

## I. KEY ACCOMPLISHMENTS, CHALLENGES AND LESSONS LEARNED

The California Fire Science Consortium continues to move towards its goals and desired outcomes as it becomes a more mature outreach organization. As the CFSC continues to develop, there will be on going investment of resources in activities and strategies proven effective along with expansion of networks into new audiences. Table 1 shows activities and participants for 2015-2016 with short (S), medium (M), or long (L) term outcomes associated.

*Table 1 – CFSC Activity Summary FY 2015 and 2016*

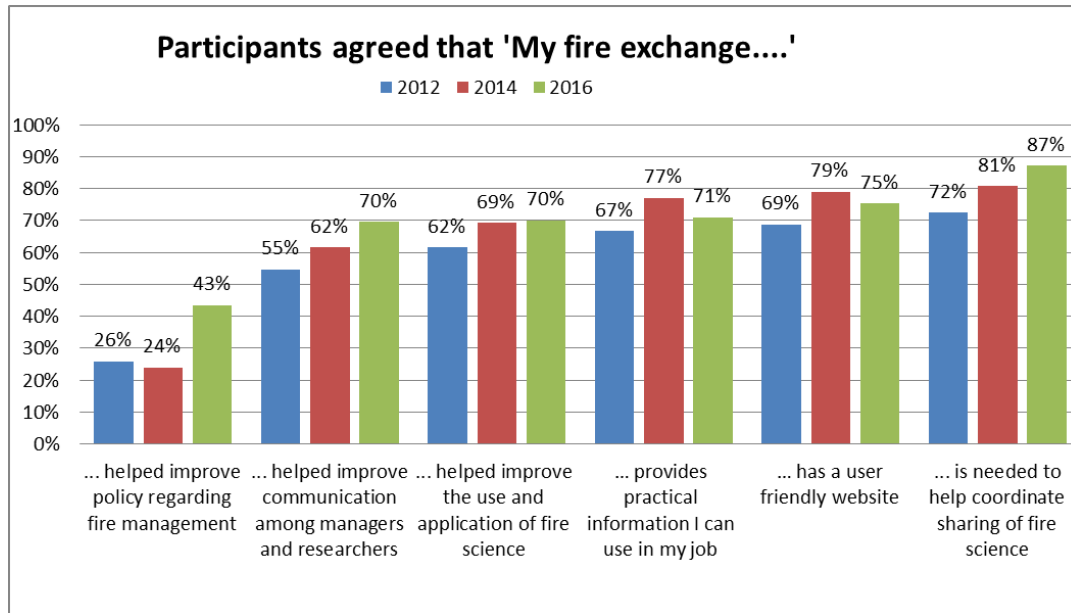
Activity (conducted, hosted, facilitated, or sponsored)	# of activities offered FY 2015 & FY 2016	Total # participants (est.)
<i><b>In-person outreach</b></i>		
Field trips, tours, demonstrations, and roadshows (M, L)	46	1458
Talks and personal briefings about consortium (M, L)	111	371
Field consultations (S, M)	26	1957
Workshops (M, L)	30	2027
Conferences and symposia (S, M)	61	3719
<i><b>Written resources</b></i>		
Poster presentations (S, M)	12	539
Research briefs (S, M)	55	575
Bibliography or annotated bibliography (S)	1	30
Synthesis (S, M)	5	190
<i><b>Web resources</b></i>		
Newsletters (printed or electronic distribution) (S)	27	3984
Webinars (M)	16	534
Tweets (S)	412	2766
Blog Posts (S, M)	13	855
Facebook (S)	141	3948

### National survey results

Program effects are documented by national evaluation survey data from 2012, 2014 and 2016. Californians taking this survey had a variety of affiliations. There were 121 respondents in 2016, two-thirds (65%, 79 participants) were managers (consumers) with the remaining split evenly between public and science producers (17%, 21 participants each). The affiliation with our “sub-regions” is fairly equally divided with the lowest representation by the Mojave and Sonoran desert region (only 23%) and the greatest in the Sierra Nevada region (60%).

