

2007 SOUTHERN CALIFORNIA WILDFIRES

HEARING
BEFORE A
SUBCOMMITTEE OF THE
COMMITTEE ON APPROPRIATIONS
UNITED STATES SENATE
ONE HUNDRED TENTH CONGRESS
FIRST SESSION

SPECIAL HEARING
NOVEMBER 27, 2007—SAN DIEGO, CA

Printed for the use of the Committee on Appropriations



Available via the World Wide Web: <http://www.gpoaccess.gov/congress/index.html>

U.S. GOVERNMENT PRINTING OFFICE

40-407 PDF

WASHINGTON : 2008

For sale by the Superintendent of Documents, U.S. Government Printing Office
Internet: bookstore.gpo.gov Phone: toll free (866) 512-1800; DC area (202) 512-1800
Fax: (202) 512-2250 Mail: Stop SSOP, Washington, DC 20402-0001

COMMITTEE ON APPROPRIATIONS

ROBERT C. BYRD, West Virginia, *Chairman*

DANIEL K. INOUE, Hawaii	THAD COCHRAN, Mississippi
PATRICK J. LEAHY, Vermont	TED STEVENS, Alaska
TOM HARKIN, Iowa	ARLEN SPECTER, Pennsylvania
BARBARA A. MIKULSKI, Maryland	PETE V. DOMENICI, New Mexico
HERB KOHL, Wisconsin	CHRISTOPHER S. BOND, Missouri
PATTY MURRAY, Washington	MITCH McCONNELL, Kentucky
BYRON L. DORGAN, North Dakota	RICHARD C. SHELBY, Alabama
DIANNE FEINSTEIN, California	JUDD GREGG, New Hampshire
RICHARD J. DURBIN, Illinois	ROBERT F. BENNETT, Utah
TIM JOHNSON, South Dakota	LARRY CRAIG, Idaho
MARY L. LANDRIEU, Louisiana	KAY BAILEY HUTCHISON, Texas
JACK REED, Rhode Island	SAM BROWNBACK, Kansas
FRANK R. LAUTENBERG, New Jersey	WAYNE ALLARD, Colorado
BEN NELSON, Nebraska	LAMAR ALEXANDER, Tennessee

CHARLES KIEFFER, *Staff Director*

BRUCE EVANS, *Minority Staff Director*

SUBCOMMITTEE ON DEPARTMENT OF THE INTERIOR, ENVIRONMENT, AND RELATED AGENICS

DIANNE FEINSTEIN, California, *Chairman*

ROBERT C. BYRD, West Virginia	WAYNE ALLARD, Colorado
PATRICK J. LEAHY, Vermont	LARRY CRAIG, Idaho
BYRON L. DORGAN, North Dakota	TED STEVENS, Alaska
BARBARA A. MIKULSKI, Maryland	THAD COCHRAN, Mississippi
HERB KOHL, Wisconsin	PETE V. DOMENICI, New Mexico
TIM JOHNSON, South Dakota	ROBERT F. BENNETT, Utah
JACK REED, Rhode Island	JUDD GREGG, New Hampshire
BEN NELSON, Nebraska	LAMAR ALEXANDER, Tennessee

Professional Staff

PETER KIEFHABER

GINNY JAMES

RACHEL TAYLOR

SCOTT DALZELL

CHRIS WATKINS

LEIF FONNESBECK (*Minority*)

REBECCA BENN (*Minority*)

CALLI DALY (*Minority*)

Administrative Support

KATIE BATTE (*Minority*)

CONTENTS

	Page
Opening statement of Senator Dianne Feinstein	1
Opening statement of Senator Wayne Allard	4
Statement of Bob Filner, U.S. Representative from California	5
Statement of Elton Gallegly, U.S. Representative from California	6
Statement of Scott Peters, council president, Chair on the City's Committee on Rules, Open Government, and Intergovernmental Relations, and on the Budget and Finance Committee	8
Statement of Tracy Jarman, chief, San Diego Fire and Rescue	10
Statement of Ron Roberts, chairman, San Diego County Board of Supervi- ors	11
Prepared statement	13
Statement of Dennis Hansberger, supervisor, San Bernardino County Board of Supervisors	15
Statement of Bill Campbell, supervisor, Orange County Board of Supervi- ors	17
Prepared statement	19
Statement of Mark Rey, Under Secretary for Natural Resources and Environ- ment, U.S. Department of Agriculture	29
Prepared statement	32
Statement of Nancy Ward, Director, Region 9, Federal Emergency Manage- ment Agency	35
Prepared statement	37
Statement of Ruben Grijalva, director, California Department of Forestry and Fire Protection	40
Prepared statement	42
Statement of Kim Zagaris, chief, Fire and Rescue Branch, Governor's Office of Emergency Services	50
Prepared statement	52
Statement of Jeff Bowman, fire chief, San Diego Fire-Rescue Department	60
Statement of Skip and Linda Miller, victims in the San Diego fires	73
Statement of Steve Poizner, commissioner, California Department of Insur- ance	75
Statement of Joe W. Carver, chief executive officer, San Diego/Imperial Coun- ty American Red Cross	78
Prepared statement	80
Statement of Eric Larson, executive director, San Diego County Farm Bu- reau	81
Prepared statement	83
Statement of Dr. Jon Keeley, Research Ecologist, Western Ecological Research Center, U.S. Geological Survey, Department of the Interior	84
Prepared statement	86
Prepared statement of Senator Barbara Boxer	97

2007 SOUTHERN CALIFORNIA WILDFIRES

TUESDAY, NOVEMBER 27, 2007

U.S. SENATE,
SUBCOMMITTEE ON DEPARTMENT OF THE INTERIOR,
ENVIRONMENT, AND RELATED AGENCIES,
COMMITTEE ON APPROPRIATIONS,
San Diego, CA.

The subcommittee met at 9:30 a.m., in the City Administration Building, San Diego, California, Hon. Dianne Feinstein (chairman) presiding.

Present: Senators Feinstein and Allard.

Also present: Congressmen Filner and Gallegly.

OPENING STATEMENT OF SENATOR DIANNE FEINSTEIN

Senator FEINSTEIN. I'd like to introduce myself. My name is Dianne Feinstein, and I represent California in the Senate. Today, this is a hearing of the Senate Appropriations Subcommittee, the Interior Subcommittee.

The purpose of the hearing is to discuss the fires and hopefully take back to Washington with us some thoughts and ideas that we might be able to put into action to be of help. I'd like to take a moment and just thank the city council. These are very noble accommodations, and we thank you very much for the use of them.

I'd also like to recognize the various members that have joined me this morning. First and foremost, of course, is Senator Wayne Allard on my immediate right. He is the Interior Subcommittee's distinguished ranking member.

As a senior Senator from Colorado, Senator Allard is well-versed in wildland fire issues, particularly as they relate to the wildland-urban interface. I know he's going to be a valuable resource to me and to this subcommittee as we work to address the problem.

I really do appreciate your willingness to come to California for this hearing.

Senator ALLARD. Thank you.

Senator FEINSTEIN. I also want to welcome Representative Elton Gallegly, who's sitting on Senator Allard's right, from the 24th congressional district. Congressman Gallegly represents much of Ventura and Santa Barbara Counties, which was hard hit by recent fire.

Over an 18-day period from October 20 to November 6, more than 20 fires ravaged our State, burning over a half a million acres from Santa Barbara County to the United States-Mexican border.

I see we are just joined by Bob Filner, who has represented California's 51st Congressional District since 1992. His District in-

cludes the southern half of the City of San Diego. So he is not only at home here, but he's also well familiar with the problems of the area. Thank you very much, Bob, for being here today.

Well, back to basics. These fires were responsible for 10 deaths, 139 injuries. They destroyed 2,180 homes, damaged another 385, and forced the evacuation of more than 950,000 people. That was the largest evacuation of California history.

They caused nearly \$1.5 billion of damage and cost Federal, State, and local governments nearly \$200 million to contain. By any measure, this was a disaster of monumental proportions.

Over this past weekend, we saw even more fire. This time, it was the Corral Canyon fire in Malibu. That fire started early Saturday morning and has burned nearly 5,000 acres. It has destroyed 53 homes and damaged another 34.

CAL FIRE has had to deploy 1,156 firefighting personnel, 163 fire engines, and one helicopter.

As a matter of fact, I was talking to a friend who was in Mendocino over the Thanksgiving holiday, and he said a member of his family, during the holiday lunch, who was a volunteer for the Mendocino Fire Department, got a call and left immediately to come down here. So you might say, in terms of mutual aid, this fire has affected the entire State.

Luckily, no one has been killed as a result of the fire, but eight firefighters have been injured so far. Unfortunately, what happened in October and what's happening in Malibu right now is not the first time California and its people have been subjected to these kinds of fire catastrophes, nor, I believe, will it be the last.

Ours is a tender, dry State, made all the worse through sustained drought and the very real effects of global warming climate change. We are seeing fires that burn hotter, longer, and with greater ferocity.

So, as we look back on the recent fires, and as we work to analyze what went right and what went wrong, it's not good enough to simply say, "Well, thank goodness that's over." We need to be ready for the next round. We need to be better prepared. We need to honestly assess our strengths and weaknesses at all levels of government. We need to begin to take action.

At the Federal level, I've introduced a series of four bills. I want to briefly mention them. The first is a model ordinance called a Fire Safe Community Act. This would bring together authorities to create what would be a model ordinance.

Now, local jurisdictions have complete control over planning and zoning and the enactment of these kinds of ordinances. We'd also have a \$25 million grant program to help communities implement a model ordinance, if they chose to.

We would authorize \$15 million annually for grants to States on a 50/50 cost-share basis to create or update fire hazard maps, and communities adopting model ordinances would be eligible for up to 90 percent reimbursement of firefighting costs. That's up from what is 75 percent today.

This bill would authorize the Forest Service to administer \$35 million in grants to communities for fire safe practices, and the Interior Department would administer \$15 million of such grants.

The third bill is a Mortgage and Rental Disaster Relief Act. This would make mortgage and rental assistance available to qualified individuals. Assistance would be administered by FEMA, available for up to 18 months, in communities designated by the President as disaster areas.

It would establish certain qualifications. Victims would have to show they've suffered significant financial hardship. We would set income limits to ensure aid goes to the most in need.

The limit we have put in this is \$100,000 gross income, but that could be changed. These are, in effect, bills in progress. A Disaster Rebuilding Assistance Act, which would provide assistance to disaster victims whose insurance policies do not provide enough money to cover rebuilding costs.

California Insurance Commissioner Steve Poizner, who will be testifying today, estimates that as many as 25 percent of California's wildfire victims may, in fact, be underinsured. So a key component of this bill would be to boost the limit that FEMA now provides, which is \$28,000, to \$50,000.

The final one is a bill that is actually Mary Bono's bill in the House of Representatives, which would have a—require States to create statewide registries for arsonists. There is currently no statewide registry for people who commit these kinds of terrible arson fires. This sets up a protocol to do that.

Now, we have put money in the Interior budget wherever we possibly could for firefighting. As long as I'm chairman of this subcommittee, I will continue to do that. Now, with Senator Allard's help, because he comes from a fire-prone State, I would estimate that we will continue our work along this line.

I want to just make a comment about San Diego, and then turn to Senator Allard, if I might. San Diego is a great county and it continues to grow, but it lags the rest of the State and the Nation in funding its fire services.

The city of San Diego's Fire Department has roughly 35 percent fewer firefighters per thousand residents than average for large cities in the United States. Of the seven largest counties in California, San Diego County is the only one without a unified county-wide fire department.

I'm sorry to say, but I believe the city has under-funded its fire services for years, and we will hear more about that in this hearing.

The national standard is for a fire department to arrive at 90 percent of its emergency calls within 5 minutes. San Diego's department meets this 5-minute standard 47 percent of the time.

The national standard for staffing is one firefighter per a thousand residents. San Diego has .69 firefighters per thousand residents, or one firefighter per 1,469 residents.

By comparison, my city, San Francisco, has one firefighter for 421 residents. Phoenix has one firefighter for 997 residents. The city of Los Angeles has one firefighter for 1,126 residents.

According to the accrediting agency, San Diego needs 22 new fire stations and as many as 800 more firefighters. I think this is something in this climate, again, of increasing wildfire, of expanding home subdivisions into patterns of Santa Ana winds and wildfire patterns.

I think this deserves further attention. I say this not as someone that's a U.S. Senator talking down to anybody. I've been a mayor for 9 years and a county supervisor for 9 years.

I put all my eggs in the basket of local government. I think that's where people want their government and that's where they want government to respond to keep people safe. The two departments that are always the most critical are the fire services and the police services of any city or any county.

I'd like now to turn to Senator Allard for any opening comments he'd like to make, and then I'll introduce the witnesses, unless the other representatives have comments, which is fine. Senator?

OPENING STATEMENT OF SENATOR WAYNE ALLARD

Senator ALLARD. Well, thank you very much, Chairwoman Feinstein. I want to thank you for allowing me to join you, inviting me to join you here for this hearing.

You have been most gracious during our brief stay here in San Diego area, and we want to thank you for that. I want to thank you on behalf of my staff for your graciousness and whatnot. The people of San Diego have been particularly gracious to us, and we're forever thankful of that.

I very much look forward to working with you for the remainder of my tenure in the Senate on the many issues that come before this important committee. This is my first hearing as ranking member on the Interior Appropriations Subcommittee. It is a real pleasure to have the opportunity to visit your beautiful State.

Senator FEINSTEIN. Thank you.

Senator ALLARD. The main issue before us today is increasingly large fires in the wildland-urban interface, and how we can best protect our communities from this growing threat.

As I watched the terrible images of the wildfires here in the San Diego area on television, it brought back memories for me of some of the catastrophic wildfires that we've had in the State of Colorado. These fires have devastating impacts on people's lives and on our forests.

I remember vividly the Hayman fire in 2002, which was the largest fire in the history of the State of Colorado. It burned more than 138,000 acres, destroyed numerous homes, and scorched the Upper South Platte Watershed, which delivers 80 percent of Denver's drinking water.

So I've seen the incredible damage that these enormous wildfires can do firsthand. I look forward to working with you, Senator Feinstein, to address this issue. I'd also like to thank all the witnesses who have agreed to take part in this hearing.

One can easily see by the distinguished group that have chosen to participate here today, including the chairman of the San Diego County Board of Supervisors, the president of the City Council, USDA's Under Secretary of Natural Resources in the Environment, and the Region 9 Administrator of FEMA, that the problem of wildfire in the urban interface is one that will require a coordinated effort at all levels of government.

Since this subcommittee has jurisdiction over the budgets of the Forest Service and the Department of the Interior, we've been

keenly aware of the skyrocketing costs of fire suppression at the Federal level.

These costs seem to escalate virtually every year, whether we have what's considered a normal fire year, in terms of acres burned, or whether we have a catastrophic year.

For example, the budget for fire suppression at the Forest Service has grown from \$418 million as recently as fiscal year 2003 to a proposal for our 2008 budget of \$911 million. That's a 118 percent increase in just 5 years.

Over this same period of time, we've also spent roughly \$2.5 billion on fuels reduction between the Forest Service and the Department of Interior. In spite of these increased expenditures on preventing wildfire, suppression costs are simply not coming down.

We've also seen more and more catastrophic fires that have destroyed homes and property and cost many firefighters their lives. The witnesses we have before us today give us a unique opportunity to examine not only what is happening at the Federal level to drive up these fire suppression costs, but how Federal, State, and local governments can better coordinate to protect our communities.

I hope that we are able to discuss a number of issues here today, such as are we allocating our hazardous fuel reduction dollars to the areas of highest priority to prevent fires from destroying lives and property?

How can the Federal firefighting agencies better coordinate with their counterparts at the State and local level to provide the greatest level of protection for local communities? Or what is the impact of the increasing residential and commercial development in areas adjacent to fire-prone ecosystems?

Finally, what can local governments do through zoning, educational programs for homeowners, and enhancing their own local firefighting capability to provide better fire protection for their residents?

Again, thank you, Chairwoman Feinstein, for holding this hearing today. I look forward to the hearing testimony from the witnesses and to asking some questions later on in the hearing.

Senator FEINSTEIN. Thank you very much, Senator. Congressman, do you have a comment?

STATEMENT OF BOB FILNER, U.S. REPRESENTATIVE FROM CALIFORNIA

Mr. FILNER. Just very briefly. Thank you for being here. Thank you for holding this hearing. We flew out together on Air Force One, and I know how, personally, you're concerned about this, and we welcome you.

Several of us have been on this platform under different situations. I see Supervisor Roberts has moved up to District 3. I've moved up to city clerk, so we've come a long way.

You had some very realistic comments about San Diego. We needed someone from outside to say those things. It's budget-wise a very difficult thing, but I think you've laid out the goal for us. I've read your legislation. It's very good. It'll put us in a proactive position.

Again, thank you so much, you and Senator Allard, for coming to San Diego. Our former colleague in the House, Senator, thank you for joining us.

Senator FEINSTEIN. Thank you, Representative Filner. Representative Gallegly?

STATEMENT OF ELTON GALLEGLY, U.S. REPRESENTATIVE FROM CALIFORNIA

Mr. GALLEGLY. Thank you very much, Senator. I'd like to make a brief opening statement and without objection, would like to have my full statement made a part of the record of the hearing.

Senator FEINSTEIN. That will be the order.

Mr. GALLEGLY. Thank you very much for inviting me, Senator Feinstein, and also, my good friend, Wayne Allard from Colorado. Thank you for allowing me to be a part of this hearing.

Wildfires have always been a part of life in southern California and across the entire West, but we've only been fighting them for the past century. Now, these fires are becoming more and more frequent and increasingly devastating.

Before last month's fires and the fire in Malibu this past weekend, more than 600,000 acres of Federal land and more than 100,000 acres of State lands had burned. Last year, less than half of that amount had burned across the entire West.

The Zaca fire that started in Santa Barbara County in my District on July 4 consumed over 240,000 acres. The fire was declared controlled on October 29, less than a month ago. Even now, smoke can be seen from pockets of the fire still burning.

Because the cost of fighting the fire grew to more than \$118 million, and that's the cost of the firefighting, not the damage done, officials are waiting for the winter rains to hopefully completely extinguish the fires, inasmuch as that we're fortunate; no structures or lives are threatened.

This past weekend, yet another fire burned through Malibu, as Senator Feinstein mentioned. This is the second major fire in this area in the last month.

While only 4,000 acres burned this time, the overall cost of the fire will likely equal or possibly exceed the cost of the Zaca fire, particularly since more than 50 homes were destroyed and a number of other structures, as well.

Since we can't completely prevent fires from occurring, it's imperative that we provide firefighters with all the support they require. Wild firefighting accounts should be increased and the necessary tools should be available, whether it be fire engines, smoke-jumper teams, or more MAFFS units. That's the Modular Air Firefighting Systems that we put in our C-130s.

Congressman Duncan Hunter, Congressman Jerry Lewis, and I wrote a bill that authorized funding for the development of these new MAFFS units over 14 years ago. We appropriated the funding for these units over 8 years ago, but they're still not available.

While I've been assured by the Forest Service, the National Guard, and the military commanders of NORTHCOM that these new MAFFS systems, MAFFS Systems 2, will be ready by the end of May of this next year, I would like to work with everyone here to see that this really happens and comes to fruition.

I don't want to continue to be relying on planes coming from Peterson Air Force Base in Senator Allard's State of Colorado, when Colorado may have the same fire problems as southern California at the same time.

We were fortunate in my District and in Ventura County and in Santa Barbara County to be spared much of the property damage seen around here. But from the scene at Qualcomm Stadium to the seemingly orderly evacuations to the quick provision of supplies, I don't think that officials could have done a much better job.

I can't say enough about the job that was done across the State, and to commend all of those for their response to this disaster. Thank you very much, Senator Feinstein. Thank you very much, Senator Allard. I look forward to hearing testimony from all of our witnesses today, and I yield back.

Senator FEINSTEIN. Thank you very much, Congressman Gallegly. Your commendation of all the firefighting forces, I think, is entered into by all of us. Thank you very much for those words.

Now, I'd like to introduce our distinguished panel. I will introduce all of them at one time, and then, if we could go right down the line. We have, from many of you, written remarks, which will go into the official record of the committee, but I'd like to ask that you summarize with your thoughts and ideas, and try to limit it to 5 minutes so that we can have a good Q and A period.

I'll begin by introducing Scott Peters. He is the council president of the city of San Diego. In November 2005, the city council unanimously selected him as the city's first council president. He was elected to the city council in 2000 and reelected in 2004, representing the city's first council district, covering the northwest part of the city.

As council president, Peters serves as Chair on the city's Committee on Rules, Open Government, and Intergovernmental Relations, and on the Budget and Finance Committee.

Next is Tracy Jarman. She is the chief of the city of San Diego Fire and Rescue. She was appointed fire chief for the city on June 26, 2006. Since joining the San Diego Fire Rescue Department as a firefighter in 1984, she progressed up through the ranks of the department and became the assistant fire chief in May 2003.

As the assistant chief, Jarman was responsible for logistics areas of the department for all fire, emergency medical, and lifeguard services, including personnel, budget, fleet, facilities, fire prevention, dispatch, and information technology services.

She holds a fire science degree, a bachelor's degree, a master's degree, and she's certified by the State of California as a fire officer and a hazardous materials specialist.

Next is Ron Roberts. He is the chairman of the San Diego County Board of Supervisors. I, for one, heard him on the air during the fire and thought he did an excellent job, reassuring people in a very calm and deliberate manner.

I'm very grateful to him because yesterday, he joined us, Senator Allard and I, in a meeting with the—well, General Wade of the National Guard and other military personnel with respect to the protocols governing military firefighting assets.

I think it was a very useful meeting and Supervisor Roberts made some very good suggestions. He is serving his fourth term on

the San Diego County Board of Supervisors and he serves as the board's chairman.

Before entering public office, he was an architect for nearly 20 years, most of which were spent as managing partner of a large, San Diego-based architectural firm, with offices here and in San Francisco. After serving two terms on the San Diego City Council, he was elected in November 1994 to represent the 4th District on the San Diego County Board of Supervisors.

Next is Dennis Hansberger, San Bernardino County Supervisor. He was elected to the 3rd District of the San Bernardino County Board of Supervisors on November 5, 1996. He served as vice chairman of the Board from 1996 to 1998, was sworn in for a second term as supervisor in December 2000, then served as vice chair of the board from 2000 to 2002, and as chairman of the board from 2003 to 2005.

Supervisor Hansberger won his reelection campaign in March 2004, and was sworn in for another 4-year term. He was also a member of the board of supervisors from 1972 to 1980 and served as chairman of the board from 1975 to 1977. So he is an old hand at boards of supervisors.

Finally, Bill Campbell, Orange County Supervisor. First elected to the Orange County Board, 3rd District, in January 2003. After serving the remainder of a vacated term, he was elected to his first full term in March 2004.

He was first elected chairman of the board by his colleagues in January 2005, and for a second term as chairman of the board in January 2006.

The 3rd District includes the cities of Anaheim, Brea, Irvine, Orange, Tustin, Villa Park, and Yorba Linda, as well as the unincorporated areas of North Tustin, Orange Park Acres, and Orange County' canyon communities.

He served in the California legislature as an assembly member from 1996 to 2002. Welcome, chief, and gentlemen, it's great to have you here. If we can, we'll begin with the president of the city council and go right down the line.

STATEMENT OF SCOTT PETERS, COUNCIL PRESIDENT, CHAIR ON THE CITY'S COMMITTEE ON RULES, OPEN GOVERNMENT, AND INTER-GOVERNMENTAL RELATIONS, AND ON THE BUDGET AND FINANCE COMMITTEE

Mr. PETERS. Thank you very much, Madam Chair, and committee members. I want to thank you for being here today and coming to San Diego so that we could have this here.

I want to also let people know that Mayor Sanders is addressing the California Transportation Committee this morning in Sacramento and is unable to be here, so I'm pleased to represent the city this morning.

I'm going to observe your 5-minute request and just give you a little background on San Diego. First, our unique topography and series of canyons that we love as an urban recreational amenity also leave urban areas vulnerable and require a citywide fire response and prevention strategy.

In the city, we have roughly 900 linear miles of canyons that link urban areas to the back country and reach deep into the heart of our urban core. I, and I think all San Diegans, are extremely proud

of the response of our firefighters to the problems that we had this Fall.

I want you to know that the city of San Diego has strained to bring resources to fire prevention and response. We dedicate more than half our general fund budget to public safety, including \$180 million for fire response and brush management.

In March 2004, on the heels of the devastating Cedar and Paradise fires, and still not that long after the attacks of September 11, at a time of wide support for first responders, the city council placed a measure on the ballot to increase the tax on tourists by 2.5 percent, with \$20 million to be dedicated strictly to public safety.

Now, the measure received 61 percent of the vote. Unfortunately, that falls shy of the two-thirds vote required by our State law, and so it failed. A subsequent tourist tax that wasn't earmarked that only required 50 percent of the vote also failed later that year.

Now, even without these additional tax revenues for public safety, the city has added nearly \$57 million in additional funds to public safety staffing, equipment, and resources since the 2003 Cedar fire, including over \$2 million for brush management.

This is still well short of what's needed to properly manage the fuel load in San Diego, and maybe the chief can give you some more details on that. But fire officials estimate it will take \$6 million over 2 years just to catch up on brush management.

The city council did add substantial funds this year in advance of the fires, because we saw these kinds of conditions, but again, not nearly what's needed.

Clearly, this is one area where the Federal Government could help. Access to Federal funds to properly manage fuel loads before a wildfire can help reduce the need for major disaster assistance afterward.

Beyond direct funding, however, the Federal Government can also assist with building and zoning incentives. In the wake of the 2003 fires, the city council approved a number of building code changes to mandate defensible space around homes and fire-safe building materials on new and newly-renovated homes on the urban wildland interface.

Those new brush management regulations are effective throughout the city, except in the coastal zone, where San Diego continues to face regulatory and other limits on brush management. Specifically, we've still been unable to obtain the required brush approval from the California Coastal Commission for the city's brush management strategy in the coastal zone.

However, these new building codes obviously affect new construction and new renovations, so that the thousands of existing homes on the interface are not covered by the regulations.

Our partners at the Federal level could help here, too, by maybe offering incentives to homeowners to replace old shake shingled roofs and retrofit their homes with fire-safe materials, such as boxed eaves and residential sprinkler systems.

Finally, with respect to zoning and planning in the city of San Diego, we have very little land that is not built on or entitled for development. Our general plan, which we are updating this year,

emphasizes rebuilding existing urban areas, and should work to discourage sprawl development in the future.

However, countywide efforts to limit sprawl into the backcountry outside of the city have been difficult. Specifically, two measures failed at the countywide ballot that would've required large lot zoning in the backcountry in 1998 and 2004. I know the county is dealing with these issues in its general plan update.

But a number of parties, including the Farm Bureau, have been effective and outspoken in defending—and perhaps justified in defending the ability of rural landowners to develop their land.

Again, the Federal Government could help provide assistance and incentives to address the economic forces that lead to undesirable over-development in rural areas, loss of agricultural lands, and thereby, additional exposure of homes and citizens to wildfires.

Finally, Senator, I just want to congratulate you on particularly the Model Safe Community Act. I think that would be a terrific way for us to break through what—a discussion that's happening, perhaps very inefficiently, at local levels throughout the country in these areas where we have wildfire exposure, and could really maybe provide us a vehicle for getting it done right, with the agreement of the number of interests, which, as you know, is always difficult to put together.

I also think it's quite appropriate to ask of local governments that they do their part, particularly from a regulatory perspective, before they ask for assistance. So if we had the rules we could enact, I think we'd welcome that as a chance to maybe qualify for higher reimbursements, as you suggested.

So again, those are some thoughts. Thank you very much for being here, and look forward to discussion.

Senator FEINSTEIN. Thank you very much. Appreciate that. Before the chief speaks, I'd like to place in the record three statements, the first from Dr. Jon E. Keeley of the United States Geological Survey of the Department of the Interior, the second from Ron Roberts, who is going to testify, the chairman of the San Diego Board of Supervisors, and the third from Orange County Supervisor Bill Campbell.

Chief, please proceed.

STATEMENT OF TRACY JARMAN, CHIEF, SAN DIEGO FIRE AND RESCUE

Ms. JARMAN. Thank you, Senator Feinstein and the committee members. I appreciate the opportunity to participate in your hearing today.

We also appreciate the interest that you've shown in trying to tackle this complex issue in the San Diego region. It's really a regional issue. It's going to take a regional solution to have the resources on the ground in the first 24 to 48 hours, which is typically when we lose the most homes.

Having the 900 linear miles of brush, much of that brush has not burned in 50 to 100 years, and it adds to the firestorm. So dealing with the fuel reduction and trying to figure out a way to tackle that issue is something that we look forward to being a part of.

Not any one agency here in the San Diego region can solve this problem. It's going to take all of us working together. It's going to

take partnership with the State and Federal government to solve the issues.

As the city of San Diego, we look forward to being part of that solution, working together, addressing this issue on multiple fronts, whether it's fuel reduction, building design, fire-safe communities, and additional ground and air resources. But we'll need the support of all the agencies to come together to solve this problem.

After the Cedar fire, we thought maybe that was a 100-year fire. Going through the Witch Creek fire, I'm here to tell you, this is our future. Firestorms are the future of this southern California region.

We cannot tackle this situation alone. It's going to take all of us working together. I thank you for bringing us together to have this dialogue today. Thank you.

Senator Feinstein: Thank you, Chief. I was going to say President Peters. Excuse me. Ron Roberts, please, supervisor, go ahead.

STATEMENT OF RON ROBERTS, CHAIRMAN, SAN DIEGO COUNTY BOARD OF SUPERVISORS

Mr. ROBERTS. God, it's been so long, I forgot how to turn the mic on here. Senator Feinstein and members of this committee, I want to thank you all for being here, and I want to thank you for inviting me to be a part of this today.

It's been 5 weeks now since the San Diego region was hit by one of the worst firestorms in California history. It was, as I've said before, the perfect firestorm. High winds, low humidity, and dry brush, it was a disastrous mixture that took a tremendous toll on our region. In total, 368,000 acres were charred, upwards of 1,700 homes were destroyed, and most tragically, of course, 10 people lost their lives.

Today, we are a region and we are moving forward. Home sites are being cleared of burned-out debris. Building permits are being issued, and to the extent it can, a sense of normalcy is returning.

These fires, like the fires that swept here in 2003, will teach us a great deal. In fact, they already have. The county of San Diego is currently preparing an after-action report that will tell us what went right and what didn't.

There are some things, however, that we already know. We know, for example, that the evacuation of more than a half million San Diego County residents, while not perfect, worked very smoothly. We also know that the timely deployment and the use of military aircraft did not, for a variety of reasons.

Since the 2003 fires, the county of San Diego has invested nearly \$130 million to enhance our ability to prevent, prepare for, and respond to wildfires. We've purchased not one, but two firefighting helicopters.

We've spent more than \$20 million to improve our emergency communication system, and nearly \$40 million was spent to remove 417,000 dead, dying, or diseased trees, the very fuel that fans wildfires. In fact, we're one of the only counties, if not the only county, to put its own money into this program.

Because of these efforts, not one road in the entire county was blocked by a fallen tree, and Palomar Mountain, among other fires, became far more manageable because of these efforts.

In addition, the county implemented a reverse 9-1-1 system, and just before the fires, we put in place a much more technologically advanced mass notification system known as AlertSanDiego.

It's available free of charge to any city in our county, and it allows people to register their cell phones and their e-mail addresses, in addition to land lines that they may want to receive calls on.

Using a combination of both these systems, the county of San Diego made upwards of 415,000 automated calls to issue evacuation, repopulation, and boil water orders. The county of San Diego also holds a strong belief that land use and zoning policies are extremely important to minimizing the loss of life and property.

Our codes and our ordinances are among the most advanced in the State. While evacuation is our preferred method of protecting lives, we've also developed a shelter-in-place program. In fact, some of our newer communities will have both shelter-in-place and evacuation—clearly designated evacuation routes.

We've also adopted policies that require defensible spaces around both large and small subdivisions, and in some instances, these spaces are in excess of 200 feet.

For your use, I have brought copies of these ordinances, and I'll leave those with you. I think as you review them, you'll see that they're significantly different than you might find in other areas.

Senator, I read this morning that you were interested in a national building code. We talked a little bit about that yesterday. As an architect, I can tell you the elements of a strong building code would be fire-resistive roofing, fire-resistive exterior materials, boxed eaves, perhaps dual-glazed windows, and even fire sprinklers.

Let me share with you—and I brought a copy of that for you also—the San Diego County ordinance contains a requirement for all of those, including the fire sprinklers. You won't find that in many other places, either, so perhaps it'll become a model for some of the work that you're engaged in.

As for what can be done better, I strongly believe that the entire process of requesting and deploying military helicopters and other aerial support needs to be reviewed. While the fires here broke out on Sunday, October 21, it wasn't until the third day of the fire that our region saw considerable aerial assistance. As the chief said, the first 48 hours are critical.

While on the topic of aerial support, the issue of requiring managers known as spotters on board military helicopters need to be resolved.

This is a safety issue, and I certainly understand that, but CAL FIRE, in partnership with the Federal Government, needs to ensure that we have trained and made available, enough managers so that military helicopters that are capable of fighting fires are not left on the ground at these critical moments.

The Governor's Blue Ribbon Fire Commission, which was formed after the 2003 fires, recommended strongly that the State and Federal agency work together to utilize military aerial assets. I'm hopeful this can be done, and done assuredly, as soon as possible.

