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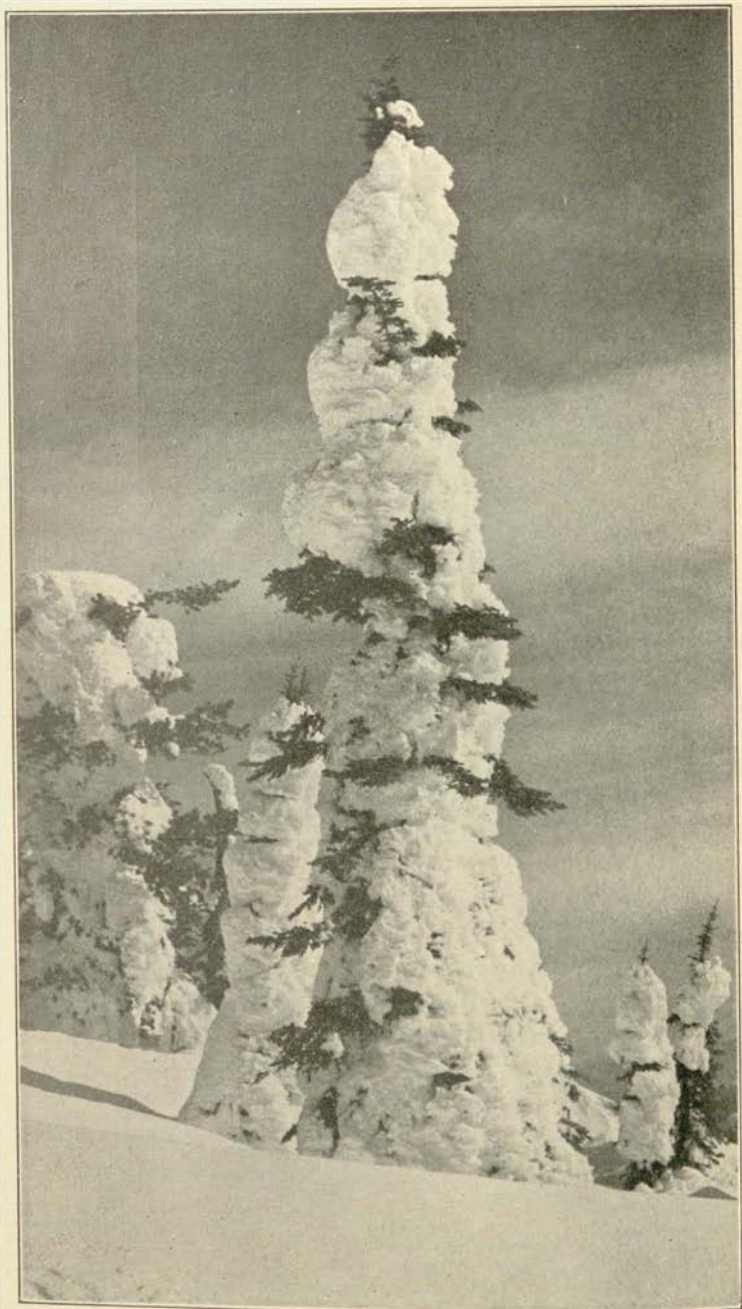
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DEDICATION . . .

For the fine co-operation he showed while he was with us and the great deal that he gave from his knowledge of the field of range management while he was a member of the School of Forestry faculty, this issue of the Forestry Kaimin is hereby dedicated to Professor E. W. Nelson.



—Photo by K. D. Swan, Missoula, Montana

Will the National Planning Program Be Permanent?

By MARSHALL N. DANA

Regional Director, National Resources Board

The request to which this article responds is that I discuss the problem of securing permanence to our national planning program.

But let's talk first about human nature.

I am not sure that man's wants here below are either little or few. But if grouped in a general way these wants are principally food and friends, clothing and comfort, warmth and well-being, shelter and security. Folks want to be prosperous without excessive toil, they want to be happy in the modern way, and they prefer to let the morrow take care of itself because conditions today are hopeful for the future.

They need fair access to the means of subsistence and that means the convertibility of natural and physical resources into mass benefits. They want pleasure and that means, for illustration, inclusion of the recreational feature in a highway system that may be otherwise predominantly commercial.

They want pleasant associations and that means good neighbors in friendly communities, and it likewise means good schools and colleges for their children, churches, libraries and public institutions.

The instinct for satisfactory living is not only permanent but progressive and accounts for much of the advancement that human beings have made. And it must be clear that this instinct has two parallel channels—that of the private individual for himself and his family and that of the citizen in community interests.

There was the time in this country when a man brave or shrewd enough to escape aboriginal perils could create for himself the conditions of satisfactory living by moving to a new spot. As long as that was true, rugged individualism was quite sufficient to its own needs, but, as some one has aptly said, it wasn't then so much as later the individualism that sits in the boat while a neighbor's child drowns.

But as we have reached geographic boundaries we have found it necessary to turn back and seek to find our economic boundaries.

In other words, we must canvass and we must inventory the resources of nature. We must appraise our possessions in water and in land and in the values that result from their combinations. We must know if what we can take from farms, forests and the mines will supply our wants. We must know if the various services, such as transportation and power, are well related to the use of resources and the means of subsistence. We must know if the manufacturing industries are in balance with the extractive industries. We are extremely concerned whether distribution and marketing are well done. We must know if the economic set-up permits the greater number of us to maintain gratifyingly our homes and communities with all that is connoted by the terms, cultural and spiritual.

Now, mind you, all of this is only the responsiveness in the newer way to the human instinct for subsistence and happiness. It is no abstraction. It deals with necessities as primitive as those the cave man knew. But it applies the intelligence that marks the progress of the race and that recog-

nizes co-operation as an increase of power to accomplish rather than as an outburst of utopian idealism.

