THE PRACTICABILITY OF GROUP MANAGEMENT OF SMALL, PRIVATELY OWNED FOREST TRACTS

by

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INTRODUCTION

Comparison of similar activities frequently results in a clearer understanding of each, and in this case it is possible to compare the forestry profession with one that (it is surmised) is considerably easier to analyze.

A long, long, time ago, perhaps tens of thousands of years, man became disgusted with the way his hair interfered with his gnawing on a bone, and looking quickly in various directions. So he took a sharp stone, or similar intrument, and hacked that offending mass until it permitted quick action and clear vision.

That little act started the barbering trade. And now in these modern times, there are all grades of barbers, from the saving parent who trims his childrens hair as a regular practice to the tonsorial and beauty artist who may charge seventy-five dollars for the laquered curls. But in between those extremes there is the great host of work-a-day tradesmen who do a good job of keeping us all looking neat and respectable for a nominal sum of seventy-five cents every two weeks.

The forestry profession seems lacking that great host of middle class tradesmen who handle the average man's land and do a quick, reasonably priced, job of keeping his timber in good condition. In other words, it has compelted both ends of the

track, one termed research and study, the other called public land and large block management, but that big chunk of small owner land management is missing and the train of professional completion is seriously delayed.

There's a large group of educators, demonstrators, and fifty dollar a day men at one terminal and there is an equally large assortment of light loggers, high graders and sorters, and the block managers at the other terminal. But where is the seventy-five cent and twenty minute man?

This is not an attempt to deal with a broad national problem. The fact that the small land owner requires a forester's services is fully accepted. There is but one question: what are the mechanics that will enable the forester to fill that need? This study is aimed at creating a better understanding of the relative importance and value of those mechanics or factors as they are connected with the attempt at group management of small, privately owned, forest tracts.

The desire to study this question developed from problems that arose while engaged in Timber Production War Project work in the years from 1943 to 1945, inclusive. The stumbling of owners, loggers, and even manufacturers in seeking better prices, better timber, more efficient operation methods, and even advice in completing government forms, highlighted this drastic need for the little man's forester.

The need is being met in some localities by the Farm Foresters but farmers are not the only class of owners requiring help and complete service will never be possible at the present rate of public fund appropriations.

This study would have proved valueless if a number of men had not graciously given their time ~~thoughts~~ in answering questions and providing observations based on their wide experience. For this aid I am deeply indebted to the entire faculty of the School of Forestry and Conservation but in particular to Professors D.M.Matthews, Shirley W. Allen, and W.F.Ramsdell. Without their guidance in establishing the main line of thought the study would have come to the end of the track and lost in the thicket of theory long ago.

The advice of active professional foresters was sought rather hesitantly. Their experience and knowledge was gained by considerable sacrifice, both monetarily and physically. I deemed it an imposition to ask them to furnish information so expensively secured. But, without hesitation, they replied with strong counsel, and that counsel is the supporting structure of this study. Without it the

entire undertaking could easily have collapsed. My personal appreciation to the following men for their advice is unlimited:

George M. Fisher, Lawrence, Kansas

Harold M. Sebring, McRae, Georgia

Reginald D. Forbes, Ambler, Pennsylvania

Ellwood Wilson, Knowlton, Quebec

John F. Kellogg, Winnfield, Louisiana

George S. Milnes, Saginaw, Michigan

Eugene R. Kuhne, Hart, Michigan

Along with the assistance of the above men and on the same level of value were the comments and suggestions of the following southern Michigan Farm Foresters:

Howard D. McGinley, Saginaw, Michigan

R.L.Olmstead, Ithaca, Michigan

Shirley L. Gowing, Lapeer, Michigan

Louis Miller, Cassopolis, Michigan

John Fields, Marshall, Michigan

In addition, Mr. C.B.Stott of the U.S.Forest Service, Milwaukee, Wisconsin, furnished the material for the study of cruising in the chapter on fees and finances. Our debt to him for this and additional background references is acknowledged.

The study itself, and encouragement to carry it through can be credited to but one person who saw its possibilities and, with critical comment, constant support, and stenographic aid, assisted in its origin, was the listening post for its development, and the stimulus for its completion. I will be ever grateful to that person: my wife, Dorothy.

Florence, Wisconsin
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Horace O. Nixon

PERSONAL QUALITIES AND TRAITS

For sundry reasons, perhaps the climate, the boss, the pay, the fishing, relatives, an addition to the family, falling hair, or spring in the air, a particular forester is generally dissatisfied with what he is now doing and begins to think quite seriously about getting into something else. He likes his profession, but he'd much rather follow it in a different manner than the way in which he has operated up until now.

So - he is going into business for himself.

About twelve foresters, who have followed this same mental process, and are now in business, believe that now is the time for the particular forester to do some more serious thinking. He should immediately, and first of all, hoist himself out of his chair, approach the nearest well-lighted mirror and prepare to take stock of himself.

In that mirror he will see a very familiar face. It is the one that will, or attempt to, earn him a living. During the initial six months that face will be completely strange to a great number of widows, bankers, little men, farmers, resorters, and just plain people. It will have a lot of doors slammed in front of it, and will very probably be frequently snubbed or even insulted.

Then the particular forester should make a thorough examination of the rest of himself. Perhaps he had a difficult day in the brush or office and appears somewhat ragged and rumpled. This won't be permissible in this new work. There is nothing that equals the destruction of a confident manner like clothes that are in a seedy, cast-off condition. Perhaps the forester has better clothes available. Then, by all means he should use them. It matters not that his work is forestry and hard on wearing apparell. His appearance will help greatly in selling the product.

The entire point of this, is that the work he is seeking will only be secured by creating a favorable impression upon the prospective client. There will not be a company or organizational reputation to introduce him. Good clothes, more particularly a neat appearance, will not only aid that favorable impression but will also add to his own confidence and he will need an extra amount of the latter.

While the forester was engaged in taking stock of his personal appearance he will probably examine himself critically and come to the conclusion that, at least, he has an honest appearing face. Such a conclusion is a good basis for elaboration.

Almost every one of the foresters contacted, listed honesty as a very important personal characteristic, absolutely necessary for success. A one man business contains many

pitfalls, but the factor of honesty is one that can either break or contribute much to the work of building up a paying clientele. The forester will be in the position of a middleman, able and ready to deal with both producer and consumer. And although he will be dealing with both he can be under obligation to serve only one. That one will be the person who hires him. The instant he accepts money from, or agrees to serve, a client then he will be bound into using every ethical means th guard that person's interests. He cannot compromise the interests of two parties. Benefits to to one will never result in benefits to both. Honesty will not only mean a dollar and cents auditing and checking of monies received and expended but will also carry with it the necessity for an understanding of ethics. As Forbes so aptly expresses the position of consulting forester: "You cannot run with the hare and also hunt with the hounds".

Forbes (who, incidently, placed more stress on personal qualities and characteristics than any other forester replying to the questionaire) adds an ability which he deems necessary. It is one quite frequently overlooked but of exceeding importance. It is the ability to adapt one's thinking to another person's point of view.

The forester must be able to analyze and carry out the objectives of the client he is serving. He can no longer bring in

factors of public good, of national welfare, or of personal gain except in a manner that is secondary to, beneficial to, and in agreement with his employer's wants. True, as time progresses, he may have the opportunity to disuade a client from what might result in a deleterious practice, but in many cases the owner's objectives will contain personal wants, common only to him, and it will be the forester's duty to analyze those wants and prove to the client that they can be fulfilled.

This does not mean that the forester should sacrifice his personal knowledge of what constitutes good practices, in the woodlot or on the land, in order to procure business. On the contrary, such a policy would be most damaging to his reputation. But he must have the ability to interpret the land owner's desires, then correlate them with the soundest practices possible.

As an example - a land owner will hire the forester to manage his wooded estate. Perhaps the stand is not in the best silvicultural condition but the owner has a preference for large trees. The forester's experience will enable him to realize that the retention of over-mature individuals will incur high financial risk. And yet it will be necessary that he run that risk, since his objective is based on esthetic, not financial standards.

So if the forester is of the type that can readily adapt himself to a new view point, and easily adjust himself to changing conditions, he has a very good chance of having a prosperous business.

Other traits and personal qualities deemed desireable by various foresters and proponents of service to the small owner are numerous. But they are also traits that are not outstanding except as they are necessary in any endeavor.

To mention a few, without an attempt to place in order of importance, there would be dependability, friendliness, diligence, initiative, common sense, tact, diplomacy, competency, alertness.

EXPERIENCE, EDUCATION, TRAINING

" I do not see how a man with average ability and experience can hope to succeed in the game" was Reginald D. Forbes' (consulting forester at Ambler, Pennsylvania) reply to the question as to the length of time he deemed necessary for a hypothetical, average person to become established.

Ellwood Wilson, a consultant at Knowlton, Quebec, replied in like manner with a very descriptive "five years" to this same query. Such a period would very likely be prohibitive.

A third highly respected and established professional, John F. Kellogg of Winfield, Louisiana, expresses the opinion of the majority in these words: "One of the biggest causes of failure and discredit to foresters as a group, when a forester ventures out on his own, is his lack of maturity and experience".

Forbes adds that "A degree in forestry does not yet command the public confidence that an M.D. or even L.L.B. does".

