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Forestry Assistance for Woodland Owners

Few woodland owners are fully aware of the extent of technical forestry assistance available to them. Equally few realize the number of technical foresters working in their state or district to develop good timber management. While there is not a forester in every county (although some counties have assistant county agents who are trained foresters), there are various Federal, state and private foresters within reach of most forest owners.

Despite the extent of various agencies' personnel working in forestry today, there probably is potential need for much more assistance than is presently available. And such assistance as is available probably could be used to better advantage now. Much of the time and energy of the technical personnel today is spent in convincing owners of the need for and the value of proper timber management practices. Presumably, as more and more timber owners become aware of the value of good management and the nature and extent of available assistance, an increasing proportion of the technical forester's work actually can go toward direct rebuilding of our forests. Thus, technical assistance could be expanded even without increasing personnel merely by widespread acceptance of the need for forest management.

This article dealing with forestry assistance available is a continuation of the discussion of Farm Woodlot Management which appeared in the June issue of this Review. As pointed out in that article, timber management requires little expense and only a small amount of technical assistance in

the early stages of a development program. As the forestry program progresses, however, more assistance of a technical nature is required. Since four out of five acres of farm forests are managed in such a way that the stand cannot be maintained, it is reasonable to assume either that timber owners are not cognizant of the need for or possible income from forestry management or that they are not familiar with available technical assistance.

The problem of achieving better management by woodland owners of 500 acres or less is a difficult one but its solution is vital to any widespread improvement of our forests. These small owners make up 99 per cent of all owners and control 75 per cent of all privately owned woodland in the United States. The problem first of all is to reach a large number of small woodland owners and convince them of the need for good forestry practices and proper land utilization and the possibilities for increasing income from timber. Second, it is necessary to provide them with adequate technical assistance to establish good timber management and to market the forest crop.

Many groups are working to solve the first step in this problem—that of reaching owners—through forest education. Among them are the university agricultural extension services whose foresters spend considerable time in holding educational meetings for the purpose of getting timber owners interested in forestry. They also help organize forestry projects for rural youth as a means of educating future timber owners as well as promoting good management on timberland today.

Among others are private organizations such as the American Forestry Association and the American Products Industries, Incorporated. The AFPI is sponsoring the "Keep America Green" programs in which four Eighth District states are cooperating. In addition, this group has prepared films and posters for use in schools. At least one railroad in the Eighth District, the Gulf, Mobile and Ohio, sponsors a forestry program for youth. Other examples in this field include the Indiana Hardwood Lumber Associations and various industry groups and civic clubs which sponsor forestry programs. Today, as a result of these efforts, many people are becoming aware of and interested in forestry problems.

This article is concerned more with the second phase of the problem—the technical assistance available. It discusses the technical personnel at work in the district today, assistance available for reforestation projects, research and technical training being carried on and forestry legislation—all of which are parts of the over-all assistance available to woodland owners.

It might be noted at the outset that most stress is placed on the public agencies' assistance available. This is not to imply that private groups and companies have no concern with this phase of the forestry program. Actually, in the field of research they are doing considerable work and in other fields also assistance is available from private bodies.

TECHNICAL PERSONNEL

A number of foresters are available in each of the district states to give technical assistance either to individuals or groups. The functions and supervision of the various groups differ among states, but in general the groups discussed here are available for assistance in marking timber for cutting, for planning forestry programs, and for marketing advice. A timber owner interested in undertaking good timber management usually can find a qualified forester within a reasonable distance either through the State Forestry Department, the Agricultural Extension Service, the TVA, or the Soil Conservation Service.

