

2. Resilience, Regeneration and Post-fire Recovery

Societal Impact: Conceptual, Connectivity

Relevant NRFSN Logic Model outcomes:

Short Term	Medium Term	Long Term
The NRFSN is a primary resource for fire managers interested in learning about science & for scientists interested in disseminating science	Fire managers access relevant science more easily, increase their knowledge of science, and share scientific products with colleagues	Fire managers integrate scientific information and tools into fire and fuels management
Fire managers have information and tools to communicate relevant fire science to public	Fire managers use information and tools to communicate relevant fire science to public	The science used in fire management decisions and actions is understood by the public
Scientists are more aware of fire managers' science and science delivery needs	Scientists and fire managers communicate more often about challenges and science to support them	Fire managers and scientists collaborate to build ecosystem resilience and fire adapted communities that protect life and highly-valued resources and assets

Northern Rockies ecosystems include mixed- and high-severity forests. With a climate-driven increase in fire, managers and scientists are keenly interested in what conditions and management actions promote post-fire regeneration and ecological and social resilience.

NRFSN has been instrumental in bringing researchers and managers together to discuss what resilience really means in the Northern Rockies. We have partnered with Dr. Monica Turner, University of Wisconsin, for several years to help her incorporate managers' insights into JFSP-funded research on resilience and to disseminate the research results. In previous years, NRFSN hosted two workshops, [Dimensions of Resilience](#) and the follow-up [Learning About Resilient Futures](#), where participants (a mix of managers and researchers) helped frame research questions around the topics of forest and landscape resilience, and then worked to interpret what the research results and projections mean for resilience in the Northern Rockies. From the discussions in these workshops, Dr. Turner's team developed several new publications, which NRFSN recently summarized in the research brief [What makes a resilient landscape? Climate, fire, and forests in the Northern Rockies](#). The partnership between NRFSN and Dr. Turner's lab has been positive and very productive in building connectivity between researchers and managers:

"The NRFSN has been critical for me and my research team to establish and maintain strong collaborative relationships with regional managers. I participated in two field trips organized by

NRFSN, one in 2015 and one in 2018, and both involved presentations and visits to field sites in Greater Yellowstone with scientists and managers. There was also plenty of time for the informal conversations that are so important to building relationships. In addition, the NRFSN worked closely with my research group to co-sponsor two workshops. These had excellent attendance, overlap with some attendees on the field trips, and they led to new working relationships that continue to this day. The logistical support from NRFSN along with access to their regional network of fire and forest managers has been critical to the success of our research projects.” - Monica Turner, Professor, University of Wisconsin-Madison

One of the key ecological processes underlying resilience and forest recovery after wildfire is post-fire regeneration. Climate change, management activities and subsequent fires all have impacts on post-fire regeneration and forest recovery. Managers in the Northern Rockies continue to identify this as a research need and NRFSN continues to partner with researchers to deliver this information. In FY21, NRFSN co-hosted two webinar/virtual workshop pairings related to these topics: [Assessing the Work of Wildfires and Identifying Post-fire Management Needs](#) and [Salvage Series 1: New Research and Tools For Salvage Logging Management & Planning](#). We also hosted three webinars related to regeneration and post-fire recovery: [Tree Regeneration Following Wildfires in the Western US](#); [Young Forests and Fire: Using LiDAR-imagery Fusion to Explore Fuels and Fire Severity in a Subalpine Forest Reburn](#); and [Wildfire Effects on Microclimate Conditions and Seedling Regeneration in Northern Rockies Mixed-Conifer Forests](#). These virtual events had excellent attendance with 70-150 participants in each, and over 500 page views to date on related past event resource web pages. Finally, we published a [research brief](#) on seed source impacts on post-fire regeneration, authored by former GRIN recipient Dr. Jamie Peeler.

In FY22, NRFSN will continue to highlight the topics of resilience, regeneration and post-fire recovery through written products (post-fire regeneration fact sheet, research brief, and science review update; new resilience science review). We will also explore innovative ways to package and deliver the body of science around these topics to managers - including virtual, interactive posters and updates to existing Hot Topic webpages ([Effects of Repeated Fires](#), [Post-fire Tree Regeneration](#) and [Post-fire Salvage Logging](#)).



Lodgepole regeneration on the edge of a reburn in the Bob Marshall Wilderness.