



NORTHWEST FIRE SCIENCE CONSORTIUM

Northwest Fire Science Consortium is part of a national network of consortia established by the Joint Fire Science Program to accelerate the awareness, understanding, and adoption of wildland fire science information by federal, tribal, state, local, & private stakeholders in the PNW

*Plan of
Work for
2016-2019*



NW Fire Science Consortium Plan of Work - 2016-2019

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Given the intense wildfire season in Washington and Oregon this past year, some new priority areas have emerged. In late fall of 2015, the NWFSC took a straw poll of our list serve members, and Facebook and Twitter followers to get an idea of the current priority topics in the region. There were 50 respondents: 20 researcher/scientist, 19 manager/practitioner, and 11 other. Participants were asked to rank the top priority topics for the NW region. The 6 topics ranked as high priority are as follows: Climate and Fire (79%), Drought and Fire (69%), Fuels and Fuel Treatments (61%), Prescribe Burning (61%), Post-fire Management (51%), Restoration (51%). While the majority of these priority areas are already addressed in our current plan of work and logic model, there are some very specific topics that require further examination. As was mentioned before, post-fire management and restoration have become increasingly important as wildfire severity and intensity continues to grow. We feel it would be sensible to include this priority area into our plan of work and logic model. With regards to climate and fire, climate change can be viewed as the foundation upon which all other concerns arise: fire, drought, fuels and fuel treatments, restoration and reforestation efforts in a changing climate, etc. There are research efforts that are exploring climate change impacts on the continued use of current management activities. This is a growing area of research that we will be monitoring in the future and will incorporate into our logic model as appropriate and upon advice from our advisory board.

Based upon the straw poll results, our priority areas for 2016 to 2019 are as follows: 1) **Smoke in Washington and Oregon: air quality and cross-boundary issues with prescribed fire;** 2) **Post-fire management and restoration;** 3) **Landscape level planning: collaborative natural resource management and coupled human and natural ecosystems;** 4) **Managing fuels and fuel treatments in a changing climate.** Activities have been determined that address these areas. Our outcomes focus on increased communication and engagement between fire scientists/researchers and fire managers/practitioners within the context of these priority areas, rather than on specific changes that may occur on the ground. In the JFSP national survey, when asked if lack of opportunities for communication with scientists was an obstacle to the access and application of relevant science, 34% of Consumers disagree to strongly disagree with this statement and 30% agree to strongly agree, while the remaining

35% had no opinion. For Producers, 56% disagree that they had few opportunities to communicate with managers, while 33% had no opinion. This discrepancy suggests that there is more work to be done to facilitate communication opportunities that are helpful for both groups, and relying on traditional one-way information exchange may not be productive. During FY 2017 the NWFSC will begin the process of updating our needs assessment. We will collect information regarding information exchange and usability and will revise our logic model and plan of work as needed.

1. Smoke in Washington and Oregon

Situation: Although there is evidence that prescribed fire smoke is tolerated by an increasing number of people living in WUI areas, smoke emissions still remain a life and death issue for many. Policies in the NW, especially Washington, have been criticized for being too restrictive with respect to burning bans, due in most part to concerns about public health. Increased access to information and opportunities addressing issues at the interface of prescribed fire as a management tool and public health is needed; both in the fire community and the public at large. There is a shortage of trained personnel to conduct Rx fires, a need for training in the use of smoke management tools, and strategies in outreach communication.

2. Post-fire restoration & management

Situation: There is an absence of coordination of post-fire responses across ownerships. Community pre-fire planning should include post-fire recovery.

3. Landscape level planning

Situation: Landscape-level planning in fire-prone systems is complex on spatial, temporal, biophysical, and human scales. Fires occurring in the wildland-urban interface are often viewed as socially, economically, and institutionally separate, although these landscapes are socio-economically linked. Increased understanding of these connections by land-management agencies and fire management agencies are necessary for development of landscape level planning to inform new fire policies. Forest collaboratives need more interactions with researchers, access to clearly explained fire science, and methods to monitor progress.

Managing for fuels and fuel treatments in a changing climate

Situation: There is concern around the impacts of climate change on ecosystem responses to typical management activities, and that landscapes are being managed for future conditions that may not be well understood.

Logic Model & Linkages between planned activities and desired outcomes: 2016-2019

A general operating principle for the NWFSC is that at least 70% of our work should focus on the stated priority areas. Even though the majority of this work interweave the priority areas the updated logic model reflects the association of many of the outputs to the priority areas. The operating principles also allow for some work to occur outside the priority areas to help enhance the overall trust and operations of the network and to be receptive to emerging issues.

