COLORADO FOREST RESTORATION INSTITUTE
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Integrating the Incident Strategic Alignment Process (ISAP) and Community Wildfire Protection Plans (CWPPs): Guidance for community wildfire planners

Overview

As wildfire activity continues to increase and threaten people and property, there is a need for communities to embrace strategic wildfire planning and management that links pre-fire planning, vegetation management, and incident response (Stratton, 2020). The Incident Strategic Alignment Process (ISAP) is used to support incident response, while Community Wildfire Protection Plans (CWPPs) inform pre-fire planning and mitigation actions to reduce wildfire risk to local values, resources, and assets. We argue these two frameworks are complementary and when integrated appropriately can facilitate stronger linkages between pre-fire planning, vegetation management, structure hardening, and incident response. Integrating elements of ISAP and CWPP ensures community values and priorities are considered during incident response, facilitates data sharing and integration, and supports shared understanding among community members of the opportunities, challenges, and decision space fire managers face during fires.

The purpose of this document is to: 1) provide an overview of, and potential alignment between, the ISAP and CWPPs; and 2) provide guidance for local communities interested in integrating concepts and tools from ISAP and CWPP efforts. This document is a joint effort between Colorado Forest Restoration Institute, Colorado State Forest Service, Washington Resource Conservation & Development Council, and the United States Forest Service. This guidance document is applicable to community wildfire practitioners, including local fire agencies, non-governmental organizations, emergency managers, state and federal land managers, and other community connected partners who work in wildfire-prone areas where communities engage with, or are considering, cross-boundary wildfire planning.

What is ISAP?

The ISAP is an emerging framework for assessing and communicating risks and developing strategy during fire incidents. The goal of ISAP is to determine and articulate the "why" behind incident response and co-construct a durable strategy that minimizes risks to communities, landscapes, and fire responders. ISAP is an iterative, risk-based dialogue that takes place among Incident Management Team (IMT) members, Agency Administrators (AAs), and external partners. Throughout these conversations, those engaged with ISAP focus on four "pillars": 1) critical values at risk (CVAR), 2) strategic actions, 3) risks to responders, and 4) probability of success (see the ISAP Story Map for more information).

- Pillar one: CVAR drive strategic actions on incidents. They include the small set of highly valued resources and assets (HVRAs) an AA would ask a fire responder to take an elevated, but meaningful, level of risk to protect (See Table 1 for examples of CVAR). CVAR helps identify what needs to be protected and why.

Table 1. Example Critical Values at Risk (CVAR) categories and descriptions.

Category	Description
People and Private Property	Communities or clusters of private property at risk of loss from fire.
Critical Infrastructure	Infrastructure sensitive to fire impact or fire suppression efforts that is necessary for the continued safety and function of the community it serves (e.g., 911 communication lines, highway corridors).
Local Community Drivers	Important economic and cultural drivers critical to the continued persistence of communities and their character that are sensitive to fire impact or suppression efforts (e.g., cultural values, historic landmarks).

- Pillar two: Strategic actions include a set of actions to protect CVAR while balancing risk to responders and the likelihood of success. For example, responders may weigh opportunities and challenges for how direct or indirect suppression tactics contribute towards the incident strategy. Strategic actions help identify what is being done where and how.

- Pillar three: Responder risk involves assessing the risk responders are asked to take to protect CVAR for each proposed strategic action. This includes considering how many resources are needed and how long it would take to implement an action such as building a section of line, along with assessing the specific firefighting hazards commonly associated with that action (e.g., aviation, medical response capacity, hazard trees). This helps balance risk to responders relative to risk to critical values, while prioritizing safety.

- Pillar four: Probability of success evaluates what is required to implement a strategic action, the factors that could lead to success or failure, and the likelihood of each, while weighing responder risk against the values to be protected. This pillar helps identify whether responders can safely and effectively carry out an action.

Together, these four pillars help inform decisions about which actions and strategies to take during a wildfire. The four pillars are documented in the Strategic Risk Assessment form, or SRA, to communicate strategy across IMT functions, AAs, ground resources, and in some cases community-connected partners. While ISAP is an emerging structured decision-making framework for incident management, the concepts and practices are not new. ISAP consolidates long standing best practices from IMTs and fire managers. ISAP is increasingly used by IMTs to support large fires, and the National Wildfire Coordination Group (NWCG)[1] has recently tasked fire leadership in developing standards and curriculum for ISAP.