As we look to the future, we must also consider utilizing new technologies that will enable us to fight fires the way the military

fighters wars. These technologies could help us greatly when the next fire breaks out.

Senator, perhaps you could assist us in this regard. For example, San Diego-based SAIC has a monitoring system known as CAMs. It entails a network of surveillance cameras that could be installed in the backcountry and could help us pinpoint fires within minutes of their being started.

In addition, Northrop Grumman has its unmanned aircraft that flies at an altitude that is twice that of commercial jets, the Global Hawk. It can see through the smoke and could survey existing fires, and can determine exactly where the fire is and where it's headed.

This could be coupled to a model of San Diego County and could be a great improvement in the way fires are managed during the fighting of them.

Some of this technology was utilized by the military, but not until several days into the fires, because it had to be sent from out of State. Having such a system, that is locally based, either here in San Diego, or in southern California, could be of great help to all of us.

PREPARED STATEMENT

In the wake of this disaster, I see an opportunity, and there's a tremendous opportunity for our region to become a national leader and a model in fire prevention and response. It's my desire, and that of my fellow San Diegans, to see that this happens.

We live in a very fire-prone area, but with your help, we can minimize the destruction of any future wildfires.

Again, I want to thank you for being here today.

Senator FEINSTEIN. Thank you. Thank you, Chairman Roberts.

[The statement follows:]

PREPARED STATEMENT OF RON ROBERTS

Senator Feinstein, members of the subcommittee, good morning, and thank you for inviting me to be here today.

It has been 5 weeks now since the San Diego region was hit by one of the worst firestorms in California history.

It was, as I have said before, "The Perfect Firestorm." High winds, low humidity, and dry brush—it was a disastrous mixture that took a tremendous toll on our region.

All told, 368,000 acres were charred, upwards of 1,700 homes were destroyed, and most tragically, of course, 10 people lost their lives.

Today, we as a region are moving forward: home sites are being cleared of burned-out debris, building permits are being issued, and to the extent it can, a sense of normalcy is returning.

These fires, like the fires that swept through here in 2003, will teach us a great deal. In fact, they already have. The county of San Diego is currently preparing an "After Action Report" that will tell us what went right, and what didn't.

There are some things, however, that we already know. We know, for example, that the evacuation of more than a half-million San Diego County residents, while not perfect, worked very smoothly. We also know that the timely deployment and use of military aircraft did not—for a variety of reasons.

Since the 2003 fires, the county of San Diego has invested nearly \$130 million to enhance our ability to prevent, prepare for and respond to wildfires: We've purchased two firefighting helicopters; we've spent more than \$20 million to improve our emergency communications system; and nearly \$40 million was spent to remove 417,000 dead, dying and diseased trees—the very fuel that fans wildfires. In fact, we're one of the only counties, if not the only county, to put its own money into this program.

In addition, the county implemented a reverse 9-1-1 system, and just before the fires, we put in place a much more technologically advanced mass notification system, known as Alert San Diego, which is available free of charge to any city in our county. Using a combination of both systems, the county of San Diego made upwards of 415,000 automated calls to issue evacuation, repopulation and boil water orders.

The county of San Diego also holds a strong belief that land use and zoning policies are extremely important to minimizing the loss of life and property.

While evacuation is our preferred method to protecting lives, we also have developed a Shelter-in-Place program. In fact, some of our newer communities will have both Shelter-in-Place programs and clearly-designed evacuation routes.

We have also adopted policies that require defensible spaces around both large and small subdivisions.

In addition, our building codes are already among the strictest in the State. In all new buildings, we require non-combustible roofing, other fire-resistant exterior materials, fire sprinklers, and dual-glazed windows just to mention a few.

As for what can be done better, I strongly believe that the entire process of requesting and deploying military helicopters and tankers needs to be reviewed. While the fires here broke out on Sunday October 21, it wasn't until Wednesday October 24 that our region saw any considerable aerial assistance from the military. By then, most of the damage was already done.

Unfortunately, the process of securing Federal assistance takes days and involves several steps: once the local incident commander requests additional support, that request goes to the Joint South Operations Center in Riverside. From there it goes to the National Interagency Fire Center in Boise, Idaho. And from there, once it's determined that there are no other civilian resources available, the request goes to the Pentagon. Then, once approved by the Pentagon, aircraft can be deployed, but unfortunately, some of these aircraft are dispatched from other areas of the country like North Carolina, which adds to the time it takes to get these assets into action.

It would seem that these tankers and copters could be pre-positioned ahead of a formal request. Nonetheless, the process for requesting these resources needs to be streamlined.

While on the topic of fire helicopters, the issue of requiring managers, also known as spotters, to be on board military helicopters needs to be resolved yesterday. This is a safety issue, and I certainly understand that. But Calfire, in partnership with the Federal Government, needs to train and make available enough managers so that no military helicopter capable of fighting fires sits by unused—either at North Island or Miramar or any other base—due to a lack of spotters.

The Governor's Blue Ribbon Fire Commission, which was formed after the 2003 fires, recommended that the State and Federal agencies work together to utilize military aerial assets. I am hopeful that this will be done—and soon.

As we look to the future, we must also consider utilizing new technologies that will enable us to fight fires the way we fight wars. This technology could help us greatly when the next fire breaks out, and Senator, perhaps you could assist us in this regard.

For example, San Diego-based SAIC has a monitoring system known as CAMS (Conflagration, Avoidance and Mitigation System). It entails a network of surveillance cameras, that could be installed in the back country, and could help us pinpoint fires within minutes of starting.

In addition, Northrop Grumman has what it calls the Global Hawk—it's an unmanned aircraft that flies at an altitude that is twice that of commercial jet planes. It can see through smoke and survey existing fires, and can determine exactly where the fire is, where it's headed and when it will get there. This information is vital to those calling the shots on the ground, and can greatly improve our ability to spot fires and stop fires before they grow out of control.

Some of this technology was utilized by the military, but not until several days into the fires because it had to be sent in from out of State. Having such a system that is locally-based, either here in San Diego or in southern California, could be of great help to us.

In the wake of this disaster, I see an opportunity—a tremendous opportunity for our region to become a national leader and model in fire prevention and response. It is my desire, and that of my fellow San Diegans, to see to it that this happens.

Again, thank you for inviting me to be here today

Senator FEINSTEIN. Supervisor Hansberger.

STATEMENT OF DENNIS HANSBERGER, SUPERVISOR, SAN BERNARDINO COUNTY BOARD OF SUPERVISORS

Mr. HANSBERGER. Good morning, Senator Feinstein, Senator Alard, and Representatives Filner and Gallegly. Thank you so much for being here and coming to all of us with your ideas and your ears to try and find better solutions to addressing these important issues.

With me this morning, I also have Assistant San Bernardino County Fire Chief, Peter Brierty, who's also our County Fire Marshal, if you should have specific questions at a later time, and also Lance Larson, our legislative director, who will be working with us to assist with our comments involved with the legislation you've proposed. We appreciate that very much.

I've submitted written testimony which, if you don't have it yet, hopefully you will receive. Your staff should've received it.

Senator FEINSTEIN. I believe we do have it.

Mr. HANSBERGER. Good. I'll try to summarize that briefly. First of all, some actions that our county had taken prior to the fires. Our county had purchased a battery of type four engines, which work very well in our particular area to navigate narrow roads, and frankly, we've used them to a significant degree to use them for applying gel to structures to protect them. We found that they work extremely well.

Additionally, we have done a great deal of fuel modification in areas around our communities, and frankly, had a great deal of success with it.

The losses we sustained in San Bernardino County, while extremely devastating to those who lost their homes, over 400 homes, frankly, we could've lost thousands of homes, had it not been for the use of the congressionally-designated funds that you and Congressman Lewis and others had participated in getting for us to do fuel modification, and we were very successful in—that effort was very successful in protecting thousands of homes, and no doubt that it worked well.

Additionally, we have added a significant amount of staffing in recent years to all of our fire stations, to give each of our stations a prompt response time, particularly in some of our smaller communities, where they had been lightly staffed in past years.

Many years ago, I think it was 2002, we actually established what we call the Mountain Area Safety Taskforce, or MAST, which is really a team made up of all of the agencies who are involved in looking at the issues of our mountains, including the public utilities, Caltrans, and many others, so that we're all working together as a team, and we do indeed work as a team.

That has been an extremely successful effort. One of the things we're particularly proud of in San Bernardino County is that we no longer simply talk about each other, we talk to each other.

Each of the agencies is a partner, and we really work well together, much better than we did some years ago. I'm very proud of the effort that our teams have made to do that.

We've adopted more stringent fire-safe building standards following the 2003 fires. We've required fuel modification zones. We have applied the standards to existing structures, but we still have work to do in that regard.

We've increased building setbacks, reduced densities. Staff is currently reviewing all of our codes to develop recommended changes based upon yet our most recent experience. Some of the comments that prior witnesses have offered are also issues which we believe need to be addressed.

Our tree removal brush clearance or fuel modification program removed over 1 million dead and dying and diseased trees, thanks to the efforts of the southern California Edison Company, the county of San Bernardino's financial commitment, and the congressionally-directed funds that we were able to use.

I was thinking, Senator Allard, I was recently in your State and the bark beetle problem there has become acute, as well. I really understand that there's a lot of work to be done. I was concerned to see the challenge you have in your State. Certainly, if we've learned anything that might be helpful, we'd be delighted to work with you.

Let me move quickly then to a couple of other items and our response. In 2003, we were among the first to have fires start, but in 2007, we were one of the last counties to have our fires start, and therefore, it took longer for resources to get to us, because they were already dedicated in other areas.

What we really have learned from this is that we must be prepared to rely upon ourselves. Resources will not always be available to us, because we don't know where in line things will fall. We will simply have to be prepared. We responded well. We would like to do better.

There are economic consequences that go even beyond the loss of the homes. In the San Bernardino Mountains, for example, it's a mecca for tourists, and yet the negative, but unintended negative media coverage by the television and print media have long-term business impacts on the local economy for months and sometimes years to come.

People think that it's a nuclear waste zone, that there's nothing left. Yet, if you drove through our mountains today, you would hardly see any evidence of the fires, except in a few specific areas.

It is for that reason we are working very diligently with our partners, and the Board of Supervisors has committed funds roughly to a tune of \$1 million to try and inform people of the health of our economy there and their ability to come and play in the wintertime in our San Bernardino Mountains.

We do hear rumors of insurance companies that may refuse to write policies. I know you'll be addressing that in a future—in another panel. We do hope that you'll give some serious consideration to that potential problem that may be ahead of us.

Frankly, we have refined and improved our evacuation and re-population plans. We have refined and improved our building construction standards. We've learned a lot from our past experience, but we keep learning as we go.

In conclusion, I'd like to say that we will review, once again, our construction standards. We need continued funding for maintaining and expanding fuel modification areas for keeping the forest healthy.

We need to improve the resources available to speed the economic recovery, and we need to find a way to deal with economic consequences beyond the loss of homes.

We look forward to working with you on the legislation you've proposed. I stand prepared to answer any questions you may have of us. Thank you, again.

Senator FEINSTEIN. Thank you very much, supervisor. Appreciate it.

Supervisor Campbell, welcome. It's good to see you again, Bill.

STATEMENT OF BILL CAMPBELL, SUPERVISOR, ORANGE COUNTY BOARD OF SUPERVISORS

Mr. CAMPBELL. Thank you, Senator. It's good to see you, Senator Allard. Congressmen Gallegly and Filner, thank you very much for being here this morning.

I represent Orange County's 3rd Supervisorial District, which is the district that represents our canyon areas, where most of our Santiago fire occurred.

With me today in the audience is our Orange County Fire Authority Chief, Chip Prather. He'd be available for detailed questions, if the committee had them, regarding our particular fire response.

Senator FEINSTEIN. Could he stand so—because I think I talked with him—or I talked with somebody about some problem during the fires. Maybe he's the one. Thank you.

Mr. CAMPBELL. Yeah, he was everywhere, so you probably did speak to him, Senator. Senator, I want to thank you for holding the hearings here today. I think it's very important that you, at the Federal level, get our insights from the local areas as you craft your legislation and determine what best responses for the Federal side.

I do want to also compliment you for the four bills that you have either introduced or cosponsored. We very much appreciate your work on that.

I will be discussing the Federal Government's support efforts in our fire activity and the recovery activity, making suggestions for improvements in the Federal Government's response, and describing to you a funding issue, as it relates to the preparations for anticipated flooding that will be the results from these fires.

In the committee's information, I have provided an outline, which details the fire activities during and after the Santiago fire in Orange County. The fire events that occurred here in southern California were cataclysmic. No scenarios had anticipated the number and intensity of those simultaneous fires.

I think it's important to first compliment the Federal Government for providing their Southwest Incident Management Team, the Federal Fire Service—those agencies, the U.S. Forest Service, FEMA, as well as other resources.

The Incident Management Team helped augment our fire command unit and literally became part of the unified command under the National Incident Management System. The FEMA personnel first arrived with their mobile unit and then personally visited individual homes, both those that were destroyed, as well as those who had been evacuated for a number of days.

The Federal agencies have been a tremendous asset. They've been professional and skilled in their areas of expertise.

During the dry, windy weather, there is always the concern there could be multiple fires at any given time. But because our planning efforts rely on mutual aid from the surrounding counties, CAL FIRE, and U.S. Forestry, the response didn't happen as quickly as we needed this time, because the resources were already being utilized in the surrounding areas for fires that had started earlier than ours.

Our request at this time would be for the Federal Government to act more rapidly in moving resources from other regions in to fire-prone areas when adverse weather is forecasted.

FEMA presently has a model which, among other things, prepositions several urban search and rescue taskforces during predicted hurricane events into an expected theater of operations. We think this could be applied for fire events also.

Orange County is currently reviewing the resources that we control and internally determine if there are additional assets or alternative deployments which could improve our response.

We would also note that the U.S. Forest Service grounded a sizable portion of its fleet of air tankers for flight safety reasons, and we're told has not acquired air assets to restore its fleet capacity, either by purchase or contract.

We ask that the U.S. Forest Service, with the support of the Congress and the President, expedite the acquisition and deployment of the air tanker fleet for future fire disasters.

Post fire recovery efforts in Orange County are underway as we speak. The fire disaster burned much of the vegetation on our hill-sides and canyons, so the county is working with Federal and State burn area management response, BAER teams, to advise residents on how to prepare themselves for the inevitable flooding that will occur during the rains as a result of a fire.

The county is carefully documenting what can be submitted for funding reimbursement through the Federal Government. We have been told that Orange County is not able to seek full reimbursement for specific flood control measures that need to be implemented in order to keep our residents safe from a flood disaster.

We have been specifically informed that funding is not available for clearing creek beds, detention basins, and flood control channels in areas that were not directly affected by the fire. We believe that it is shortsighted not to fund protective measures needed as a result of these fires.

PREPARED STATEMENT

In conclusion, Orange County is thankful for the Federal Government's help during and after the fire. We are requesting the Federal Government move resources into fire disaster areas earlier when catastrophic events can be occurring.

We ask that Congress's earlier funding for an air tanker fleet be implemented. We ask for the expansion of Federal funding to include reimbursement for clearing creek beds and flood control channels downstream of the immediate fire area. I'd be available for questions also.

[The statement follows:]

PREPARED STATEMENT OF BILL CAMPBELL

Good morning Senator Feinstein and Committee members. I'm Bill Campbell, member of the Orange County Board of Supervisors. I represent Orange County's Third Supervisorial District which includes the Canyon areas which were the areas most heavily impacted by the Santiago Fire.

I want to thank you for holding this hearing to allow local officials to provide you with our insights into the recent fire disasters here in southern California.

For the Committee's information, I have provided the attached outline that details the fire activities during and after the Santiago Fire in Orange County. The fire events that occurred in southern California were cataclysmic. No scenarios had anticipated the number and intensity of the simultaneous fires.

I will be discussing the Federal Government's support efforts, making suggestions for improvements in the Federal Government's response, and describing a funding issue as it relates to the preparations for anticipated flooding due to the fires.

I would like to first compliment the Federal Government for providing their Southwest Incident Management Team, the Federal Fire service agencies, U.S. Forest Service, FEMA, as well as other resources. The Incident Management Team helped augment our Fire command unit and became part of the Unified Command under the National Incident Management System or NIMS. The FEMA personnel arrived first with their mobile unit and then personally visited individual homes. The Federal Agencies have been a tremendous asset; they have been professional and skilled in the areas of their expertise.

During dry, windy weather, there is always the concern that there could be multiple fires at any given time, but because our planning efforts rely on mutual aid from the surrounding counties, CALFIRE, and U.S. Forestry, the response didn't happen as quickly as was needed. Resources from surrounding areas were fully deployed within their immediate fire disaster areas.

Our request at this time would be for the Federal Government to act more rapidly in moving resources from other regions into fire prone areas when adverse weather is forecasted. FEMA presently has a model which, among other things, pre-positions several Urban Search and Rescue Task Forces during predicted hurricane events into the expected theater of operations.

Orange County is currently reviewing the resources that are controlled internally to determine if there are additional assets or alternative deployments which could improve our response. We would also note that the U.S. Forest Service grounded a sizeable portion of its fleet of air tankers for flight safety reasons and, we're told, has not acquired air assets to restore its fleet either by purchase or contract. We ask that the U.S. Forest Service, with the support of Congress and the President, expedite the acquisition and deployment of an air tanker fleet for future fire disasters.

Post fire recovery efforts in Orange County are underway as we speak. The fire disaster burned much of the vegetation on hillsides and canyons, so the County is working with Federal and State Burn Area Emergency Response (BAER) teams to advise residents on how to prepare themselves for the inevitable flooding that will occur during the rains as a result of the fire.

The county is carefully documenting what can be submitted for funding reimbursement through the Federal Government. We have been told that Orange County is not able to seek full reimbursement or funding for specific flood control measures that need to be implemented in order to keep our residents safe from a flood disaster. We have been specifically informed that funding is not available for clearing creek beds and flood control channels in areas that were not impacted by the fire. We believe that it would be shortsighted not to fund protective measures needed as a result of the fires.

In conclusion, Orange County is thankful for the Federal Government's help during and after the fire. We are requesting that the Federal Government move resources into fire disaster areas earlier when catastrophic events occur. We ask that Congress' earlier funding for an air tanker fleet be implemented. And we ask for an expansion of Federal funding to include reimbursement for clearing creek beds and flood control channels downstream of the immediate fire area.

I would welcome any questions from the Committee.

Senator FEINSTEIN. Thank you. Thank you. I was just asking about the air tanker fleet issue that you raised, supervisor, and we will look into it. Thank you very much.

I'd like to begin by just saying that the mayor, Jerry Sanders, has a very comprehensive statement in the record. That statement

is both a chronological exposition of the fires as they evolved in the city, as well as what has been done.

I'd like to just point this out, in fairness. The mayor points out that the Fire Rescue Department Ready Reserve Fleet has increased in size to 18 fire engines, up from three reserves available last year. Points out that there are six reserve ladder trucks in the fleet.

He mentions that he proposed to the city council, and the council has approved funding to allow for eight new engines, nine new engines and five trucks being outfitted or pending delivery, three ladder trucks, seven support vehicles, and that the budget saw an increase in 2007 and 2008, 8 percent and 6 percent, respectively.

He describes the clearance in 1,180 acres of urban interface open space property. So there is no question that the city is moving. Whether it can move vigorously enough, Mr. Peters, to do what it needs to do is the question that I have. I wanted to just share with you what I saw. I went to every greater alarm fire in the 9 years I was Mayor and tried to in the 9 years I was county supervisor, as well.

It's very interesting, and every area has different kinds of fires. San Francisco has a lot of what we call type H buildings, which are wood frame, so you need ladders that can go up, and you need to work the fire a little differently, I think, than, say, Rancho Bernardo.

But while the President was engaged in Rancho Bernardo, I looked around at the fire pattern, and what I saw was a very pockmarked pattern of absolute devastation of homes that burned. Stucco siding, tile roofs, manicured gardens. Not a lot of flora around the homes, but they went down. When they went down, they would leave a car untouched in the driveway.

So it was a very interesting pattern. In places, there was a single home. In other places, two or three homes that burned to the ground. Well, there are 10,000 units of housing, and one fire station. Now, if I lived in that area, I'd be all over the city council. Do something. You know? We need more fire stations, more people in that area.

In terms of a much bolder effort, again, has the city given any consideration to major ways to fund a number of new stations and new personnel, and if so, what are those ways?

Mr. PETERS. Well, let me respond in two ways. One is, we thought a lot about what you just said about Rancho Bernardo and whether an additional fire station would've made a difference in this kind of—these kinds of conditions that Chairman Roberts described.

So that would be an initial question about, really, is that something that would have made a difference? I think it's a fair question and one we're obligated to answer. I'm not sure we know the answer to that yet.

As I mentioned before, we tried a tax increase to the voters on tourists, not even something that San Diegans would pay themselves. That got 61 percent of the vote, and we operate in a very difficult environment in California, as you know, in the wake of Proposition 13, which requires a two-thirds vote for these kinds of initiatives.

So I can't tell you that we're going to be able—if that's the reaction of the populous after the Cedar fires to increase a tourist tax, I'm not optimistic about the ability to raise major revenues to—

Senator FEINSTEIN. Except it's easy to argue against a hotel tax increase for fire protection, because hotel taxes are usually reserved for convention centers, cultural events, those things that attract tourists to a city.

Have you looked at funding the capital parts of additional fire stations, additional truck companies, from a bond issue, a GO bond, and then absorbing the ongoing manpower in a different way on the property tax rate?

Mr. PETERS. We have not. I think it's something that we should probably raise again. We did get fatigued trying twice after the Cedar fires. I think now maybe—

Senator FEINSTEIN. The third time could be the charm.

Mr. PETERS. Yes.

Senator FEINSTEIN. I mean, I think people now see that there is a pattern. This is not a one-time thing. There is a pattern, and everything they hold dear could go. To me, Rancho Bernardo was a sign of that, because these houses just dissolved, and they took everything with them.

I had never seen homes burn to the ground quite that way. Obviously, the fire wasn't fought. I mean, they were allowed to—had to have been allowed to burn. You couldn't get manpower there.

But I think now that you know what's coming in the future—and Ron Roberts spoke about the boxed eaves. I asked the question how did the embers get under these—what appeared to be fireproof tile roofs? The answer was the eaves weren't boxed, so the embers could be blown under the eave and start the fire.

Mr. PETERS. Yours is a fair question, Senator.

Senator FEINSTEIN. Yes. I'd be very interested in working with you and helping in any way we could with any Federal response along that area. Supervisor?

Mr. ROBERTS. I've got a suggestion.

Senator FEINSTEIN. Sure.

Mr. ROBERTS. If you look—let's talk about wildfires for the moment. If you look I think you would—if you did an analysis, you'd find that we had a lot of firefighters, because they didn't have equipment and they were off-duty, that couldn't be engaged in fighting the fires. They have to have equipment.

The Governor's Blue Ribbon Commission, if I recall, one of the recommendations was the State Office of Emergency Service was to buy a lot of fire engines and put those in departments where they could be used in an emergency, and with the personnel that, in effect, we have standing by.

So without a lot of—

Senator FEINSTEIN. Like a county fire department in your district?

Mr. ROBERTS. Well, let me stay focused on this for a minute. I notice that L.A.'s county fire department hasn't done such a hot job, either. So let's stay focused, just for the moment.

But what I'm suggesting to you is that you could, at minimal cost, buy fire engines that could be placed in fire departments throughout all of southern California, and could be used then and

on call for those firefighting those wildfires that are going to happen on occasion.

No additional staffing is needed, because what you're seeing is we have, at any given time, a lot of firefighters who don't have the equipment, and they are basically on standby, if the equipment was here—and there was a suggestion in the Blue Ribbon Task Commission report that this happened, and if I recall, it's only happened in a very, very limited way.

So with the minimum amount of investment perhaps by the State or—and maybe even local government, I think we could improve in a dramatic way the capability in any one of these areas.

Senator FEINSTEIN. Well, we should certainly take a look at that. I'd be very happy to work with you. Perhaps we could talk to the Governor about it and see if it is viable.

Mr. ROBERTS. I would love to.

Senator FEINSTEIN. Thank you. Senator Allard?

Senator ALLARD. Thank you. I have a general question for the panel, and I'd like to have you respond. I know in some areas that I'm familiar with, that there's a number of things that are taken into consideration when you're going to have a fire station and the number of firemen that you're going to have and the number of engines you're going to have. I'm interested to know how you come to a conclusion as to how you're going to need those.

I know in Colorado, for example, sometimes the distance or the response time between the fire house and a home may impact the premium rate on insurance on the home and those kinds of things.

I'd like to hear how much of that builds into your thinking. I would think that after some of these catastrophic fires, that there could be a response from the insurance industry, and they'd look very closely at some of your response times to fires. I'd like to hear you comment on that, if you would.

Ms. JARMAN. If I could address that. When we went through the accreditation study, we looked at the 5-minute response time. There were areas within the city of San Diego we had trouble getting there in 10 minutes. Mission Valley is one of those areas.

So it's the response times, as well as the square miles. The maximum square miles is 9 square miles. Some of our units cover more than that. I think that's one of the challenges we have in the Rancho Bernardo area.

So it's not only response times, it's the square miles, and then it's the density, trying to keep pace with the density and the growth.

If you consider the downtown area of San Diego or the University City area, where the high-rises are rapidly growing, we need additional response units close by so we can make a quick attack, so we can confine the fire to the room of origin and hopefully shelter-in-place versus evacuating the entire high-rise.

Those are some of the areas that we consider. We came up with the 22 additional fire stations by looking at that situation. Since the Cedar fire, we've opened the fire station in Mission Valley.

We've opened a fire station in Santaluz, and we're positioned right now to open a fire station in Pacific Highlands Ranch in January, initially with an engine, hopefully with a truck company.

We're looking at the safer grants to hopefully help fund some of those firefighter positions.

Senator ALLARD. Any other comment? Yes?

Mr. CAMPBELL. Senator, perhaps we could ask Chief Prather to come forward. We just finished a similar evaluation of the entire system, in terms of our needs for additional stations and deployment of people, and maybe the chief could give you better insight.

Senator FEINSTEIN. Certainly, certainly. Welcome, chief.

Mr. PRATHER. Thank you, Senator. Supervisor Campbell's correct. We, like many fire departments in San Diego, as well, through the accreditation process, did a deployment study. The deployment study takes a look at your risk and then how you establish an effective firefighting force to match that risk.

So it takes a combination of what is there to be served and then how much time does it require to get the right numbers of resources there?

In Orange County, we completed that study. Our board adopted that. We've added a number of resources. We currently, just on a sort of daily basis, our comparison to national fire loss data in our county, 65 percent below the national standard or results, and about 55 percent lower than the national loss of life.

So it's a dynamic process that you look at the risk, look at what it takes to get numbers of firefighters, prevention measures, all those things together for a systems approach to the demands of the community.

Senator FEINSTEIN. Thank you very much.

Senator ALLARD. Thank you for your comments and thank you for your expertise and service.

Now, in some of the recent disasters, there's also been a considerable amount of criticism by State and local officials to the Federal response. I think this happens to some degree whenever you have a fire that involves Federal agencies.

What I would be—some of it is correctable, some of it is not, but I'd be interested to hear what your specific criticisms might be, or maybe compliments you might have, as to Federal response to your situation that you had here, around the San Diego area in California.

Mr. Roberts?

Mr. ROBERTS. Yeah, I don't know that I would have a lot of criticism. I think that we've learned some things. I mean, first of all, as was pointed out in your introductory comments, you had two of the new firefighting tankers that just weren't ready to go that were positioned here in California, and we had to bring aerial firefighting resources, basically, from as far away as the east coast.

We've also, in sort of the post-fire discussions, identified that there's an unusually long lag time. I think the Federal Government and certainly the congressional people that we've been meeting with I think have a handle on that, and we're going to see that shortening.

It was between 40 and 48 hours before—from the time you said go to the time you could have resources online, which is quite a delay, again, as the chief pointed out.

But I think those things—I mean, I honestly feel that those things are being corrected. We'll never have it down to as short as

we want. I think the pre-positioning that was mentioned is extremely important.

At the time of the year we have our Santa Anas, there usually aren't many wildfires in other parts of the country. It's a Western phenomenon.

To have in this instance resources that were in North or South Carolina that had to come all the way to California, and the lag time, it seems to me that maybe we should be pre-positioning those, at least in the West, if not directly in California. I think that could help us.

But I would hope that some of the things that I've suggested, in terms of using military technology, to which there is maybe some resistance among even some of our officials here in California, that we could start to look at it differently. I think it's just as appropriate in Colorado as it is in southern California.

Senator FEINSTEIN. Yesterday, we discussed—it was presented to us that it's the incident commander that makes the request for Federal help, and so then it has to kind of go up the chain, and there's a period of time.

Did you think about that, Supervisor Roberts, after we heard it? Do you think that's the right person to make the request is the incident commander, particularly when fires are big and broad and multiple?

Mr. ROBERTS. First of all, I think that the reason why we, to some extent, have incident commanders, it's because they're sort of right there watching what's going on.

Senator FEINSTEIN. The first to the scene, right.

Mr. ROBERTS. Yes. I think that, again, if you had a whole different way of knowing where the fire was, as I've described, with a Global Hawk or Predator or some other type of eye in the sky, I think we would start to organize the way we would fight fires in a very different way.

I think it would have dramatic impact on the role of the incident commander, because it would give you a method of managing your effort that would be far different than what we're doing today. We're kind of locked into the technologies that are there right now.

The incident commander probably is the best person to assess. But that person is only seeing a little part of San Diego County, a little portion of what may be one of several fires going. At the same time he's asking for something, you could have a whole series of other people asking for exactly the same thing.

But we do have a unified command, so that it does kick up. The final word isn't there, and we've tried to—on a countywide basis through our emergency operations center, have really tried to funnel that command decision, if you will, in a way that is not as incidental as it might appear.

Mr. HANSBERGER. Senator—

Senator ALLARD. Just—yes?

Mr. HANSBERGER. I was going to add, if I may, I don't disagree with any of the comments that have been made. I would add, however, in terms of—rapid response is always desirable, but let's not overlook forest management.

We are all a victim of or guilty of probably 100 years of forest mismanagement and vegetation mismanagement. For all of the

right reasons, we did all the wrong things. Now, what we have to do is do precisely what you, Senator Feinstein, have helped to fund, and that is to try to back up and do a lot of the right things that we needed to do.

So it's going to take a long time to get all of our vegetation stands to a healthy level, where they are more manageable, where they're healthy in their own right and that we are managing them well.

So I want to indicate that I really will have to encourage that. The one recommendation I continue to make, and I think it's probably almost an impractical one, but truthfully, U.S. Forest Service folks, where the Forestry has charged, I frankly wish they could be given more authority in their own area to act more promptly, and not have to go through so many steps and layers to get authorization.

They're outstanding people with outstanding talents and great training, and yet, the system in which they work demands approval from region and national, and it takes a long time.

I'm not sure how to fix it, but I want you to know that I think they—we have great cooperation from the local Forest Service. I have no complaint about that. But many times, they cannot respond as promptly as I think they would like to, had they more local authority.

I do think if you could do something in that regard, they can respond more quickly with all of us.

Senator ALLARD. Very good comments. I just have one more question I'd bring up. I think, your questions, about the bureaucracy in the Forest Services is a good comment.

Locally, there are some things that you may take care of that are pretty sensitive, I think, for you to deal with. Zoning issues are always sensitive. But have you looked at certain areas that you may not allow construction of homes and commercial development, and have you looked at incentives for homeowners to clear the brush away from their homes and those kind of things?

Then I'll finish with that. Thank you.

Senator FEINSTEIN. Thank you very much. I'm going to recognize Senator Filner and Senator—oh, I'm sorry, I thought you said—I didn't hear.

Senator ALLARD. I asked a question. I wanted a response, if you would—yes, yes. Anybody want to respond?

Mr. ROBERTS. First of all, we don't provide incentives. Instead of using a carrot, we use a stick. In the county, you have to clear away 100 feet minimum, and whether it's on your property or not, you have to go on the adjacent property.

If your house, for instance, is 30 feet from the property line, you have to clear 100 feet on the adjacent—70 feet on the adjacent property, at a minimum, and in some cases, it's more than that.

We did a lot of brush clearance at no cost to the taxpayers. What we find is we basically send crews around that enforce this in a very significant way. I think of 7,000 requests for abatement last year, and I have experts here that'll give you the exact number. I think we only had about two cases where we had to go in and do the clean-up and then find the property owners involved.

So at that level, it's happening. What we're—our program is largely removing the dead trees, and I told you over 400,000, and over \$30 million spent on that effort over the last 4 years.

Senator ALLARD. Thank you, Senator Feinstein.

Senator FEINSTEIN. Thank you. We have two more panels, each one with five witnesses, so we're going to—I know Senator Allard and I both have 2 o'clock planes. So we're going to have to move this along.

Senator Filner—I mean Congressman Filner, and then Congressman Gallegly.

Mr. FILNER. I was wondering whether you knew something I didn't know yet. Thanks for the promotion.

Just very quickly, and I want to thank, of course, the local representatives. We saw a great cooperation, great skill, and the city and county of San Diego coming together in a way that was very moving and obviously very effective.

There were a couple problems I hope you'll include in your after-action report that I haven't heard mentioned today that I would like to just bring up quickly. The first comes as not just a Congressman, but as a consumer. I live in southern San Diego County. During the Cedar fires, I was packed to evacuate. This time, my wife evacuated.

But it doesn't seem to me that the average homeowner—even with the reverse 9-1-1—knows what they are supposed to do and where to go.

