



The International Code Council & The National RC&D Councils
Sponsors of the 2010 fall meeting of the
National Wildland Urban Interface Council®

Hosted by:



National Association of Home Builders
NATIONAL HOUSING CENTER
1201 15th Street Northwest
Washington, DC 20005-2800

Notes from the NWUIC fall 2010 meeting

Meeting participant list:

Dana B. Bres, U.S. Department of Housing and Urban Development
Steve Austin, CFSI National Advisory Council
Sara Yerkes, International Code Council
Justin Woods, National Wildfire Foundation
Kevin Weir, ISiB Innovative Solutions in Business
Angela Mickalide, Home Safety Council
Mike Love, Vision 20/20
Jessica Henderson, AIA
Mark Wills, AIA
Kevin O'Conner, International Association of Fire Fighters
Glenn Gaines, United States Fire Administration
Steve Quarles, Ph.D. UC Berkeley, Center for Fire Research and Outreach
Frederick Brower, Insurance Services Office, Inc. (ISO)
Guy Seeley, Atmospheric and Environmental Research, Inc. (AER)
Andrew Gordon, Deputy Executive Director, NRC&D Councils
James Sipperly, President NRC&D Councils
Sean Carroll, CFSI
Bruce Johnson, ICC
Bill Webb, Executive Director of Congressional Fire Services Institute
Julia M. Lent, Government Affairs Director, American Society of Landscape Architects
Karen Quarles, American Red Cross
Scott Waldron, Fire Chief West Yellowstone, MT

Russell Riggs, National Association of Realtors
Darrel Pendris, Executive Director, National Woodland Owners Association
Richard Barone, Vice President TPR2
Steven Orlovski, Program Manager, Construction, Codes & Standards, NAHB
Larry Brown, National Association of Home Builders
Dave Finger, Director of Government Relations, National Volunteer Fire Council
Rodger Sedjo, Resources For The Future
Alexander Maranghides, NIST
National Institute of Standards and Dan Bailey, International Code Council
Chuck Bushy, President International Association of Wildland Fire
Bruce Courtright, Coordinator for the Scott River Basin Coalition of Fire Safe Councils CA and representing the National Association of Forest Service Retirees.
Steve Gaty, Assistant Director, US Government Accountability Office
Jamie L. Rhynard, Dow Corning Corporation
Kevin Cheung, Western Wood Products Association
Gary N. Marshall, Bend, OR Fire & Rescue
Ray Rasker, Headwaters Economics
James E. France, State Farm Insurance
Phil Kleinlauth, GAF
Jerry Davies, Farmers Insurance
Karen F. Deppa, National Association of State Fire Marshals

Daniel E. Nichols, P.E. New York State Department of State
John Simontacchi, Firefree Coatings, Inc.
Margaret Grayson, California Fire Safe Council
Bruce Tuberville, California Fire Safe Council
Jennifer Schottke, ESRI Municipal Fire And Public Safety Policy
Rob Wallace, Keep America Beautiful, Inc.
Mary Ellen Holly, Keep Oregon Green Association
Chris Tatasciore, Gunter Manufacturing
Larry Dumm, Gunter Manufacturing Inc.
Kate Dargan, National Association of State Fire Marshals
Helene Cleveland, USDA Forest Service Fire and Aviation Management
Justin Woods, National Wildfire Foundation
Elena Daly, Public Lands Foundation
Aitor Bidaburu, National Wildfire Coordinating Group
Robert Sale, International Code Council
Gerry Gray, American Forests
Lynnette Terrett, National Geographic
Stan Rivera, American International Insurance
John Haugen, National RC&D Councils Executive Director
Olga Walter, National RC&D Councils
Peter Costolanski, NRC&D Councils
Melissa Sindelar, DOE, Savana River National Laboratory
Randy Griffin, DHS
Thomas Twieczorek, ICMA

Wednesday November 3 2010

9:30 **Welcome to NAHB's National Housing Center**

Larry Brown, NAHB, Director, Codes & Standards Advocacy Group

9:40 **Group introductions and objectives**

Dan Bailey ICC, Director of Wildland Fire, Natural Hazard & Natural Resource Programs

Meeting Objectives:

1. Bring together agencies, groups and organizations to work collaboratively by establishing this national advisory council that provides everyone an opportunity to be engaged, participate, share ideas and be equal partners.
2. Provide a thorough overview of the past, present and future of wildland urban interface fire in the United States.
3. Participants will share what they are doing in relationship to WUI.
4. The group will utilize ideas generated during this meeting, as well as building on the recommendations of the National Blue Ribbon Panel on WUI Report and other similar reviews.
5. The meeting will conclude with the development of an action plan that sets the stage for all groups to begin working collaboratively and making improvements to this growing problem facing over 70,000 communities throughout the United States

Each participant highlights one thing you want to get out of this meeting.

- It is good to see insurance, builders, planners, code organizations in the same room working on this issue, I would like to see how we can build on this working jointly on this WUI effort.
- I would like to see more emphasis in collaboration between all groups and organizations.
- Better integration of new ideas into programs and policies.
- I want to see better communication with politicians.
- What I want out of this meeting is a better understanding of what all the various groups and organizations are doing, I have always felt that far too much duplication and wasted funding is occurring and would like to see this discussed in the action plan development.
- Budgets for fire grants and other programs at the federal, state and local levels are most likely going away, how can this new Council help get the message out that this will not help alleviate the WUI problem.
- I want to see the issue of homeowner personal responsibility highlighted in our discussions the next two days.
- I want to see how this new group can better communicate with the local level. I am very happy to see that the National RC&D Councils are engaged in this effort.
- Lets make sure we all make a pledge to work closer together during this meeting and after the meeting to begin a new dialog in dealing with this effort.

- I want to see how we can better engage industry groups with codes and standards, builders and planners in this WUI effort.
- There has been quite a bit of effort on the National Cohesive Strategy document, how will it be implemented? Will yesterdays election make a difference in this effort moving forward?
- More interaction between all parties involved in the WUI issue.
- As a local community member I want to know how this Cohesive Strategy will help us?
- Being directly involved in this WUI effort, I am very frustrated that so many various groups and organizations are duplicating effort, I want to hear how we can improve this situation.
- I want to hear how this new coalition will become a strong voice in this WUI issue.
- As a member of the original Blue Ribbon Panel group, I am very happy to see that one of the key recommendations has been implemented in forming this National Council. I would like to hear how many of the Blue Ribbon Panel recommendations have been implemented since it was completed.
- I want to know how this new group will be communicating after the meeting?
- It is good to so such a good cross section of representatives from various groups sitting around the table, I want to see a good strong action plan developed to utilize this group in making changes.
- I would like to see how groups and organizations better communicate and stay on message about WUI.
- It seems like far to many groups, organizations, committees etc. are working independently on this WUI issue, thus we are not seeing statistical improvements in the issue. How can we change this?
- Better communications by all is needed in communicating the issue of WUI fire.
- What ever we do as a group, we must insure that the National Cohesive Strategy document is key in our efforts of moving forward.
- I am very interested to find out what all the various groups are doing in relation to WUI?
- Improved communication between national levels and communities is very much needed.
- I want to find out how we can better engage congress, as well as state legislators to be more understanding the WUI issue?
- I am happy to hear that this National Council has engaged national agencies, groups and organizations, but local homeowners and groups as well. That will be the greatest success of this group moving forward.
- I am so happy to see this meeting and group formed, we have to figure out a better way to work together, just getting this group together is a big start in the effort.
- With such a diverse group, we need to make sure we all continue to communicate after this meeting.
- Lets figure out how groups and organizations can work more closely together on this issue.
- I am interested in hearing more about best practices being implemented.

- Egos and turf has to be put away to deal with this issue, we seem to have quite a bit of this still happening, why?
- Improved research is needed along with better communication on what is occurring within the research community.
- Figure out ways to avoid all the duplication of efforts between groups and organizations.
- How to get the public more engaged and understanding of the issue of WUI
- More emphasis in everyone that has a part to play in solving this issue is better engaged.
- I just want to see this Council become voice of WUI fire.
- It is good to see city and county representation at today's meeting, I would like to see more groups sitting at the table from this group of stakeholders.
- Find ways to improve the poor statistics of this growing issue.
- With so many groups, and organizations working on this issue, we need to figure out how to make improvements in working together. It is not just a federal or state or local issue, it's bigger than that.
- As in the meeting today, get everyone involved and working on the issue.
- We need to recognize that all programs are not working, how do we focus on the ones that are working and get rid of the ones that are not.
- Lets make sure we don't duplicate efforts from other efforts.
- I am concerned that we have too many programs and projects that are not well coordinated and would like to see how we can improve upon this problem.
- The effort this week is very important to get all of us on the same page and working together, lets build on this effort.
- As a homeowner and community activist I want to see how this group can help me and my colleagues around the United States.
- Having insurance, fire service, federal agencies, code groups, community groups, private industry, environmental groups in the same room is a huge first step in getting a handle on this effort. I want to see more of this occurring.
- It is refreshing to see such a variety of groups, organizations and individuals sitting here this morning. I look forward to seeing a new alliance and partnerships with the groups sitting around the table.
- As a Fire Chief, I want to see how to tie national level efforts with local efforts and have a network to work with that is not biased.
- We have already met my objective and that is just getting everyone in the same room and talking about this issue with no politics or turf involved.
- It is good to see USFA Administrator Chief Gaines at this important meeting; I feel USFA has a lot to offer in dealing with this issue. I want to see how as a new Council we can move forward with working on this issue, and make real positive changes.

