



Fire Learning Network Notes from the Field

August 2011

Centennial Valley FLN Red Rock Lakes / Elk Lake, MT Bureau of Land Management & Forest Service Field Workshops

Partners in the Centennial Valley FLN met for two days of learning and discussion about the causes and aftermath of the 2003 Winslow burn, recent logging projects and management possibilities for the landscape. The first day of the workshop was primarily devoted to Bureau of Land Management implementation of a watershed plan, and the second day looked forward to the incorporation of the Beaverhead-Deerlodge National Forest in the collaborative work in the valley.

Implementing a Watershed Plan

Participants convened at the Red Rocks Wildlife Refuge on August 4 and began with introductions and a round-robin of learning goals for the day. Aly Piwowar and Pat Fosse (BLM) then opened with an overview of the assessment of the Centennial Valley watershed. The group then visited the Winslow burn to discuss its effects on the riparian ecology and what it indicates for future burns, acknowledging that the severity and intensity of that burn is an example of how fire will act in areas where it has been excluded. The Winslow burn killed large patches of Douglas-fir, which, unlike lodgepole pine, is poorly adapted to severe fire and will require a decades or centuries to recover. Along riparian areas where conifers had shaded and replaced historic aspen and willow habitats, high-severity fire left only grass and forb riparian communities, whereas places with intact willow and aspen resprouted with riparian shrubs rapidly after the fire, essentially jump-starting a functional riparian community. The health of these riparian communities is directly related to the health of streams and the biodiversity within them. The FLN agreed that the effects of Winslow fire may be a cause for concern, especially if similar fires occur more frequently in the future.





Workshop participants toured an active timber harvest (left) and the site of a harvest conducted five months earlier (above) to discuss the goals, methods and effects of these treatments on BLM land.

In the afternoon, participants toured a BLM timber sale taking place in the Price Creek drainage intended to remove conifers from aspen stands in order to prevent the aspens from being outcompeted. The contract, with a logging company out of Kalispell, uses a “prescription by description” method of selecting of trees for cutting, which leaves the choice of individual trees to be cut to the crew on the ground. The BLM monitors the selection process regularly, and discusses refinements with the crew as needed; both parties reported that the method works well for them. Touring this site and another site logged over the winter, the effects of the logging on the land were observed and discussed, as were the social and economic benefits of the project, which provides both logging jobs and firewood for the community. The day ended on a high note, with participants pleased to see the BLM’s innovative management and thoughtful planning of forest treatments in the Valley.

After dinner, the group met to discuss fire management in wilderness areas. A fundamental dilemma faces wilderness managers: whether to manage for naturalness or wildness. Naturalness includes the need for natural processes such as fire, which may require controlled reintroduction under suitable weather and fuel conditions, whereas wildness emphasizes the lack of any human manipulation. A lively discussion then followed the question, “Where do we go from here?” This ideas and opinions raised in the evening would be re-emphasized on the next day’s tours, which would focus on using the past to help guide the future.

Developing a Collaborative Vision for Forest Landscapes

The second day opened with a presentation on resiliency by Jay Frederick (Forest Service). He defined resilience as the ability of a system to recover from disturbance and explained how it is the Forest Service’s major objective in the management of forests as part of their climate adaptation strategy. To achieve resiliency in the face of more frequent fires, the Forest Service aims not only to maintain live, green stands but also to increase diversity in landscape patterns. Diversity in forest structure, tree species, and patch size reduce the likelihood of large, homogeneous, high-severity fires. The presence of aspen patches, for example, promotes forest resilience as aspen quickly re-sprout after a fire event and aspen stands can interrupt severe wildfires. Conifer species diversity promotes forest resilience in the face of insects and pathogens that infect only certain tree species. Such landscape diversity not only buffers against different disturbances, but also allows for adaptive management. Different forest treatments also create opportunities for foresters to test management strategies and adapt accordingly, based on appropriate measures of treatment success. The Forest Service is working to strengthen both internal and cross-organizational support for resiliency actions to create a common goal of “building resilient forest landscapes where unplanned fire growth is self-limiting.”

On a hillside above Elk Lake with a view of the Madison Range, Centennial and Gravelly mountains,

Nathan Korb (The Nature Conservancy) initiated a discussion of process-based goals for the forests in that area and the considerations that come from working within institutional structures. Sue Heald (Forest Service) estimated that it would take two or three years for the Forest Service to begin to implement a new management activity, given the necessary review and assessment steps. She emphasized that there is significant power for action with collaborative support, through such cooperatives as the Fire Learning Network. Most representatives of other organizations agreed that the same would be true within their institutions.

Once again, the discussion emphasized the importance of a variety of management actions, paired with specific monitoring practices, in the face of uncertainty. Managing for different aspects of ecological integrity may require a multifaceted treatment plan developed by diverse teams. It was agreed that the highest priorities for the group were aspen, willows, low-elevation Douglas-fir, whitebark pine and limber pine, as well as watersheds and large mammal corridors.