By the way, it was on this very panel that a councilman who was a predecessor to Mr. Peters couldn't understand why we had a 9-1-1 emergency system, because he couldn't find the 11 on the telephone dial. So that's why we've gone to nine-one-one.

Each of the media do a great job, but the radio stations, the TV stations do their own thing. There doesn't seem to be a central message to know what communities should evacuate when and to where.

When I packed to evacuate, one station said to do so, another station said not to. There ought to be a central message that each media can read or scroll of every community and what they're supposed to do and where they go.

I tried to call all the emergency numbers that were given out and could never get through. I couldn't get a straight answer, and I supposedly knew where to call.

So the average person, I think, still does not get adequate information. That's number one.

Number two, I know I see representatives from SDG&E here to protect their interests, I guess. I wouldn't want them to go away disappointed that we didn't mention them.

Several of the fires seemed to be caused by power lines falling. I hope there's some investigation. I saw the city attorney here. I know he doesn't need new things to investigate. But what was the cause of that? I mean, was there adequate clearance? Were the laws obeyed? Do we need more regulation on that?

There were severe problems caused by those falling utility lines, and I don't know that we have proper safety measures there.

Third, our city is very ethnically diverse. I represent a district that's 55 percent Latino. There were numerous problems with law

enforcement at the stadium, at various checkpoints, where ID checks, which were supposed to be used for making sure people had access to their own neighborhoods and not others—we understand that—where law enforcement used those checks for immigration purposes.

That should not occur in a time of emergency and crisis. We had people turned over to immigration authorities when people were supposed to be checking ID for the purposes of making sure people got into their own neighborhoods.

So those are three areas I hope you looked at. You don't need to necessarily answer them now, because we have other panels.

Just lastly, I know Supervisor Roberts mentioned the shelter-in-place. I mean, I'm a layman on this, but it looked to me that the four or five communities that had those procedures in the northern part of our county were not impacted at all, no property damage.

That is, if homes have clearance of brush, fire resistant landscaping and building materials, and inside sprinklers, they are supposed to keep you "sheltered in place." We know it works.

I hope Senator, that in your model ordinance, we look at these. If I was a mayor of any city here, I would've said right after the fire: "Let us adopt an ordinance which requires these shelters-in-place."

I mean, whether you need incentives or mandates, it's the protection that people have to do. I don't care what any developer says or anybody else. We gotta do this. I think every city council, every county, ought to be looking at this.

I'm glad Senator, that you have—you're looking at these model ordinances, because they worked, and it looked to me that one of the major positive lessons that came out of this fire. Thank you again for being here.

Senator FEINSTEIN. Thank you very much. Representative Gallegly?

Mr. GALLEGLY. Thank you very much, Senator. I know that time is important this morning, but there's a couple issues that both Supervisor Roberts and Supervisor Campbell mentioned relating to the air tankers. I assume you were referring to the C-130.

Here in California, we have the Air National Guard, the 146th Air Wing that's stationed in my district, and the MAFFS units, the Modular Air Firefighting System program I've been working on for over 20 years.

Up until 3 years ago, we were using E models, the 50-year-old-plus version of the C-130s, the Hercules, an incredible piece of machinery. But they are getting antiquated. They are antiquated, and with the help of Jerry Lewis and Duncan Hunter, we were able to acquire four new J models, which are almost \$100 million a copy, and we have them at Naval Base Ventura County now.

The bad news has been that we don't have the modular units that work in the J models. As I said in my opening statements, we got authorization 14 years ago, appropriation 8 years ago, and we've been working with the Forest Service. Why isn't this done?

I have been assured by General Wade, and I've been assured by the Forest Service, that these units will be on-site and retrofitted in the J models no later than May of next year. You can rest assured that I will work very aggressively to see that that comes to

pass. The money's there, the technology's there. It's a matter of retrofitting now.

I've also been assured by General Renuart, who is the four-star at NORTHCOM, that these aircraft will remain in California and not scattered around the country.

But you mentioned a very, very important point about the amount of time that it takes to get the mission approved.

Well, you may or may not be aware that the Economy Act that was passed 70 years ago, back during the FDR era, required that you had to get approval through the bureaucracy that there was no civilian assets available before you could rotate military aircraft.

Now, hey, I'm a real private sector guy, but when Rome is burning, you need to have somebody out there fighting the fires, first responders. Then if you have the assets, fine, then you pull off. Well, after years and years and years of working to repeal the Economy Act, we have that done.

Now, my folks at the 146th Air Wing really respond to OES now, the Office of Emergency Services, and being able to deploy these assets. So that's good news. These assets should be completely available in this next fire season.

Supervisor Roberts, you made a statement that I'm embarrassed that I don't know more about. You mentioned the Global Hawk as a surveillance aircraft. I assume you're referring to the E-2s? This is a naval surveillance aircraft, turbo prop?

Mr. ROBERTS. I know it as a Global Hawk. I don't know whether it's an E-2, but—

Mr. GALLEGLY. Okay. Well, because we have the E-2s also stationed in my district. I'd like to know more about that, and I'd be very happy to work with your office or anyone else that would like to coordinate with the commander, with the navy.

Mr. ROBERTS. Okay.

Mr. GALLEGLY. I'd love to work with you on that. I don't know more—enough about it to know—I know what the E-2 is capable of doing and I know what it's used for in naval surveillance, but—and I know the technology, but I never thought about using it for firefighting.

Mr. ROBERTS. I think when you finish your next panel, I think you're going to know a lot more about it, and you'll have an opportunity, certainly, to ask—this next panel up I think has got some of the people that would know more than—

Mr. GALLEGLY. Senator, I have a lot of questions for these folks and some comments, but I would just ask that perhaps I could send some of these in writing to the folks and then have them made a part of the text of the hearing in due time.

Senator FEINSTEIN. I'm sure that will be fine.

Mr. GALLEGLY. Thank you.

Senator FEINSTEIN. Thank you very much. Thank you. I'd like to thank the panel. Thank you very much for your comments, for your expertise and your service. It is very much appreciated. Thank you.

FIRE PREVENTION, PREPAREDNESS, AND RESPONSE PANEL

Now, we'll call up the next panel. I will begin with the introductions now, to save time. The first speaker will be Mark Rey. He is the Under Secretary for Natural Resources and Environment of the

United States Department of Agriculture. Mark, I think if you go right to this end where President Peters was, that'd be great.

His duty is to monitor the Department of Agriculture's Forest Service and Natural Resource Conservation Service. He was the committee's lead staff person for work on the National Forest Policy and Forest Service Administration.

In this position, he was directly involved in almost all legislation dealing with United States Forest Service, and with an important responsibility for several public lands bills.

The next speaker is Nancy Ward. She is the Director of FEMA Region 9. She has held the position of Division Director of FEMA's Response and Recovery Division in Region 9 since the Year 2000.

She's responsible for coordinating FEMA mitigation, preparedness, disaster response and recovery activities in Arizona, California, Hawaii, Nevada, America Samoa, Guam, the Commonwealth of the Northern Mariana Islands, the Marshall Islands, and the Federated States of Micronesia. It is a big territory.

Before joining FEMA, Ms. Ward was the Chief of the Disaster Assistance Branch and Deputy State Coordinating Officer for the California Office of Emergency Services.

Chief Rubin Grijalva became Acting Director of CAL FIRE in January 2006. He was the State Fire Marshal and Fire Chief for the city of Palo Alto for 10 years. He has 30 years' experience working in the field of public safety and has expertise in criminal justice administration and the development of fire prevention and hazardous materials regulations.

Chief Kim Zagaris is the Chief of the Fire and Rescue Branch for the Government's Office of Emergency Service. He was named 2007 Fire Chief of the Year by the California Fire Chiefs Association.

Chief Zagaris started his career with OES in 1988 as an assistant chief, responsible for field operations, and quickly rose through the ranks to his current position in 2001.

The next and the last speaker is Jeff Bowman. He's had a long and distinguished firefighting career spanning four decades. While he most recently served as the city of Oceanside's Interim Fire Chief, from 2002 to 2006, he served as the city of San Diego's Fire Chief, and led the city's firefighting efforts during the 2003 wildfires.

Prior to coming to San Diego, Chief Bowman served for more than 28 years with the city of Anaheim Fire Department, including as its Chief from 1986 to 2002.

So we will begin with Deputy Secretary Rey. Mark, welcome. Thank you again, also, for being here, for being here yesterday, participating in both meetings yesterday. We appreciate it.

STATEMENT OF MARK REY, UNDER SECRETARY FOR NATURAL RESOURCES AND ENVIRONMENT, U.S. DEPARTMENT OF AGRICULTURE

Mr. REY. Thank you, Madam Chairman. I'm going to have to—
Senator FEINSTEIN. Let's see. I think you punch the button on the right; is that—there you go.

Mr. REY. Okay. This is much more technologically advanced than the systems I'm familiar with in the Senate and in the House, but I'm sure it'll work just fine, reserving the right to object.

Thank you, Madam Chairman, for that kind introduction. I will summarize my statement for the record and submit it for the record.

The fire community, in my experience, is unique in the way that it values after-action reviews, because new lessons learned can almost always result in improved performance. Shortly, I'll speak about some areas where we think performance can be improved, particularly with respect to the use in southern California of both reserved and active military aircraft.

But in any incident, I think results are what are most important and often speak for themselves. So let me compare the results we achieved in 2007 with those that we experienced in 2003, since they are close together benchmark years in assessing our effectiveness.

I'll compare the results in 12 key areas, using data taken from all seven southern California counties that were affected by both the 2003 incidents and the 2007 incidents.

I'll start with preparedness. As my testimony indicates, we better positioned a larger number of assets in 2007 than we did in 2003, based upon our experience in 2003.

Second, the duration of the event. In 2003, it was a 15-day event. As you noted in your testimony, in 2007, we've experienced an 18-day event with both higher sustained winds, as well as drier fuels.

In 2003, during the course of the event, we had 213 separate ignitions. In 2007, we had 271 separate ignitions. From those ignitions in 2003, we experienced 14 large fires, all of which have names that now live in everyone's memory. In 2007, we had 20 large fires.

Doing the arithmetic, that means that in 2003, we had a 93 percent success rate on initial attack; that is, 93 percent of those 213 ignitions were suppressed without incident. In 2007, we enjoyed, again, a 93 percent success rate on initial attack, in the face of a longer duration event with higher winds and drier fuels.

In 2003, after it was all done, we burned about 750,000 acres of ground in southern California counties. In 2007, we burned 518,000 acres of ground. In 2003, we lost 5,200 major structures, most of those were homes. In 2007, we lost 3,050 major structures.

In 2003, we unfortunately had 24 civilian casualties. In 2007, 10 civilian casualties. In 2003, one firefighter casualty. In 2007, no firefighter casualties. Firefighting is an inherently hazardous profession. In 2003, we had 237 firefighting injuries. In 2007, 140 firefighting injuries.

In 2003, we successfully and without major incident evacuated roughly 300,000 people. In 2007, with superior evacuation methodologies, we evacuated upwards of a million people.

Moving beyond the initial response to my 12th criterion, since 2003, we have treated 275,000 acres of Federal, State, local, and privately-owned land in southern California to reduce fuel loads.

In my testimony, you'll see three examples of where those fuel load reductions resulted in better fire suppression as fires laid down—in one case, saving perhaps as many as 8,000 to 10,000 homes that were in the path of a fire that was suppressed, as it entered a fuels treatment zone.

So my point is that we did learn lessons in 2003 and in each of those 12 key criteria, our performance in 2007 was superior to the performance that Federal, State, and local governments combined were able to muster in 2003.

Even though 13 is considered an unlucky number, let me add a 13th factor for comparison between 2003 and 2007. Since 2003, 180,000 new homes have been built in the wildland-urban interface in these seven southern California counties, backing out the homes that were rebuilds from the fire events in 2003.

What that means is that about 185,000 new homes were built in these southern California counties in the wildland-urban interface since 2003. The average household size in this region is four people per household. That means upwards of three-quarters of a million people were in harm's way in 2007 that weren't there in 2003.

So there was more to protect, and there probably will continue to be more to protect as additional development occurs.

Now, in terms of areas of improvement, we have already started and, in some cases, are well along in our after-action reports. We'll learn more as those reports continue and as the reports and evaluations that we do together with Congress also continue.

We have concluded that with a local agreement between the Marine Corps and CAL FIRE, we can and will activate Marine Corps aviation assets more quickly.

We've also concluded that while the time between the MAFFS order was placed and the military began acting on it was a very brief couple hours, it takes a certain amount of time to both get the MAFFS ready and then, of course, to deploy them, if they're not in the theater of operation.

So we will be working with the military to develop a stand-ready mechanism for the MAFFS so that we can alert them to begin to get ready, even before we officially activate them into a theater of activity. We have committed to one another that we will have the C-130Js available for this next season.

What's delayed the C-130Js are a series of engineering challenges that prove more difficult than anticipated in the electronics of the J model. There was also a problem in the operation of the discharge tube out the paratrooper doors. But I think those engineering challenges have now been overcome, and we're ready to begin testing the new models.

In every after-action review, it's important we think to address two separate questions. First, were there things that could have been done better? The answer, in this case, and in almost every case, is yes. I've just reviewed a couple of those instances.

The second question is the things that weren't done as well as they might've been—things that materially affected the outcome? In our view, in this case, with respect to the use of the military aircraft, there was no evidence to suggest that the outcome would've been significantly different, given the wind conditions that occurred in the first 2 days of the incident—actually, the first 3 days of the incident, all told.

So we will continue our after-action reviews. We will continue to address both of those questions in other areas, and I dare say we will find some areas where both answers are yes and additional changes will be made accordingly.

One thing that I noted listening to the first panel is that as we talked about development of currently undeveloped lands in southern California, farm and ranch lands, we need to provide incentives to farmers and ranchers to try to not develop their lands.

PREPARED STATEMENT

Of course, since I leave no opportunity untaken to talk about the importance of the farm bill before Congress, I'll note that there is substantial funding for easement purchases, conservation easement purchases, which have been a very popular way in southern California and statewide to provide incentives to landowners not to have their land developed, to reduce that growth of new homes in the wildland-urban interface.

That concludes my statement. I'll be happy to answer any questions.

[The statement follows:]

PREPARED STATEMENT OF MARK REY

INTRODUCTION

Madam Chairman, ranking member, and members of the subcommittee, thank you for the opportunity to testify before you today. This is my first opportunity to testify on behalf of the administration on our response to those events. We are proud of our response and grateful for the opportunity to address our efforts.

The 2007 California fires directly affected nearly one million people and caused impacts to hundreds of thousands more. In addition, 271 fire starts resulted in 20 large fires which burned over 500,000 acres, destroyed 3,000 structures, and killed ten people. Each of these benchmarks has been surpassed only once in the history of California, during the fires of 2003. The 2007 California fires were truly an historic event, but we believe that investments and actions made by the Forest Service, State and local governments, non-governments, and private landowners combined with improvements in coordination with others resulted in lower loss of life and overall damage to property.

Since these two catastrophic natural disasters occurred within 4 years of each other, they provide two logical reference points to review size and scope of the events, compare the Federal, State, and local response, and determine the effectiveness of investments made since 2003. Our analysis shows that Federal investments and organizational improvements in the aftermath of the 2003 fires contributed to better safety, better coordination, and less severe outcomes in the 2007 fires.

BIG PICTURE: FIRE MANAGEMENT CHALLENGES FACED BY THE WILDLAND FIRE COMMUNITY

Wildland fire and wildland firefighting are influenced by a complex myriad of factors. These factors include weather, fuel type, terrain, proximity to the wildland urban interface (WUI) and other highly valued landscapes, population density, multiple jurisdictions on the landscape, current weather conditions, and managerial decisions made before and during fire incidents. The Forest Service and other first responders have spent significant time and resources over the past several years to coordinate response actions, improve inter-governmental communication, clarify roles and responsibilities, and other actions to ensure effective response in these complex environments.

The late October conditions in southern California reflect three key components of fire activity that contribute to larger and, coupled with agency management responses, more expensive, fires—historic drought, build up of fuels on the ground, and the ever increasing reach of development into the wildland urban interface. More specifically, the National Weather Service documented rainfall during the 2006–2007 Southwest California rain season at only 21 percent of normal in downtown Los Angeles, officially the lowest since record keeping began in 1877. Exacerbating these conditions, hot, dry Santa Ana winds came across southern California, downing power lines and setting off sparks that ignited the 2007 fires. During the first days of the fires, 70 mile per hour winds with gusts of over 100 miles per hour were reported, blowing embers over a mile, causing unsafe conditions for aviation resources, and limiting on-the-ground suppression tactics. Much of the forested land

where weather conditions occurred was densely stocked with highly flammable chaparral understory. The growth and spread of chaparral in the area had been promoted by wet conditions two years ago; yet the subsequent drought ostensibly created a tinderbox of dried flammable wood. The large number of residences in the WUI of southern California further complicated response to the fires. According to the 2005 Quadrennial Fire and Fuels Review by the Department of the Interior (DOI) and United States Department of Agriculture, 60 percent of new homes constructed in the United States in the 1990s were built in the WUI, a trend evident near the southern California national forests. Conservative estimates by Forest Service researchers show that almost 200,000 new homes were built in the WUI between 2003 and 2007 within the seven southern California counties.

HISTORY REPEATING?

The 2003 fires demonstrated that the major fire behavior influences of wood, WUI, and weather could converge with catastrophic results. Over 10 days, 14 large fires burned over 730,000 acres, destroyed 5,000 structures, forced several hundred thousand evacuations, and caused 22 fatalities. In the aftermath of the fires, Federal, State and local governmental representatives and elected officials came together to review the events and identify ways to improve coordination and response in the future. The Governor's Blue Ribbon Fire Commission documented their findings and presented recommendations to make California less vulnerable to similar catastrophic fire activity in the future.

The Blue Ribbon Fire Commission report was released in April 2004, and included 33 findings and 58 recommendations relating to Federal, State, and local entities. The 19 recommendations pertaining to the Forest Service span a broad range of issues including aviation use, interagency cooperation, fire suppression and preparedness funding, improved community preparedness, and enhanced communication. Progress has been made on all 19 recommendations, resulting in enhanced cooperation and vital firefighting resources, training and intelligence. The Blue Ribbon Commission Stakeholders Ad Hoc Committee met twice in the fall of 2007 to update the status of the original recommendations and establish priorities to complete any outstanding recommendations.

Consistent with the Blue Ribbon Fire Commission recommendations, the Forest Service has invested considerable resources to mitigate the risks of catastrophic wildfires through vegetation treatments, partnership with communities, and education of homeowners.

Forest Service actions in partnership and cooperation with other Federal, State, and local entities after 2003 contributed to improved performance in the following areas during the 2007 Siege, including:

- Better advanced deployment
- Fewer homes and other structures destroyed
- Fewer fatalities
- No firefighter fatalities
- Fuel treatment areas where, “wildfire laid down”
- More efficient evacuations
- Responsive burned area emergency stabilization
- Effective initial attack on 251 of 271 fire starts

IMPROVEMENTS IN READINESS

The Forest Service served two critical roles during the catastrophic fires in southern California. The task of suppressing fires on and adjacent to National Forest System land was made safer and more successful by investments in hazardous fuels treatments since 2003. Coordination with other Federal, State, and local agencies to respond to fires on private, State and tribal lands was also improved due to implementation of recommendations from the Blue Ribbon Commission.

In the days before the 2007 fires, preparedness resources were prepositioned to respond to the threat identified by predictive services, and a severity request was granted to increase initial attack capability. Prepositioning efforts were coordinated with CAL FIRE to maximize capacity. Specifically, the Forest Service increased initial attack engine capability by 30 percent, implemented 24 hour staffing plans on several forests, assigned nine Incident Management Teams (4 Type 1 and 5 Type 2), doubled the number of available helitankers and helicopters, and increased the number of available airtankers from two to eight.

INVESTMENTS IN COMMUNITIES SINCE 2003: HAZARDOUS FUELS AND COMMUNITY
PLANNING

Under the President's Healthy Forest Initiative and using the authorities provided through the Healthy Forest Restoration Act, the Forest Service and our partners have reduced the risk of catastrophic wildfires to communities and the environment. In 2006, the Administration treated many overstocked Federal forests. Hazardous fuels treatments resulted in qualitative improvements of at least 994,000 acres in fire regimes classes 1, 2, or 3 that moved to a better condition class.

To improve the focus of our fuels treatments, the Forest Service and its partners are using data products such as LANDFIRE to inform decision-making and identify areas across the Nation at risk due to accumulation of wildland fuel; prioritize hazardous fuel reduction projects; and improve collaboration between agencies with regard to fire and other natural resource management. Regional modeling of potential fire behavior and effects allow resource managers to strategically plan projects for hazardous fuel reduction and restoration of ecosystem integrity on fire-adapted landscapes.

Let's look in more detail at fuels treatments that affected the 2007 fires. Between 2003 and 2007, the Forest Service, Department of the Interior and Natural Resources Conservation Service jointly spent \$300 million on roughly 275,000 acres of fuel reduction in southern California, including about \$66 million worth of treatments on 81,000 acres \$17 million worth of treatments on 16,000 acres where fuels was a secondary benefit of some other management action. Moreover, 75,000 acres have been treated on high priority State and privately owned lands as a result of grants from the Forest Service, DOI and NRCS. These fuel treatments are designed to decrease fire severity, provide evacuation routes, improve effectiveness and expand tactical firefighting options, and ultimately make communities safer.

The 2007 fires demonstrated the success of recent Federal investments in hazardous fuels treatments. Over 40,000 acres of fuel treatment were accomplished on the San Bernardino NF between October 2003 and October 2007. These treatments significantly reduced potential consequences from the fires of October 2007 by:

- providing safe ingress for firefighters and enabling safe evacuation of the public
- slowing fire spread allowing firefighters to contain fire edges more readily
- significantly reducing potential damage to utilities and other infrastructure
- reducing potential ember shower intensity and spotting distance which decreased the number of houses impacted by firebrands
- reducing fire intensity allowing firefighters to more closely engage the fire and protect structures

Specifically, the Forest Service Tunnel 2 fuel treatment covered almost 250 acres along a ridge southwest of the Grass Valley Fire origin. The fire moved into this treatment area at high intensity but fell to mostly a surface fire within the treated area. Although most of the Tunnel 2 treatment area burned, the reduced intensity within it enabled firefighters to contain the fire along roads at its southern perimeter, saving 8,000–10,000 homes in the nearby Crestline area. Materials describing success stories like this one are included with this testimony for the record (Enclosures 1–3).

Through our State and Volunteer Fire Assistance programs, the Forest Service has provided significant support to California communities to build wildland firefighting capacity. From 2003 to 2007, community grants have totaled over \$8.5 million for equipment, \$3.2 million for Preparedness activities, \$1.8 million for training, and \$1.7 million for suppression operations and support.

State Fire Assistance funds also go to communities for hazardous fuels planning as well as direct, on-the-ground fuels reduction projects. California has identified 1,264 communities-at-risk from wildfire, and 99 percent of these have completed Community Wildfire Protection Plans (CWPPs), or the equivalent. The CWPPs are administered by over 150 Fire Safe Councils in California. Since 2003, the Forest Service has supported these Fire Safe Councils in creating and implementing Community Wildfire Protection Plans with \$31 million in grants.

The Fire Safe Council formed near the Cleveland National Forest after the 2003 fires illustrates a variety of ways communities can access funds. Assisted by State Fire Assistance grants, the Council developed the Palomar Mountain Community Wildfire Protection Plan, identified needed hazardous fuels treatments, and purchased fire gel for application by homeowners in the event of approaching fire. Some homeowners in the area credit the Forest Service support through State Fire Assistance grants and suppression efforts with saving their homes during the 2007 fires.

Efforts to stabilize lands burned during the 2007 fires were organized immediately with the goal of protecting life, property and critical natural and cultural resources. In addition, the Natural Resources Conservation Service is providing \$4.6

million to farmers and ranchers in southern California through the Environmental Quality Incentives Program. Funds will be available at a 75 percent cost share to protect newly exposed soil from severe erosion and to install agriculture infrastructure necessary to maintain vegetative covers essential to protecting hillsides.

A LOOK AHEAD

The President's Healthy Forest Initiative provides key tools to make communities safer from the threat of wildfire, and will serve as a framework for future fuels reduction activity in southern California. In September 2006, the USDA Office of Inspector General, Southeast Region, audited Forest Service implementation of the Healthy Forests Initiative. The OIG audit report recommended that the Forest Service implement a consistent analytical process for assessing the level of risk that communities face from wildfire, strengthen its prioritization of projects, and improve performance measures and reporting standards in order to better communicate the outcome of treatments. The Forest Service concurred with the five recommendations of the report and developed an action response and estimated completion date for each. To date the Forest Service has:

- Developed a Hazardous Fuels Prioritization and Allocation Process—a national methodology to assess the risk and consequence of wildfire that prioritizes the allocation of hazardous fuels funds to the Regional level. This system will be continually refined with updated data sources.
- Completed work with the Department of the Interior and other partners in the Wildland Fire Leadership Council to update the 10-Year Implementation Plan which sets national performance measures.
- Completed accomplishment reporting in the fiscal year 2007 Performance Accountability Report incorporating new outcome measures from the 10-Year Implementation Plan and report accomplishments by Region.
- All accomplishment and budget documents for fiscal year 2008 and beyond will reflect new performance measures that demonstrate agency performance by focusing on risk reduction and restoration outcomes.

CONCLUSION

The repositioning efforts, investments in hazardous fuels treatments and community capacity, and coordination between FEMA, CAL FIRE, the California Army National Guard, United State Marine Corps and tribal entities paid off during the 2007 fires. The 2007 fires had more fire starts than the 2003 fires (271 compared to 213) and more large fires that escaped initial attack (20 compared to 14). However, the resulting damage was much less in 2007. Even though the large fires burned one day longer in 2007, the fires resulted in only 65 percent as many acres burned, 60 percent as many structures destroyed, 60 percent as many firefighter injuries, and 40 percent as many civilian fatalities. Nearly 13,000 personnel responded to the 2007 fires, and there was not one firefighter fatality.

Many lessons were learned from the 2003 California fires. Between 2003 and 2007, coordination was improved between Federal, State and local entities; millions of dollars were strategically invested in WUI hazardous fuels treatments; and countless hours were invested in development of Community Wildland Fire Plans. As a result, we were better prepared for the events of 2007 in southern California to deploy resources strategically, successfully and most important, safely. In the midst of a monumental natural disaster, homes and lives were saved as a result of Federal investments, improved coordination with local and State entities, and the efforts of the interagency firefighting community.

Senator FEINSTEIN. Thank you very much, Secretary Rey. Excellent statement.

Ms. Ward, welcome, and thank you for being here.

STATEMENT OF NANCY WARD, DIRECTOR, REGION 9, FEDERAL EMERGENCY MANAGEMENT AGENCY

Ms. WARD. Good morning, Senator Feinstein and other distinguished members of the committee. I'm accompanied here today by the Federal Coordinating Officer, Mike Hall, and the Deputy Federal Coordinating Officer, Bob Fenton, who are actually in the leadership positions here in southern California overseeing disaster operations, and will try and help me answer any of the technical questions on specific operations.

As you mentioned, Senator, I've been with FEMA for 6 years, and prior to that, spent more than 20 years in emergency management with the State of California, and have overseen my share of disaster operations from earthquakes, floods, fires, and hurricanes.

I would first like to commend the local and State response efforts. The integrated Federal coordination of the California wildfire response has been, in my experience, unprecedented in the level of collaboration and cooperation between all partners: Federal, State, tribal, local, and the voluntary organizations.

On Sunday, October 21, I personally went to the State's operations center, along with members of my staff, to assist in initiating joint operations. At that very same time, FEMA simultaneously activated both the Regional Response Coordination Center in Oakland and the National Response Coordination Center in Washington, DC.

By Monday, October 23, FEMA was hosting daily video teleconference calls with Federal, State interagency partners and the America Red Cross and DOD.

That same day, in response to the Governor's request for a major disaster declaration, FEMA began alerting our national response teams and pre-staging resources and commodities at March Air Force Base, the pre-designated Federal staging area here in southern California.

By Tuesday, October 24, the President had issued a major disaster declaration for all seven counties and at that time, designated Mike Hall the Federal Coordinating Officer.

Less than 24 hours after the declaration, an integrated joint field office housing hundreds of Federal State staff and Federal response teams were on site, and many more personnel were en route.

To give you an idea of the scope of the Federal response at that time, FEMA had staged more than 79,000 liters of water, 24,000 cots, and 42,000 meals ready to eat in support of the State. We also provided 42,000 blankets and other essential items to support sheltering efforts.

FEMA's joint field office has issued 85 mission assignments totaling more than \$30 million for Federal assistance from our Federal partner agencies.

We also deployed a national emergency response team, a Federal incident response team, communications and equipment from our mobile emergency response support detachments, disaster medical assistance teams, elements of the U.S. Coast Guard's Deployable Operations Group, and a defense coordinating element from DOD.

As local and State and Federal firefighters continued their efforts to contain and extinguish the fires, the State and Federal governments worked together to develop a unified State and Federal recovery strategy to guide the recovery challenges that we knew were just around the corner.

The key elements of this Federal-State strategy included a housing taskforce to support the local governments by identifying short and long-term housing options and actions to be taken to help displaced residents; a debris management taskforce to help local governments expedite the safe and thorough and timely removal of disaster-related debris; a multi-agency support group to support local governments by addressing in an environmentally sensitive

way potential flooding and erosion and debris flow concerns that we knew from 2003 would be upon us very, very shortly.

A tribal taskforce was also established to help affected tribes locate supplemental resources, including personal and public financial assistance.

These taskforces have been formed to help the lives of people in southern California return to normal as quickly as possible, and their efforts are ongoing and will be for some time.

PREPARED STATEMENT

These are just a few of the examples of the effective collaboration and Federal-State response to this effort. As a former State official and a current regional administrator for FEMA, I'm proud of the State and Federal partnership and the way we've come together to help the victims of this disaster.

That said, we have much work to do, and I look forward to our continued partnership. Thank you for the opportunity.

[The statement follows:]

PREPARED STATEMENT OF NANCY WARD

Good morning Chairwoman Feinstein and members of the subcommittee. I am Nancy Ward, Regional Administrator for the Department of Homeland Security's Federal Emergency Management Agency, and I have served as Regional Administrator for FEMA Region IX since October 2006. Prior to my selection, I served as the Director of Response and Recovery for Region IX. I have worked in various roles in the region for the past 7 years.

Before coming to FEMA, I spent more than 20 years in emergency management with the State of California, including 6 years as chief of the State's disaster assistance programs. In this capacity, I oversaw the implementation of all disaster recovery activities statewide, including recovery activities following the devastating Northridge earthquake of 1994 and the statewide floods of 1995, 1997 and 1998.

FEMA Region IX includes the States of Arizona, California, Hawaii, Nevada, and American Samoa, the Commonwealth of the Northern Mariana Islands, the Republic of the Marshall Islands, the Federated States of Micronesia, and Guam. Our region encompasses 386,000 square miles with a breadth of more than 8,000 miles. The natural hazards that these States are most challenged by include fires, hurricanes, typhoons and storms causing flooding, damaging winds, landslides, and earthquakes. Along with those natural disasters, Region IX works with our State partners to evaluate readiness and prepare for terrorist events as well.

Since October 20, 2007, the State of California has been affected by a series of wildfires across southern California. To date, over 3,097 homes were destroyed and over 500,000 acres of land were burned from Santa Barbara County to the U.S.-Mexico border. At the height of the disaster, 23 active fires were burning in the region. Seven people died as a direct result of the fires and 124 others were injured, including firefighters.

California Governor, Arnold Schwarzenegger, declared a State of emergency in seven California counties where fires were burning, and on October 24, 2007, President George W. Bush issued a major disaster declaration for the State of California and ordered Federal aid to supplement State and local response efforts.

BACKGROUND

FEMA's primary mission is to reduce the loss of life and property, and to protect the Nation from all hazards, by developing a comprehensive, risk-based, emergency management system of preparedness, protection, response, recovery, and mitigation. The Robert T. Stafford Disaster Relief and Emergency Assistance Act authorizes the President to issue an emergency or major disaster declaration and triggers direct and financial assistance to individuals, families, State and local governments, and certain nonprofit organizations. The Act also gives FEMA responsibility for coordinating the relief through the combined partnership of 28 Federal agencies and non-governmental organizations.

The 2005 Hurricane Season served as a catalyst for change and reform within FEMA and for our parent agency, the Department of Homeland Security. FEMA is

a far more agile, responsive, and pro-active partner with State and local jurisdictions than we were just 1 year ago. We are proactively working to ensure Federal assistance is delivered as quickly and seamlessly as possible in coordination with State and local efforts. These changes were evident in the most recent response to the California Wildfires.

Our experience preparing for and responding to the recent wildfires demonstrates the strong working relationship that exists between FEMA and the State of California. Overall, the Federal response to the recent wildfires was organized and effective. In advance of the fire season, experts predicted that dry weather conditions and heavy fuel loads would affect the severity of fires. After receiving the first reports of fire activity several weeks ago, FEMA reached out to State and local governments and other Federal departments and agencies to open a channel of communication that has been maintained throughout the response efforts.

When the fires began, the Federal Government moved quickly to support the Governor's requests for assistance. Prior to the President's major disaster declaration on October 24th, FEMA awarded eight Fire Management Assistance Grants (FMAG). FMAGs provide assistance to the State to mitigate, manage, and control fires that threaten such destruction as would constitute a major disaster. Some of the costs these grants cover include:

- Costs for equipment and supplies;
- Emergency protective measures (evacuations and sheltering, police barricading and traffic control, and arson investigation);
- Pre-positioning of resources; and
- Safety items for firefighter health and safety.