And it does not change the American pride in being able to do for one's self. It is more the effort to learn what a man and his neighbors have to do with and thus what they can do for themselves if they apply the old-fashioned qualities of initiative, persistence, preparation, ambition and capacity.

You may say this is all economic. But—with flat skepticism for the garret as a necessary adjunct to poetry, literature, science, invention and faith—social well-being is the first antecedent of correctly balanced economic factors.

And you may say this doesn't deal with planning. But if it doesn't, planning is a conversational annex to reality and whether permanent or otherwise wouldn't really matter.

Social-economic planning is the co-operatively expressed will of people as to what they want to do with their community or their country. It is inventory of natural and physical resources. It is finding and analysis of facts. It is recommendation based upon analysis and knowledge. It is closing of the gap between research and application. It is a continuous process to foresee continuous needs both individual and public. Planning is a way of life. It is philosophy and a technique. It is organization and it calls for a continuous process not only in fact-finding but in accomplishment. An equal reason for continuity and for permanence is that planning contains the life principle of growth and service.

The National Administration has undertaken a planning program that calls for participation by all departments of government. A particular duty was assigned to the National Resources Board in these words:

"The functions of the Board shall be to prepare and present to the President a program and plan of procedure dealing with the physical, governmental and economic aspects of public policies for the development and use of land, water and other national resources, and such related subjects as may from time to time be referred to it by the President."

And the National Resources Board in a platform statement said:

"The natural resources of America are the heritage of the whole Nation and should be conserved and utilized for the benefit of all of our people. Our national democracy is built upon the principle that the gains of our civilization are essentially mass gains and should be administered for the benefit of the many rather than the few; our priceless resources of soil, water, minerals are for the service of the American people, for the promotion of the welfare and well-being of all citizens."

The first studies undertaken dealt with the systematic development of water resources for irrigation, industry, power, recreation, domestic consumption, transportation and sanitation. Flood control and checking of soil erosion were proposed. In the same way land classification looking to its best use, the ending of wasteful use of mineral resources, the making available of large areas for popular recreation, basic mapping, population trends, the co-ordination and advance planning of public works were considered in order to "Provide for continuous long-range planning of land, water and mineral resources in relation to each other and to the larger

background of the social and economic life in which they are set."

Stimulated and aided by the National Resources Board 46 states organized planning boards. In the Pacific Northwest, Montana, Idaho, Washington and Oregon with the National Resources Board created the Pacific Northwest Regional Planning Commission. More than 220 local planning boards were organized in the region. Subject to further development, the following definition (Progress Report, Pacific Northwest Regional Planning Commission) was set forth:

The Regional (or State) Plan is:

First — A program of research to determine the Region's (or the State's) resources — physical and human, the conditions, trends and needs;

Second — Analyses of the findings of the research programs;

Third — A plan of procedure to meet the conditions and needs, consisting of

A. Formulated objectives

B. A group of general governing policies

C. A group of co-ordinated general plans and estimates, in outline or frame-work form;

All for the development, conservation and rational utilization of the Region's (or the State's) resources, for physical, economic and social advancement.

It is appreciated that the plan does not become all of these at once, and, also, that it is not built up step by step. Although the parts mentioned are in the logical order of development, obviously the existing conditions and the scope, complexity and magnitude of the job, together with the time element, require more flexibility and even opportunism in procedure.

For the region and its states major considerations in the plan are the development, conservation and beneficial use of water power, land, forests, minerals and other natural resources; the betterment of communities; the improvement and co-ordination of transportation facilities; the construction of public works planned in advance for permanent value and stabilization of labor, industry and use of capital; and the inter-relationships to these with stabilized and rationalized industry, commerce and distribution, and with social and economic welfare, with education and government. In the Pacific Northwest plan an especially important and immediate element is the integration — from physical, social, economic and governmental viewpoints — of the large Federal power, navigation, irrigation and flood control projects now under construction.

It is realized that the plan for a large area is not a "blueprint" in the older sense — not a rigid guide, but a flexible and changing one; that it is, more accurately, a set of guiding principles, policies and methods, involving the pooling of the available and pertinent facts and the assembly and co-ordination of many plans; that it is not something so simple as to be designed and laid down by a small group, but something requiring many minds and hands for its development.

As I write these words, Congress has under consideration legislation creating a National Resources Board as successor to the National Resources committee now existing by executive order. Whether the measure will

reach a vote or be passed by Congress at its present session is subject to decision in the immediate future.

And until planning organization has been implanted legislatively into the processes of national government it will not be possible to predict the permanence of the present planning organization. But we may predict the permanent values of the work it has done and is doing. We may predict as safely the permanent value of the work done, even to its present limited extent in the Pacific Northwest. Certainly we know a great deal better than we did the economic base upon which the region stands and what we may do in scientific, civic and official ways to convert these resources into opportunity and the means of progress.

We have yet to provide the facts and the controls necessary to the advance planning of public works. By the tests of the planning program posterity will learn much as to the wisdom of present recovery measures. Our children will determine whether we actually capitalized a temporary emergency into permanent progress.

Here we are seeking to weave together the public works of federal administration with the resources — physical, natural and human — into a pattern of established usefulness, and not less of beauty and appeal. It is work that puts us in the position of interpreting the future in the terms of the present; of doing those that meet an emergency and yet will carry on and live on and serve uncounted generations to come.

Depressions do not last always. After them we come to the balanced, comfortable and routine way of living. If the present planning program is a success it will be because we have searched for facts and have been controlled by facts. It will be because as citizens we have developed capacity for organization and, as individuals, have fitted our own personal dimensions and resources to the vast resources and dimensions of the region. It will be because our schools and colleges have provided education that creates awareness of resources and thus of opportunities in the Pacific Northwest and have helped not only to train men and women for public administration but have created public-mindedness in those who engage in private activities.

