

BARAONA 360
— 8



NEXTO CONGRESO FORESTAL MUNDIAL

MADRID JUNIO 1968

ORGANIZATION OF RESOURCES MANAGEMENT ON
PUBLIC FOREST AND RANGE LANDS

CHARLES H. STODDARD

Director
Bureau of Land Management
U. S. Department of the Interior



6CFM/E/Pl.2/28

ABSTRACT

6CFM/E/P1.2/28
Original : English

ORGANIZATION OF RESOURCES MANAGEMENT ON
PUBLIC FOREST AND RANGE LANDS

CHARLES H. STODDARD

Director

Bureau of Land Management

U. S. Department of the Interior



Many countries, particularly those in various stages of economic development, have millions of acres of non-agricultural public lands containing valuable forest, range, wildlife and watershed values from which they obtain insufficient economic benefit. In some cases deterioration is resulting in serious losses of capital resources--floods, erosion, forest fires and overgrazing, to name a few.

Successful conservation programs on public lands in the more developed nations have a pattern of responsible management through a central resource agency organized into definable administrative units operating through a decentralized administrative system and composed of technically trained personnel. Modern forestry, range management, watershed and other conservation techniques can be applied and revenues made available to the national or local government treasuries from timber sales, grazing permits, mineral leasing and recreational uses. Damage to watershed and forest resources is prevented and controlled by active fire protection and soil conservation programs.

In countries where public lands have not been separated into agricultural and non-agricultural, a basic classification must be made using soils topographic, economic, land use and cover data. Once the non-cultivable land has been classified for a portion of the geographic area, it must be divided into suitable administrative unit sub-areas. These would be comparable to working circles, Ranger Districts of National Forests or Parks - of a size for a locally stationed supervisor or ranger.

Nations seeking to establish national administration on heretofore unmanaged public land may well wish to start on a pilot or experimental area. All of the modern forestry and land management techniques could be brought to bear in such a pilot center. Forest protection - equipment and technical manpower - installed; timber inventory, marketing and supervised sales; controlled grazing system established; watershed and soil conservation practices located where needed. Thus, such a concentration of effort would not only enable the country to perfect administrative techniques, but it could use the pilot area for intensive training sub-professional technical manpower. An in-service training school might well be jointly established.

As soon as the program is well established on the one area and men and methods developed, other similar areas could be brought under management in an ever widening circle.

RESOURCE MANAGEMENT ON THE PUBLIC LANDS

CHARLES H. STODDARD

Director
Bureau of Land Management
U. S. Department of the Interior

The purpose of this paper is to present some principles derived from experience with advanced public land management which may prove successful in countries outside the United States.

In every country of the World increased demands are being placed on land -- the one fixed resource common to all. The expanding populations of the World present an increasing challenge to land managers -- a challenge that must be met. The economic progress of every country will depend heavily on the manner in which the public lands are used and managed.

We must recognize how to manage the land and its vegetative and mineral resources, develop the standards and technology for efficient management and increasing yields. It is for such an exchange of technology and experience that we are meeting in Madrid. The information exchanged here must be critically evaluated to determine its applicability among member nations.

In some countries the population pressures and stage of economic development will provide a little more time to do this with a professional thoroughness that the importance of good land management requires. This opportunity does not exist in the United States. The rising economy, technological developments, increasing

population, and more leisure time have all increased the demand for land and its various uses. Our lands are under pressure to satisfy the needs of people, and all our knowledge and skills are required.

Large areas of public lands have always belonged to the American people and have been administered by their central government for various national purposes. Since 1781, 1,038 million acres have been transferred out of Federal ownership, primarily for agricultural purposes, and to support such national projects as education and construction of railroads. Neglect of our remaining public lands continued until the results of generations of abuse, coupled with growing land scarcity, forced us to recognize the necessity for conservation and managed use. By the late 1800's a policy emerged for using the public lands for national purposes by reserving them for public administration by the central government. Organized Federal guardianship of timber on public lands began in 1850. The dedication of Yellowstone National Park in Wyoming in 1872 was the beginning of the national park system. In 1891, "The Forest Reserve Act" established the principle of Federal ownership of forest lands and is generally regarded as one of the big early forward steps in American forestry.

