

Alluvial Fan Task Force



Mission, History and Outcomes

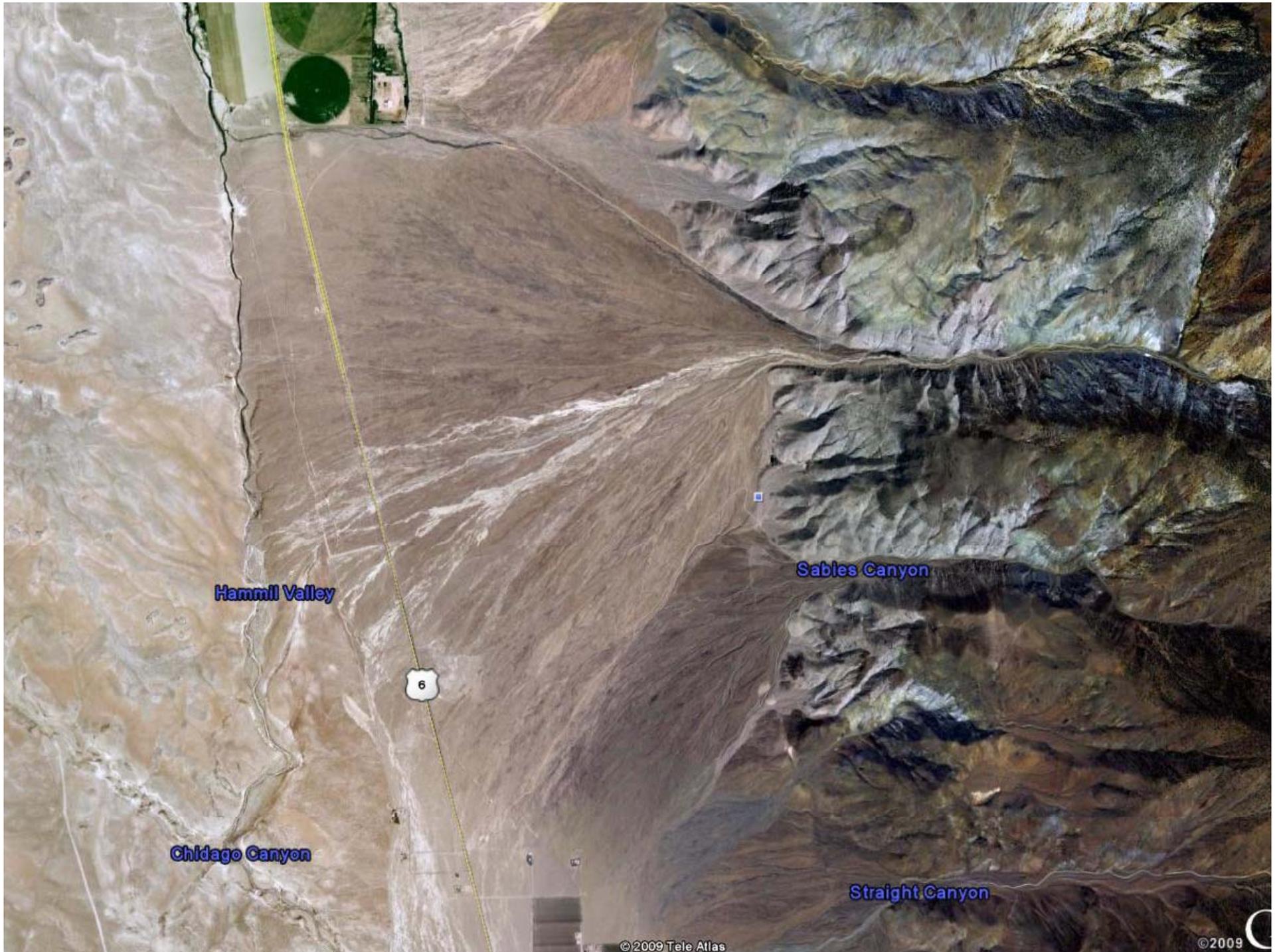
By Mark Stuart, AFTF Chair

**Climate Change, Extreme Weather, and
Southern California Floods**

January 31, 2012

Los Angeles County Department of Public
Works Headquarters

**Department of Water Resources
Workshop**







ORIGIN of Alluvial Fan Task Force

(referred to as AFTF)