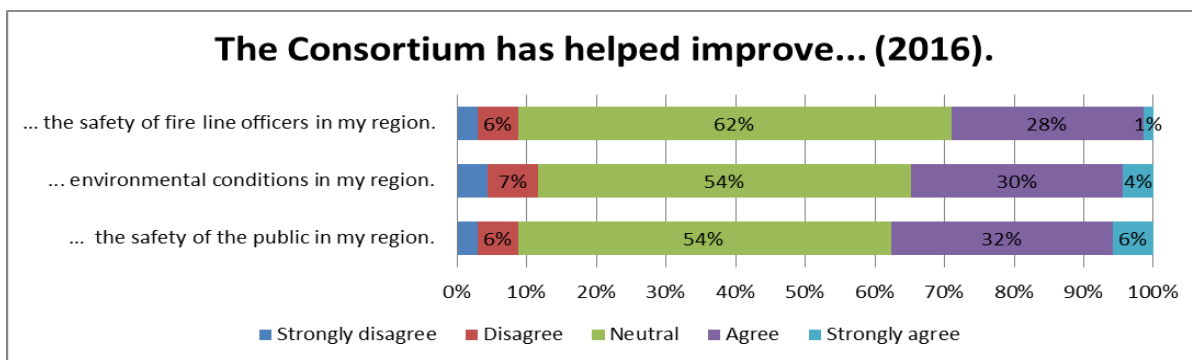
*Consortium effectiveness:* Survey responses show that Consortium activities are needed, useful, and applicable to participants’ work. Percentages agreeing that the CFSC had positive outcomes also grew for most factors from the 2012 to 2014 to 2016 national evaluation surveys. Those agreeing that the Consortium is needed to help coordinate sharing of fire science climbed to 87% this year, from 81% in 2014 and 72% in 2012. This shows the continued success in increasing the access and usability of fire science (short term outcomes). The percentage agreeing that the CFSC helped improve the use and application of fire science (medium term outcome) grew from 62% to 69% to 70% in 2016. Those agreeing that it helped improve communication between managers and scientists (medium term outcome) grew from 55% in 2012 to 62% in 2014 to 70% in 2016. For the first time, the percentage agreeing that the CFSC helped improve policy on fire management increased from 2012 (26%) to 2014 (24%) to 2016 (43%). This was a major focus of the last two years and we suspect our closer involvement with the media, legislature, and the state

agency CAL FIRE may have contributed to this perceived increase. These results show that there is continued success towards many of the listed short and medium term outcomes of the CFSC but that certain subgroups like policy makers still need to be targeted).



**Figure 1** – Consortium effects (n=108 in 2012, n=52 in 2014, n=121 in 2016). National Eval Survey.

Agreement that the CFSC has provided practical information useful in their work went down slightly to 71% after growing to 77% in 2014 and 67% in 2012. This may reflect the evolution of our materials and difficulty finding the specific item needed on a now crowded website. Indeed, the percentage saying that we have a user friendly website also decreased slightly to 75% in 2016 from 79% in 2014 which was up from 69% in 2012. The website format was changed in mid-2015 to match the national Fire Science Exchange Network format and may be contributing to this decrease. Ways to increase navigability of the CFSC website within the current format may be explored if this continues to be a barrier to access of resources as it could be inhibiting our short-term outcome of increasing usability of CFSC resources.

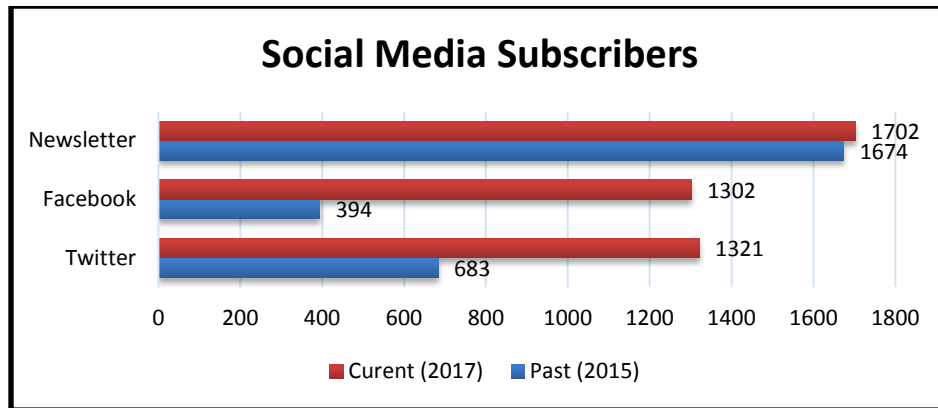


**Figure 2** – Impact ratings (n=79 managers in 2016). JFSP National Evaluation Survey.

*Long term outcomes:* New questions asked in 2016 focused on long-term outcomes of the FSEN program. In California, 29% of managers agreed that the Consortium has helped improve safety of fire line officers and 38% that it has improved public safety. These are most similar to the CFSC long-term outcome of reducing negative effects from wildland fire and show that while there is progress towards these goals, there is still much work to be done. 34% agreed environmental conditions have improved as a result of the Consortium, showing that again, much work needs to

be done in the CFSC long-term outcomes of conserving and restoring at risk-ecosystems and creating a new paradigm for living with fire in California that is ecologically responsible.