In addition, the President issued an emergency declaration on October 23rd for life saving activities to support the State and local authorities in fighting the fires.

The Federal coordination of the California Wildfire response has, in my opinion, been unprecedented in the level of collaboration and cooperation between all partners—Federal, State, local, and voluntary organizations. On Sunday, October 21st, I personally visited the State's Operations Center along with other FEMA program staff to assist in initiating joint operations. At that time, FEMA simultaneously activated both the Regional Response Coordination Center in Oakland, California, and the National Response Coordination Center in Washington, D.C. All 15 Emergency Support Functions (ESF) were activated at the national level during the response. ESFs are the primary means through which the Federal government provides assistance to State, local, and tribal governments. It is an effective mechanism to group capabilities and resources into the functions that are most likely to be needed during actual incidents where Federal response is required.

By Monday, October 23rd, FEMA was hosting daily video teleconference calls with Federal and State interagency partners and the American Red Cross. That same day, in response to the Governor's request for a major disaster declaration, FEMA began alerting our national response teams and pre-staging resources and commodities at March Air Force Base, the pre-designated Federal staging area in southern California. By Tuesday, October 24th, the President had issued a major disaster declaration for seven southern California counties, and designated Mike Hall as the Federal Coordinating Officer (FCO) to oversee the disaster operations on the ground. Less than 24 hours after the declaration, an integrated Joint Field Office was established with a Federal response team on-site and many more personnel en route. By being proactive and anticipating needs before they arose, FEMA was able to move personnel and position supplies to where they would be readily accessible to the areas in need.

At the peak of the State's evacuation efforts, there were 54 shelters open with approximately 22,000 people being housed and several hundred thousand people who self-evacuated. To give you an idea of the scope of the Federal response, FEMA staged more than 79,000 liters of water, 24,000 cots, and 42,000 meals-ready-to-eat in response to the State's request. We also provided 42,000 blankets and other essential items to support sheltering efforts. FEMA's Joint Field Office issued 85 Mission Assignments, totaling over \$30 million, for direct Federal assistance from our partner agencies. In the initial days of the disaster, FEMA's Joint Field Office had staffing levels of over 900 personnel, representing 28 Federal agencies and departments, all unified under the Incident Command System (ICS) structure. FEMA also deployed a National Emergency Response Team, a Federal Incident Response Team, and communications personnel and equipment from its Mobile Emergency Response Support detachment, as well as four Disaster Medical Assistance Teams, elements of the U.S. Coast Guard Deployable Operations Group, and a Defense Coordination Element. At the height of the wildfires, thousands of local, State and Federal fire personnel were in southern California. Fortunately, there were no firefighter fatalities.

THE CALIFORNIA WILDFIRES RECOVERY EFFORTS

Even as local, State and Federal firefighters continued their efforts to contain and extinguish the fires, the State and Federal governments worked together to develop a Unified State/Federal Recovery Strategy to guide the recovery activities and address the immediate and long-term needs of individuals, businesses and communities. We recognize that carrying out this strategy will require the same level of cooperation, determination, innovation, creativity and persistence that has characterized the joint response effort. In order to ensure that recovery efforts achieve their objectives, the State of California and FEMA are committed to address each challenge confronted during the recovery period with effective and efficient collaboration. The strategy will serve as the overarching plan guiding an aggressive recovery approach for the individuals and communities affected by the fires and is intended to bring together Federal, State, local and tribal governments, volunteer organizations, the private sector and individuals to ensure that essential services are provided and that recovery challenges are addressed.

Key elements of this State/Federal strategy include:

- A Housing Task Force to support local governments by identifying short- and long-term housing options and actions that can be taken to help displaced residents find transitional housing.
- A Debris Management Task Force to help local governments expedite the safe, thorough and timely removal of disaster-related debris.
- A Multi-Agency Support Group to support local governments by addressing, in an environmentally sensitive manner, flooding, erosion and debris flow concerns.
- A Tribal Task Force to help affected tribes locate supplemental resources, including personal and public financial assistance.

These task forces have been formed to help the lives of people in southern California return to normal as quickly as possible. The State of California and FEMA are also committed to providing open and transparent communication, examining all authorities, capabilities and capacities that can be brought to bear to resolve issues.

One of the greatest challenges presented by the scope and scale of catastrophic disasters is the ability to house displaced evacuees. Last week, FEMA released a Joint Housing Task Force Housing Strategy which identifies efforts that support the State and local governments by identifying short and long-term housing options and actions that can be taken to help displaced residents find transitional housing quickly. Again, here is another example of collaboration between our Federal and State partners.

The Joint Housing Task Force is comprised of officials from the California Office of Emergency Services, FEMA, the U.S. Army Corps of Engineers, the U.S. Department of Health and Human Services, the American Red Cross, the U.S. Small Business Administration, the U.S. Veteran's Administration, the Department of Housing and Urban Development, the U.S. Department of Interior, and the U.S. Department of Agriculture. Collectively, these agencies have developed a comprehensive housing plan that includes identifying the most heavily impacted areas, on-the-spot registration of shelter populations, analyzing shelter and mass care operations, transitioning applicants to temporary housing, individual case management for applicants with major damage to their primary residences, identifying available rental resources, assessing and assisting special need populations, and working with local voluntary agencies to identify additional assistance resources. The Task Force's efforts are ongoing and have recently lead to the implementation of a comprehensive housing plan that utilizes all available expertise and resources from the Federal, State, and local levels to ensure that assistance efforts are maximized to meet the disaster housing needs of all eligible applicants.

These are just a few examples of the effective collaborative Federal/State response to this disaster. As a former State official and current Regional Administrator for FEMA, I am proud of the State/Federal partnership and the way we have come together to help the victims of this disaster. That said, we still have much work to do and I look forward to continued close collaboration and cooperation with our State, local, and tribal partners.

Whether man-made or natural—whenever an incident occurs, FEMA is committed to establishing a unified command with State emergency management offices, deploying staff, and positioning ourselves as rapidly as possible in response to or in anticipation of disasters and emergencies. We have seen first-hand in the California Wildfire response that we cannot, and should not wait for the State to become overwhelmed prior to offering assistance. By pressing forward in an engaged partnership with our States, FEMA ensures that resource gaps are filled and that the American

people get much needed assistance faster. This effort helps us fulfill our mission to reduce the loss of life and property.

Thank you for the opportunity to testify. I would be pleased to answer any questions you may have.

Senator FEINSTEIN. Well, thank you very much. I'd just like to take a moment and really commend FEMA. Having watched FEMA work over the past 14, 15 years, I've come to have a great appreciation, beginning with the Northridge earthquake.

I think FEMA really did very good work in this disaster. The speed with which you got up the one-stop center that I visited, which was fully staffed at the time—I think you just got it up at 3:00 the afternoon before we came out, Bob, with Air Force One—and there were fire victims there. Everybody was organized, and it was very impressive.

I'd also like to acknowledge and thank the American Red Cross. They are a superior organization and once again, did just really great work. I always tell people, "If you want to give to help a disaster-prone area, give to the American Red Cross." They're really irreplaceable and we're very lucky to have them.

But I want you to know how grateful we are for FEMA's rapid response. Mr. Paulison came right out. He came out again and again. That kind of top level follow-up I think is really important.

Ms. WARD. Thank you, Senator.

Senator FEINSTEIN. Thank you. Chief, would you like to go ahead, please?

STATEMENT OF RUBEN GRIJALVA, DIRECTOR, CALIFORNIA DEPARTMENT OF FORESTRY AND FIRE PROTECTION

Mr. GRIJALVA. Thank you, Senator Feinstein. Members of the committee, thank you for inviting me to testify today.

As the chief of CAL FIRE and someone who's been in the business of firefighting for over 33 years, let me begin by saying that saving lives is always the first priority of firefighters who respond on wildfires. In southern California last month, the actions taken by all emergency responders resulted in dramatic improvements over 2003.

In addition to the 23 fires that were most widely publicized, 251 additional fires were put out and held without damage due to aggressive tactics during the Santa Ana wind event from October 21 through October 26.

Last month, Federal, State, and local emergency authorities saved lives through the safe evacuations of hundreds of thousands of people. At the same time, no emergency responders' lives were lost in the extremely dangerous conditions.

California's firefighting strategy begins with protecting lives. That is the number one mission of government during a disaster, and that's the mission our unified commanders carried out. Those unified commanders came from Federal, State, and local firefighting agencies, as well as law enforcement agencies, as well as the military.

This success includes nearly a million residents evacuated from the path of fires, as well as thousands of men and women deployed on the ground or in the air. Over 15,000 firefighters fought the most recent southern California wildfires.

Those 15,000 firefighters came from as many as 1,150 different firefighting agencies throughout California and other States. We are extremely proud of their collective effort.

Fires are fought and won on the ground. These fires were wind-driven, they were fuel-driven, they were topography-driven, and they were structure to structure flying embers driven. That is the worst possible mix of a fire scenario that you can face, to have all those conditions present.

In spite of our emphasis on safety, sadly, over 130 firefighters were injured while saving lives or protecting structures. Accomplishing this mission with as few major injuries is nothing short of remarkable, considering the extreme conditions that were faced.

In the State of California, roughly one-third of the acres are protected in their responsibility of Federal authorities. About one-third are the State responsibility area, and about one-third are local responsibility areas.

CAL FIRE, U.S. Forest Service, and local government, regardless of jurisdictional lines, deployed additional engines, aircraft, and personnel to southern California in advance of the fires because we knew the potential of the conditions present. It should be noted that this kind of pre-deployment did not occur in 2003 at the same level as it did in 2007.

The mutual aid system in California is second to none and under normal conditions, local firefighting officials have a rapid access to mutual aid from other local government fire agencies, as well as CAL FIRE resources and the U.S. Forest Service.

The calls for assistance are acted upon immediately, and resources are made available. The improved communications among multiple jurisdictions was evidenced in this event.

Tragically, 10 lives were lost in these fires. However, despite worse conditions faced in 2007, the 2003 fires resulted in hundreds of more homes destroyed and 24 lives lost.

California managed the most orderly mass evacuation in history. People risked their lives over and over again. Many lives and thousands upon thousands of homes were saved.

In the unincorporated San Diego County, preliminary estimates of structural loss is around \$700 million. Preliminary estimates of damaged structures is around \$450 million. The initial estimates of structures saved exceeds \$10 billion.

Of course, improvements can always be made, and we welcome a thoughtful and thorough review. The Fire Service always does these types of reviews.

We will improve where it is needed. However, to be effective, the improvements in emergency response capability must be accompanied by better local land use decisions, better planning, improved building construction, increased defensible space, more fuel treatments of forested lands, and vegetation near communities.

Planned areas for sheltering in place and areas of refuge that would minimize large-scale evacuations must be a part of developments in the wildland-urban interface.

Until we build more fire-resistant homes in the wholesale areas and have better defensible space, our State will continue to have firestorms with significant losses.

CAL FIRE's Office of the State Fire Marshal has moved forward with the adoption of wildland-urban interface building standards that were voluntary for the past 2 years and become mandatory on January 1, 2008.

These new standards will require ignition-resistant materials on all the exteriors of homes built in the wildland-urban interface, including the decks, the siding, dual-paned windows, vents, eaves, and all the portions that are subject to ember intrusion.

California has also updated the State's fire severity zone maps for the State responsibility areas and is in the process of updating those maps and working with local government in the local responsibility areas.

But the most important partnership that we need is with homeowners who reduce the threat of wildfires by removing flammable vegetation and brush around their homes. In response to the Governor's executive order this year, CAL FIRE added wildland-urban interface inspectors to conduct inspections in high hazard areas as an extra preventative measure during this fire season.

CAL FIRE has also granted millions of dollars statewide, including nearly \$2 of Proposition 40, for chipping in fuel reduction programs. We budgeted \$32 million from fiscal years 2004 through 2006 for vegetation management program and Prop 40 spending.

CAL FIRE supports all community-based nonprofit fire prevention organizations that are dedicated to providing wildland prevention and education programs and projects.

Wildfire preparedness is not solely a State issue. Other responsible local government communities must add additional resources and be prepared and have their personnel prepared with community and community wildfire protection plans.

PREPARED STATEMENT

California remains one of the most wildland fire-prone States in the Nation. We must partner together, local, State, and Federal government, to do a better job in fire prevention and land use planning. Thank you.

Senator FEINSTEIN. Thank you, Chief.

[The statement follows:]

PREPARED STATEMENT OF RUBEN GRIJALVA

INTRODUCTION

Senator Feinstein, members of the Committee, thank you for inviting me to testify today. As CAL FIRE's Chief, let me begin by saying that saving lives is always the first priority of firefighters who respond to wildfires. In southern California last month, the actions taken by all emergency responders resulted in dramatic improvements over the 2003 fires. In addition to the 23 fires most people have read about, 251 other fires were put out and held without damage due to aggressive tactics during the Santa Ana wind event from October 21 through 26.

Disaster response is a highly coordinated skill that takes years of experience and millions of dollars to put into place. No where else in the world does it work as well as in California. Planes and helicopters are certainly important tools, but they are ineffective without boots, bulldozers and engines on the ground, an effective evacuation plan, and properly managed shelters.

All of these components have one thing in common, and that is the safety of the public and our emergency response personnel. They must all work in tandem to achieve the maximum possible results.

Governor Schwarzenegger understands this. He has increased CAL FIRE's general fund budget for firefighting from \$309 million in 2003 to the current budget's

\$568 million, a boost of \$259 million or about 84 percent. CAL FIRE now has 336 engines, and we have invested \$26 million in 108 new engines to replace old trucks since 2003.

Last month Federal, State and local emergency authorities saved lives through the safe evacuation of hundreds of thousands of people. At the same time, no emergency responder lives were lost in the extremely dangerous conditions.

California's firefighting strategy begins with protecting lives. That is the Number 1 mission of government during a disaster, and that's the mission our unified commanders carried out.

This success includes the nearly half a million residents evacuated from the path of the fires, as well as the thousands of men and women deployed on the ground or in the air. Over 15,000 firefighters fought in the most recent southern California wildfires. We are extremely proud of their collective effort.

Fires are fought and won on the ground. Air coverage is an important fire suppression tool, but continuing to solely focus on that aspect minimizes the primary role of most firefighters and their successful efforts.

Our firefighters and pilots all want to succeed. Their recent efforts were heroic. However, it takes a true professional to be able to decide when it is just too dangerous to fly or to defend structures. Since the fires were contained, I've spoken to several of our tanker pilots. Many tried to fly when it was not safe and had to turn back.

In spite of our emphasis on safety, sadly over 130 firefighters were injured while saving lives or protecting structures. Accomplishing this mission with as few major injuries is nothing short of remarkable considering the extreme conditions they faced. What the San Diego Union Tribune referred to as "time lost" is actually what professionals use to maintain pilot safety levels. We demand that we have alert, informed, and mission ready crews before queuing up and flying again.

We do not take lightly the decision to fly fire missions. Our experienced pilots face the harshest firefighting conditions in the world. In October we had more than twenty fires burning at once, and any firefighter can tell you that the conditions at each fire varied widely. Weather, terrain and visibility can vary erratically in southern California. The sheer magnitude of the October fires was incredible, and the fires moved in ways we have never seen. In some locations, flames were advancing at an acre per second amid 80 mph wind gusts.

CAL FIRE, the U.S. Forest Service (USFS), and local government deployed additional engines, aircraft and personnel to southern California in advance of the fires because we knew of the potential of the conditions present. It should be noted that this kind of pre-deployment did not occur in 2003 at the same level. When the recent fires hit, every aerial mission that could safely be flown was launched. CAL FIRE aircraft alone flew over 800 hours and dropped 1,153,882 gallons of fire retardant. The USFS and their contractors also flew as safety permitted.

Under normal conditions, local firefighting officials have rapid access to mutual aid from other local government fire agencies, as well as CAL FIRE resources. The calls for assistance are acted on immediately as resources are available. Improved communication among the multiple jurisdictions was evidenced by multiple media reports of everyone working together effectively.

As the Chief, I believe that one life lost in a fire is too many. Tragically, 10 lives were lost to these fires. However, despite worse conditions faced in 2007, the 2003 fires resulted in hundreds more homes destroyed and 24 lost lives.

While a review of performance is an important process, we cannot deny that our collective response and performance in October was extraordinary. California managed the most orderly mass evacuation in history. People risked their lives over and over again. Many lives and thousands upon thousands of homes were saved.

Of course, improvements can always be made and we welcome a thoughtful and thorough review. The fire service does with all fires. We will improve where we need to improve. However, to be effective, improvements in emergency response capability must be accompanied by better local land use decisions, better planning, improved building construction, increased defensible space, and more fuel treatments of forested lands and vegetation near communities. Planned areas for sheltering-in-place or areas of refuge that would minimize large scale evacuations must be part of developments in the Wildland Urban Interface (WUI).

ACTIONS THAT WORKED WELL

During the October fires, pre-deployment of CAL FIRE resources included additional air tankers at Ramona, Hemet, Porterville, Paso Robles, and Fresno.

There was good communication between the involved Contract Counties on evolving issues in order that we could work together to find solutions.

There was outstanding coordination and working relationship between USFS and CAL FIRE in the southern Operations Center (SOC). We were able to work closely together to find solutions to challenges before they got problematic.

This fire siege mobilized a massive amount of personnel in a condensed period of time. In a 2-day timeframe, we mobilized more than we did in the 6-day 2003 fire siege. We also mobilized and utilized more and different types of equipment than in 2003. At peak there were:

- Total firefighters—15,616
- Engines—2,585
- Strike Teams/Task Forces—263
- Dozers—225
- Handcrews—298
- Watertenders—284
- Overhead personnel—1,707
- Assistance from Arizona, Idaho, Colorado, North Carolina, Washington, Wyoming, Nevada, New Mexico, Oregon and the country of Mexico.
- Number of different fire departments involved approx. 1,148.

Relatively low serious injury rate among the firefighters, coupled with the intensity of the fire siege, can only be credited to a strong emphasis on safety and situational awareness among the personnel assigned.

The Federal grant funding for fuel treatments that was used to open up escape routes and in some instances caused the crowning fire to drop to the ground help save lives, property and money.

The activation of a satellite/GIS situation status function utilizing new technologies with the military served emergency operations well. This provided data to incidents, the MACS, and the SOC Situation Unit.

Mutli-Agency Coordination System (MACS) was in place and conducting calls (setting priorities) at 2 pm on Sunday, October 21, 2007.

Cal Fire and OES were very active and represented at the SOC in both the communications (JIC) and Situation Status functions.

Cal Fire immediately assigned a documentation group to begin working on the after action report elements for the department.

Mobilization Centers were established at Prado (inmate crews) and Chino (other crews and engines)

In addition to the large fires that occurred, between Oct 20–25 there were 251 vegetation fires started in the south that were caught on initial attack (per 209s).

- Riverside—51
- San Bernardino—30
- Orange—49
- Los Angeles—9
- San Diego—45
- Southern 4 National Forests—67

WHAT WERE THE CHALLENGES

Severe weather and visibility from sustained Santa Ana winds. At times the winds reached hurricane-level speeds in some areas.

The absence of a local operating plan impacted the activation of the Marine aviation assets.

Multiple ordering processes caused difficulties in the ordering of out-of-State resources. The arrival of these resources impacted the mobilization centers.

Federal, State, and local agency preparedness and capability to prepare for, respond to and recover from a disaster incident varies widely. This complicates the organization, quality and speed of response.

The Federal Resource Ordering and Status System (ROSS) slowed and broke down several times during the siege due to an overload of the system.

We had 3 Accident Investigation deployments and 2 others that we could have put a team on but elected not to because of unavailability of people to fill the positions.

We had Critical Incident Stress personnel deployed in San Diego prior to the turnover and fires due to a recent Cal Fire line of duty death. They activated every available Critical Incident Stress Management (CISM) personnel in CAL Fire, peer support, Chaplaincy programs and local programs to assist in the accidents and the fires. This was beyond burnout for these personnel, half of them having been doing CISM for 4 weeks solid by the time it was over. We need to finalize the CISM policy and start the training for these teams this winter.

The Fire Weather personnel predicted this as a moderate event. It strengthened very late in the game and this did not give us much lead time to react.

Need to change the Multi-Agency Coordination System (MACS) guidelines to reflect a need for coordination with Area Command when one is established. The MACS operated to establish priorities without Area Command oversight even after the Area Command was established.

RECOMMENDED SOLUTIONS

Land use decisions are all local, including in State Responsibility Areas (SRA). There is a need to enhance Fire Prevention and Planning involvement in State Responsibility Areas (SRA) with local government. (Defensible Space, Land Use Guidelines and Incentives, Vegetation Management, Public Education) and ensure that local government is taking responsibility for appropriate fire prevention and protection in Local Responsibility Areas (LRA).

CAL FIRE has started to develop a local operating plan with the Marine units by entering into an interim agreement, beginning training sessions with Marine helicopters and Cal Fire personnel, and scheduling a meeting on November 28 to continue development of a long term operating plan.

Firefighting should be made a principle mission for the military and funding for equipment, training, and coordination with other Federal, State, and local firefighting organizations should be provided by Congress especially for the California National Guard, U.S. Navy Reserve, and U.S. Marines in the State.

Revisit the ordering processes and where necessary provide clarification. Provide training for MACS and South Ops agencies.

Develop an agreement that would guide Federal, State and local agencies to prioritize and implement pre-fire prevention (e.g. fuel breaks), preparedness and post-fire rehabilitation and recovery activities (e.g. Multi-Agency Burn Area Assessment and Response Teams) consistent with existing fire suppression mutual aid agreement methodologies.

Update aviation assets for Federal, State, and local government.

CALIFORNIA PREPARATIONS FOR THE 2007 FIRE SEASON

California has adopted new Wildland Urban Interface Building Standards. For the past two years those standards have been voluntary. The new codes go into mandatory effect in January 2008, as do the new adoption of the International Building and Fire Codes. The new code will require buildings built in high fire severity zones to be constructed under newly adopted standards for ignition resistant materials on the exterior of the buildings. Along with defensible space, these standards are expected to reduce the potential for ignition from radiant heat, direct flame contact, and flying embers during wildfires.

California has also adopted new 100 feet defensible space standards which went into effect in 2006 when approved by the State Board of Forestry and Fire Protection. The standards require 30 feet of lean, green, and clean space around homes and an additional 70 feet of reduced fuel loads.

California has updated the State's fire severity zone maps for State Responsibility Area (SRA) and is in the process of working with local government on the fire severity zone maps for Local Responsibility Areas (LRA).

In preparation for what looked to be a very challenging fire season due to extraordinarily dry conditions, CAL FIRE had coordinated its preparation efforts with the Governor's Office of Emergency Services, the California National Guard, the FIRESCOPE Board of Directors, and all of our contract counties (Los Angeles County, Orange County, Ventura County, Santa Barbara County, Kern County, and Marin County). In addition, pre-fire season meetings had been held with the Fire Chiefs of the City of San Diego and the City of Los Angeles. During the 2007 Griffith Park and Catalina Island fires, CAL FIRE worked well with our local and military counterparts.

CAL FIRE had made ready all of its 804 statewide fire stations. CAL FIRE has a statewide workforce of 4,510 firefighters including 1,604 seasonal firefighters who were trained and staffing most of the State's emergency response equipment at increased levels. An additional 450 seasonal firefighters are in the CAL FIRE workforce as a result of a contract with CDF Firefighters approved by Governor Schwarzenegger last year.

CAL FIRE operates 23 air tankers, 11 helicopters, and 14 air tactical aircraft from 13 air attack and 9 helitack bases located statewide. Under normal conditions, aircraft can reach most fires within 20 minutes. The CAL FIRE emergency response Aviation Program was ready for deployment anywhere in the State.

Off-season aviation maintenance was on-schedule. Readiness and safety training had been conducted for all pilots. Pre-fire season training had been completed with the Navy Reserve and California Air National Guard's helicopter resources.

The CAL FIRE Aviation Program is the best firefighting operation in the world. The recently signed Executive Order from the Governor also allows the deployment of a contracted DC-10 Supertanker on large fires, on an immediate-call basis beginning June 15. DC-10 and lead plane training had been completed. The DC-10 had flown several missions throughout the fire season. The DC-10 is capable of dropping 12,000 gallons of water or retardant on large fires compared to the 1,200 gallon capability of the CAL FIRE S2T Air Tankers which make air strikes with surgical precision during initial attack.

Readiness training had been conducted for all CAL FIRE inmate fire crews. CAL FIRE operates 39 Conservation Camps statewide that house over 4,300 inmates and wards. These Camps are operated in conjunction with the California Department of Corrections and Rehabilitation. Through these cooperative efforts CAL FIRE operates 198 fire crews year-round. Each fire crew is typically composed of 16 crew member inmates and 1 fire captain. These crews are available to respond to all types of emergencies including wildfires, floods, search and rescue, and earthquakes.

In addition to seasonal resources and the year-round staffing authorized by the Governor's Executive Order, many permanent resources have been added in southern California since the Fire Siege of 2003, the largest fire in California history. CAL FIRE has 147 cooperative fire agreements to provide fire protection for local government in 35 of the State's 58 counties, in 25 cities, 31 fire districts, and 34 special districts.

CAL FIRE Riverside County added 9 new fire stations and 9 additional engine companies along with 165 additional personnel. The City of Riverside added 2 new engine companies. CAL FIRE Riverside has also added an additional fire crew at the Oak Glen Camp which is an addition of 16-20 firefighting inmate personnel. During 2007, they will add about 35 additional firefighters for four person State engine companies for the fire season.

CAL FIRE San Bernardino Unit added one new fire station with 6 new firefighters. CAL FIRE San Diego Unit added 2 fire stations and 11 volunteer stations along with 21 new firefighters. An additional station is pending with 6 new firefighters, 21 engines, 4 rescues, and 5 water tenders were added to their equipment fleet. San Diego County added 2 helicopters in 2 helitack facilities (El Cajon, Fallbrook) and 27 firefighting personnel.

In addition, CAL FIRE Contract Counties have added resources since 2003. Los Angeles County Fire Department added 6 stations for a total of 165 stations and added 290 firefighters since 2003 for a total of 4,635 today. Orange County Fire Authority (OCFA) added 54 firefighters, a 2nd helicopter, and one additional hand crew. OCFA also just recently received approval for helicopter replacements. Ventura County Fire is now operating 4 Super Huey helicopters (1 reserve) with 3 pilots.

But the most important partnership is with homeowners who reduce the threat of wildfires by removing flammable vegetation and brush around their homes. In response to the Governor's Executive Order, CAL FIRE had added Wildland Urban Interface (WUI) inspectors to conduct defensible space inspections in high-hazard areas as extra preventative measures during this fire season.

CAL FIRE has provided equipment, staff time and personnel to countless projects throughout the State for decades. The department has granted millions of dollars statewide, including nearly \$2 million in Prop 40 funds, for chipping and fuel reduction programs in the Lake Tahoe Basin alone since 2004 alone.

CAL FIRE supports all community based non-profit fire prevention organizations that are dedicated to providing wildland fire prevention and education programs and projects. It is important that all eligible individual non-profit fire prevention organizations in the State have an equal opportunity to receive grant funding to support their programs. There are nearly 90 statewide. CAL FIRE wants to ensure that taxpayer money is appropriately distributed, coordinated, and evaluated in accordance with statewide objectives and priorities.

CAL FIRE has developed cooperative working relationships with a variety of partners in order to accomplish common goals. Partners include the California Fire Alliance and the California Fire Safe Council. Many fire prevention education materials used by the local Fire Safe Councils are provided by CAL FIRE and other fire agencies.

Objectives include those outlined in the California Fire Plan and the National Fire Plan. Organizations such as Mountain Area Safety Taskforce (MAST) located in Riverside and San Bernardino Counties, Forest Area Safety Taskforce (FAST) in San Diego County, nationally recognized Firewise Communities, Community Emergency Response Teams (CERT), Fire Corps, and CAL FIRE Volunteers-In-Prevention are other important partners.

There is not one single group throughout the State that works these issues. Most are local programs created at the grassroots level. Our job is to help them succeed. CAL FIRE personnel spend a significant amount of time and effort working with these fire prevention groups and other agencies with jurisdiction in and around their communities. Coordinating the message of homeowner, local and State responsibility is a fundamental goal of our efforts because Wildland-Urban Interface fires crosses all boundaries and affects all residents. Consistent messages and strong integration of programs are the keys to successfully mitigating fire risk.

In addition CAL FIRE administers several State and Federal forestry assistance programs with the goal of reducing wildland fuel loads and improving the health and productivity of private forest lands. California's Forest Improvement Program, and other Federal programs that CAL FIRE administers, offer cost-share opportunities to assist individual landowners with land management planning, conservation practices to enhance wildlife habitat, and practices to enhance the productivity of the land.

The Department also delivers the Forest Stewardship Program which combines funds from State and Federal sources to assist communities with multiple-ownership watershed and community issues related to pre-fire fuels treatment, forest health, erosion control, and fisheries issues.

Homeowner Associations and nationally recognized Firewise Communities have made a huge impact on the fire prevention education of wildland urban interface residents. Our goal is to continue these partnerships. We encourage all Californians to get involved with local groups to expand the message of wildfire safety throughout California. For more information on how you can get involved, visit our website at www.fire.ca.gov

Wildfire preparedness is not solely a State issue. Other responsible local government communities have added resources since 2003 and have prepared their personnel and communities with Community Wildfire Protection Plans. With the adoption of 100 feet defensible space requirements by the Board of Forestry and Fire Protection last year, local and State governments have been provided with guidelines for making their communities better prepared to reduce the risk of wildfires and make California a safer place to live. However, California remains one of the most wildland fire prone States in the Nation.

2007 FIRE SEASON STRATEGY

Over the past several years the cost of fire protection and utilization of the State of California's emergency fund has risen dramatically. Emergency fund expenditures over the last fiscal year are approaching \$200 million, more than 200 percent of budgeted funds. These rising costs of fire protection are occurring at the Federal level, as well. As discussed below, the cost of fire protection will continue to rise until local, State, and Federal Government get a better handle on land use, planning, and development.

Contrary to discussions taking place at the Federal level, giving up on fighting structure fires, solely based on financial reasons, or passing the responsibility on to other jurisdictions will not resolve these issues anytime soon in California. Sound public policy will not allow this to occur. However, taking a "defensive strategy" on those structures which are not defensible or survivable by firefighters due to fire conditions, lack of defensible space or inadequate resources will NOT continue to be an acceptable firefighting strategy for CAL FIRE.

Life safety, property safety, and the environment remain our highest priorities. Our goal continues to be to keep 95 percent of fires at 10 acres or less. This is a goal we have continually met. However, last year the emergency fund cost of all fires over 10 acres (less than 5 percent of our total) greatly exceeded the emergency fund cost of all fires kept to 10 acres or less (over 95 percent of our total).

This year's fire conditions are as extreme as ever, including 2003, the year of California's worst fires. In some parts of southern California the conditions are the worst ever recorded due to drought, winter freeze, and infestation.

We cannot continue to do things in the same way and expect a different outcome. We must keep fires smaller more frequently. This will save lives, reduce property loss, and reduce green house gas emissions in California.

The best strategy to accomplish this is to conduct effective fire prevention and defensible space inspections; keep the public educated and informed; and hit fires fast, hit them hard, hit them with lots of initial attack resources

To control large fires we have invested budgeted emergency funds early, in a manner authorized by the Governor's Executive Order as follows:

(1) Develop frequent press releases regarding successes and lessons learned for public consumption;

- (2) Aggressively conduct inspections and require defensible space around structures in extreme fire hazard areas in the early part of the fire season;
- (3) Staff State fire engines at 4.0 staffing where fire hazards are extreme; and
- (4) Contract for immediate availability of the DC-10 for the peak part of the fire season beginning on June 15th.

While this has not been done in the past, our management team believes, and I concur, that these measures, effectively applied in combination, will meet our objectives of:

- (1) Saving lives;
- (2) Reducing Property loss;
- (3) Improving firefighter safety; and
- (4) Reducing Green House Gas Emissions.

Management staff has begun the implementation of this new strategy. We will measure the effectiveness of these strategies on a monthly basis to see if the additional aviation, prevention and suppression resources are having the expected impact on the magnitude and size of fires, firefighter safety, loss of life, protection of property, and environmental quality.

THE TRUE COSTS OF WILDFIRES

What are the true costs of a wildfire? When we calculate a fire's cost, our focus is limited to what occurs within the fire's perimeter and ends when our finance section closes the books shortly after full control. With this traditional approach we capture such things as gallons of retardant dropped, personnel costs, assistance by hire costs, meals served, rental equipment time, rehab work and the number and value of structures damaged or destroyed. No cost is, or can be, attached to the pain and suffering of family and friends when lives are lost in a wildfire, be they firefighters or civilian.

In our post-fire financial analysis we often fail to consider all of the true costs of a wildfire. Some of the financial impacts are not easily determined. The costs that we don't consider include; economic loss due to business disruptions, loss of tax revenue to local and State government, insurance payouts and premium increases, utility rate increases, restoration costs, as well as the environmental impact on air quality, contribution to global warming, and possibly most importantly, the impact on the watershed and its downstream influence to greatly affect the environment and the economy of California.