Farm Foresters—Each farm forester employed under the Norris-Doxey Act covers from four to eight counties and will help farmers in all forestry operations mentioned in the previous paragraph. They also are in charge of fire control in counties which they serve in Illinois and Indiana, although not more than 25 per cent of their time can be spent in such work. These foresters work under the state forester in Illinois, Indiana, Missouri, and

Tennessee, and under the Agricultural Extension Service in Arkansas, Kentucky, and Mississippi.*

District Foresters—Duties of district foresters, who work under the state forester, vary among states. In Arkansas, Missouri, and Tennessee, their duties are primarily control of fire. District foresters' duties in the other four states include, in addition to fire control, timber management, marketing assistance and administration of forestry laws. In Mississippi, 48 technical and practical foresters in the state department of forestry are available to give advice to timber owners. Four of these are full-time management foresters, working out of the state office. The five district foresters also are technically trained as are the district and area rangers working with them. The latter's duties include management assistance in addition to their primary function of fire control. The staff of the Arkansas forestry division includes two full-time management foresters, but district foresters function chiefly as fire wardens.

Duties of district and farm foresters in Illinois and Indiana are nearly synonymous. Both states are divided into eleven districts of five to 15 counties each, with a district or farm forester available to give individual or group assistance.

Some counties in Kentucky are included in a farm forestry project as well as a forest district. District foresters are permitted to work with non-farm timber owners, so their work supplements that of the farm foresters. The Bluegrass Consulting Service Project undertaken by the Kentucky State Forestry Department is unique in that only woodland management service and reforestation aid are available. The forester will work two days with

TECHNICAL FORESTRY ASSISTANCE AVAILABLE THROUGH STATE AND FEDERAL AGENCIES IN EIGHTH DISTRICT STATES¹

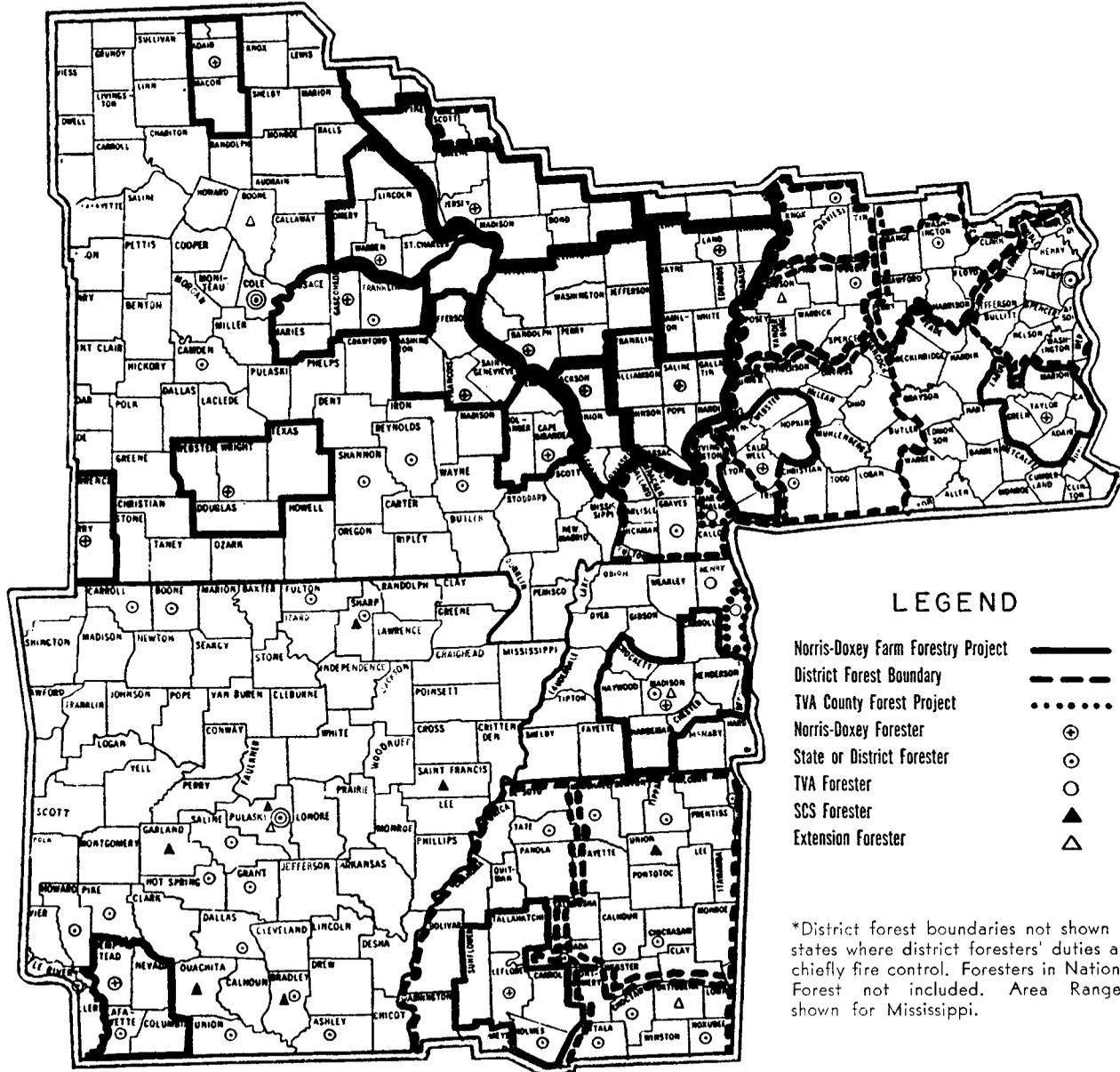
	Farm Foresters (Norris-Doxey) ²	District Foresters	Extension Foresters	TVA and SCS Foresters
Arkansas.....	1	15 ³	1	6 ⁴
Illinois.....	8	2 ⁵	3
Indiana.....	4	7 ⁵	5
Kentucky.....	3	3 ⁶	1	1 ⁷
Mississippi.....	4	5 ⁸	1	3 ⁴
Missouri.....	7	7 ³	1
Tennessee.....	4	5 ³	2	13 ⁷
Total.....	31	44	14	23