*Social media:* The CFSC focuses on three social media outlets: Twitter, Facebook, and monthly newsletters sent out through Mailchimp. Buffer is used to manage Twitter and Facebook. Since the last proposal (2015) growth and engagement has increased in all platforms, some quite substantially (Facebook “Likes” increased by 908, Twitter “Followers” increased by 638; Figure 3). A communication guide was also created in 2016 to help guide and inform future communication efforts



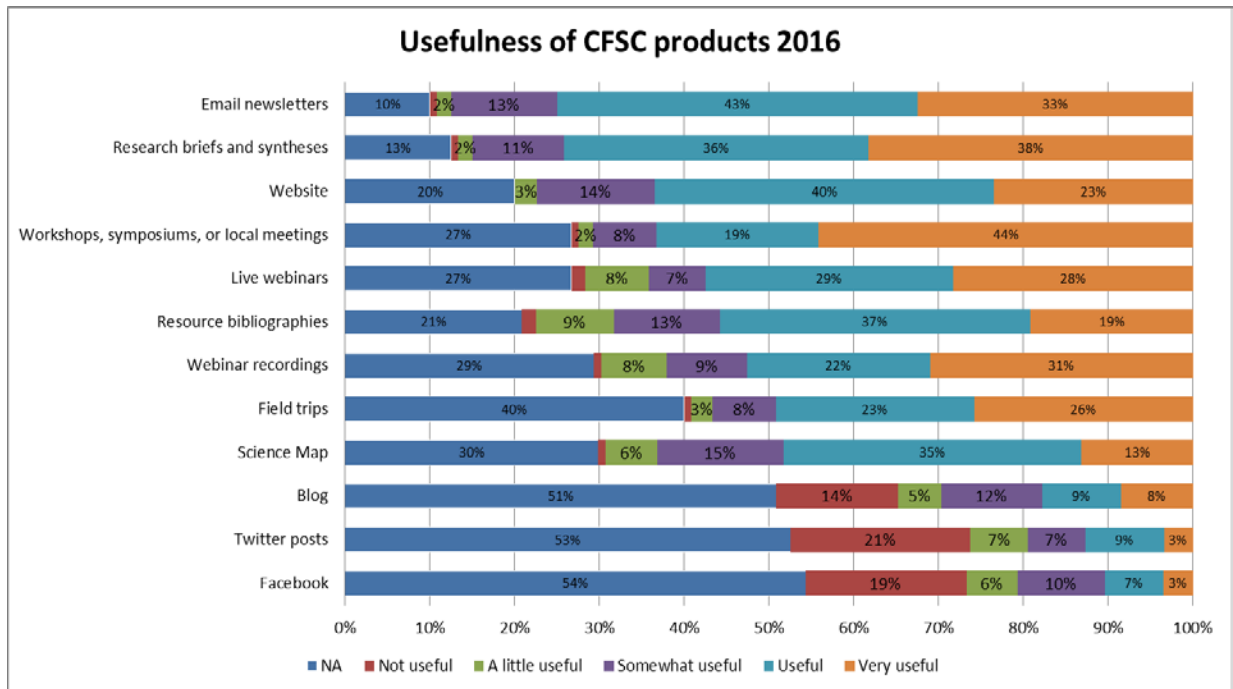
**Figure 3** – Subscribers/Likes/Follows changes between early 2015 and 2017.

*In-person events:* In-person events, including field trips, workshops, conferences, remain a major focus for all sub-regions of the CFSC. CFSC resources were used to brainstorm, organize, and run events such as workshops or field trips. A major barrier to this work continues to be getting agency approval for federal (and to some degree state) personnel to travel and attend. The overall lesson is to put effort into a diversity of event types from small, local day events to multiday conferences.

*...it was great to see a community engaged in natural resource management with opportunities for dialog across such a diverse audience.* Forest entomologist, USFS

*Other activities:* Being an active participant in numerous organizations through conference calls, meeting attendance, presentations, exhibit booths, and committees is an essential part of the CFSC strategy. This involvement allows us to build awareness about CFSC resources. As conversations advance, the CFSC can use input to develop future plans and to collect research needs to submit to JFSP. And in the final stages of maturity, the CFSC can be seen as a viable partner, which can lead to mutually beneficial projects. For example, we can provide outreach for each other’s events, contribute website space for registration or presentation recordings, or even co-host events for greater resource-use efficiency. Overall, building partnerships provides opportunities at numerous events throughout the state to build basic awareness, create knowledge-building events, and hopefully achieve long term changes in attitudes.

*Outreach products:* Many CFSC products were highly rated by California survey participants (see Figure 4). 76% agreed that the monthly newsletter was useful and 74% agreed that research briefs and syntheses were useful. 63% agreed the website and in person meetings were useful.



**Figure 4** – Usefulness of CFSC outreach products (n=120) 2016 National Evaluation Survey.

Additionally 56% agreed bibliographies were useful and 49% said the same for field trips. Twitter, Facebook and blogs were relevant to less than half of participants, though the percentages saying Twitter was not applicable to them decreased from 78% in 2014 to 53% in 2016 showing increasing adoption of social media platforms by our participants.

