



Building a Resilient Region

Loma Prieta 25 Still on Shaky Ground
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Old Masonry Building- Mixed Use South Napa Earthquake

What We Learned from the South Napa Earthquake What's Next?

The South Napa Earthquake on August 24th was the largest to hit our region since the 1989 Loma Prieta event and the lessons learned in the intervening 25 years were invaluable in handling this earthquake. Communities hit by the 6.0 earthquake in Napa and Solano Counties reported that local governments responded effectively. First responders were on scene at hard hit areas within minutes. Emergency Operation Centers opened in the early hours of that Sunday morning to coordinate requests for assistance in the hardest-hit neighborhoods in Napa, Vallejo, American Canyon, and other impacted communities. Though more than 200 people were treated for injuries suffered in the event, only one life was lost. In an earthquake of that size, losses could have been so much more.

In terms of building and infrastructure, many business and public buildings that had been well retrofitted sustained fewer losses and less damage than would be expected in a major earthquake. *At the same time*, the affected communities did suffer significant damages to older buildings, historic facilities, and some brick buildings that had structural strengthening which proved inadequate. Public utility services were affected throughout the region and the utility companies were out in force to repair damaged systems and reconnect services.

Regional communications and governmental coordination worked well; cities coordinated with their counties and the counties effectively worked with state officials. All involved used the state rules for disaster response instituted after the devastating 1991 East Bay Hills Fire (to very good purpose). The Standardized Emergency Management System approach gives local and state officials well-defined procedures for communicating, responding and coordinating during emergencies. It was efficient, and helped streamline the ways all the official responders got their jobs done.

What's Next?

While the response was excellent for this earthquake, it remains a compelling wake-up call for all Bay Area communities to provide better safety protections in all structures. This serious natural disaster was a telling reminder that *all communities* have to update local emergency planning and review seismic safety policies, regulations and ordinances. We continue to have a lot to do to make sure **all** buildings—homes, manufactured housing, soft story, and older buildings—are strengthened and disaster-safe.

President Obama approved a federal disaster declaration that will bring in federal support to the region. Even as we deal with Federal Emergency Management Agency funding process, we must look ahead and ensure that we use that investment wisely and include current seismic engineering improvements that go beyond the building code minimum, as we re-build and strengthen across all communities in the years ahead. *Bay Area communities are invited to take these lessons learned a step further and participate in a public policy symposium, Loma Prieta 25: Still on Shaky Ground—Building Bay Area Resilience. On October 16th coordinated by ABAG and other agencies to commemorate the 25th anniversary of Loma Prieta and explore future resilience action in the Bay Area. See pages 4 and 5 for more details.*

**by Ezra Rapport, ABAG Executive Director
Napa Mayor Jill Techel
Solano County Supervisor Erin Hannigan**



Cripple Wall Failure, South Napa Earthquake



Post Office Building, South Napa Earthquake

What Risk Factors Make Housing Vulnerable

Bay Area Housing and Community Risk Project

The Bay Area Housing and Community Risk Project, started in the Fall of 2013, has been designed to help the region meet smart growth, resilience, sustainability, prosperity, and equity goals by developing strategies to strengthen existing housing and communities and plan smartly for future housing. The Bay Area Housing and Community Risk Project is a joint effort between the Bay Conservation and Development Commission's Adapting to Rising Tides project and ABAG's Earthquake and Hazards Program. This project is an important acknowledgement of the fact that The San Francisco Bay Area is vulnerable to a number of hazards, including ground shaking, liquefaction and landslides from earthquakes, flooding, extreme storm events, wildland fires, high heat and drought.



Cripple wall and gas connection failure. South Napa Earthquake. Photo credit: EERI - Petros Keshishian

A recent Bay Area Housing and Community Risk Project Workshop reviewed a draft series of key risk issues and strategies for addressing the resilience of existing and future housing giving attendees the opportunity (see sidebar for some critical risk issues identified).

Forty recommended strategies have been identified and incorporate best practices of hazard mitigation, climate adaptation, and smart growth strategies to improve the resilience of existing and future housing. The draft strategies were organized by scale of effort to adopt, type of risk addresses, and the type of policy change required.

It is recognized that there are identified areas in the Bay Area where housing and at-risk communities, separately or in combination, may be vulnerable to natural hazards, particularly sea level rise and earthquakes. Thus, to increase regional resilience, the Project focuses on housing both within and outside of the Priority Development Areas (PDAs) identified in Plan Bay Area, adopted in July 2013.

