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Management Of Plant Communities In Wilderness Areas

by
Jack D. McCullough

Before a vegetation management plan for a wilderness area can be developed, one must understand that a plant community is a dynamic assemblage of species and cannot be preserved in the same manner that one would preserve a historical site. The presence and abundance of plant species in the community are dictated by variations in soils, moisture, nutrients, competition, insect infestation, and many other complex environmental interactions. The preservation of a plant community would essentially involve controlling those parameters as well as the complicated successional forces that created that community.

One would assume a major objective would be to simply maintain any type of vegetation in the wilderness. This would encompass techniques which prevent catastrophic destruction of vegetation, such as uncontrolled wildfire, insect epidemics, plant disease, and livestock grazing. In addition to these events, wilderness managers will have to contend with the pressure from private companies and government agencies that will want to open the wilderness for oil exploration, strip mining, hunting, water impoundments, logging, and other commercial activities.

An additional objective in the vegetation management plan might include the preservation of certain dominant species in the forest ecosystem, such as the longleaf pine (*Pinus palustris*) or dwarf palmetto (*Sabal minor*) in the Upland Island Wilderness in eastern Texas. This approach would allow successional changes to occur which might permit the dominant woody species to survive, but some understory and herbaceous species might disappear.

Finally, management objectives might include the preservation of plant communities characteristic of certain successional stages. This might include preservation of a climax forest in order to present a vegetational aspect which the early American pioneers might have witnessed. On the other hand, there may be a desire to preserve a subclimax stage, such as a pitcher plant bog where successional changes are occurring rapidly. Management

practices would be quite different in those two cases and preservation techniques, particularly in the case of subclimax communities, would only be applied in appropriate areas.

Many conservationists oppose man's efforts to manage wilderness areas. This includes control of fire, insects, and disease. Certainly, in a completely natural setting this would be possible. But wilderness areas in the eastern United States are relatively small areas. Uncontrolled fire or epidemics of insects in those small areas would be catastrophic, and it might require 100 to 200 years for the area, once decimated, to recover. At best, the wilderness area is only a partially natural setting. The wilderness will be visited by man whose imprint hopefully will be minimal, but the areas are surrounded by forests and other lands that are intensively managed by man. The influence of surrounding land use activities on wilderness areas, and the impact of wilderness on those same areas must be considered, and almost demand management procedures. Even the atmosphere in the wilderness is influenced by air pollution from cities and industries hundreds of miles away. Wilderness vegetation is not in a completely natural environment and some management by man would therefore be necessary. However, vegetation management practices should consist merely of those actions that are necessary to achieve one or more of the objectives.

Once the objectives have been established for preservation of vegetation in the wilderness, experienced plant ecologists should be consulted: first, so that a thorough understanding of the ecology of each plant community might be obtained, and secondly, so that appropriate management practices might be developed to maintain conditions necessary to preserve those communities.

However, management practices should not be left entirely to the professionals. The wishes of a concerned public must be implemented in the management plan as much as possible.



**WILDERNESS AND NATURAL
AREAS IN THE EASTERN
UNITED STATES:
A MANAGEMENT
CHALLENGE**

Edited by:

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