

RISING FROM THE ASHES

COLLABORATIVELY DEVELOPING SOLUTIONS TO POST-WILDFIRE IMPACTS

EXECUTIVE SUMMARY

Since the beginning of this century, wildfires have burned an average of 6.9 million acres annually in the continental United States, creating profound impacts on communities and ecosystems. Lives are lost, homes and infrastructure are destroyed, and post-fire flooding continues to create devastating effects for years after the smoke has cleared. Severe wildfires inexorably change people, communities, and economies. Ecosystem composition, structure, and function are unconditionally altered for decades or even centuries after the fire is out. Disasters, including wildfire, often have a disproportionately negative impact on the most vulnerable citizens, such as the poor, the elderly, and people with disabilities.

The full cost of wildfire is difficult to calculate due to the complexity (immediate emergency response, health costs, insured/uninsured losses) and duration (ongoing restoration of ecosystems, rebuilding homes and infrastructure) of factors that need to be considered. The best estimates suggest they run from three to 25 times the cost of fire suppression. For example, in 2002, the Hayman fire burned over 137,000 acres. Today, local resources continue to implement post-fire restoration projects to reduce negative impacts to ecosystems, water systems, and infrastructure. The [Coalition for the Upper South Platte](#), a local community organization that has been instrumental in ongoing recovery and restoration efforts, estimates that suppression was less

than 25% of the real cost of Hayman. Many communities are not prepared to deal with these long-term impacts.

Response and recovery from a severe wildfire is complex because it involves addressing both acute and chronic impacts. It is multi-faceted, and there are often overlaps, gaps, or confusion in response across multiple jurisdictions and organizations that have a role in the aftermath of a large fire.

These impacts are unlikely to subside any time soon and will likely continue to increase into the foreseeable future. The changing climate will likely magnify uncertainty and the challenges of wildfire. Though they are often seen as a Western-states issue, they are not so limited. Wildfire and post-fire impacts cost us all billions of dollars and affect our forests and communities from Kentucky to California.

To better understand the needs and challenges communities faced with the aftermath of large wildfires, [Coalitions and Collaboratives](#), in partnership with [The Forest Stewards Guild](#), and [Fire Adapted Communities](#), undertook a survey, held focus group meetings, and conducted individual interviews. This document synthesizes the findings and provides recommendations.



COCO
COALITIONS &
COLLABORATIVES, INC

OUR VISION

People working together- for people and the planet

OUR MISSION

To foster on-the-ground conservation efforts that protect and restore natural resources and local communities by supporting collaborative conservation organizations, who produce collective impacts through stakeholder driven efforts.

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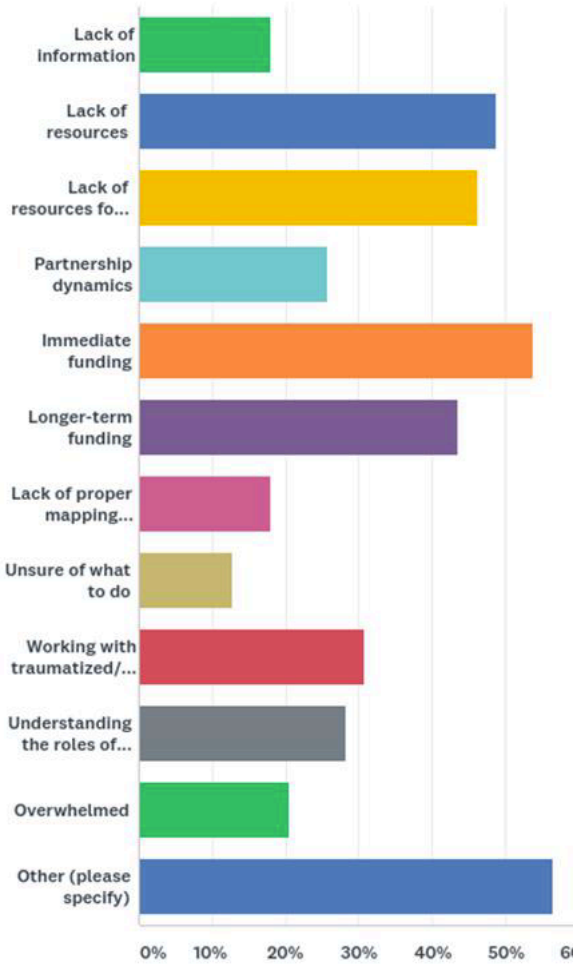
**Forest Stewards
Guild**

SURVEY SUMMARY

WHO TOOK THE SURVEY?