These men are not critical of education. They all believe a strong background in the fundamentals of forestry is most essential. Yet they underscore, stress, and even plead the necessity of good, broad, field experience preferably under the capable direction of a mature forester. This experience does not necessarily have to be in the consulting field. No more than a young doctor entering general practice must serve

his internship under a surgeon. As Forbes explains, "I would place more faith in good fundamentals than in high-powered specialties".

Such replies and observations most definitely indicate what the experienced professional believes is the greatest danger in the undertaking.

They, as professional men, are not only deeply concerned with the results of possibly poor work by new men as it affects the end results of land management but are also directly concerned with the reflection it will cast on their own work. They sincerely wish to raise the level of performance of all consultants and they know, perhaps from sad experience, that the entrance of poorly trained, lightly educated, unexperienced men into the field will seriously harm their own endeavors.

It was interesting to note that the concensus of opinion of the specialists was that specialism was not a necessity. They agreed that any man will naturally capitalize on his special skills or experience but that the forest consultant with adequate training and several years of experience will not need to hesitate to tackle any kind of forestry work. If he should find himself puzzled, they advise him to secure the services of a specialist.

M. H. Bruner,[24] in the Journal of Forestry, gives the results of a survey taken in ~~the~~ South Carolina in an article entitled "What Does the Farmer Want"? While he sampled only active farm owners, the data indicated the small woodland owner, regardless of economic position, has quite similar needs.

Bruner writes that of 67 replying to his questions, 48 wanted professional assistance (as compared to their own education and training) and services of a forester in the making, measuring, and marketing their woodland products.

This fact that services are desired clarifies the position of the professional forester. He is not an educator in the direct sense of the word. He is an employee of each individual land owner. His status may be likened to that of the general mechanic. The latter repairs many makes of cars. Each car belongs to one individual. The owner does not come to him to learn how to repair and service his car. He hires the mechanic to do that work for him. He knows that the mechanic can do the work more efficiently than he. The only education the owner will receive will be on the results of poor maintenance and how the lack of care will affect his pocketbook, his comfort, and his social prestige.

The moral of Bruner's study is that the professional forester need not be trained so much along the lines of the extension or teaching forester. But he must be well trained in the business of selling.

This necessity for training in salesmanship was quickly realized during the study of this subject and constantly remained in the foreground of importance. The extension forester is principally ~~equipped with~~ occupied selling ideas. The managing forester, even in an executive capacity, is a producer and to some extent a seller of ideas also. The public forester is engaged in activities composed of both the extension and the managing fields. But the professional forester must sell constantly. First, he must use his personality to sell himself into a contact with a customer, then he must sell an idea to that customer, finally he will frequently have to sell his client on the worthiness of his results. This selling job must be repeated time after time, constantly and without respite.

The professional foresters, in their letters of response to the questionaire, did not bring out directly this need of salesman training. But one with his "adaptability", another with "diplomacy", and third with "friendliness" were all listing selling traits.

An article entitled "Here Comes the Salesman"(37) in News Week of December 9, 1947 gives similar prerequisites:

1. Find out what the buyer is thinking.
2. Make certain the buyer will profit in money or enjoyment.
3. Leave the buyer with a sense of pleasure in having purchased.

While the professional foresters listed all of these qualities as personal traits necessary for success, there are many of the items that can be developed in training and education. The professionals are finding their importance through experience in the field. Indirectly they all advise that the forester will have to be a good salesman before he will ever get the chance to prove his worth as a forester.

The total of all information on what training, education, and experience is required, when a forester is operating as the small owner's professional, simmers down to these few items:

1. A broad basic education in the fundamentals of forestry.
2. Well founded and capably directed training in the application of those fundamentals.
3. All the experience available in the field of selling.

CHOICE OF LOCATION

Providing that the required personal qualities and traits are present, and the right experience, training and education have been secured, the next question confronting the near professional is where th locate his business in order to insure the utmost success.

In this subject much can be said for the influence of all previously discussed items. For instance, a man trained in the Lake States would be greatly handicapped in attempting to practice in the totally strange forests of the Pacific Northwest. ~~also~~ There is also always present an individual preference, usually gained through experience, for certain climes and geographically limited forest areas.

For these reasons no attempt is being made to compare the approximate financial possibilities of the different regions. It is true that a listing of active professional foresters and their locations will show a concentration in certain forest regions - but in many cases this is no indication of superlative potentialities of those regions for on the other side of the ledger there <u>are</u> foresters successfully active in the less serviced areas. Also, this type of service is definitely only in the pioneering stage and there are so many locations remaining unexplored that their possibilities are assuredly unlimited.

So it is sufficient to say, as do those professionals responding to the queries, that location of the business will be, and should be, directly influenced by experience, training, personal traits, and all other items previously discussed.

Yet this in itself will not entirely answer the present question. One man's experience is luckily applicable to a broad cross section of the country, perhaps covering five or more states and many standards of ownership.

But before continuing on this thought there is a necessity for a conclusive assumption. That is: The entire basic need for the professional forester rests in the small land owner. While much has been said about the farmers need of this service, which will be discussed later, there is no conclusive evidence that he is the sole small owner requiring service.

And if a look is taken at a few statistics (32,33) we can realize why the small land owner is most important to the professional forester and vice versa.

The bulk, or 75%, of the commercial forest land is in private ownership. And of this 345 million acres, 76% or 261 million acres is in small holdings. Also, of the total of 4,225,706 owners of private commercial forest land 4,222,137 or 99% are classified as small owners. The average size of the small owners holding is 62 acres.

Thus, if we assume the medium and large owners are financially capable of employing full time foresters, the withdrawal of such business will not constitute such a great loss to the free lance forester since he will yet have three-quaters of the forest land and ninety-nine percent of the owners to choose from.

In yet another way he will be better able to make progress working with the small owner. Viewing (32) the nation as a whole the character of the timber cutting on the three classes of ownership is as follows:

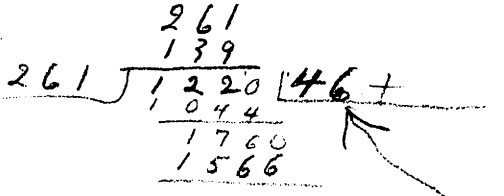
Small owners - poor and destructive cutting - 71%

Medium owners - poor and destructive cutting - 61%

Large owners - poor and destructive cutting - 32%

Therefore, in the small owner class there is considerable room for improvement - much more so than in any other class. This is in fact quite comparable to the cutting practice of the farm type owner because 73% of his cuttings are poor or destructive also. In other words, the farmer is no less, nor any better, informed regarding good forestry practices than any other average citizen.

Separating the small owners somewhat more closely brings forth an interesting highlight.



There are roughly, 4,200,000 small owners owning 261 million acres. Of these owners 3,200,00 are farmers owning 139 million acres (43 acres each). Thus 24% of the small owners are non-farmers and these control 63% of the total small areas of timber. averaging 122 acres each.

Thus if success is in any way related to size of holdings then a locality where there is a large percentage of non-farm private forest land interspersed with farm land will aid considerably.

If a comparison is made of farm and non-farm holdings by regions there results an indication, at least, of those areas with the largest amounts of commercial forest area.

For the nation as a whole the Southeast region leads with 68,494,000 acres. The South Atlantic and the Central States come in for a close second with 30,326,000 acres and 30,341,000 acres respectively. However the West Gulf region places a high third with 29,392,000 acres making the south the leader of all three regions if the total small forest acreage is of any consideration.

A comparison of regions in the major divisions brings the Southeast in the south as number one. In the north, the Central States ranks first but by not too great a margin over the middle Atlantic.

Comparison of Farm and Non-farm Small Holdings by Regions[32]

North:	Farm-Commercial Forest Area thousand acres	Non-Farm Areas Commercial Forest thousand acres	Total thousand acres
New England	6,311	13,641	19,952
Middle Atlantic	9,963	17,002	26,965
Lake States	11,954	8,425	20,379
Central States	24,943	15,398	30,341
Plains	2,960	15	2,975
South:			
South Atlantic	20,016	10,310	30,326
Southeast	30,720	37,774	68,494
West Gulf	10,107	19,285	29,392
West:			
N. Rocky Mtn.	2,682	978	3,660
S. Rocky Mtn.	1,100	204	1,304
Pacific Northwest	2,264	5,135	7,399
California	454	1,497	1,951

From Table 13, Report 3, A Reappraisal of the Forest Situation: The Management Status of Forest Lands in the United States - U. S. Forest Service - 1946.

In the west the Pacific Northwest is strongest, although the percentage of small private holdings is such a little part of the gross commercial forest area that it[13] felt it would be a negligible contribution to the free lance forester's business.

Is this the proper term?

Considering the choice of location from angles other than gross forest area and ownership brings out an entirely different picture. If the center of population is in any way related to distance to market (i.e., demand for product) then the Central States will naturally fall into the number one position. For transportation costs will be lower, there is a greater variety of manufacturers needing and clamoring for a greater variety of wood species, there is a fairly good rate of forest growth ~~for the product~~ in the zone, and there is a concentration of consumers with a high standard of living (for the nation) that want and will buy the product in the form of hardwood floors, furniture, radios, truck bodies, whiskey kegs and coaster wagons.

Considering rate of growth, which will mean to the forester a ~~constantly~~ continuously heavy return from the land he manages they, of course, any of the regions of the south will be most advantageous. Low priced labor will offset any of the disadvantages of distance to market and the ~~lack of a~~ lesser variety of consumers.

In conclusion, the choice of location is dependent upon:

1. The training, education and experience of the individual.
2. His personal desire or aptitude for a particular area.
3. The amount of commercial forest area as held in small parcels.