What are CWPPs?

CWPPs are a wildfire planning framework focused on community susceptibility to fire and mitigation efforts to reduce community susceptibility. State and federal regulations require CWPPs to be developed collaboratively, prioritize fuel treatment locations, and recommend measures to reduce structure ignitability. The CWPP process is scalable and adaptable to a variety of community types and sizes. CWPPs have been developed and deployed nationwide to build shared understanding and common goals for community wildfire resilience. The CWPP engagement process helps communities determine wildfire risk to local values and assets and prioritize actions to prepare for wildfire, which is then codified in the plan. In effect, the planning process and CWPP document support communities in their desire to better live with fire through actions to better receive, respond to, and recover from fire. CWPPs are not static documents. They should be maintained as living plans that support ongoing coordination, prioritization, and adaptive implementation in response to evolving fire risk and changing social and natural conditions.

[1]NWCG - an interagency coordinating group responsible for determining wildland fire operations standards. Source: https://www.nwcg.gov/about-us.

How can participants integrate the ISAP and CWPPs?

Opportunities to align the ISAP and CWPP in the preseason

1. **Conduct or participate in preseason CVAR inventories with partners:** During an incident, AAs typically work with IMTs to compile a list of CVAR and their locations, rate the severity of impact from fire and suppression actions, and determine their relative priority (Appendix 2). However, this requires time and resources, some of which could be front-loaded in the preseason. Identifying CVAR in the preseason with partners can: 1) support land management units, communities, and cooperators in gaining alignment on CVAR without the time constraints imposed by an active incident; 2) help AAs clearly communicate community-informed values at risk and strategy to leadership, field resources, cooperators, and other entities; and 3) speed up strategy development and implementation.

   Values at risk identified during a CWPP may closely align with those CVAR identified during the ISAP process. However, a CWPP process often identifies additional values that, from an incident response perspective, may not be considered critical for fire response. A CWPP might generate additional values due to the broader cross section of individuals, organizations, and objectives. Incident responders will often identify a narrower list of critical values than the CWPP effort due to incident-specific factors (e.g., fire behavior, time or resource constraints) and the smaller group of AAs jurisdictionally responsible for fire response. Preseason conversations with partners can facilitate understanding of CVAR in terms of responder risk. It may also help differentiate CVAR from the broader list of values of community concern as something responders would accept an elevated level of risk to protect. For example, a crew captain might be willing to accept an elevated level of risk to their crew if it meant keeping a fire from destroying a subdivision with dozens of homes but would be unwilling to put firefighters at risk to save a fence or vault toilet at a recreational trailhead. See here for a brief on considerations for developing CVAR in the preseason with partners to inform incident response.

2. **Participate in pre-fire scenario planning and trade-off discussions to inform strategic actions:** Strategic actions identified during the ISAP are specific to the incident, geographic scope, and are contingent upon fire behavior and weather conditions, resource availability, and access. Thus, a CWPP process can not address all incident specific actions. However, IMTs often request CWPP priority areas and documents during a fire to inform their strategy. Discussing and documenting fire management opportunities, challenges, and desired outcomes with the CWPP core team and partners beforehand may inform incident response. For example, collaborative preseason spatial fire planning workshops to identify and map Potential Operational Delineations (PODs), which represent the natural and human made landscape features fire managers use to contain fires (e.g., roads, rivers, ridges), facilitate critical conversations with partners on fire management opportunities and challenges (Caggiano & Beveridge, 2022).

   Further, scenario planning or tradeoff discussions in the preseason with the CWPP core team, CWPP contributors, and local subject matter experts (e.g., local fire agencies, power grid and utility companies, land management agencies) can help community partners document possible fire management strategies and comfort with fire. For example, a fire that starts near a past fire footprint may be considered more tolerable and less risky because the previous fire would reduce the potential for fire spread to values at risk. Preseason discussions may also help community members recognize areas where fire responders are not likely to be successful, such as areas where the topography is too steep or with substantial standing dead trees. In areas where the risk to responders is high, and few values are threatened, fire management strategies may focus on indirect actions, rather than putting firefighters directly on the fire edge in hazardous conditions. Community members may also consider where and under what conditions proactive fire management could support social and ecological objectives and reduce future fire risk. These conversations are the same types of dialogue incident managers have during a fire. Yet, IMTs often come in from out of area with little understanding of the local context. Documenting preseason conversations about fire management challenges and opportunities into the CWPP text and spatial data can help incident responders understand

community-level concerns and priorities, and thus more readily integrate them into incident response. Further, these preseason conversations can help community members better contextualize the decision space and rationale for incident response.