- I am very supportive of this new effort and would like to see the efforts tomorrow in developing an action plan that will focus on communication.
- First thanks to ICC and NRC&D Councils for sponsoring this first meeting and NAHB for hosting, I am very excited to be involved on the ground floor of this effort. I like to concept. I want to see it succeed and be a nation voice in dealing with this effort.
- I would like to see how we could work closer and communicate better as groups and organizations.
- I want to hear how some communities are making real strides in reducing WUI fires and what their strategies have been.
- I would like to see a discussion occur on how better messaging about the WUI issue can happen?
- I agree with our research folks here today, improving upon WUI research is needed to insure that the messages we are trying to convey to the public has sound research.
- It is time to begin a new chapter in better cooperation and coordination. It cannot be a just a federal or state effort, it has to involve a cross section of agencies, groups and organizations.
- I look forward to next years meeting, and the follow-up to this very important kick off meeting. I want to see coordination, coordination and more coordination.
- I agree with Chief Waldron, we have to integrate local and national levels to get everyone on the same page.
- I would like to see this meeting set up a new communication network with all of us it the room today.
- I really appreciate the opportunity to participate in this effort. I feel that this meeting is just what we need to begin a real dialog in dealing with WUI.
- I would like to see good solid action plan developed for us as a group to begin to make headway on dealing with this issue.
- Although this is a very large group with a very broad cross section of participants, it is evident that several key organizations are not at the table. We all need to put pressure on no shows to be involved. It is a must to have ALL the players here and talking.
- I agree with Chuck, this is such an important issue that requires tremendous efforts. Each one of the 70 plus participants sitting around these tables have to work with our own organizations as well as putting pressure on the groups that are not here to be engaged. That is my goal of this meeting.
- I am so impressed with the agencies, groups, organizations and individuals that are sitting at this table today. As I listen to your introductions, you folks are the movers and shakers of this WUI effort. What I want out of this two-day meeting is an action plan that we can all work on and share with Congress.
- How can we better deal with states and state legislators on the issue of WUI?
- How does less government equate to solving this WUI problem?
- It is pretty well anticipated that federal funding is going to be reduced or ended at some point for these WUI efforts. I want to see how this new group can help work on this issue.

- I would like to see how future-funding cuts in the federal government would impact local communities that are trying to deal with this issue?
- I would like to see how we could better coordinate our national messages at the local levels. I think we have far too many terms that are very confusing.
- I would like to see someplace we can go to get good sound statistics; no one seems to have this responsibility?
- I would like to hear how yesterday's election will affect WUI efforts in the future?

10:20 **Welcome**

Sara Yerkes, Senior VP Government Relations, International Code Council

Perspectives to the WUI fire problem

Moderator: Steve Austin, Chair of the Congressional Fire Services Institute, National Advisory Committee Chair

Resource Conservation and Development (RC&D) Councils and the Wildland/Urban Interface

**James Sipperly, President,
National Association of RC&D Councils**

- RC&D Program focuses on natural resources and quality of life in local communities.
 - Authorized by Congress in 1962
 - Partnership between the USDA Natural Resources Conservation Service and 375 local RC&D Councils.
 - RC&D Councils serve 85% of U.S. counties and 77% of the U.S. population.
- RC&D Councils are made up of volunteers representing public and private sector sponsors and other local organizations.
 - Undertake community-driven projects centered on local community needs.
 - Projects involve multiple partners - government, other nonprofits, citizen groups.
- Achievements include creation or retention of local businesses and jobs, improvements to wildlife habitat, preservation of agricultural land, soil and water quality.
- Many RC&D Council WUI projects: hazardous fuel removal, Fuels for Schools, Firewise communities, community emergency preparedness.
- National Association of RC&D Councils' website: <http://www.rcdnet.org/>

A Fire Chief's Perspective on the WUI Chief Scott Waldron, West Yellowstone, Montana

A SWOT analysis of the particular situation at West Yellowstone reveals the following:

- Strengths
 - West Yellowstone receiving funds (over \$9,000 from local RC&D Council)

- Coalitions getting better since the late 80s (more funding, better equipment, better response time)
- Education and training need to be implemented more locally
- Local governments have weaknesses
 - No control over state/federal fire policy
 - Joint protection suffers as a result
 - Homeowner apathy (needs more education)
 - Trying to find support for zoning and code enforcement
- Relationships can be strong or weak depending on the areas
- Economic viability of timber industry is a big issue in WUI
 - Experiencing a decline
 - Big sources of funding for WUI coalitions
- Opportunities
 - Meetings like this
 - Local and state cooperative efforts
 - Fuel mitigation programs, biomass utilization in the future
 - Prevention and education have to be in the forefront
- Threats
 - Unhealthy forests (due to insect infestations, burns, clear cuts and unsustainable logging practices)
 - Fire burning into communities
 - Cost-sharing is a scary word for some local governments
 - Lack of public and political support for regulations and codes that could help alleviate problems
- Optimistic about the future

Northern California Proactively Dealing with the WUI

Bruce Courtright,

**Coordinator for the Scott River Basin Coalition of Fire Safe Councils, CA
National Association of Forest Service Retirees**

- What to do in impoverished counties that lack resources?
- For example, Siskiyou County, located in the northernmost part of California
- 63% of the land in the county is federally owned -- several large National Forests and Wildlife Refuges -- and the county is mostly rural
- The local economy is based on natural resource use, with increasing focus on environmental sustainability and nature tourism/recreation
- Poor people everywhere, 50% don't work (retired or unemployed), most have houses built for \$6,000 in the 40s
- The entire county is WUI, and a high fire risk prevails throughout the county
- All county fire departments are volunteer
- 20 FireSafe Councils throughout the county
- Projects undertaken:
 - Hazardous fuels reduction
 - Program coordination: working with biomass agencies and sharing reduction equipment
 - Community Wildfire Protection Plans being made
- Formed a County Fire Panel

- Works with and is helped by the county government
- Local outreach: chambers of commerce, Tribal governments, environmental organizations, local governments, small businesses
- Community meetings to educate: reduce hazardous fuels, futuring workshop, implementing biomass utilization projects
- The idea is to rely as little as possible on federal and state funds
- Read the cohesive strategy
- Little counties need money more than anything, even with all these programs, in order to get construction projects going
- More money for prevention measures, less for fire fighting would be great: need to spend money up front, not wait until fires start

WUI Fire: Past, Present & Future
Kate Dargan,
National Association of State Fire Marshals

- A short history of the firefighting efforts in the California WUI
- 2 separate problems and 2 separate solutions
 - Problem 1: Wildfires (environment)
 - Problem 2: Interface Fires (civilized loss)
- There needs to be a policy differentiation between the two problems
- WUI fires are almost always man-made
- We need to bring the market and private enterprise into the fire prevention effort; we can not rely on government alone.
 - If we can educate businesses instead of just homeowners we have more power of exposure.
- We need the Fire Service to have full buy-in to this issue
 - We're not going to fix it with just prevention and mitigation
 - The Fire Service is the key messenger to the public
- "It's less about preparing for battle and more about shaping the battlefield:" we need to think more about fire and land use, building standards, and codes and transform the battlefield in our favor.
- Trends
 - Wildfire vs. WUI fire
 - Building standards development
- Existing vs. new development need different action plans
 - Land use planning
 - Codes (highlight this very much)
 - Retrofits
 - Defensible space
- WUI fire is an increasing phenomenon
 - We need to figure out where growth is occurring
- Technology and Remote Sensing
 - Geospatial services, data sharing structures, visualization, connectivity --- these new technologies will enable people to better visualize the situation, problems, and solutions
 - Modeling high risk vegetation at the square meter level near structures
 - Show people their house getting burned down in models

Politics and Fire
Kevin O'Connor,
International Association of Fire Fighters

- Default action for the feds: do nothing
 - Thus we need to come together behind the same issues
- Turf wars are common in the federal government -- protection of one's own department and its activities make coordination of fire prevention efforts more difficult. For example, advocates of forest thinning and biofuel use at various state and federal departments conflict with advocates of less human interference in the workings of nature.
- There's a divide between foresters and firefighters
 - Wildfires can work themselves out naturally (foresters)
 - WUI fires shouldn't, so we need to thin and prevent (firefighters)
- Prevention is worth an ounce of cure, so that's what we have to go for.
- Where we are in Congress
 - The WUI issue is obscure and not high on the priority list
 - The House – going GOP -- Republicans say they want to reduce government spending, but will that lead to cuts in fire preparedness and fire fighting programs?
 - Personnel in key House committees will shift: Authorizing committee switches from Rahal to Doc Hastings
 - Hastings is a Boehner personal friend
 - Appropriations
 - Jim Moran was running it, now it'll be the most senior Republican
 - GOP wants to reduce spending now, but we'll try to get public safety money
 - The Senate
 - Murkowski will probably remain as ranking member of the natural resources committee, which will help us.
- Regardless of the shifting balance of power, our top priority should be to have a unified stakeholder presence in order to advocate for the policies we want to see. We need to find common ground and then lobby for it.
 - View the federal government as an adjunct

The Congressional Fire Services Institute
William Webb, Executive Director

- Congressional Fire Service Caucus
 - Formed by Curt Weldon
 - Brings congressmen together to deal bipartisan with fire issues

- Largest caucus on Capitol Hill
- Look for issues that bring the fire service organizations together
 - Most proposed legislation doesn't get passed. Thus this coalition needs intensive coordination to make the best case it can, work on the national and local level, lobby effectively, and form positive working relationships with elected officials at the local, state, and federal levels.
 - If the coalition fails to work together, the consequences of funding cuts could be significant: they would mean less education and prevention programs
 - We have to work aggressively to make sure that with political changes, that we don't get cut.
- We can't expect changes overnight, even if ICC comes up with a great legislative strategy
 - Out of around 15,000 bills submitted, perhaps 200 are passed each year
- "All politics is local" -- we must tell our members of Congress how their communities and constituents would be affected by in action and what we need from them.