¹ Does not include personnel in state offices, in universities, or in National Forest Service.
² An additional forester usually is employed as supervisor of all projects in the state.
³ Duties primarily fire control.
⁴ SCS foresters.
⁵ One district handled by state office personnel.
⁶ One forester is in charge of Bluegrass consulting project. Another district is organized and will be activated as soon as a competent forester can be employed.
⁷ TVA foresters, one of which is hired cooperatively with the state extension service as an assistant county agent.
⁸ A total of 48 technical and practical foresters are available to assist timber owners in management problems. These include four full-time management foresters and the district rangers and area rangers who devote considerable time to management work.

* Two farm foresters in Illinois are cooperatively supervised by University of Illinois Forestry Department and the state forester.

LOCATION OF TECHNICAL FORESTERS AND FOREST DISTRICTS

EIGHTH FEDERAL RESERVE DISTRICT *



*District forest boundaries not shown in states where district foresters' duties are chiefly fire control. Foresters in National Forest not included. Area Rangers shown for Mississippi.

a timber owner free of charge and, if additional assistance is needed, will continue working with him for a fee. This service includes recommendations for proper management, estimates of volume and value, volume to be cut, and a plan for selling. As the department's staff is built up, this type of service is to be extended to other parts of the state.

Extension Foresters—Every district state has at least one extension forester whose work is primarily educational. They work with groups rather than individuals and a considerable amount of their time is spent with 4-H clubs. An exception to this general practice is found in Illinois where they give

individual service in one district where there is neither a Norris-Doxey nor district forester.

Indiana, with the second smallest forest acreage among district states, has more extension foresters than other district states. The head extension forester also serves a number of central Indiana counties. Three district extension foresters, serving 12 to 18 counties each, are stationed in the southern part of the state. One of the extension foresters in Tennessee is stationed at Jackson and serves the Eighth District portion of that state.