SIZE OF SERVICE AREA

The amount of commercial forest area a forester can manage is dependent upon a number of factors which may be grouped as follows:

1. The services the forester will offer.
2. The growth rate in the locality.
3. The average value of all products being produced in the area
4. The desires and requirements of the average land owner.
5. The type of products being produced in the area.
6. The location and requirements of the local market.
7. And others —

The influence of services offered on the size of the service area will primarily decide the geographic area that can be covered. As an example: A forester may consider himself a specialist in one field of activity, perhaps cost control. With costs being world wide subject that forester will then, theoretically, be able to practice wherever there is timber available for studies in cost control.

If a second man should desire to specialize in reforestation and his experience and education is such that it limits him to only one region, then the size of the area he can serve will be determined by:

1. The area he can reforest in one year.
2. The number of years he plans to work.

3. The percentage of unstocked land as compared to the stocked and producing land in that region.

4. The amount of business he is able to secure-

In a third instance perhaps a great variety of services will be offered with no particular specialized field. Then the size of the area will be limited by the number of tasks that can be completed annually since there will be an intensification of management on each unit of the area.

Thus it can be understood that services will influence the size of the service area to a considerable extent. It follows that size of serviced area will be directly proportional to the degree of specialization.

The rate of growth, while it may influence the size of the area to be serviced, is so closely related to the value of the product, the demand for the product, and the location of markets, that it's influence will be quite tempered. However, if growth can be considered alone it's influence will also be considerable. For instance a certain area may have an excellent growth rate which results in a merchantable crop annually, and incidentally require a forester's services each year to aid in the harvest. But a second area may have such a slow rate of growth that the marketable crop is only produced every ten years. Then a forester could manage in the slow growth region ten times the area that he would be able to administer in the rapid increment zone. Highly theoretical -

The value of the average product is a factor that will have a degree of importance comparable to that for the rate of growth. For if a forester is located in an area that produces, as an example, only aspen, he will be required to handle a greater volume of products, in order to earn a living, than if he were operating in an area producing pricipally balsam and spruce, His income will be in direct proportion to the value of the products he aids in producing and his success will depend upon the efficiency and the rate at which he keeps the products moving to the best markets.

The desires and requirements of the landowner will not only influence the extent of the service area but will also affect the monetary return to the forester.

In one area the clients may desire only to maintain a preserve type of forest, permitting the cutting of dead and windthrown trees. In such a case the forester's services would only consist of marketing a small amount of low valued product and supervisong a small labor force. On the other hand, in a second locality the owners may desire to keep their timber and land in peak production and will require the forester's services constantly in a program of intense management. In this instante the services of the forester can only be spread over the small area that he can manage annually and intensively, which will be much smaller than in the first case.

The number of products produced in an area and it's influence as a factor affecting the size of the service area transfers the role of specialization from the man to the land. In an area that produces only one species there is the constant risk of a low point in the fluctuation of demand for that species. Such an ebb point will result in a lack of employment for the forester unless he has been sufficiently farsighted to develope diversified markets. But if he were to work in a locality that contains a large variety of species with numerous markets then the lack of demand for any one product or species will not greatly influence his occupation. If the productivity of both localities (rate of growth) is similar then the forester must have a heavy volume (a large area) in the fat years of the first case to carry him through the marketless lean years. But in the second location the very item of diversification is sufficient insurance to permit the forester to maintain the size of the area at an efficient minimum.

It is not necessary to elaborate on the fact that availability and variety of markets will have the same effect on the size of the service area as does the item of species or product variety. It should suffice to remind that both species and markets can be developed in any area and such development is one of the primary tasks of the forester.

In summary these effects on the size of the service area may be expected:

1. Specialization will expand the area.
2. Diversified practice will concentrate the area.
3. A slow growth rate will require a large area.
4. A rapid growth rate will reduce the required area.
5. High valued species and products will require less area.
6. Low valued species and products will require more area.
7. A variety of markets and products will reduce the service area.
8. Specialized markets and products will increase the service area.
9. Intensified management will decrease and generalized management will increase the service area.

While the previous factors discussed in this chapter will all affect the size of the working area the entering forester, although interested in their influence, will be more interested in how many acres:

1. Constitute a complete management unit for one man.
2. Of the total available in the area can be considered as probable service areas.
3. Will be necessary to insure a profitable business.

The number of acres that can be managed is entirely dependent upon the capabilities of the individual forester, and the type of work that is carried out. The size of a ranger

district on a federal forest will frequently vary from ten thousand to five-hundred thousand acres but invariably there will be more than one person conducting it's management. If the fire control work were to be cancelled, by assuming that the time spent in that activity was contributed by all persons other than the ranger, then the latter's management service will extend over a gross average area of around two-hundred thousand acres. This theoretical district would probably have a net ownership area of fifty percent of the gross, or a total of one-hundred thousand acres. Perhaps ten persent of the net would be in water, marshland or similar non-productive capacity which a consulting forester would never be called upon to service. In addition, the average large block of forest land will contain a large percentage, perhaps thirty percent, of well stocked but immature stands that will require little work except protection and could also be discounted in any private forester's endeavors. Thus the comparable ranger district will be approximately sixty thousand acres in a total embracing area of two-hundred thousand acres.

This net management area may be found to include the following:

25,000 acres requiring reforestation.

5,000 acres of mature merchantable species.

30,000 acres of near mature or requiring some manage-

ment activity such as light improvement cuts.

If it is assumed that the district is operating with a 100 year rotation for all species and a twenty year cutting cycle then this work must be completed annually:

1. Cruise, mark, sell, supervise cutting, scale and collect payments on the harvest of 250 acres of mature timber.
2. Conduct similar activities but not as intensively in 1,500 acres of immature timber.
3. Examine, analyze, map, secure stock, hire men, arrange for tools, and supervise the planting of from 250 to 1,000 acres.

These activities would probably hold true for the first cutting cycle but after that period the entrance of the thirty thousand acres of well stocked area into the management plan and the completion of the reforestation work would change the activity breakdown.

But for the first cycle the annual management unit would be 1,750 acres of timber land and from 250 to 1,000 acres of non-stocked land, or a total of 2,000 to 2,750 acres.

This portion is highly hypothetical

If this example is to be used as a guide for the private forester then he must sell his services, in order to consumate an equal volume of business, to:

1. 45 to 65 owners if located in a principally farming community.
2. 32 to 45 owners if operating in a combined farm and other small forest locality.

One authority[1] furnishes a lead on the area of farm woodlands as compared to total farmland.

In the states of Ohio, Indianna, Illinois, Michigan and Wisconsin the gross farm acreage is approximately 117 million acres. 19.6 million acres in this same area are farm woodlands. ~~In~~ 16.8 percent of the average farm is woodland. If this percentage is taken as an average then the private forester's gross area will be between 12,000 and 16,000 acres if all of the community desires his services. But if only ten percent wishes to employ him then he must encompass a gross area of between 120,000 and 160,000 acres or area equal to four to six townships and his maximum working radius will be from 12 to 20 miles.

Other indications of the area manageable by a forester show this above estimate to be conservative.

The Tioga County Cooperative Association[1] has a membership of fifty and controls 3,000 acres of merchantable timber land. But a forester is not employed full time and many of the activities are conducted by non-professionals.

Private companies employ foresters on the basis of from one to each 10,000 acres to one for each 5000000 acres but since the duties of their men may vary from those of a crew ~~of~~ foreman to those of a company vice-president it is very difficult to draw a comparison.

The conclusions on the total area necessary for a management unit are that for a forester to state his area of activity as being a state or region indicates:

1. A high degree of specialization.
2. A lack of salesman ability.
3. Failure to realize the possibilities of intensive Management.

From all factors considered there is no indication that the "general practice" forester should attempt to cover an area larger than a county or two, and in many localities where the need for his services is great and the percentage of woodland area is high he will have sufficient business to confine his operational area to a few townships.

Such concentration of services will entail not only greater benefits to the land owner through intensified management but will also result in greater savings (larger profits) to the forester through the reduction in travel and accompanying expenses. The entire problem of service to the small woodlot owner is based on this necessity for intensified service.

SERVICES

The professional forester is in the business of doing odd jobs for the land owner. Some of the work may require large responsibility. Other activities will incur little or no responsibility but, instead, will be purely mechanical. Yet, regardless of the relative importance of the various tasks this work will be in the same category as any other service business. The forester is, to the land owner, another (tradesman) practicioner whose worth is only dependent upon the results.

It is important to keep this fact in mind when considering the services to be offered. For what the professional may offer initially will not always be included in the land owner's desires. Forbes's advice on abilities is excellent: "Adapt one's thinking to another person's point of view". And this ability will be the keystone of the forester's list of services.

Previous remarks have brought out the effects of specialization. Basically it will increase the operational radius, and will tend to be detrimental to both agent and owner. J. A. Cope[5] reports a trend that fails to favor such lack of diversification. He says, "The trends are definitely and soundly from general education to specific services, and fromthe extensive area of a whole state to the intensive area of a subdivision".

This trend, it is hoped, can be interpreted to indicate the profession is finally working into a ~~social~~ socio-economic niche, and is finally diverting it's efforts from the ~~paper~~ realm of theory and aiming them at the concretness of field practice. And if Cope is correct then the "intensive area" can result only in giving the land owner specific services in as many activities as possible. Not, in giving specialized service in only one activity.

