodplain Management” is a managing principle that is easy to communicate and, from legal and policy perspectives, tough to challenge. In essence, **No Adverse Impact floodplain management takes place when the actions of one property owner are not allowed to adversely affect the rights of other property owners.** The adverse effects or impacts can be measured in terms of increased flood peaks, increased flood stages, higher flood velocities, increased erosion and sedimentation, or other impacts the community considers important. The No Adverse impact philosophy can shape the default management criteria: a community develops and adopts a comprehensive plan to manage development that identifies acceptable levels of impact, specifies appropriate measures to mitigate those adverse impacts, and establishes a plan for implementation. No Adverse Impact criteria can be extended to entire watersheds as a means to promote the use of regional retention/detention or other stormwater techniques to mitigate damage from increased runoff from urban areas.

The No Adverse Impact approach will result in reduced flood damage. However, its true strength is seen when proposed development actions that would affect local flooding or the property rights of others are permitted only when they are in accord with a locally adopted plan that identifies the negative impacts the community wishes to avoid and/or mitigate. The plan could be specific to flood damage or be quite robust, encompassing related objectives such as water quality protection, groundwater recharge, or the management of stormwater, wetlands, and riparian zones. Because it is a local initiative, an NAI-based plan removes the mentality that floodplain management is something imposed by the federal government. Instead, it promotes local accountability for developing and implementing a comprehensive strategy and plan. With the flexibility to adopt comprehensive, locally tailored management plans (which would be recognized by FEMA and other federal programs as the acceptable management approach in that community) the community gains control of its land use decision-making process and is supported in adopting innovative approaches it considers appropriate for its situation.

No Adverse Impact management makes sense, and it is the right and legally appropriate thing to do. Too often our discussions on development approaches turn into arguments over the range of application and the effect these approaches may have on those who choose to encroach upon the floodplain. To reduce future costs and inequities, we must change this perspective. We must take a management stance that prevents any development activity from imposing additional flood impacts on other properties and also frees communities to manage flood hazards and development through comprehensive local plans, thus protecting the property rights of the entire community.

Conclusion

This central message—that we are continuing to induce flood damage even while enforcing the minimum standards of the NFIP—has not been communicated effectively. The message has been lost in part because the floodplain management community has spent too much time debating individual issues instead of stepping back to evaluate the cumulative impact of all the management approaches being applied throughout the nation’s watersheds.

Current management systems to reduce flood losses are costly and often allow development that fails to evaluate or mitigate both current and future adverse impacts on other properties.

The No Adverse Impact approach will lead to reduced flood losses throughout the nation while promoting and rewarding strong water stewardship and mitigation at the local level.

For more information, the ASFPM can be contacted at (608) 274-0123. Full copies of the ASFPM documents on flood policy, including many published articles on No Adverse Impact, *NAI and the Courts: Protecting the Property Rights of All*, the *NAI Toolkit*, the *Coastal NAI Handbook*, and other publications, can be downloaded free of charge at <http://www.floods.org>.

- Walters, C.J. and R. Green. 1997. Valuation of experimental management options for ecological systems. *The Journal of Wildlife Management* 61(4):987–1006.
- Ware, B. 2002. *Open Source Development with LAMP: Using Linux, Apache, MySQL and PHP*. Boston, MA: Addison-Wesley Longman Publishing Co., Inc.
- Williams, B.K. 2011. Adaptive management of natural resources—Framework and issues. *Journal of Environmental Management* 92(5):1346–1353.



Restoring Conservation Nodes to Enhance Biodiversity and Ecosystem Function along the Santa Clara River

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The Santa Clara River watershed in Ventura County features southern California's last non-channelized and least ecologically disturbed major river system (Figure 1). The watershed encompasses an area of great biological richness and lies within a globally significant biodiversity hotspot (Myers et al. 2000) along the California South Coast. The resources and habitats within the Santa Clara River watershed are increasingly threatened by an array of problems related to human population growth, land-use conversion, and modifications to the river's natural hydrology. To address these threats, The Nature Conservancy (the Conservancy) has been working for the past 15 years to protect intact habitat within the watershed, and enhance riparian biodiversity through restoration projects.