TVA Foresters—The Tennessee Valley Authority has a staff of about 35 foresters, 14 of whom operate

in district states. Two of these in the Eighth District are assistant county agents and are employed cooperatively with the Agricultural Extension Service. Three TVA foresters are stationed at Paris, Tennessee. One project of the TVA is setting up forestry demonstration farms and giving management advice to these and other timber owners. TVA foresters also work with sawmill operators, encouraging good cutting practices, reforestation and educational work in fire control. The TVA is equipped to furnish valley farmers an almost unlimited supply of seedlings for reforestation.

SCS Foresters—The Soil Conservation Service has six foresters in Arkansas and three in Mississippi. Of those in Mississippi, one is stationed in northern Mississippi in the Yazoo River Watershed. There, seedlings are furnished free of charge to anyone who wants to reforest land. All field office personnel in the 60 Soil Conservation Service offices in Arkansas have received forestry instruction and are capable of setting up forestry management plans.

In addition to these technicians, members of the United States Forest Service, although they are primarily concerned with duties within national forests, do give advice and help to nearby timber owners. Members of university staffs also cooperate in forestry programs and are available for consultation. Many of the larger lumber and pulp companies employ technical foresters, and in a number of cases these technicians will advise and help private timber owners. In some areas, private consulting foresters are available on a fee basis.

From the map, it is evident that technical assistance is available to a larger proportion of Eighth District farmers in Mississippi, Illinois, and Indiana than in the other four states. However, fewer counties are assigned to each farm forester in Missouri than in Illinois and Indiana, although much less of the state is covered by such projects. In all, 97, or about one-fourth, of the district counties are included in Norris-Doxey projects. Forest districts organized chiefly for fire control are not shown, but the foresters' headquarters are. Nearly 30 per cent of district counties are in forest districts where the forester is available to give management assistance. Even in areas and counties where no technical forester is shown, assistance can be obtained from the state or extension foresters who work in all counties of the state.

REFORESTATION

In addition to personnel available for technical assistance in forestry projects, considerable aid is

available for reforestation development. Reforestation of land having little or no growing stock and not particularly adaptable to pasture or crops should be a project in every state. According to the United States Forest Service, about 35 million acres should be planted in forests to conserve soil and make the land productive. The 1948 planting goals in 43 states total 220 million seedlings, enough to plant about 200 thousand acres. While this is a commendable goal (in 1947 less than half this number of seedlings was planted), at this rate about a century and a half would be required to complete reforestation of the 35 million acres even though no additional land needed reforesting in the meantime. This program thus needs to be stepped up considerably.

Adequate forest cover will be obtained on thousands of additional acres by natural restocking, but on the 35 million acres mentioned above there are probably too few seed trees of good species to restock the land satisfactorily in a reasonable length of time.

Each of the states and the TVA have tree nurseries. Seedlings are made available in all states at cost or less. For instance, in Mississippi a farmer may obtain 5,000 seedlings yearly at no charge. Capacity of nurseries varies from about 2 million seedlings per year in Kentucky and 2.5 million in Missouri to as many as 36 million in Mississippi. Nurseries in Illinois, Indiana, Tennessee, and Arkansas can produce 5 to 10 million seedlings a year.

For the seven district states, nearly 70 million seedlings can be produced a year. This number, however, is sufficient to reforest less than 1 per cent of the 12 million acres of poorly stocked and denuded forest land in Eighth District states. Partly alleviating this situation is the fact that TVA nurseries also can supply seedlings.

As noted, the reforestation program needs to be intensified. Partly this is dependent upon more widespread education. As this is achieved, however, greater seedling production will be needed.