We have dealt wisely with population trends and have brought about the closer settlement of good land, the extension of electricity to rural districts and to the cities, the improvement of transportation and the stimulation of industry. We will have done something to make the individual and the community, too, secure in rewards from diligence and skill. We will have done something by use of natural resources and public works to develop the human resources which are the real wealth of the nation.

In the Pacific Northwest we are undertaking to bring about a sustained production of the forests and of the fields, of the gardens and orchards, and the water; a sustained yield of game and wildlife; a sustained yield of recreation and its pleasures. Thus we seek a sustained yield of food and the means of material sustenance, all in order that we attain the most important objective, the sustained yield of life.

And when we talk about the permanence and the planning program we are talking about the permanence of our daily bread, of our civilization and our citizenship, and of America.

The Place of the Lumber Trade Associations in the Forestry of the Future

By DAVID T. MASON

Consultant in Forestry and Manager, Western Pine Association

The Kaimin has invited my opinion on "the place of the lumber trade associations in the forestry of the future." Within the past few years we have seen so many startling changes in our social and economic life, not only in the United States but throughout the world, that one should hesitate to make predictions running far into the future. However, expressions of opinion sometimes have at least the value of stimulating thought and stirring up discussion; moreover, it is the business of foresters in many phases of their work to look frequently into the future, so why not take a peek ahead in this phase also?

In Western United States, as the basis for lumber production, we recognize three main forest regions: The redwood region along the northwest coast of California, the Douglas fir region west of the Cascades in Oregon and Washington, and the western pine region throughout the remainder of the West. In these several regions the lumber manufacturers maintain their regional lumber trade associations, which are respectively the "California Redwood Association," the "West Coast Lumbermen's Association," and the "Western Pine Association." These associations, with a history beginning about thirty years ago, were originally organized and are today maintained to enable the lumber manufacturers of each of the regions to co-operate in carrying on work of the industry which cannot be done by individual lumbermen acting alone. Usually the lumber trade associations were organized to establish and maintain lumber grades, and to collect, compile and redistribute statistical information on the lumber operations of the region. Later there were added in all or some of these associations departments to deal with such subjects as rail and water transportation, trade promotion, research, cost accounting, etc.

Prior to the formulation of the Lumber Code in 1933, these regional associations confined their activities to the fields of lumber manufacture and distribution, leaving the field of logging to the Pacific Logging Congress, and the field of forest protection and private forestry to the Western Forestry and Conservation Association and to the several forest fire and protective associations. The depths of the depression in 1932 and early 1933 found the activities of these organizations usually substantially weakened.

In May, 1933, the lumber industry, through its trade associations—the three western ones joining with the other similar ones of the South, North and East, and all acting together through the National Lumber Manufacturers Association, which is a federation of the several regional associations, began the work of formulating the Lumber Code. The process of writing the Code and negotiating its many details with NRA lasted until August 19, 1933, when the Code was approved by the President.

The Code, setting up industrial self government under public (NRA) supervision, included provision for its administration in each of the several lumber producing regions by the respective regional lumber associations.

Article X of the Code provided for the calling by the Secretary of Agriculture of a conference of public and industry representatives to write and recommend (1) a program of industry action to establish sound forestry practice in the operation of private forests, and (2) a program of public action to remove unreasonable economic obstacles and in other ways to make practicable the practice of forestry on private lands. The conference, consisting of about ninety representatives of public and industry, assembled in October, 1933, to receive and tentatively to discuss proposals. The conference reconvened in January, 1934, for final action on the many proposals which in the meantime had been given careful study by all concerned. The "Article X Conference" completed its work of framing the programs of (1) industry and (2) public action, and adjourned sine die, leaving an executive committee—the so-called "Article X Joint Committee"—consisting of five public and five industry representatives to put the two programs in final form and to take all practicable steps to get the two programs actually put into operation. Since the conference adjourned in January, 1934, the "Joint Committee" has held many meetings lasting from one day to one week each.

The program of industry action included provision for conducting forest operations on private lands so as to assure reproduction, to protect from fire, to dispose of slash, to protect advance growth and seed trees, etc. The program also provided for studying and where practicable applying selective logging and sustained yield forest management. This industry program was put in suitable form and recommended by the "Joint Committee" to the "Lumber Code Authority" (the governing body of industry representatives administering the Code) for adoption as "Schedule C" of the Code. The "Lumber Code Authority" promptly adopted "Schedule C," and thereafter, as provided, the lumber trade association of each forest region worked out and put in effect regional "forest practice rules" to accomplish the purposes of "Schedule C."

The "program of public action" included provision for both Federal and State action. Most of the steps to be taken by the Federal government were incorporated in the "Omnibus Bill," which included provision for increased appropriations for forest protection against fire, insects and disease, for substantial appropriations for forest land acquisition, for more rapidly completing the "forest survey" and for increased research work, etc. From the beginning of its work in January, 1934, the "Joint Committee" understood that the President would "soon" recommend to Congress the enactment of the Omnibus bill, but this has never yet been done, although such action would have been of great assistance to the industry in carrying out its program.

On May 27, 1935, the Supreme Court in its "Schechter Decision" declared the NRA and the Lumber and other Codes unconstitutional. Although up to that time there had been comparatively little action to carry out the "public program" permanently and effectively, the lumber industry through its trade associations promptly took steps to have industry continue on a voluntary basis its program of private action. The National Lumber Manufacturers Association in June, 1935, (1) reaffirmed the program of industry action, (2) recommended to each regional association that it do

its best to get its individual operators to continue voluntarily to carry out the regional forest practice rules, and (3) assumed responsibility for and reappointed for the industry the five industry representatives on the "Joint Committee." The more important regional associations, including all three of the western regionals, promptly acted to urge their individual member-operators to continue voluntarily in their operations to apply the forest practice rules. Some of these regional associations, after careful study, adopted forest conservation programs of their own; of these that adopted by the Western Pine Association in September, 1935, is no doubt of most interest to Kaimin readers; consequently it is quoted below:

"The Western Pine Association believes in the principles of conservation and the sustained production of forest crops. This belief is given practical effect by the adoption of the Forest Practice rules and by the maintenance by the Association on its staff of trained forest engineers to advise it in the application of these rules.