The concept of protecting large landscapes to maintain biodiversity has been one of the key applications of island biogeography theory (MacArthur and Wilson 1967) to conservation practice. Larger wetland restoration projects have been shown to have faster rates of biological, hydrological, and biochemical recovery, and to be more self-sustaining over time (Moreno-Mateos et al. 2012). The Conservancy is applying these principals to the conservation on the Santa Clara River by hypothesizing that the riparian corridor and floodplain would best support native habitat through the protection of larger contiguous sections of riparian habitat, as opposed to several smaller individual parcels dotted along the river's main stem.

Within the field of restoration ecology, this approach has been referred to as the "string-of-pearls" approach, where protected sites along riparian corridors or terrestrial habitat that is surrounded by urban areas or agricultural lands are ecologically restored to produce an integrated system of



Figure 1. The Santa Clara River in Ventura County, CA, USA. Photo credit: Melinda Kelley for The Nature Conservancy.

discrete habitat blocks, much like a string of pearls. These habitat blocks should be close enough together to facilitate wildlife movement and support ecosystem processes. Through land acquisition, the Conservancy has managed to protect a string of habitat blocks along the Santa Clara River. Here we provide an overview of the Conservancy's strategic land protection efforts, and describe the multiple benefits to be derived from the shift that the organization is currently making in this geography—from solely acquiring lands, to planning and implementing restoration.

In 1992, the Conservancy completed a bioregional conservation analysis for the South Coast Ecoregion of California (TNC 1993) to identify large areas with generally intact natural habitats that support the biodiversity of the ecoregion. Due to the scarcity of wetland habitats in Southern California (Zedler 1996), and the fact that 38 special status species are found within the Santa Clara River watershed, the river and its tributaries were identified as a conservation priority for the Conservancy. Additional assessments of the Santa Clara River conducted in 1999 and 2001 identified four priority areas or "conservation nodes" where conservation efforts would be focused (Figure 2). These plans were further refined with completion of upper and lower river Conservation Action Plans (TNC 2006, 2008), and an additional conservation node was added in 2012 to ensure protection of a rare habitat type in an area of the river that is intermittently dry. Unlike many other rivers, the riverbed of the Santa Clara is almost entirely privately owned. Therefore, the Conservancy's initial decade of work focused on protecting the priority conservation nodes by acquiring land from willing sellers. Despite strong county growth controls, prime farmland in Ventura County can exceed \$80,000 per acre, and developable land can be worth several times that amount. Only land with little or no economic value can be acquired in large blocks needed to achieve effective conservation. For