We shared the survey through our partner networks and collected responses from 39 experts and community representatives from across the Western United States. Among the participants, 36 of 39 have actively participated in post-fire work within the last five years. The respondents represent government agencies, conservation district, fire departments, public utilities, and nonprofit organizations. The majority of participants (77%) worked in assessing, planning, and coordinating various aspects of the recovery process.

Challenges to Recovery



The biggest challenge we faced was a lack of funding to offer immediate help to land owners.

- Lloyd Odell
Ferry Conservation District

THE BIGGEST CHALLENGES

The responses highlighted the need for funding and resources (technical support from agencies, how-to information, a network of individuals who had been through it before, tools, and specific items such as wattles or seed). Specifically, 54% of respondents indicated the need for funding to be released immediately after a wildfire: for example, funding from federal agencies is often hung up for many months after the fire is contained, and cost share that comes back to local governments from fire-fighting activities (such as overtime for sheriff/police/public-works personnel) can take months or years to come back, meanwhile they do not have sufficient reserves to address post-fire issues. Funding then needs to continue beyond the immediate response to conduct the longer-term recovery and restoration process. Within the additional comments, 26% of survey respondents mentioned needing to be able to coordinate with government at the county, state, and federal levels. Respondents (46%) noted the need for resources for private lands, much of the required recovery work is on, or directly impacts, private landowners with limited or no resources. Private landowners often feel the brunt of the post-wildfire flooding impacts from burns that primarily occurred on state or national forests and parks. **Fires and floods do not adhere to jurisdictional lines, but these boundaries often limit the funding available for the recovery work that is needed.**

The lack of flexibility of state and federal funding to meet localized needs is challenging.

- Patrick Haggerty
Cascadia Conservation District

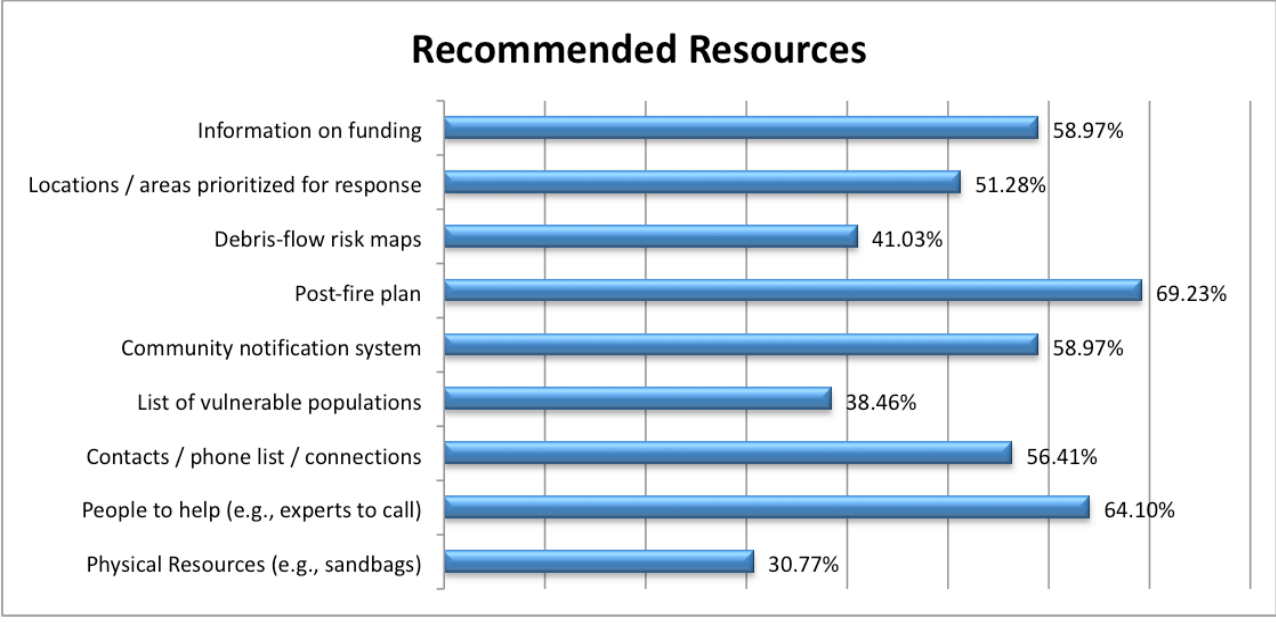
SURVEY SUMMARY

BEST TACTICS

Respondents (59%) commented and stressed the importance of coordination and communication within the post-fire recovery process. Many mentioned the importance of cooperation among all the stakeholders, from government agency personnel to community residents. They stressed the importance of listening to local voices and getting educational materials to the community as quickly as possible (some even said while the fire is still burning).