Let me touch on the environmental and financial impacts of a wildfire. The Old and Grand Prix fires of 2003 cost \$61 million to fight. However, the true cost of these fires is closer to \$1.3 billion. The fire suppression costs account for only 5 percent of the total. The remainder is divided between insured property loss of \$576 million (45 percent), damage to southern California Edison of \$100 million (8 percent), other government losses of \$28.7 million (2 percent), and watershed restoration in the amount of \$506 million (40 percent).

The majority of the costs associated with these two fires were paid for by tax payers, from higher insurance premiums, and from utility customers far removed from the fire's perimeter. These fires burned in San Bernardino County and a small portion of Los Angeles County. Damage to watershed occurred in San Bernardino, Los Angeles, Riverside and Orange Counties. Residents in those watersheds bore 40 percent of the costs of the fire, yet, for the most part, had no say in the land use practices that contributed to the fire's intensity and size.

Our first priority in any fire is protecting lives. Four people died as a result of the Old Fire. They suffered heart attacks during the course of the evacuation. Six weeks after the fires were controlled a rainstorm occurred, resulting in mud and debris flows that claimed fourteen lives.

The life loss and fiscal impacts from these two fires clearly show that we must broaden our perspective of a fire's true costs and risks, and develop strategies to prevent or minimize the impacts of wildfire and its after-effects.

We all have seen the fire/flood sequence in California and recognize that we will be sandbagging around homes that were saved from fire months earlier. What we are not adequately addressing are the consequences to the State when we permit damage of this magnitude to occur in our watersheds.

Encroachments into California's watersheds have reduced both the effective size and quality of the land functioning as watershed. Water is a prime economic engine for our State. It is required for agricultural, industrial, and urban development. In the past, there was little encroachment into watershed lands, partly out of recognition of their role in a primarily agricultural economy. Also, their remoteness from existing developed communities protected their existence. Times have changed and our watersheds have been impacted by the following trends:

Trend 1.—As housing costs in many areas have skyrocketed into unaffordable ranges people look further out to find affordable housing. They are moving to communities being built on the closest available open land, which happens to also be, in large part, the State's watersheds. Significant development in these areas can result in large cumulative acreages being covered up by man-made structures and paved surfaces. This in turn increases the amount of surface water runoff during storms, which leads to more soil erosion, water impoundment degradation and less water available for trees, vegetation, irrigation, and recreation during the critical summer months.

Trend 2.—Multi-generational, large extended families are purchasing and living in what traditionally were viewed as single family homes. As housing prices increase, this concept of extended family home ownership is becoming more widespread throughout California. This demographic change puts more demand for all services and increases the draw on existing water supplies at the same time that watersheds are being reduced by development.

Trend 3.—Baby-boomers are retiring in large numbers. Many are choosing retirement outside of the urban areas. They are taking equity derived from their urban lifestyle and building large homes in the Wildland Urban Interface (WUI).

Trend 4.—By far, the largest percentages of wildfires are human-caused. Increased human presence in the Wildland Urban Interface equates to an increase in fire starts, whether intentional or accidental.

Trend 5.—As more people move into and live in the WUI, more people are at risk during a wildfire, and more people are in need of evacuation. Fire ground commanders must use initial resources on evacuation, rather than controlling the fire perimeter. Fires grow while we evacuate more and more people.

Trend 6.—Regulatory uncertainty, an increasingly cumbersome and overlapping regulatory environment, economic competition, and return on investment are driving landowners toward timberland conversions to housing developments in the WUI and private forests.

Trend 7.—The growing concern for the environment will not end with a change in land use. The responsibility and cost of environmental review will most likely shift to the local land use planning agencies and be reflected in increase costs to permit applicants. Litigation will follow the growing competing interest for use of more traditional rural acreages with new, more restrictive environmental laws and regulations as a result.

Trend 8.—Recent studies show a causal link between Global Warming and the increase in fire frequency. All fires spontaneously release stored carbon. This released carbon contributes to greenhouse gasses and Global Warming.

Trend 9.—Increased fire frequency and intensity accelerates fuel type conversion in watersheds. This conversion generally results in light flashy fuels and shortened fire return interval. Light flashy fuels such as grasses and small brush species have much less value in sequestering and storing carbon than the tree dominated landscapes.

Trend 10.—Homes are regularly built or re-built in harm's way despite historic evidence of the dangers. In San Bernardino, 280 homes were destroyed in the Panorama Fire in 1980. 230 of those same homes were in the fire area of the Old Fire of 2003.

These trends create a self sustaining "Wildfire Frequency and Intensity Loop." We cannot alter this "Wildfire Loop" through traditional means. Due to public and political expectations, the fire service typically addresses an increased fire threat with an increased fire suppression capability. While beneficial as a short term strategy to save lives and property, it will do nothing to break the "Wildfire Loop" or affect the long term environmental impacts.

The real solution will require us to go back to one of our primary responsibilities of watershed protection. We must recognize that development is going to continue in California. There is far too much demand. Housing starts have not kept pace with projected needs for several decades. While responsibility for the political solutions surrounding these complex issues lie elsewhere, it remains our responsibility to provide leadership and technical support, responsible resource management, and outstanding emergency response capabilities for the policies chosen.

Development can occur in a sustainable manner that recognizes the resource demands of new or proposed developments. Limiting factors have to be acknowledged in development, especially those factors that have impacts beyond the development itself. First and foremost among those limiting factors is water. Mark Twain once said, "Whiskey is for drinking and water is for fighting over." This will be truer in our near future than it ever was in our past. Second, environmental impacts on the land and air may be limiting to development in many areas. And finally, the ability

for State or local government to provide emergency response services must be considered.

As firefighters, we need to better understand the role that watersheds play in the economic sustainability of California. In order to do so, we must draw on the knowledge and expertise of our CAL FIRE Resource Management staff, as well as our counterparts in the other Resource Agency Departments. Furthermore, CAL FIRE and the Resource Agency must be engaged in the development and land use practices throughout the State to ensure that our watersheds remain a vital resource for the economic and social well-being of California. We have a responsibility to help ensure the future health and vitality of our watersheds, not just from fire, but from all actions that degrade their size and function.

I believe it is important that we reach out to our State and Federal partners, local government, city and county planners, environmental stakeholders, and fire officials. The complexity of operating today results partially from a myriad of jurisdictional boundaries, agency regulatory responsibilities, and a reluctance to move away from a "this is my turf" mentality. If we look for mutually beneficial solutions, rather than just for what others can do for us, the benefits of a coalition can be realized.

The true costs and impacts of wildfire will continue to dramatically increase if we do not act. They will negatively impact firefighter and public safety, sustainable development, and watershed vigor. Somewhere in our future there is a tipping point beyond which our State will not recover easily. A significant part of California's future lies in CAL FIRE's beginnings in watershed protection. Our department must protect California's watersheds not just from fire, but from our own future decisions.

Senator FEINSTEIN. Chief Zagaris.

**STATEMENT OF KIM ZAGARIS, CHIEF, FIRE AND RESCUE BRANCH,
GOVERNOR'S OFFICE OF EMERGENCY SERVICES**

Mr. ZAGARIS. Thank you, Senator, and other honorable members of the committee. You already have my testimony and I'm going to just—some of the items have already been covered by the panel.

I will tell you that California has probably one of the best emergency management systems in the country. It's used as a role model for the rest of the Nation, and we're very proud of the program we have. That being said, there is always room for improvements and lessons learned every event that we do have.

Besides myself today, I have with me Steve Sellers, who's our southern Regional Administrator and part of our leadership staff here in southern California, working with our good friends from FEMA on several of our projects that we'll be needing to work through, and both the response and especially the recovery side, which is always a more daunting task for all of us.

Since you already have my testimony, I'm going to move right into my recommendations on my testimony and start right in with a couple thoughts.

One panel—the earlier panel already talked about it, but we would ask Congress to support and maybe adjust and allow the States to start applying for some of the Federal firefighting assistance grants that DHS and FEMA do manage. This would allow possible funding for those additional 150 OES engines that were recommended in the 2003 fire siege.

Right now, we're unable to apply for those, based upon those rules and regulations. But I will tell you, in 1950 and 1951, the current 110 OES engine fleet came about through matching Federal funds.

After those funds purchased with assistance from the State's share—we purchased those 110 engines, we continued to manage that program over the last 50 years, and adjusting that would be a great assistance to us, as well.

California is not only a receiver of mutual aid, but we're a great provider of mutual aid, too, throughout the western region of this country.

International Association of Fire Chiefs has a national fire system mutual aid program. We'd be grateful—we could also, by that funding, be able to provide additional apparatus and search capacity in western United States and throughout the country, if necessary.

We would also, as already mentioned, ask Congress to support the modular airborne firefighting system MAFF 2 modules for C-130J models.

We would also again ask that additional support be looked at for supporting the U.S. Forest Service to bring back up its air tanker fleet to its earlier capability to several years ago. That would be a great assistance not only to California, but to the western United States.

One of the things we worked with with the Federal agencies, California and CAL FIRE and our Federal wildland agencies had originally developed a program called MERPs. It was eventually replaced with a program called Resource Ordering Status System, ROSS.

We do need to take a look at its capability and how it responded to meet our needs in California with our State fire and rescue mutual aid system, CAL FIRE, and our Federal wildland agencies.

We do know that there are some adjustments and some corrections that could be needed, and that will take some support and working with you, as well as with U.S. Forest Service, to meet some of those challenges.

We'd also ask Congress to support the development of a National Guard firefighting helicopter aviation training and standardized program. As we talked yesterday, arson has long been a weapon of choice for sabotage, civil disturbance, and, of course, terrorists. As I reminded the committee yesterday, the FBI sent out a warning on July 12, 2003 that Al-Qaeda had a plot to burn our western forest.

So I would once again ask that we look at making the National Guard firefighting program part of its national mission.

Five, I would ask that Congress support the State's request that Department of Defense, in particular, NORTHCOM, enter into a master interagency agreement with California through our California Fire Assistance Agreement for the provisions of coordinating resource and providing support pre-emergency operations and during-emergency operations, not just for wildland, but for all risks.

Six, I would request to support the expansion of the OES Fire and Rescue Command Net by installing additional mountaintop repeaters to provide greater interoperability both with local, State, and Federal agency for our agencies and personnel to meet—there were challenging needs that we do have day to day.

From the emergency management side, we would ask that the inclusion of wind damage in Federal declarations. The Governor has asked for clarification on including wind damage in Federal declarations. We are waiting to hear back from the Bush administration on that particular answer.

The ability to maximize Federal reimbursement for debris removal on private property. Want to ensure that FEMA policy debris removal and private property is taken care of in a timely manner.

We'd ask also that reimbursement to State and local agencies for emergency protective measures implemented can—if not funded, can forestall post-fire threats. The MASG group that was actually put together, Multi-Agency Support Group, by local, State, and Federal agencies to look at some of that would be important.

Adequate funding by USDA's Natural Resource Conservation Service for emergency watershed programs funding would ensure the effective post-fire mitigation measures could be undertaken on private property as part of the comprehensive effort to address watershed, be managed by the MASG.

Ensure that Emergency Management Performance Grant is enhanced to support local and State emergency management system building. An established and well-managed emergency management system at the local, State level makes tremendous difference in managing any disaster at both the local, State, and Federal level. That has some of our recommendations for you and the committee.

PREPARED STATEMENT

Senator FEINSTEIN. Thank you very much. I was just going through your written statement. I take it the recommendations you were speaking about are those that begin on page 11 of your statement; is that correct?

Mr. ZAGARIS. Correct.

Senator FEINSTEIN. Thank you. That's helpful. Thank you very much.

[The statement follows:]

PREPARED STATEMENT OF KIM ZAGARIS

Good morning Senator Feinstein and Allard, my name is Kim Zagaris and I am the State Fire and Rescue Chief for the State of California, Governor's Office of Emergency Service.

The Office of Emergency Services Fire and Rescue Branch is responsible for the development, implementation and coordination of the California Fire Service and Rescue Emergency Mutual Aid Plan. The Plan is developed and updated under guidance and approval of the Fire and Rescue Service Advisory Committee/FIRESCOPE Board of Directors.

The continued success of California's unique and highly-effective Fire and Rescue Mutual Aid System demands a maximum level of understanding and cooperation by all who use and support it.

From inception, California's Fire and Rescue Mutual Aid System has been guided by the fire services operating within the State including local, State, and Federal agencies.

The California's Fire and Rescue Mutual Aid System Program has seventeen members Committee/Board that provides input and direction for the Governor and the Office of Emergency Services. The Fire and Rescue Service Advisory Committee/FIRESCOPE Board of Director provides guidance in determining the nature and scope of services to be provided, and in developing operational policies. Membership represents all branches of the fire service, the U.S. Forest Service, National Park Service, California Department of Forestry and Fire Protection, State Fire Marshal, Bureau of Land Management, county, city and volunteer fire departments, and fire districts. Special Advisors to the Committee are representatives from California Professional Fire Fighters Association and California State Firefighters Association.

The OES Advisory Board's role is to deal with mutual aid, cooperative agreements, and fire/rescue regional policy issues and to advise the Director of OES in

matters of statewide importance. The decision-making process for these matters rest within a majority rule process due to the size of the Board and limited discussion time. Minority viewpoints are also forwarded to the OES Director for consideration.

The FIREScope Board of Director's role is maintaining and improving FIREScope products and services [i.e., Incident Command System (ICS) and the Multi-Agency Coordination System (MACS)]. The decision-making process for these matters is built upon the FIREScope organization and the "consensus" decision-making process that creates buy-in among diverse local, State, and Federal fire agencies toward a common goal.

MISSION STATEMENT

The mission of the FIREScope Board of Directors is to provide recommendations and technical assistance to the Office of Emergency Services (OES); to maintain the FIREScope Decision Process and continue the operation, development, and maintenance of the FIREScope Incident Command System (ICS) and the Multi-Agency Coordination System (MACS); and maintain a system known as the FIREScope Decision Process to continue statewide operation, development, and maintenance of the following FIREScope developed Incident Command System (ICS) and Multi-Agency Coordination System (MACS) components.

- Improved methods for coordinating multi-agency resources during major incidents.
- Improved methods for forecasting fire behavior and assessing fire, weather and terrain conditions on an incident.
- Standard terminology for improving incident management.
- Improved multi-agency communications.
- Multi-agency training on FIREScope developed components and products/services.
- Common mapping systems.
- Improved incident information management.
- Regional operational coordination centers for regional multi-agency coordination.

The mission of the OES Fire and Rescue Services Advisory Committee is to provide professional recommendations and technical assistance to the Director of OES and the OES Fire and Rescue Branch on the following program elements:

- Statewide Fire and Rescue Mutual Aid Plan
- Statewide Fire and Rescue Mutual Aid System
- Mutual Aid Use and Application
- OES Fire and Rescue Branch Staffing Needs/Requirements
- Policies and Programs
- Apparatus and Equipment Programs

CALIFORNIA FIRE SERVICE AND RESCUE EMERGENCY MUTUAL AID PLAN

The plan supports the concepts of the Incident Command System (ICS), the California Standardized Emergency Management System (SEMS), and multi-hazards response planning. It is intended that more detailed operational plans will supplement this document at the local, area and regional levels. California fire and rescue services conducts emergency operations planning at four levels; Local, Operational Area, Regional, and State. To effectively implement the plans formulated at the various levels, all plans should be developed with the framework of the California Fire Service and Rescue Emergency Mutual Aid Plan.

Although mutual aid plans and agreements have existed in California for many years, the California Fire Service and Rescue Emergency Plan as we know it today, was first prepared and adopted in 1950 as Annex 3-C of the California State Civil Defense and Disaster Relief Plan. The original plan and subsequent revisions were prepared, approved, and adopted after careful consideration by the Fire and Rescue Service Advisory Committee.

The Plan, basic and uncomplicated, is based on the concept of "self-help" and "mutual aid." The State of California, all 58 counties, and nearly all city governments are signatory to a Master Mutual Aid Agreement. Mutual aid extended under this agreement and the operational plans' adopted pursuant thereto, shall be available and furnished in all cases of "local emergency," "state of emergency," and "state of war emergency" as defined in the Emergency Services Act. The act also provides the basis for exchange of mutual aid under any and all other circumstances.

The Plan provides for:

1. Systematic mobilization, organization and operation of fire service resources of the State and its political subdivisions in mitigating the effects of disaster.

2. Comprehensive and compatible plans for the expedient mobilization and response of available fire service resources on a local, area, regional, and statewide basis.

3. Establishment of guidelines for recruiting and training auxiliary personnel to augment regularly-organized fire personnel during disaster operations.

4. Annual update of fire service inventory of all personnel, apparatus and equipment in California.

5. A plan and communication facilities for the interchange and dissemination of fire-related data, directives and information between fire officials of local, State and Federal agencies.

6. Coordination and implementation at State level of government (Chief, State Fire and Rescue Coordinator).

Basic Tenets of the Plan—Self-Help and Mutual Aid

Fire and Rescue officials have the basic responsibility for preparing their communities for potential threats.

The Responsible Agency will reasonably exhaust local resources before requesting Mutual Aid.

—This should not preclude requesting Mutual Aid early, when it is apparent the incident will likely exceed local resource capability.

Fire and Rescue officials must preplan emergency operations to ensure efficient utilization of available resources. These preplans may include:

Mutual Threat Zone Planning

—Automatic Aid Agreements

—Plans for utilization of other locally available resources, both private and public

No community has resources sufficient to cope with any and all major emergencies for which potential exists.

No party shall be required to unreasonably deplete its own resources in furnishing mutual aid.

The responsible local official in whose jurisdiction an incident has occurred shall remain in charge at such an incident.

Agencies receiving mutual aid are responsible for logistical support to all mutual aid personnel and equipment received.

FUNCTIONAL ORGANIZATION

The State's Fire and Rescue Mutual Aid System was developed through the cooperation of every segment of California's fire service. To maintain system integrity, local fire officials are actively involved in day-to-day system management and operation.

Fire chiefs of each county (Operational Area) elect, from among themselves, an Operational Area Fire and Rescue Coordinator. Operational Area Fire and Rescue Coordinators are responsible for maintaining fire defense resource inventories, area mutual aid plan, and the dispatch of fire and rescue mutual aid resources. They are responsible for annual submission of fire and rescue resource inventories to Regional Fire and Rescue Coordinators.

Operational Area Fire and Rescue Coordinators of each of the six mutual aid regions elect a fire chief, from within their respective region, to serve as Regional Fire and Rescue Coordinator. Regional Fire and Rescue Coordinators are responsible for maintaining regional fire and rescue resource inventories, regional mutual aid plan, and for the coordination of intra-regional mutual aid. They are also responsible for the annual submission of fire and rescue resource inventories to the State Fire and Rescue Coordinator.

The State Fire and Rescue Coordinator (Chief, Fire and Rescue Branch) is a member of the Director, Office of Emergency Services staff. The Chief is responsible for the California Fire Service and Rescue Emergency Mutual Aid Plan, coordination of inter-regional mutual aid, inventory of fire defense and rescue resources within the State, acquisition, deployment, and maintenance of OES-owned fire and rescue apparatus and equipment.

OES Fire and Rescue Branch on Equipment

110—1,000 GPM Triple Combination Fire Engines (Type 1)

12—Water Tenders (Type I)

3—Heavy Rescue/Fire Vehicles

10—Swift Water Trailers

22—Mountain Top Repeaters

68—Base Radio Stations

6—Mobile Communication/Support Units

- 6—Portable Radio Caches with Portable Repeaters
 - 2—Maintenance repair units
 - 4—1,500 GPM Trailer Mounted Pumps
- OES Fire and Rescue Branch personnel work with the fire services throughout the State providing assistance in:
1. Mutual aid fire and rescue planning;
 2. Major emergency operations;
 3. Urban Search and Rescue;
 4. Coordinating the use of OES fire apparatus, communication units, and other OES fire service resources during emergency operations;
 5. Purchase and assignment of supplemental fire and rescue apparatus and equipment;
 6. Coordination of the California Fire Service and Rescue Emergency Plan;
 7. Inspection and inventory of all OES fire and rescue equipment;
 8. Training for the local fire service in the Statewide Fire and Rescue Mutual Aid System, plans, operations, and procedures;
 9. Active participation in fire chief's organizations, committees, etc;
 10. Maintaining and up-to-date inventory of all fire and rescue resources in the State;
 11. Special assignments, fire and rescue EOC development, fire research, current issues in the fire service.

STATEWIDE FIRE DEFENSE SYSTEM (MUTUAL AID)

All resources responding on mutual aid operations are under the direction of the local fire chief requesting the mutual aid support. OES Fire and Rescue Branch personnel provide assistance to the responsible fire officials in obtaining the optimum benefits from the California Fire Service and Rescue Emergency Plan.

USE OF THE CALIFORNIA FIRE SERVICE AND RESCUE EMERGENCY MUTUAL AID PLAN

The complexity, frequency, and magnitude of disastrous fire problems in California places an ever-increasing demand for coordinated mutual aid plans and operation of the fire and rescue services. As fire disasters are not uncommon to California, particularly in the forest and watershed areas, neither is it uncommon to provide mutual aid fire apparatus in large numbers. The 1970, 1977, 1980 and 1985, 1987, 1991, 1992, 1993, 2003 and 2007 fire seasons placed great demands on the fire service. Personnel and equipment were constantly moved around the State in response to requests for help. During the siege of fires throughout southern California in the fall of 1970, 1977, 1980, 1985, 1987, 1993, 2003 and again in 2007, large fires were commonplace throughout the State. Major fires consumed hundreds of thousands of acres of California wildland and destroyed hundreds of homes. The system provided vast amounts of resources in 1991 for the East Bay Hills Fire in Oakland, 1992 Los Angeles County riots, 1993, 2003 and the 2007 southern California Fire Sieges. The system has repeatedly been proven effective in mobilizing fire defense forces sufficient to materially reduce losses.

The California Fire and Rescue Emergency Mutual Aid System today operates under two Primary California Agreements, the Master Mutual Aid Agreement which is both Voluntary Mutual Aid and Obligatory Mutual Aid. The other is the California Fire Assistance Agreement an agreement made and entered into by and between the State of California, Office of Emergency Services (Representing the California Fire and Rescue Mutual Aid System) and five Forest Agencies (California Department of Forestry and Fire Protection, USDA Forest Service, USDI National Park Service, Bureau of Land Management and Fish and Wildlife Services) for the purpose of coordinating the use of and reimbursement for local government Fire and Rescue resources used at wildfire incidents. Local jurisdictions that provide their personnel and equipment to Forest Agencies through the State Fire and Rescue Mutual Aid System and this agreement, do so on a voluntary basis, and accept the provisions for reimbursement.

Interstate Agreements

California continues to maintain Interstate Civil Defense and Disaster Compacts with its boarding States as well as Sub-Agreement to provide interstate assistance between the five southwestern States. California is also signatory to the Emergency Management Assistance Compact (EMAC) which is administered by the National Emergency Management Association (NEMA). OES also maintains an Agreement for Interstate Wildland Fire Suppression Assistance to Federal Agencies with the U.S. Forest Service, Bureau of Land Management, and National Park Service.

During the recent 2007 southern California Fire Siege, California started requesting assistance on Monday, October 22, 2007 through Interstate Civil Defense and Disaster Compacts and the Emergency Management Assistance Compact. By Tuesday, October 23, 2007 we started were made through the southern Operation Coordination Center to the U.S. Forest southern California Geographical Coordination Area Coordination Center for additional resources. On Thursday, October 25, 2007 we placed an order through FEMA Region IX Joint Field Office and Emergency Support Function for Firefighter ESF-4 under the Federal Response Plan for an additional 125 Firefighting Engine Strike Teams (600 fire engines).

Wildfire Hazard Mitigation, Fire Preparedness and Prevention

“California Fire Prevention and Suppression Action Plan-Sept. 2004”. OES and California Department of Forestry (CDF) continue to work with Federal and local counterparts to ensure that programs and agreements for use of land and aerial assets are efficient and effective. OES and CDF continue to enhance the level of protection available for firefighting in the sensitive wildland/urban-interface (WUI).

OES promotes and supports wildfire hazard mitigation efforts through various efforts and programs. OES administers two FEMA hazard mitigation grant programs—the Hazard Mitigation Grant Program (HMGP), and the Pre-Disaster Mitigation Program (PDM) that fund fire mitigation efforts. OES also administers the Fire Management Assistance Grant Program (FMAG).

The Hazard Mitigation Grant Program (HMGP) provided funds to the University of California at Berkeley Fire Lab that created building component testing standards and tested the components for fire resistance. Landscaping material was tested for fire resistance and the findings were provided to Fire Marshal’s Office for development into building standards. NOTE: OES HM Branch intends to meet with UC Berkeley to learn construction techniques of an “ignited” demonstration model that will enable OES HM Branch to provide additional public outreach efforts related to fire-safe homes and construction materials.

OES HM Branch participates in community outreach events to distribute publications and provide information related to Fire Prevention and Mitigation efforts (examples include: coordination/funding for 100,000 CDF Prevention Publications for distribution by CDF and OES throughout the State; participation and distribution of public information publications at the 15th Anniversary Commemorative of the 1991 Oakland Hills/Berkeley Firestorm; community group trainings/presentations).

The OES Office of Public Information (OPI) spent considerably time and effort planning and implementing California’s first-ever multi-hazard disaster preparedness outreach campaign. On April 25, 2005, California’s First Lady Maria Shriver joined OES Director Henry Renteria in launching the new “Be Smart, Be Responsible. Be Prepared. Be Ready!” Campaign. Within 30 days, television and radio stations statewide began airing a 30-second PSA highlighting the importance of having a family disaster plan, an emergency supply kit, and being prepared for an emergency or disaster. The campaign’s disaster preparedness actions were highlighted on billboards and bus signs throughout California’s major metropolitan areas. OES staff is maintaining the “Be Smart” Web page on the OES website. OPI has distributed nearly one million copies of the campaign brochure and approximately 10,000 coloring books.

Disaster Resistant California (DRC): Promoting mitigation to emergency management professionals from throughout California, the Nation and the world, has been the focus of DRC, and OES sponsored annual conference. In 2006, the 6th annual DRC took place. The conference drew more than 5,000 participants from multiple disciplines including elected and appointed officials and representatives from emergency management, homeland security and education fields. DRC hosted over 300 professional development courses, workshops and field trips.

The formation of the Governor’s Emergency Operations Executive Council (GEOEC) in which OES participates, will assess Federal resources that are required to improve State prevention and response capabilities; OES Hazard Mitigation Branch (HM) continues to monitor Federal and State funding opportunities and notifies fire response agencies of availability.

OES representative participated in the Fire Safe Council Clearing house review of projects during the 2005, 2006 & 2007 review. The California Fire Safe Council (CA FSC) and supports local Fire Safe Councils. The councils teach home and business owners about the importance of vegetation management to protect their homes and businesses from wildfires. OES has also assigned a Senior Emergency Services Coordinator permanently to the CA FSC. The State Hazard Mitigation Officer supervises OES participation in the CA FSC.

FSC Update Information

- More than 100 Fire Safe Councils are active statewide;
- Comprised of homeowners, business owners, insurance and real estate representatives, public utilities, and many others;
- Involved in 300 community based fire defense projects;
- Have secured \$13 million of grant funded projects;
- Is duplicated nationally; and
- Recognized by the National Association of State Foresters, National Academy of Public Administrators, and Western Governors Association.

TOTAL VALUE OF MITIGATION PROJECTS FUNDED BY CALIFORNIA FIRE SAFE COUNCILS

Program	Total value of projects	
	2005-2006	2006-2007
Bureau of Land Management (BLM) Community Assistance	\$1,500,000	\$3,100,000
USDA Forest Service Community Protection (CP)	2,500,000	1,200,000
USDA Forest Service State Fire Assistance (SFA)	890,000	4,200,000
National Park Service (NPS) Community Assistance/WUI	250,000	150,000
Total	5,140,000	8,650,000

Source: The Fire Safe Council.

The CA FSC recently announced opportunities for the 2007 Western Wildland-Urban Interface State Grant Program administered from the U.S. Forest Service. The CA FSC also provides listings on their website of other fire related funding opportunities that become available. A CWPP “Template” is also provided on the website.

OES is a charter member of the California Fire Alliance (CFA). OES participates in monthly staff group meetings and in all leadership meetings. The HM Section has permanently assigned a Senior Emergency Services Coordinator from the Hazard Mitigation Section to the staff group. During 2005, OES gave presentations at the two CWPP workshops sponsored by the CFA, and during 2006, OES presented six of their own CWPP workshops in coordination with the LHMP workshops being held. These presentations /workshops focused how CWPP plans and Disaster Mitigation Act of 2000 (DMA 2000) plans compare and contrast with each other, as well as how the CWPP can meet LHMP Fire Hazard standards. Additionally, OES has supported the CFA by providing space at the annual Disaster Resistance California Conference. The State Hazard Mitigation Officer supervises OES’ participation in the CFA.

California Alliance for Response Forums: The forums were made possible with funding provided by OES as part of their commitment to disaster preparedness, response and mitigation. There were four forums given throughout California in October 2006. The forums focused on providing education to cultural institutions on local disaster management issues and protocols, raising first responders awareness of the need to protect cultural and history resources, encouraging disaster planning and mitigation coordination amongst cultural institutions and their local first responders, developing strong networks to facilitate effective response.

OES received a grant from Federal Emergency Management Agency (FEMA) to promote development of Local Hazard Mitigation Plan (LHMP) and Community Wildfire Protection Plan (CWPP) through standardized software and training. OES announced this opportunity to counties, cities, and special districts on Dec. 5, 2005. The HM Branch developed, coordinated, and provided technical assistance training and materials during a series of six workshops throughout the State during 2006.

The development of the Statewide Emergency Management Strategic Plan in 2005 identifies common priorities for mitigation, preparing for, responding to, and recovering from natural and human-caused events in CA. The plan is designed to influence the development of strategies and plans throughout the emergency management community over the next 5 years.

During 2006/2007, OES completed a series of well-attended Joint Information Center (JIC) Trainings throughout the State in which hundreds of local and State personnel were trained in standard and effective communication processes. Specifically, these trainings were held in San Jose, Stockton and Anaheim.

Additionally, OES routinely offers a 5-day Crises Communication course conducted by our California Specialized Training Institute (CSTI). Furthermore, OES PIO staff conducts customized JIC training to local agencies upon request and availability of resources to address target communication areas.

OES, in coordination with the Public Utilities Commission, held two workshops to discuss the development of an alert and warning system using cellular phones. Cell phone providers as well as Federal, State and local government representatives were invited to attend the workshops in hopes of forging a public/private partnership to develop a system to quickly alert cell phone users within a specific geographic area when an emergency occurs. The goal is to have a system in place within 1 year.

OES Regions: In 2004/2005, regional staff facilitated and/or participated in 200 emergency management exercises.

2003 Blue Ribbon Fire Commission

On November 6, 2007 the 2003 Blue Ribbon Fire Commission Task Force met at the Orange County Fire Authority Headquarters to review the 2003 and 2007 southern California Fire Sieges. The recent fires have shown how California is faced with a new kind of fire threat, and we must adjust our perspective to meet this new threat.

—Four years ago, we had what we were told was a 100 year fire. This year, we had another.

—If we're going to have 100 year fires every 4 years, we need to dramatically change our perspective of the real fire danger in California.

Governor Schwarzenegger has empowered 2003 Blue Ribbon Fire Commission Task Force to provide true expert advice on how to address California's new wildland fire risk. We accept the challenge.

—The governor clearly recognizes the need to have a process that isn't bogged down by bureaucracy and politics.

—It makes sense that the best advice comes from the people who live with the problem day in and day out—the firefighters on the ground and the fire chiefs. Our commitment to the Governor and the people is to tell them what we think needs to be done to respond to the new fire risk in our State.

—We're going to tell it like it is, and like it should be.

—As the Governor requested, we're going to look at all of the questions, and we're not going to hold any sacred cows.

We're looking at the whole picture, but in the aftermath of the 2007 fires, we see the following issues as the ones we believe should be focused on immediately.

—Year-round staffing for CAL FIRE and Northern California with 4 person staffing on all State-funded engines during fire season.

—Require CAL FIRE to shift to permanent staffing in Northern California

—Identify funding for 150 additional OES engines to address surge capacity and continuing replacement of CAL FIRE fleet, all as identified in original Blue Ribbon Commission.

—Update California Title 8 (CALOSHA) to adequately reflect Firefighter Personal Protective Equipment.

—Land use and prevention:

—Establish stable funding source for fire safe councils.

—Identify defensive space and mitigation requirements that have teeth in the local zoning process.

—Standardize existing construction standards on the basis of scientifically based guidelines.

—Secure legislation with funding to provide POST mechanism for firefighter training.

—Urge the Governor and western governors to advocate with congress to support Modular Airborne Firefighter System and Federal airtankers. Assess whether overall national asset inventory is needed to deal with multiple risk.

—Seek Federal legislation to address firefighter and command staff liability issues through office of inspector general.

—Implement adequate resource ordering and tracking technology.

This is just the first list of immediate needs, from our view. But this is a long-term process. We'll be meeting again next month, and we will continue to bring these issues to the people of California.

OES Fire and Rescue Recommendations

1. Generate support and advocate to Congress to support adjustment to allow States to apply for Federal Firefighter Assistance Grants. This would allow possible funding for 150 OES additional fire apparatus to address the need for surge capacity during large events to support the California Fire and Rescue Mutual Aid System and International Association of Fire Chiefs National Fire Service Mutual Aid System. (BRC Section 1, Jurisdictional and Operational Barriers, State Recommendation 6).

2. Generate support and advocate to Congress to support Modular Airborne Firefighting System (MAFFS-2) and Federal Airtankers via Governor, Western Governors. Assess whether overall asset inventory is appropriate to deal w/multiple risks. (BRC Section 1, Jurisdictional and Operational Barriers, Federal Recommendation 1 and new issue).