The table below outlines the primary communication and science delivery methods used by the NWFSC, and describes the relationships of each approach to the desired outcomes and impacts, as detailed in the logic model.

| Groups of Planned Activities by Types | Relationship with Outcomes/Impacts |
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| Social media: Twitter and Facebook postings | Social media serves to increase short term awareness of the consortium and priority issues along with highlighting planned activities. In turn this then contributes towards mid-range or medium outcomes by increasing the use of other delivery techniques. |
| NWFSC News Digest | The news digest performs a similar function as social media but in a forum that allows for a bit more in-depth consideration and discussion. The digest provides one avenue for beginning exchange between managers, practitioners, and researchers to become familiar with each other. |
| Fire Facts | Fire facts not only increase the visibility of the consortium but also provide a common set of terminology and concepts to a broad end user community. This again enhances communication between researchers and practitioners. |
| Research Briefs | Research briefs provide a more focused delivery of science around a research interest but conveyed from more of a manager's perspective. This dissemination of knowledge increases awareness at a deeper level and facilitates the exchange of ideas and information sharing. |

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| Videos | Videos generally provide concrete case studies that highlight the application of research often in a collective or collaborative manner. This demonstrates a willingness to collaborate between managers, researchers, and other stakeholders. |
| Webinars | Webinars may serve many different functions but largely provide a different forum for contributing towards the same outcomes as research briefs and videos. Webinars may facilitate the dissemination of research results and may also highlight application of research in a collaborative manner. The majority of the webinars focus on the priority areas identified and are often targeted towards specific stakeholder’s requests around these priority areas. |
| Workshops | Workshops provide opportunities to establish and to highlight multi-way communications and collaboration. Workshops also provide the opportunity to establish new networks among practitioners and with researchers. Additionally workshops provide for more visibility and opportunities for awareness activities. Workshops may either be focused towards a specific priority area or be more tangentially related. |
| Field Tours | Field tours provide opportunities for in-depth discussions and exchange of information. Field tours are more focused on a single or small set of issues and provide the greatest opportunity for input and interaction between managers, researchers, and other stakeholders. Field tours are often used to highlight an issue and the adoption or the application of science in addressing the issue. Field tours are designed to help meet the long term outcomes of the consortium. |
| Wildfire curriculum for landowners | This curriculum is very specifically focused on enhancing knowledge exchange on a diverse set of stakeholders to improve communication and understanding of the role fire and fire science has within a landscape. |
| Regional & National TREX training | The Nature Conservancy, Fire Learning Network’s Rx fire Training exchanges not only provide training in the use of prescribed fire they also provide opportunities for interaction between fire practioners and resource managers, and increase capacity of existing prescribed burn teams to meet TNC land management objectives. |
| Synthesis | Synthesis enhance the delivery of science in a very definite area and are designed to increase the understanding of the science and increase adoption of applications and technologies by the end user. |

Activities: 2016-2019

In addition to the activities listed here, we anticipate opportunities will emerge throughout the funding cycle for us to offer additional workshops, field tours, and other educational events and products.

| Planned Activity | Proposed schedule | Comment | Communication Phase |
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| NWFSC News Digest | Monthly for the entire funding period | 345 subscribers as of 2/1/16 | Awareness |
| Twitter postings | Daily, number of tweets per day varies: average 5 per day | Topic driven and regular feature of NWFSC. | Awareness |
| Facebook postings | Weekly | Topic driven and regular feature of NWFSC. | Awareness |
| You Tube | Varies | All videos, webinars are posted as they are produced | Awareness |
| Support and outreach to forest collaborative groups | Varies | Provide ongoing social science support to collaboratives in fire-prone landscapes in the region | Awareness, understanding and learning |
| Research briefs (13) | One produced per quarter per FY beginning with 4 th quarter of FY16; | Topics are taken from new research as it emerges and as advised by stakeholders, and Advisory Board. | Understanding and Learning |
| Webinars (19) | One in 4 th quarter of 2016; Two in 1 st quarter of 2017, 2018, 2019; Two in 2 nd quarter 2017, 2018, 2019; Two in 3 rd quarter 2017, 2018, 2019. | Dissemination of JFSP research results for: #13-1-03-12 #14-1-03-44 #14-2-01-29 #14-1-01-2 #14-1-01-22 Additional topics: climate change and wildfire, post-fire restoration, smoke management, landscape level management | Understanding and Learning |
| Fire Facts (10) Fire-related terms and terminology defined | 4 th quarter FY 2016 through 4 th quarter FY 2019 | Topics: Flame length/fire scar Scorch height; Fuel moisture/ Fuel models; Smoke management Smoke particulates; Fire weather, Sources of ignitions | Awareness |

