



Integrating Potential Operational Delineations (PODs) into Community Wildfire Protection Plans: Guidance for Community Planners

This document provides an overview of Potential Operational Delineations (PODs) and Community Wildfire Protection Plans (CWPPs). It also provides context and supplemental guidance for local communities interested in learning more about integrating PODs into CWPP efforts. This guidance has been assembled as a joint effort between Colorado Forest Restoration Institute and Colorado State Forest Service, both affiliated with Colorado State University. While authors primarily drew from examples in Colorado, these suggestions are applicable throughout the West, or in any wildfire-prone area where communities deal with cross-boundary wildfire planning.

What are PODs?

PODs are a spatial wildfire planning framework that supports pre-planning for fire in advance of fire season. Through a collaborative and transparent process that leverages local expertise and advanced fire modeling and spatial analytics,^[1] local fire professionals, resource specialists, and other collaborators identify the most effective potential control lines for fire on the landscape irrespective of ownership or jurisdiction. Once lines are identified and mapped, they can inform cross-boundary planning for fire response and pre-fire mitigation. PODs outputs are also valuable communication tools and can help communicate priorities to many audiences.

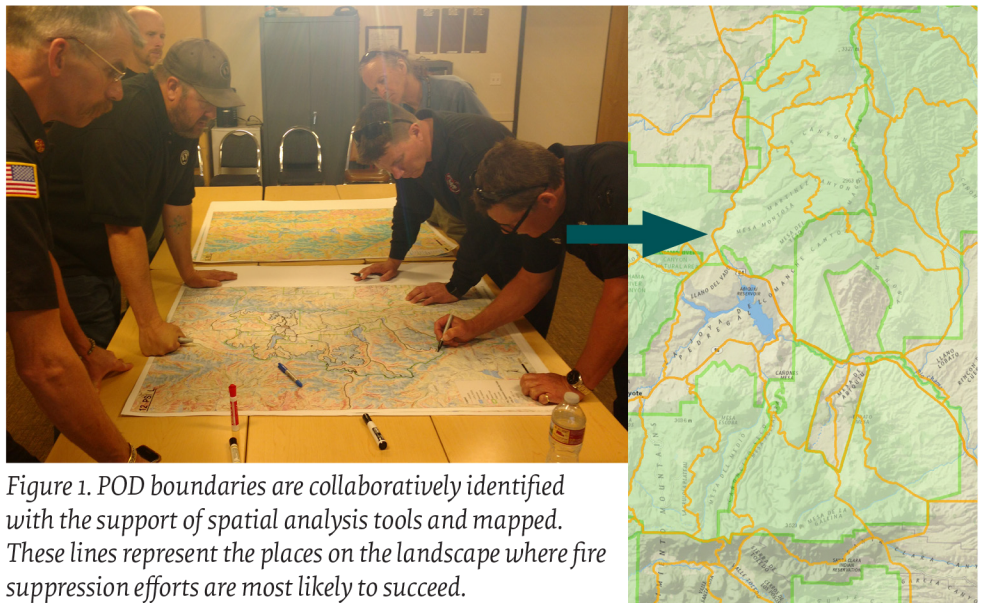


Figure 1. POD boundaries are collaboratively identified with the support of spatial analysis tools and mapped. These lines represent the places on the landscape where fire suppression efforts are most likely to succeed.

The term “PODs” has become shorthand for a broader adaptive framework for strategic cross-boundary, collaborative, and integrative fire planning. The framework is rooted in risk management principles, blends advanced spatial fire modeling analytics with local expertise, and emphasizes place-based cross-boundary collaboration and engagement with local managers and stakeholders. Co-produced, science-informed planning like this provides powerful justification for prioritizing certain areas for treatment, and also facilitates communication, coordination, and decision-making across wildland fire and land management jurisdictions.

Going through the PODs development process is a way to institutionalize the expertise of local firefighters by recording the way firefighters already think about the landscape. The collaborative process and its outputs create a common operating picture that visually communicates fire containment challenges and opportunities across the landscape to those with or without a fire suppression background. Ideally PODs are a living tool that can be revisited and adjusted as treatments and disturbances change conditions. The USDA Forest Service Chief recently requested that individual national forest units develop PODs before the fire season and use them during incident management, suggesting that federal agencies are fully buying into and adopting this planning framework.

What are CWPPs?

Community Wildfire Protection Plans are another wildfire planning framework. In accordance with federal and state requirements, CWPPs must be developed collaboratively, prioritize where fuel treatments will take place and address structural ignitability concerns.