It believes that Forestry is a means to an end, not an end in itself, and that more real progress can be made through co-operative effort than in any other manner. This is now being demonstrated in the Western Pine forests where a greater advance in forest practice has been attained during the past two years than was accomplished in the twenty preceding years.

Therefore, the Western Pine Association proposes:

I. To maintain as nearly as possible an orderly balance between the production and consumption of forest products by:

(a) Retaining as much young, growing timber as practicable while harvesting the mature and overmature timber crop which should be cut to return the land to producing a new crop of timber and to prevent destruction of the less vigorous trees by insects and disease.

(b) Encouraging economic selective logging on private lands in order to stop preventable losses and leave the cutover lands in such condition that they may contribute to future forest management when that becomes feasible.

(c) Opposing the logging or manufacture of timber products by or under the direction of any government department as such activity would not only add to the present excessive plant capacity but would retard the practice of forestry on private lands by creating subsidized competition to the injury of private industry.

(d) Promoting the acquisition of tax delinquent and submarginal forested lands by State and Federal forest agencies, in order to avoid forced liquidation of stumpage and to build up a reserve of timber to supply industry needs in future years by removing such timber from immediate cutting.

(e) Co-operating with public agencies and other organized units in the industry in the readjustment of the timber tax burden in such a manner that forest lands may be managed on a basis of sustained production.

(f) Promoting the enactment of legislation which will make possible the practice of forestry on private lands through reduction of carrying charges and by long-time, low interest financing.

(g) Improving protective measures in preserving forested and cut-over lands from fire and in protecting young growth from unnecessary damage in logging.

(h) Studying and promoting the extension of sustained yield forest management to private forest lands as rapidly as it becomes practicable.

II. To advocate on both public and private timberlands the practice of forest management based on a balance between cost and a reasonable return on the investment.

III. To work towards an equitable public contribution towards the cost of protecting forest lands from fire, insects and disease, based on the proportionate responsibility of the public and the industry in creating such risks.

IV. In the Field of Public Relations —

(a) To demonstrate its ability to initiate and maintain constructive conservation measures as expressed by the Forest Practice rules.

(b) To keep the public informed of the progress of forestry within the industry.

(c) To keep its members informed of the trend of public opinion on conservation and of prospective legislative enactments.

(d) To co-operate with public and other private agencies, substantially concerned, in promoting conservation and good forest management.

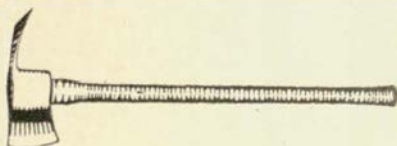
(e) To maintain close contact with State and regional planning bodies, Chambers of Commerce, forestry associations and legislative bodies in order to co-operate with them in their consideration of questions concerning conservation which may affect the industry."

The above quoted Western Pine Association Forest Conservation Program gives in some detail what the association is earnestly seeking to accomplish in this field. This Association is maintaining staff personnel to carry on this work. The members of the Association, who in 1935 were responsible for more than 85 per cent of the lumber production of the region, are generally carrying out the forest practice rules and are supporting the Association's Forest Conservation Program.

The principal other regional associations and the National association are similarly carrying on in this work. The industry, the "Joint Committee," many public officials, and others are urging the prompt consummation of the program of public action, which will remove substantial economic obstacles to and will otherwise encourage and make more practicable the full realization of the program of private action.

The discussion so far indicates that the lumber trade associations have "carried the ball" further toward the "goal" of private forest management than it has ever been before. The ball is still some distance from the goal, but the associations are working earnestly to move on toward the goal. This work is a logical function of the associations; the writer believes that it will be maintained and expanded in the future. This does not mean that the associations will crowd others out. On the contrary in the advancement of private forest management there will be great need and great opportunity for the work (1) of forestry schools in training students and conducting research, (2) of the Forest Services, Federal and State, in con-

ducting research, in perfecting protection, and in co-operating with private forest owners in jointly managed sustained yield enterprises, (3) of organizations such as the Western Forestry and Conservation Association and the several fire and protective associations, (4) of consulting foresters and company foresters in dealing with the more intimate and complicated problems of managing specific private forests, and (5) of various other private and public organizations interested in having our forests, both public and private, soundly managed. More power to each!