3. Further address dispatch, coordination, command and control systems use and implementation during rapidly escalating incidents. Resource Ordering Status System (ROSS), Evaluate ROSS capability and it's responsive to meet demand with the California Fire & Rescue Mutual Aid System, CAL FIRE and the Federal Wildland Fire Agencies. (BRC Section V, Communications and Interoperability, Recommendation.).

4. Generate support and advocate to Congress to support and develop a National Guard Firefighting Helicopter Aviation Training and Standardized Program. Arson has long been weapon on choice for sabotage, civil disturbances and terrorist. On July 12, 2003 the FBI warned of al Qaeda forest fire plot. (BRC Section I, Jurisdictional and Operational Barriers, Federal Recommendation 1 and new issue).

5. Seek Federal support and advocate to Congress that Department of Defense/NORTHCOM enter into one master Inter-agency Agreement with California through the California Fire Assistance Agreement for the provision of coordination resources and providing support pre-emergency and during emergency operations. (BRC Section III, Interstate/Regional Mutual Aid Systems: Multi-Jurisdictional Recommendation 1).

6. Generate support and advocate to Congress to support the expansion OES Fire and Rescue Command Nets by installing additional mountain top repeaters to provide greater interoperability for local, State and Federal fire agencies and their personnel. (BRC Section I, Jurisdictional and Operational Barriers: Multi-Jurisdictional Recommendation 7).

Emergency Management

The Joint Field Office (JFO) operation for this event has been very effective in managing recovery operations:

- OES integrated with FEMA at the JFO that opened in Pasadena on 10/24/07.
- JFO management has emphasized a unified effort with the State of California and has worked effectively to identifying key areas of focus.
- FEMA and other Federal agency representatives at the JFO have been very collaborative in problem-solving efforts with the State. Post-Katrina Improvements have clearly been made by FEMA and California hope that this continues.

Key Areas of focus for recover at the Joint Field Office have been:

- The delivery of the Individual Assistance Program.
- Debris management, particularly as related to private property.
- Direct Housing (mobile homes).
- The conduction of the Public Assistance Program.
- Establishing an effective Multi-Agency Support Group to identity post-fire concerns (e.g. erosion and debris flows) and to undertake emergency protective measures in anticipation of rain events.

Current Areas of Concern for California are:

The inclusion of wind damage in the Federal declaration. The Governor has asked for a clarification on this and we are awaiting an answer. The ability to maximize Federal reimbursements for debris removal on private property. We want to ensure that the FEMA policy, Debris Removal from Private Property (7/8/07), is not applied in an overly restrictive fashion but supports the State of California's intent to remove all debris on the properties adversely affected by this event. Thus far, we have had very positive discussion with FEMA on the application of the policy based on local debris management plans and procedures and we are interested in seeing this continue. Reimbursement for to State and local agencies for emergency protective measures implemented to forestall post-fire threats.

The Multi-Agency Support Group (MASG) was established to: identify post-fire vulnerabilities of the Southern California fires; to identify risks to the public such as potential debris flows; to implement protective measures in collaboration with local government; and, to identify program and funding gaps. Agencies represented include: the Governor's Office of Emergency Services, CAL FIRE, the Department of Water Resources, FEMA, the U.S. Forest Service, and the Army Corps of Engineers. Local government representatives from the seven affected counties are involved in the effort. Working in collaboration, these agencies are taking a comprehensive view of the impacted watersheds, identifying solutions to identified threats and identifying any program gaps and associated funding shortfalls. Adequate funding of the USDA Natural Resource Conservation Service, Emergency Watershed Program. This will ensure that effective post-fire mitigation measures can

undertaken on private property as part of the comprehensive effort to address watersheds being managed by the be MASG.

An established and well-managed emergency management system at local and State levels makes a tremendous difference in managing disasters.

Recommendation: Ensure that the Emergency Management Performance Grant is enhanced to support local and State emergency management system building.

The Future

After 57 years, the California Fire and Rescue Emergency Mutual Aid System has continued to remain relevant and effective, a lasting tribute to the vision of its founders.

Cooperation between local, State and Federal agencies is a must . . . its local fire agencies that make the system work with the management of full time staff at CA-OES and support from CAL FIRE.

Continued Support for the California Incident Command Certification System (Certification & Qualification System).

Continued Support for the International Association of Fire Chiefs National Fire Service Mutual Aid System, Interstate Compacts and EMAC.

The California Fire and Rescue Mutual Aid System was designed in the early 1940's for neighbor helping neighbor (a jointing jurisdictions and anointing counties) without reimbursement. Today neighbor helping neighbor is all 58 counties, cities, special districts, volunteer departments and boarding States. The current system is being threaten by the fiscal times that local and State government have been in since the early 1990's. The question for today's elected officials is how far for how long will local fire agencies go without a guarantee of reimbursement?

On Behalf of the State of California, Governor's Office of Emergency Services and the California Fire and Rescue Mutual Aid System, I would like to say Thank You for inviting me.

Senator FEINSTEIN. Now, former Chief Bowman, welcome.

STATEMENT OF JEFF BOWMAN, FIRE CHIEF, SAN DIEGO FIRE-RESCUE DEPARTMENT

Mr. BOWMAN. Thank you, Senator. It's great to be here. I've sat through so many of these over the years. It's just déjàvu again. My comments would be really simple, that for this process to be effective, I think you need three things.

You need leadership. You need accountability from the policy-makers and the people that implemented the plans that took place during this recent firestorm. Last, you need action, and that's probably the most important thing that needs to come out of this review.

I commend you, Senator, for your leadership. This is the most important step, is to get people together and talk about what happened.

I believe everyone that you're interviewing needs to be honestly accountable for what they did and humble about what went well and very honest and open about what didn't go well, so we can fix it.

Last, the action that needs to take place probably can be found in one of the many documents that's been created over the years, the Blue Ribbon Commission, on which you and I sat.

If you look at the recommendations of that Commission that took place after the Cedar fire, the blueprint exists for what needs to be done. Most of the issues that you're hearing about, most of the questions that your esteemed colleagues have asked, can be found. The answers and the questions both could be found in the Blue Ribbon Commission document.

I will focus very quickly on the three subjects. The Federal response, I would say of the three groups, Federal, State, and local,

you all deserve the highest marks for what's been done. I truly believe that.

If you look at the funding that's taken place to deal with brush and fuel mitigation issues in California, and compare what the feds have done versus what local government or even State government has done, it greatly exceeds any work that's been done on the local level.

I think if you look at the State issues of improvements that have happened State and locally in California, much of it has come from what Chief Zagaris mentioned, our Federal Homeland Security Fund grants. So the Federal Government, again, has paid for many of the improvements, the reverse 9-1-1 program that happened here in the county.

You look at all of these improvements. Most of them have a Federal hand in them. Look at the State response.

Senator FEINSTEIN. If I might thank you for saying that, because some—we always get the flak. So it's very nice, because everybody up here has tried very hard on the financial aspects of this, and virtually I think all of the mitigation money has been Federal.

So there's nothing for free. It has to be paid for. But we have really tried. So I, on behalf of my colleagues, really appreciate that recognition. Thank you.

Mr. BOWMAN. Well, I believe it's worthy. I think you've done a good job. Are there things that could be done better? Of course. We'll talk about those. I know on the Blue Ribbon Commission, things have been recommended that aren't completed yet.

At the State level, you keep hearing about this aerial situation. If you go back to the Blue Ribbon Commission, there are two recommendations—and I brought it with me. I could open it and read it, but I don't need to. I helped write it, so I know what it says.

It says that in July of every year, the Chiefs of the Office of Emergency Services in California, CAL FIRE, the U.S. Forest Service representatives, and FIRESCOPE will sit down with State and Federal military assets and hammer out whatever agreements need to be done in July, so that when the wildfire situations in the fall—that occur typically in the fall. Unfortunately, they're happening year-round now.

But at least once a year, that group would meet, and out of that meeting would come a written list of action items and what needs to be done and who participated.

If that happened this year, I'd like to read the minutes and I'd like to read the action items. If it had happened this year, I don't think we'd be having this debate.

If it did happen and certain members of those groups did not do what they said they were going to do, that's, I think, what should be found as a result of your investigations here about what needs to be done.

I don't believe you need to go back and criticize. We just need action, because 4 years ago, we committed this wouldn't happen again, these intergovernmental arguments would not exist. I sat with the ash raining down on my house this time and I didn't see any aircraft in the air, or very little.

I know from firsthand information from those involved in that that it could have been much, much better than it was. My only

hope is that we fix it again and do it every year like that Commission recommended.

It was mentioned the State was supposed to buy 150 fire engines, and the recommendation was made in 2004. As of this date, my friend to my left has only been allowed to order 19 engines. He's not going to tell you this, but I will. He's ordered 19 engines because that's all the funding that was made available. He has yet to take delivery of one.

If he could be honest with you, he'd probably tell you that the bureaucracy he has to go through to even order a fire truck is ridiculous.

My recommendation would be we need some pressure to be put on the system to buy those 150 engines and put them throughout the State of California.

I have a second recommendation that relates to that here in San Diego County. You talked to Supervisor Roberts about the fact that this is the largest urban county in California that doesn't have a fire department.

You're absolutely right. That decision was made in the mid-1970s. Are they to be held accountable for that today? Maybe not, but somebody needs to be held accountable for that.

My recommendation to the San Diego County Board of Supervisors is they buy 50 fire engines just for this county, model what the State's program is like, disburse them, not into the wilderness, but into city fire departments here in this county, so that they can be staffed in the case of an emergency.

I can tell you for a fact the counties to the north of San Diego are frustrated with the lack of action that's taking place here.

Last, in the city, all of your numbers were absolutely on point. Do you know that the Rancho Bernardo area—which you brought up and asked a question. I'd like to respond to your question earlier.

That one fire station covers 24 square miles in a city area. The national standard is 9 square miles. If you exceed 9, you're supposed to add another fire station. That's not the only area in the city of San Diego that's just like that.

So my comment—and as you probably know, one of the many reasons I left as fire chief here in this city is out of abject frustration that nothing happens. These recommendations get made and very little happens.

You've heard that three more fire stations have gone online since the Cedar fire. None of those were related to the Cedar fire. One was related to a gasoline tanker that exploded outside Qualcomm Stadium, where two fire stations were recommended to be built in the 1970s. They have yet to be built.

The other two stations that have been brought online are in areas that were developed, and they were developed or built by mandate. So none of that had anything to do with the Cedar fire. They were naturally occurring incidences.

What needs to happen here is action. I applaud you for doing what you're doing, and I look forward to answering any questions that you have.

Senator FEINSTEIN. Thank you. Thank you very much. Appreciate the testimony of everybody. I think this is very hard, because

you're dealing with such tremendous loss by people of their homes, their land, their family, everything. It becomes extraordinarily emotional.

Yet, governments have to respond and communities have to respond, and we have to do the right thing. The only way we can do the right thing is to learn lessons and not be—cast recriminations, but learn lessons and then move.

I must tell you, I deeply believe that San Diego has to increase the size of its fire services. I think there is so much at risk, and it is very dangerous not to do it. People have to understand this, and their campaigns have to be waged.

But this means eventually loss of life of a major scale if nothing happens. I think the fact that—I don't know whether it was you, Chief, that brought out the number of new homes that have been built in fire patterns just since the Cedar fire. It's as if we don't really learn anything.

FEDERAL AIR TANKER FLEET

Well, I want to thank all of you for your comments. Let me begin with Mark Rey, if I might. Deputy Secretary Rey, could you respond to the issues raised obliquely by Supervisor Campbell and then by Chief Zagaris, and update us on the status of the Federal air tanker fleet?

What is the Forest Service doing to update its aviation assets?

Mr. REY. I'll try to do this quickly. As you probably recall, in 2004, based on recommendations by the National Transportation Safety Board, we grounded the large, fixed-wing air tanker fleet until we could ensure that each model and each aircraft that was in use could be flown safely.

We have returned two models to service, the P-3 Orions and the P-2Vs, which gives us a substantially reduced fixed-wing air tanker fleet than that which we enjoyed prior to that time.

We have, however, modified the fleet and substituted a significant increased number of helitankers in place of the fixed-wing aircraft, as well as smaller type 2 and type 3 helicopters.

So today, if you compared the size and configuration of our aircraft fleet to what it was in 2004, before the NTSB recommendations, what you'd find is what we're actually putting more aircraft in the air today, with a higher percentage of them being helicopters or helitankers.

There have been, parenthetically, some advances in helicopter technology, including in rotor blade technology, which has increased airspeeds of certain makes of helicopters. That's made them a much quicker responding asset than was even the case as recently as 3 years ago.

We are also looking at the next generation of large fixed-wing air tankers. One of the challenges is that at this point in time, neither excess military nor civilian models have emerged that look to us to be what we want to be the next generation of fixed-wing large air tankers.

It is inevitable, I think, that over time, this fleet will be more heavily configured to helicopters, as we're enjoying somewhat better results with helicopters than was previously the case.

There still is a role for large fixed-wing tankers because of their superior airspeed. At some point, I hope within the next couple of years, we will introduce the next generation of fixed-wing tankers.

Until that time, we are confident that the reconfigured fleet is performing just as effectively as the fleet that existed prior to 2004 performed.

The principal value of aviation access is initial attack success and we can document that because our initial attack success rates have stayed at about 98 percent systemwide through the last 3 years.

Senator FEINSTEIN. Can you give the subcommittee in writing an assessment, beginning with what you think would be optimum, and then where we are today, and be specific with respect to fixed-wing and where they're geographically located, and the large helos and where they would be geographically located—

Mr. REY. Sure.

Senator FEINSTEIN [continuing]. So that we might get, say, 5 years out, some planning for the purposes of appropriations?

Mr. REY. What we can do is we can give you the configuration of the fleet over, say, the last 10 years, so you can see how it's evolved.

I would say the short answer to your question is the difference between optimum and where we are today is that we'd like to bring another generation of large fixed-wing tanker online, and that would give us, we think, the optimum mix of aerial assets. But we can get in more detail for the record.

[The information follows:]

NUMBER OF AVIATION FIREFIGHTING RESOURCES ACQUIRED THROUGH EXCLUSIVE USE CONTRACT BY THE FOREST SERVICE

Year	Airtankers	Type I helicopters	Type II helicopters
2007	19	27	39
2006	16	17	32
2005	17	30	36
2004	8	28	51
2003	33	5	14
2002	44	4	14
2001	41	4	14
2000	40	4	9
1999	39	4	18
1998	34	¹ 3	¹ 12

¹ Estimate.

Note.—The number of exclusive-use contracts at the beginning of the year retrieved from Forest Service data. Call-when-needed contracts are not shown since use is periodic and episodic. Also, to improve efficiency, more type I and type II helicopters are being converted from regional short duration contracts to national long duration contracts. Not shown are other fixed-wing aircraft types (e.g., water scoopers or single-engine airtankers) and smaller type III helicopters.

Senator FEINSTEIN. I think that would be very useful. Thank you.

EMERGENCY FUNDING FOR SOUTHERN CALIFORNIA

Can you tell me how much of the fuels grants and restoration funding, the \$500 million in emergency funding, will be spent in southern California forest?

Mr. REY. We're still completing the allocation process for what was put into the continuing resolution. We'll have that information

for you in detail shortly. But I can tell you today that the lion's share of those funding categories will be spent in southern California.

Senator FEINSTEIN. Good. Thank you very much. Well, then you don't have any idea how many acres of fuels reduction we can expect to treat, but perhaps you would—when you get those figures, you could give us this, as well?

Mr. REY. Sure. What we'll do is give you the dollar figures and then the average—by using the average per-acre cost, we can extrapolate to how many acres we expect that'll involve.

[The information follows:]

The Department of Defense Appropriations Act provided a total of \$500 million in emergency supplemental funding related to wildland fire and recovery activities throughout the United States. Of this amount, the USDA Forest Service has been provided \$329 million for emergency suppression efforts, hazardous fuels reduction and mitigation, and restoration and rehabilitation of burned-over lands, as well as construction or reconstruction of destroyed or damaged agency facilities as a result of the catastrophic fires in California in October.

Of the \$50 million provided for hazardous fuels reduction, \$42 million will be allocated to the Pacific Southwest Region (Region 5) for use in southern California. These funds will be used to treat approximately 24,300 acres, including 3,800 acres on the Angeles National Forest (NF), 6,000 acres on the Cleveland NF, and 17,500 acres on the San Bernardino NF.

A total of \$30 million provided for fuels reduction on State and private lands will be distributed through grants to States for local communities; a total of \$26 million is allocated to Region 5 and will be used in southern California.

Southern California will receive approximately half of the \$10.9 million which the Pacific Southwest Region will receive for restoration and rehabilitation work. Funds will be used for critical tasks such as planting of native tree species and grasses, erosion control, and invasive species prevention on national forests damaged by catastrophic wildfires that occurred in 2007. These funds may also be used for road repair work to provide emergency access to remote areas in southern California.

Funding of \$14 million is being provided for construction and reconstruction of destroyed or damaged facilities on the Angeles NF, including the Santa Clara Ranger District office.

A total of \$110 million will be used for suppression activities throughout the United States wherever and whenever wildland fires occur; as such, no specific amount has been designated for southern California.

MANDATORY RETROFIT PROGRAM

Senator FEINSTEIN. All right. That would be very useful. I think it was Chief Zagaris, did you mention the mandatory law going into place, or was it you, Chief Grijalva, with respect to new building codes?

My question was this: Is there any mandatory retrofit program that requires over a period of time that certain structures in Santa Ana wind patterns of wildfire would have to replace roofs or siding or anything that is mandatory in that program?

Mr. GRIJALVA. Senator, no, this is for new construction only. There are no retroactive requirements. However, it is believed that the new technologies that have been developed as a result of the new standards in the materials of construction will become primary elements for building replacement.

So when someone who lives in a wildland-urban interface goes to replace a deck, the cost of the material is going to be competitive, and it will be largely available. So the market will drive the replacement of those kinds of materials, but there is no mandatory retroactive requirement.

These are statewide minimum standards. Local government can make, with the adoption, amendments that might make it more restrictive and could apply retroactive requirements, but that will be based on local government decisions.

Senator FEINSTEIN. Well, that's always very difficult to do and not popular, so you have to sort of gird your loins when you go out to do that. But fire-resistant paint is getting better now. At least taking some steps to be able to improve fire resistance.

Former Chief Bowman, let me ask you this question. You resigned, I gather, out of frustration because of the lack of resources. I think you heard the president of the city council say that they have tried twice on bond issues, which have failed.

What would you do, in view of that, in this community to move it along toward better fire services?

Mr. BOWMAN, Being the successful politician that you've been all these years, I would tell you that it takes leadership, and it takes the kind of leadership where public—the voting public, who are the only ones that can change taxation in our State, are educated.

In my opinion, what it takes is leaders who will stand up and very simply say, "This is the tax revenue we bring in today to run your city government. Here are our needs." After they list how their priorities are—we all know local government was created to provide public safety.

If a city generates \$500 million in tax revenues to provide city services and only \$100 million of those go to provide public safety, or \$200 million, the other \$300 million that are currently being brought in by taxes need to be accounted for.

In my opinion, that's what the public doesn't understand. I doubt the public in California, and least of all, in the city of San Diego, knows that only 17 cents of every property tax dollar goes to the local government.

I doubt that the average voter in California and in this city of San Diego probably doesn't know that. Sixty-three of those cents goes to the State educational fund.

Now, when they pay their property taxes, they believe that all public services that are provided on the local level are paid for by those property taxes. They're not.

So if a leader were to stand up and say: "Here's what we currently bring in and here's how we spend it. Would you rather we reprioritize what we bring it, or would you rather that we add additional tax revenue?" Until that exercise happens, I, and probably most voters, are not going to increase taxes. That's the simple truth.

Senator FEINSTEIN. Okay. Thank you very much. Senator Allard?

Senator ALLARD. Thank you, Senator Feinstein. Mark, as you're certainly aware of that I'm one to hold the agency's feet to the fire when need be.

Also, if it's in order to praise you for a job well done—I'd like to say that the Region 2 office has done a very impressive job, I believe, in Colorado. You've done a good job of stretching the dollar a long ways, I think, in trying to help manage the forests there.

I'd like to specifically recognize Rick Cables, as well as Rich Stemm, in getting their work done. I'd also like to see every region

be able to perform as well as they've been able to perform in that region.

Having said that, does the Forest Service have all of the authority it needs to perform the work that should be done to keep forests in a healthy State?

Mr. REY. We have, as a consequence of the President's Healthy Forests Initiative and the enactment of the Healthy Forests Restoration Act, which all four of you were strong supporters of, increased the authorities that we have to do this work.

There are a few additional authorities for partnership and contracting that we sent to Congress last year in the form of the Healthy Forest Partnership Act that would, I think, accelerate doing a good deal of this work. So those are some additional authorities that we can talk about as the session unfolds.

I think most of them are non-controversial. They don't have anything to do with environmental requirements. They have everything to do with some of the General Services Administration contracting requirements that we have to meet in order to elect contracts to do forest treatment work.

There are, because of the unique nature of that work, some impediments that we think can be overcome. So I think that's an area where some additional profitable inquiry should be.

But with the authorities you've given us, we have, since 2001, treated nearly 25 million acres of federally owned land that were at risk for fire. That's an area equivalent of the size of the State of Ohio.

Senator ALLARD. Oh, yes. Twenty-five million acres is a pretty good-sized amount of acreage, but I think maybe we need to work at concentrating more of our resources, and not just talk about acres in general, but—

Mr. REY. Sure.

Senator ALLARD [continuing]. Concentrating them in those areas where there's the greatest risk, whether that's property risk or risk to lives or whatever.

In the past, I think when you had this approach in managing forests, that you let natural burns occur, now began to realize in some cases that may not be appropriate, particularly where you're close to an urban forest interface there.

What needs to be done in that area? Is there anything that Congress can do to help you in focusing more towards risk areas, as opposed just to large areas of acreage?

Mr. REY. Well, when I talk about cumulative acres, I do so only to give the average person in the public a sense of the scope of the problem, not to say that every acre is created equal. There are acres that we let burn in the Alaska bush that there's no reasonable reason to try to put out or to try to treat to avoid fire.

When we look at what we're going to treat, we use a prioritization and allocation system that focuses on, first, what the wildfire potential of the area is; second, what the consequences of a wildfire would be, in terms of property, human loss, or environmental consequences; third, what our individual field units are experiencing, in terms of efficiency of operation. We're rewarding the most efficient of our regions.

Your compliments to Regional Forester Cables and Deputy Regional Forester Stemm are on point. They've managed to reduce the per-acre cost of doing fuels treatment in the front range relatively significantly.

So looking at that as something that we want to recognize, that also goes into our priority system.

When I talk about 25 million acres of treatment over the past 6 years, I would say that 70 percent of that is in areas that meet the criteria that I just described. So we're not any longer out to treat any acre. We're out to treat the ones that are most important first.

Senator ALLARD. Senator Feinstein and I, I think will be working closely on a lot of forestry issues, because we have similar problems, I think, in both of our States.

I would characterize the bark beetle problem that we have in Colorado as very serious. My understanding is that here, in southern California, they have a serious bark beetle problem, and that some of those areas that were treated were subject to some fire.

Do we have an analysis as to whether those treatments were effective or not?

Mr. REY. We do in many cases, and appended to my testimony for the record are three instances where treated areas were critical in allowing fires to be attacked, because of the reduced fuel loads.

We'll do a more thorough analysis as we get further along after this fire season. But you'll see at the end of my statement three examples with a narrative description of what happened, as well as photographs.

Senator ALLARD. Are those those areas in your testimony where you had actual pictures?

Mr. REY. Yes.

Senator ALLARD. Yes, I thought those were pretty impressive, actually. That's good to know that there is some effect on that and we can make a difference with the proper treatment in that.

I guess the next question I have is for Nancy. FEMA has a program that provides firefighting assistance grants to local communities. I think that was mentioned here earlier.

My understanding is these grants are pretty much there to augment—to provide for funds for structural fires in urban areas. Are those funds also available to augment wildland firefighting capability?

Ms. WARD. Senator, quite frankly, I'm not sure about that, but I can find that out and get that back to you quickly.

Senator ALLARD. Well, I think that's important.

Ms. WARD. It is.

Senator ALLARD. I think in areas like what we're talking about here in southern California, I think you can just as—

Ms. WARD. Absolutely.

Senator ALLARD. There's just as great a need there as you would face for structural, because they're eventually going to lead to structural damage, and may in the long run save a very expensive structure.

Ms. WARD. Correct. I'd be glad to do that.

Senator ALLARD. So if you need some language or maybe something needs to be done on that program to give you that flexibility,

I would hope that you'd let us know so that we can work with you on that.

Ms. WARD. Definitely. We'll get back to you quickly.

Senator ALLARD. Chief Zagaris?

Mr. ZAGARIS. Yes, Senator. The current program does allow for local agencies to use those funds for wildland equipment, as well as buy wildland engines, water tenders.

There's also the Rural Fire Assistance Grants funds that come down from USDA down to the State forestry for populations, I believe, of 10,000 or less are available.

We're constantly fighting to maintain funds in both the firefighter assistance side, as well as the Rural Fire Assistance Grants. I believe even the State foresters have gone on record as continuing to support Rural Fire Assistance Grants that come down to the States, that they make those available to local agencies.

We believe they're of great benefit, both from USDA and Department of the Interior, like—as well as the firefighting assistance grants. The firefighting assistance grants, only the prevention side are open to the state agencies. So that's—it's more restrictive on how those are used.

Senator ALLARD. So is there anything we can do to help make those better programs, as far as more fire prevention—well, maybe fire prevention activities, but also firefighting activities in those areas?

Mr. ZAGARIS. If Chief Grijalva and I two agencies can actually participate all-around in the entire fire assistance grants—and I'll be real honest with you. Generally, you see a fire engine purchased today underneath those grants somewhere around \$300,000 or under—maybe a little bit more some days.

I think Chief Grijalva and I would tell you that if the States were allowed to participate, we wouldn't even ask for that type of—we'd be willing to match dollar for dollar what was put in there to help offset trying to maintain our fleets or to expand them in some cases, if necessary.

So I think some small adjustments in there—and I think in the State of California's case, a program was started 57 years ago. It was really a model for the entire Nation. A lot of folks participated in it 57 years ago.

California's really the only State that has continued to maintain it. It provides a great search capacity, not only for us in-state, but to support the rest of the Western United States, and the Nation as a whole, during a time of need.

Senator ALLARD. Now, just a final question. What do you see as the future as to how the insurance industry will view providing insurance to people in certain fire-prone areas? Do you have a comment on that one?

Mr. ZAGARIS. We've already seen some of the insurance agencies backing out of providing services to California. I think that Chief Grijalva—recently just got through meeting with the insurance industry—may be more ample to answer that question.

Mr. GRIJALVA. You're actually going to have the Insurance Commissioner from California on the next panel, but the Insurance Commissioner and I have entered into a memorandum of understanding, where we will be working together to educate the insur-

ance industry throughout California, as well as homeowners, on how to make the conditions such that they won't lose insurance, and be educated about defensible space, and provide more information to them.

The Insurance Commissioner and I will be working together very closely on working with the insurance industry.

Senator ALLARD. Yes, I'm planning on asking in the next panel, but I thought maybe we could get some of your perspective on those issues.

Madam Chairman, I'm finished, and—

Senator FEINSTEIN. Thank you. Thank you, Senator.

Senator ALLARD [continuing]. We'll have some more questions we might want to submit for the record.

Senator FEINSTEIN. Right. Okay, thank you.

Senator ALLARD. Thank you.

Senator FEINSTEIN. Do you have any questions, Bob?

Mr. FILNER. Very briefly, Madam Chair. You prescribed some very tough medicine for San Diego. You tried to get a direct response from the council president and the fire chief, and I don't think you got that.

I want to thank—because we didn't deal with those tough questions, we lost a good chief, Chief Bowman. I read some of your comments over the last few weeks. Thank you for bringing us some honesty. I think we have to do what you talked about. You prescribed the elements of it, chief, so thank you.

To the FEMA Director, I know FEMA was really trying to be proactive, unlike some of the recent publicity. I must say, you succeeded, and those blue shirts that were available gave people a lot of hope. I mean, when you showed up and you were there pretty early, people felt very, very good.

I think I would just add, again, from our section of the country—I think it was FEMA that—you might correct me—you need some more Spanish language staff to communicate with the population. I would just suggest that for your future staffing needs. Thank you, Madame Chair.

Senator FEINSTEIN. Thank you very much, Congressman. Congressman Gallegly?

Mr. GALLEGLY. Thank you, Senator Feinstein. I certainly agree with Chief Zagaris. We have the finest OES operation of any State in the Nation. Chief Bowman, I really appreciate your candor.

Director Ward, I have been a great admirer of FEMA for a long time. I was on the bridge at Loma Prieta, in the trenches at Northridge, and following what you did in this disaster was nothing short of—there's just not enough accolades to express my appreciation and gratitude for the job that you folks continue to do in the toughest of situations.

Forest Service, I've always been an advocate of what you do because we are a State where wildfires are a way of life. It's not a matter of if, it's always a matter of when.

I really don't want to be the skunk that spoiled the dinner party. However, I have to express some of my frustrations over the last 8 years, as it relates to the MAFFS units. I discussed that a little bit earlier.

Every year for the last 8 years, I have been promised they're going to be online before the next fire season. We saw a project manager with a contractor quit, get fired, retire, whatever, and the new manager that came on said: "We need aluminum tanks rather than composite tanks."

I've heard this, I've heard that, and so on and so forth. But rather than going back and rehashing everything over the last 8 years, your leaders from your operation, from your organization, Mr. Under Secretary, were in my office a couple weeks ago. They assured me, under no chance of failure, that these MAFFS units will not only be certified, but ready for operation in the J models no later than May of next year.

Can you publicly go on record and give us that assurance, that may be a little more assuring than what I've had for the past 8 years?

Mr. REY. They've assured me of the same thing, under penalty of death; is that satisfactory?

Senator FEINSTEIN. If you can carry it out.

Mr. GALLEGLY. It'll be satisfactory, Mr. Under Secretary, when I see the units, not only with a stamp of certification, but flying. I mean, it's a very serious issue.

Mr. REY. It is.

Mr. GALLEGLY. Granted, this last disaster we had clearly, a large portion of the time, the MAFFS could not have been flying. But they lay down a firebreak unlike anything that any bulldozer can do or any other piece of apparatus or people in the field.

But let's just leave it at that. I want to continue to work with you, not on a monthly or weekly, but hourly basis, until these things are up and operating.

Mr. REY. Fair enough.

Mr. GALLEGLY. Can I have that assurance?

Mr. REY. You can. In fact, let's arrange to attend the first training flight.

Mr. GALLEGLY. General Ward and I have been in very close discussion on that. One thing, Senator, I'd like to clear for the record, when I was talking with Supervisor Roberts in the previous Committee, I may have confused our Hawkeye, the E-2 Hawkeyes, with the Global Hawk, which I believe is an unmanned, if my memory serves me right—is a surveillance—although the Hawkeye, as you know, the E-2, is a surveillance aircraft, too, and I wasn't familiar with the program.

For the record, can one of you—maybe you, Mr. Under Secretary, or you, Chief Zagaris—can you give me information on what Supervisor Roberts was referring to as it relates to a—I don't know whether it's infrared or what type of surveillance that they may be able to provide that we aren't currently using?

Mr. REY. I think it's infrared surveillance from unmanned aircraft. We do have some infrared capacity, but the technologies are advancing there. Supervisor Roberts has identified an area of additional productive discussion with the military.

Now, understand that some of the technologies that they have that are advanced are still classified technologies, and it takes time to get them declassified for civilian use. That's a constant source of discussion with an interagency task group for just this purpose.

So I think our experience here in southern California in this season suggested a couple more technologies that we want to approach the military to see if we can use in a civilian capacity.

Mr. GALLEGLY. Well, I'm glad we clarified that. I should have known better. The Global Hawk is something that I know the Senator and I have worked with our respective committees in a different capacity.

In any event, I really don't want to alienate my good friends at the Forest Service, but I do make a heartfelt appeal to work aggressively to solve this situation so the next fire season, we won't be talking about next year.

Thank you very much, and Senator, I yield back.

Senator FEINSTEIN. Thank you very much. Let me thank the panel. It was most interesting, and we appreciate your comments. Chief Bowman, I particularly appreciate your very candid comments. Thank you very much, ladies and gentlemen.

Mr. REY. Thank you.

Senator FEINSTEIN. We'll proceed with the last panel. I will introduce the witnesses as they come forward. The first are Skip and Linda Miller. They are fire victims.

They are the only San Diego family to lose their home in both the 2007 wildfire and the 2003 Cedar fire. The Millers just finished rebuilding their home from the Cedar fire 1 year ago, and it went in this fire.

Then we have Steve Poizner. He is the State Insurance Commissioner. He's held the office since January. Prior to this office, he has worked in Silicon Valley as a high-technical entrepreneur. He founded both SnapTrack and Strategic Mapping.

Following SnapTrack's sale for \$1.2 billion to Qualcomm, Mr. Poizner served a year under Richard Clark on the National Security Counsel as a White House Fellow. So we welcome him.

Third is Joe Craver, the interim CEO of San Diego/Imperial County American Red Cross. He's the founder of Galaxy Management, a nationwide marketing company, with representatives in nine locations throughout the United States. He has served as a colonel in the U.S. Air Force. He's served in the Pentagon. He's a combat veteran. He's received many awards, and he's now the interim CEO of the American Red Cross. We welcome him.