Since the early 2000s, the CWPP process has proven to be scalable and adaptable for a broad variety of community types and sizes, and these plans have been used nationwide to bring partners together around common goals surrounding wildfire. The CWPP development process and the end-state document engage communities to recognize their unique wildfire risk, compare it with broad community characteristics and values,

and prioritize meaningful action to best prepare for wildfire impacts. These plans help communities more effectively endure wildfire incidents, recover from potential negative impacts in a more resilient fashion, and learn to live with inevitable wildfire more effectively. CWPPs are intended to be living documents, and they should be updated over time to adapt to dynamic social and natural environments.



Figure 2. Colorado State Forest Service staff and community members in Chaffee County, CO attend a public meeting focused on revising the Chaffee County Community Wildfire Protection Plan.

Since both PODs and CWPPs are fundamentally collaborative and can help communities and land management agencies develop fire management strategies and deliver prioritized fuel treatment recommendations, they can readily be inter-reliant and complementary. Many opportunities exist for PODs and CWPP efforts to coalesce and advance common wildfire risk reduction goals across broad landscapes, while simultaneously offering the potential to save valuable time and funding resources.

How can participants integrate PODs and CWPPs?

1. **Participate in exercises to delineate PODs.**

The process of delineating POD boundaries is in itself a valuable pre-planning exercise through which all collaborators improve situational awareness about fire containment opportunities and challenges across the landscape. Working together to identify and discuss the viability of control features adjacent to communities and other values at risk creates common understanding about where fire poses the most risk to community values and where firefighters have the best chance of containing a fire.

2. **Work with interagency partners to review, edit, or update POD boundaries.**

National forests have been early adopters of the PODs process, and fire and resource specialists often begin delineating PODs for internal planning purposes. Federal and state agencies increasingly recognize the value of PODs to facilitate interagency coordination and to communicate priorities across jurisdictions. Local communities, fire districts, and counties can work with federal partners to review or edit POD boundaries or by contributing information about values at risk and/or completed treatments.

3. **Incorporate spatial analytics and spatial data into CWPPs.**

The same spatial information that is used to support PODs development can be incorporated into CWPPs. [The Risk Management Assistance Dashboard](#) houses a variety of freely available spatial data that planners can use for decision support, including Suppression Difficulty Index (SDI)^[1] and Potential Control Location Analysis (PCL).^[2] Both of these analyses use fire modeling data to show where firefighters are likely to have challenges or success engaging with fire based on terrain, available fuels, and weather conditions. SDI and

PCL are used to support delineation of POD boundaries, and they can be used in any fire response and pre-fire planning effort, including CWPPs.

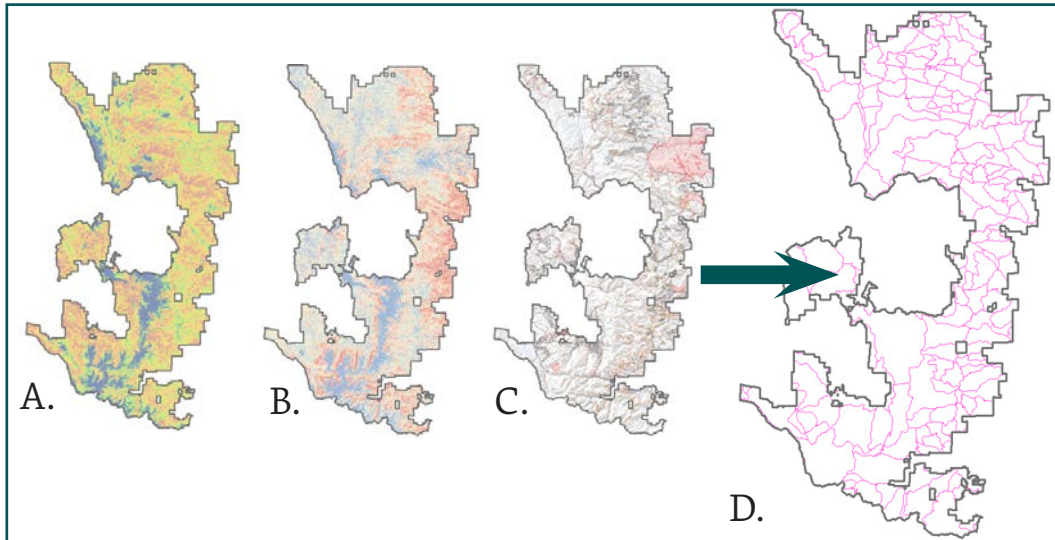


Figure 3. Spatial data like Potential Control Locations (A), Suppression Difficulty Index (B), and other reference layers (C) contribute to POD boundary lines (D). This spatial information is also readily usable in CWPPs to support pre-planning for ignitions in specific locations.