International and National perspectives to WUI
Charles Bushy, President, International Association of Wildland Fire

- WUI fires happening in other nations too, such as Russia, France, Brazil, Portugal, Greece.
- Australia's forests have evolutionarily adapted to fire after 40,000 years of aboriginal burnings
 - Australian buildings are constructed in a way that allows roofs to rip off and set burning embers in the house
- Everyone needs to be proactive, not reactive
- We need to create "Fire Adapted Communities"
 - Fire risk needs to be incorporated into all aspects of land planning, land management, and buildings (i.e., the vulnerability of structures, particularly home ignitability and the home ignition zone)
 - Use FireWise
- Also encourage fuel reduction/modification to reduce risk, fund research into projects in the WUI and the larger forest, prioritize high-risk areas
- Governments and individuals share responsibility
 - Governments can only do so much, but one thing they can do is mandate long-term community fireproofing programs building upon local zoning plans
 - Educate homeowners: Individuals need to take measures to fireproof their own homes/businesses
- Proactive public education and community planning
 - Plan with public involvement, let the public know their rights and responsibilities
 - Alternatives to evacuation

- Plan for early notifications and warnings
- Don't oversell fire suppression capabilities
- Define emergency exit routes
- Potentially look at occupancy levels for certain areas -- communities might define these (but this can be controversial)
- Keep abreast of fire research
 - Changing demographics (growing and relocating population)
 - Climate change is causing shifts in plant growth, insect and pathogen spread
 - How to prepare wildland to reduce the threat of massive wildfires -- e.g., Crown Fire Experiment

United States Fire Administration
Glenn Gaines, Acting U.S. Fire Administrator

- 4 stars represent the 4 goals of the US Fire Administration
 - Collect data
 - Research
 - Technology
 - Best Practices
 - Data validity assessments
 - Public Education
 - Train firefighters at the National Fire Academy
- Biggest initiative: rearing next generation of fire chiefs
 - The low incidence and high impact of forest fires lead to complacency or overreaction on the part of government and the public
 - USFA/NFA has the responsibility of ensuring the nation's structural firefighting forces are aware and prepared for future growth in WUI risk.
 - Fighting fires is just as much about putting out fires as preventing them
 - USFA/NFA is in the process of encouraging the next generation of fire service leaders to shift resources more toward public awareness, prevention and mitigation through partnerships with citizens and citizen groups
 - FireCorps and CitizenCorps programs
- Most fires in the country are outdoor
 - More fires occur per capita in rural and suburban areas than urban areas
 - Most indoor fires are kitchen fires
 - Most fire deaths occur in urban areas
 - Most fire injuries occur in suburban areas
- Seniors may start to fill in the WUI: 17% of WUI areas are currently developed; 80 million coming Baby boomers -- many will want primary residences or vacation homes in the scenic WUI
 - They won't be able to readily evacuate themselves
 - Highest percentage growths in the West/Southeast

- Codes
 - Codes that allow homes to be so close together need to be revised
 - The American structural fire service leaders need to begin now to become fully immersed in code development, community planning and public awareness in an effort to successfully mitigate WUI risk.

National Wildfire Coordinating Group overview

Aitor Bidaburu

- Three levels of Wildland Fire Governance
 - Wildland Fire Leadership Council, composed of high-ranking public officials, provides strategic leadership
 - Wildland Fire Executive Council offers strategic direction
 - National Wildfire Coordinating Group implements programs and policies
 - Chartered in 1976
- NWCG Members
 - Fire Directors (BIA, BLA, FWS, NPS, FSNFA)
 - USFA
 - Forest research
 - National Association of State Foresters
 - Intertribal Timber Council
- Goals
 - Provide more effective execution of programs across the board
 - Provides a formalized cross-agency credentialing system for training and equipment
 - Become more efficient in combating wildfires by streamlining and standardizing various wildland firefighting agencies
- NWCG guiding principles: safety, cost effectiveness, interagency coordination, leadership, organizational excellence
- Solely voluntary employees except branch managers and executive board
- Has a dedicated WUI Mitigation committee

National Volunteer Fire Council

Dave Finger, Director of Government Relations

- Membership is primarily through state organizations
- Over 30 committees
- 812,000 volunteer firefighters across the country
- 85% serve in 10,000 or smaller communities
- Wildfires affecting populations not in the WUI often served by volunteer-only fire departments
- Wildland fire training is often considered specialized training
 - Many volunteers cannot afford or access this training
- There is an aging population of volunteer firefighters
 - We need more youth in the volunteer firefighting program
 - Means and methods of delivering training is an increasing problem

- Fire Assistance Program, Rural Fire Assistance program, SAFER program are all important sources of funding for volunteer fire service
- Do we need a new program, do we need to update an existing program, or simply fund an existing program more?

National Association of State Fire Marshals

Kate Dargan

- Wildfire has been primarily addressed by the forestry agencies, historically
- Every state has a state forester and a state fire marshal (excepting CO)
 - THEY NEVER TALK TO EACH OTHER
 - We need to connect them
 - Only CA has a fire chief who is also the state forester, so it's easier to talk to him
- NASFM has put together a Public Safety Data Model
 - Takes all kinds of fire hazard factors into account to create a map of an area that correlates total risk levels for parcels of land (e.g. house-by-house) to colors on the map
 - Takes info from the built environment, natural environment, social systems, and suppression systems in the area
 - Data collected by remote sensing (LIDAR, spectral imaging, etc)
 - Data can easily be integrated into GIS and Decision tools
 - These advanced tools will be available publicly in about two years
- The idea is to narrow the gap between the public and the professionals
 - Social networking principles at work!

Headwaters Economics and the WUI

Ray Rasker, Executive Director

- What would it cost to defend WUI homes from wildfire?
 - Right now, more than \$3 billion/year
 - The average WUI home is occupying more land than before
 - Montana example
 - \$8000/home within a mile of fire
 - \$1600/home within 6 miles
 - \$664 per residential acre
 - Projected 2025 cost: \$84 million (half as a result of 1° increase)
- How to control the cost of the remaining undeveloped western WUI?
- Ten ideas --- Solutions to rising costs -- Those who build and those who approve development do not bear enough of the costs
 1. Mapping: show areas of high probability of wildfire
 2. Education: show people how much it costs to fight fires, protect homes
 3. Redirect federal aid toward land use planning: direct development away from WUI: Counties frequently don't have dedicated land use planners, so give them planners with tools -- examples, collaborators
 4. Share more costs between local and federal levels (federal bears a greater share)

5. Land acquisition: purchase land and fireproof it or establish easements to put most at-risk land off limits. In Montana this would cost over \$50 million less than developing it
6. Use lessons learned from flood insurance: map lands, require communities to manage, require fire insurance, WUI codes/regulations, and restrict home loans
7. Insurance: allow higher premiums in fire-prone areas, require fire insurance and have government help subsidize the cost
8. Zoning: allow local governments to zone use and limit development in locally planned/zoned areas
9. Mortgage interest deduction: eliminate it in fire-prone areas to discourage home ownership
 - Would only affect 4% of homes, 20% of which are second homes
10. Reduce federal firefighting budgets: force federal authorities to shift costs to local governments

National Institute of Standards and Technology:
Wildland Urban Interface Research Overview
 Alexander Maranghides, NIST

- Main focus is on modeling, risk assessment, and mitigation tools: they enable us to prepare, assess, and decide more effectively
- Using physics-based diagnostic tools to assess economic impact of hardening structures
- Firebrands are a major cause of ignition
 - It's important to understand them to mitigate their effect in spreading fires
- Need to address gaps in Risk Assessment and Mitigation (RAM) tools
 - NOAA Fire Weather goes down to 8 km scale
 - NIST WFDS goes up to 1 km scale
 - Gap between 1-8 km scale needs to be addressed
 - WFDS-FAST is in development by NIST
 - Carrying out experimental fires to simulate WUI community fires
- NIST has published studies
 - NIST TN1685
 - Coming soon with a FireWise type assessment of community defensive actions and fire and ember exposure

University of California, Berkeley Center for Fire Research and Outreach
Steve Quarles

- Cooperative Extension is academic type dedicated to applying research and education to the “real world.” The focus of the center is wildland fire, materials performance, and design
- They run the Center, which has a list of resources on their website
- Projects
 - Prescribed burning and fire surrogate studies
 - Fire regimes and fire weather research
 - Behavior of fires in areas and their relation to climate/weather patterns
 - Fire ratings for roof coverings
 - Underlined the importance of assembly when it comes to roof structures
 - Flame impingement exposure and structural vulnerability
 - Gauging how overhangs affect flame spread in houses
 - Testing compliance of deck materials and siding
 - ASTM Subcommittee on Exterior Fire
 - Education in conjunction with Fire Safe Councils
 - Hands-on workshops exposing people to effects of fire on building materials, etc.
 - Lake Tahoe Basin Wildfire Awareness Week (collaboration with UNCE)
 - E-Extension program
 - Funded by USDA NIFA
 - Extension Wildfire Information Network (eWin)