*Webinars:* Webinars continue to be well-received. 57% of national evaluation survey participants from California agreed that live webinars were useful as did 53% for webinar recordings (Figure 4). During this funding period, the CFSC hosted 16 webinars. Webinars covered diverse topics including two years of our WUI webinar series and a LANDFIRE series. Individual webinars were webcast on the Forest Effects Information System, wildlife and chaparral. Based on a compilation of 9 webinar evaluation survey results, respondents (n=117) agreed that CFSC webinars have knowledgeable presenters (98%) with useful information (93%). 91% agreed that this format is an effective presentation of the subject matter and 83% plan to apply the information. In addition, recorded webinars and conference presentations have been viewed nearly 600 views on our YouTube channel since 2016.

**New and continued challenges** (Lessons learned are discussed for continued challenges.)

*New Challenge:* Changing priorities of agencies from land management to suppression.

*New Challenge:* Media use of sensationalist language and ineffective policy enacted by legislative branch.

*New Challenge:* Current events/briefs/meetings are “preaching to the choir.”

*Strategy:* Maintaining current networks but pushing the bounds of our audience by finding new groups and cater to their needs by adapting communication products, platforms and topics (initial target audiences can be found in the outcome worksheets)

*Continued Challenge:* Ongoing barriers between scientists and managers.

Having scientists meet with managers prior to conducting research not only produces more useful science to the managers, but creates a vested interest and engagement. This process also builds relationships but requires commitment of time and resources but seems to be worth the effort

*Continued Challenge:* Ongoing meeting fatigue and information overload Focus on Syntheses over research briefs, have identified objectives for events, use evaluation for topics of interest

*Continued Challenge:* Organizational structure of the CFSC including decentralized subregions

A communication plan and strategy was drafted to help define activities, and to provide a living document that shows day-to-day management so as to not “reinvent the wheel.”

Bi-monthly conference calls now include discussion-based topics led on a rotating random leader.

This increases interest and productivity of calls and assists with relationships in CFSC.

Finding the right staff to act as inputs for the CFSC has been highly beneficial.

**Outcome summary:** These survey results, the continued growth of our audience, and other feedback show the CFSC’s success in many of our short and medium term goals including awareness of CFSC, effective community strategies, understanding and use of fire science, and increased collaboration. Based on input from our advisory committees, new focus will be given to achieving these same goals with novel audiences. A challenge from previous years will persist and there will continue to be a need for building awareness of our information and purpose with the high turn-over in the federal and state agencies, new residents to fire-prone WUI areas, and even to scientists as they change fields. We hope that our current networks will play a key role in helping to maintain our strong presence within their organizations, both through delivering resources to new staff and in developing support in new arenas.

## **II. GOVERNANCE**

The Consortium is led by PI Scott Stephens (UCB) and coordinator Stacey Sargent Frederick (UCB) at the statewide level. UCB focuses on oversight and coordination of the Consortium while the 5 sub-regions operate fairly independently. Statewide and sub-regional coordinators initiate activities on the recommendation of their PIs and advisory committees. The committee helps the consortium staff by suggesting areas of focus and specific activities. The statewide advisory committee is comprised of 5-12 members from a diversity of organizations and positions (Table 2). Ryan Burnett is a new addition to the committee and we look forward to the unique perspective he will be bringing with his NGO background. This year we held the statewide advisory committee and the annual staff meetings for the CFSC as a joint meeting. This was very successful and will be repeated in future years. Last year, two on-the-ground managers were added to the committee. They identified gaps in our communication strategy and helped us understand barriers to science dissemination that we had not considered in the past. To further guide this group and to maintain institutional knowledge, an advisory committee charter was ratified in 2015 and can be made available.

**Table 2 – Statewide Advisory Committee and affiliation**

<i>Name</i>	<i>Affiliation</i>
<b>David Passovoy (chair)</b>	<i>CalFire, Fire Resource Assess. Program, Env. Scientist</i>
<b>Robyn Woods-Adams</b>	<i>USFS, Region 5 Incident Business Mgmt. Specialist</i>
<b>J Lopez</b>	<i>LA County Fire, Asst Chief - Forestry Division</i>
<b>Ryan Burnett</b>	<i>Point Blue (NGO), Sierra Nevada Group Director</i>
<b>James Savage</b>	<i>BLM, Fire Management Specialist</i>
<b>Robin Wills</b>	<i>NPS, Western Region Fire Management</i>
<b>Dan O’Connor</b>	<i>USFS, Forest Fuels/Prevention, San Bernardino NF</i>
<b>Tomas Gonzalez</b>	<i>USFS, District AFMO Fuels, Sierra NF</i>
<b>Susie Kocher</b>	<i>UC ANR Extension, Forestry/Natural Resources Advisor</i>

### **CFSC Statewide Advisory Committee Meeting Notes and Recommendations**

Overall, the advisory committee is supportive and content with the current activities, priorities, and future directions discussed by the CFSC staff. It was noted at the end of the meeting that while we still have challenges ahead, the CFSC is doing well and should continue “business as usual” because we are reaching many of the major goals laid out in previous guiding documents. New and continued challenges discussed by the advisory committee are included in Section I.

