Since 1947, I have been a strong advocate of prescribed burning in California's Mediterranean-type ecosystems, primarily to reduce fire hazards and the severity of wildfires. Also, through prescribed burning the high cost of suppressing fires can be reduced. I am also a strong advocate of fire prevention and suppression. All of the three aspects of fire management -- prevention, suppression, and prescribed burning -- are extremely important. They should go together and be treated about equally. In past years much attention and expense have gone into fire prevention and suppression, but very little into prescribed burning. This has been a mistake. About equal attention and expense should go into each of the three aspects. When prescribed burning is pursued vigorously and carefully, fire prevention and suppression become easier and less expensive.

The general public is being involved more and more in decisions regarding resource management plans and research. Many of those people are becoming concerned about the difficulties encountered in controlling wildfires, and the damage they cause, the expenses involved. Probably this concern will increase; we will be forced to do more prescribed burning to reduce fire hazards.

I must emphasize that the foremost problem in managing California Mediterranean-type ecosystems is that of severe wildfires. I am not sure that the symposium emphasized this enough. In southern California where the soils are highly erodable on steep topography, wildfires in chaparral that burn entire watersheds can create extremely severe flooding and soil erosion problems. Furthermore, the problem of wildfires is not diminishing. On the contrary, it becomes more critical each year as fuels continue to build up, particularly in the interfaces between country and town where there are more houses to be destroyed or damaged.

One or two basics: Lightning strikes are natural and so are the fires they start. Recognition and acceptance of this fact is important to an understanding of fire ecology. Fires have always burned over our dry landscapes and inevitably they will continue to do so. Attempted fire exclusion has introduced a new dimension into our wildland ecosystems. What are we forcing upon our natural environment and what are the environmental impacts and consequences? The end product is usually a severe wildfire burning in heavy tinder fuels. In fire exclusion activities one is working pretty much against nature; in doing so, the natural balance is being upset. Now we need to use fire wisely and begin working more in harmony with, and not so much against nature. Both research and management should be centered around this philosophy.

The symposium did not include enough on Mediterranean-type forest ecosystems. It will be found someday that prescribed fires can be man's most useful tool in timber management. Why do research and management continually ignore the use of fire in California's forest-land ecosystems?

On the whole, the symposium was very good. We need more conferences of this sort.

Question from the audience: Dr. Biswell, how long have we been effectively stopping wildfires in this country, now compared with 25 and 50 years ago?

Answer from Biswell: Perhaps I can answer this best by referring to forested areas. Some 50 years ago fuels in natural forests were at a low level; they had been kept down by naturally recurring low intensity fires set by lightning and Indians. At that time fire suppression was easy and effective. Twenty-five years ago fuels had increased considerably from logging operations. Thickets of young trees began to grow in with the logging debris, and suppression became less effective. At present, many forests are tinder boxes, full of debris and ladder fuels. Even with all kinds of equipment and manpower for suppressing fires, those burning under conditions of low humidity and strong winds are nearly impossible to control until the weather changes or until the fires run into less flammable fuels, or run out of fuels altogether.

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