FORESTRY EDUCATION AND RESEARCH

Scientific forestry training can be obtained at all district state universities. Four-year courses are now offered at Purdue and Missouri Universities. Two-year preforestry courses are offered at the Universities of Tennessee and Illinois, Mississippi State College and Monticello A. and M. College in Arkansas. Farm forestry courses are available at the Universities of Kentucky and Arkansas. Courses in farm forestry are required of all agricultural students in Arkansas, Mississippi and Ten-

nessee. In addition there are a number of forestry short courses conducted in the various states. For example, all assistant county agents in Mississippi are required to attend a four-day forestry course before starting on the job, and the University of Tennessee holds a three or four day short course for professional foresters and mill operators.

Research in Forestry—The importance of research cannot be overlooked in the development of our forest resources. This includes not only research in wood utilization as discussed in the May issue of this Review, but also research in production, management, and harvesting of timber.

FOREST RESEARCH EXPENDITURES AND THEIR RELATION TO ALL AGRICULTURAL RESEARCH EXPENDITURES, 1946¹

	Cents Per Acre Commercial Forest Land ²	As Per Cent of All Expenditure by State Experiment Stations	Per Cent Forest Crop Value Is of Total Agricultural Crop Value	Per Cent of All Land Forestec
Indiana	1.11c	3%	4%	15%
Illinois	0.39	1	1	10
Kentucky	0.12	3	12	46
Mississippi	0.11	2	20	52
Arkansas	0.06	3	16	59
Tennessee	0.05	1	14	45
Missouri	0.01	*	6	43
District States.....	0.12c	2%	8%	39%

¹ Adapted from Hearings on Department of Agriculture Appropriations Bill for 1949, Part 1, p. 487.

² Does not include Federal funds not spent through State Experimental Stations.

* Less than 0.5 per cent.

Expenditure for forest research in 1946 by the seven district states combined was only \$103,000, a very modest sum considering the fact that 39 per cent of the area in these states is forest land. This sum is equivalent to only one-tenth cent per acre of commercial forest in district states.

Indiana, with the second smallest forest acreage, had a larger budget for forest research than any other district state. On a per acre basis, Indiana spent in 1946 one cent per forest acre. Illinois, with the smallest forest acreage of the district states, spent more money for forest research than Arkansas, Missouri and Tennessee, ranking second only to Indiana in the expenditure for forest research per acre of forest land. On the other hand, Missouri, with the second largest forest acreage, spent only one-hundredth of a cent per acre of forest land for research in forestry, the least expenditure per forest acre of any district state. However, forest research funds in Missouri for 1948 are four times the amount expended in 1946. Arkansas and Mississippi, each with over half their land in forests, spent only six-hundredths cent per acre in timber for research.

Federal funds for forest research amounted to about one cent per acre of commercial forest land in 1947. This included funds for forest products

research and regional forest experiment stations. Part of the funds, however, were allocated to state experiment stations and are included in calculations of expenditures by state experiment stations.

Regional forest experiment stations serving the Eighth District are the Central States and Southern Forest Experiment stations located at Columbus (Ohio) and New Orleans, respectively. To further the work of forest research, 53 forest research centers have been established in the United States, five of which are in the Eighth District. Each is located so as to serve a particular forest type or forest problem. For example, the research center at Stoneville, Mississippi serves all Delta counties and is interested primarily in bottomland hardwoods, while the one at Oxford, Mississippi, is concerned primarily with water control. Other forest research centers in the district are located at Carbondale, Illinois, serving southern Illinois, southwestern Indiana, western Kentucky and the boot-heel of Missouri. Two centers are located in Arkansas at Crossett and Harrison. Two additional research centers have been authorized which will serve the Eighth District. One will be located in Ohio and will serve eastern Kentucky, and one will be in southern Missouri.

State expenditures for forest research seem to be quite small by almost any standard of comparison. Certainly in absolute terms they are small. They are even smaller relative to total state expenditures on agricultural research. It would seem reasonable to expect that funds for forest research would be allocated in about the same proportion that value of forest crops is to value of all agricultural crops. However, the proportion of state agricultural experiment station funds used for forest research in Kentucky, Mississippi, Arkansas, Tennessee, and Missouri are much smaller than the ratio of forest crop value to all agricultural crops.