G. R. Phillips[15] also reports in a manner that is just as heartening as Cope's. He observes, "There is developing a recognition on the part of the farmer that it is a paying business ~~to~~ something ~~to~~ obtaining advice and assistance from foresters". While Mr. Phillips believes this recognition is developing too slowly and favors public assistance, there is also the fact that any incubees of a belief must be given some encouragement before it will grow to maturity.

Mattoon[12] contradicts Phillips rather effectively: "The preponderance of public foresters bodes ill rather than good for the profession. (There is) A need for private foresters ----- to demonstrate that forestry does pay, that the profession is worthy of free enterprise and doesn't need to depend upon subsidies for it's existence".

Reynolds[19] sides with Mattoon when he also observes: "Services given as a government subsidy do not carry the same respect as when paid for by the recipient".

Thus there seems to be some indication that:

1. Specific services are needed.
2. Specialized advice is no longer required in the amounts in which it has been furnished previously.
3. The land owner will pay for services.
4. The profession will respect the efforts of the general practioner.

There yet remains the question: "What specific services should the forester offer".

Westveld[25] makes a good analysis of farm forestry activities which is also a logical breakdown of services for any small owner. He lists:

1. Silvics and protection
2. Mensuration and Management
3. Utilization and Marketing.

Generally, services as given by a forester will fall under one of those headings. If they are broken down further into:

1. Silvics
2. Protection
3. Mensuration
4. Management
5. Utilization
6. Marketing

it is possible to clarify their value as individual activities.

The science of silvics constitutes the knowledge of life, development, and requirements of the various trees.

The accomplishment of any service without such background knowledge would be impossible, except in mechanical, non-professional activities. The knowledge of silvics will not often be salable. It's influence on other services will be such as to increase their value.

Protection work will naturally embrace the activities in connection with fire, insects, and fungi. To these three the forester may add, especially in the case of non-resident owners, a fourth: protection from theft or general trespass.

This latter activity may be an entering wedge for the opportunity of selling other services. Such work, in most localities, involves little expense and can be accomplished by periodic checks of ~~its~~ the property, knowledge of adjacent cutting operations, and acquaintance with the habits of those local persons who may be inclined to work across a property line. To the non-resident owner such protection is another form of insurance, and every property owner is acquainted with the necessity and the value of such service. Too often timber trespass is treated lightly, if at all, by law enforcement officers. Frequently, in the sparsely settled areas, it is a physical impossibility for public officials to guard against such a property loss. But the forester, with his acquaintance with timber types, land subdivision methods, and property lines, and with his training in viewing all cutting operations critically can often locate and even prevent

timber or property trespass. As an introductory service it could prove a good form of advertisement, would cost the owner a negligible amount, and would incur small expense on the part of the forester.

Protection from fire in the farm lands of the Central States is not a great problem nor a service that could be either easily or profitably carried to completion. The scattered condition of the timberland, interspersed with roads and cultivated fields, would make fire protection primarily a business of fire prevention.

In the various regions and timber types foresters should be able to determine the need for specific services. As an example, the clearing and maintenance of fire breaks in the pineries of the south, would be a possible fire protection service that could be initiated in that region. In the north both state and federal protection forces have almost completly taken over the fire protection problem in those sections where it is necessary. As a result the maximum service a private forester could offer there would be to assure the owner he would augment local protection to his fullest ability with labor and quick action on any fire threatening that client's land. But it would be very difficult for the average forester to assume full responsibility. The reason for this difficulty may be found in a comparable activity.

Fire protection in cities or suberbs is always a public function. But such work does not prevent a plant or a home owner from providing his property with extinguishers, a sprinkler system, or removing accumulated waste or debris. Yet that owner and his neighbor realizes fire to be a public menace and can be best controlled by an agency of the public. A similar condition exists in the rural and forest areas of the country. Private individuals with small holdings are unable to maintain, and private foresters, operating in scattered holdings can not profitably offer a complete protection service.

Protection from insect and fungus damage brings up a similar field of endeavor for the forester. With the high cost of spraying equipment and labor, either by air or ground work, it is difficult to imagine any complete service being offered. Insect epidemics will require specialists and it has been agreed that the private forester is needed more as a general practioner. The best he can do is watch for and report incipient outbreaks. Then, if the owners can underwrite the cost, he will call in a specialist for advice, followed, if necessary, by proper suppression methods. However, with his knowledge of silviculture and by proper management of the stands he serves he can do much to prevent damage from either insects or fungi.

Trespass protection, out of all the protection services, is the only one showing any possibility of paying it's own way. the other activities can be sold under a loss leader plan or, infrequently, as specialist functions.

A list of private foresters who operate their own business will show a preponderance occuppied in mensuration activities. This is undoubtedly a result of both client requirements and individual forester inclination.

Cruising and scaling are the two main diversions of mensuration activities. A third, lumber grading, has good possibilities and considerable demand when in a locality containing a number of small saw rigs.

These services are principally salable in connection with harvesting methods. The old admonition "'Tis better to give than to receive" holds true in many instances of modern life but is not too common in business dealings. It is human nature to be very much interested in what is being received. Thus a seller, if barter is not the basis for exchange, is only interested in the amount of money he receives. If he is selling a number of products, then he understands his product must make that money for him and he will develop an interest in his product but not to the detriment of his profit. The buyer on the other hand, is not only interested in the money he is exchanging for the particular product, but also in the quality,

the quantity, the durability, etc., of that product since he also must make a profit on that product either in money or enjoyment. As a result this much must be remembered:

1. The seller is interested in money first, the product second.
2. The buyer is primarily interested in the quality, the grade, the characteristics of the product, and how it will meet his requirements.

These rules will be found to hold true in the selling of mensuration services. It will be the woodlot buyer who desires an accurate cruise, since his profit will rest in volume as compared to price. It will be the contracting jobber who will be interested in a good scale since he will be paid by the volume he cuts. And it will be the mill operator who is most interested in lumber grade for he will gain his profit in the best quality lumber.

In working on this problem in Washtenaw County, Michigan, this truth came to light many times. It was the mill man who greatly desired a lumber grader, it was the timber buyer who wanted cruise figures, and it was the log jobber who wished he had a good scaler. Only in one case of fifty contacts was there a land owner who was interested in a cruise of his timber.

In continuing on this same thread of thought, the average small land owner has little concept of the volume or value

of his timber. If this were not true there would not be so many instances of woodlot timber being sold at prices from one-tenth to one-half of it's value. Neither has the owner any great understanding of how that value either accrued or can be determined. Timber is a crop that grows and increases in volume and value regardless of whether it has help from man or not. Consequently, having given it no aid, the owner believes he sells such a crop at a clear profit. There is a conscience factor in selling an article at clear profit value that creates a handicap to the thinking of the selling party. Mankind trains it's members to believe that all money gained will only be that derived from work, that those who do not work will receive no money. This handicap, understandable or not, will frequently prevent a farmer from bargaining for every dollar his timber is worth. On the other hand when selling an animal he has raised, fed, and developed to full maturity it will be guarded as closely as gold and will be sold after a full investigation of all comparable prices, although it's worth will not be one percent of that timber crop.

Consequently, the first problem in serving the small owner is not in getting him to understand the value of his timber through a cruise and an appraisal, He must be coerced and led into investing, either labor or cash for labor, in improving and developing that land. Once he has thus invested he is under an obligation, to society principally, to himself

through the effect society has upon him, to get that investment back at a profit. After this has been accomplished there will follow the selling of a cruise, a scale, a tree grade valuation appraisal.

Regular business men need no such a spur from outside sources. The driving power and incentive is the heart of their enterprise. Investment and resulting profit is their basis for operation, Hence, the reason for the millmen and others being interested in learning the volume, the quality, the value of the product.

Thus the field of mensuration service will play only a minor role in the services to be offered initially to the landowner. But after establishment and with a good clientele developed it will be the entire core of the business.

Management, like mensuration, must first require a real investment on the part of the land owner. But management will differ from mensuration since it's activities will not be entirely connected with the valuation of an end product. There will be a better opportunity to develope that initial owner investment back into the land. Management services can begin with the bare soil and progress through all of the steps from planting, release, thinnings, liberation and improvement cuts, to the final maturity cut.

Planting, as a management activity, bears ~~the~~ considerable promise as a step towards getting the client interested in the welfare of his land. In the contacts in Washtenaw County, the one farmer who felt he should have the cruise figures on his woodlot had, each year for the past ten, made a practice of taking natural seedlings from the denser parts of the stand and used them to fill in understocked portions. Through such a labor investment he had developed an interest in the condition of his stand.

A second owner, who had no woodlot, was much interested in having seven acres of pasture land planted to conifers. He felt the lack of a woodlot on his place was a detriment to it's value. A third, non-farming commutor from Detroit owned an overaged stand of six acres. He did not desire a cruise nor to harvest the decadent individuals trees. But he did have twenty-three acres he wanted tp plant in trees and was also very proud of a short, thin, pine windbreak.

In Florence County, Wisconsin, while doing part time work on the subject, the same fact appeared. One group of non-resident owners had 260 acres of land. They wished to plant twenty acres each year although much of it was already well stocked with young hardwoods. Again, a resident owner had forty acres of brush land and wanted aid in choosing the correct stock with instructions on how to plant it.