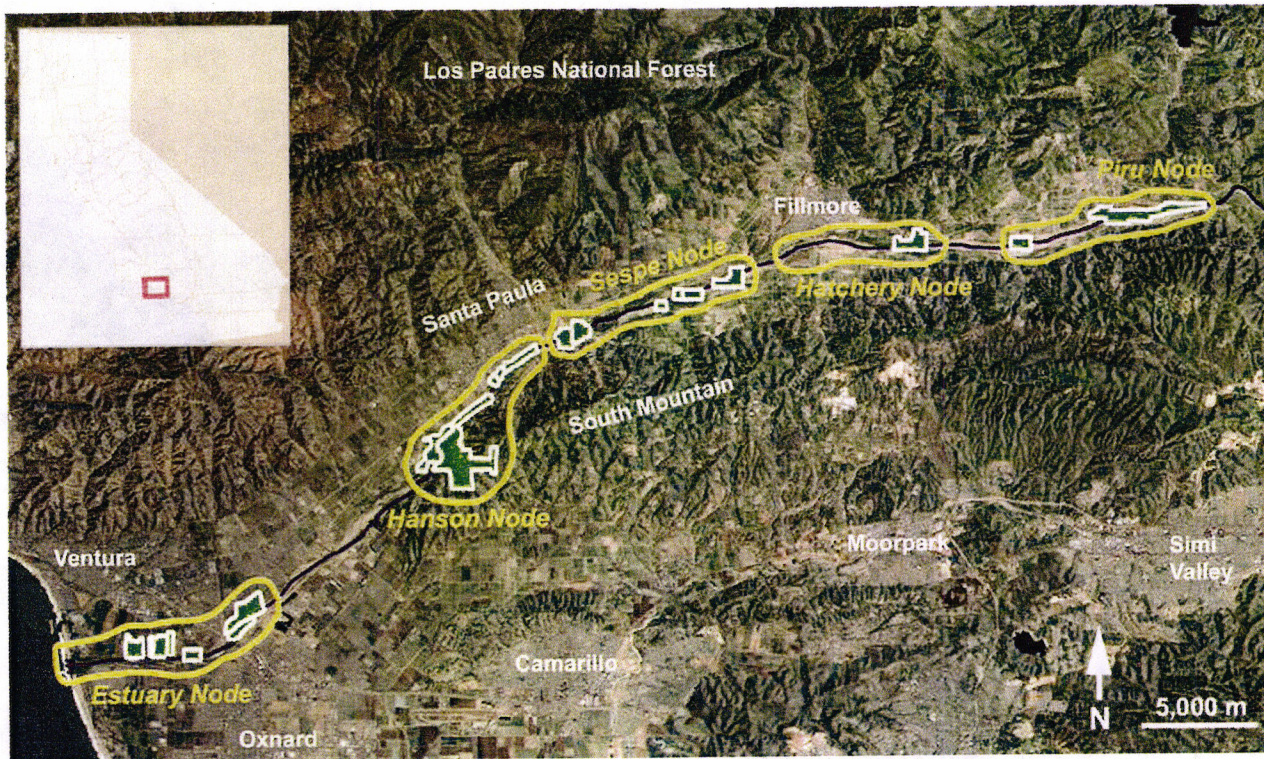


Figure 2. Map of restoration nodes along the Santa Clara River in Ventura County, CA, USA. Properties currently owned by The Nature Conservancy are outlined in white. Nodes are circled and names are provided in italicized font. Place names are shown in normal font. All boundaries are approximate.

example, land within the floodway of the river is highly regulated by state environmental agencies and is impractical to develop because of the risk of destructive flooding. Therefore, private lands in the floodplain are of little or no use to their owners, and the Conservancy is typically able to acquire these parcels of riparian habitat at \$750 per acre.

In some cases, properties within the floodway include adjacent farmland. Even if the property owner is willing to sell the entire parcel, high farm land values can cause the acquisitions to be very expensive. Furthermore, agricultural zoning laws specify large minimum lots sizes, so subdividing the land is often not an option. To address this issue, the Conservancy asked Ventura County to change the law to allow for the creation of substandard lots if they were restricted to habitat conservation in perpetuity. The county agreed and passed a conservation subdivision ordinance which has permitted the conservation of land that would have otherwise been impossible to acquire.

To date, the Conservancy has acquired over 3,300 acres along the Santa Clara River, constituting 15 river miles. Some of the priority conservation nodes now contain more than 1,000 contiguous acres of land in conservation ownership, and many of these would benefit from large scale restoration work. As such, the organization is shifting from primarily acquiring land to planning and implementing ecological restoration on the Santa Clara River. Specifically, in addition to several small weed removal projects, 250

acres of habitat restoration are planned for Conservancy property within the Hanson node over the next five years.

In 2011, a historical ecology study of the Santa Clara River and other areas of Ventura County was completed by the San Francisco Estuary Institute (SFEI) (Beller et al. 2011). This analysis was an attempt to understand the historical ecological patterns and hydrological dynamics of habitats along the river prior to the wide-spread human use and modification of the region that occurred with European settlement. Examining SFEI's maps has allowed the Conservancy an opportunity to test the suitability of our node-based conservation and restoration strategy. Each of the nodes corresponds spatially with a site along the river that was mapped as having ecologically important habitat in the past. Several of the nodes are in places that were perennially wet and supported large swaths of riparian forest. In these nodes, where adequate water resources still exist today, restoration of vegetation with the end goal of recreating riparian forest may be more feasible, and more cost effective, than a similar end-goal in locations that historically supported other forms of vegetation.

In order to restore riparian forest on the Santa Clara River, non-native invasive species must be managed. *Arundo* (*Arundo donax*) is an invasive non-native plant that crowds out native vegetation, alters river hydrology, reduces the natural resistance of the riparian zone to fire, and negatively impacts the suitability of habitat for