Present Situation

The public lands of the United States are unwanted areas that have not passed into private ownership or have been reserved for a specific public use, such as the national forests, national parks, and national wildlife refuges. The area represents 170 million acres in the Western United States and 290 million acres in Alaska. Much of this land has a fragmented or checkerboard pattern. Approximately 149 million acres supports a vast variety of commercial timber and woodland species.

With the passage of the Taylor Grazing Act in 1934, the O&C Act in 1937, the Materials Act in 1947, and the formation of the Bureau of Land Management in 1946, the forests on the public lands have been managed for multiple use purposes for the last three decades.

Past experience has made it clear that the problems of every country and nation vary. In the United States, it is extremely difficult at times to make a rational decision as to how forest land will be used. There are strong pressures by single purpose groups, Federal, State and private, to classify forest land for a single use such as recreation. There are increasingly strong pressures for classification of the forest lands for multiple use. If the lands are to be efficiently managed, the following conditions are necessary:

1. A responsible agency with the necessary legal authority must be designated as the manager.

2. The agency must designate what its overall objectives are to be. For example, what is the policy regarding forest inventory? What are the prospective demands for forest products? What are the policies governing forest regulation?

3. The agency must develop an organized administrative process to fulfill its objectives and to make the necessary decisions through a chain of command regarding the investment, maintenance, and utilization of the resource.

4. The designated lands permanently classified for public ownership must be organized into management units and legally established as such with identified boundaries, names, and signs.

5. The management of the public land must be under the direction of technically trained personnel at local field offices.

6. A management plan should be a first step in establishing systematic administration. Inventory data and use information should be developed to establish a long range system for regulating forest and range use, for correcting past exploitation and programming developmental and conservation investments.

7. Last but not least, a comprehensive and logical program must be presented to the legislative branch of the government to obtain the necessary money to carry out the program.

As elementary as the above prescription may appear, it is sometimes difficult to achieve in practice. Our experience in implementing the foregoing steps are presented below:

Cadastral Survey:

The first step toward intensive forest management is the development of a good cadastral survey system, including a system of recording land titles in local and central governmental records. The survey must be designated on the ground by clearly marked boundaries and on maps. All good land management starts with a legally acceptable survey. Without this survey, it is impossible to control timber trespass, to define timber cutting boundaries, etc.

Resource Inventory:

The second step is to conduct a basic resource inventory of soils, topography, climate, erosion, hydrology, vegetative and mineral resources, and land use. The inventory should be simple and flexible. Use available data. Too many times, foresters frustrate themselves by requiring a certain standard of data quality, denying the use of what is already available. After the data is obtained, it should be entered as overlays on a base map. A tabular description for each resource, soil, forests, grazing lands should be prepared and keyed to the base map.

The resource inventory is a continuous process. Without basic data and continued followup, the forester cannot determine yields, forest types, rotations, thinnings and access. He cannot make assumptions about the future status and condition of the forest; he cannot devise systems for interpreting practices in budget terms and for budget needs and he may be unable to assess alternative levels of management and resource managements impacts.

Data Analysis:

Using the above data, a history of the present use, demand for the resource, the allowable cut of the forest, the carrying capacity of the grazing lands and other special problems can be analyzed. Production and utilization potentials and the need for rehabilitation must be described.

Land Use Classification:

A primary purpose of classification is to delineate wild land resource areas from agricultural and urban areas, to describe cartographically present uses and to lay the foundation for future management within the major land use and vegetative cover types. Generally, those lands which are unsuitable for agriculture or urban use because of topography, soil quality, climate, lack of drainage or other factors can be classified for public resource management and administration.

Land Use Management Plan:

This could also be titled as a Forest Management Plan. This plan should provide a schedule of required conservation practices needed to protect against or to arrest deterioration of the soil and the vegetation upon it. It should show priority of land use; whether it is a single use or a multiplicity of compatible uses. Plans for project work will flow out of the management plan for the area. These should be scheduled by priority for a period of years. A fire protection system and control over existing misuses should be given first attention.

Administration:

The first step toward proper management of land resources is to establish a series of administrative areas. This practice has been followed for many years by public agencies as well as private industry. The largest area may be called a "supervisory area". This corresponds to a national forest, national park or in the Bureau of Land Management, a district. Next, is a "resource management area". This corresponds to a ranger district. The smallest area within the resource management area is the planning area or working circle. While the plan is being developed, the administrative organization can be established. The Bureau of Land Management is fortunately endowed with cadres of professionals who are presently accomplishing the planning phase.