3. **Shared analytics for considering risks, identifying treatment priorities, and linking treatment priorities to fire management actions:** During the ISAP, fire managers utilize spatial analytics like PODs, Suppression Difficulty Index (SDI), Potential Control Locations (PCLs), Snag Hazard, and Ground Evacuation Time (GET) to inform collaborative dialogues and strategy development (Figure 1). SDI identifies areas that are safer and easier to engage fire and areas where it is harder or more hazardous. SDI considers fire behavior, access, penetrability, and line construction rates in different vegetation types. PCL denotes the probability of fire containment across the landscape. The PCL uses past fire observations to identify where fires have stopped in the past and what factors contributed to containment. GET estimates the number of hours required to get an injured fire responder to a medical care facility. Snag Hazard uses snag density and height from the national database TreeMap to estimate snag hazards, a critical consideration for responder risk. These analytics are available across the continental United States, periodically updated to reflect changing conditions, and are available for use and download on the Risk Management Assistance (RMA) Dashboard. The same analytics used for incident response can be leveraged in a CWPP for considering risks and identifying treatment priorities that align with incident objectives and priorities. For example, PODs, PCLs, and SDI are often considered together to identify line placement during a fire. These containment features are often more effective when they are improved, either during an incident or preferably in the preseason. These analytics can be considered in a CWPP to identify strategic fuel break locations that have potential to limit fire spread to adjacent values at risk, support fire containment, and improve safe and effective fire response (Thompson, 2024).