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| Eastside Accelerated Restoration Project searchable database development | Begin 4th quarter of 2016 with completion expected in 2nd quarter of 2017 | Dissemination of project results made available | Understanding and Learning |
| Wildfire curriculum for landowner education programming | Begin 4 th quarter of FY 2016 with completion expected 1 st quarter FY 2017 | Partnership with OSU Forestry & Natural Resources Extension and Oregon Forest Resources Institute | Understanding and Learning |
| Fire science needs assessment | FY 2017 | Targeted assessment of the science needs in the region by engaging diverse consortium stakeholders | Consortium development |
| PNW Regional Forest Collaborative Workshop | FY 2017 | Meeting of 33 forest collaboratives to advance solutions-oriented conversations and restoration | Understanding and learning |
| Washington State forest Collaboratives Summit | FY 2017 | Meeting of 8 forest collaboratives in WA to advance solutions-oriented conversations and restoration | Understanding and learning |
| Westside Fire Regime Summit | 1 st quarter FY 2017 | Westside fire regimes, potential management scenarios, and adaptation activities. | Understanding and Learning |
| Fire science videos (6) | 2 per year in FY 17, 18, and 19; 6 total | Topics driven by needs stakeholders | Understanding and learning |
| Fire risk reduction outreach & education landowner workshop | Five workshops during 1 st quarter FY 2017 through 3 rd quarter FY 2017 | Day long workshops on increasing fire resiliency in forestlands. | Understanding and learning |
| Post-fire response network workshop | 1 st quarter FY 2017 | 1 day workshop and for collaborative groups and practitioners, Washington | Understanding and learning |
| Post-fire response field tour | 1st quarter FY 2017 | Roles of agencies and organizations in a post-fire environment | Understanding and learning |
| Rural Voices for Conservation Coalition Annual Meeting | 1st quarter 2017 | 3 day conference with workshops on wildfire policy, management, and social science | Understanding and learning |
| Regional TREX training, WA | Estimated at 2 nd quarter FY 2017 | Training for PNW region | Understanding and learning |
| Targeted outreach to agency administration and stakeholder leaders | 2 nd quarter FY 2017 | Update on activities for continued support for Consortium activities | Commitment |

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| Manager workshops (2) burn mosaics and fire management strategies – WA and OR | 3rd and/or 4th quarter FY 2017 | JFSP project 14-1-02-30 | Understanding and learning |
| Distribution of policy scenarios for fire adapted communities | 3 rd or 4 th quarter FY 2017 | JFSP 14-2-01-26 (dependent on research team timeline for completion) | Awareness |
| Land Manager Field Tour | 3rd quarter FY 2017 | Topic determined by emerging opportunities and teachable moments | Understanding and learning |
| JFSP All Exchange Meeting | 3 rd quarter FY 2017 | | Consortium development |
| Forest Collaborative Field tour | Sometime during FY 2017. Exact time TBD | Connecting place-based practitioners with scientists to discuss restoration and wildfire management | Understanding and learning |
| National TREX training | Estimated sometime in FY 2018 | Will be held in Washington State but National in scope | Understanding and learning |
| PNW Regional Forest Collaborative Workshop | FY 2018 | Meeting of 33 forest collaboratives to advance solutions-oriented conversations and restoration | Understanding and learning |
| Washington State forest Collaboratives Summit | FY 2018 | Meeting of 8 forest collaboratives in WA to advance solutions-and restoration | Understanding and learning |
| Land Manager Field Tour –forest restoration treatments | 1st quarter FY 2018 | JFSP project 13-1-04-4 | Understanding and learning |
| Synthesis | 1 st quarter 2018 | Exact topic determined through advisory board input and needs assessment results. | Understanding and learning |
| Dissemination of Fire-adapted communities on the range publication | 2 nd quarter FY 2018 | JFSP project 14-2-01-29 (also associated webinar) | Awareness |
| Targeted outreach to agency administration and stakeholder leaders | 2 nd quarter FY 2018 | Update on activities for continued support for Consortium activities | Commitment |
| Land Manager Field Tour | 3 rd quarter FY 2018 | Topic determined by emerging opportunities and teachable moments | Understanding and learning |
| JFSP All Exchange meeting | 3 rd quarter FY 2018 | | Consortium development |