Although returns per acre from Missouri forests are low, forest crop value in 1946 was 6 per cent of total agricultural crop value. Yet less than one-half of 1 per cent of experiment station funds were used for forest research. A similar situation was present in Mississippi where value of forest crops was 20 per cent of the agricultural crop value, but only 2 per cent of experiment station funds were spent for forest research. Kentucky and Arkansas each spent 3 per cent of experiment station funds for forest research, while value of forest crops was 12 and 16 per cent, respectively, of all crop value. Tennessee and Illinois each used 1 per cent of experiment station funds for forest research. In

Illinois, this 1 per cent was equal to the ratio of forest crop income to income from all crops. However, in Tennessee forest crops were 14 per cent of all crops.

Quality of research was not considered in this analysis; it is assumed that returns per dollar spent for forest research were approximately the same among district states.

It might be noted, in addition, that the data presented do not give credit for private funds spent for research. Also, Federal funds not spent through the experiment stations are omitted. Presumably Federal funds are distributed somewhat in accordance with the importance of forestry in various states. Furthermore, many forest projects were proposed under the Research and Marketing Act and probably some of these have been undertaken since 1946. Some forestry departments, including those at the Universities of Missouri and Kentucky, recently have been reorganized and expanded. The forestry department at one district university, however, has been contracted.

FOREST LEGISLATION

Historically, the vast virgin timber stands were considered inexhaustible and undesirable cover for agricultural land. However, as more and more areas were cut over and good timber became scarce, enough feeling was aroused that forestry legislation was enacted to protect this natural resource and to increase its productivity.

Several Federal forestry laws have been enacted which directly or indirectly affect the small woodlot owners. The early laws (Week's Law, 1911 and the Clarke-McNary Act, 1924) extended the national forests and provided for increased Federal-state cooperation in fire control. Financial assistance also was provided for in the Clarke-McNary Act for production of forest planting stock and for extension work in forestry. The McSweeney-McNary Act of 1928 provided a broad charter for forest and forest products research, and set up the regional forest experiment stations. The Co-operative Farm Forestry Act (Norris-Doxey) was enacted in 1937 to increase farm forest income and farm employment, and to provide advice on forest management to farmers. Other Federal legislation has created agencies such as the Soil Conservation Service, the Tennessee Valley Authority, and the Civilian Conservation Corps (active during the thirties), all of which have assisted farm woodlot owners in timber management. Another agency, the Production and Marketing Administration, provides payments to farmers for reforesta-

tion and other forestry practices as an incentive to better land use.

Mississippi, Missouri, and Indiana are among the 27 states that have special forest tax laws. In Missouri and Indiana, owners can request that a fixed assessed value of \$1.00 per acre be placed on timber land, provided certain conditions of management, protection and maximum assessed value are met. The land so classified is subject to a yield tax in Missouri. For tax purposes in Mississippi, land and timber are separated; no property tax is assessed on timber, but the land is assessed. However, a yield tax must be paid on all timber cut. Arkansas also has a severance tax, but it is in addition to a property tax on timber. Mississippi has a forestry law specifying minimum size trees that can be cut or worked for naval stores unless certain provisions are made for restocking.

The tax law in Mississippi was enacted in 1940 and applies to all timber acreage. In Indiana, with timber classification on an optional basis, 4 per cent of timber acreage has been brought under classification by owners in the quarter of a century that the law has been in operation. The law in Missouri has been in effect little more than a year; consequently, only 72,000 acres have been classified under it. In times of greater financial stress, the tax provision probably will have more appeal in these states where classification is optional.