More information about the Project and the full list of workshop handouts, including the issues and strategies are available on ABAG's website at <http://resilience.abag.ga.gov>

KEY ISSUES

- Ground shaking can damage cripple wall and house-over-garage single-family homes
- Ground shaking can damage weak story, concrete and cripple wall multi-family housing
- Housing is generally built to life safety rather than shelter-in-place standards
- Most foundations cannot withstand liquefaction
- Most houses cannot withstand any amount of flooding
- Houses with habitable space or critical equipment below-grade are at risk from flooding
- Many community members have limited access to resources
- Housing affordability is an existing challenge that could hinder recovery
- Renters have limited ability to improve their housing resilience
- Many community members have limited or inadequate information about hazards
- Information on elderly and very young community members is limited.



Soft Story Building Failure, Loma Prieta Earthquake

Loma Prieta 25: Still on Shaky Ground—Building Bay Area Resilience Thursday, October 16, 2014

Making the Bay Area more resilient to earthquakes takes the collaborative efforts of local, federal, state, and regional leaders to develop integrated planning and policy action before, during, and after a disaster. Creating a more resilient region is the impetus of the **Loma Prieta 25: Still on Shaky Ground, Building Bay Area Resilience Symposium that will be held on Thursday, October 16, 2014**, at the Kaiser Center in Oakland. All elected officials and staff, agency leaders, business and community stakeholders are invited to participate in his full-day public policy symposium commemorating the 25th anniversary of the Loma Prieta earthquake, sponsored by the Association of Bay Area Governments (ABAG), the United States Geological Survey (USGS), the Structural Engineering Association of Northern California (SEAONC), the California Earthquake Authority (CEA), Simpson Strong Tie, Pacific Earthquake Engineering Research (PEER), the Earthquake Engineering Research Institute (EERI), and the California Geological Survey (CGS).

This critical symposium is a cornerstone, multidisciplinary approach to resilience planning and policy action that will result in further development of policy and planning efforts. Panels convened throughout the day will examine the region's housing, economy, infrastructure, safety, and vulnerability to earthquakes. The Mayors' plenary, entitled

mayors will discuss how the idea of resilience has evolved since Loma Prieta and what it means to have a more resilient future.



Single Family Home Soft Story Failure, Loma Prieta Earthquake

Following the mayor's plenary, the **Building Bay Area Resilience with Policy Action** panel will present key policy, technical, and academic strategies to promote resilience. Regional and local leaders will provide background for a legislative policy agenda plan and launch a call to action to support cities and counties in promoting effective multidisciplinary resilience planning and policy action.

Understanding the Telling Lessons 1989 and the Economics of Recovery will be a featured topic of discussion. During this panel, experts will evaluate the readiness of the San Francisco Bay region to survive and recover from a disaster. Recognizing that a damaging earthquake has the potential to heavily impact the region without warning, the underlying theme of the panel centers around how the Bay Area will survive the immediate effects of a major regional earthquake and continue to economically thrive after a disaster. The panel will discuss the technical progress and safety implementation made since the 1989 Loma Prieta earthquake. Panelists will also estimate how damage from disruptive events can affect our future, explore the economics of disaster recovery, and explain how cultivating social, economic, and physical resilience is imperative.

Key leaders and experts will share **Lessons Learned and debrief from the South Napa Earthquake** on August 24, 2014. The recent South Napa earthquake served as a



Soft Story Failure, Loma Prieta Earthquake

From the Lessons of Loma Prieta, A Resilient Future Emerges, features three mayors representing Rockefeller Foundation Resilient Cities sharing their perspective on what resilience means in their own city and how cities can work together to build resilience throughout the region. The

wakeup call about what we can still learn and what is possible within the Bay Area. We will hear from elected officials and emergency response agency representatives about what went right, what we didn't expect, and how our experience with this recent earthquake can guide the region to greater resilience given our earthquake risks.

— One of the most pressing concerns in disaster-stricken communities is maintaining electric power and other utility services and, in **The Interconnectedness of Utility Systems and Social Ecosystems**. Panel, experts will examine the vulnerability of these lifeline systems and how they interact to form a web of crucial support for communities. The gap between current reliability and what the region needs will be explored, along with past and current risk mitigation efforts in the Bay Area since Loma Prieta. Panelists will also discuss how to expand financing for safety improvements to water, transportation and electric utility systems. Panelists and public and private sector leaders will explore innovative solutions such as a "Lifelines Council" to serve as a social and technical hub to align infrastructure service and community needs.

