CALIFORNIA FIRE SCIENCE CONSORTIUM

JOINT FIRE SCIENCE PROGRAM

Research Brief for Resource Managers

Release:	Contact:	Phone:	Email:
March 2013	Susie Kocher	530-542-2571	sdkocher@ucanr.edu

California Fire Science Consortium | 360 Mulford Hall, UC Berkeley, Berkeley, CA 94720

How can we span the boundaries between wildland fire science and management in the United States?

Kocher, S.D.; Toman, E.; Trainor, S.F.; Wright, V.; Briggs, J.S.; Goebel, P.; MontBlanc, E.; Peppin, D.L.; Steelman, T.A.; Thode, A.; Waldrop, T.A. and A. Oxarart. 2012. How Can We Span the Boundaries Between Wildland Fire Science and Management in the United States? Journal of Forestry 262: 215-228.

Management Implications

- The awareness, understanding and use of wildland fire science can be improved through engagement in new fire science and management boundary organizations funded by the Joint Fire Science Program
- Regional fire science consortia should focus on 1) organizing and consolidating fire science information through easily accessible websites and 2) strengthening relationships between scientists and managers
- Fire and forest managers can contact their regional fire science consortium to access information and interact with fire researchers to ensure that fire science produced is credible and relevant
- Regional fire science consortia can be found on the JFSP website at www.firescience.gov/.

In 2009, the federal Joint Fire Science Program (JFSP) initiated a national network of 'boundary organizations', known as regional fire science consortia, to accelerate awareness, understanding and use of wildland fire science by federal, tribal, state, local, and private stakeholders within ecologically similar regions.

The role of a boundary organization is to span the 'boundary' between scientists and non-scientists by brokering information, convening forums for engagement, and translating scientific information. By engaging the direct participation of scientists and managers, as well as professionals who serve a mediating role, these organizations serve an important role in bridging basic and applied research.

Boundary organization success hinges on understanding the perspective and context of decision making by managers and developing strong stakeholder relationships. Information provided must be accurate, credible and presented at relevant spatial and temporal scales.

Eight fire science consortia were initially formed by 2011, in Alaska, Appalachia, California, Great Basin, Lake States, Southern states, Southern Rockies, and the Southwest. Six additional consortia were added in 2012 to serve the Great Plains, Oak Woodlands, Northwest, Northern Rockies, Pacific Island and Eastern Tallgrass Regions. The consortia were formed by academic and government scientists, federal, state, local and tribal agencies and stakeholders in each region.

Needs assessments conducted by consortia in eight regions of the United States were synthesized using a case survey approach. Each consortium designed and conducted a needs assessment to best match the region's management, demographic, and ecological features. Assessment methods included qualitative (workshops, meetings, focus groups,

and interviews), quantitative (online, phone and in-person surveys), and mixed approaches. Although regions used different methods, results showed striking similarities in how fire science is accessed and used, barriers to its use, and research information needed.

Fire Science Access and Use - Overall responses showed that fire managers use fire science frequently; however, responses varied by region. More than four out of five participants in the Southwest said it was very or somewhat probable that fire science was applied to their units' work. Internet searches were the most commonly used means in all regions. In California, over half of respondents said they accessed written fire science information through web searches at least monthly. Across regions, most respondents said they use written scientific information on a regular basis, particularly materials developed for managers such as technical reports and briefs.

Barriers - Across regions, lack of time was consistently identified as a major barrier to fire science use. Of the 1,000 respondents to a web-based survey from the Southern consortium, 46% identified lack of time to review literature as a very significant barrier. As one focus group participant in the Lake States remarked, *"I'm looking to get information quickly because I don't have enough time in my day. Time is the biggest challenge to the information exchange process".* Another in Appalachia said, *"We have a lot of information but it is scattered and difficult to find."*

Communication barriers between fire scientists and managers were also cited as a problem. Both scientists and managers said it was increasingly difficult to interact with each other. One California participant remarked, *"... creating professional relationships with researchers and land managers at workshops and conferences is invaluable. The leadership on both sides do not put near enough importance on this interaction."* Some said that this barrier made fire science produced less relevant and useful to them. As one manager from the Lake States said, *"There needs to be some way for managers to engage. There are lots of good ideas that just never get heard by the research community."*

Role of Consortia - When asked to describe what functions the new fire science consortia could serve in their respective regions, respondents identified two primary opportunities: to consolidate fire science information and improve communication between managers and scientists. These needs were identified in all regions and are classic boundary spanning activities in a trading or sharing network.

Consolidation - Participants in all regions expressed the desire to access fire science in one, easily accessible location. Respondents overwhelmingly called for development of comprehensive websites updated with emerging research and management findings.

Interaction - Managers also called for a more active role in the research process through increased interactions with scientists. They wanted to increase informal communication with management and research colleagues, have regional workshops where best practices and emerging findings could be discussed, and develop demonstration sites to allow discussion of the planning, implementation, and outcomes of practices in particular locations.

This synthesis shows a clear need for boundary organizations to facilitate communication, collaboration, and relationship-building between fire scientists and managers.

Joint Fire Science Program Funded regional consortia, 2012