We have Eric Larson, who met with us yesterday, who is the executive director of the San Diego County Farm Bureau. He has held that position since January 1997. Began working in the San Diego agricultural industry in 1971.

His professional activities included 2 years as President of the San Diego Flower and Plant Association. We welcome him.

INTRO OF JON E. KEELEY

Dr. Jon Keeley, Research Ecologist, Western Ecological Research Center, U.S. Geological Survey. He earned his Ph.D. in botany and ecology from the University of Georgia in 1977. He holds a master's degree in biology from San Diego State. Currently, a Research Ecologist with the Geological Survey, stationed at Sequoia National Park.

Prior to this appointment, he served 1 year in Washington as Director of the Ecology Program for the National Science Foundation, a very respected organization.

He was Professor of Biology at Occidental for 20 years, and spent a sabbatical year at the University of Cape Town in South Africa. His résumé goes on and on, but I'll leave it at that.

We will begin with the Miller family. Mr. Miller, I know Senator Allard and I really want to extend our very deep sympathy to you and your wife and your family. I can't think of anything worse than losing a home, if it isn't losing two homes, which has happened to you.

We are most interested in your testimony, and what aid you have needed, what aid you've received, what you need and you can't get, so your testimony will be very interesting to us. Please begin.

Everybody, if you can confine your remarks to 5 minutes, that would be appreciated.

STATEMENT OF SKIP AND LINDA MILLER, VICTIMS IN THE SAN DIEGO FIRES

Mr. MILLER. Okay. Like you had mentioned, we lost our home in the Cedar fire, and very unexpectedly lost it again in actually the McCoy fire.

Senator FEINSTEIN. Just as soon as you rebuilt it; is that right? You just—

Mr. MILLER. Yes, pretty much. We had just done final inspection in it in April 2006, so we were—it took us about 3 years to rebuild.

Regarding the building codes, we had rebuilt pretty much under the codes—the new building codes that the Fire Chief had described here. We had fire-resistant siding, fire-resistant roof, dual-paned windows, pretty much everything—

Senator FEINSTEIN. Did you have a composite roof? Was it a—

Mr. MILLER. It was a Class A fire-rated composite, not tile.

Senator FEINSTEIN. The siding was?

Mr. MILLER. Siding was the hardy board, cement board construction. And—

Senator FEINSTEIN. You had boxed eaves?

Mr. MILLER. Boxed eaves.

Senator FEINSTEIN. Double-paned glass?

Mr. MILLER. Double-paned glass, yes. Everything described—the things that—the issues that—I am going to rebuild, so—the issues that to me would be important would be the venting, the under eave vents.

Senator FEINSTEIN. I'm sorry, the what?

Mr. MILLER. The venting, the attic vents under the eaves. Also possibly some kind of fire-resistant shuttering for any opening, especially in a high wind prone area. These would be issues that when I do rebuild, that I'll be looking at.

Senator FEINSTEIN. Now, have you tried to get any help? Is the help you need there, or are you adequately insured?

Mr. MILLER. Yes, I did upgrade my insurance right after the Cedar fire, so I should be pretty well-insured. One thing that I kind of just thought of that kind of came up in one of the—the other panel is there was assistance for building code upgrades—or actu-

ally, there wasn't assistance. It was for the fire service to upgrade—the Federal grants.

Typically, at least my insurance specifically States that it does not cover building code upgrades. So even though I am insured for what was the value of my home, new building code upgrades could cause a hardship. So that might be an issue with the Insurance Commissioner.

Senator FEINSTEIN. If I might just quickly ask this, do you know—where was your home exactly, and did other homes burn around it? Was it just your home at that point?

Mr. MILLER. Yes, we were in the McCoy fire, which was a very small fire, and it's—there was a lot of misinformation regarding that. On the news coverage, it looked like it was out near Salton Sea somewhere, which actually, it's just west of the Cuyamaca Mountain Range.

There were actually three homes lost and several outbuildings I noticed on the chart, and talking with some other firefighter representatives, there is only one home listed as being lost.

It's actually way out in the middle of chaparral, which is—you can expect—if you live there, you expect to be burned. I mean, that's almost a given, and it's kind of a risk.

I think homeownership is kind of a compromise between what your ideal would be and what reality is. So if you live in a high fire-prone area, then you need to accept that risk that you probably are going to burn at some point.

Senator FEINSTEIN. Did you have brush cleared away 100 feet from the house?

Mr. MILLER. Yes. Actually, the—I had a minimum of 100 feet, and probably up to over 200 feet in most areas. The area had previously burned in the Cedar fire, so essentially, the odds that this would burn again were very small, almost to the point of the odds of being struck by lightning.

Now that it's burned a second time, I would say the odds might be more like burning up in the middle of the Sahara Desert or something like that. So hopefully—

Senator FEINSTEIN. Now, you mentioned two things in your new house, the ventilation—

Mr. MILLER. Yes.

Senator FEINSTEIN. Do you suspect that's how your house caught fire?

Mr. MILLER. That would be a possibility. One of the things that—and you had mentioned this—and apparently fire-safe homes in Rancho Bernardo, and they were just burned. They were in a high wind. There was a structure upwind from my house.

When we saw the fire coming, this house was virtually disintegrating. Very large burning objects, fire—were coming pretty much directly toward us. So that was the time to get out.

So that could've penetrated the structure through glass or possibly even a wall. Because somebody had clocked the winds in that area at over 90 miles per hour, so this is hurricane force winds with flaming objects blowing right directly toward you.

Senator FEINSTEIN. Well, thank you very much for your testimony. It's very much appreciated. If there's anything we can do to help, let us know. I've got a good colleague here. We'll try and help.

Mr. MILLER. Okay.

Senator FEINSTEIN. Thank you. Mr. Poizner—

Mr. MILLER. Thank you for inviting me.

Senator FEINSTEIN. Please wait, because there will be other questions.

Mr. MILLER. Okay.

Senator FEINSTEIN. Mr. Poizner, welcome. It's good to see you. Thank you and everyone else for waiting this length of time. We do appreciate it.

STATEMENT OF STEVE POIZNER, COMMISSIONER, CALIFORNIA DEPARTMENT OF INSURANCE

Mr. POIZNER. Sure. Nice to be here.

Senator FEINSTEIN. I'm very interested in your comments.

Mr. POIZNER. First of all, let me just say that there are 2,100 families that lost everything in these southern California fires. My heart goes out to these folks. Senator, as you said, other than losing a family member, there's nothing worse. You lose everything. Your memorabilia, your photos, everything.

When I was elected a year ago as Insurance Commissioner here in California, one of my chief duties immediately became focused on helping people that survived these fires get back on their feet as quickly as possible.

At the Department of Insurance, I do have 1,300 employees that have extensive experience at this. So the day after the fires started, I had teams of people down here in southern California assessing the situation.

We do now believe that the total personal property damage will be close to \$2 billion. There is a—in addition to the homes that were destroyed, there were several hundred businesses and about 600 other non-residential structures.

A total of 33,000 insurance claims have been filed so far. We do believe that of all the money that will help rebuild these homeowners and these businesses, at least 80 percent will be coming from insurance companies. Hence, my role as Insurance Commissioner.

So my handout today lists the key areas that we have—begin to implement, broken out in four areas that describe our plan to help rebuild southern California, since the—at least \$1.6 billion will be coming from insurance companies.

Our activities at the Department of Insurance really fall into four categories, all focused on helping survivors get back on their feet as quickly as possible.

Category number one is survivor outreach, and really just educating survivors on their rights and responsibilities and the legal obligations of insurance companies.

Second category is survivor protection, mainly against these scam artists that show up at these natural disaster sites. Number three category is—has to do with expediting payments from insurance companies. There's all kinds of things we can do at the Department of Insurance to cut through the redtape to get these people paid as quickly as possible, and we're doing that.

The last category has to do with long-term mitigation plans. You heard the Chief of CAL FIRE describe our partnership that we've

put together in this area. Let me just quickly, given time, just highlight some of the key programs we're implementing in each of these four categories.

With regards to survivor outreach, within days of the fire, I sent a strike force from my Consumer Services Division to be here on the ground to interact directly with the survivors of the fire.

We were manning all the one-stop shops. We held town halls. We extended our 800 number hotline. We set up special places on our website to provide information. We went door to door, in some cases, to get the information directly into the consumers' hands, the hands of survivors.

That was key, and I had several dozen people from my Consumer Services Division handling that direct consumer outreach activity.

Second category had to do with protecting these survivors against these scam artists. As we all know, these terrible natural disasters bring out the best in people, like we saw in San Diego, when people really stepped up to provide food and shelter for the survivors, and it also brings out the worst in people, unfortunately.

It is like clockwork. Every time there's a natural disaster in the State, these scam artists show up, pretending to be contractors or claims adjusters, and they're trying to rip off victims, trying to victimize them twice.

We're simply not going to let that happen. We know that we can nip it in the bud by having my law enforcement folks—I have 300 fraud investigators, police officers—by teaming up with local law enforcement officials, we can really make a big impact, and that's exactly what we've done.

I formed a southern California Insurance Fraud Taskforce with the San Diego County District Attorney and the San Diego County Sheriffs and other law enforcement officials, together with about 150 of my fraud investigators, and we've arrested 10 people so far, mainly undercover work, where, with the permission of the homeowner, we're disguised as homeowners ourselves, and then these criminals come to us, pretending to be who they're not, and we'll arrest them.

By being very public about our activities, we're able to nip it in the bud. That's exactly what we did in the South Lake Tahoe fires, and by being here early and in force, we've been able to really minimize this type of criminal activity.

The third category is really cutting through the redtape to get this \$1.6 billion paid as quickly as possible so homeowners can get back on their feet. We've already been able to secure over \$330 million of insurance payments for these victims. The one thing that I wanted to make sure of is that the insurance industry had no reasons, no excuses not to process these claims as quickly as possible.

So I've been in contact with the CEOs of all the major insurance companies here within days of when the fire started, and they all told me: "We're going to be overwhelmed by this. Thirty-three thousand claims is a huge number of claims."

So with—a few days after the Governor declared an emergency, I declared an insurance emergency, which is something California statutes allow me to do.

By declaring an insurance emergency, I was able to authorize insurance companies to bring in out-of-state claims adjusters from all

over the country. That was over 500 of them that have come into the State—they're not normally allowed to do this—in order to process these claims as quickly as possible.

So that was a key step that's been really effective at allowing the insurance industry to stay on top of all these claims.

Finally, with regards to long-term mitigation activities, it's ironic that the MOU that the Director of CAL FIRE referred to between the Department of Insurance and CAL FIRE, we signed that MOU, which had to do with long-term mitigation activities, one week before the fire started.

There's three aspects of this MOU that we're now beginning to implement in a bold way. The first is consumer education. When I took a tour of the damaged areas, which I've spent a lot of time down here in southern California, and I've met with the firefighters.

These firefighters would tell me they would go into these neighborhoods. The neighborhoods would be ablaze. Houses would be on fire all over the neighborhood, except a few houses weren't on fire at all, and how's that? Well, of course, these mitigation techniques actually work in most cases.

Now, when the winds are blowing so rapidly, sometimes, no matter what you do, you're going to get consumed. But in a lot of cases, these mitigation programs do indeed work.

So CAL FIRE and the Department of Insurance and the insurance industry, we're going to launch a series of education programs to really educate consumers, homeowners in California about what they need to do.

The second thing we're going to do is train insurance agents and brokers and underwriters on the latest mitigation techniques, and we're going to send this army of experts then into the field to meet directly with homeowners.

Finally, we're going to work with the insurance industry to provide greater incentives, so that people will get a discount if they actually implement these wise mitigation techniques.

Let me just conclude by mentioning just a couple other things real quickly here. I'd be happy to take your questions. First of all, let me just be crystal clear. I was elected Insurance Commissioner to protect consumers, and I will do whatever it takes to make sure that insurance companies fulfill their obligations to policyholders. You can count on that.

The second thing is I do want to make sure that everyone knows how to contact the Department of Insurance. We have an 800 number, 1-800-927-HELP. We're online, insurance.ca.gov. Contact us if you have any questions or problems with your insurance company.

Third, with regards to town halls, we are holding a series of town halls here in southern California directly with the fire survivors to hear their feedback directly. We have one this Thursday, November 29, in Ramona. We have one on December 5 at 7 o'clock in Running Springs, and then one on December 13 in Malibu, given the fires there.

Finally, Senator Feinstein, let me just say with regards to your four potential new pieces of legislation, the Fire Safe Community Act, the Managing Arson Act, the Mortgages and Renter Relief Act,

and the Disaster Rebuilding Assistance Act, my team and I have closely analyzed all four of these pieces of legislation. We strongly support them.

They will help survivors. They will help the State of California. Please let me know how I can help you.

Senator FEINSTEIN. Thank—

Mr. POIZNER. I'd be happy to take questions.

Senator FEINSTEIN. I will. Thank you very much. I appreciate it. Thank you, Mr. Poizner.

Senator FEINSTEIN. Mr. Craver.

STATEMENT OF JOE W. CARVER, CHIEF EXECUTIVE OFFICER, SAN DIEGO/IMPERIAL COUNTY AMERICAN RED CROSS

Mr. CRAVER. Thank you very much. I am very pleased and honored to be here and to represent the American Red Cross in this very important hearing.

For more than 125 years, the American Red Cross has been our Nation's partner in preventing, preparing for, and responding to all disasters of all types and sizes.

Each year, our more than 750 chapters across the country respond to more than 70,000 disasters, ranging from single-family home fires to events like California wildfires and Hurricane Katrina. Our responsibilities are mandated by the congressional charter, and we take that very, very seriously.

California wildfires. I am pleased to report that your American Red Cross performed well in responding to the largest evacuation in California history, and the largest relief operation in more than 2 years.

More than 5,400 Red Cross disaster relief workers—90 percent of those were volunteers—came from all across California, and they represented all 50 States in the Union, to help shelter, feed, and deliver comfort and hope to those affected by the fires.

In total, the American Red Cross so far has fed over 350,000 meals, provided over 30,000 overnight stays in our shelters, distributed over 225,000 clean-up kits, and needed items, provided mental health assistance to over 36,000 individuals, and provided health services to almost 15,000 people in need. Our operation here in southern California has not stopped and will continue.

This level of response was enhanced by two investigations the American Red Cross has made in the wake of Hurricane Katrina. First, in the preposition of supplies particularly effective in handling responses, the Red Cross had cots, blankets, clean-up supplies, comfort kits, and other supplies nearby at easy, accessible warehouses in San Pedro, California and Reno, Nevada.

The second is the importance of partnership and relationship building. First and foremost, the strong collaboration working relationships with California emergency management and our Federal agency partners were critical to the success of these operations.

In addition to strong government relationships, collaboration with faith-based organizations in the local and nonprofit significantly improved our ability to set up shelters and respond to community needs.

With a diverse population in California, including many non-English-speaking residents, our partnerships with diverse groups

were pivotal to our success. I would like to highlight a few examples: Farmworkers CARE Coalition and Border Angels.

The outreach to the non-English-speaking Hispanic communities were essential. The Mexican Red Cross, the Mexican Consulate, Catholic Charities, Las Flores Nazarene Church in the Carlsbad Shelter area, the Mission Church of the Disciples of Jesus Christ, were tremendous supports.

We gathered information from our local community faith organizations, such as Muslim Community Centers of Greater San Diego, NAACP, several local affiliates of La Raza, Asian American Legal Centers, and the Temple Adat Shalom for distribution to clients.

We worked closely with our strategic partners, such as the Southern Baptists, Salvation Army, then the National Council of La Raza, to identify needs and to provide those.

We have just started to work with the 100 Black Men of America, the Asian American Justice Centers, and Legal Services.

Red Cross programs and services are only beneficial to those who need them and can access them. Diversity in partnerships are key to ensure that we can reach all who are in need, and we are grateful to our partners and helped us deliver our services during the wildfires.

Additionally, our relationship with the Business Roundtable and individual companies resulted in generous offers of assistance from Corporate America.

Observations. Madame Chairwoman, the one observation I'd like to convey today is about the charitable sector. The very nature of charitable organizations is to address needs—needs that perhaps are not met by government or social services, or that are better left with a neighbor helping neighbor model.

The American Red Cross are generous in support in the response of local scale disasters. During Hurricane Katrina, we told the American people it would cost our organization more than \$2 billion, and they generously gave.

Our work so far with wildfires have cost almost \$15 million, and the Americans have given us enough money to cover these costs. We are thankful to each one of our donors with their compassion and generosity.

Americans want their charitable dollars to go directly into programs' activities, like feeding and sheltering, and the American Red Cross honors donor intent.

Yet, somehow, we must pay for the everyday operation expenses, in addition to enhancing our infrastructure to meet the expectations of our government, our clients, and more importantly, the American people.

Since Hurricane Katrina, the American Red Cross has spent over \$100 million on improvements, including telecommunications, vehicles, warehousing, and supplies. This year, we are providing a projected substantial deficit.

As members of the disaster increase and as the expectations of charitable organizations and their services increase, we look to the Federal Government to partner with us and provide additional funding to augment our investment in infrastructure and capital projects to protect our communities.

PREPARED STATEMENT

The American Red Cross, in conclusion, is proud of the work we do for our Nation every single day. We are honored by the responsibility bestowed on us by the government and grateful for the partnership with others in the nonprofit sector. Thank you again for the opportunity for us to appear before you today.

Senator FEINSTEIN. Thank you for all you do.
[The statement follows:]

PREPARED STATEMENT OF JOE W. CRAVER

Chairman Feinstein, Senator Allard, I am pleased to be here on behalf of our national Chief Executive Officer, Mark W. Everson, to represent the American Red Cross at this very important field hearing. My name is Joe Craver, and I serve as the interim CEO of the San Diego/Imperial Counties Red Cross.

For more than 125 years, the American Red Cross has been the Nation's premier partner in preventing, preparing for, and responding to disasters of all types and sizes. Each year, our more than 750 chapters across the country respond to more than 70,000 disasters—ranging from single family home fires to events like the California wildfires and Hurricane Katrina. Our responsibilities are mandated in our Congressional Charter, and we take them seriously.

CALIFORNIA WILDFIRES

I am pleased to report that the Red Cross performed well in responding to the largest evacuation in California history and our largest relief operation in more than two years.

More than 5,400 Red Cross disaster relief workers—90 percent of them volunteers—came from across California and all 50 States to help shelter, feed and deliver comfort and hope to those affected by the fires. In total, the American Red Cross so far has fed over 350,000 meals, provided over 30,000 overnight stays in our shelters, distributed over 225,000 cleanup kits and needed items, provided mental health assistance to over 36,000 individuals, and provided health services to almost 15,000 people in need. And our operations here in southern California continue.

This level of response was enhanced by two specific investments the Red Cross made in wake of Hurricane Katrina. First, pre-positioning supplies was particularly effective in aiding our response. The Red Cross had cots, blankets, cleaning supplies, comfort kits and other supplies nearby in easily accessible warehouses in San Pedro, CA and Reno, Nevada.

The second is the importance of partnerships. In California, the Red Cross was able to set up shelters more quickly because of our collaboration with faith-based organizations and other local and national nonprofits. With the diverse population in California, including many non-English speaking residents, our partnerships with diverse groups were pivotal to our success. I would like to highlight a few examples:

- Working with organization such as Farm Worker CARE Coalition and Border Angels, we were success in delivering clean-up kits, water, meals and supplies to under-served communities;
- Outreach to the non-English speaking Hispanic community was essential, and our partners in the Mexican Red Cross, Mexican Consulate, MAAC Project, San Ysidro Health Center, Community Housing Works, La Roca Comunidad Cristiana (Chula Vista shelter site), Las Floras Nazarene Church (Carlsbad shelter site), and the Missionary Church of the Disciples of Jesus Christ were of tremendous support; and
- We gathered information from faith organizations such as Muslim Community Center of Greater San Diego and Temple Adat Shalom for distribution to clients.

Red Cross programs and services are only beneficial if those who need them can access them. Diversity and partnerships are key to ensure that we can reach all who are in need, and we are grateful to all our partners who helped us deliver our services during the wildfires.

Additionally, our partnership with the Business Roundtable and individual companies resulted in generous offers of assistance from corporate America.

OBSERVATIONS

Madam Chairwoman, the one observation I would like to convey today is about the charitable sector. The very nature of charitable organizations is to address needs—needs that, perhaps, are not met by government or social services, or that are better left with a “neighbor helping neighbor” model.

The American people are generous in their support of our responses to large-scale disasters. During Hurricane Katrina, for instance, we told the American people it would cost our organization more than \$2 billion—and they generously gave. Our work so far on the wildfires has cost almost \$15 million, and Americans have given us enough money to cover these costs. We are thankful to each one of our donors for their compassion and generosity.

Americans want their charitable dollars to go directly into program activities—like feeding and sheltering—and the American Red Cross goes to great lengths to honor donor intent. Yet, somehow we must pay for our every day operational expenses in addition to enhancing our infrastructure to meet the expectations of our government, our clients and the American people.

Since Hurricane Katrina, the American Red Cross has spent more than \$100 million on improvements—including telecommunications, vehicles, warehouses, and supplies. This year, we are projecting a substantial deficit. As the numbers of disasters increase, and as expectations of charitable organizations and their services increase, we will look to the Federal government for additional funding to augment our investment in infrastructure and capital projects.

CONCLUSION

Madam Chairwoman, Senator Allard, the American Red Cross is proud of the work we do for our Nation every day. We are honored by the responsibilities bestowed on us by the government, and grateful for our partnerships with others in the nonprofit sector. I thank you again for the opportunity to appear before you today, and I look forward to our continued work together. I would be happy to entertain any questions you may have.

Senator FEINSTEIN. Mr. Larson—and thank you, Mr. Larson, for yesterday, as well. I thought it was very interesting. Thank you for being a part of it.

STATEMENT OF ERIC LARSON, EXECUTIVE DIRECTOR, SAN DIEGO COUNTY FARM BUREAU

Mr. LARSON. Thank you, Senator Feinstein and honorable members of the committee. Thank you for asking about what’s happening on the farms in San Diego County.

In addition to our reputation as a vibrant urban and tourist center, San Diego County is home to the 12th largest farm economy amongst all counties in the United States. We rely on high-valued crops to overcome the cost of land and the high cost of imported water.

Our climate and terrain lend themselves well to crops we grow, but those same attributes make our region vulnerable to fire. Because farms here are small—60 percent of our more than 5,000 farms are 10 acres or smaller—they are not contiguous and they’re disbursed throughout the region. This disbursal often places them in the more fire-prone areas adjacent to native brush.

This resulted in nearly 3,000 acres of farmland damaged or destroyed and more than \$42 million in crop losses. The actual cost to farmers will go much higher when losses to irrigation systems, equipment, and several years of lost income while new trees and plants mature are calculated. Plus, there will be the cost of new financing to overcome these losses.

When fires blew into the areas with farms, little defense for farms was available, as firefighting capacity was appropriately directed to structures and public safety. As with urban evacuations,

farmers took what they could and left. The difference between them and their urban neighbors that lost their homes, when the farmers returned, many had lost their livelihoods.

Once the fires had passed, several issues arose for farmers. The first was difficulty in gaining access back onto farms to feed livestock, milk cows, or irrigate crops because of concerns about security for unprotected evacuated properties. The matter is under review by local authorities, and we hope for a reasonable solution.

The next problem was the municipal water systems that took days to return to full service, while crops went unwatered, resulting in additional losses to farmers that weren't damaged by the fires.

As time has passed, farmers have reviewed their options and the paramount concern is the financial resources needed to repair irrigation systems, clear debris and unsalvageable crops, replace equipment, and buy trees and plants for replanting.

As we look to the future, the greatest financial challenge for farmers who choose to replant will be the multiple years without income while trees and plants mature to productive size.

The U.S. Department of Agriculture's Farm Service Agency and Natural Resources Conservation Service have responded quickly and have been attentive to farmers' needs. However, the resources available through those agencies has been very limited.

At this time, \$6.6 million has been allocated to two programs for debris removal, irrigation repair, fence replacement, and emergency erosion controls. None of those funds were directly available for fire assistance, but were diverted from other programs in California.

Because these funds are from other programs, farmers are facing deadlines as early as this Friday to complete application processes. While this assistance is greatly appreciated, it does require farmers to self-finance the repairs and then seek reimbursement. This may put the relief out of reach for farmers who have taken heavy losses and now have no income.

Others programs that could help farmers remain unfunded. The best example would be the Tree Assistance Program to help replace trees and vines that were lost. While we hope this program receives funding, it is important to note that it is restrictive and would not be available to farmers who produce cut flowers from perennial shrubs. Hopefully, that can be rectified through legislation.

Now, the Farm Service Agency was quick to announce the availability of emergency low-interest loans right after the fires. However, eligibility requires that an applicant be refused credit by at least two traditional lenders.

In most cases, that would mean farmers will be faced with accepting new debt at market rates, and not have access to the low-interest loans, because the real estate assets they have, even though it's not cash and not liquid, it is nonetheless an asset.

Another area of concern is crop insurance. Many crops produced in San Diego County do not have access to crop insurance. Even those covered by crop insurance will not be helped with the massive cost of replacing infrastructure and crops.

In general, crop insurance is confusing because of annually changing formulas, and with exclusions for such risks as quar-

antines and fires that are not deemed natural disasters, crop insurance has severe limitations.

In closing, I'd like to restate that Federal officials have been readily available and sincerely trying to help. The problems have been due to funding and programs that do not match the needs of farmers in southern California, where land and crop replacement costs are high.

It is important that farmers who suffered fire damage have the opportunity to reestablish their productivity for the good of the community.

PREPARED STATEMENT

One seldom-discussed aspect of that is the fact that irrigated crops often acted as effective firebreaks. In most every case, fires that moved onto irrigated farmland did not pass through and out the other side. So farms that are reestablished will help again in fire suppression.

Thank you for your concern.

Senator ALLARD. Thank you, Mr. Larson.

[The statement follows:]

PREPARED STATEMENT OF ERIC LARSON

Despite our reputation as a vibrant urban and tourist center, San Diego County is home to the twelfth largest farm economy among all counties in the Nation. We rely on high-valued crops to overcome the cost of land and imported water, illustrated by the fact we are the country's leading producer of nursery crops and avocados. Our climate and terrain lend themselves well to the crops we grow, but those same attributes make our region vulnerable to fire.

Because farms here are small—60 percent of our more than 5,000 farms are 10 acres or smaller—they are not contiguous and are dispersed throughout the region. This dispersal often places them in the more fire-prone areas adjacent to native brush. This resulted in nearly 3,000 acres damaged or destroyed and more than \$42 million in crop losses in the recent wildfires. The actual cost to farmers will go much higher when losses to irrigation systems, equipment, and several years of lost income while new trees and plants mature are calculated. The cost of financing will also add a burden.

When the fires blew into areas with farms, little defense for the farms was available as firefighting capacity was appropriately directed to structures and public safety. Additionally, farms on the side of steep slopes or in canyons were very vulnerable. As with urban evacuations, farmers took what they could and left with many returning to discover the loss of their livelihood. Several lost their homes as well.

Once the fires had passed, several issues arose for farmers. The first was difficulty gaining access back onto farms to feed livestock, milk cows, or irrigate crops because of concerns about security for unprotected evacuated properties. That matter is under review by local authorities and we hope for a reasonable solution. The next problem was the municipal water systems that took days to return to full service while crops went unwatered, resulting in losses.

As time has passed, farmers have reviewed their options and the paramount concern is the financial resources needed to repair irrigation systems, clear debris and unsalvageable crops, replace equipment, and buy trees and plants for replanting. As we look to the future the greatest financial challenge for farmers who choose to replant will be the multiple years without income while trees and plants mature to productive size.

The United States Department of Agriculture's Farm Service Agency and Natural Resources Conservation Service have responded quickly and been attentive to farmers' needs. However, the resources available through those agencies have been limited. At this time \$6.6 million has been allocated to two programs for debris removal, irrigation repair, fence replacement, and emergency erosion controls. It is my understanding that none of these funds were directly available for fire assistance, but were diverted from other programs in California. Because the funds are from other programs, farmers are facing deadlines as early as this Friday to complete the

application process. While this assistance is greatly appreciated, it does require farmers to self-finance the repairs and then be reimbursed. This may put the relief out of reach for farmers who have taken heavy losses and now have no income.

Other programs that could help farmers remain unfunded. The best example would be the Tree Assistance Program to help replace trees and vines that were lost. While we hope this program receives funding, it is important to note that it is restrictive and would not be available to farmers who produce cut flowers from perennial shrubs. Hopefully that can be rectified through legislation.

The Farm Service Agency was quick to announce the availability of emergency low-interest loans. However, eligibility requires that an applicant be refused credit by traditional lenders. In most cases that will mean farmers will be faced with accepting new debt at market rates and not have access to the low-interest loans.

Another area of concern is crop insurance. Many crops produced in San Diego County do not have access to crop insurance. Even those covered by crop insurance will not be helped with the massive cost of replacing infrastructure and crops. In general, crop insurance is confusing because of annually changing formulas and with exclusions for such risks as quarantines and fires that are not deemed natural disasters, it has severe limitations.

In closing, I would like to restate that Federal officials have been readily available and sincerely trying to help. The problems have been due to funding and program limitations. It is important that farmers who suffered fire damage have every opportunity to reestablish their productivity for the good of our community. One seldom discussed aspect of that is the fact that irrigated crops often acted as effective fire breaks.

Thank you for your concern and please feel free to call upon the Farm Bureau at any time in addressing these issues.

Senator ALLARD. Now, Dr. Keeley, we're ready to hear your testimony.

STATEMENT OF DR. JON KEELEY, RESEARCH ECOLOGIST, WESTERN ECOLOGICAL RESEARCH CENTER, U.S. GEOLOGICAL SURVEY, DEPARTMENT OF THE INTERIOR

Dr. KEELEY. Madam Chairman and members of the subcommittee, thank you for the opportunity to participate in this panel. I'm a Research Ecologist with the U.S. Geological Survey. I know you have copies of my written testimony, so I will just summarize some of the highlights.

I'm here today to represent the fire research community, and in addition to myself, there are a number of USGS research scientists actively doing fire research in the region.

Now, I grew up in southern California. I know that most southern Californians who have lived here very long recognize that large, high—fast—high-intensity, fast-moving wildfires are a recurring phenomenon on this landscape. I think that understanding their causes is critical to any strategy aimed at reducing community vulnerability.

SOURCE OF FIRES

The first thing that I think is most critical to recognize is that these are not forest fires. Only about 3 percent of the recent 2007 fires occurred in forests. The bulk of the wildland fuels that fed these fires were native shrublands, known as chaparral and sage scrub.

NATURE OF FIRES

This is important, because fires and fire management impacts have been very different between western forests and California shrublands. First, in Western forest, fires are naturally low-intensity that burn dead twigs and branches on the forest floor. In

shrublands, fires are naturally high-intensity and consume the entire shrub canopies, leaving most of the landscape bare.

POLICY OF FIRE SUPPRESSION

Fire suppression has excluded fire from forests and allowed unnaturally high levels of fuels to accumulate. These fire suppression efforts, as we've already heard from a number of participants this morning, have most likely contributed to many of the high-intensity fires that we've seen in recent years in parts of the Western United States.

On the other hand, a policy of fire suppression in chaparral shrublands has never resulted in excluding fires from these landscapes, and in fact, we've barely been able to keep pace with the ever-increasing number of human-caused fires, primarily because of the occurrence each autumn of these gale force Santa Ana winds, which generate extreme fire weather.

There is increasing recognition that attempts to modify wildland fuels in order to prevent catastrophic fires have very limited effectiveness on these landscapes.

The most recent 2007 fires, which burned at least 75,000 acres that previously burned in 2003, stand as convincing evidence to many of us that extensive fuel modification projects will not stop such fires when driven by extreme Santa Ana winds.

Now, that's not to say that fuel modification has no role on this landscape. I think all of us here agree that certainly, fuel treatments around homes are absolutely necessary, primarily to provide defensible space for firefighting operations.

RESIDENTS

It's troubling, though, that when many homes—when one looks at many of the homes that were lost in these recent fires, we see many of the residents did everything right, in terms of clearance around their home. So it's evident that treatments alone are not going to be sufficient to solve the fire problems.

In this respect, Madam Chairman, I think your recent focus on zoning issues is, in the minds of many of us in the fire community, the right step. It's the area where I think we're likely to effect the greatest change in the future.

In my written statement, I have a number of suggestions about planning issues, as well as fire prevention issues. I'm more than happy to work with you in the future on these issues with more specific suggestions for research in that area.

Now, let me turn to post-fire responses. It's widely understood that the vast majority of the wildland landscape in this part of the world that burns in these large fires does not require any sort of intervention. Indeed, intervention may even be counterproductive.

SHRUBLAND RESEARCH

We know from detailed research studies that these shrubland ecosystems are highly resilient to high-intensity wildfires, and recovery within a few years is usually guaranteed if left alone.

The key to successful post-fire management is to focus on those areas where there are human values at risk and good reason to be-

lieve the natural regeneration processes will not be sufficient to provide an acceptable level of protection.

Research over the past several decades has shown that seeding, typically using grass seeds that are aeriually seeded, is ineffective at reducing erosion or landslides on our landscapes. This is because California rainfall patterns are very unpredictable.

MANAGEMENT PRACTICES

Other management practices are far more effective at stabilizing burn slopes. One such practice is the use of physical barriers, such as weed-free hay mulch, which serves as a barrier to rainfall and helps to stabilize the slope and prevents sedimentation.