There is some indication, undoubtedly the professsion realizes it's presense, that the public believes forestry to be made up of the following:

1. Fighting enormous conflagrations.
2. Planting little pine trees.
3. Taking care of the animals in the forest.

A number of them haven't figured out yet how foresters spend their time in the winter.

But if such an understanding of forestry is prevalent there is no need to force down the owner's throat a plan that aims only at the management of a near mature or mature stand. If the owner should desire to improve the land through planting then that is the service the forester should give him. Quite frequently it will be necessary to ignore the woodlot until there is an opportunity to draw a comparison between the initial and complete stands. Meanwhile, planting, as a unit of management services, will prove most valuable in securing the client's early appreciation of service values.

Proper utilization of woodland products is primarily a problem of the resident owner. Living on the area he can visualize many uses for his timber but cannot always determine the best or most profitable use. It was a common practice in the Washtenaw woodlot to find owners cutting handle stock ash and hickory, high grade oaks, and even veneer basswood into prod-

ucts for farm use, principally fuel wood. There was no lack of market, there was only a lack of understanding of values. Fence posts came from such high quality trees as ~~were~~ did studs and sills for chicken coops, hog houses, and stock shelters. There is no doubt that the farmer maintains a woodlot for his personal use. The woodlot is a tool of the farm. The need for lumber and wood products on the farm is quite great. However, the farmer tends to place farm use over any other use and consequently often will lose the profit on a cash woodlot crop. The farmer would no more think of burning good grain in his kitchen range than he would consider slaughtering a good milk cow for home meat. Yet he will persist in converting number one logs into fence posts or fuelwood.

To secure proper utilization will require the intensive education of the resident owner as to values. But education is not a marketable service. No owner will pay a forester for coming out to his home and lecturing to him. And very few will pay him for a list of log grades and current values. It is claimed, and rightly so, by public agencies, that education (extension work)is their function. But such organizations do not reach every owner nor is there any indication that they will ever be able to do so.

As a result of these conditions the professional forester is faced with the problem of proper utilization from the very beginning. He can little afford to spend working hours on

nonppaying extension work. Yet if he doesn't acquaint the owner with values and grades he will be forced to stand sadly aside and watch timber proceed to a low quality use.

The private forester has but one course to follow. His extension work must be developed through service. If he is able to interest the owner in his timber land through planting services, as previously suggested, he is one step towards getting him equally interested in utilization service. But there will be many owners of good timber who will neither require nor wish planting work. In Washtenaw County approximately eighty percent of the contacts classified in this category. Not one of nineteen owners (out of twenty-five contacted) desired a management service consisting of cruising, marking, and marketing. Yet these persons were almost entirely proticing low grade utilization. If such people are to be educated through service, then first a service they desire or one they receive unawares must be found.

To determine the service the owner desires will often require a good knowledge of human psychology. There is no group selling point that will sell to all. Owners are people, and as people differ, they will differ individually. Good salesmanship will be required.

To give such owners a service of which they are unawares will run the risk of:

1. Affiliating the forester's reputation with that of outside interests.

2. Time expenditure without reimbursement.

But, as previously described, it will be the timber buyer who will wish to learn the volumes, the millman who will want the grades determined. So it is suggested one method of securing better utilization would be to follow this practice:

1. Request owner's permission to cruise his timber.
2. Cruise the area.
3. Prepare a volume, valuation and grade estimate.
4. Inform the owner as to possibilities of area.
5. Attempt to secure his agreement to the forester acting as his agent on a commission basis.
6. If step five fails, offer the cruise and valuation figures to buyers, millmen, and jobbers.

Perhaps the last measure could be accomplished by using a periodical news letter to prospective buyers. In such a letter the location of the timber, volumes, values, grades, owner's name and address, logging conditions, and quality of timber could all be listed. Such a letter might be operated on a subscription basis and as an owner clientele developes could also be used to advertise their products.

In this manner it might be possible to secure sufficient outside interest to increase the owner's awareness of the product values and in turn divert the timber flow into higher priority use.

There is little question that such service is desired by the timber market. The Timber Production War Project proved the advantage of a timber locating service both to the consumer and the owner. During the study of this problem of small woodlot grpup manangement questionaires were sent to thirty consumers. Twelve replied in part. Of these twelve, eight indicated they would buy any logs or stumpage available. Their only question was, "Where is it"?

Marketing timber products developes into a middleman function, comparable to the auctioneer, the real estate agent and similarly related occupations. Such work requires knowledge of consumer and producer needs and requirements, product values, and costs, advertising methods, business law, and salesmanship.

Westveld (25) was correct in grouping utilization and marketing as one activity. The two are very closely related. It is through proper marketing that good utilization will be secured and it will be market demand that determines the most profitable and complete utilization.

The West Virginia Forest Products Association (1) employs a land manager whose major services, upon study, is a marketing function. His duties are:

1. Make contacts with wood using industries.

2. Arrange with contractors for logging and hauling.

3. See that all cutting is done by proper forestry practices.

4. Drawing up cutting contracts as approved by the owner.

T.P.W.P. was also primarily engaged in marketing activities. The prime objective being to insure the flow of as much timber as possible into the best uses as possible.

E. B. Moore,(3,4) in reporting on private forestry in New Jersey, gives a list of the state certified timber agent's duties:

1. Make appointments with interested lumbermen.

2. Show buyers over area (separately), usually providing the transportation.

3. Solicit written bids.

4. Take all bids to the owner and aid him in determining which one is most satisfactory.

5. Draw up contract and bring the buyer and seller together to sign it.

6. Obtain performance bond from the logger and turn it over to the owner.

There follows as additional nine duties covering supervision of cutting. As Moore explains, these agents were developed for the primary purpose of helping owners through unfamiliar process of handling timber sales.

John F. Preston[16] goes so far as to develop a plan for farm forestry that devotes an entire division of effort to marketing and utilization. He terms it the "third level" of assistance and states that it should consist of: "Specialized technical help on how to make the most money from forest products". His levels one and two cover the integration of forestry with other farm work and technical forestry assistance, respectively.

Sawyer[24] believes farm forestry to consist of just one activity. He states the problem to be one of the forester realizing:

1. The farm foresters must become farmers.
2. They should recognize forestry to be utilization and marketing.
3. Only simple management plans for the farmer should be prepared.
4. Farmers cannot operate or understand long cutting cycles.

The concensus of opinion on aid to the small owner is that there is great need for assistance in utilization and marketing. The efforts of most public and even some private organizations are in this direction. It follows that the professional forester will be required to provide service in the same field. There is only a small chance that such service will prove unprofitable. Bruner[26] in his survey of farm owners

in South Carolina listed 47 out of 67 as desiring the "services of a forester in marking, measuring, and marketing". And 50% were willing to pay for this assistance. He goes on to observe that after a few good examples of service most other owners would also be willing to pay.

At the beginning of this discussion of utilization and marketing it was stated the major problem lay with the resident owner. It should not interpreted, however, that there is no problem with non-resident owners. The latter will also tend to make poor use of his timber for the same reasons as the resident owner; namely, ignorance of values, small volumes, depressed stupage prices resulting from a lack of marketing ability, and the frequently, sudden need for ready cash. However, the non-resident owner as a result of his very investment in the land for recreation, speculation, or other purposes is more inclined to secure as much revenue as possible from any production methods that will not conflict with the primary use. And if good management will increase the revenue the non-resident owner is more liable to realize such an advantage than is the resident owner who has a difficult time weighing the desire for revenue against the desire to make a personal use of the products.

Each owner, regardless of classification, will have to be sold on a service. Few will come to a forester's door seeking aid. But the non-resident owner will require a greater variety of services, will tend to understand the need for services, and will tend to be an entirely better prospect than the resident owner who has lived with his woodlot for so many years that the possibilities have dimmed along with his perception of it's value.

FEES, FINANCES, AND EQUIPMENT

In the Saturday Evening Post, issue of February 15, 1947 Alva Johnston, author of an article entitled " Hot Documents ", makes a statement that points up the problem confronting the new professional forester. He says:

> "All young professional men are divided into two classes - those who know how to charge, and those who don't".

What to charge for services is a question that will bother every forester. There are so many methods, perhaps

1. The job fee.
2. The day rate
3. The unit rate
4. The percentage fee

and even others. But which one to use or when to use any of them will require serious thought. With one owner only one service may be provided, with another perhaps all items of management will be covered.

Before beginning the work these items must be determined:

1. What is the net income desired?

2. What are the costs of equipment to be used?

3. What is the servicable life of that equipment?

4. How long will the initial deficit period probably last?

5. What are the overhead costs other than equipment purchase and replacement?

Salary desire will have as large an influence on fees and and rate of pay as any other item. If a forester, recently graduated and having little experience, enters the work he cannot wisely expect to receive as much money as a man thoroughly trained and experienced. Other factors, such as willingness to sacrifice acertain amount of income for the freedom of being in a personnally conducted business, will also influence the salary desired.

But once the rate of pay is decided upon then the base of service fees has been laid. For instance, if a forester desires a take home pay of $4000.00 before taxes he has set himself a goal to work towards and can also begin to calculate costs. This amount must be derived from actual service fees, and, in addition, must be the sum remaining after all expenses have been paid.

Volume of service fees received will depend only upon the amount of time expended in giving service. For the purpose of illustration let us assume the following probable costs and determine a fee rate.