Overview of Government Accountability Office WUI Reviews
Steve Gaty, Assistant Director,
Natural Resources and Environment, GAO

- \$3 billion wildland fire price tag concerns Congress
 - Driven by larger and more severe fires
 - Also driven by trying to protect WUI structures
- Comes at WUI issue from the federal perspective
 - No reviews done specifically on the WUI
- Definition of the WUI questions
 - Three official definitions
 - Various considerations that local land managers take into account
 - Some see it as rural roads, power lines, etc. with no houses around
 - Projects in WUI are typically higher-priority than non-WUI
 - Blurs the concept of high-priority with so many definitions
- Steps that WUI homeowners can take to protect their property
 - Homeowners typically reluctant to take these steps
 - Time, cost, or aesthetic concerns
 - Education is critical to get them to overcome this reluctance

- Also critical for the gov. officials
- Role of non-federal entities
 - Looking at cost-sharing framework
 - No agreement about who is ultimately responsible for WUI firefighting costs
 - Current framework insulated state and local governments from protecting WUI since the federal government shouldered more of the burden
 - That acts as a disincentive for states to adopt WUI-protecting measures
- These three will be the biggest problems facing federal WUI firefighting techniques
- Fed agencies face unsure budget future

The Building Products Industry's Perspective on the WUI

Kevin Cheung

Western Wood Products Association

- Creating a handbook that details acceptable products under new regulations and supports the regulations that governments often simply mandate without explanation
- Even with testing, everything associated with construction affects fire performance
 - Even if wood is rated to burn at certain rates, sheeting, nails, etc. can affect burn rates
- Test based standards mean that the process is open to all manufacturers and materials companies
 - The challenge is identifying all the products that can meet the standards

Jamie Rhynard

Dow Corning Corporation

- Silicone technologies can benefit home construction products and homes in the WUI: they are stable under a wide range of temperatures, resist aging and bad weather
- Dow Corning is eager to understand the WUI problem and provide more products that will address wildfire challenges
- However, the company needs more information about WUI-related issues so that it can develop appropriate products
- The sector needs to provide more information to consumers so that they can better understand the wildfire problem and make better decisions: the level of risk perceived by homeowners and by WUI and wildfire experts is very different

Need to ensure consumers actually want to mitigate wildfire risk

We need to reevaluate the educational process to make sure it's working

- How do we create a business model to address the existing building market? How can we best go about retrofitting existing building stock? Silicone technologies can benefit wood products: they are stable under a wide range of temperatures, resist aging and bad weather.

Dow is eager to understand the WUI problem and provide more products that will address wildfire challenges

- However, the company needs more information about WUI-related issues so that it can develop appropriate products
- The sector needs to provide more information to consumers so that they can better understand the wildfire problem and make better decisions: the level of risk perceived by homeowners and by WUI and wildfire experts is very different
 - Need to ensure consumers actually want to mitigate wildfire risk
 - We need to reevaluate the educational process to make sure it's working
- How do we create a business model to address the existing building market? How can we best go about retrofitting existing building stock?

Phil Kleinlauth
GAF

- GAF is committed to offering fire retardant products
 - Shingles, metal, roof coatings, deck boards
 - They pass the California testing requirements with flying colors
- Everything comes with a cost, so it's important to justify increased costs for fire retardant and preventative products with a return on investment
- Case in point: despite passing California fire codes, no additional business in the state --- where's the return on investment?
- Codes are sometimes unclear or are not enforced or communicated to manufacturers
 - We need clarification of rules
- Testing facilities are sometimes inadequate
 - We should limit testing to authorized testing agencies
- Some building officials don't know all the rules
 - They need training

Richard Barone
TPR2

- TPR2 focuses on fire abatement products
 - Works with insulation, coatings, powders, etc.
 - Started out in NASCAR, got into NHRA
- Testing spray foam in up to 300-400 sq. ft. rooms
- Mostly works in partnerships with companies that make building materials and develops product modifications that add fire resistance
 - Looking to broaden testing capabilities

- Excited about participating in WUI product development, but *need to see probable return on the investment into new products*
- See the potential for expanded partnerships among insurance, fire organizations, code reviewers, and academia
- Bottom line is to “Make the fire smaller/faster”
- Figure out where the product messages need to go (e.g. state, local, firewise, code)
- Business side would like to see data sharing about the research being conducted by various institutes

Larry Dumm
Gunter Manufacturing

- Standard vents don’t stop fires
 - Embers and firebrands go right through
 - Often a weak point in otherwise fire-safe walls
- Vulcan vents prevent ember penetration
- A honeycomb core is the key technology: the material expands in reaction to increasing heat and approaching fire
- They also provide a number of retrofit options
- Looking to be a greater part of the code development process and an increased role in WUI fire prevention
- Recommendations for the sector: We need to develop more testing procedures, educate the public, get information to code officials, form a multiple industry association for companies with WUI products, continue to combine knowledge to learn more about WUI issues.

Steve Beck
Firefree Coatings

- Fire resistant, not fire retardant coatings
 - Started by trying to find a retrofit solution for existing gypsum walls
- Coatings can be applied to walls, ceilings, wood, lath, plaster, metal, foam, fiber, fiberglass, etc. --- the coating reduces temperature and resists flame
- Clients include DOD, DOE, Boeing, Disney
- Working with ASTM to create reasonable, effective codes for the WUI area
- Problems in WUI areas likely to get worse before they get better
 - Population growth combined with decreasing fire services
 - We need a strong coalition to develop comprehensive approaches to the WUI and to help prevention specialists and fire services get things done right
- Codes
 - Eave, soffit, and vent issues need to be addressed (most important)
 - Windows, doors, and walls also need to be addressed
 - Has worked successfully with Gunter Manufacturing on vent development
- The most vulnerable area of a structure is the vent/eave/soffit
 - Thus these places need the most coatings
- Goals

- Create an action plan to join together all product manufacturers that can help save a home in the WUI
- Merge with insurance industry desires in order to get fire insurance for everyone
- Gather support from the public sector to form a group that can move a WUI fire prevention plan forward
- Get an acceptable and affordable WUI plan for every state
- Challenges
 - Get the message out: educate homeowners and officials
 - Speed up product testing and approval
 - Promote innovation
 - Address the treatment of existing homes
 - Bring products to market faster
 - Make useful products profitable

**A Statewide Example of Cooperation:
the California Fire Safe Council
Bruce Tuberville and Margaret Grayson**

- Over 250 local Fire Safe Councils across the state
 - Unaffiliated with the state council
- CFSC helps local Fire Safe Councils form, supports community efforts, and furthers implementation of the National Fire Plan
- Helps run the Grants Clearinghouse
 - Manages federal funding for firefighting in California
 - Helps the dollars get on the ground and to local legal entities that need them
- Nationally, funding is sporadic
 - Public education hasn't been a priority
- Suppression is usually the focus, not prevention (but prevention pays for itself tenfold)
- Grant funding sources are drying up in the economic downturn
 - Not helped by the fact that fire prevention policies are piecemeal and have no unified voice to promote prevention interests
- Grant funds have done great things
 - Provided access to inaccessible communities, including escape routes
 - Saved Painted Cave
 - Allowed fuel reductions in key areas
 - Also works on earthquake preparedness
- CFSC helps create a sense of community with state and local fire preparedness organizations
- 460 projects in 5 years have been funded by the FireSafe Council, with grants totaling over \$56 million
- California's needs include:
 - Funding
 - Increased cooperation between fire agencies
 - Create a favorable business climate to attract private sector
 - Need to be all on one page about codes, planning, zoning, etc.

- Increase efforts to educate residents and communities about wildfire risks and costs

Keep Oregon Green since 1940, dealing with the WUI

Mary Ellen Holly, President and CEO, Keep Oregon Green Association

- Anyone who is involved in fire prevention or suppression is always urged to be involved in KOG
- Not profit-driven and not terribly state funded as well
- Education is about changing behavior
- Promotes fire prevention on 15.8 million acres of private land and 18 million acres of federal land
- Forest landowners are the mainstay of the organization, and partnerships are the key to marketing and implementing the program
- Survey indicates only 69% knew about wildfire risks and prevention -- previously, KOG focused on educating wildland visitors (i.e., tourists), now it focuses on WUI residents
- WUI poses two main challenges
 - House fire starting wildland fire
 - And vice versa
- WUI covers 3.5 million acres (7% of Oregon)
 - Has increased since 1974
 - Land-use plans put in place in 1984
 - 595 communities are at risk: 159 at high risk, 331 at moderate risk, and 135 at low risk
- Promoting safer behavior
 - Annual Wildfire Awareness Week features television ads, posters, and tri-state proclamation (CA, OR, NV)
 - Fire resistant plant books
 - Public Service Announcement videos
 - Oregon State Fair buildings
 - Defensible Space Demonstrations
 - Educational Boards
 - Billboards
 - Wheel of Wisdom game
 - State Capitol displays
 - KOG Rangers (kids 8-12 educated about wildfires, their causes, and how to prevent them)
 - Oregon Garden Safety House
 - 266 road signs

Firefree Central Oregon: Effective and Going Strong

Gary Marshall, Fire Marshal, Bend Fire and Rescue

- Has created codes that restrict the use of wooden shingles; introduced regulations against fuel accumulation, fireworks, and the use of intentional burning to dispose of plant rubbish; closed agreements with garbage collection companies for them to take yard debris and other potential fuel