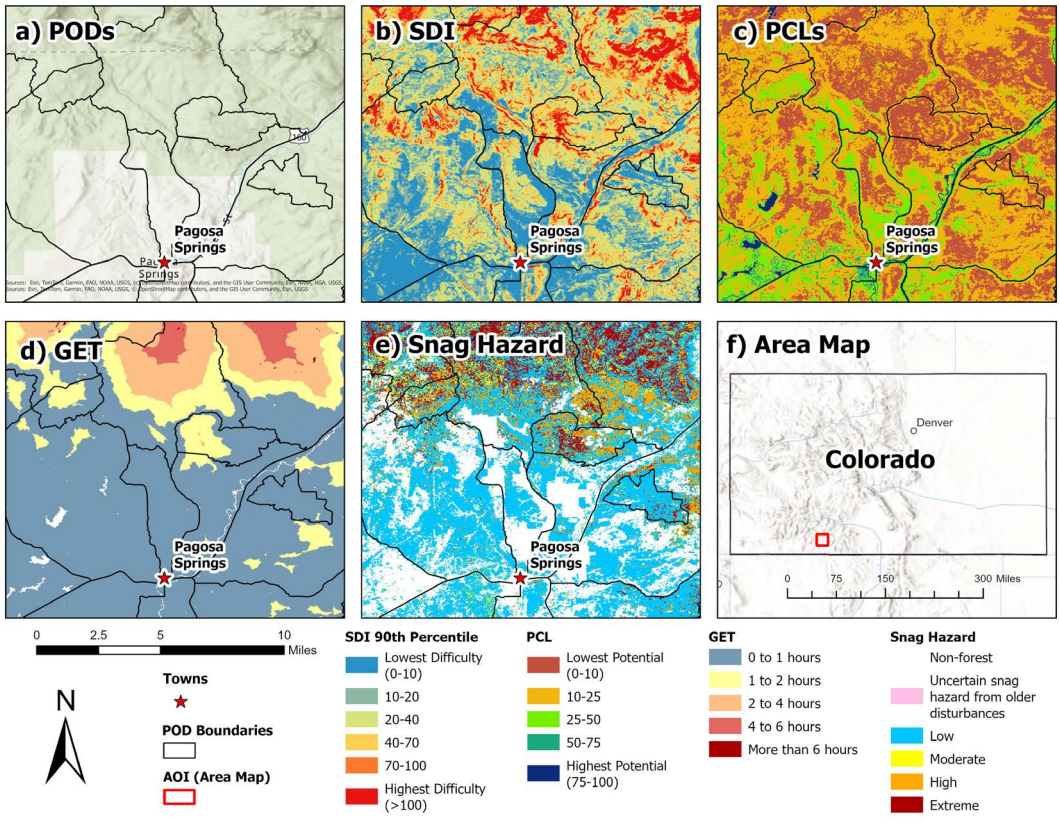

Figure 1: Common spatial analytics used during incident response. Available for viewing and download on the Risk Management Assistance Dashboard. PODs: Potential Operational Delineations; SDI: Suppression Difficulty Index; PCLs: Potential Control Locations; GET: Ground Evacuation Time; AOI: Area of Interest. Map created by Kendall Iida.

Example: Gunnison County CWPP - Leveraging PODs, Quantitative Wildfire Risk Assessment, and SDI to inform treatment priorities.

The Colorado Forest Restoration Institute deployed their Risk Assessment and Decision Support (RADS) collaborative process and spatial analysis tools to identify treatment priorities that informed the Gunnison County CWPP update (Edinger et al., 2025). A collaborative PODs workshop was held in 2024 to delineate fire management containers across all-lands in Gunnison County. The PODs network was used as a spatial container to determine risks, suppression difficulty, and identify treatment strategies across the county. Specifically, the analysis helped target areas to implement strategic fuel breaks along POD boundaries where there was a high potential for fire spread to nearby sensitive HVRAs and where vegetation management could enhance suppression opportunities. Applying PODs, SDI, PCL and other risk-informed tools during a preseason CWPP planning effort sets the stage for vegetation management actions that support safe and effective response and increases integration between mitigation actions and incident response.

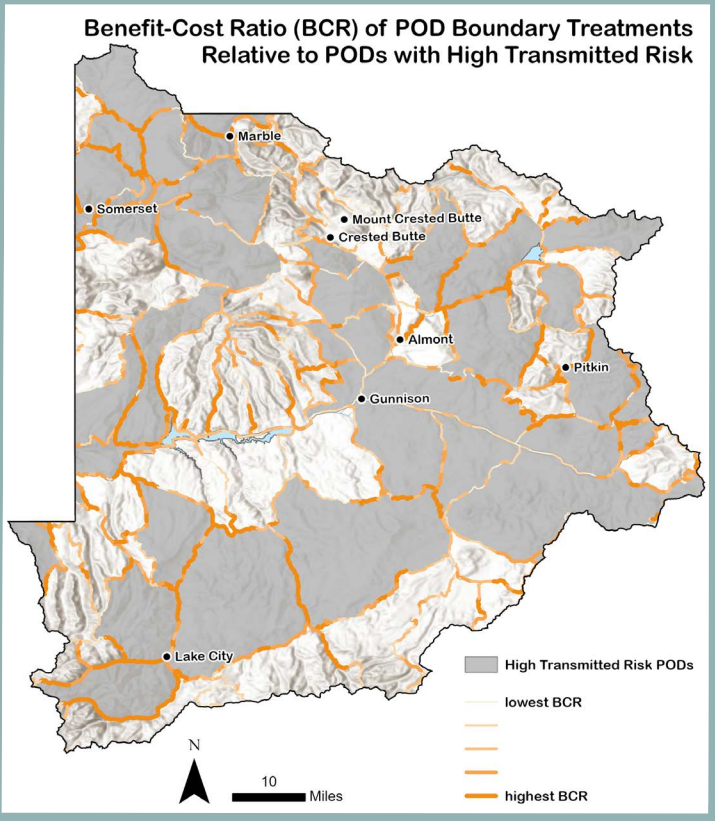

Figure 2: Identification of strategic fuel break locations along PODs. This analysis identifies where there is high potential for fire to start and spread from one POD (gray PODs) to negatively impact sensitive values at risk (gray PODs) and where vegetation management along pre-defined wildfire control features can make meaningful difference in changing fire behavior and decreasing suppression difficulty. The analysis uses an extension of SDI by differencing baseline SDI from a simulated treatment along POD lines, which is referred to as delta SDI (ΔSDI). High ΔSDI indicates vegetation management can make a measurable difference in reducing suppression difficulty. Darker orange POD lines indicate high benefit-cost ratio, which is calculated as reduction in suppression difficulty index (ΔSDI) per dollar spent for a mechanical thinning scenario. Source: Edinger et al., 2025.