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| Forest Collaborative Field tour | Sometime during FY 2018. Exact time TBD | Connecting place-based practitioners with scientists to discuss restoration and wildfire management | Understanding and learning |
| PNW Regional Forest Collaborative Workshop | FY 2019 | Meeting of 33 forest collaboratives to advance solutions-oriented conversations and restoration | Understanding and learning |
| Washington State forest Collaboratives Summit | FY 2019 | Meeting of 8 forest collaboratives in WA to advance solutions-oriented conversations and restoration | Understanding and learning |
| Rural Voices for Conservation Coalition Annual Meeting | 1 st quarter 2019 | Co-sponsor and help plan and facilitate 3 day conference with workshops on wildfire policy, management, and social science | Understanding and learning |
| Targeted outreach to agency administration and stakeholder leaders | 2 nd quarter FY 2019 | Update on activities for continued support for Consortium activities | Commitment |
| Forest health Symposium – state of the state | 2 nd quarter FY 2019 | Regional (WA and OR) symposium (2 day) on current forest health issues in the region | Understanding and learning |
| Synthesis | 3 rd quarter 2019 | Exact topic determined through advisory board input and needs assessment results. | Understanding and learning |
| Central Oregon Fire Science Symposium | 3 rd quarter FY 2019 | 2 to 3 day event for fire and fuels managers in PNW | Understanding and learning |
| Land Manager Field Tour | 1 st quarter FY 2019 | Topic determined by emerging opportunities and teachable moments | Understanding and learning |
| JFSP All Exchange meeting | 3 rd quarter FY 2019 | | Consortium development |
| Land Manager Field Tour | 3 rd quarter FY 2019 | Topic determined by emerging opportunities and teachable moments | Understanding and learning |
| Forest Collaborative Field tour | Sometime during FY 2019. Exact time TBD | Connecting place-based practitioners with scientists to discuss restoration and wildfire management | Understanding and learning |

Logic Model for NW Fire Science Consortium



1. Smoke: There is a shortage of trained personnel to conduct Rx fires, a need for training in the use of smoke management tools, and strategies in outreach communication.

2. Post-fire restoration & management: There is an absence of coordination of post-fire responses across ownerships. Community pre-fire planning should include post-fire recovery.

3. Landscape level planning: Forest collaboratives need more interactions with researchers, access to clearly explained fire science, and methods to monitor progress.

4. Managing for fuels and fuel treatments in a changing climate: There is concern around the impacts of climate change on ecosystem responses to typical management activities, and that landscapes are being managed for future conditions that may not be well understood.

NWFSC Partners
 -OSU College of Forestry
 - OSU FNR Extension
 -UO Ecosystem Workforce program
 -TNC
 -Sustainable NW
 - Ctr. Natural Lands Management
 -USFS Region 6: Managers/bios/resource specialists
 -PNW Res. Station: researchers/Communications Specialists
 -Research results and publications
 -Multi-source funding
 -In-kind contributions

Collaborators:
 -WA Rx fire council
 -OR Rx fire council
 - OSU extension agents/specialists
 -WA State University
 -Fire Adapted Communities
 -Oregon Forest Resources Institute
 -LANDFIRE
 -Fire Learning Network

Smoke:
 -2 TREX training (regional and national)
 -4 webinars

Post-fire restoration:
 -Post fire response workshop
 -4 webinars
 - **Landscape level planning**
 -3 Regional Collaborative workshops and field tours
 -2 RVCC meetings
 -3 Washington State collaborative workshops
 -10 Fire facts
 -1 database development
 -5 webinars

Fuels & climate change:
 -West side fire regime summit
 -Fire curriculum for landowners
 -5 landowner workshops
 -4 webinars
 -3 manager field tours

Topics still TBD:
 - 4 manager field tours
 -2 syntheses
 -Six videos
 -2 webinars
 -13 research briefs

Other:
 -Forest Health Symposium
 - C OR Fire Sci. Symposium

Metrics:
 # Events held
 # Participants/event
 # Publications produced and disseminated

Short

Managers, practitioners, scientists and collaborative groups achieve knowledge and greater awareness of communication and collaborative opportunities offered by NWFSC

Managers, practitioners, scientists and collaborative groups indicate and/or demonstrate a willingness to collaborate and share information

Metrics:
 #, % report increased knowledge and awareness of research
 #, % report intention to utilize new knowledge in their work
 #,% report interest and willingness to share information

Medium

Evidence of collaboration between research and management on applied research projects

Established communication networks between managers, practitioners and researchers that provide opportunities for information sharing, exchange of research ideas

Metrics:
 -NWFSC Program formal evaluation
 -Evidence of increased collaboration and communication networks, as self-reported by managers and researchers

Long

Evidence of consistent input and consideration of managers and practitioners into proposed fire science research

Multi-way communication and collaboration practices adopted by research and management