The tour concluded in Alaska Basin at the base of a large, old-growth Douglas-fir near an aspen grove. Nathan Korb asked the participants to suggest management plans for the stand, and a productive discussion of treatment options ensued. It was generally agreed that the area could be managed for aspen productivity and the preservation old-growth trees, as well as their replacements, and that the larger trees could be mapped to determine historic Douglas-fir density. The area seemed a good candidate for a commercial timber sale, as the extant road made for good accessibility. Commercial logging of conifers would open up the aspen stand and increase aspen productivity, while also reducing stress and fire risk to old growth conifers. Aly Piwowar noted that thinning conifers while leaving the older, larger trees would prevent the spread of bark beetle by making the area less attractive to the beetle by decreasing the density of the pheromones that draw beetles to a tree. Lower conifer density also increases the mortality of spruce budworm.

Logging as a management tool was also discussed here. Because logging can be viewed negatively by the public, participants noted the need for management strategies involving commercial logging to be accompanied by public education to explain the



Rancher Bob Sitz points out fire scars and vegetation changes he has seen in his decades in the Valley, noting several areas of major tree die-off that have occurred in the last five years

environmental benefits of selective logging. Also discussed were some of the ways in which the impact of logging can be reduced; for example, the construction of slash mats (laying felled logs and brush atop a primitive road) reduces road density and ground disturbance during the logging process.

Stewardship contracting was also addressed as a means for further clearing aspen and old growth stands. This can support local businesses by offering small-scale loggers a discounted rate in exchange for taking smaller trees as well as the commercial-grade timber. The possibility of raising money through commercial logging or stewardship contracting on one site and applying it to the management of another was also considered.

The workshop closed with a discussion of next steps for the growth of the Fire Learning Network. At the top of the list was inviting more people to collaborate—representatives from the logging industry and hunters, for example, and increased representation of local landowners would greatly strengthen the Network and ensure that more perspectives were being considered. Everyone also agreed on the benefit of another tour—with an expanded group—to ensure that all parties are on the same page and to gain agreement on objectives in a field setting. Other suggestions included that the next tour include a visit to both a recently-logged area and an area recovered from logging in order to view both the short- and long- term impacts of logging. Several people called for proposals for specific treatments, accompanied by clearly defined metrics or desired outcomes for

treatments, in order to better measure their success and compare them to past treatments. A collaborative mapping project to create an overlay that would pinpoint areas of common interest for multiple organizations and sectors was also suggested. Finally, further strengthening the scientific basis for management was suggested, and the desirability of developing a partnership with a university was expressed to ensure rigorous, objective review and assessment. It was agreed that results of an ongoing aspen study and recent logging data from the Centennial Valley (with preliminary evidence indicating that thinning helps prevent the spread of pine bark beetle) will be shared with FLN partners, and further research will be conducted to maximize understanding of the necessity and success of various management strategies.

For more information about the Centennial Valley Fire Learning Network:

Nathan Korb nkorb@tnc.org

Recommended Reading

Parsons, David J., Peter B. Landres and Carol Miller (2003). "Wildland Fire Use: The Dilemma of Managing and Restoring Natural Fire and Fuels in United States Wilderness." In *Proceedings of Fire Conference 2000: The First National Congress of Fire Ecology, Prevention, and Management* 13:19-26.

Westerling, Anthony L., Monica G. Turner, Erica A. H. Smithwick, William H. Romme and Michael G. Ryan (2011). "Continued Warming Could Transform Greater Yellowstone Fire Regimes by Mid-21st Century." *PNAS Early Edition*, June 24, 2011. www.pnas.org/cgi/doi/10.1073/pnas.1110199108

Thanks to interns Sally Cathey and Julia Monk for providing a written summary of this workshop. All photos © TNC / Liz Rank.

Participating Agencies & Organizations

- Bureau of Land Management—Dillon Field Office
- Centennial Valley Association
- Greater Yellowstone Coalition
- Montana Department of Natural Resources and Conservation
- Montana Fish, Wildlife & Parks
- Montana State University
- Montana Wilderness Association
- Private logging companies
- Private ranchers
- The Nature Conservancy—Fire Learning Network
- The Nature Conservancy—Montana
- USDA Forest Service—Beaverhead-Deerlodge National Forest, Madison Ranger District
- U.S. Fish & Wildlife Service—Red Rock Lakes National Wildlife Refuge
- Wildlife Conservation Society



Above: Measuring an old-growth Douglas-fir at the workshop's final stop. In his presentation that morning, Jay Frederick had noted that the Forest Service aims to retain and promote large-diameter old-growth trees, which originated in a climate regime different than that of the present day—and have survived an era with more frequent fire than the recent historical norm. Aly Piwowar added that the BLM is working to preserve old-growth ponderosa pines in the Big Hole Valley, some of which are 400 years old and genetically related to the pines from the Ice Age in the American Southwest; the BLM has been collecting cones from these trees to study and preserve their DNA and has also been marking them with pheromones to ward off mountain pine beetle and prevent infection.

The Fire Learning Network is supported by *Promoting Ecosystem Resiliency through Collaboration: Landscapes, Learning and Restoration*, a cooperative agreement between The Nature Conservancy, USDA Forest Service and agencies of the Department of the Interior. For more information about the FLN, contact Lynn Decker at ldecker@tnc.org or (801) 320-0524.



This institution is an equal opportunity provider.