

William L. Baker: Fire ecology in rocky mountain landscapes

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Every so often, we need something to make us question our beliefs and views of the natural order of things, to open our minds to different versions of reality so that we become better informed and open to new avenues of thought.

The author comes across as slightly antagonistic in his attempt to set the record straight concerning fires in the Rocky Mountains. Baker contends, with documented support, that frequent low-intensity fires have had little effect on shaping the ecosystems that exist, now or in the past, within the Rocky Mountains. Large, infrequent, high-severity fires are the only events which covered enough landscape area to be influential in his opinion.

To support the conclusion of infrequent, high-severity fires, the author relies on his expertise in fire history research. Misinterpretation of fire history statistics is a bone of contention for the author, and Baker devotes a chapter to informing his readers what, exactly, the different metrics mean, and how they should be interpreted, while giving examples of errors in the literature. Later in the book, it is revealed how some of these misinterpretations have carried over into the fire behavior software which is relied upon by fire management teams.

Four chapters are devoted to describing detailed fire behavior and effects in 10 ecosystems within the Rocky Mountains. The studies that quantified the fuels, fire history, seasonality, severity, regeneration effects, etc. for each forest type are tabulated. This assembly of references would provide those responsible for documenting the expected results of forest practices with a handy list of publications to cite.

Baker discounts the “myth” of large-scale vegetation manipulation by Native American burning in the Rockies. The literature referenced by the author indicates that Indian density in the Rockies was never as high as in other portions of North America and their use of fire was concentrated in low-elevation valleys, with little influence at higher elevations. EuroAmericans had much greater influence on these ecosystems, by using intense grazing along with fire to improve forage, thus changing the fuel types present. Most fires (~65%) were and are still ignited by lightning in these ecosystems.

The fuel loads present in the forests of the Rocky Mountains today are not outside the Historical Range of Variability and are consistent with systems which have infrequent medium to high-severity fires, according to Baker. Therefore, the author suggests that costly fuel reduction practices should only be performed in areas where high value structures exist, such as houses, and wildland fire use should be the norm in unpopulated areas of the Rockies.

As a researcher of the effects of fire in the central hardwoods, I only have a peripheral knowledge of

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fire in western ecosystems. I must say that I cannot disagree with the views put forth by Baker; however, I may not agree with them until I hear from other

experts familiar with the fire ecology of Rocky Mountain landscapes.