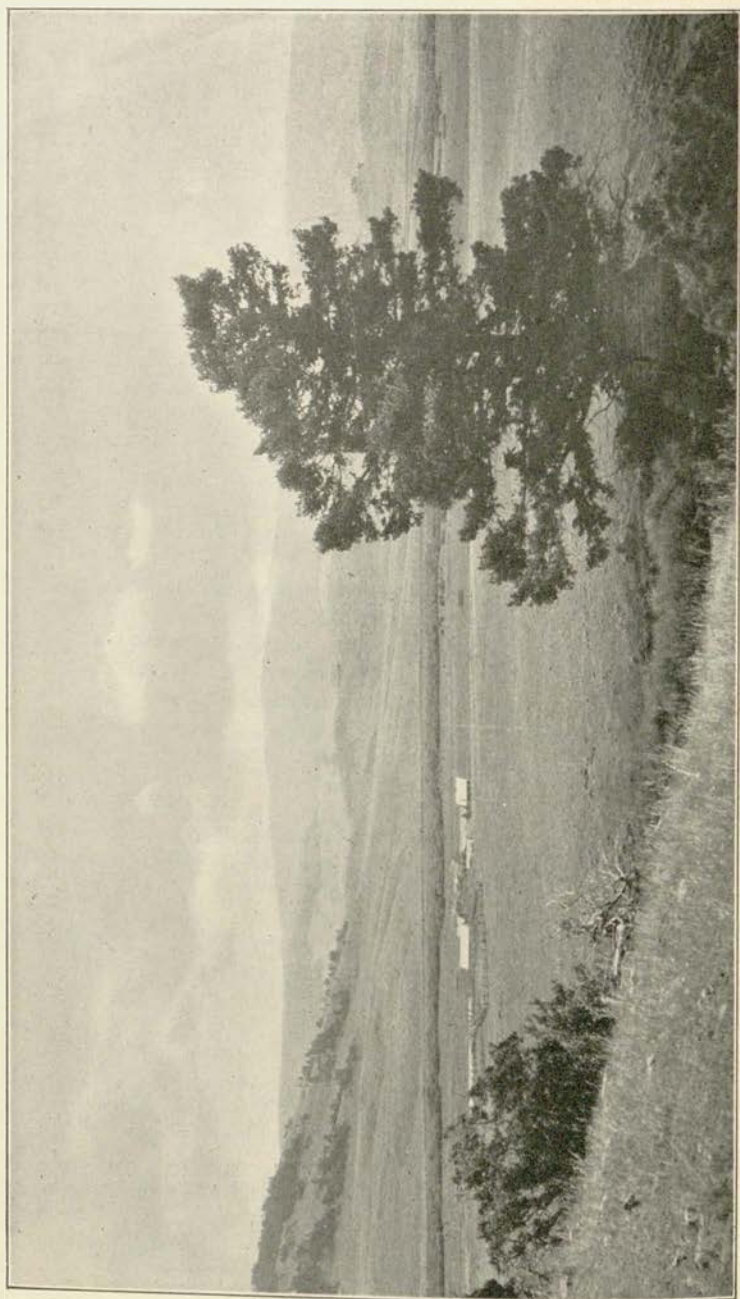


Ojai — September 7, 1932

By TERRILL DRYDEN STEVENS

Thou black and billowing thunder-head,
Rolling majestically toward the sky
With utmost casualness as if to glorify
The holocaust from which you are bred.
Must your sinister shadow o'erspread
Verdure man has sought to amplify
For future needs and rest?—Fie!
Let your last drop of blood be bled.

Come! Let each man imprecate this curse,
Upon the bacchant who gave your sire birth:
As from you your fellow men disburse,
May you be scanned by eyes without mirth,
Your travels to find you with empty purse,
And few your days be upon this earth!



— Photo by K. D. Swan, Courtesy U. S. Forest Service

Some Phases of the Land Use Problem in Montana

By E. W. NELSON

Associate Professor of Range Management

The development of a land use program that is stable and of economic benefit, whether it be for agricultural crops or livestock production, must be of such a nature that it will return the greatest benefit to the people of a given community and at the same time perpetuate that particular industry.

One of the basic industries of Montana is the production of livestock. For many years the native grass ranges of Montana have been noted for their productive capacity. The permanency of the industry is seriously threatened because of continued recurring droughts and over-stocking of the ranges. Many ranges in Montana show a decided depletion of the original cover of nutritious native range grasses. Furthermore, the industry is handicapped because of an inadequate agricultural program which allows for the settlement of submarginal lands. This is significantly brought out by Renne¹ who relates concerning the settlement of lands in Montana under the homestead laws. The greatest influx of settlers occurred in the period from 1908 to 1919. Because of lower prices for wheat following the World War and severe climatic conditions, many settlers abandoned their dryland farms following 1919. The exodus from these dry lands was checked somewhat in 1924 with the advent of more favorable climatic conditions and comparatively high prices for agricultural crops. Further abandonment of dry land areas started again in 1929 because of recurring droughts and lowered prices for wheat and allied crops. It is estimated that approximately seven million acres of dry farming land are idle in Montana. In its present condition it is of little value even as grazing land. Renne further states, that much of the land in use for dry farming proved unsuitable for wheat farming because of the recurring cycles of low rainfall which prevail in the Great Plains.

Since the livestock industry of Montana is to a great degree dependent upon the native range resource, a project under the Montana State Relief was undertaken in 1934 to obtain basic information concerning the resource. The program was two-fold: (1) to obtain an inventory of the native range resources, and (2) to determine the extent and character of the upside-down or abandoned dry lands.

The program of surveys was outlined so as to obtain basic information on typical livestock areas and abandoned dry land areas. Table 1 and figure 1 show the counties and extent of the surveys.

TABLE 1—COUNTIES AND EXTENT OF SURVEYS

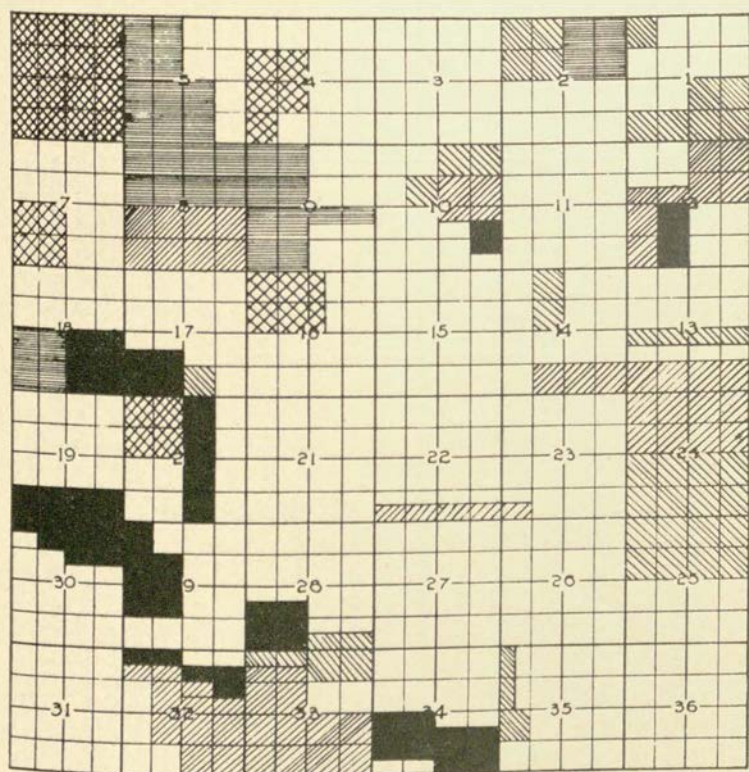
County	Character of Surveys	Extent of Surveys (Acres)	% of Total Land Area of County
Choteau	Native range lands	334,000	13.2
	Abandoned farmed lands	134,000	5.8
Custer	Native range lands		
	Abandoned farmed lands		
Musselshell	Native range lands	2,221,000	100.0
	Abandoned farmed lands	1,979,000	59.0
Phillips	Native range lands	829,000	100.0
	Abandoned farmed lands		
Wheatland	Native range lands		
	Abandoned farmed lands		
Total		5,497,000	