### III. LOGIC MODEL FOR CALIFORNIA FIRE SCIENCE CONSORTIUM 2018-2020

SITUATION	INPUTS	OUTPUTS	OUTCOMES		
			Short	Medium	Long
<p>California's vast geographic area contains diverse ecosystems and peoples with diverse challenges (largest WUI, areas with too much/little fire)</p> <p>Lack of awareness of CFSC and CFSC resources</p> <p>Communication and cultural barrier between scientists and managers</p> <p>Information overload and minimal time</p> <p>Changing agency priorities from land managers to suppression specialists</p> <p>Misinformation on fire regimes, fuel treatments, and suppression effectiveness</p>	<p>CFSC paid and contributed staff time</p> <p>Funds and infrastructure to enable events, information sharing, and networking opportunities</p> <p>Partnerships and network capacity</p> <p>Staff and partner expertise and research</p> <p>Skills and passion</p> <p>Diverse staff (diverse locations, expertise, and organizational associations)</p> <p>Regional and state-wide Advisory Committees</p>	<p><b>In-person outputs</b></p> <ul style="list-style-type: none"> <li>• Attendance of conferences and workshops                             <ul style="list-style-type: none"> <li>○ CFSC hosted event</li> <li>○ Presentation given</li> <li>○ Booth/poster hosted</li> </ul> </li> <li>• Field trips/Demonstrations</li> <li>• Presentations by CFSC representatives to local and regional organizations, school/youth groups and media requests</li> <li>• Information/assistance requests</li> <li>• Membership and active roles in other related organizations</li> </ul> <p><b>Remote methods</b></p> <ul style="list-style-type: none"> <li>• Monthly newsletter</li> <li>• one-stop" clearinghouse of fire science information through websites and experts</li> <li>• Research briefs, webinars, synthesis, bibliographies</li> <li>• Social media – blogs, facebook, twitter, YouTube videos</li> <li>• media interviews with science experts</li> <li>• novel outreach methods (podcasts, conference recordings, live events, interactive media, etc.)</li> </ul>	<p>Increased access to fire science information</p> <p>Raise awareness of</p> <ul style="list-style-type: none"> <li>- CFSC organization</li> <li>- CFSC resources</li> <li>- Partner opportunities</li> </ul> <p>Increased understanding of accurate, regionally-appropriate fire science information</p>	<p>Increase communication between (and within) fire scientists and managers</p> <p>Increased presence of accurate fire science in:</p> <ul style="list-style-type: none"> <li>- planning documents</li> <li>- on the ground projects</li> <li>- in WUI and planning ordinances</li> <li>- in local and statewide legislation</li> </ul> <p>Increase ease and usability of CFSC resources (Increased use of standard resources)</p> <p>Increase collaboration and resource sharing between fire groups and individuals</p>	<p>Reduced negative effects from wildland fire</p> <p>Conserve and restore at risk-ecosystems (e.g. fire returns more consistent with historical frequencies)</p> <p>Create new paradigm for living with fire in California that is ecologically responsible, socially viable, and economically feasible</p>
			<p><b>TARGET AUDIENCES</b></p> <ul style="list-style-type: none"> <li>- Federal land management organizations</li> <li>- State/municipal land management organizations</li> <li>- Private citizens with interest/need for fire (esp. WUI)</li> <li>- Natural Resource NGO's</li> <li>- Policy makers</li> <li>- Tribes</li> <li>- University staff and Academics</li> <li>- Media and reporters</li> </ul>		

#### **IV. FUTURE PLANS**

Though there are challenges to coordinating across sub-regions, one of the great strengths of this organization is our ability to tackle problems that are geographically specific in a way that best meets the talents and skills of the diverse CFSC team members present. See below for the unique challenges, lessons learned, and future directions of each sub-region.

**UC Berkeley/Statewide hub:** The UCB hub provides coordination for the CFSC including support for advisory committees, website updates, social media, newsletters, conferences, and maintains and expands partnerships with federal, state, and private organizations. We also assist sub-regions with their programs as appropriate.

<b>Activity / Output</b>	<b>Outcome Type</b>	<b>Schedule / Frequency</b>	<b>Comment</b>
Social media announcements	Awareness, Knowledge, Action	Multiple times a week	Twitter and Facebook announcements include both CFSC events and other pieces of interest 2623 followers/likes
CFSC newsletter	Awareness	Monthly	Recurring for the entire period - 1702 subscribers
Support regional activities	Knowledge, Skill	By request of sub-region	See webinars, briefs, events, etc. in sub-regional tables.
Present at workshops, meetings, and agency briefings	Awareness	As available, 2-5 events/year	Examples include CA fire safe council, prescribed fire councils, various professional organizations, fuel committees, etc.
Advisory committee management	Action/ Behavior	Quarterly call with 1 meeting/year	Organize priorities and focus, collect input on mission and activities.
CFSC staff sub-regional coordination	Action/ Behavior	Bi-monthly calls with 1 meeting/year	Facilitate discussion; drafting reporting and grant management documents
Prescribed Fire Councils	Action/ Behavior	Ongoing	Provide personnel resources for prescribed fire councils. Assist with meetings
Update/create fire media outreach materials	Action/ Behavior, Attitude	Fourth quarter 2017	Provide online resources
Engage with public information officers	Knowledge	Second quarter 2018	“Train the trainers” format for agency personnel
Engage with planners for more resilient communities	Awareness, Action	Once per year	CA Planning Commission and other events
Engage with managers throughout structure	Awareness	First quarter 2019 & 2020	Hold informational sessions at existing meetings such as fuels committees, leadership, etc.

