PODs for Non-Incident Management • San Juan National Forest Case Study

PODs are informing prescribed fire management and cross-boundary prioritization

The San Juan National Forest (SJNF) in Colorado is using the concept of "nested PODs," i.e., PODs developed at multiple scales, to inform prescribed fire management and cross-boundary prioritization (Figure 1). In-depth interviews with SJNF staff revealed how PODs are being used on the forest, potential future applications of PODs, and recommendations for improving their use in planning.

What are PODs?

The Potential Operational Delineations (PODs) spatial fire planning framework brings together firefighters' local knowledge and analytical products developed and maintained by the U.S. Forest Service Rocky Mountain Research Station (RMRS) to empower pre-planning for future fires. Before smoke is in the air, agency partners and cooperators collaboratively identify and document the most effective potential control lines (PCLs) on the landscape, where there is a high likelihood of containing wildfires (e.g., roads, streams, ridges, etc.). PODs were initially developed to support wildfire incident response, but the framework can also be used for non-incident management, including cross-boundary planning and wildfire mitigation. This series explores how land managers across the west are adopting this framework for non-incident objectives. PODs were co-developed by managers in the U.S. Forest Service in partnership with the RMRS, the Colorado Forest Restoration Institute, and Oregon State University.
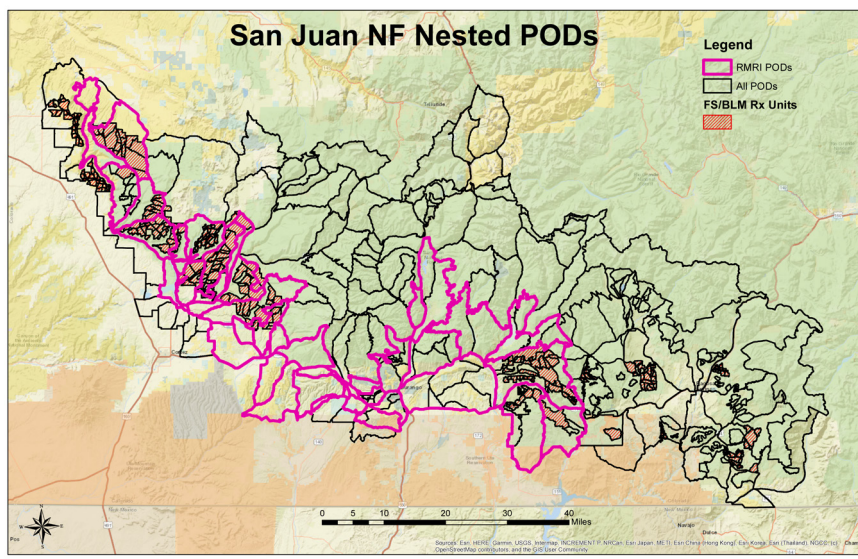

Figure 1. Nested PODs on the SJNF

How the San Juan National Forest Uses PODs

Blurring the lines between wildfire mitigation and response — In 2019, the SJNF collaboratively developed landscape-scale PODs as a forest-wide planning tool for fire management. These PODs supported internal communication with non-fire and fuels specialists about the potential positive and/or negative effects of prescribed and unplanned fire on highly valued resources and assets.

The forest assigned a POD label to existing prescribed fire units and nested them within the landscape-scale PODs. When overlaid together, the nested PODs network validated fuels and fire specialists' landscape-scale prescribed fire approach. The PODs network provides another tool in their toolbox, which is used along with timber sale locations, timelines, and prescription windows to strategically place prescribed burns in the right place and at the right time.

> *Once [we] overlaid them [PODs] across the landscape and [we] looked at our burn units within those PODs, it really matched up with how we were already thinking...it validated that we were moving in the right direction.*

SJNF fire managers also integrated the PODs framework into an automated decision-support tool to inform their prescribed fire program. The tool identifies prescription windows and forecasts fire weather and behavior (e.g., flame length, rate of spread) relative to desired conditions up to a week in advance. Fire weather and behavior information

are summarized within PODs to populate burn plan elements four and seven. This information is also summarized in the adjacent downwind POD to provide rapid situational awareness of control opportunities and potential fire behavior in the event of an escaped burn or spotting. The PODs networks are integrated with wildfire response areas within the tool to inform resource allocation decisions and as a starting point for contingency planning. When managers are able to use the same systems and tools to plan for both prescribed fire and incident management, the lines begin to blur between mitigation and response.

> *We're trying to get all these different plans talking to each other...So start taking the lines down between planned and unplanned ignition and using a lot of the same support systems for both.*

The Rocky Mountain Restoration Initiative (RMRI) uses PODs to support cross-boundary planning — RMRI is a collaborative effort focused on increasing the pace and scale of treatments to enhance the resilience of forests, habitats, communities, recreation opportunities, and water resources in southwest Colorado. RMRI has incorporated the PODs framework by nesting SJNF's landscape-scale PODs within larger planning area PODs that extend across multiple ownerships (Figure 1). Within each RMRI POD, diverse stakeholders across jurisdictions will collaboratively define and summarize shared values and priorities in order to inform joint work planning and prioritization, investment, and monitoring. The SJNF is able to align with large-landscape-level objectives by moving some of their planned prescribed fire and timber projects to areas within high-priority RMRI PODs.

> *We're also using PODs to prioritize across the landscape for our Rocky Mountain Restoration Initiative... we're shifting some of our work... in an attempt to work in the highest priority areas.*

The future of PODs on the SJNF

Integrating PODs into NEPA — SJNF staff are currently drafting a district-wide Environmental Assessment (EA) for mixed conifer systems in steep, rugged terrain. Staff feel that PODs and associated RMA products (e.g., Suppression Difficulty Index, Potential Control Locations) will be critical to identifying prescribed fire opportunities, delineating burn units, and justifying the purpose, need, and approach to prescribed fire management in these systems.

Using PODs to develop burn plans — Managers haven't yet mapped out all the units on the landscape where they want to develop burn plans. SNJF's landscape-scale POD boundaries are vetted control opportunities; from this starting point, managers can dissect the POD into smaller units appropriate for prescribed fire implementation.

Recommendations for improving PODs use in planning

Leadership — Leadership must direct and support the PODs process by making PODs a priority (e.g., allocating staff time to develop and maintain PODs), and setting expectations for how PODs should be developed and incorporated into existing plans, processes, and regulations.

Engage with RMA and PODs analysts — Collaboration needs to continue with the analysts and research professionals who develop and maintain RMA and PODs before, during, and after incidents. Collaborative two-way feedback and learning between managers and researchers builds relevancy, credibility, and legitimacy of PODs and their use in planning.

Invest in in-house analytical capacity — The SJNF employs two Long Term Fire Analysts (LTANs). Yet, most forests are lucky to have one, and many don't have any. There is a need to develop and enhance in-house capacity to produce and interpret spatial analytical tools like PODs and other RMA products, and to make these responsibilities primary job duties.

Increase investment for convening and facilitating PODs workshops — Currently, a small cohort of researchers facilitate PODs workshops in the U.S. There is a need to increase capacity (e.g., funding, personnel) for convening and facilitating collaborative spatial wildfire planning processes and engagement.

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