When planning for a specific section of the national economy, such as a resource based industry, it is vitally important that the program for that section fits into the general picture of the country's development. The program should be integrated with other programs to provide a coherent and coordinated package. The overall program must be supported by a system which will allow for close identification of specific resource output in relation to present and future local and national demands. This system must also define the amount of funds and manpower necessary to achieve the resource output. I would like to give you an example to clarify what I have just said. The Southwestern portion of the United States has a relatively low rainfall, a long growing season, and an abundance of soil suitable for growing irrigated crops such as garden produce, cotton, citrus fruits, avocados, grapes and olives. Large amounts of water are needed. Through an age dating analysis, it has been shown that water which has been in the soil for 30 thousand years is being pumped from many deep wells for irrigation purposes in many areas. Due to extremely high evaporation, this water cannot be replaced by rain. There are extensive mountain ranges in the Southwestern United States. As the elevation increases, the amount of moisture also increases. Here is a possibility to increase the amount of available ground water through a system of vegetative manipulation in the chaparral zone and the high altitude coniferous

forests. The Bureau of Land Management is cooperating with other Federal agencies to find out how much water can be produced through vegetative manipulation. Is it possible to replace worthless brush with grasses? If the brush is removed what effect will this have on the wildlife? Should timber on a poor growing site be logged and replaced with grass in order to reduce transpiration of water? Is sufficient water produced through vegetative manipulation to make a costly removal effort worthwhile? These are some of the factors defying quantification. We hope that further research and our system will bring these intangibles into sharper focus.

Use Supervision

Existing timber production, forage utilization, and other uses of natural resources previously described must be brought under systematic utilization. Existing uses must be adjusted to fit productive capacity, but in so doing many difficult political and technical problems arise. The changing of people's time-honored customs does not come easily, particularly if overgrazing, burning, and unregulated logging have become ingrained. The people must see and know they are receiving benefits. Without their cooperation, the best plan will fail.

Pilot Area Application:

To get an effective resource management program started or reoriented, much can be gained by pilot or experimental testing on one or two selected administrative areas. By concentrating the ablest professional and nonprofessional resource managers in these areas, the steps or processes described above can be used for testing of technology and administrative procedures. They are also useful for in-service training of subprofessional forest workers in the techniques of tree marking, log scaling, fire protection, and range use supervision. Thus scarce professional manpower can be reserved for top supervisory functions.

Technical Training:

In the Bureau of Land Management, we recognize a growing need for more specialized professional and nonprofessional training. Our existing technical ability is often ahead of our administrative ability. We can broaden the professional capacity of our field staff by graduate university training, or by short courses provided by universities or agency sponsored in-service training.

The scarcity of trained subprofessional personnel can be offset by establishing training centers at the pilot areas where selected groups of field men are given intensive practical instruction. Using the pilot areas for demonstration, a combined field and classroom instruction program will supply large numbers of subprofessional forest workers to carry out resource management programs on a wide scale.

Technical Assistance:

In the past, technical consultants sent abroad have too often been specialists in inventory, fire control, or some other single discipline. They have found no administrative system into which their contributions could be effected. Recently the United Nations and the Organization of American States have adopted a team concept, whereby a group of specialists could develop a comprehensive program to apply modern techniques in a specific area and thus mobilize all the resources for the continuance of civilization.

Conclusion:

I have tried to outline the experience of the Bureau of Land Management in establishing a full program of resource development and management on the remaining public domain lands in the United States. In many ways our experience is not unlike that of many developing nations seeking to provide a full management program of their public lands. We are well on our way toward completion of a resource inventory and the collection of data for analysis. A system is being developed that will provide the guidelines for land use classification and land tenure. A planning system that recognizes land potentials and economic capabilities is being devised. The personnel organization is constructed in a way as to best utilize limited numbers and

skills. We have made encouraging progress toward the goals we have set for ourselves. It is more difficult to progress as rapidly as professional resource managers would like because of the competition for funds, of different and conflicting uses for scarce trained manpower, etc.

Since developing nations are dependent on natural resource use for economic progress, orderly administration is essential to their continued productivity and to minimize destructive exploitation. The Bureau of Land Management will continue to cooperate with other nations in sharing our approach to problems.

