

The Use of Fire: An Historical Background

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FIRE IN NATURE and its use by man has been the subject of much controversy throughout the world for many years. I, however, cannot help but be impressed, after a perusal of world literature on fire, by the great number of excellent scientific studies that have verified the "folk-wisdom" of pioneer peoples and primitive tribes who had to take their sustenance directly from the land. These peoples, generation upon generation, developed a knowledge of the use of fire that was akin to "art." This art of the use of fire was not only used for very definite purposes that were valuable to them but was virtually necessary for their existence.

Some historical geographers have pointed out that "Primeval forest is the enemy and not the friend of man; primitive man may make expeditions into the forest but will not settle permanently there" (Hoops; *vide* East, 1920). Others have used the term "negative" for the influence that forests had to the early spread and occupation of land by man and the term "positive" for open or grasslands. This attitude seems apparent even today for in large areas where farm lands have reverted to forest the human population has decreased considerably.

Man throughout his long history has had little use for forest except for fuel and wood for shelter. On continent after continent he fought the forest with fire and other means to increase grassland and field land for pasture and farming. It was only in the early nineteenth century along with man's early

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technological development that forest products began to loom large in his economy, and it was only then that he began to protect and replace the forests he formerly tried so hard to destroy. This awareness of the future importance to him of forests first became apparent in central Europe, then it spread to northeastern United States and to southeastern India. Curiously enough, these are the only large areas of hardwood deciduous species (beech and maple) in the world where fire can be said to be the most damaging and perhaps of the least possible use in forest management.

I am not the first to notice this transfer of "culture" and forest management thinking for in 1926, E. A. Greswell, Forester of the Indian Forest Service in India, wrote in the *Indian Forester Journal*:

... statements ... by writers on the Himalayan conifers, with which I have mainly had to deal, have forced me to the conclusion that our management has hitherto been based on pussyfoot principles. Excessive indulgence in alcohol is no argument for total prohibition. The same applies to fire and grazing and perhaps other natural phenomena to which our forests have been subjected for centuries. We talk glibly about following nature and forget that the nature we are visualizing may be an European nature inherited from our training and not an Indian nature. We, therefore, intuitively welcome the proof provided by the few cases in which they are so and by inductive reasoning arrive at general conclusions which may be incorrect if not dangerous.

This inherited European training has undoubtedly been at the root of many of our differences of opinion here in the South as well as elsewhere. This European philosophy of forest economy and the conservation of natural resources has had the effect of confusing our opinions. Early in the 20th century the need for the protection of our natural resources in this country became so apparent that efforts were made toward the establishment of such conservation agencies as the U. S. Forest Service. However, in this "fight" to save our forests, grasslands, and wildlife there were strong economic counterforces. The "timber barons" as they were called then and powerful grazing

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interests all fought the initial establishment of conservation agencies. To me, it is not surprising, that with such strong opposing viewpoints, both very strong politically, that fire should have become the scapegoat and have been singled out as the greatest single destructive force to our forests, our grasslands, our soils, and our wildlife. Fire had only a courageous few to represent it and to point out that it was a tool, a most valuable one, but like many of man's tools it could be very destructive if improperly or accidentally used. The consequences were that fire was blamed for all the destruction—not the wasteful and improper lumbering practices that preceded it—not the excessive overgrazing—not wasteful and even dangerous farm practices. Money and manpower were literally poured into the fight, to fight the common enemy demon—fire.

Is it any wonder that the differences on the use of fire became heated and controversial? Is it strange that the literature is filled with statements, evidence, and even scientific experiments that are conflicting? The process of education against the use of fire as well as its place in nature, has been long and so complete that even today many find it difficult to believe that fire may be useful, in spite of the fact that fire is an accepted tool by many agencies in the Southeast and other regions. State Forest Services now announce on TV when conditions are proper for burning as well as give assistance to those landowners wishing to use fire. Experiment Stations and Extension Services recommend its use on native as well as improved pasture grasses or cattle range, and its use in the production of such wildlife as the Bobwhite Quail is standard practice on many lands.

In the Southwest, fire is used in the management of grasslands on an increasing scale in the suppression of undesirable growths such as sage, mesquite, and others. Let me cite a few other examples. In India its use is standard practice in the management of Chir Pine forests and even in the hardwood forests of sal and teak. In Australia fire is used increasingly in the management of Eucalyptus forests as well as grasslands. In South Africa burning and rotation grazing have become a regu-

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lar management feature in the production of meat. And yet, as recently as 1959, the late Dr. John T. Curtis, Plant Ecology Laboratory of the University of Wisconsin, wrote that the prairies and savannas of that state

... have become victims of the bureaucratic dictum, that since most forest fires are the source of economic loss, therefore all fires are bad and must be prevented at any cost. This dogma has been supported by such an intensive propaganda campaign that there is danger of its being accepted as truth.

Many additional citations could be made where fire may be a useful and sometimes necessary tool in land management. In some fields the "dogma" referred to by Dr. Curtis still prevails but continued research and experimentation have so broadened our knowledge of the effects of fire on the environment that much interest is now evident in the development of techniques to make fire a safer tool in the management of forest, grassland, and wildlife.

LITERATURE CITED

- Curtis, John T. 1959. The Vegetation of Wisconsin. University of Wisconsin Press, Madison, Wis.
- Greswell, E. A. 1926. The Constructive Properties of Fire in Chir (*Pinus longifolia*) Forests. Indian Forester, 52:502-505. Dehra Dun, India.
- East, Gordon 1920. An Historical Geography of Europe. Methuen and Co. Ltd., London. p. 45.