In the afternoon, an expert panel will discuss **Successful Financial Solutions for Resilience Investment**. Recognizing that prudent and cost-effective investment ahead of

earthquakes can mitigate the impact on homes and communities and accelerate recovery, panel discussion will focus on how to fund resilience measures that reduce risk and identify resources that will speed recovery after a major earthquake. Panel experts will include primary government and financial industry funders of recovery and stakeholders involved in mitigating and reducing loss.

The final panel, **Local Governments Resilience Building Successes and Challenges** will feature local officials and resilience directors from throughout the region. Attendees will hear from four cities as they describe their ongoing risk reduction and resilience building to better prepare for earthquakes, climate impacts, and other emergencies.

With the leadership present at this symposium, the region has an opportunity to look forward, and inaugurate planning for the next 25 years to renew our commitment to community resilience and build on the exemplary progress made. With the anniversary of Loma Prieta, the Bay Area has a day in which to honor the past and remember those who were lost and celebrate the ways in which our cities rebounded in the wake of the disaster.

For more information and to register, go to <http://www.lomaprieta25.com/> or call 510-464-7900.

Loma Prieta 25: Still on Shaky Ground Featured Speakers and Moderators:

ABAG President Julie Pierce, City of Clayton Councilmember and CalCOG President

- **Mayors' Plenary:** Cheryl Jennings, KGO News Anchor; Mayor Edwin Lee, City and County of San Francisco; Oakland Mayor Jean Quan; Berkeley Mayor Tom Bates
- **Call to Action:** Executive Director Dick McCarthy, California Seismic Safety Commission; CSAC President and Contra Costa County Supervisor John Gioia
- **Resilience Progress since Loma Prieta:** ABAG Executive Director Ezra Rapport; Chief Mitigation Officer Janiele Maffei, California Earthquake Authority; Jack Boatwright, Northern California Lead Scientist, U.S. Geological Survey; John Parrish, Chief Administrator and California State Geologist, California Geological Survey
- **Lessons Learned/Debrief South Napa Earthquake:** Napa Mayor Jill Techel; Solano County Supervisor Erin Hannigan; Director Jeff Lusk, Mitigation Division, Federal Emergency Management Agency (FEMA), Region IX; Deputy Director Tina Curry, California Office of Emergency Services; ABAG Immediate Past President and Napa County Supervisor Mark Luce
- **Infrastructure Resilience Policy:** Naomi Kelly, City Administrator, City and County of San Francisco; Chris Poland, Consultant-SF Lifelines Council, Applied Technology Council Lifelines Roadmap; Director Steve Mahin, UC Berkeley's Pacific Earthquake Engineering Research (PEER); ABAG Vice President and Sonoma County Supervisor David Rabbitt, Member of California Seismic Safety Commission (CSSC); Serge Terentieff, Engineering District Manager, East Bay Municipal Utility (EBMUD); Barry Anderson, PG&E Vice President, Emergency Preparedness & Response
- **Best Practices to Finance Resilience:** Henry Gardner, Oakland City Administrator; State Senator Bill Monning, Senate Insurance Committee Chair; Executive Director Glenn Pomeroy, California Earthquake Authority (CEA); Chief Resilience Officer Patrick Otellini, City & County of San Francisco
- **Resilience in Practice:** Renee Domingo, Oakland Emergency Services Director; Berkeley Chief Resilience Officer Timothy Burroughs; East Palo Alto Planning Manager Brent Butler; Martin Bernal, City Manager, Santa Cruz
- **Next Steps-Looking Forward:** Director Mark Ghilarducci, California Office of Emergency Services; Jeff Lusk, Mitigation Division Director, FEMA

BAY+DELTA+WATER: BETTER TOGETHER

Milestone Conference Brings Bay, Delta Decisionmakers Together on Freshwater Flows



More than 200 elected officials, agency leaders and community advocates from the San Francisco Bay and Delta regions convened on September 24th in Antioch to discuss the role that fresh water plays in the San Francisco Bay-Delta Estuary. Presented by the Association of Bay Area Governments, Delta Counties Coalition, and Friends of the San Francisco Estuary, this half-day conference focused on collaboration among the 12 Bay Area and Delta counties as the key to help identify shared solutions to issues of freshwater flows and impacts on public health, ecosystems, recreation, and the economy.