**Northern California:** As in the past, the team’s primary focus has been on hosting in-person events, including field trips, workshops, trainings, and conferences. Events are well attended and the Consortium is widely recognized throughout the region as an important source of fire science information. These events continue to connect people from all backgrounds and affiliations, leading to new partnerships and networks in the region. Over the last two years, the team has had success with media including unsolicited media interviews and inquiries on fire-related topics. They hosted or participated in several radio

programs on fire topics, which generated surprising interest and enthusiasm from community members. They also successfully navigated the retirement of Carl Skinner, Principal Investigator with the USDA Forest Service Pacific Southwest Research Station (PSW), and started working with Eric Knapp, also from PSW. This transition has been seamless, and Eric has shown great leadership.

Though Northern California events easily attract an audience, it tends to be the same demographic as served in the past. Thus, the northern team has begun to focus on reaching novel audiences that haven't traditionally taken advantage of CFSC events and resources. In the last year, they increasingly engaged range managers, who own or manage large tracts of grassland and woodland. This audience has proved to be very interested in fire science and management, and so they will continue to be a focus in the future. Recent prescribed fire-related events have also drawn impressive numbers of new clientele, including volunteer fire department personnel, NGO staff and private landowners. The team is excited to move into the next period with a continued emphasis on innovation, new partnerships, and strong science.

Activity / Output	Outcome Type	Schedule / Frequency	Comment
Blogs/articles for outside organizations	Awareness	At least one per month	Lenya authors monthly fire science blog posts for the Fire Adapted Communities Learning Network, and frequently writes articles for various newsletters and publications.
Webinars	Knowledge, Skill	2 per year	The Nor Cal team hosts webinars when interesting topics emerge.
Workshops and trainings	Knowledge, Action/ Behavior	2-3 per year	The Nor Cal team hosts a variety of workshops and trainings on fire-related topics, including prescribed fire, oak woodland restoration, and other topics.
Conferences	Knowledge, Awareness, Attitude	1-2 per year	The Nor Cal team co-sponsors the annual meeting of the N. CA Rx Fire Council, and hosts and supports other fire science conferences in the region (e.g., Klamath Fire Ecology Symposium, planned for May 2017).
Radio shows	Awareness, Knowledge	2 per year	Yana Valachovic hosts a public radio show and focuses on fire-related issues ~once per year. The team also seeks opportunities to highlight fire science and management issues on other radio programs throughout the region.
Field tours	Knowledge, Behavior/ Action, Awareness	2 per year	The Nor Cal team hosts at least two field tours per year, highlighting science and management innovations and successes, and creating opportunities for dialogue and networking between scientists and managers.
Research briefs and syntheses	Knowledge	4 per year	The Nor Cal team finds these especially useful when they are developed for and distributed at in-person events.

**Central and Southern California:** The major challenge for the region is the unique character of the fire regime which is at odds with accepted fire paradigms based on forested ecosystems. While new fire science paradigms developed over the past two decades are being incorporated into management actions, older beliefs still persist in fire management organizations throughout the region. Solutions to the problems of wildfire losses and resource degradation in this region are complex, and require understanding of both social and ecological systems. Finding ways to communicate a large body of evolving science to a diverse audience will remain a challenge.

The greatest success continues to be the very positive response from managers, FireSafe community representatives, NGO's, and scientists on the wealth of scientific information the team has made available through large bi-annual symposia, scientific presentations, and webpage products. The website provides



diverse one-page publication briefs, a comprehensive scientific bibliography, research data sets for fuels treatments, recordings of presentations from our symposia and synthesis papers. This solid scientific foundation has provided support for many individuals from different organizations and agencies to challenge ineffective practices to improve community wildfire safety and resource protection. The most important lesson learned is that southern CFSC activities fill a void and provide a reliable source of scientific evidence that individuals within organizations can use to support changes in fire management practices and policy.

The team plans to continue to regularly update the bibliography, and provide briefs, synthesis papers, presentations and symposia based on feedback from a survey of regional users on activities or products that would be most effective for better understanding and adoption in our regional fire community. They will consult monthly with the regional advisory committee.