The information was obtained by field parties, consisting of a chief of party and four two-man parties. A modified method adopted from U. S. Forest Service range survey methods was used. The survey consisted of an inventory of the native forage resources and condition of abandoned dry farmed land on all lands irrespective of ownership.

The native forage resource was classified into three main vegetative classes: (1) grasses and grass-like plants, (2) weeds or forbs, and (3) browse or shrub plants. The forage values were determined, by which the grazing capacities of the various lands were obtained.

Preliminary analyses of the field surveys show some rather pertinent facts: (1) that there has been a very marked decline in the more palatable

RELATIONSHIP OF VARIOUS TYPES OF LAND WHEATLAND COUNTY, MONTANA



Range Land
Farmed
1-5 yrs. Abandoned

6-10 yrs Abandoned
11-15 yrs ~
16 yrs or more

TABLE 2 — OCCURRENCE OF NATIVE SPECIES IN VEGETATIVE TYPES IN PLAINS REGION, MONTANA

Species	Scientific Name	Native Grassland	Sagebrush	Timberland	Meadow	Grass-Cactus
	Grasses	%	%	%	%	%
Blue Grama	<i>Bouteloua gracilis</i>	33.0	20.4	22.0	6.6	33.0
Blue Stem	<i>Agropyron Smithii</i>	15.2	16.5	7.0	21.4	7.5
Needle and thread	<i>Stipa comata</i>	8.2	4.0	7.3	1.4	3.0
June Grass	<i>Koeleria cristata</i>	3.1	0.	0.	1.2	0.
Blue Grasses	<i>Poa spp</i>	1.0	0.	0.	9.4	4.0
Blue Bunch Wheat Grass	<i>Agropyron spicatum</i>	0.	0.	12.4	0.	0.4
Three-Awn Grass	<i>Aristida longiseta</i>	0.	0.	3.0	0.	0.
Salt Grass	<i>Distichlis spicata</i>	0.	0.	0.	32.5	4.0
	Sub-Total	60.5	40.9	51.7	72.5	51.9
Grass-Like						
Dryland Sedges	<i>Carex sp.</i>	8.2	4.2	9.0	4.1	5.0
	Sub-Total	68.7	45.1	60.7	76.6	56.9
Poor to worthless species						
Total		100.0	100.0	100.0	100.0	100.0

native range grasses and an increase of unpalatable species due to recurring drought and overstocking the range, (2) that the native range lands in the northern part of the State do not show the marked depletion in palatable grasses as in the east-central and eastern parts of the State, (3) that the native range lands, irrespective of ownership, have deteriorated about the same extent in grazing capacity, (4) that the seriousness of the range depletion over vast areas was further augmented by the exposure of the roots of the native grasses through the removal of the top soil by wind and water erosion, and (5) the abandoned dry land problem presents a serious "economic picture" in some counties of Montana.

In the study of the native range lands it was particularly evident that there has been a steady decline of our palatable native range species because of overstocking and adverse climate. Table 2 shows the occurrence of native range species in percent of the total vegetation in various vegetative types in the Plains region of Montana. Blue grama grass is still the dominant grass on the native grassland, sagebrush, timberland and grass-cactus types. It is rather significant, the encroachment of poor to worthless species in every vegetative type, but with a preponderance in the sagebrush areas. A large number of range areas showed a fairly good stand of better range grasses but the total area or density was so low that the grazing capacity of such areas was greatly reduced. The native grasses are gradually being replaced by such unpalatable species as: *Arenaria* (*Arenaria sp.*), stick seed (*Lappulu sp.*), Whitlow wort (*Parocychia sessiliflora*), mallow (*Sphaeralcea coccinea*), snakeweed (*Gutierrezia sarothae*), phlox (*Phlox muscoides*) and silver sage (*Artemisia frigida*).

The different types of native range lands were found to have a much lower grazing capacity than was generally believed. Table 3 based on representative samples indicates the grazing capacity that should be permitted on the different types in order to insure the improvement and perpetuation of the better native range grasses.