- Central Oregon has seen a massive buildup of wildfire fuels over the past 100 years
- Homeowners are too reliant on their fire departments; they assume that they'll be there to save them, but fire conditions and increasing populations can make this difficult
- Fire science is the easy part, social science is the hard part: need to change homeowners' and code officials' behavior
 - We can make fire resistant materials, but people have to install them
 - We can draft better codes, but people have to adopt and enforce them
- Safeco funded a public education and social marketing campaign (billboards, videos, printed materials) on fire prevention --- \$150,000 over three years in the 1990s
- Good marketing!
 - Hire marketing firms
 - Get a focus group
 - Focus groups are so helpful
 - Gets immediate feedback from average consumers
 - Produced a video
 - Brochures
 - Posters
 - POP displays in libraries and video stores with free educational materials
 - Billboards advertising Fire Free weekends to burn all your stuff for free!
 - Local museum has a desert walk
 - High-hazard mapping
 - OSU
- Oregon has a mini-maxi code (with no option of local amendment)
- Make homeowners liable for suppression costs if they don't follow ordinances

Insurance Services Office and WUI

Frederick Brower, Manager, Community Infrastructure Information

- Measures, manages, and reduces risk -- focuses on four key areas:
 - Critical infrastructure: collects information on 2.9 million commercial buildings, including fire protection data
 - Disaster modeling and hazard mitigation (terrorism, natural disasters)
 - Fraud assessment and data verification: database is the largest in the world
 - Data management and consulting
- Community fire mitigation efforts
 - Rates fire suppression, code enforcement, and flood communities (FEMA partner)
 - Underwrites several insurance companies
- Working on an update of the Fire Suppression Rating Schedule
 - Reflects input from stakeholders
 - New WUI rules allowing credits for code enforcement and public education programs
 - Making it more predictive of risk of specific loss
- Fire Station Database

- Most accurate and comprehensive GIS database of fire stations including fire response areas in the country (in large areas, protection is very limited due to the absence of fire stations)
- Mapping over 52,000 recognized and unrecognized stations identifies exactly who responds to what fires where
- Includes specific information down to apparatus/equipment information
- Evaluates district water supplies
- Fireline program: GIS mapping, data collection and analysis
 - Assesses locations based on fuel, slope, and road access to determine hazard level for that location: (fuel)(slope) + road access = hazard
 - Based on NFPA standards
 - Fact sheets characterize fire aftermath based on hazard assessments
 - 95% of destroyed properties were assessed at least moderate risk
 - Does defensible space monitoring
 - Prototype effort at the moment

State Farm Insurance Company and the WUI
James France, Manager, P&C Underwriting

- Works with policyholders to reduce risk; this allows them to increase the chance to preserve their property, protect their most cherished possessions and memories, and reduces insurance company claim payouts (a win-win scenario)
- Need to find a balance of sticks and carrots for policyholders
 - 730 days to take action, such as clearing debris and trimming trees
 - Give people insurance as long as they undertake mitigation activities
 - Saves insurance companies money because things don't burn down
 - There are still claims, e.g., for smoke damage
- Five products to put in the home
 - That's the sort of thing we need
 - We have it for wind
 - IBHS website offers a code-plus mentality
 - Go beyond code to get even safer homes
- Looking to develop a one-stop testing facility to get above-code materials tested and promulgated
- Code cycle is frustrating because of the slow pace of change
 - If we know the answer, let's get it put in and get it done
 - There should be national or state codes, and then they shouldn't be watered down when they're rolled out at the local level
- Insurance companies often know more about a homeowner's house than the homeowner
 - Data mining, GIS surveys, etc.
- We're missing people at this council meeting
 - We need to get everyone at the table to get a unified voice to the marketplace that is easily understood
 - Insurers are like Switzerland and are always looking to partner with other organizations

U.S. Department of Energy, Savannah River National Laboratory
Melissa Sindelar, R&D Engineering

- Wildfire Ignition Resistant Home Design project
- We are facing the problem of human nature: homeowners underestimate their own risk and are over reliant upon firefighters to solve their (potential) fire problem
- Developing SIAM software
 - 3D modeling of ignition risk assessment from multiple sources
 - Looking to market to homeowners, fire departments, academics, planners, etc.
 - Beta testing starting in April
- Partnering with IBHS and Oak Ridge Laboratories
 - Also FLASH and Clemson University

ICMA: Leaders at the Core of Better Communities
Thomas Wieczorek, Senior Manager of Public Safety Programs

- Deals primarily with local government leadership and management
 - Publishes textbooks and survey data
 - Give technical assistance
- Recently launched the Knowledge Network
 - Combines all the information from member organizations about managing local governments
- Three centers
 - Center for Public Safety Management
 - Training
 - Research
 - Publications
 - Command Selection
 - Technical Assistance
 - Center for Sustainable Communities
 - Center for Performance Measurement
- Local governments face tremendous financing and service provision challenges due to the collapse of their revenues in the wake of 2008 recession
 - Funds being cut everywhere
 - Many jurisdictions have been set back about 20 years

Farmers Insurance and the WUI
Jerry Davies, Assistant VP for Media and Public Relations

- Half million people now live in the California WUI, and another half million are expected to move there in the near future
 - With increasing migration to WUI, insurance challenges likely to grow over the coming decades
- Farmers is the third largest insurer of automobiles and homeowners
 - Serves more than 15 million customers in 50 states

- Involved in IAFC's Ready-Set-Go program
 - Also in the FireSafe Councils program
 - Worked with the San Diego Fire Chiefs to distribute 350,000 fire prevention packets door-to-door in 2009
 - Follow-up showed over 50% had actually opened the packet
- Claims buses/trailers
 - Can handle 70 claims an hour
 - Can feed people who have been displaced
 - 1,500 people three meals a day for a week
 - Not just for customers
 - Over 40 total vehicles in California
 - Laptops, phones, Doppler radar, information center
 - They can even find their pets!
- Institute for Business and Home Safety has a new testing facility (\$40 million)
 - 26 stories high
 - Sponsored by insurance companies
 - They built houses and threw 110 mph winds and gallons of water on them
 - Capabilities for hailstones, firebrands and embers, and other debris can be simulated.
- Education, education, education
 - It's been said repeatedly, but it can't be said enough
 - Has created a video, "How to Prepare for Wildfire," on the company website (www.farmers.com)

ESRI and WUI

Jennifer Schottle, ESRI Municipal Fire and Public Safety Policy

- Looking to get better access to GIS technology
 - Integrating standards and guidance
 - Creating map templates and models for things like
 - Pre-plans
 - Map books
 - Tactical response maps
 - Fire spread maps
 - Risk assessment maps
 - Training people on how to use them
 - Making tools and widgets available
- GIS is a game changer
 - Analytical capabilities on interactive maps are really the future of risk analysis
 - By combining spreadsheets with visual mapping, data is much more understandable and easier to apply effectively
- "This is basically software that is literally rolling off the presses"
- Intterra has created a situation analysis tool that does real-time analysis
 - Designed to be in the hands of a front line responder during an event
 - Does all manner of hazards from fire, to flood, weather, earthquake, etc.
 - This thing looks incredibly powerful and helpful

- People need to have access to the analytical capabilities that we now have the potential for with robust, real-time GIS services.
- But how can we make that information more available so that its use and usefulness will be maximized and really drive change?

DHS

- Science and Technology department started in 2003
 - Infrastructure protection and disaster management
 - Contains FEMA
- Personal alert and tracking system
 - Tracks firefighters through GPS when working in wildland fire
- Unified incident command and decision tool
 - You can see data and make changes to it so that you don't have to continually buy or upgrade new software

NARC&DC

- We need to work together on this council to coordinate action
- RC&D Councils can help deliver programs in local communities

ROUNDTABLE GROUP DISCUSSIONS

Moderator: Andrew Gordon, Deputy Executive Director/Counsel, National RC&D Councils

With a number of experts the emphasis will be on grappling with the issue in a small group, encouraging each participant to voice his/her own opinion, before presenting the main findings before the whole group. This session aims to get to the heart of the topic, promote debate with experts and allow participants to develop deeper insights reach conclusions consensus and formulate recommendations on the relevant issue and develop an action plan.

Group 1-WUI Education Roundtable dialogue

Much has been done to acquaint stakeholders in the wildland urban interface, including property owners, community leaders and government officials, with their fire protection responsibilities. For many reasons, including transition and rapid growth in the WUI, this outreach has not been enough. Statistics show that this continues to be a growing problem.

Jamie L. Rhynard, Dow Corning Corporation

Karen Quarles, American Red Cross

Mike Love, Vision 20/20

Bruce Johnson, ICC

Phil Kleinlauth, GAF

Angela Mickalide, Home Safety Council

James Sipperly, National RC&D Councils

Richard Barone, TPR2

Julia Lent, ASLA

Helene Cleveland, USDA Forest Service

Cecilia Clavet, The Wilderness Society

Lynnette Terrett, National Geographic

Roundtable Leader: Mary Ellen Holly, CEO of Keep Oregon Green Association

Note taker: Peter Costolanski

Group 1 Notes

Gap in awareness and education: is the WUI part of the fire problem?

Example of Detroit and lightning strike fires

Zero clearance buildings = WUI problem

Ashland, Oregon example: campfire spread to zero clearance housing developments across the street

Awareness problem, not only among the public but also at fire departments
Has anyone identified who needs to hear messages and what particular messages each needs to hear?