Activity / Output	Outcome Type	Schedule / Frequency	Comment
Social media announcements	Awareness, Knowledge, Action	Concurrent with events, bimonthly or quarterly	Blogposts of symposia or field trip highlights
Webinars/Recordings	Knowledge, Action	Annual or semi-annual, recurring for the entire period	Symposia or conference recordings
Field Trips	Knowledge, Action/Behavior	2 per year, recurring for the entire period	2017 San Diego and Santa Monica Mountains and Monterey with WUI, 2018 southern and central California USFS forests, 2019 and 2020 TBD based on feedback
Science Briefs	Knowledge, Action/Behavior	Ongoing, 4 per annual update	Provide scientific foundation for changes in management activities
Synthesis Publications	Knowledge	Ongoing, 1 per annual update	Provide scientific overview and framework for broad topics
Topic-specific Bibliographies	Knowledge	Ongoing, annual update	Maintain relevancy of bibliographies by keeping them up-to-date; explore more automatic system.
Wildland Fire Resilient Landscape Collaborative	Knowledge, Action/Behavior	Bimonthly, recurring for the entire period	DOI initiative to Santa Monica Mountains National Recreation Area, model for implementation activities of Cohesive Strategy goals
Survey Audience Needs	Knowledge, Attitude	Biannual, recurring for the entire period	Adaptive management to determine user needs

**Mojave and Sonoran Desert:** FY2017 was the first year that the desert sub-region was housed at the University of Nevada Las Vegas. In this first year, the new desert team produced 4 research briefs, responded to 25 information requests by the media, agency personnel, and non-profits for fire science and restoration questions; synthesized an existing data set (originally collected with 2006 JFSP funding and in collaboration with the National Park Service) into a peer-reviewed paper published in *Ecological Restoration*; and organized a Mount Charleston Science Symposium that brought together 95 diverse stakeholders (state and federal agency personnel, university scientists, non-profits, students, and the public) to share information on Mojave desert fire management. The Science Symposium was well received. Below are examples of comments received from citizens, non-profits, and agency participants:

*“As a conservation organization we are always talking about how we can get more education into the community, and you did just that.”*

"Thank you for the invitation to present, it was great to see a community engaged in natural resource management with opportunities for dialog across such a diverse audience."

"It is a ton of work to host an event like this and it was very well done!"

"The whole thing was very well organized and came off great. You know, that was an extraordinary gathering of people."

The desert team anticipates expanding their participation base despite biophysical and infrastructure challenges. Biophysically, the sub-region covers both desert and forest ecosystems with very different fire management needs. One strategy to overcome this issue is evaluate establishment of fire demonstration sites with agency partners. Because of infrastructure, the team may need to find other ways of identifying stakeholders than other sub-regions. Involving entities such as energy commissions and non-profits may improve integration into outreach activities.

Activity / Output	Outcome Type	Schedule / Frequency	Comment
Resource briefs and fact sheets	Awareness, Knowledge	Approx. 2 or more annually	
Respond to info requests	Awareness, Knowledge,	Approx every 2 weeks, or about 25 requests per year	Provide information on fire management requests from agencies, media, and non-profits
Field workshops	Awareness, Knowledge, Skill, Action	At least one per year	Visit field sites for assessment, discussion of what treatments worked and what did not, with diverse stakeholders
Symposium	Awareness, Knowledge	Approximately one per year	Bring together diverse stakeholders to share information
Data synthesis paper	Awareness, Knowledge	At least one during the 3-year period	Synthesize a priority topic identified via stakeholder input with peer-review

**Sierra Nevada:** This sub-region had several very successful in-person activities or events in the past 2.5 years. Most importantly, in October 2016, they organized and hosted the Natural Areas Association Conference, themed *Climate Change Adaptation – Turning Words into Action*. The conference had 630 attendees with significant attendance by agency employees. In 2016, they hosted a field trip to Indiana Summit Recreation Natural Area, hosted a red-fir management workshop, led several trainings, and provided expert opinion at guest lectures. In 2015, they hosted a 10 day field trip to national parks in Baja California with 23 American scientists and managers and 15 Mexican scientists and managers. The trip focused on fire management in Baja (which has the same floristic province as Southern California) and the differences between US and Mexican management activities and mandates with a stop at the Laguna Mountain Recreation Natural Area. Another key in-person activity was a field trip to the King Fire in 2015, where managers discussed post-fire restoration plans and actions.

The sub-region published 16 research briefs, hosted three webinars, and hosted 8 visiting speakers to UC Davis for an ongoing lecture series on forest and fire ecology topics. They plan to host more webinars in the coming years and to record the lecture series and post the talks on the CFSC website. Challenges include finding new ways to engage audiences to build science-management partnerships, despite webinar fatigue and an overabundance of available field trips and field tours. The Baja trip and Natural Areas Conference were successful events because they were new and exciting ways to get people together to discuss pressing issues.