The grazing capacity of native grassland did not vary to any great

Fig. 3 COMPARISON OF IMPORTANT FORAGE SPECIES ON NATIVE GRASSLAND AND ABANDONED UPSIDE-DOWN LANDS

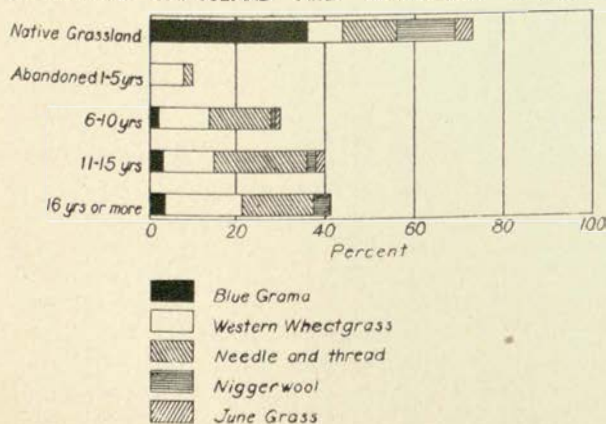


TABLE 3—GRAZING CAPACITY OF VEGETATIVE TYPES IN PLAINS REGION, MONTANA

County	Native Grassland		Sagebrush		Timberland*		Native Meadow	
	No. acres per cow		No. acres per cow		No. acres per cow		No. acres per cow	
	Per Month	8 Months	Per Month	8 Months	Per Month	8 Months	Per Month	8 Months
Custer	7.4	59.2	10.8	96.4	8.7	69.6	5.4	43.2
Musselshell	6.4	51.6	8.6	68.8	8.7	69.6	5.4	43.2
Wheatland	7.8	62.0	12.3	98.4	8.7	69.6	5.4	43.2
Choteau	5.1	40.7	6.9	55.1	11.2	89.6	5.4	43.2
Phillips	4.7	37.8	6.9	55.1	11.2	89.6	5.4	43.2
Average	6.6	52.8	7.9	63.2	9.0	72.0	5.4	43.2

* Submarginal ponderosa pine land

extent between different types of ownership. In many instances in Phillips County, State and County range lands had a higher grazing capacity than either the private or public domain range lands.

The influx of settlers in Montana and other western states beginning in 1910 and even earlier proved to be a rather disastrous movement. Millions of acres of native range land were turned upside down and put in wheat and later abandoned because of adverse climatic and economic conditions. Surveys show that these lands are of very little economic value in their present condition. Figure 2 shows the pattern of different types of land of a sample township in Wheatland County and table 4 compares the different types of land of a sample area in the same county as to acreage and grazing capacity. Upside down land after sixteen years or more of abandonment shows a grazing capacity of 56.6 per cent of that of the adjacent native grassland.

TABLE 4—COMPARISON OF DIFFERENT TYPES OF LAND
As to Acreage and Grazing Capacity—Wheatland County

Type of Land	No. of Acres	Percentage of Total Acreage	No. Acres per Head per Month	
			Cow	Ewe
Native Range Land Abandoned	95,825	64.6	7.7	3.0
1-5 years	6,970	4.7	40.0	11.9
6-10 years	11,175	7.6	16.7	6.8
11-15 years	11,860	8.0	16.7	7.4
16 years or more	11,530	7.8	13.6	5.6
Total	41,535	28.1
Farmed Land	10,840	7.3
Total	147,700	100.00

Comparison of the vegetation on the different types of abandoned land with that of adjacent native range land is shown in table 5 and figure 3. The invasion of abandoned plowed land by better perennial grasses is very slow because of the lack of protection afforded from grazing animals. Blue grama is good yearlong forage and is, therefore, fully utilized. The revegetation or spread of this species is seriously handicapped because of its poor seeding habits and its high forage value. The influx of other perennial grasses and weeds is much more rapid because of better seeding habits and lower forage values. It is readily seen that blue grama increases, naturally, very slowly under the above conditions and may therefore lose out in competition with more aggressive species. It is estimated that it will require from 100 to 150 years on abandoned plowed land for the blue grama to reach a point where it may again be the dominant range forage species.

The question of artificial reseeding or revegetation of abandoned plowed lands and depleted range lands is often raised. Such factors as climate, cost of seed, restriction of grazing by livestock and type of soil must be first considered in any plan of artificial revegetation. The rehabilitation of the abandoned plowed lands cannot be carried out by the private individual but will have to be done by Federal and State agencies.

It is clearly evident that if past range practices are continued that the livestock industry of Montana will suffer very materially. Better range

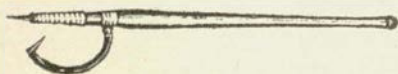
TABLE 5 — OCCURRENCE OF NATIVE SPECIES ON VARIOUS TYPES OF LAND IN WHEATLAND COUNTY MONTANA

Species	Scientific Name	Native Grassland	Abandoned Upside Down Land				16 yrs. and more
			1-5 yrs.	6-10 yrs.	11-15 yrs.	%	
Grasses			%	%	%	%	
Blue Grama	Bouteloua gracilis	35.0	0.	2.0	3.0	3.4	
Blue Stem	Agropyron Smithii	7.8	6.0	12.0	12.0	18.0	
Needle and Thread	Stipa comata	12.5	1.0	13.5	21.0	16.0	
June Grass	Koeleria cristata	4.0	0.	1.0	2.0	T	
Native Bluegrass	Poa spp.	T	0.	T	T	T	
Other Grasses		3.0	0	4.0	4.0	8.0	
	Sub-Total	63.3	7.0	32.5	42.0	45.4	
Grass-like							
Dryland Sedges	Carex spp.	13.0	F	1.0	2.0	2.3	
Perennial and Biennial Weeds							
Palatable		0.	1.6	3.1	5.4	2.2	
Unpalatable		4.6	11.8	13.1	8.0	10.2	
	Sub-Total	4.6	13.4	16.2	13.4	12.4	
Annual Weeds							
Russian Thistle	Salsola Kali	2.0	70.0	27.0	17.0	12.0	
Other annuals		3.2	2.3	3.2	0.4	1.0	
	Sub-Total (all weeds)	9.8	85.7	46.4	30.8	25.4	
Browse							
Silver Sage	Artemisia frigida	8.0	5.7	13.8	18.3	17.2	
Snakeweed*	Gutierrezia sarothrae	2.3	1.6	5.1	6.9	5.0	
Phlox*	Phlox muscoides	2.6	0.	1.2	T	3.7	
	Sub-Total	12.9	7.3	20.1	25.2	25.9	
Cactus	Opuntia polyacantha	1.0	0.	0.	0.	1.0	
	Total	100.0	100.0	100.0	100.0	100.0	

* Half shrubs

management practices are necessary if the native range resources are to be perpetuated. Some provision must be made to rehabilitate the upside-down plowed lands in order to conserve the soil resources. If lands are to be made more productive, they must be conserved.