Having a strong network of knowledgeable people to assist in recovery makes the process smoother. Getting funding and planning done early makes a huge difference, and some communities are now analyzing probable post-fire impacts before fires occur, as part of a Community Wildfire Protection Plan or watershed/infrastructure planning process (such as Source Water Protection Plans).

The best tactic is to start as early as possible. Convene a brief meeting towards the tail end of the incident to know all the stakeholders and players involved.
- Rose Shriner
Kittitas County Conservation



RESOURCES NEEDED

The most essential tool to have in post-fire recovery is a post-fire plan (69%), followed by having experts to call for support (64%), and funding resources (59%). Many respondents stressed the importance of having adequate information about full-time residents versus vacation homes and having contact lists for residents, contractors, and experts. Some respondents said it would be helpful for Incident Command Teams to have a post-fire

Good relationships are needed with involvement of the community leaders and federal and state agencies.
-Tom Spezze
National Wild Turkey Federation

recovery expert embedded to begin liaising with community leaders before the fire is contained. Burned Area Emergency Response (BAER) teams should also have integrated resources of state and community-type experts who have served key roles on other major fires (such as utility experts, county/town elected officials and emergency managers, or non-governmental organization staff) to aid the local communities.

SURVEY SUMMARY

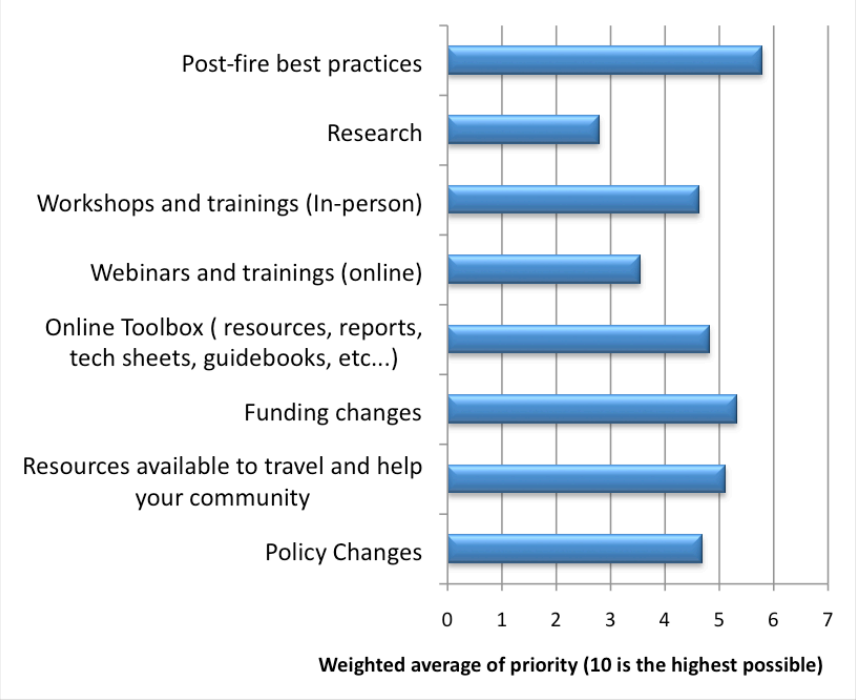
MOST COMMON ACTIVITIES

Of those surveyed, the most common activities were assessment (41%) and planning (36%). Many worked to protect structures (33%), followed by those who created collaboratives (26%) and conducted long-term visioning (26%). From this data, it appears there is more need to support restoration activities such as hillslope stabilization and drainage projects. More funding could support volunteer & contractor coordination to complete these projects.

Funding for natural resource restoration and recovery 2 years after the fire is much more expensive and labor intensive than having funding and implementing immediately after the assessment of the fire. Make sure people assisting those involved with losses can listen and not get too emotionally involved.

*-Dean Hellie
Stevens County Conservation District*

Priorities for a Post-fire Network



FOCUS AREAS FOR DEVELOPING A POST-FIRE NETWORK

In this question, we asked participants to rank the importance of developing these resources. Of those surveyed, 35% ranked 'funding changes' as the most important. 'Post-fire best practices' was the next most important with 28% voting it a top priority. Midlevel priorities include travel resources, online toolbox, and in-person workshops. From the surveys, the least significant areas to develop were 'research' (35% ranked it the lowest priority) followed by 'webinars and online training' (18% ranking it the lowest).

A valuable resource to have prepared is a list of private contractors that can help the landowner. This is something that can be supplied by someone doing a damage assessment.