Activity / Output	Outcome Type	Schedule Frequency	Comment
Field trip to Indiana Summit RNA	Awareness, Knowledge, Action/ Behavior	3rd quarter 2017	One time, building off of previous field trip in 2016
Workshop - 10 years after the Angora Fire	Awareness, Knowledge, Attitude	3rd quarter 2017	One time
Fire Science Retreat – Rough Fire	Awareness, Knowledge, Skill Action/Behavior, or Attitude	3rd quarter 2017	Engaging management and science, think tank
Field Trip to Beaver Creek Pinery	Knowledge, Action, Attitude	3rd quarter 2017	Determining management goals and priorities, esp. Rx Fire
Field Trip to Meadow Fire	Knowledge, Action, Attitude	4th quarter 2017	Wildland fire use fire
Field Trip to Rim Fire (5 years post fire)	Awareness, Knowledge, Skill Action/Behavior	3rd quarter 2018	Field demonstration with managers and scientists
Field Trip to Chips Fire	Awareness, Knowledge, Skill Action/Behavior	2nd quarter 2018	Reburn severity and fire management
Field Trip to Goliath Burn	Awareness, Knowledge, Skill Action/Behavior	2018	Southern Sierra Nevada Wildland Fire Use
Webinar – Forests and Carbon	Awareness, Knowledge, Attitude	2017	Suggested by regional advisory committee
Webinar – Pre-fire tree mortality	Awareness, Knowledge, Attitude	2017	Suggested by regional advisory committee
Webinar – Tree mortality treatment effects	Awareness, Knowledge, Attitude	2017	Suggested by regional advisory committee
Synthesis – Forests and Carbon	Awareness, Knowledge, Attitude	2018	Suggested by regional advisory committee
Synthesis – Managed Wildfire	Awareness, Knowledge, Attitude	2017	Suggested by regional advisory committee
20 Research Briefs	Awareness, Knowledge, Attitude	2017-2019	Topic TBD with input from regional advisory committee

**Wildland Urban Interface:** This team’s greatest success has been the WUI webinar series, which provides a holistic view of the WUI problem to various interested audiences, including those involved in landscaping, construction, firefighting, fuels, spatial dynamics, etc. The goal has been to include many types of WUI stakeholders so as to help reduce the costs and losses of WUI fires. We also held a successful pilot test of a field tour of a recent WUI fire. While purposefully limited in numbers, it provided a test of logistics needed to accomplish a larger field tour, which will occur in spring 2017 and annually thereafter. Posters and oral presentations regarding the WUI module were presented at numerous professional meetings/conferences, allowing for critical dialogue and feedback from fire managers and other relevant stakeholders to develop future plans. Further, it has facilitated a synergy between consortium staff and relevant stakeholders, which has led to individuals volunteering to provide webinars and other services.

One small challenge is the geographic size of the module, which includes the entire state. The main difficulty is in establishing field tours due to travel budgets and other logistics. Another small challenge has been getting our advisory board together at a single planning meeting due to the schedules of most members, the majority of whom are high-level managers with a myriad of other responsibilities. At present, a formalized survey is being developed to gauge suggested direction of module activities and also engage board members to further the mission of the team. Survey results will provide directions that the

advisory board can discuss for the merits of the suggestions as well as the best ways to move forward. Another challenge has been hiring of competent staff to write science briefs. An incoming graduate student with a background in technical writing will hopefully rectify this as their skills, expertise, and commitment are more appropriate than that of undergraduate students used in the past.

<b>Activity / Output</b>	<b>Outcome Type</b>	<b>Schedule / Frequency</b>	<b>Comment</b>
Webinars	Awareness, Knowledge	6 / year	Annual webinar series takes holistic look at WUI problem, utilizing speakers from diverse fields.
Field Tour	Knowledge, Action/ Behavior	1 / year	Annual field tour of recent WUI fire with fire personnel and other pertinent WUI stakeholders.
Science Brief	Awareness, Knowledge	1 / month	Provides “take home” message of relevant journal articles that are more readily digestible for managers and public.
Bibliography	Knowledge	Annual update	Will update previous annotated bibliography and also OneNote file.
Podcasts	Awareness, Knowledge	1 / month	Interviews with relevant stakeholders such as IC’s from previous WUI fires, who will discuss lessons learned.
Video PSAs	Awareness, Knowledge, Skill, Action/ Behavior	3/year in 2018, 6/year by 2020	Working with SW Consortium, work on 60-second videos of various aspects of WUI management (e.g., landscaping, vents, etc.) to be placed on dedicated YouTube page.
Booth Display	Awareness	Min: 1/year	Informational booth at IAFC WUI Conference & other meetings (e.g. SoCal Foresters & Wardens, or CA Fire Prevention Officers meetings)
Permanent display	Awareness	July (annually)	Creating permanent informational display at Mid-State Fair FireSafe Demonstration House (which is visited by 25k+ people/year).
Poster Display	Awareness	Minimum of 1 per year	Poster display of module at annual AFE Conference and other meetings such as CA Society of American Foresters.