Perhaps the forester desiring $4000.00 annually will budget his time, based on a 40 hour week, 50 weeks per year, in this manner:

Office time, 30% of total		600 hrs
Service duties 60%	360 hrs	
Advertising, etc 40%	280 "	
Field time, 70% of total		1400 hrs
Travel, 20%	280 hrs	
Service duties, 60%	840 "	
Contacts, advertising, 20%	280 "	

In such a case there is a total of 360 office hours and 840 field hours that will return a service fee, and a grand total of 60% of the total hours available. From this service time there must be derived $4000.00 plus all expenses.

After some thought the forester may list his expected

expenses as follows:

Annual	
Car travel, 10,000 miles @ 8¢	$800.00
Postage, stationery, &minor supplies	100.00
Phone rental	30.00
Miscellaneous field & clerical help	100.00
Total	$1030.00
Equipment depreciable in five years:	
Car	$1200.00
Field equipment	200.00
Total	$1400.00
Residual value 20%	280.00
Balance depreciable	$1120.00
Average annual investment[38]	$ 952.00
Equipment depreciable in ten years:	
Typewriter	$75.00
Desks, chairs, files, etc.	$225.00
Total	$300.00
Residual value 10%	30.00
Balance depreciable	$270.00
Average annual investment[39]	$178.50

Total average annual investment		$1130.50
Percentage set up as a yearly charge	10%	113.50
Total yearly charge		$113.50

Summation of expenses:

Annual	$1030.00	
Depreciable	113.50	$1143.50
Salary	$4000.00	$5143.50

Thus, with a gross desired income of $5,150.00 the hourly rate for service on the basis of 1200 hours per year would be approximately $4.30, the day rate would be around $35.00, and the contract or unit rate for individual jobs could be determined easily after a study of the time required for each.

This roughly estimated day rate of $35.00 approximates the recommended charge of $25.00 to $50.00 for consulting services as reported by the New York section of the Society of American Foresters. Their study also furnishes a formula for for determining the day rate: divide the average annual income for the last few years by 200, and multiply by a factor of from 1 to 2 as dependent upon reputation and ability. In the above illustrative case this would indicate the forester had a factor of 1.75 and would be better than average but not

at the top in ability and reputation.

The New York section report also furnishes some good advice on the day rate:

1. To be used when irregular work is to be performed or when the scope of the work can not be clearly surveyed in advance.
2. It is suitable for preliminary conferences, following which some other form of payment can be agreed upon.
3. It is not to be used if advice is sought upon matters having major financial advantages to the client. Such cases should be based on a special fee.
4. It is not advisable to include the cost of assistants in the charged day rate. When such help is required a special per diem rate should be made. The per diem rate for assistants who are graduates should not be less than $12.00 .
5. Travel time should be charged for in full or at a predetermined rate.

The job or lump sum rate can be based, as previously observed, on the day or hourly rate, and on a study of the

time required to do the work. For the small owner who is accustomed to paying laborers by the day or hour, but hiring professionals such as doctor, lawyer, dentist, or house painter on a job basis, the lump sum method will frequently prove most attractive. In Washtenaw county contacts, while cost never appeared as a influencing factor, owners indicated more interest in proposed services when estimated cost was given on a job basis than when it was stated in unit (per MBM or acre) terms.

The New York section report gives these reminders for the professional to consider in determining a lump sum fee:

1. It is based on the day rate.
2. Estimated cost of assistants and stenographers should be increased 50 to 100%.
3. Travel expenses should be at the actual rate plus a 15% margin.
4. It will include:
   a. The fee for professional services
   b. The charges for field work.
   c. The charges for office work including overhead.
   d. The charges for travel expenses.

5. The advantages in its use are:

   a. It is very good for use with public agencies or corporations who must work within limits in accordance with specified budgets.

   b. It is satisfactory with those clients who like a clear knowledge of costs involved in a job.

   c. It may stimulate efficiency on the part of the forester.

In the previously given illustrative example of determining day rates travel expenses were included as a part of the fee. However, it must be kept in mind that such an example was based on the work available in an intensively covered small area. With such a short radius of travel, expenses will not be as highly variable as in the case of the specialized consultant considered by the New York section in its report. The expenses will closely approximate fixed charges, and, for all purposes, could be well calculated along with the day or hour rate as was indicated.

The unit fee will have many advantages of use in working with the small owner on single service operations. For instance, if the forester receives a query concerning his charge for scaling on an area where he has provided no previous service he would have the alternative of quoting a day

or a unit rate. In the use of the former, and if the forester wished to maintain his predetermined level of income, the charge of $25.00 to $60.00 per day would not only sound unreasonably high but might also be a prohibitive cost to the average small client. However, a unit rate, based on knowledge of unit costs and on good planning of time can be low enough so as to be within the reach of any client.

Assuming the forester's desired gross rate must be approximately $4.30 per hour then his unit rate will be influenced only by his rate of production per hour.

In scaling this production rate will be influenced by:

1. Average diameter of logs.
2. Percentage of cull.
3. Scaling conditions (whether logs are in woods, in small decks, in large decks, or being hot logged).

If the logs are large, perhaps 9 or 10 per MBM with small amount of defect and so located that they can easily, with a minimum of effort, be analyzed, then it would be quite possible to scale 400 to 500 per day or between 50 and 60 MBM. Therefore his rate on an eight hour day would be about 70¢ per MBM. For timber averaging a stumpage value of $30.00 per MBM this would amount to less than 2½%.

However, such optimum conditions and high quality timber will not be frequently found. It would be more usual to have logs that averaged 15 or even 20 per M, with 25% cull and presented for measurement in such a manner that 300 per day would be all that could be measured. Then the rate per day would be between 11 and 15 MBM, say 13 average, and the fee per MBM would raise to $2.65. If such timber yet averaged $30.00 per MBM, stumpage value, this fee would amount to less than 9%.

Comparing such estimated unit fees with figures from various sources brings out a fairly close approximation.

The Tioga County Woodland Owner's Cooperative as reported by Solin charges 3% of final delivery price at the mill for cost of scaling and record keeping. Such a figure if applied against the stumpage value rather than the final delivered product price would be close to 5% of the former.

Other figures quoted are not broken down but on the basis of percentage fees stated as running from 5 to 10% of the final product price at the mill to cover marking, scaling, supervision, and marketing it is apparent that the illustrative example figure of 2½% to 9% of stumpage value will be about average.

It should be remembered that scaling is basically a mechanical operation. Regular scalers in northern Wisconsin rarely

receive more than $1.00 per hour. Consequently, the forester would be wise to train or employ a reliable man to handle such time consuming jobs. Such employment of others for the lower calibre work will not only increase the profits, providing he works on a cost plus basis, but will release him for the more technically demanding work.

Unit fees for other activities can be calculated by the same method as those for scaling were determined. However, the cost of marking and cruising would be better set at an acre basis than a MBM unit. One danger of working on a per MBM rate in such activities would be to run the risk of criticism from the client, dissatisfied customers, or competitors, that a heavy cut or cruise was the result of desire for additional fees rather than a result of the silvicultural demands of the stand.

The base cost of a per acre analyzation will be the time required to walk over one acre. As an illustration: If a Forester estmates from experience that the average stand requires ten minutes to grade and tally a fifth acre plot then he will be able to cover an acre in fifty minutes. But locating. miscellaneous observation, walking, and perhaps even an occassional rest will consume at least another ten minutes. So his total cruise time will be about one hour per acre.

Assuming he has a small area of 20 acres to cruise in which ten percent accuracy will be sufficient he can use the following formula:[31]

$$N = \frac{100\ A\ (f)}{A + 20\ (f)}$$ where

N is the number of uniformly spaced 1/5 acre plots.

A is the total area of tract in acres.

f is the timber stand factor.

If the stand is uniform with medium stocking then f will equal .6 and

$$N = \frac{100 \times 20 \times .6}{20 + 20 \times .6}$$ or 37 plots.

Thus the area will require $7\frac{1}{2}$ hours of his time and his cost fee for cruising should be $\frac{7.5 \times \$4.30}{20 \text{ acres}}$ or about \$1.65 per acre. If the stand runs 5M per acre then the average cost to the owner would be only 33¢ per MBM or on \$30.00 timber would amount to about 1% of the stumpage value.

Similar examples can be worked out be the forester in advance in order to have ready cost estimates available for the purpose of quoting to interested clients. For larger tracts the per acre cost will be much lower. As an example it can be assumed the forester has the opportunity to cruise a 300 acre tract of uniform, medium stocked timber and 10% accuracy id desired.

F = remains at .6

A = 300 acres

Then

$$N = \frac{100 \times 300 \times .6}{300 + 20 \times .6} = 58 \text{ plots or about 12 hours.}$$

And his cost will be:

$$\frac{12 \text{ hours} \times \$4.30}{300 \text{ acres}} = 18¢ \text{ per acre.}$$

On a stand averaging 5 MBM per acre the cost will be about $3\frac{1}{2}¢$ per MBM or roughly .1% of $30.00 stumpage.

These examples of estimating costs do not include office costs for detailed appraisals, but by the use of cumulative volume tables as are available for most localities such office time can be reduced to a small percentage of the total. It must be remembered that this example was for only one unit of service. If the client desires additional services such as a five year cutting cycle management plan, then the office time will possibly equal or even exceed field time. There is no set formula for determining such costs without knowledge of all conditions and requirements.