Separate messages need to be coordinated --- everyone needs to receive complementary messages: insurance companies, fire stations, the public/

Assumptions about fire protection lead to lax approach among the general populace

Less experienced fire fighters lack knowledge and may not be receiving the information they need to be brought up to speed.

Which are the target audiences?

Example: flood insurance --- code must be met in order to qualify for flood insurance; floodplain areas are clearly marked on maps and on the ground

Focus on prevention measures: need to reach out to the public and promote measures to reduce risk

State Foresters perform fire risk assessments while FEMA performs flood plain assessment --- we need greater uniformity in the creation and use of wildfire assessments

People are often unaware of their fire risk, and if they receive information, they often doubt the risk --- they trust in the effectiveness of their local fire departments

Oakland Hills example (1991): firefighters' response to impassable roads

How to overcome the problems of denial, outrage over receiving bad news?

- Identify audiences
- Uniform awareness message --- use existing channels or tools to communicate with the public about their fire risk level (plot plans, tax documents are items that everyone receives)

- Find out what information exists and how it can be tailored to meet local needs
- Information clearinghouse for use by agencies, communities --- make it accessible, easy to understand and use
- Dispel some myths and clarify some concepts, especially “defensible space”
- Regarding codes, make sure that new housing construction addresses WUI concerns

DRAFT ACTION PLAN

Develop overall message and modify it as necessary for each of the target audiences – (Kate’s classification)

- Institutional officials / governments (federal, state, local, tribal)
- Responders
- Technical experts
- Industry (insurers, realtors)
- Communities (homeowners)

Messages need to include the following information:

- Person’s location within a high risk area
- Information about what homeowners need to do
- Increasingly limited local firefighting resources
- Need to assume responsibility
- Consequences of noncompliance

REVIEW OF ORIGINAL BLUE RIBBON PANEL RECOMMENDATIONS ON EDUCATION

The BRP recommends more support for WUI-focused education, and offers the following observations: effective WUI education and community action programs exist, but they need more support to build, market and measure the success of their messages.

The four most utilized WUI programs by communities and homeowners are:

Firesafe <http://www.firesafecouncil.org> a successful program whose mission is to mobilize homeowners to protect their homes, communities and environments from wildfire. It promotes the idea that together, people and communities can control the impact of catastrophic wildfires.

Firefree <http://www.firefree.org> a successful educational program that has changed attitudes and behaviors about wildfires over the last decade. Each year thousands of residents participate in the spring free recycling event, but more importantly, they are protecting themselves and their neighborhoods from devastating wildfires.

Firewise <http://www.firewise.org> an approach that emphasizes community responsibility for planning the design of a safe community, effective emergency response, and individual responsibility for safer home construction, designs, landscaping, and maintenance.

Firesmart www.partnersinprotection.ab.ca a multi-disciplinary partnership committed to raising awareness, providing information, and developing forums to encourage proactive, community-based initiatives. Initiatives have the principal objective to reduce the risk of fire losses and enhance safety in the wildland urban interface.

Building on the very successful grassroots models of the National RC&D Councils' <http://www.rcdnet.org> and Fire Safe Councils' <http://www.firesafecouncil.org> organizational concepts, the BRP recommends that at the local level communities that have not already established a county or multi-county Fire Safe Council or similar group, should do so. At the state level it is recommended that a State Fire Council or similar group be established and include all key stakeholders, and at the national level a Fire Safe Council should be established, making a three-tier system that can better coordinate resources and efforts. Each system should be self-governed and independent.

The public and policymakers will be best served by a clear, coordinated message about the WUI problem and its solutions.

Recommendations:

Well over a dozen definitions of the WUI exist, based somewhat on what individual groups or organizations want to convey. The BRP recommends a simple and concise universal definition: ***“where structures and vegetation merge in a wildfire-prone environment.”***

To define the WUI problem, the BRP recommends the following characterization: The WUI problem is a combination of people, homes and frequent fires impacting the lives of increasing numbers of Americans, burning more structures, and resulting in ever mounting costs.

The enormous impact to our cities, communities and businesses in the WUI is also putting the lives of homeowners and first responders in harms way. The future will be even more challenging, with projections of more homes and people creating even greater hazards for homeowners who elect to build in these areas.

Solutions to the WUI problem are not simple; however, it is a demonstrated fact that Community Wildfire Protection Plans (CWPPS) along with building, fire and WUI codes are effective in reducing structure loss in WUI fires. These codes should

be applied universally.

3. The BRP recognizes that WUI education should be extensive and recommends the following key messages:

The benefits and role of wildland fire

While wildfires are a natural and important part of most landscapes, the unnaturally severe fires in recent decades have adversely impacted the environment, including forests, rangelands, watersheds and wildlife.

Individual, community and government responsibilities

People living in wildfire prone areas need to understand the potential dangers and their individual responsibilities to provide wildfire mitigation for their homes and properties. Many do not take seriously the risk of wildland urban interface fires and how to mitigate that risk. Thus federal, state and local governments and non-WUI taxpayers subsidize their decision to live in these high-risk areas.

Effective mitigation techniques or “best practices”

Homeowners living in wildland urban interface areas should understand what effective techniques or best practices are available to mitigate the risk of wildfire:

- Prescribed fire
- Mechanical thinning (including chipping, mulching and other forms of biomass utilization.)
- Hand thinning
- Firesafe vegetation

Benefits of prevention and mitigation work

In the aftermath of recent wildland fires, it became obvious that a number of homeowners had completed at least some recommended mitigation measures. In many cases, they were also willing to attempt additional measures despite mixed motivations to act.

Benefits of land-use plans

Population densities are continuing to increase and structural development is penetrating deeper into wildland regions. At the same time there are significant increases in the number of WUI fires, increasing the risk from wildfires. Land-use planning by communities is a must to ensure that population changes from urban to rural are well thought out and infrastructure is adequate to deal with fire protection issues. Some areas may simply be too dangerous, from a wildfire standpoint, to safely develop.

The function and benefits of building codes and standards

Building codes and standards and generally accepted practices define acceptable standards for the construction of buildings and the production, properties and performance of buildings. Groups or committees representing the fire service, manufacturers, government agencies, contractors and other organizations develop today's model building codes and voluntary standards. Upon adoption by governmental authorities, these model codes and voluntary standards are incorporated into laws and regulations.

Wildland urban interface standards, generally embodied in zoning and building codes (specification codes), are not widely adopted or implemented in the wildland urban interface. This needs to be examined and improved upon by communities at risk of wildland fire. These specification codes regulate minimum allowable building and site characteristics. Examples of specification codes include requirements for street width, the number of structures per area, vegetation clearance, roof material and screening of vent openings. Standards such as these recommend minimum building and site characteristics for improving structure survival. Based on research by CALFIRE, where these recommendations are implemented, structure survival during a wildland fire can be increased up to 92 percent.

Because many property owners who live in wildland urban interface areas move there to escape urban regulation, there is great resistance to fire safety regulations that restrict building and site characteristics. This suggests the need for a regulatory approach that makes allowances for the diversity of social values while identifying measures for reducing the fire risk. Implementing these measures should not be optional.

In most states, variations in geography, geology and climate necessitate that the code provisions address hazards stemming from these differences. By dealing with these variations at the national level, it has been shown that a nationally applicable code with adaptable performance standards could help serve the full range of the entire nation's need. A nationally applicable model building code helps to ensure consistency and fairness in determining, addressing and meeting the diverse and common needs of all the nation's jurisdictions.

Benefits of community preparation

It is a proven fact that in instances where homeowners and communities become involved and participate in dealing with the WUI issue, homes are better protected. Consequently, during a wildfire situation more homes are saved.

Recommendations:

1. The WUI message to policymakers should better explain why solutions might appear to infringe on property rights, but actually provide hidden, but vital benefits.

2. The BRP recommends that the very effective “Smokey Bear campaign” needs a WUI component that provides a clear and concise message about the importance of fire prevention in WUI areas.

3. Homeowners want easy access to WUI information and wildfire situation reports. The BRP recommends that a media campaign be initiated by federal and state agencies and other organizations in early 2008 that highlights where homeowners can find WUI information easily. It is recommended that the following two sites be promoted and utilized for this effort: Current fire information and situation reports at: www.nifc.gov, WUI interface information is available at www.firewise.org and an excellent site for tools to deal with the WUI issue at: www.firecenter.berkeley.edu/toolkit.

WUI stakeholders, such as realtors and building officials, should offer more WUI information to customers. It is recommended that realtors and builders, in collaboration with BRP organizations, develop a simple pamphlet that describes what potential and new homebuyers must do to live safely in WUI areas.

5. BRP members recognize and recommend that it is critical for WUI stakeholders at all levels, in all sectors, to continue to dialogue and work together on this issue.

6. It is recommended that homeowners utilize the following website to get the most up-to-date information and/or provide the website with examples of best practices of WUI mitigation efforts: <http://www.wildfireprograms.usda.gov>. It is recommended that BRP groups promote this site on their websites.

7. It is recommended that homeowners, local governments and other organizations utilize the website that has county WUI data for the 11 western states. This information is located at: www.headwaterseconomics.org.

Key programs dealing with Education that has been completed by various groups after the BRP Report was completed per the recommendations.