*-John O'Connor
Oregon Dept. of Forestry*

RECOMMENDATIONS

In response to the recurring theme of communities' need for assistance, we provide several recommendations to be considered.

Develop a Collaborative Post-Fire Support and Response Program.

Often communities do not know who or even what to ask when faced with post-fire impacts. The development of a Collaborative Post-Fire Support & Response Program would provide an essential resource to fill an existing gap in post-fire recovery, specifically to support communities as they recover. The program will foster peer-to-peer learning, improve coordination across jurisdictions and contribute logistical support for immediate post-fire mitigation activities. The Collaborative Post-Fire Support Response Program will provide "people power" through the engagement of Subject Matter Experts who travel and help impacted communities, on an as-needed basis.

Develop a one-stop-shop for post-fire resources and knowledge transfer

Communities lack the specific knowledge or expertise to plan a strategic response, develop recovery plans, and access funding. Several local and regional organizations have developed post-fire websites, manuals, and guidance, yet the consolidation and sharing of these resources is often limited. We recommend working with partners to ensure knowledge is shared across networks and communities by cross-linking critical resources between existing websites.

Local municipalities want post-wildfire assessments and there is no single entity leading the charge.

*-Stephen Slaughter
Washington Dept. of Natural Resources -
Washington Geological Survey*

In my post-fire recovery experience, there was no effective coordination in delivering programs between federal and private recovery efforts (Forest Service, Tribal, NRCS).

*-Bill Tripp
Karuk Tribe Department of Natural Resources*

Increase Post-Fire Training opportunities

County officials, fire department members, emergency managers, public works employees, water providers and other non-conventional post-fire resources carry the majority of the burden when enacting post-fire response activities. A need exists to increase the opportunities for training to prepare these diverse individuals for post-fire action. We recommend the development of training programs aimed at this audience to improve their understanding and preparation for the post-fire environment. To be effective, these trainings should be hands-on and in the field whenever possible.

Develop Best practices & Post-fire Response Framework

We recommend a review of existing post-fire recovery practices, co-development of best practices guidance, and a post-fire process framework. Acknowledging that there is truly not a one-size-fits-all approach to recovery, the need exists to review treatment practices and provide real word analysis of the practices' effectiveness, cost, and benefits (there are several resources that are available regarding this item – for example, recommendation # 2, a consolidation of the available resources). In addition, numerous communities have asked, very simply – "what should we be doing?". The development of a general process (a checklist) will help communities ensure they are doing the "right" tasks, engaging the "right" people at the right time.

RECOMMENDATIONS

Develop mechanisms that allow federal resources to support recovery beyond ownership boundaries.

The current reality is simple. Jurisdictional restrictions limit the ability for Federal employees to provide resources beyond their fence or boundary. In limited circumstances, collaborative cross-boundary post-fire efforts have proven successful (Waldo Canyon Fire, Hayman Fire). We recommend leadership review the existing regulations and authorities to increase the ability for an all-hands, all-lands approach, whereas federal resources can support recovery efforts from headwaters to drainage points, both from the Incident Management Team and Burned Area Emergency Response Team Level.

A big challenge is the lack of resources to assist private landowners. A key issue is within the agricultural community immediately following a wildfire. Federal agencies have programs that take months at a minimum and often years to implement with an uncertainty for the landowner about what costs will and will not be eligible to be covered.

*-Craig Nelson
Okanogan Conservation District*

Encourage the integration of post-fire response and preparedness into pre-fire planning

It is often heard amongst fire professional; “it is not if, but when” the next fire will occur. With this in mind, and understanding that fire is an integral part of our diverse national ecosystems, planning for fire and its impact is essential. Several organizations and entities across the U.S have begun integrating modeled post-fire impacts into pre-fire planning documents to help prioritize where fuels reduction and forest restoration work could meet multiple resource objectives. These plans can provide for a more robust and inclusive plan that, when implemented, may limit ecosystem and community impacts after the fire. We recommend the development of a team to review the existing plans, and develop a review of the processes used to analyze the risk. We further recommend that these processes, if deemed valid, be utilized to a further extent when developing and revising Community Wildfire Protection Plans, all-hazard plans, or similar action plans.

CONCLUSION

The impacts of a wildfire last for years and decades after the flames have died and the resources have been released. Communities, large and able, or small and capacity limited, are both challenged with a new reality. Lives, property, watersheds, and ecosystems are forever altered. As we face this reality, we can individually try to find solutions, make the same mistakes already made by others and recreate the massive wheel, or we can work together to find common ground, seek solutions and share our experiences. With thoughtful action, dedicated resources, and commitment, we believe that we can all do better and be more prepared for the next fire.