Gaines[2] in describing the forest credit program in the south states that the land owner is charged from one to ten cents per acre for a cruise. The timber owner gives twenty cents an acre for mapping and an additional sum for cruising in the work of the New York Otsego Cooperative as reported by Solin.[1]

It must be remembered in working in a small area such as a county that the forester's clients are frequently well ac-

quainted with each other and will soon learn of any charges that appears to be inequitable. Consequently it would be wise to secure all information possible concerning woodlots in the area and predetermine a unit fee, with a safety margin included, before quoting prices to the individual prospective clients. In that manner the risk of criticism resulting from a low per acre fee charged a large timber owner and a comparatively high charge to a small woodlot client would be avoided.

Marking will have to be handled much on the same basis as cruising. While the volume per acre to be marked may influence cost it will not be as large a factor as might be imagined. In a twenty acre old age stand on the Nicolet National Forest this year a total volume of 36 MBM was marked in four man hours. An additional hour was necessary for the office preparations and summation work and one hour for travel was incurred. This was about a 15% improvement cut with marked timber having an average stumpage value of $20.00 per MBM. Thus $720.00 worth of stumpage was marked at a cost of (if the illustrative rate of $4.30 per hour is used) $25.80 or 3.6% of the total value. On an acreage basis this would be $1.20 or for an MBM figure would only be 72¢. If this same area were to be cut heavier, the same ground would have to be covered, the same travel and office time would be incurred and the only additional cost would be that resulting from the time necessary to place the cutting

marks on the additional trees. Regardless of density or condition all trees must be considered in marking a tract and whether 15% or 30% of the trees are to be marked will make very little difference in the costs.

For this reason a per acre unit fee could be more readily maintained than either an MBM or percentage fee, and could also be better used as a basis for estimating total costs when more than the marking service is to be furnished a client.

Solin[0] reports a charge of 50¢ per MBM marked as the rate charged members of the Tioga County Woodland Cooperative. The Otsego[0] Cooperative charges 10¢ per acre for marking but it is difficult to believe that such a low figure covers the cost. The percentage or commission fee must be used when the services include intangible work such as selling, prospectus preparation, and supervision of the cutting.

The West Virginia Forest Products land manager's duties as reported in chapter entitled "Services" are a good example of intangible services. However, he is paid on a per acre basis, receiving $2.00 per acre each year.

The New Jersey State Timber Agent,[a,c] as reported by Moore, in addition to the six duties listed in the "Services" chapter, carries out an additional nine including woods supervision,

scaling, trespass protection and penalty assessment. For this work he receives a commission of 10% based on the stumpage value.

The Forest Products Association, Inc., Grouton, N. Hampshire,[1] charged producers 10% of product value and also received 3% bonus from the consumer. Since reroganizing they receive a fee of 50¢ per cord from the paper mills.

The New York Committee Report[39] on charges for professional services believes the percentage rate should be between five and ten percent, But the committee members qualify this by stating the fee must be based on the size of the sale and the amount of work involved. They also believe it most usable in marketing, either forest products or properties, but it can be used also when acting as a buyer. They feel that the persentage fee should never include travel and living expenses which should be charged to net cost.

It is difficult to correlate this latter statement of the committee with the work of the small, intensified service agent. Travel and living expenses will be properly chargeable to many clients and to keep separated costs would incur more time than advisable to expend. Of course in cases where a major undertaking requires long distance travel and expense, it would be quite necessary to charge the client accordingly.

In conclusion, the percentage fee will require considerable experience on the part of the forester with the unit service costs, will depend upon unit costs, product value, and expected service value. It will lend itself more readily to large undertakings than it will to smaller ones, and the forester using it must be well informed on what the client will be willing to pay before he quotes his rate.

In all this discussion of fees, finances and equipment there is one item necessary for success and necessary in order to gain the standing of a professional. At the beginning of the chapter a quotation was used that was based on "how to charge". To this knowledge should be added an additional "when to charge". As a public forester the professional has been subsidized into giving free advice. When in the employ of a private organization there is little concern over the dissamination of gratuitous advice. But now the forester is entirely on his own and free advice will neither result in his feeding well or placing clothes on his back. He must learn how to charge and when to charge, not only for services, but also for advice.

In this respect the professional foresters responding to our queries did not advise the maintenance of an office other than that which could be fitted into the agent's regular home or living quarters. Their primary reason was one of cost. The regional specialist might very well follow such a practice

since few of his clients will call personally upon him. But the main indications of a successful professional are two:

1. A professional manner.
2. A professional atmosphere.

In a home or living quarter there is no chance to develop either attribute. The habit of society is to provide hospitality in the home, rather than to settle money matters. A visitor will tend to act as a guest, not as a customer. And the forester will tend to treat him as such - to the considerable loss of each.

For these reasons, although we appear to stand alone, it is felt the maintenance of an office, with regular office hours or days, is an aid and a necessity in not only deciding when to charge but also in helping the client to feel he is receiving full value for money expended.

A second item, so common as to be overlooked in all but one query response, but certainly important enough to bring to the forester's attention, was advanced by John F. Kellogg, a practicing consultant located in Louisiana. He advises the serious importance of a substantial car, in good condition at all times. This is necessary not only for assurance of reaching the job and returning, but also in maintaining a professional appearance. During the initial contact with a prospective customer he can only be guided by appearances. It is not being intimated that the forester should drive an expensive,

showy car, but he should have a method of conveyance that suits the locality and matches the customs of similar men in the community.

The period of initial deficit will be influenced by every item so far discussed plus a few more such as presence of competition. Kellogg says he operated the first six months in the red. Two of the farm foresters believed it would require two years to work up a paying business. Remember Forbes .. believed a man of only average ability and experience could never make it profitable. And there is one consultant working who was operating at a profit , plus hiring men to help him, less than a year after leaving private employment.

So from all of these indications it is probable the deficit period will be no less than six months and no greater than two years. During this time the forester must be prepared to not only to house, feed, and clothe himself and dependents but also to operate his car, pay for advertising, buy miscellaneous supplies, and live in a normal, sociable manner. Depending upon the community in which the business is located, this period will require assets, aside from regular equipment, of from $2000.00 to $5000.00 with the former amount being an absolute minimum.

PUBLIC RELATIONS AND ADVERTISING

If the public forester turns professional he will immediately be faced with the startling size of the selling job. Undoubtedly he had to sell a few ideas to his employer when he was working on a salary basis but his actual livlihood did not depend upon how good a salesman he was nor how many ideas and jobs he convinced his boss were absolutely necessary for the welfare of the organization.

His rate of pay was dependent upon his efficiency as a manager, his ability in research, or his results in the application of forestry.

Now, in this new profession, he will have as many employers as he will have clients and his rate of pay will depend upon his success in selling those employers an idea, or two, or three, at first, then selling them on the benefit of the results later since it will be repeating customers who will be his business strength and not successive new ones.

This selling job will be a constant one, only diminishing in intensity after a market is thoroughly secured and even then it will be results and advertisement of those results that must be kept in the minds of past and prospective clients.

The "professional manner and atmosphere" spoken of in the previous chapter is not only an aid to the procuration but is also, and by repetition it is underscored, a wrapping that aids in selling the product.

The professional atmosphere should include diplomas, professional society membership certificates, open display of tools of the trade, leaflets explaining services, professional books in the background, forestry periodicals, photos of timber stands (preferably with the forester clearly discernable), log cross sections, wood utilization displays and anything additional that will impress upon the client that he is being served by a recognized, authoratative member of the profession.

The professional manner should, first of all, be businesslike and while unaffected, should take every opportunity to use professional terms either in discussion or in correspondence. To draw a parallel: a doctor rarely calls a cold by such a common name. He is trained to recognize such a condition as "a respiratory infection" and he will use that term whether he is discussing it with another doctor or with a patient. Similarily, the forester should utilize his professional training and use the terms such as "duff" or "litter", not just forest floor, or refer to colloidal content present, a release cutting, a harvest cut, a stand growth analysis, and a mensuration service. If the client would rather go to the library

and look up the meaning of such terms at least there is little doubt he will be impressed by all the background there is to forestry, and that he was not dealing with a clean shaven but common lumberjack.

Secondly the professional manner should carry confidence as to results, ability to produce, and knowledge of methods. A fourth confidence that goes well with a professional manner, is the one that intimates firm belief in the clients ability to pay. This latter tool of selling is so common it is frequently overlooked. But to give an adverse example: What is the personal reaction of the average citizen when he is asked by the desk clerk to place a deposit before being shown to his room in a hotel? Such action bespeaks lack of confidence in the customer and as a result dispels any confidence the customer may have in the product or service he is purchasing. And yet this latter characteristic of the professional manner should be based on a sound inquiry into each customer's standing and rating AND should not be followed blindly to a possible sad indebtedness.

While the forester is making inquiries concerning clients he may rest assured that he will be investigated in a like manner. In the chapter entitled "Choice of Location" mention was made THAT personal like for a particular location would have particular influence in it's choice. This desire to locate in a familiar

area can be turned to a good advantage by the forester. If he has developed a good reputation in other work in a particular area the resulting good will of the public and his friends will prove a decided aid in his new undertaking. However if he should choose to locate in a region where he is totally strange, and in addition, to be offering, as he will be, a totally new product, the difficulties of selling that product will not be overcome until the buying public has personally proved his reputation, watched others test his product, and has become accustomed to this stranger in it's realm. Mankind still retains sufficient atavistic traits to tread cautiously around anything unfamiliar, whether it be a new face or a new method. The professional forester will reduce that initial deficit period considerably by planting the seeds of his business in a soil that is most readily available to the helping hoe of friends and acquaintances.