Panel: (L to R) Delta Stewardship Council Chair Randy Fiorini, San Joaquin County Supervisor Larry Ruhstaller, Contra Costa County Supervisor Mary Piepho, and Rivers and Delta Program Director Gary Bobker (The Bay Institute)

It was noted that the importance of freshwater flows has gained more prominence over the last two years as several cities and counties in the Bay-Delta Estuary have adopted resolutions describing the need for freshwater flows and other water related issues. Currently the Association of Bay Area Governments and seven counties have adopted resolutions. To go a step further, **John Coleman**, president of the Association of California Water Agencies (ACWA), Bay Planning Coalition Executive Director, and East Bay Municipal Utilities District (EBMUD) Board member, said “The Governor should convene all 12 Bay Area and Delta counties to pull together to work on these issues.”

Gary Bobker, Rivers and Delta Program Director at The Bay Institute, emphasized: “There’s one last, great chance to set water quality standards that require the flows needed to save and restore the San Francisco Estuary. But that means the citizens of the Bay Area and Northern California - the Estuary’s natural constituency - must speak with one voice in support of strong new protections for the Bay.”

The conference included a facilitated discussion where the attendees, which included 32 elected officials and representatives, were broken into small groups to identify their top three priorities for moving forward on freshwater flow and other water-related issues. Besides education and conservation, **Russell van Löben Sels**, CFO of Amistad Ranches and Delta farmer, in earlier remarks captured a common theme, “When you decrease demand for water, you increase supply. We need to work on the demand-supply equation.” One roundtable discussion resulted in a challenge to Northern California decision-makers: “We want



Congressman George Miller

In his keynote **Congressman George Miller**, who has a history of forty years of championing the health of the Bay-Delta Estuary, including the landmark Central Valley Project Improvement Act in 1992, set the stage: “We used to have a bar room brawl about water; I am encouraged by the collaboration that is taking place in this room between Bay and Delta elected officials. This is important.” He added that

he was “cautiously optimistic” that the water wars of old are showing signs of more collaborative planning efforts.

Other key stakeholders joined Congressman Miller in outlining the need for freshwater flows. **Tina Swanson**, Director of the Natural Resources Defense Council’s Science Center, said, “Freshwater flows are a critical driver for the health of the Estuary.” **ABAG President and Clayton Councilmember Julie Pierce**, in her introduction, added that the “economic health of our region relies greatly on a healthy environment.” She noted that “the need to restore the environment is not in conflict with, indeed, it supports our economic health.” **Mary Helen Rocha**, Mayor Pro Tem for the City of Antioch, in her host city welcome, put it in local perspective: “Antioch is dependent upon freshwater flows for its drinking water and its economy.”



Contra Costa County Supervisor Mary Piepho

to beat Southern California in the statewide race to increase water conservation, reuse, recycling and technology!” Strong applause followed.

Contra Costa County Supervisor **Mary Nejedly Piepho** closed the conference, reiterating the points made during the day: “We need your help to continue to foster communication between people of the Bay and those of the Delta. It is one interconnected system and we must see ourselves collectively as one people supporting one system for our collective benefit.

“The Rose Foundation, San Francisco Estuary Partnership and Friends of the San Francisco Estuary provided funding for this conference.



Designing, Financing & Administering First-Time Home Buyer Programs

Training Event for City Staff and Non-Profit Agency Housing Professionals



City and town housing staff, housing counselors, real estate agents, loan officers, and non-profit agency housing professionals are invited to participate in a special training event on **Thursday, November 13, from 8 am - 4 pm, at the Joseph P. Bort MetroCenter Auditorium, 101 8th Street, Oakland.** This event is for housing professionals seeking new ways to expand home ownership opportunities for low-and moderate-income and workforce housing home buyers in the Bay Area. Topics on the agenda include special sessions on “Making the Case for Home Ownership,” “Understanding Layered Financing,” and “Subsidy Sources and Affordability Strategies.” ABAG’s Finance Authority will announce a “New Down Payment Assistance Program” with presentations on “Underwriting Community Lending Loans” and “Best Practices in Program Administration.” Co-sponsored by ABAG Finance Authority for Nonprofit Corporations (FAN) and FreddieMac, this training session is a milestone event about designing, financing and administering first-time home-buyer programs. Registration begins at 8am and continental breakfast is provided. Sessions are from 9am-4pm, which includes lunch with guest speaker and concludes with a hosted Reception and Mixer. **The registration fee is \$25: to register go to www.abag.ca.gov, or for more information call 510/464-7986.**