- 1. In 2002, DWR's Floodplain Management Task Force recommends the establishment of an AFTF**
 - to examine historical and projected risk factors that are associated with developing in the vicinity of alluvial fans;
 - to identify pre-disaster strategies that can minimize risks for future developments anticipated in vicinity of alluvial fans in Southern California (includes Imperial, Kern, Los Angeles, Orange, Riverside, San Bernardino, San Diego, San Luis Obispo, Santa Barbara and Ventura counties)
 - to protect beneficial floodplain values that are critical to sustaining local watersheds that provide an essential supply of local groundwater and serve as critical habitat for a variety of threatened and endangered species
 - to provide recommendations to DWR including a Model Ordinance for local adoption

HISTORY of Alluvial Fan Task Force

(referred to as AFTF)

- 1. As a result of the extensive fires in southern California in October 2003, post-fire debris flows in alluvial fan areas contributed to mudflows that took the lives of 16 people on Christmas Day in 2003.**
- 2. In 2004, Gov. Schwarzenegger signs AB 2141 directing DWR to seek federal funding for an AFTF**
- 3. In 2006, California is awarded FEMA Pre-Mitigation Disaster Planning Grant and Gov. Schwarzenegger signs AB 466 providing 25% State match.**
- 4. In March 2007, DWR partners with CSUSB Water Resources Institute to coordinate AFTF.**
- 5. In October 2007, DWR appoints 33 public members & representatives of Federal & State agencies to serve on AFTF.**
- 6. In December 2007, meetings of AFTF begin in Southern California held in communities that are affected by rapid growth on alluvial fans**

Mission of the Alluvial Fan Task Force

Assembly Bill No. 2141

Ch.878 —2—

PART 10. ALLUVIAL FAN TASK FORCE

12997 • (a) Not later than June 30, 2005, the director shall establish the Alluvial Fan Task Force with broad membership, to the maximum extent possible, from local, state, and federal government and other stakeholders to review the state of knowledge regarding alluvial fan floodplains, determine future research needs, and prepare recommendations relating to alluvial fan floodplain management, with an emphasis on alluvial fan floodplains that are being considered for development in accordance with local general plans. The director, in consultation with representatives of the Counties of San Bernardino, Riverside, Los Angeles, Ventura, Santa Barbara, San Luis Obispo, Kern, Orange, Imperial, and San Diego, may enter into an interagency agreement with the California State University, the University of California, or other appropriate agency to oversee the task force.

Established
under AB 2141 to:

- Review state of knowledge
- Determine future research needs
- Prepare recommendations

with. . .

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“ . . . an emphasis on alluvial fan floodplains that are being considered for development in accordance with local general plans.”



TASK FORCE GOALS

- Ensure public health and safety
- Minimize public and private losses and damages from the natural hazards that may be present on alluvial fans
- Consider environmental resources and other values of floodplains



TASK FORCE MEMBERS

- Five county supervisors
- Development community
- Flood control and public works agencies
- Environmental community
- At-large members

DWR Appointments to the Alluvial Fan Task Force

Task Force Chair: Mark Stuart	California Department of Water Resources
Supervisor Paul Biane	San Bernardino County
Supervisor Marion Ashley	Riverside County
Supervisor Jon McQuiston	Kern County
Supervisor Bill Horn	San Diego County
Supervisor Michael Antonovich	Los Angeles County
Mike Fox/Vana Olson	San Bernardino County Flood Control District
Rick Iger	Kern County Water Agency
Sara Agahi/Christine Sloan	San Diego County Department of Public Works
Georgia Celehar-Bauer	Coachella Valley Water District
Dusty Williams	Riverside Co. Flood Control/Water Conservation District
Christopher Stone	Los Angeles County Department of Public Works
Brian Moore/Ali Sahabi	SE Corporation
Paul Quill	Innovative Land Concepts
Dave Mlynarski	MAPCO
Dale Casey	Standard Pacific Homes
Mark Grey	Building Industry Association of Southern California
Tom Davis	Agua Caliente Band of Cahuilla Indians
Duane Young	D. Young and Sons
Tom Scott	Riverside Land Conservancy
Joan Taylor	Coachella Valley Mountains Conservancy
Norman Meek	CSUSB Geography and Environmental Studies
Stephanie Pincetl	UCLA Urban Center for People and the Environment
Mark Pisano	USC School of Policy, Planning & Development
Kathleen Webb	Office of the Insurance Commissioner
Tom O'Keefe	California Department of Forestry and Fire Protection
Marty Teal	Floodplain Management Association
Ralph Wagner	San Bernardino County Flood Control District Commission
Eric Shamp	American Institute of Architects
Scott Steinmetz	Fireman's Fund Insurance
Lee Reeder	Santa Ana Watershed Association
John McCarthy	Consulting Engineers and Land Surveyors of CA