4. **Consider PODs for evacuation planning.**

PODs can inform neighborhood evacuation planning in CWPPs because they clearly communicate where fire is or is not likely to be contained. If a fire starts in a POD and is not suppressed quickly, neighborhoods or communities in that POD (or adjacent PODs) may need to evacuate. Communities could also prioritize treatments to create or protect evacuation routes.

5. **Consider PODs for fuel treatment prioritization.**

PODs boundaries represent the best control features that already exist on the landscape, but these boundaries are not necessarily equally effective, especially under extreme conditions. Fuel treatments can be strategically placed along POD boundaries to strengthen them and improve their likelihood of containing a fire, especially in important areas or adjacent to values at risk. Further, in some cases fuel treatments can be constructed in other locations in order to break up PODs into smaller areas, providing more opportunities for suppression and community protection during a wildfire.



Figure 4. Roadside clearing and brushing to make the road defensible. This work along POD boundaries improves its potential for control. (Credit: Inciweb)

6. **Providing information to Incident Management Teams (IMTs).**

As PODs become more common, IMTs more frequently ask for PODs, RMA data, CWPPs, and other spatial data on values at risk to inform strategic operations. Going through the PODs process before the community is in an emergency situation can streamline the information-collection process for an IMT, and the community can use the PODs framework to communicate local knowledge, expertise, and understanding of their area to teams who may be unfamiliar with the landscape. IMTs have historically

used CWPPs to make decisions during fire incidents. Including PODs can amplify the value of these documents for supporting incident decision-making, as PODs are a format IMTs are learning to expect.

7. **Capitalize on previous planning experience.**

Since PODs to date have been used mainly by federal land management agencies within their own jurisdictions, ensuring that federal partners from units adjacent to communities developing CWPPs are involved in plan development is strongly encouraged.

8. **Incorporate PODs and other spatial data into fire response maps.**

PODs can be incorporated into appropriate CWPP map sets or into POD atlases to aid in wildland fire decision support. Their native spatial data format is also easily incorporated into Wildland Fire Decision Support System or Interagency Fuel Treatment Decision Support System.

9. **Other uses for PODs**

PODs have been successful in large part because they are not overly prescriptive and have been developed using a collaborative framework that encourages flexibility and innovation in use. Three recent case studies demonstrate the ways groups have successfully used PODs in [Washington](#) and on two national forests in Colorado ([San Juan National Forest](#) and [San Isabel National Forest](#)). You may find additional uses for PODs that suit your unique needs.

10. **Other uses for CWPPs**

CWPPs can inform or be integrated to varying degrees into Federal Emergency Management Agency (FEMA) Hazard Mitigation Plans (HMPs). CWPPs that have been co-developed with PODs can amplify the value of HMPs if they are integrated to any extent. Blending these complex but similar products can provide a greater collective value than the interrelated resources and planning efforts would offer independently.

Summary

After they have been delineated, PODs are essentially big boxes on the landscape that illustrate where fire could potentially be contained. Collaborators can then use CWPPs and other planning processes to fill those boxes with a wide variety of local and statewide spatial data about expected fire behavior, homes, infrastructure, and other values at risk to inform where resources should be expended to protect community values. Because PODs delineate where fires are likely to be contained, they can help operationalize CWPPs. Like CWPPs, PODs institutionalize knowledge and can be used to create a variety of maps and spatial data products. However, the real value of PODs and CWPPs comes from the collaborative processes used to create them, the interagency coordination and conversations they facilitate, and their power as communication tools between communities, land management agencies, and other stakeholders. By incorporating the PODs framework into a new or updated CWPP, a community is able to incorporate the latest science and use an operationally based planning framework that is broadly adopted and supported by federal agencies.

References and Additional Resources

1. General resources on PODs including information on both Suppression Difficulty Index and Potential Control Location Analysis can be found here: <https://www.fs.usda.gov/rmrs/potential-operational-delineations-pods>
2. Risk Management Assistance Dashboard: <https://wfmrda.nwccg.gov/rma>
3. Colorado State Forest Service CWPP site (including links to all Colorado CWPPs): <https://csfs.colostate.edu/wildfire-mitigation/community-wildfire-protection-plans/>



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