1. Renne, R. R. Readadjusting Montana's Agriculture, Bulletin No. 306. Montana State College.

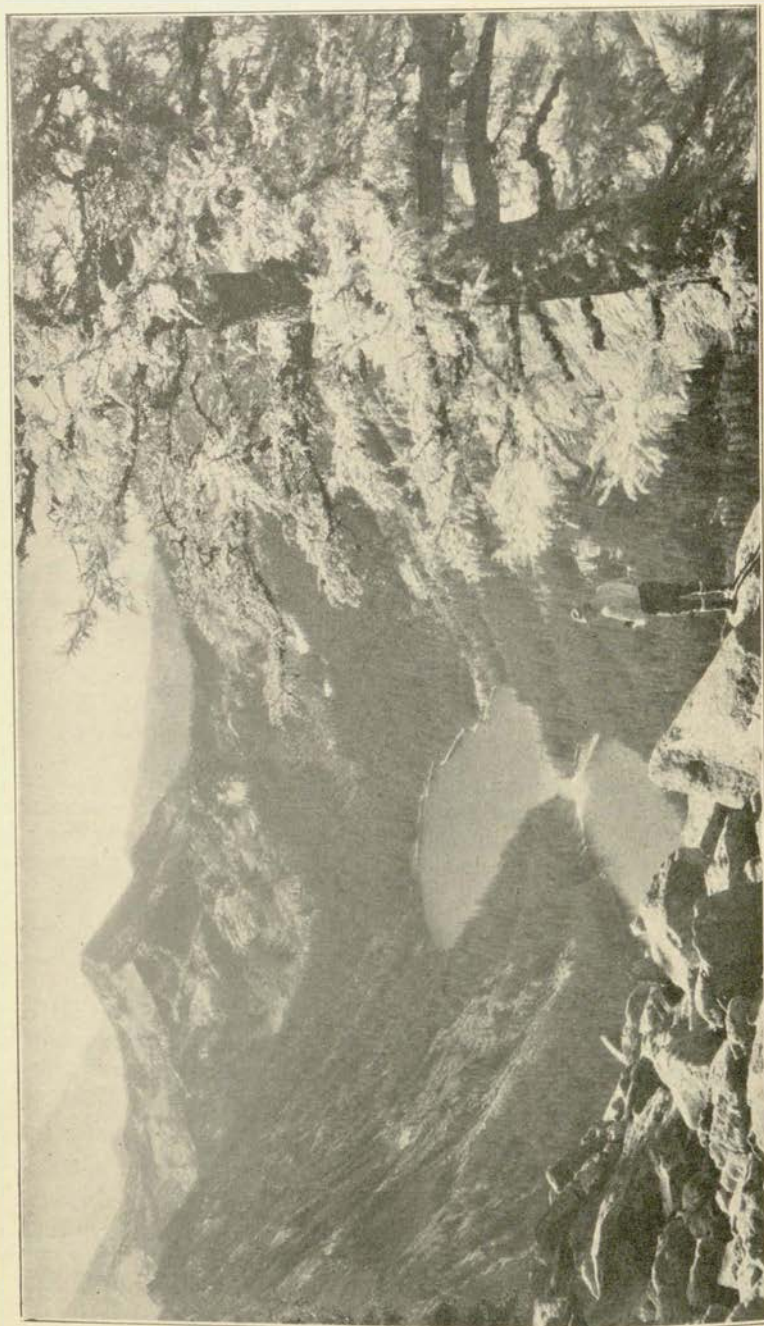


Dr. C. A. Schenck, beloved friend of all Montana foresters, passed through Missoula on Easter Sunday, while en route back to Germany from an inspection trip of timber holdings of a foreign company in British Columbia. Much to the regret of all of his Missoula friends, and present foresters who have never had the opportunity of meeting him, he could not spend more than a day here.

Hub Zemke, one of our most active Forestry Club and Druid members, left the School of Forestry in February for Texas, where he has entered the Army flying school. While in school, Hub played guard on the football team, was state middleweight champion in boxing, and was a lieutenant in the University R. O. T. C. unit.

Acting for the Druids, Orville Sparrow has submitted for approval by the Forestry club, a plan whereby the club will finance the purchase of a number of books to be loaned out to forestry students during the summers. The circulation of the books to students in the field will be handled through Dean Spaulding and the summer office force.

Lloyd Hague and Lester Robbins demonstrated their scholastic abilities in the last Junior Range Examiner examination by topping the range management list as first and second, respectively. Seven Montana foresters were among the first ten on the list.



—Photo by K. D. Swan, Courtesy U. S. Forest Service



FORESTRY KAIMIN STAFF

BOLLE, DRESSKELL, DEMOREST, MILLER, GABLE, TROSPER

Editorial Page

We who present this issue of the Forestry Kaimin understand that our school has reached a new point in the history of its development. It has grown so suddenly from a comparatively small and compact group, wherein everyone could work together and was personally acquainted, to such a large aggregation that much of this highly personal element has been lost. However, through Forestry club work and activities we have been able to convey some of our old time spirit to the newcomers. It has been a tough job though, requiring new methods of organization. At times, because of the seeming unwieldiness of the group and the many new problems so presented, things moved a bit slowly. Now we are over the top and ready to see what we can do next year.

It's not only in our school activities that the problem of numbers has confronted us. Each year the number of men entering school to study forestry is greater. To an outsider this would seem to cause an overproduction of trained men in this field as has been the case in other professions. However, the field of forestry is constantly expanding. Soil erosion, and reclamation projects, wild life management, new fields being opened by scientists in production and utilization of forest products are all included under this one heading, and all require technically trained men that a school such as ours is able to prepare. We think we have not erred in the selection of a profession.