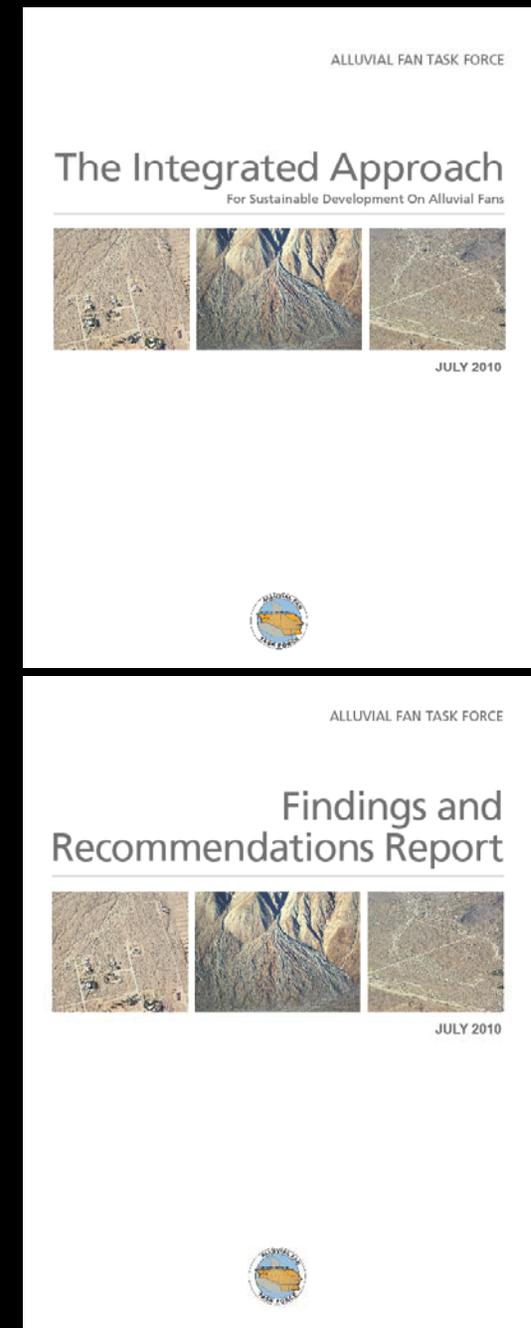
Task Force Management Team, Regulators and Technical Consultants

California Department of Water Resources	Ricardo Pineda Maria Lorenzo-Lee Allan Oto Senarath Ekanayake Susan Woolam Steve Cowdin Stefan Lorenzato
Exponent®, Inc	Doug Hamilton Massoud Rezakhani Pravi Shrestha Kristina Cydzik
Federal Emergency Management Agency Region IX	Raymond T. Lenaburg
U.S. Army Corps of Engineers	Tammy Conforti Rene Vermeeren
California Department of Fish and Game	Scott Dawson
U.S. Fish and Wildlife Service	Pete Sorenson
California Emergency Management Agency	Rebecca Wagoner Ken Worman Ken Leep
Lynn Merrill & Associates LLC	Lynn Merrill
California Geological Survey	Jeremy Lancaster Bill Short Thomas Spittler
California State University	Susan Lien Longville; Susan Carpenter; Kent Schofield; Suzie Earp; Gigi Hanna; Lisa Pierce (Water Resources Institute, San Bernardino); Boykin Witherspoon III (Center for Geographic Information Science Research, Cal Poly Pomona)
University of California	Cameron Barrows (UCR Extension); Bowman Cutter, Thomas Scott (UC-Riverside)
Bingham McCutchen LLP	Marc R. Bruner