Opportunities to align the ISAP and CWPP during fires

1. **Participate in a CVAR discussion during an incident:** CVAR discussions during incidents should be limited to fire managers and agency decision makers. In some cases, it may be appropriate for community-connected partners who represent community interests (e.g., State Fire Management Officer, Fire Chief, Sheriff) to participate in CVAR discussions during an active fire and ensure community values are represented in the conversation. This could occur if community members and AAs had not yet developed their preseason CVAR inventory, and/or there was an interest from the IMT or AA for additional context on community-defined CVAR. An IMT may be interested in additional information about which and why values were considered critical, who should be contacted for further information about the value at risk, the susceptibility of the values to fire or suppression actions, and/or ranking the values at risk based on priority, all of which are key considerations during the CVAR exercise. For example, it may be relatively straightforward for a community to identify a CVAR list in the absence of an active fire. During an active fire, however, a community-connected partner might help the AA work with the IMT to winnow down and prioritize CVAR when discussed in relation to current fire behavior, risk to responders, and the likelihood that actions will be successful. Community-connected partners should be identified in the preseason by the CWPP core team and contributors and reflect individuals with local knowledge and/or fire management responsibilities. Still, during dynamic highly complex incidents with rapidly evolving conditions, robust engagement with a community-connected partner may not be possible. In these cases, developing effective mechanisms to quickly share CWPP spatial data and information with IMTs may be a more efficient way for communities to inform incident response.

2. **Share CWPP information with an IMT during an incident:** IMTs often request CWPP information during an incident to inform their actions. Thus, it would benefit communities to develop data repositories and processes to easily and quickly share relevant spatial data from the CWPP and implementation of the CWPP. A geodatabase with spatial information on local values at risk and their susceptibility to fire, recent fuel treatments, vulnerable populations, a contact list of local managers responsible for values at risk (e.g., water supply, utility infrastructure, or public safety), home assessments, evacuation zones, and smoke preparedness plans all could help inform incident actions. For example, access to local treatment data can help align suppression actions with mitigation efforts. A key consideration during the ISAP is to engage the fire where responders can have a high probability of success, which often comes down to the time to prepare and improve a control feature (e.g., road, ridge). Strategically placed mitigation treatments along control features in the preseason can reduce the time required to prepare control features often using less resources and are more likely to meet multiple objectives. For example, a CWPP may have identified the need to treat along a road for evacuation, and the community conducted mitigation work along this road for years. To an IMT, this is critical information to identify places to safely and effectively contain the fire, where a lot of the work has already been done by the community.

ISAP-informed CWPPs and CWPP-informed ISAP, a two-way street

In short, if we are to better protect communities and communities are to take actions that support fire managers in more effective wildfire management within and adjacent to our communities, it is incumbent on all of us to keep abreast of advances in wildfire science, incident response, and effectiveness of community pre-fire mitigation strategies. In addition, there are opportunities to integrate processes and tools for wildfire response with pre-fire planning and implementation, which may facilitate wildfire response-informed community planning and community-informed wildfire response.

Additional resources

Aldworth, T., and Beeton, T. A. (2025). Considerations for developing Critical Values at Risk in the preseason with partners. Colorado Forest Restoration Institute. CFRI-2504. https://cfri.colostate.edu/wp-content/uploads/sites/22/2025/03/Aldworth_Considerations_developingCriticalValuesRisk_CFRI_2504.pdf.

Caggiano, M., and Beveridge, D. (2022). Integrating Potential Operational Delineations (PODs) into Community Wildfire Protection Plans: Guidance for Community Planners. Colorado Forest Restoration Institute. https://cfri.colostate.edu/wp-content/uploads/sites/22/2022/08/Caggiano_Beveridge_IntegratingPODsintoCWPPGuidanceCommunityPlanners_August2022.pdf.

USDA Forest Service Strategic Analytics Branch Risk Management Assistance Dashboard. Retrieved on April 6, 2026 from https://experience.arcgis.com/experience/f9d7f7f920494c3db43a23a8dffe4664.

Thompson, M.P. (2024). PODs in practice. U.S. Forest Service, U.S. Department of Agriculture. https://research.fs.usda.gov/sites/default/files/2023-11/rmrs-pods-fbs_inpractice-web-rev_final.pdf.

