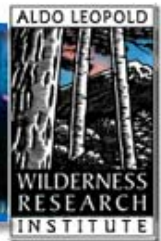


Wildland Fuels Management: evaluating risks and benefits



Frequently Asked Questions...

7. How can I use this process to prioritize treatments?

Overview...

Data used to address prioritization is the output from the effects determination (see sheets 4 and 5). Criteria for determining priority must be established locally. Here we identify priority areas using three criteria,

- 1) forests at risk of uncharacteristic fire - Ponderosa Pine, Douglas-fir, and Western Larch in danger of crown fire,
- 2) WUI areas - areas within 1 mile of the residential zone; and
- 3) critical wildlife habitat - areas of high erosion hazard within watersheds currently containing westslope cutthroat trout.

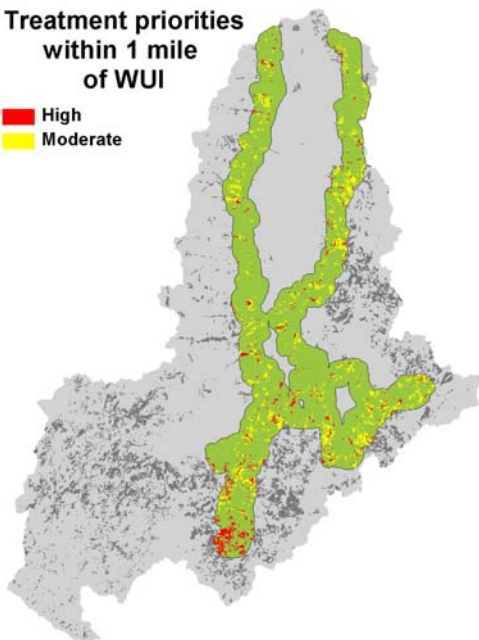
Our illustrations show the convergence of high crown fire danger and WUI in one map, and high crown fire danger and wildlife in another. Most likely, you will apply several criteria then use a weighting or ranking system to combine the criteria maps to arrive at a final solution.

Treatment options vary by fire effects. Where fire is likely to result in characteristic effects under low to normal weather conditions, prescribed fire or even Wildland Fire Use may be an option. Mechanical treatment is necessary prior to reintroduction of fire in areas where fire effects are likely to be uncharacteristic effects under any weather conditions.

There are several approaches to prioritization. Identify existing stand conditions where fire effects are likely to be undesirable, then overlay other criteria onto these to find convergence (Figure 1). Use a simulation model to test the results of treating stands identified and determining the future conditions – fire behavior, cost, etc.

Treatment priorities within 1 mile of WUI

- High
- Moderate



Simulation model...

We began by identifying stand structure conditions meeting our cover type criteria (dense, multi-story stands), then selecting and exporting these records from our GIS vegetation cover. We used this list to create an input file for SIMPPLLE.

For more information contact: Anne Black, 406-329.2126, aebblack@fs.fed.us
And visit our website: <http://leopold.wilderness.net/research/projects/F001.htm> where we post examples and demonstrations.

Project overview...

We have developed a process that allows managers to systematically determine where and under what conditions fire may create benefits or pose threats to identified ecological conditions or management targets. An important feature of this protocol is that fire effects are expressed in terms meaningful to both fire and resource staff. The process is spatially explicit (ArcView and/or ArcMap); uses existing, local datasets; incorporates the latest fire and vegetation research; provides model defaults to facilitate adaptation to local conditions; and generates information for a variety of planning scales from long-range to site-specific.

Fire Research at the Aldo Leopold Wilderness Research Institute

The Aldo Leopold Wilderness Research Institute is helping managers devise effective strategies for managing fire and fuels across the full spectrum of lands extending from wilderness outward to the wildland urban interface. Our research encompasses the ecological and social sciences and is focused on three areas: 1) understanding natural fire regimes and their alteration by management, 2) developing information and tools to improve fire and fuel management planning, and 3) anticipating consequences of management alternatives.

For a complete list of fire-related research activities at the Leopold Institute, visit <http://leopold.wilderness.net/research/fire.htm>, or contact Carol Miller, 406-542-4198, cmiller04@fs.fed.us.

The Aldo Leopold Wilderness Research Institute is the only Federal research group in the United States dedicated to the development and dissemination of knowledge needed to improve management of wilderness, parks, and similarly protected areas. We provide a national center for scientists from different disciplines and backgrounds to address the wilderness research needs of land management agencies and organizations. The Leopold Institute was formally established in 1993 by the U.S. Forest Service and is administered by the Rocky Mountain Research Station. We operate under an agreement with the U.S. Forest Service, U.S. Geological Survey, Bureau of Land Management, U.S. Fish and Wildlife Service, and the National Park Service. Support for our fire research program includes funding from the National Fire Plan, Joint Fire Sciences Program, and the Bitterroot Ecosystem Management Research Program.

FEATURED PROJECTS

Leopold Institute

Wildland Fuels Management:
evaluating risks *and* benefits



<http://leopold.wilderness.net/research/projects/F001.htm>