Also, hay bales placed at the bottom of the slope have proven effective at containing sediments before they impact value that's at risk. All of these are more likely to provide predictable protection than practices such as seeding.

Now, although the smoke from the wildfires has cleared, the danger is not over. Winter rains could trigger other hazards, such as flash floods and debris flows. USGS is conducting research and developing public safety products addressing these three major consequences of the wildfires.

The increased risk of flooding and debris flows, the impact on human health of possibly toxic ash, and the impact of burned ecosystems on endangered systems, are all areas that USGS is actively working on.

PREPARED STATEMENT

Let me just conclude with—by saying that a key resource concern to many of us who study fires in this region is how to reduce further burning, because of the potential negative impacts on these landscapes. Most of these ecosystems have to go for at least a couple decades without a repeat fire in order to recover fully.

Although these species that make up our ecosystems are adapted to periodic fires, frequent fires have devastating impacts on their long-term survival.

In this regard, serious attention should be given to the huge area of overlap in the areas burned in 2003 and 2007, as it seems likely that the health of those landscapes is threatened with loss of native biodiversity and invasion by non-native species.

Madam Chairman, this concludes my remarks. I will be pleased to answer questions or help in any way I can.

[The statement follows:]

PREPARED STATEMENT OF DR. JON E. KEELEY

Madam Chairman and members of the subcommittee, thank you for the opportunity to join in this discussion of the issues raised by the catastrophic 2007 southern California wildfires.

The fire community, including USGS, conducts fire-related research to meet the varied needs of the land management community and to understand the role of fire on the landscape; this research includes fire management support, studies of post-fire effects, and a wide range of studies on fire history and ecology. The U.S. Department of Agriculture (USDA) and the Department of the Interior (DOI) are active participants in the National Fire Plan, which is a long-term effort focused on helping to protect communities and natural resources. Part of this program includes the DOI and USDA Joint Fire Science Program, authorized and funded by Congress in 1997 to develop information and tools for managers dealing with wildland fires. My

testimony today synthesizes work done by the fire science community, including the U.S. Forest Service, the USGS, and academia, over several decades.

SOUTHERN CALIFORNIA—HOME TO LARGE, CATASTROPHIC WILDFIRES

Large, fast-moving, high-intensity wildfires are a recurring phenomenon on southern California landscapes. Understanding their causes is a critical first step to any strategy aimed at reducing community vulnerability to these events.

These fires are not new to this landscape. There is a rich history of such events that is well documented in newspaper reports from the latter half of the 19th century. Indeed one of the largest, if not the largest, wildfire in California history occurred during the last week of September 1889 and burned much of Orange County and a significant part of northern San Diego County. This fire had very minor societal impacts. What has changed today is not the size or intensity of fires but rather the size and distribution of the human population in the region.

At the outset, it is critical to understand that these are not forest fires. The little forest that exists in southern California is limited to higher elevations, some canyons and urban areas. It is estimated that no more than 3 percent of the recent 2007 fires in the region occurred in forests [data from Geospatial Multi-Agency Coordination (GEOMAC), geomac.usgs.gov]. The remaining 97 percent occurred in lower elevation shrublands and urban areas, burning native shrublands such as chaparral and sage scrub, non-native grasslands and urban fuels (structures and landscaping).

This is important because fires and fire management impacts can be very different between western forests and California shrublands. The type of fire naturally sustained in some western ponderosa pine forests is a low-intensity fire that burns dead twigs and branches on the forest floor. In chaparral shrublands, fires are naturally high-intensity and consume the entire shrub canopies, leaving bare much of the landscape.

This distinction is very important in understanding how fire management practices have affected past fire activity and may impact current and future fire activity. Understanding the unique characteristics of shrubland wildfires is critical to making planning and management decisions that will minimize the impacts of wildfires on our urban and natural environments.

Historically in western forests, fire suppression excluded fire from forests and allowed unnaturally high levels of fuels to accumulate. As a consequence, in many (though by no means all) western forests, high-intensity fires that consume entire forests are a partial result of fire protection efforts during the past century.

In the past, it was argued that the same applied to California shrubland wildfires; however, both scientists and managers are rapidly approaching a consensus that these arguments do not apply as directly here in the southern half of California, west of the desert. Despite a policy of fire suppression, we have never been able to exclude fire and have barely kept pace with the ever-increasing number of human-caused fires that has paralleled population growth in the region (Keeley and others, 1999). The primary reason that fire exclusion has not been possible in California is the annual occurrence each autumn of periods of gale-force Santa Ana winds that produce extreme fire-weather conditions (Keeley, 2006).

In the past, agencies such as Cal Fire, the U.S. Forest Service, the Bureau of Indian Affairs, the Fish and Wildlife Service, the National Park Service, and the Bureau of Land Management have responded to catastrophic fire events by renewing efforts to modify wildland fuels that they believed responsible for carrying such fires. The most recent 2007 fires stand as the most convincing evidence that extensive fuel modification projects will not stop such fires. Estimates are that across southern California at least 75,000 acres burned through areas that previously burned in 2002 and 2003. Clearly, these 4–5 year old fuels were incapable of stopping the 2007 fires driven by the extreme Santa Ana winds. However, many of these treatments have demonstrated their effectiveness in improving the likelihood of successful community protection during these events (e.g., protecting Poppit Flat from the Esparanza Fire in 2006).

The 2007 fires could be a turning point for fire, fire management, and planning in southern California. Modifying fuels will not prevent these fires and was never intended to. However, fuel modification will reduce fire intensity within the fuel-modification area and may have benefits for fire fighters, who require defensible space in order to protect structures from advancing fire fronts and to extinguish fires ignited on structures by ember throw. Fuel modifications around homes are necessary; however, additional research could focus on outlining the most strategically important sites for such pre-fire fuel treatments in wildland areas.

The present vulnerability of homes at the wildland-urban interface can be reduced in the future by greater consideration of Santa Ana wind patterns and their potential for bringing fires into the urban environment. This and other considerations about where homes are located relative to wildland fuels have the potential to reduce property loss.

In the past, county, State and Federal agencies have all included fire prevention strategies in their arsenal of weapons against catastrophic wildfires. There are many opportunities for innovation in this area. In the past month, scientists, managers and citizens have offered suggestions for new approaches that should be studied in response to the 2007 wildfires.

A renewed focus on ignition sources is needed, particularly those sources that are known to be problematic under Santa Ana wind conditions. These sources tend to be ignited by equipment operating in or near brushy areas, car fires and cigarettes along freeways and downed or arcing powerlines.

Post-fire response to wildfires is an area where we have made substantial progress in recent years. It is now widely understood that the vast majority of the wildland landscapes burned in large fires do not require any intervention, and indeed, intervention sometimes results in counterproductive efforts. We know from detailed studies that these shrubland ecosystems are highly resilient to high-intensity wildfires, and recovery within a few decades is usually guaranteed if left alone (Keeley, 2006). Most of the plant species in these ecosystems have dormant seed banks that are fire dependent and lie dormant for up to a century or more until triggered to grow by wildfires. These post-fire species, many of which are only ever seen after fire, add immensely to the biodiversity of this region.

The key to successful post-fire management is to find those areas where there are human values at risk and good reason to believe the natural regeneration processes will not be sufficient to provide an acceptable level of protection. California was a leader early in the 20th century in the use of artificial seeding of burned landscapes to stabilize slopes and reduce runoff. However, we now know that, when successful, such seeding operations can have negative impacts on native biodiversity. More importantly, seeding has proven to be ineffective at reducing erosion on our landscapes. California rainfall patterns are very unpredictable. Rather than experiencing the light steady autumn rains required to initiate seed growth so that root systems of grasses are established by the time of the intense winter rains, we often begin the rainy season with intense winter rains. As a result, seeds are washed off the slope along with the sediment. There are other management practices that are far more effective than seeding. One such practice is the use of physical barriers, such as hay mulch. The hay mulch serves as a barrier to rainfall and helps to stabilize the soil and prevent sedimentation. Hay bales placed at the bottom of the slope may contain sediments before they impact values at risk (Keeley and others, 2006).

A key resource concern following these extensive wildfires is how to reduce further burning of these landscapes for the one to two decades necessary for the native ecosystems to fully recover. Although the species that make up these systems are adapted to periodic fires, frequent fires have devastating impacts on their long-term survival. In this regard, serious attention should be given to the huge area of overlap in the areas burned in 2003 and 2007 (as determined from GEOMac), as it seems likely that the health of those landscapes is threatened with loss of native biodiversity and invasion by non-native species.

IMPROVING RESILIENCE TO MULTIPLE HAZARDS

Although the smoke from the wildfires has cleared, the danger is not over. Winter rains could trigger other hazards, such as flash floods and debris flows. My testimony to this point has focused on the factors that led to the recent firestorm. In addition, USGS is conducting research and developing public safety products addressing the consequences of the firestorm in three areas: the increased risk of flooding and debris flows, the impact on human health of possibly toxic ash, and the impact on ecosystems and endangered species.

In order to address flooding and debris flows, we are preparing maps in cooperation with FEMA and California State agencies that show debris-flow probability and identify the potential volume of material in the flows. These maps are scheduled for release in early December and will be used by Burned Area Emergency Response (BAER) Teams, the Governor's Office of Emergency Services, FEMA, the Bureau of Indian Affairs, U.S. Fish and Wildlife Service, the Bureau of Land Management, the National Park Service, and affected counties. These maps will also be used in a debris-flow warning system run cooperatively with the National Oceanic and Atmospheric Administration (NOAA) National Weather Service (NWS). We also are co-

operating with NOAA to collect data in the coming winter through targeted instrumentation and data collection to improve our models and warnings in the future.

In order to understand potential health impacts from the ash, the USGS is sampling and evaluating the composition of ash and burn products from wildland and urban fires before the first runoff of the rainy season and during the first runoff.

In order to address the impact on ecosystems and endangered species, the USGS is developing an assessment for DOI partners to determine populations of species at risk from habitat loss. Biologists have been deployed to survey the burned areas that are the known locations of endangered species populations. This event provides a unique opportunity to better understand fire impacts on biodiversity with focus on species lost, ecosystem response, and the threat of invasive species. It also provides a unique opportunity to examine the significance of burn severity.

These efforts are part of a new USGS Multi-Hazards Demonstration Project in southern California to demonstrate how integrating information and products about multiple hazards, including wildfire, debris flows, floods, and earthquakes, improves the usefulness of this information in reducing the vulnerability of high-risk communities to natural hazards. Southern California was a natural choice given that the region has one of the Nation's highest potentials for extreme catastrophic losses due to natural hazards.

Interior has the ability to partner with relevant agencies to help the 20 million residents of southern California manage the risks ahead this winter and to study both the fire and its aftermath so as to better understand how to reduce the risks in the future. In addition to the current mitigation efforts to protect citizens from the fast-approaching winter rains, investigations are needed to understand the nature and the full extent of the threat from debris flows for the next few winters, until a sufficient plant cover is established on the hillsides. Effective hazard mitigation from the inevitable future wildfires and associated debris flows will only be possible if there is an in-depth understanding of the processes. The consequences of fires on our environment, including loss of habitat for endangered species and the introduction of toxic chemicals from the burn residue into ground water and soils, must be documented and analyzed to plan the recovery.

CONCLUSION

Scientists have been studying the natural processes discussed in my testimony in southern California for decades and thus have the baseline data from which we can understand the changes brought about by the fires. We have the scientific expertise in wildland fire research to help in understanding the ecosystems affected by wildfire and to assist land managers in post-fire recovery and rehabilitation in southern California. In addition, USGS modeling of fire behavior can help improve the placement of homes relative to wind patterns and fire behavior.

Madam Chairman, this concludes my remarks. I will be pleased to answer any questions you may have.

REFERENCES

- Keeley, J.E., C.J. Fotheringham, and M. Morais. 1999. Reexamining fire suppression impacts on brushland fire regimes. *Science* 284:1829–1832.
- Keeley, J.E. and C.J. Fotheringham. 2003. Impact of past, present, and future fire regimes on North American Mediterranean shrublands, pp. 218–262. In T.T. Veblen, W.L. Baker, G. Montenegro, and T.W. Swetnam (eds), *Fire and Climatic Change in Temperate Ecosystems of the Western Americas*. Springer, New York.
- Keeley, J.E. and C.J. Fotheringham. 2004. Lessons learned from the wildfires, pp. 112–122. In R.W. Halsey, editor. *Fire, Chaparral and Survival in Southern California*. Sunbelt Publications, El Cajon, California.
- Keeley, J.E., C.D. Allen, J. Betancourt, G.W. Chong, C.J. Fotheringham, and H.D. Safford. 2006. A 21st century perspective on postfire seeding. *Journal of Forestry* 104:103–104.
- Keeley, J.E. 2006. South coast bioregion, pp. 350–390. In N.G. Sugihara, J.W. van Wagtendonk, K.E. Shaffer, J. Fites-Kaufman, and A.E. Thoede (eds), *Fire in California's Ecosystems*. University of California Press.
- Syphard, A.D., V.C. Radeloff, J.E. Keeley, T.J. Hawbaker, M.K. Clayton, S.I. Stewart, and R.B. Hammer. 2007. Human influence on California fire regimes. *Ecological Applications* 17:1388–1402.

Senator FEINSTEIN. Thank you very, very much, Mr. Keeley. Since you've just spoken, let me quickly begin with you. Patterns of Santa Ana winds, it seems to me that would be a good study to

look at, whether the pattern is changing or if it's cyclical. Do you have any information on that?

Dr. KEELEY. Well, there's certainly information on known corridors for Santa Ana winds, and those are relatively well-documented.

Senator FEINSTEIN. Was that corridor that took out both Cedar and Witch, was that well-documented?

Dr. KEELEY. I'm not sure that that's well-documented. There are some good cases in the Santa Monica Mountains where we've mapped Santa Ana winds.

There are people who do modeling of Santa Ana winds, and they're able to, I think, provide pretty precise maps if called upon to do so.

I think this is an area where we have the potential for effecting change, too. I gave an interview on the radio about a month ago, and right after, someone from the Los Angeles Planning Department called me and asked me if she could obtain information on Santa Ana wind corridors that they might use in making risk assessments. So I think there's a need out there.

Senator FEINSTEIN. Well, if you have any information that you can get to us, I would very much appreciate it. Because it seems to me that we're into some new phenomenon of these very heavy Santa Anas along certain corridors, and I think we should map them and we should know how often it's likely to happen.

So any information or any people I can turn to for that, I'd very much appreciate it.

Dr. KEELEY. Well, we certainly will look into getting information on that. I think the thing to realize about these recent fires is probably not that the Santa Ana winds themselves have changed, but we have come across the juxtaposition of extreme drought associated with the Santa Ana winds.

When that happens, I think you produce probably the most severe fire conditions possible.

Senator FEINSTEIN. Right, right. Thank you very much.

Mr. Poizner, we've talked about this before, but it has bothered me ever since. I was at a meeting and I happened to run into the CEO of Allstate. I had just read that Allstate has pulled out of California, will no longer insure homes in California.

I had quite a dustup with him. I kind of felt a little bit sorry for him after I finished. But I thought—this is a concept which I would call cherry-picking in the United States. Allstate wants to give insurance where they've got the best chances, and therefore, areas that are catastrophe-prone—earthquake-prone, fire-prone, hurricane-prone—they're simply not going to give home loans in.

Do you believe that we should pass legislation—the CEO—and I've been having a correspondence with him—suggests that there be a kind of emergency fund that the Federal Government would put up that would provide help in these particularly catastrophic-prone areas. Do you have any suggestions in that regard?

Mr. POIZNER. Well, first of all, with regards to Allstate, as you and I have spoken about, after Allstate made the announcement that they don't want to write new homeowners' policies in this State, I then began to examine, well, what are they doing with

their million existing homeowner policies that they have an obligation to continue to service?

I did submit to them orders to show cause to make sure that they weren't gouging their existing customers on their way out. I totally disagree with what Allstate's doing. They're doing it all around the country.

I also began to talk to the CEOs of the other major insurance companies to see if this was a trend, and fortunately, not here in California. California's a very attractive market for insurance companies.

Senator FEINSTEIN. Isn't Farmers the big other home carrier?

Mr. POIZNER. State Farm and AAA.

Senator FEINSTEIN. Yes, okay.

Mr. POIZNER. I've spoken with the CEOs of all of those companies, and they're all here to stay. They're all happy to take up the slack as Allstate exits the market.

So we have about 200 homeowners insurance companies in California. It is a healthy, competitive market, fortunately, and Allstate's really a lone ranger here in California, in terms of their desire not to expand here. That's good news.

Also, with regards to the \$1.6 billion in losses, now, these insurance companies have been reserving for this type of loss for a long time. That's the business that they're in is protecting and paying out when these legitimate claims come up. They can easily handle the \$1.6 billion.

Part of my duty is to make sure that these insurance companies are financially solvent and they can handle this.

Senator FEINSTEIN. Good.

Mr. POIZNER. With regards to Federal backstops, like with terrorism insurance, there are certain types of natural disasters that are really hard to model. If actuaries can't get their hands around it, then the private sector gets nervous about, well, how can they build a business model to provide insurance for things they can't even predict?

Now, when it comes to fires and some floods and other types of theft and auto accidents, those kinds of things, life insurance, they have pretty good models where they can reserve for these kinds of things. They can build models to provide the kind of protection that they need to be in business.

But, for example, earthquake insurance, on the other hand, is something that's extremely hard to model. The losses don't happen very often, and when they do happen, it's catastrophic.

So I do support the idea of State and Federal participation in providing for some claims paying capacity to partner with the insurance industry so that we can have some capacity from—earthquakes is my bigger fear.

To be honest with you, fire insurance, there's plenty of available fire insurance in the State of California. Earthquake insurance, on the other hand, hard to come by.

Senator FEINSTEIN. Are you working on that? I'd be most interested to work with you on that.

Mr. POIZNER. We are. I'm on the board of the California Earthquake Authority, along with the Governor and the Treasurer. That was this quasi public sector—

Senator FEINSTEIN. Yes.

Mr. POIZNER [continuing]. Private sector partnership that was formed after Northridge. Do you know that the take-up rate for earthquake insurance now is down to 11 percent in California? Ten years ago, it was 30 percent.

So it's a very serious issue, and we have taskforces that are studying this issue right now. We hope to have some recommendations mid next year.

Senator FEINSTEIN. Good. Now, let me ask you another question. When I went to the one-stop shop and talked with victims, I asked them if they had insurance. A number said they did not, and yet they owned property.

My question is, what percentage of people had no insurance, do you think? Is it small? Is it modest?

Mr. POIZNER. Under-insurance is a huge problem. Zero insurance is a rare problem. Because almost every bank, financial institution, before they'll make a loan on a house, they'll absolutely require you to have homeowners insurance. So very few people don't have mortgages on their homes, and so almost all people have some form of insurance.

If they don't have any insurance at all, of course, there's those FEMA programs that can—

Senator FEINSTEIN. Right. This is—

Mr. POIZNER [continuing]. That can help them out. But under-insurance is definitely a more serious issue, as compared to no insurance.

Senator FEINSTEIN. Okay. Well, let me hold up for another round.

Senator Allard?

Senator ALLARD. What has happened—again, to you, Steve. What has happened to premiums with the recent year here in California? Have they gone up or have they stayed pretty much the same?

Mr. POIZNER. First of all, in California, there's an extensive set of consumer protection laws that do not allow insurance companies to change their prices at all—

Senator ALLARD. I see.

Mr. POIZNER [continuing]. Without permission from the Insurance Commissioner in advance. So my team have been looking at this very carefully. As I mentioned a moment ago, Senator, the fact is, these insurance companies are in the business of taking risks. They've been reserving for this type of risk for a long time. My opinion and the opinion of my experts at the Department is that there's no need for any price changes at all due to these southern California fires.

Senator ALLARD. So you're pretty comfortable with the long-term outlook, as far as insurance companies in California are concerned?

Mr. POIZNER. When it comes to homeowners insurance, yes. Earthquake insurance, no.

Senator ALLARD. I picked that up. Okay. Has there been much a problem in them responding to the claims here in California?

Mr. POIZNER. Not this time around, so far. In 2003, there was lots of issues. So we learned from that—I've only been insurance

commissioner for a year, but I studied what happened in 2003, and we pounced on it.

The fact is, I called up all the CEOs. We went there on site and called them and said: "You need to come to these evacuation centers. You need to set up mobile centers where you can start cutting checks for room and boards to get these people out of the evacuation centers."

I'm pleased to report, at least so far, the insurance companies have been very responsive, not only because the Insurance Commissioner of California has huge clout, but also because they got a huge black eye in 2003. I think they're, at least so far, trying to do the right thing.

But I'm telling you, I'm going to be watching them very closely.

Senator ALLARD. What—I'm going to move on now to Mr. Larson. There was some farms that suffered some damage with these fires. Was it—if you took it as a part of the total local agricultural economy, what percentage of the local total agricultural economy do you think was impacted by the fires?

Mr. LARSON. It's probably going to be in—

Senator ALLARD. Well, I guess there's two ways to look at it, both from the land basis and then also from an income basis, cost basis.

Mr. LARSON. Yes, it's really tough—difficult to tell, because we're still assessing those losses. For instance, you don't know if you've lost an avocado tree for weeks after the fire. You have to go in, you cut it back, and you wait and see whether that tree's going to come back.

But the losses are probably going to be somewhere in that 5 to 10 percent range of the total farm economy of San Diego County and perhaps the total assets of farming in the community.

It's a small number, but because our farms are so small, those who took a loss took a very heavy loss. So in those cases, the entire farm was lost or more than 50 percent or a very large portion of those individuals were lost. It's not like we have a few large farms that were burned. We had a number of small farms that were heavily devastated.

Senator ALLARD. Thank you. Now, Dr. Keeley, and this will be my last question for the panel. In your testimony, you suggested that fuel treatments, while necessary around homes, are not that helpful in dealing with large-scale fires that are in sage brush and chaparral ecosystems.

You indicate that it's more important in how we alter our infrastructure; for example, by burying power lines so they don't blow over in windstorms and start fires. Could you more fully describe the major types of actions we should take in altering our infrastructure to reduce fire risks?

Dr. KEELEY. Sure. Let me clarify first, though, I think it's important to keep in mind that what we know about the role of fuel treatments in these wildfires is they don't have the capacity to prevent the spread of the fires. In other words, they're not effective barriers.

That shouldn't be construed to mean they have no role in fire management strategies. There are other values to fuel treatments, in terms of providing fire operations, so I don't want you to think that we rule out any use of fuel treatments.

What we really do lack in the area of fuel treatments is a good understanding of the strategic placement of treatments and a good understanding of the costs and benefits. There's a whole area of research that we're currently working on in that area.

Now, in terms of things that we believe could benefit the long-term approach to these wildfires are approaches that deal with planning issues. For example, we have a good understanding of those locations that are particularly dangerous for firefighting operations and put homes at extreme risk.

There's a lot more that could be done to incorporate the knowledge about how fire behaves on different terrain into planning issues. That's one area that I believe the whole zoning issue comes into play and is likely to be very effective.

WHERE FIRES BEGIN

We also know, for example, that most fires begin along roads in this part of the world. There are things that could be done that we haven't really investigated at all.

For example, southern California puts a lot of resources into walls as barriers to noise pollution. Well, there's reason to believe that a number of fires that start along roads might actually be stopped by small barriers in certain known corridors where there are bad fire conditions. So barriers are another possibility. We haven't really even looked into their potential effectiveness.

We know that several of the large fires recently started from downed power lines or arcing power lines. This is a common cause. I know when I was growing up in San Diego County, the Laguna fire was started from downed power lines during Santa Ana wind events.

There's reason to believe that maybe some thought about constraining the distribution of aerial power lines and emphasizing underground power lines in certain corridors where we know Santa Ana winds are severe might have some impact. These are areas that are amenable to research, and yet, we really know very little about what their potential could be.

Recently, some of the big fires started when heavy equipment was being used during Santa Ana wind events in wildland areas. We perhaps need to think about investigating what sort of constraints might actually effect a change, in terms of use of equipment in areas during Santa Ana wind conditions?

Road closures is another area. There are certain areas where the public might accept road closures during Santa Ana wind events without much complaint, and that could effect change. So those are some of the ideas we mentioned.

Senator ALLARD. In Colorado—and I'm not sure about this. I believe this is correct—it's been mentioned to me that aspen will act as a barrier between a pine forest and maybe a structure of some kind. Do you have plants in this area that would serve as sort of a plant barrier?

Dr. KEELEY. Well, we have had plant barriers in the past. I remember talking to the fire management officer on the Cedar fire, Rich Hawkins, and he was telling me: "I grew up in the San Gabriel Valley, and we never had fires burn into the community." The reason was, the community was surrounded with citrus. Well,

eventually, homes became much more lucrative than citrus and the citrus were replaced.

Today, there is interest in greenbelts around communities. For example, a lot of new communities will plan into the community a golf course. That golf course invariably is placed at the center of the community. There's reason to believe that if it was on the periphery, it could serve a dual purpose, in terms of reducing the vulnerability to wildfires.

Senator ALLARD. Thank you, Madame Chairman. I appreciate the opportunity.

Senator FEINSTEIN. Thank you very much, Senator. Congressman?

Mr. GALLEGLY. Thank you very much, Senator. Dr. Keeley, we've spent the last 3 or 4 hours here discussing this fire, and that's what this hearing was all about. But it's no revelation that after every fire comes the great potential for the next disaster. You hit a little on that with your discussion about reseeding and other mitigation measures, so on and so forth.

I was a little perplexed with—and maybe I misunderstood you, but talking about doing studies now about why we shouldn't reseed and we should use maybe other alternatives. After 100 years of monitoring wildfires and knowing that the potential for a flood exists, how many more studies do we need?

Dr. KEELEY. I certainly think there's need for a lot of studies in a lot of areas, but in the areas you're mentioning, I think you're absolutely right. I think we know enough to make decisions.

I thought the emphasis that I tried to place in at least the written testimony is we know enough about seeding to know that it's not a predictable way to alter the outcomes of floods. We don't need anymore research on seeding. Not only do we know seeding isn't predictable, we also know that mechanical approaches are far more predictable and reliable.

So I think most of us in the fire research community are pretty much in agreement that we know enough to avoid seeding and rely more on mechanical approaches.

Mr. GALLEGLY. But in the absence of the mechanical, we do know, while seeding may not be predictable, we know what the alternative to not mechanical or not seeding is. That is very predictable, and that means massive floods and massive destruction.

Are we prepared to do all of the mechanical things that you're talking about right now, in the absence of seeding? Although I haven't been convinced that we shouldn't be out there aggressively bombing the slopes with seeding until we get all these other things in place.

Dr. KEELEY. Well, what we do know from studies in this part of the world is these ecosystems have built-in means of regeneration.

Studies that have been done show that the natural communities will generate oftentimes far more effectively and more rapidly than seeding operations. The bulk of the landscape, by and large, doesn't require any attention.

What we do want to focus on are those parts of the landscape immediately adjacent to values at risk—for example, roads—where based on the slope and the sediment types—

Mr. GALLEGLY. And the flow.

Dr. KEELEY [continuing]. We have reason to believe the natural regeneration won't suffice. I think that's what most of my colleagues and other Federal and State agencies would recommend. Focus on those areas where you have values at risk. Leave the rest of the landscape alone, because it's going to regenerate probably far better by itself.

Mr. GALLEGLY. Okay. Having said far better by itself, then would it be safe to say, based on your testimony, in many cases, except for the financial aspects of it, that there are additional problems with reseeding; reseeding in and of itself can create problems?

Dr. KEELEY. There are definitely potential problems with reseeding. If you happen to seed during a year where you have adequate rains and periodically, you might get these seeded species to establish—

Mr. GALLEGLY. You'll have more fuel next year.

Dr. KEELEY. Well, you have dual problems. One is, you out-compete the native vegetation in that site. So you have impacts on diversity issues, which is a conservation concern to a lot of people.

But then you also create a fuel source that is much more amenable to another fire, because the seeded species generally have a much longer fire season. That is a well-documented impact of successful seeding operations.

Mr. GALLEGLY. Is there going to be any reseeding between now and the rainy season?

Dr. KEELEY. Well, I can't speak for what the managers will do. I can tell you from my experience that most State and Federal agencies, in recent years, have avoided doing seeding. Most of the seeding operations have been done at the local level.

Mr. GALLEGLY. What kind of concern do you have for the flood potential in this next cycle?

Dr. KEELEY. It's all a function of what the winter rains do. If we have very moderate rains, there may be very little to be concerned about.

If we have significant rains, we have real problems, particularly in some of our localities, like in Orange County, where the Santiago fire burned into some very narrow canyons, like the Majeska Canyon, we saved many of the homes from burning, but the slopes have lost everything. Those represent a real threat if we get significant rainfall.

Mr. GALLEGLY. Mr. Larson, how much can we count on the Farmer's Almanac?

Mr. LARSON. Not much.

Senator FEINSTEIN. Thank you. Thank you very much. Let me end this hearing by saying thank you to all the panelists, and particularly, to this last panel. It is very much appreciated.

I think this was very helpful to all of us to give us a good overview, not only of what happened, but of lessons learned and where we need to go in the future. Now, the challenge will be to see whether there's the leadership there to bring us where we need to be.

So thank you all very, very much. Let me say to you, sir, I wish you great, good luck when you rebuild. I hope you'll invite us to come see this new house so there won't be a three-peat.

Mr. MILLER. We might have to take you up on that.

Senator FEINSTEIN. Yes.

Mr. MILLER. In addition, regarding this last testimony, this book—it's written by Richard W. Halsey: *Fire, Chaparral, and Survival in Southern California*—addresses a lot of these issues. You may be familiar with it.

Dr. KEELEY. I have a chapter.

Mr. MILLER. Oh, do you?

Senator FEINSTEIN. Oh. All right, good.

Mr. MILLER. I thought—you know, I was looking through that just to see, because I thought you sounded familiar, but yes, it's an excellent book. If you wanted more information than what he has written in his statement, I'd recommend it.

Senator FEINSTEIN. Well, thank you, Mr. Miller. We'll get a copy of it. Thank you very much. Thank you.

Mr. MILLER. Thank you.

Senator FEINSTEIN. Everybody, thank you.

STATEMENT SUBMITTED BY SENATOR BARBARA BOXER

We have received the prepared statement of Senator Barbara Boxer that will be made part of the record at this time.

[The statement follows:]

PREPARED STATEMENT OF SENATOR BARBARA BOXER

I want to thank Senator Feinstein and Senator Allard for holding this field hearing on the wildfires that ravaged Southern California in late October and early November 2007.

I also want to thank the many officials from the City of San Diego and the Counties of San Diego, San Bernardino, Riverside, Orange, Los Angeles, Ventura, and Santa Barbara for their courage and leadership during this crisis and the many brave first responders who risked their lives every day to get the many massive blazes under control.

This year's Santa Ana winds brought unprecedented devastation and destruction to seven counties in Southern California. The wildfires charred 517,267 acres and damaged or destroyed 3,450 structures. One hundred thirty-nine people were injured, and tragically ten people lost their lives as a result of the fires.

In the days following the initial outbreak of the fires, I had the opportunity to visit the shelter at Qualcomm Stadium and hear first hand from families who had lost everything. My heart goes out to all of those who have suffered, and I pledge to do all I can to assist those with obtaining the additional aid they need.

As Californians continue to recover and rebuild, it is crucial that we examine what went right and what went wrong at every level of government, what else we need to do immediately, whether we need additional resources, and what long-term lessons can be learned from this experience.

Did communities have enough funds readily available to combat the fires? Are enough resources in place to fight future wildfires and improve fire-prevention efforts? Will State and local governments receive expeditious reimbursement from Federal agencies for their extraordinary expenses incurred during this disaster?

Were military aircraft and other Federal firefighting resources adequately utilized by State agencies during the wildfires? What can we do to help promote a seamless sharing of Federal, State, and local resources in future disasters?

What steps are Federal and State agencies taking to lessen the danger of erosion and landslides in communities where crucial ground cover has been burned away as a result of the fires?

Were appropriate Federal agencies adequately staffed at evacuation shelters and Local Assistance Centers? Were Federal staff members able to communicate effectively with non-English-speaking fire victims?

Why was the U.S. Department of Agriculture so poorly represented at Local Assistance Centers in rural areas? How can USDA speed payment to those impacted by this disaster? How can Congress speed funding for USDA programs that are currently authorized by not funded?

I know that today's hearing will continue to focus on all these pressing questions, and I look forward to working with my Senate and House colleagues, Federal agen-

cies, State and local officials, and community organizations to take whatever steps are necessary to reduce the risks and devastating impacts of wildfires.

To assist California working families with their rebuilding efforts, I am proud to co-sponsor two bills with Senator Feinstein: the FEMA Mortgage and Rental Assistance Act to reinstate a FEMA program to help qualifying individuals make their mortgage or rent payments; and the FEMA Rebuilding Assistance Act to increase the amount FEMA pays to people whose cost of rebuilding is greater than their insurance coverage from \$28,000 to \$50,000.

We are also co-sponsoring the Matching Arson Through Criminal History (MATCH) Act, legislation to create a national registry and require convicted arsonists to report where they live, work, and go to school.

I hope that we can share the results of this hearing with State and local agencies in order to compare and coordinate our analyses, best practices, and recommendations for the future.

CONCLUSION OF HEARING

Senator FEINSTEIN. Thank you all very much for being here. That concludes our hearing.

[Whereupon, at 1:07 p.m., Tuesday, November 27, the hearing was concluded, and the subcommittee was recessed, to reconvene subject to the call of the Chair.]

○