ABAG Finance Authority for Nonprofit Corporations
A program created by
Association of Bay Area Governments



Making Connections Biennial Bay Delta Science Conference

October 28-30, 2014

Sacramento Convention Center, 1400 J Street

Management of the Bay-Delta Ecosystem is at a critical crossroads with political and regulatory mandates pointing toward new ways to manage water exports while restoring landscape-level ecosystem attributes and functions. To support these activities requires that scientists make connections among external drivers, management actions, and ecosystem responses. Perhaps more critical, the scientific and management communities must make connections together to ensure a two-way flow of needs, resources, ideas, and understanding. The 2014 Biennial Bay-Delta Science Conference sponsored by reflects this importance with its theme, “Making Connections.”

The Bay Delta Science three-day conference functions as a forum for presenting technical analyses and results relevant to the Delta Science Program’s mission to provide the best possible, unbiased, science-based information for water and environmental decision-making in the Bay-Delta system. Providing the latest, new information and syntheses to the broad community of scientists, engineers, resource managers, and stakeholders working on Bay-Delta issues is the conference goal.

Oral and poster presentations will be featured, providing scientific information and ideas relevant to the topic sessions, such as fish biology, ecology and protection, flood management, food webs, global perspectives, human consequences, integrative Applied Science, modeling, physical processes, species and communities, sustainable habitats and ecosystems, water and sediment quality, water supplies and instream flows, and watersheds. For more information, visit Bay-Delta Science Conference (<http://scienceconf2014.deltacouncil.ca.gov/>). Registration is open at (<http://scienceconf2014.deltacouncil.ca.gov/registration>) Pre-registration closes on October 22nd and on-site registration will be offered, with special one/two day rates.



Calendar of Events

October 2014

October 16

**Loma Prieta 25: Still on Shaky Ground
- Building Bay Area Resilience**

9:00 a.m., Oakland Kaiser Center,
300 Lakeside Dr.

October 28-30

**San Francisco Estuary Partnership
Bay Delta Science Conference**

Sacramento Convention Center,
1400 J Street, Sacramento

October 30

**ABAG POWER Annual Board
Meeting**

10:30 a.m., MetroCenter, Auditorium

November 2014

November 13

**ABAG Housing Conference
Designing, Financing, and
Administering First-time Homebuyer
Programs: Strategies for Successful
Low, Moderate, and Workforce
Housing**

8:00 a.m., MetroCenter, Auditorium

**Joint Policy Committee Executive
Committee**

2:00 p.m., MetroCenter, Conference
Room 171

Sewer Summit 2014

9:00 a.m., Marriott Fremont Silicon
Valley: 46100 Landing Parkway,
Fremont

November 14

**Bay Area Planning Directors
Association Fall Meeting**

8:30 a.m., Nile Hall, Preservation Park
668 13th Street, Oakland

**Bay Area Regional Prosperity Plan
Steering Committee**

12 noon, MetroCenter, Auditorium

November 18

**San Francisco Estuary Partnership
Implementation Committee Meeting**

9:30 a.m., 1515 Clay Street, Second
Floor, Room 10, Oakland

November 19

**San Francisco Restoration Authority
Governing Board**

1:00 p.m., State Coastal Conservancy
1330 Franklin Street, 11th Floor
Conference Room, Oakland

November 21

**ABAG/BAAQMD/MTC Joint Policy
Committee**

10:00 a.m., MetroCenter, Auditorium

December 2014

December 3

Regional Planning Committee

12 noon, MetroCenter, Auditorium

December 4

**Legislation & Governmental
Organization Committee**

3:30 p.m., ABAG Conference Room B

Finance & Personnel Committee

5:00 p.m., ABAG Conference Room B

ABAG Executive Board

7:00 p.m., MetroCenter, Auditorium

December 10

ABAG POWER Executive Committee

12 noon, ABAG Conference Room B

December 11

Bay Trail Steering Committee

1:30 p.m., ABAG Conference Room B