Incident Strategic Alignment Process (ISAP): Creating shared understanding between incident responders at all levels. Retrieved April 6, 2026 from https://storymaps.arcgis.com/stories/7e0b757bc6a4480cad008218d6448212.

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Appendix 1: List of Terms

ISAP: Incident Strategic Alignment Process
CWPP: Community Wildfire Protection
IMT: Incident Management Team
AA: Agency Administrator
CVAR: Critical Values at Risk
HVRA: Highly Valued Resources and Assets
SRA: Strategic Risk Assessment
NWCG: National Wildfire Coordinating Group
PODs: Potential Operational Delineations
SDI: Suppression Difficulty Index
PCL: Potential Control Locations analysis
RMA: Risk Management Assistance
RADS: Risk Assessment Decision Support

Appendix 2: Example incident CVAR documentation

Critical Value at Risk	Severity of Impact	General Location	General Notes	Addl. Notes - 8/18
Mallard private inholdings	Critical	Div A - Nez Clear NF / SA1	Inholding of seasonal houses, high value, open area, meadows, riparian areas, primitive setting of forest roads in and out, is defendable, has been impacted by fire before, mallard bridge??	Work Completed: set up as of 8/4 Work Left: POI - unlikely to rare; if predicted weather system materializes, and along with any additional moisturebetween now and early Sept. would look to start backhaul; monitor need to take freezing weather precautions on water handling equip. If early Sept, need to identify organization after 14 for NIMO.
Cook private inholdings	Critical	Div A - Nez Clear NF / SA1	Less infrastructure than Mallard, beautiful place, no homeowners exemption, seasonal, 1 landowner	Work Completed: setting up as of 8/4 Work Left: same as above for Mallard
Communities of Dixie, Comstock & Midasville	Catastrophic	Div A - Nez Clear NF / SA1	Communities that have been threatened by fire multiple times, SE side has no fire history and no fuels work. No options if it gets into those drainages, it will go into town. Permanent Community, 100 people in old mining claims, 1 road in and 1 out, the escape area for community is on Forest, million dollar cabins, wood bridges, power lines, little community. lot of UTVs, seasonal population is elevated now, no defensible place from River, Dixie is better than Comstock Communities	Work Completed: assessed 8/4; PIO shop with commo into Dixie Work Left: POI - Rare
Artic Lodge/River of No Return Ranch/Blackie Foster Cabin	Critical	Div Q - Payette NF/SA3 Div Q - Bitterroot NF / SA3	Outfitting lodge, permitted on USFS lands, jet boat access, peak season to be occupied, fishing tours, its defensible Hosting guests, fly in or boat in, on Bitterroot, on USFS Lands, USFS historic cabin on that site, economic and historical value, occupied now, jet boat or river trail	Work Completed: Artic - set up; RONR Ranch setting up; Blackie Foster setting up - 8/4 Work Left: If rain is received threat will be minimal; sites relatively easy to backhaul the hose, pumps, sprinklers (needs: 1 fire mod & a boat); POI - unlikely to rare; if left, need to consider access by river (boats may not be able to run); may be last sites to be backhauled.
Arctic Lookout	Critical	Div Q - Payette NF	historic lookout, wrapped and leave, just restored, heritage site	Work Completed: wrapped as of 8/4 Work Left: If drying pattern return, may have potential; no hurry to remove wrap; district/forest will likely take care of this without issue
Whitewater Ranch area	Critical	Div A - Nez Clear NF /SA3	5 private landowners, seasonal, bridge, wood, campground, jet boat, hydro plants are critical, FS structures are primitive in nature	Work Completed: set up as of 8/4 Work Left: Vendor needs payment and LUA needs closed out; no threat left to Whitewater;
Whitewater Bridge	Moderate	Div A - location on map	USFS bridge within the Whitewater property; was resurfaced by road crew last week	Work Completed: set up as of 8/4 Work Left:
Whitewater USFS	Negligible	Div A - Nez Clear NF?	USFS structures located at the Whitewater area; CG	Work Completed: set up as of 8/4 Work Left:

Table A2.1: CVAR spreadsheet from the 2023 Elkhorn Fire in Idaho. For each critical value at risk, managers determine the severity of impact, location, and relevant notes to communicate actions and progress to protect values at risk.