- 2008 and 2009 ICC develops and implements the *International Wildland Urban Interface Code*® National IWUC© fundamentals workshop in over 30 locations throughout the United States.
- **National Association of Counties (NACo)** conducts study on sampling of U.S. counties about use of codes and standards.
<http://www.naco.org/programs/csd/Pages/NACoWildfireClearinghouse.aspx>
- **Western Governors** in cooperation with other groups develop new handbook for communities dealing with Community Wildfire Protection Planning.
<http://jfsp.fortlewis.edu/reportsMain.asp>

Group 2-WUI Mitigation Roundtable dialogue

Experts agree that the best opportunity to prevent or reduce losses from wildfire occurs before that fire ignites. However, most programs do not adequately fund or measure the success of prevention and mitigation projects. Increased recognition and long-term commitment to the funding and support of WUI mitigation programs is needed.

Alexander Maranghides, NIST

Kevin Weir, ISIB

Larry Brown, NAHB

Bruce Courtright, NAFR and Coordinator Scott River Basin Coalitions of Fire Safe Councils

Dana Bres, HUD

Karen Deppa, NASFM

Elena Daly, Public Lands Foundation

Olga Walter, NARC&D Councils

Phil Kleinlauth, GAF

Melissa Sindelar, DOE, Savannah River National Lab

Randy Griffin, DHS

Larry Dumm, Gunter Manufacturing

Leader: Gary N. Marshall. Deputy Chief/Fire Marshal, Bend Fire and Rescue, Bend, Oregon

Group 2 Notes

- Where is the money?
 - Grants
 - USDA Forest Service
 - Department of the Interior (BLM)
 - FHWS
 - FEMA (US Fire Administration)
 - Mitigation and other types of grants
 - National Fire Plan
 - Cohesive Strategy
 - Corporate
 - Reforestation Eq.
 - Insurance
 - Chemical and Materials
 - Fire Equipment
 - Fire Suppression
 - Tax Revenues

- Homebuilding
 - Living in WUI
 - Credits for ignition “R” home
- Fines
 - Noncompliance with local ordinances
- In-Kind
 - Services
 - Gifts
 - Fundraisers
 - Products
 - Donations
- Leverage-in best practices and expertise
- Measuring Success
 - Hazardous fuel removed (tons/year)
 - In-Kind services (hours/year)
 - Incoming funds (dollars/year)
 - Number of roofs changed to Class “A”
 - Reduction of losses (Numbers or dollars per year)
 - Decreased number of claims
 - GIS progression (class “A” roofs/year)
 - Decreased Health expenditures (dollars/capita)

Blue Ribbon Panel on WUI Recommendations on Mitigation:

The BRP recommends increased recognition and long-term commitment to the funding and support of WUI mitigation programs. It also offers the following considerations:

1. WUI mitigation resources, including taxpayer dollars, can be better utilized if distributed based on local wildfire risks and hazards rather than politics or geographic equity.
2. Multi-jurisdictional and community collaboration about WUI mitigation programs, priorities, and grant opportunities is critical.
3. WUI mitigation programs should promote landowner responsibility.
4. WUI mitigation program success in hazard reduction should be measured on a more geographically strategic scale than acres treated.
5. WUI mitigation programs should measure wildfire risks, values-at-risk and the effectiveness of various treatment methods, including cost.
6. WUI mitigation evaluation programs should use long-term measurements.

7. Officials should support innovative research and design of mitigation techniques to offer better tools to WUI homeowners.
8. A clearinghouse of data on mitigation techniques and ideas, wildfire losses and prevention program cost-savings would benefit the public and policymakers.
9. A federal staff position dedicated to wildfire use could benefit public land-management agencies.

Key programs or projects completed by various groups after the BRP report was completed:

- **Firewise®** sponsors National workshops on fuels mitigation.
- **National Institute for Standards and Technology (NIST)** conducts key research on home survivability and codes or no codes.
- **Institute for Business and Home Safety (IBHS)** develops key geographic area guides for homeowners and retrofitting homes in the WUI.
http://www.disastersafety.org/text.asp?id=wildfire_main
- **The Federal Alliance for Safe Homes (FLASH)** initiates wildland urban interface fire public education programs.

Group 3-WUI Incentives Roundtable dialogue

Getting humans to act in their own best interests before disaster strikes is something like getting children to eat their vegetables. This discussion encourages the use of incentives (and sometimes disincentives) to motivate critical change in the WUI.

Guy Seeley, AER
Sean Carroll, CFSI
Mark Wills, AIA
Steve Austin, CFSI, NAC
Russell Riggs, NAR
Ray Rasker, Headwaters Economics
Steve Orłowski, NAHB
Margaret Grayson, CFSC
Thomas Twieczorek, ICMA
John Haugen, NARC&D Councils
Kuma Sumathipala, American Wood Council, American Forest & Paper Association
Kevin Cheung, WWPA
Steve Beck, Firefree Coatings
Leader: James France, State Farm Insurance

Group 3 Notes

There is a significant belief that defensible space is effective, but we don't know in detail where it works.

Continued research is needed to build solid evidence for significant enforcement actions.

Costs for fire suppression are diffused from the parties building in the WUI --- should some of those costs be assigned to the building and owning parties?

New construction should follow unaltered minimum national code standards

Studies for mitigation effectiveness verification should be based on areas that have codes / code enforcement in place

Consumers will take action based on financial incentives

Education as practiced through Fire Safe Councils is an essential foundation for action

Recommendations on Incentives from the Blue Ribbon Panel Report

1. Government-based, economic incentive programs, such as the National Fire Plan, State Fire Assistance Grants and mitigation cost-share programs, need continued support and funding.
2. WUI stakeholders in the private sector, such as the insurance industry (through higher premiums for WUI homes and discounts for good practices), can encourage appropriate Firesafe/Firewise action. However, emerging policy in the insurance industry tends toward disincentives, i.e., policy cancellation unless mitigation techniques are employed.
3. Recognize and support communities and organizations engaged in effective WUI education, prevention and mitigation programs.
4. Explaining the advantages of planning and regulation may encourage local buy-in and development of land-use plans, Community Wildfire Protection Plans and WUI codes and standards.
5. Implementing building, fire and WUI codes can create positive change in dealing with the increased threats of WUI fire.
6. Peer pressure can be used to motivate homeowners, i.e., publishing local mitigation progress reports, for example, on the Internet to create a sense of competition between neighborhoods, communities and even states and regions.
7. Free programs that help WUI homeowners dispose of flammable vegetation have proven successful in helping to motivate landscape-scale change.

8. Emergency response (fire suppression) programs may have opportunities that can be used to encourage and support WUI prevention and mitigation programs.

Key programs or projects completed by various groups after the BRP Report was completed:

- **2009 and 2010** National Institute of Standards and Technology (NIST) begins to strengthen research efforts dealing with wildland urban interface fires, numerous research reports help strengthen understanding of the issue relating to retrofit and new construction.
- **Fall of 2009** building products company's kick off first conference in Chicago that looks at wildland urban interface and building materials.
- **Spring of 2010** Dow Corning begins working with ICC, CFSI, NVFC, IAFC, NIST, NACo and others in looking at building product development needs for the WUI.
- **2010** The International Association of Fire Chiefs (IAFC) develops Ready, Set, Go! A program for fire departments to implement at the local level, field-testing begins in 2010.

Group 4-WUI Regulation Roundtable dialogue

On the face of it, people do not like regulation, but just as traffic flows better when everyone knows and obeys the rules, and are held accountable to them, America's WUI will be a safer, more self-sustaining place through the consistent and common use of codes and standards (rules and regulations).

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Sara Yerkes, ICC
Alexander Maranghides, NIST
Melissa Sindelar, DOE
Steve Quarles, UC Berkeley
John Haugen, NRC&D Councils
Thomas Twieczorek, ICMA
Jennifer Schottke, ESRI
Dan Nichols, State of New York
Leader: Fred Brower, Insurance Services Office
Note taker: Robert Sale

Group 4 Notes

- How are regulations going to help reduce WUI fire? How viable are regulations? How effective?
- ICBO developed the first WUI code in '97, now ICC has the IWUIC '09
 - Codes are technical docs written in a political environment
 - Based on risk
 - Weather
 - Topography
 - Fuel package
 - Construction regulations
 - Water supply
 - Defensible space
- Current political climate is anti-regulation
 - Potentially market them not as codes but as best practices?
- CO did a pilot insurance program
 - Took a checklist from IWUIC and incentivized mitigating practices
- There's a construction aspect and a maintenance aspect to IWUIC
 - Regulation takes a backseat when it comes to maintenance
 - We saw that with NY with hurricane provisions
- From an industry standpoint, regulations without enforcement might as well not exist.
- Are people willing to accept another regulation?
 - People try to rush to get permits before codes or regulations go into effect
 - People want everyone else to be regulated but aren't willing to do the work themselves
- Are there any gaps in what already exists? Do we need to make more or get better implementation of what we already have?
 - There aren't enough states who have adopted WUI codes/programs
 - We should even regulate where we simply shouldn't build because of unacceptable WUI risk
- There are differences between vegetation management and construction issues
 - You need to address both, but depending on the area, there's wiggle room on either side.
 - Very difficult to regulate veg. management
 - We could utilize GIS so that a person could do a veg management inspection via satellite
 - That happened, there were lawsuits

- Sign it “Big Brother”?
 - What can we get easily/what’s unmistakable?
- Zoning regulations loosening as well
- What’s the legislative attitude toward WUI codes?
 - Depends on the legislator
- What if we were to suggest codes were more based on risk?
 - So codes need to be more flexible. What’s required of one locality or even one development isn’t necessarily true of what the neighboring locality or development
- People think International codes come from the United Nations
- You have to start with understanding what the level of risk is and then moving from there to figure out if and how you’re going to regulate WUI fire.
- Assume we have a code and everybody’s adopted it. What then?
 - We could put in a rational way of adapting existing buildings to codes.
 - Urban areas need to (and have in CA) go code+ in order to compensate for additional housing density
- This is just another natural disaster, just like floods, seismic, etc. so it’s a matter of simple public safety
- Tax liens for total code compliance?
- People really aren’t going to go out every Saturday and sweep their yard unless they’re forced to
- Code compliance is also a big risk for firefighters

The BRP recommends wider education about and use of WUI regulations, and offers the following suggestions:

1. Explain and promote WUI community planning, codes and standards, i.e., community wildfire protection plans, land-use ordinances and building codes and standards.
2. Ensure integration and consistency of WUI fire plans, codes and standards within and across local jurisdictions.
3. Research effective ordinances in the WUI and publish/distribute these findings.
4. Educate policymakers and the public about why WUI regulations appear to infringe on property rights, but why they are necessary, regardless. Emphasize that the long-term goal of such regulations is to protect property.