The above tax laws assist in reducing annual fixed costs during periods when the timber produces no income and thus assist in extending good management. They aid primarily, however, the larger owner. The owner of the average farm forest would receive little financial relief from them, since the assessed value of timberland is usually low and since the average size forest is only 62 acres. In many instances, the total annual tax on woodland of this size would be less than \$10.

SUMMARY AND CONCLUSIONS

1. There are 31 Norris-Doxey farm foresters in district states who can give qualified assistance in timber management, including marking and marketing. In addition, there are 17 district foresters who can give similar assistance in Indiana, Illinois, Kentucky, and Mississippi. The other 27 district foresters in Missouri, Arkansas and Tennessee are concerned chiefly with fire protection. Added to these are 14 extension, 14 TVA, and 9 SCS foresters located in district states.

2. About one-fourth of the district counties are included in Norris-Doxey farm forestry projects. Another one-fourth of the counties are in state forest districts in which the forester can give man-

agement assistance. Timber owners in many other counties are within a few miles of TVA or SCS foresters. Others are near the state forester's office or the state university. Still others, especially in the Ozark, Ouachita and Piedmont areas of Missouri and Arkansas, are near national forests, and can obtain some assistance from employees of the Forest Service.

3. About 35 million acres of land need reforestation in the United States, and about 220 million seedlings will be planted in 1948, according to reports of the Forest Service. At this rate, one-and-a-half centuries will elapse before the land now in need of reforestation is stocked.

4. Forest nurseries in district states will supply 70 million seedlings in 1948, enough to restock less than 1 per cent of district poorly stocked and denuded land.

5. Four-year forestry courses can be obtained at Purdue and Missouri Universities, and two-year preforestry courses are offered at the Universities of Tennessee and Illinois, Mississippi State College, and Monticello A. and M. College in Arkansas.

6. Expenditures by State Experiment Stations for forest research in district states were equivalent to only twelve-hundredths cents per acre of commercial forest land, and ranged from one and eleven-hundredths cents in Indiana to only one-hundredths cent in Missouri.

7. Forest research expenditures made up a much smaller proportion of all research in district states than would be expected from the importance of forest crops to all agricultural crops. Only 2 per cent of state agricultural experiment station funds were used for forest research, whereas the value of forest crops represented 8 per cent of all agricultural crops.

8. Research funds in Indiana and Illinois were allocated for forest research in about the same proportion that value of forest crops was of all agricultural crops. However, in the other five district states the percentage of research funds used in forestry was much smaller than the proportion of forest crop to total agricultural crop value.

Donald L. Henry

Survey of Current Conditions

As late as six months ago the opinion was widely held that mid-1948 would mark the beginning of a postwar down-turn. In the months that have elapsed since that time, few weak spots have developed in the economy. Thus there has been a shift in opinion, and currently the consensus seems to be for a continued upward trend during the remainder of 1948, at least.

There are certain implications inherent in such anticipation. It should be borne in mind that in many respects the national economy has been operating at peak levels for a number of months. In some areas the effective upper limits have already been reached. Under such conditions a general extension of the upward trend should not be expected to result in uniform increases in all segments of the economy. Nor is it reasonable to expect that an equal amount of strain will be placed on each of the component parts of the economic machine.

During the past year, industry generally has operated at near capacity levels with only minor

fluctuations resulting from temporary disturbances due to labor difficulties or material shortages. During the remainder of this year some increase in output can be expected, but it is unlikely that the level of production at the end of the year will be a great deal higher than it was at the beginning of 1948. At the present time some industries, such as steel, are operating approximately at capacity and further increases are not likely to develop. In other lines output might be increased well above the present rate provided raw materials supply and labor conditions are favorable.

If the volume of goods produced increases but slightly during the next six months, what can be expected to develop on the demand side of the equation? Consumer buying probably will continue at a high level. According to the recent survey by the Board of Governors, early in 1948 there were as many consumers who planned to buy automobiles and other durable goods this year as there were at the beginning of 1947—despite the fact that 7 million consumer spending units