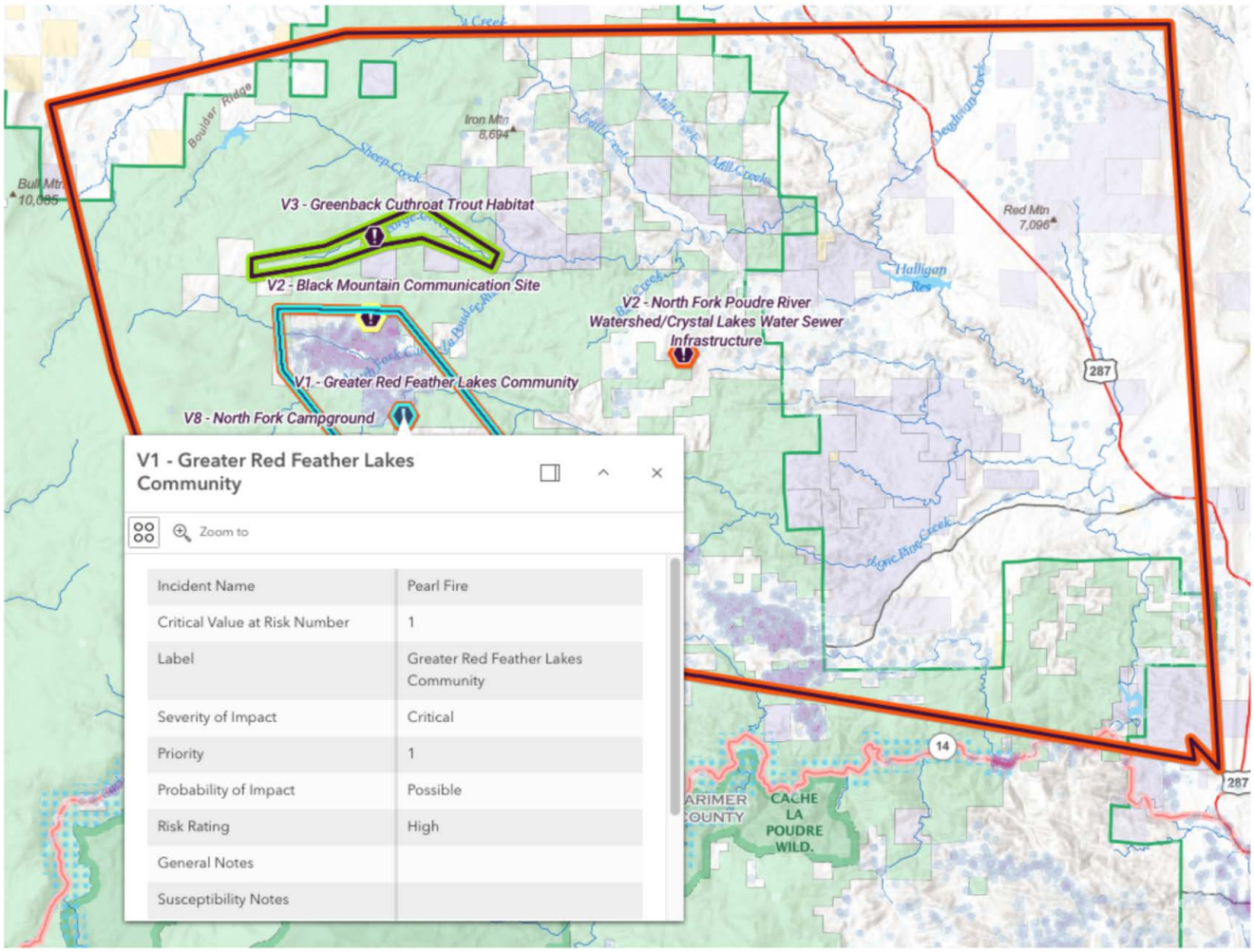

Figure A2.1: Critical values at risk identified, attributed, and mapped for 2024 Pearl Fire in Colorado. Severity of impact, probability of impact, overall risk rating, and priority are included for response resources to reference. Critical values at risk are denoted as points, lines, and polygons and for each value at risk include the location, severity of impact, probability of impact, risk, and priority. Source: ISAP tab on RMA Dashboard (accessible with a NIFC AGOL login).