**Key programs or projects completed
by various groups after the BRP Report was completed:**

- **International Code Council (ICC)** in cooperation with IAFC, NVFC, NACo, ICMA, RC&D Councils develops new Community Planning CD for county governments, RC&D Councils, Fire Departments. 40,000 CD's distributed to local governments, fire departments and RC&D Councils throughout the U.S.
- **IBHS** develops new regional WUI guides that highlights WUI education and retrofitting homes in the WUI and makes available for download to communities throughout the U.S.
- **2009 Firewise** develops new *Safer from the Start-A guide to firewise friendly development*.
- **International Association of Wildland Fire (IAWF)** in cooperation with the National Lessons Learned Center launches National Webinar on Wildland Urban Interface issue.
- **National Association of Realtors BOD** statement on Natural Disasters including wildland fires and in California initiates full discloser statements for homes sold in high fire danger areas.
- **The Congressional Fire Services Institute (CFSI)** places priority in adding WUI workshops at the Annual Fire Services Dinner in Washington D.C. in 2008, 2009 and 2010. To better educate fire and emergency service organizations as well as members of congress.

Group 5-WUI Fire Suppression Roundtable dialogue

When fire is threatening communities, humans want a large-scale emergency response. The availability of fire protection during a wildland fire is an important factor in structure survival. Structure ignitions, if extinguished, can occur without the loss of the structure. The quantity of fire suppression staff and equipment, together with training, experience, and response times, determines fire suppression availability. This factor is generally considered the domain of fire suppression organizations, but community residents are also a part of the fire suppression availability factor. Residents are often the source of fire reports and augment organized suppression forces by working to protect individual properties.

Bill Webb , CFSI
Dave Finger, NVFC
Kate Dargan, NASFM
Charles Bushy, IAWF
Bruce Courtright, NAFSR
Kevin O'Connor, IAFF
Aitor Bidaburu, NWCG

Bruce Tuberville, CA Fire Safe Council
Karen Deppa, NASFM
Rudy Mell, NIST
Leader: Chief Scott Waldron

Group 5 Notes

- Support cross-training and flexible delivery methods of training to structural and wildland firefighters.
- Support local, state, tribal, and federal cooperation in training, preplanning, and response.
- Support maximizing the effectiveness of local responders in the initial attack to improve cost efficiency.
- Fund proven fire department assistance programs.
- Link CWPPs with fire suppression pre-plans.

OTHER RECOMMENDATIONS FROM BRP REPORT

National BRP recommends increased collaboration between the insurance industry, code organizations and fire service. Establish a joint effort between insurance, fire service and code development organizations that addresses WUI issues.

OTHER FINDINGS AND RECOMMENDATIONS FROM THE BLUE RIBBON PANEL

1. Create a national consortium of stakeholders that can deal with the WUI issue.

Recommendation: In 2008, establish a national WUI Council made up of members of the BRP.

On November 3-4, 2010 the first meeting of the National Wildland Urban Interface Council was held in Washington DC this National Consortium of stakeholders meeting was hosted by the National Association of Home Builders and sponsored by the International Code Council and National RC&D Councils.

2. Increase collaboration between the insurance industry and fire service

Recommendation: Establish a joint effort between insurance, fire service and code development organizations that addresses WUI issues.

In the spring of 2008 IBHS develops and sponsors the first National Fire Safety-Property Insurance Wildfire Summit November 10, 2008 in Tampa, Florida. Kicking off the meeting with highlighting the recommendations of the BRP effort.

3. Explain role of government in the WUI.

Recommendation: Ask the USDA Forest Service, Department of the Interior and U.S. Fire Administration to provide a short narrative describing the role of each organization in dealing with the WUI. These narratives should be electronically submitted to all BRP members.

The International Association of Fire Chiefs in completed this task in 2009 and is available online at www.iafc.org

4. Explain the responsibilities of authorities before, during and after a wildfire.

Recommendation: Ask the USDA Forest Service, Department of the Interior and U.S. Fire Administration to provide a short narrative of what their responsibilities and authorities are before, during and after a wildfire. These narratives should be electronically submitted to all BRP members.

5. Influence growth patterns through land-use planning and regulation.

6. Create a three-day *National Blue Ribbon Conference on Wildland Urban Interface* that is based on the BRP five broad category findings of Education, Incentives, Mitigation, Regulation and Suppression. The BRP recommends that this conference be jointly sponsored by all the BRP organizations, including federal and state organizations. The BRP recommends establishing a steering committee to develop the conference concept, framework, timelines and loc

**Confirmed participant list for the
November 3-4, 2010 meeting**

Helene Cleveland, USDA Forest Service Fire and Aviation Management

Dana B. Bres, U.S. Department of Housing and Urban Development

Steve Austin, CFSI National Advisory Council Chairman

Sara Yerkes, International Code Council

Kevin Weir, **ISiB** Innovative Solutions in Business

Angela Mickalide, Home Safety Council

Mike Love, Vision 20/20

Jessica Henderson, AIA

Mark Wills, AIA

Kevin O'Conner, International Association of Fire Fighters

Glenn Gaines, United States Fire Administration

Dr. Denis Onieal, United States Fire Administration

Steve Quarles, Ph.D., University of California Cooperative Extension UC Berkeley,
College of Natural Resources, Center for Fire Research and Outreach

Frederick Brower, Insurance Services Office, Inc. (ISO)

Guy Seeley, Vice President of Weather Impacts on Sensor Technology
Atmospheric and Environmental Research, Inc. (AER)

Andrew Gordon, Deputy Executive Director, NRC&D Councils

James Sipperly, President NRC&D Councils

Sean Carroll, Director of Government Relations, Congressional Fire Services Institute

Bruce Johnson, Director of Fire Service Programs International Code Council

Bill Webb, Executive Director of Congressional Fire Services Institute

Julia M. Lent, Government Affairs Director
American Society of Landscape Architects

Karen Quarles, Director, Federal Relations
Government Relations and Strategic Partnerships, American Red Cross

Scott Waldron, Fire Chief West Yellowstone, MT

Russell Riggs, National Association of Realtors

Darrel Pendris, Executive Director
National Woodland Owners Association

Richard Barone, Vice President TPR2

Steven Orłowski, Program Manager
Construction, Codes & Standards, NAHB

Larry Brown, National Association of Home Builders

Dave Finger, Director of Government Relations
National Volunteer Fire Council

Rodger Sedjo, Resources For The Future,

Alexander Maranghides, Building and Fire Research Laboratory
National Institute of Standards and Technology

Dan Bailey, International Code Council

Chuck Bushy, President International Association of Wildland Fire

Bruce Courtright, Coordinator for the Scott River Basin Coalition of Fire Safe
Councils CA and representing the National Association of Forest Service Retires.

Steve Gaty, Assistant Director, Natural Resources and Environment
US Government Accountability Office

Jamie L. Rhynard, Marketing and Marketing Communications
Business and Technology Incubator, Dow Corning Corporation

Kevin Cheung, Western Wood Products Association

Gary N. Marshall, Bend, OR Fire & Rescue

Ray Rasker, Headwaters Economics

James E. France, State Farm Insurance Co.

Paul Wilson, GAF Corporation Change

Jerry Davies, Farmers Insurance

Karen F. Deppa, National Association of State Fire Marshals

Daniel E. Nichols, P.E. New York State Department of State

John Simontacchi, Firefree Coatings, Inc.

Margaret Grayson, California Fire Safe Council

Bruce Tuberville, California Fire Safe Council

Jennifer Schottke, ESRI Municipal Fire And Public Safety Policy

Rob Wallace, Keep America Beautiful, Inc.

Mary Ellen Holly, Keep Oregon Green Association

Chris Tatasciore, Gunter Manufacturing Inc.

Larry Dumm, Gunter Manufacturing Inc.

Kate Dargan, National Association of State Fire Marshals

Justin Woods, National Wildfire Foundation

Elena Daly, Public Lands Foundation

Aitor Bidaburu, National Wildfire Coordinating Group

Robert Sale, International Code Council

Gerry Gray, American Forests

John Marker, National Association of Forest Service Retirees

Lynnette Terrett, National Geographic

Stan Rivera, American International Insurance

John Haugen, National RC&D Councils Executive Director

Olga Walter, National RC&D Councils

Peter Costolanski, National RC&D Councils

Melissa Sindelar, DOE, Savana River National Laboratory

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Thomas Twieczorek, ICMA

