



Role of Fire in the Southern Appalachian Mountains

By Jim Walker : District Leader

The conference on the Role of Fire in the Southern Appalachian Mountains: Impacts, Response and Appropriate Use, which was hosted by the Western North Carolina Alliance and held at the University of North Carolina – Asheville (see the review of the presentation on Human Fire Evidence in the Autumn 2005 issue of Forest News), though highly informative, well organized and generally worthwhile, was also somewhat disappointing.

The brochure advertising the conference asked the questions, “What is the appropriate role of fire in the Southern Appalachian Mountains? Certainly, fire management here should be approached differently from that of the western U.S., but how does fire behave in the numerous and diverse forest communities found in these Southern Appalachians?” However, instead of a narrow focus on fire in the Southern Appalachians, differentiating our area not only from the western U.S., but also from southeastern flatland, I saw a lot of pictures and heard a lot of talk about fire in the coastal plain. Venus fly trap responds amazingly well to fire in pocosins (swamps or marshes in the upland coastal region). Very interesting, but how is that relevant to fire management in the mountains?

While the public sees mostly big western wildfires on TV, 45% of wildfires take place in the 13 southern states. These fires account for only 6% of the area burned nationally, but 62% of prescribed burning is done in the south, all of which says absolutely nothing about the number or area of wildfires and prescribed burning in the Southern Appalachians.

I was also disappointed by the lack of diversity in perspectives. Most of the presenters were fire ecologists or fire managers working for federal or state agencies. Hugh Irwin, from the Southern Appalachian Forest Coalition, only briefly mentioned unanswered questions regarding Southern Appalachian fire ecology, while introducing his intern, Megan Manner, who, working with the Cherokee National Forest, using GIS and regression analysis, created a model for predicting the spatial intensity of burns ignited from helicopters along ridge tops.

Not surprisingly, most people who earn a living setting and managing fires think that prescribed burning is a good thing and should be used more widely and more frequently. If fire is necessary in the coastal plain, it is probably needed in the mountains also. But only “probably,” because much less is known about fire in the mountains; it has not been studied much, and much less prescribed burning has been done there, so not much data is available on which to base conclusions.

I have to admit that the constant refrain, “More fire, more fire, more fire,” was impressive, if not quite totally convincing to me, at least not in the mountains. Beth Buchanan, USFS Southern Region fire ecologist, quoted Cecil Frost, a well known fire expert: “The continent-wide loss or depauperization of the pyrophytic herb layer following 20th century fire suppression is one of the unrecognized ecological catastrophes of landscape history.” But again, where is the differentiation between the eastern and western U.S., between southern mountains, piedmont and coastal plain, or fine-scale differentiation between moist coves and dry, south-facing ridges?

Perhaps the most gung-ho advocate of more burning at the conference, Marshall Ellis, who is in charge of fire management for North Carolina State Parks, was also, in my opinion, the most thoughtful. He stated that today’s ecosystems have undergone changes, some of which are irreversible. Therefore, natural fire regimes are not coming back and must be replaced by artificial ones, i.e., prescribed burning. According to Mr. Ellis, effective prescribed burning requires a good plan, and a good plan requires information. It must be site-specific, taking into account fire ecology, season, frequency and intensity, as well as constraints, such as air quality and public understanding and support. It must be designed to achieve explicit management goals. And the results must be monitored, documented and understood in order to keep fire managers honest. He recommends experimenting, but carefully, in small units. And see the results before repeating the actions.

Now there is some advice that applies equally to mountains, piedmont and plain, eastern and western U.S. In spite of my criticisms, the conference was very helpful to me. I learned a lot, and it certainly increased my appreciation of the ecological role of fire. I particularly want to thank Bob Gale, ecologist for the Western North Carolina Alliance, for all the work done in organizing this conference.

The primary lesson I took from the conference is that not nearly enough is known about the role of fire in the Southern Appalachians. While I remain highly skeptical of the need for widespread burning in the North Georgia mountains, the scale of prescribed burning currently conducted by the Chattahoochee National Forest does not seem inappropriate and could even be expanded somewhat, provided that all burning is done in strict compliance with Mr. Ellis’ criteria and recommendations. Burn to learn.