Accomplishments of Alluvial Fan Task Force

1. In March of 2010: AFTF

- completed an examination of historical and projected risk factors that are associated with developing in the vicinity of alluvial fans in Southern California;
- adopted a variety of pre-disaster strategies that can minimize risks for future developments anticipated in vicinity of alluvial fans in Southern California and protect beneficial floodplain values that are critical to sustaining local watersheds that provide an essential supply of local groundwater and serve as critical habitat for a variety of threatened and endangered species
- approved recommendations from AFTF to DWR





72-page AFTF report
chronicling the history of
flooding in Southern
California in alluvial fan
areas

AFTF Study Area Flood History

To support the Alluvial Fan Task Force, the Department of Water Resources charged the Water Resources Institute at California State University to examine the history of flooding in Southern California obtaining records of local flood history related to alluvial fans from local flood managers in the AFTF Study Area consisting of Imperial, Kern, Los Angeles, Orange, Riverside, Ventura, San Bernardino, San Diego, Santa Barbara, and Ventura counties. Damages and costs contained in this report have not been adjusted to current value and reflect the amounts in the year in which the event took place.

History of Flooding in Southern California

For purposes of this report, Southern California will consist of the counties of San Diego, Imperial, Riverside, Orange, San Bernardino, Los Angeles, Ventura, Kern, San Luis Obispo, and Santa Barbara. Reaching from the Pacific Ocean to the west to the Colorado River on the east, Southern California has an extraordinarily diverse landscape. There are the steep San Gabriel, San Bernardino and San Jacinto Mountains, home to National Forests full of canyons, many of which contain seasonal and intermittent rivers. The western side of the Transverse Ranges is contiguously and densely populated. There are huge areas of arid desert that are also quickly being urbanized, as well as areas of sparsely populated land. Many areas use imported water to irrigate vast tracts of agriculture land, and some land that is left in its natural state. To say the least, there are many opportunities for flooding.

Southern California floods because of its unique geology and climate. Southern California's Native American's adapted over the millennia to these circumstances. Often they moved with the season, and in general saw the landscape more from an entire watershed perspective rather than using rivers as boundaries. Water was a critical aspect to many of the decisions about where to live, either because of its scarcity or its over-abundance. Although Native peoples did manipulate the natural environment, the scale at which this was done was far less than those who arrived later.¹

Later European settlers did not and have attempted ever since the arrival of the Spanish military and missionaries and subsequent waves of Americans to "tame" this environment. Soon after arriving in San Diego in 1769 and establishing the first mission there, the Portola expedition left to establish a second mission in Monterey. Soon after leaving San Diego, Fray Juan Crespi, one of the expedition's diarists, noted while camping on the banks of the Santa Ana River that "it is evident from the sand on its banks that in the rainy season it must have great floods which would prevent crossing

¹Hundley, Norris, Jr.; "The Great Thirst: California and Water, 1770's-1990's"; University of California Press, 1992; Pg.15

IN SUMMARY, AFTF has:

- *Provided local planning tools for local communities to better evaluate the risks, benefits, and costs of building in alluvial fan areas*
- *The tools focus on methods that encourage being smarter up front, looking at the integrated nature of hazards and resources and not just the pieces, assessing risks and avoiding them as much as possible, putting sustainable financing and insurance programs in place to deal with long-term costs, and developing integrated approaches that provide multiple benefits regionally.*



DWR thanks the Alluvial Fan Task Force

For its efforts in providing local government in southern California with tools to address the hazards and costs of alluvial fan flooding, and to integrate the inherent values of alluvial fans into fan development

Any climate change impacts that would increase flood peak flows would have dramatic consequences for existing development on alluvial fans

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Next up

- **Ricardo Pineda**, Cal. DWR Flood Risk Management Branch
- **Jeremy Lancaster**, Cal. Geological Service
- **Susan Lien-Longville & Boykin Witherspoon**, Cal. State University, San Bernardino Water Resources Institute