The professionals responding to our queries had various ideas concerning the advisability of advertising, ranging from a belief that it was not necessary and unprofessional, to the firm stand that it was as important as two legs in getting and completing the work.

While the work is of a professional nature there are no good reasons advanced to support the idea that advertising would reduce professional standing. The doctor, the lawyer, and the

dentist rarely advertise for the plain reason that their services are required as a result of mankinds physical or social difficulties. The forester will have no such outside forces driving trade to his door. He must acquaint each land owner with the fact that his timber will not prove profitable unless he hires him to care for it. He must determine the product that client wishes. He must give reasons to justify the client's wish to buy even if they are far outweighed by his need to buy. He must determine what the buyer is thinking, and he must keep his product constantly in front of the buyer. All this can only be done efficiently through the accustomed means of advertising. Not only by word of mouth - but by the printed word.

There are two types of advertising that can be employed. One will call attention to a trade name or slogan, the other will describe in detail and give the exact reason why the reader should purchase the service. It is reported that certain groups such as farmers, are said to prefer the "reason why" advertisement. They have the time to go over it carefully, analyzing the advantages, before deciding the answer. In addition, they are accustomed to buying materials from mail order catalogues and understand descriptive matter.

There is always the temptation on the part of the advertiser to discontinue his attempts to reach the buying public when it appears that his product is not being sold. However, the public is not one consistent mass. Numerous individuals with diverging personalities and traits are it's basis. And what appeals to one may not receive a second glance from another. What one forgets a minute after reading may be remembered, and used, by the other a long time afterwards. So the advertiser should keep his trade name constantly in the foreground and vary his reason-why material so as to reach all readers.

How much to budget for advertising will depend upon the factor of previous acquaintances in the area, the financial status of the forester, the comparative practices of similar organizations in the vicinity, and the class of customers being sought. One professional advises a fund of 3% of total expenses be set aside for this purpose. Even five dollars a week will put the product before the public in an effective manner. But the forester must remember to keep his product there constantly and not expect the client to find it by lifting up the proverbial bushel basket.

His reputation and his business will be based on:

1. What his friends say about him.
2. What his clients say about him.
3. What he says about himself.

He is the common denominator.

CONCLUSION

Throughout the study of this subject the problem of selling came to the fore so frequently that at one time there was serious consideration made towards changing the title to "Short Forestry Selling". It is still believed such a title would best express the subject, the problem confronting the national thinking foresters at present, and the manner in which that problem can be partly solved.

"Short Forestry" is a term that might be used to denote the work of serving the small forest land owners. Handling their property will consist of working for a short time, periodically, with each one of them. That part of the title describes the subject of this study.

"Selling" best expresses the only method which will secure good cutting practices, good utilization, and good management of that third of our forest land area which is in small holdings.

And to express what will happen if the profession does not provide some form of aid to those owners the title need only be reversed in order to read "Selling Forestry Short".

This business of serving the owner is being daily proved practical by an increasing number of men. It is hoped the number will increase by the thousands until all owners are being properly guided and assisted in managing their land. Perhaps a few foresters will read this thesis and find encouragement to build their own private business giving such service. If so, they may ask themselves the following questions and perhaps will be guided by these answers:

1. Do I have the right personal qualities to carry on such a business?

If you can readily adapt yourself to a new point of view, and adjust easily to changing conditions, you have a very good chance. Also you should like people, be able to make friends easily, and be not too affected by criticism, rebuffs, and refusals. You must be sincerely honest, competent, diplomatic, and diligent.

2. Do I have sufficient experience, education, and training?

In the Future magazine of November , 1945 there is an article on job opportunities that has this to say:

> "College training can not take the place of actual experience on the job. Colleges can not make executives any more than schools of journalism can turn out editors. "

To start in this work without a good background in all three

items is to run a serious risk of failure. Such failure will not only affect your reputation but will also cloud the reputation of the entire profession. You should have a minimum of one college degree, at least five years in active forestry work (preferably more) under the direction of a capable, experienced forester.

3. Where shall I go to set up my business?

If you are working as a forester now the best advice ~~x~~ is for you not to go anywhere. Stay right where you are with the exception of moving out of your present employer's office. There is a good sufficiency of woodlots in any locality east of the Mississippi River and even some distance west. The prospects are no better in a new locality than they are in the one with which you are acquainted. The residents are acquainted with you and your reputation is established. This established reputation is a bigger asset than a heavier concentration of woodland tracts in some distant community where you will be a stranger.

4. How large an area should I set up as my working zone?

Start with a township, cover it intensively, if you don't secure enough clients then add another township and proceed

until you have sufficient business. Maintain a working radius as short as possible. Both you and the client will lose money when travel expenses are high. From all indications you will not have to extend your working boundaries much beyond the county in which you are located.

5. What services shall I offer to my prospective clients?
As many as you are capable of giving. Keep them in single units and remember any job will be a good chance to sell something better. Planting trees for them may prove a good starter. Cruises, scales, and grading can be initially sold most easily to the product consumer. Try a protection from trespass service for non-resident owners. Help owners market their products regardless of the manner in which the woodlot was treated when they were cut.

6. How long will it be before this business will be self-supporting?
Other foresters are convinced it will require from six months to two years to become established. It will be primarily dependent upon how good a salesman you are.

7. How much money can I expect to earn at this work?
How much do you want? Earning capacity is dependent only

upon you. Set a figure somewhat close to your previous salary and use this as a goal to work towards during the first year. If this is in the $2000.00 to $5000.00 bracket your fees should not be too excessive and will not affect your progress. Don't plan to pay expenses out of your base salary. Expenses will increase your gross desired income to about 140% of the desired net salary.

8. How much should I charge for my services?

Calculate your hour and day rate as based on the total number of service hours you expect to work annually and on your gross desired income. This will approximate your previous annual salary divided by 200 and multiplied by a factor of from 1.25 to 2.00 dependent upon your ability and professional reputation.

Your hour and day rate can then be used to determine the charge for contract work and for unit work (such as scaling, marking, and cruising by the MBM or acre) after you have estimated the time required for each job.

A percentage or commission fee should also be based on your hourly rate and knowledge of costs. It should average between 2½% and 10% of the final product selling price.

Use a good safety factor to cover unforseen costs and don't value your services too low. If your rate is low and business appears to be slow, try doubling your rates to see how it affects interest.

9. Should I set up a private office?

The consultants say "no". You should have your office in your residence in order to keep expenses at a minimum. We say "yes", in order to develop a professional atmosphere and to be able to devote your full time to clients in a business like manner. The office need not be elaborate or expensive, nor kept open every day. Use it as a business address, for meeting clents, and to accomplish that necessary paper work.

10. Should I employ any help?

Better wait and see how the work develops. It would be advantageous to have someone, such as a scaler or stenographer, who you can hire on a day rate whenever the work load gets too heavy.

11. Should I advertise?

Yes. Advertise constantly and intensively. Use the "reason-why" writings interspersed with ones aimed at securing public familiarity with your trade name. Budget at least 5% for your advertising expenses.

12. How much money should I have before starting this business?

It will depend on the services you plan on offering. If there is going to be a large initial expense for special equipment then you should have at least $10,000.00 . But if services will not require this cash outlay then $2000.00 to $5000.00 will be sufficient to carry you through the initial deficit period.

13. Should I affiliate my work with any other interests?

No. Remain free of embarassing alliances. But, your services should be available to all classes of clients. Just remember not to attempt serving both buyer and seller at the same time.

14. Are there any class of clients who will either be better or poorer prospects than average?

No. People are individuals and will react according to their mental ability, their experience, training, and need. Neither a poor man nor a rich man will refuse a profit. Economic or social status is no indication of prospect chances.

15. Should I be a consultant forester or a service agent?

The small land owner does not want or need advice as greatly as he does actual assistance. Try to find jobs that will

relieve the owner of a duty, will protect or improve his property, or will earn him a profit. Advise when requested and do not hesitate to consult with specialists on major problems when necessary.

16. Will I be criticized by my profession for embarking on such a venture?

On the contrary, you will earn its respect. You will be helping the profession to overcome the dangers of continued subsidy, you will be aiding in getting the small woodlots into proper production. The owner wants your help, the profession will benefit from the stimulation of your opening a new field of endeavor, and the taxpayer will be glad to see one national problem partly overcome without expenditure of public funds.

The opportunity was never as favorable as it is now. Will five thousand foresters please step forward and accept it?

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January 13, 1948

Memorandum for Information:

Subject: Master's Thesis by Horace O. Nixon, "The Practicability of Group Management of Small, Privately Owned Forest Tracts"

This thesis has been read with more than usual interest. My conclusion with respect to it is that it warrants acceptance without the necessity of additional discussion or defense at Ann Arbor. In order that Mr. Nixon may profit to the greatest possible extent from the good work he has already done, it might be advisable to send him any critical comments from the committee and to invite some further discussion on an informal basis if opportunity for a visit to Ann Arbor develops. I have had the original copy and have made quite a number of pencil notations chiefly with respect to wording and phrasing which will not be mentioned further in this memorandum but which I would like to have Nixon see when he has opportunity.

In general, the thesis shows diligence and much intelligence in preparation and rather refreshing imagination in style of presentation. I think it is a fine thing for men to let themselves go and express themselves in their own manner of style even though they do not come out with a polished literary production. Nixon has made his thesis surprisingly good reading for a subject which in general is pretty dull.

In making estimates of income from forest management there is frequently a tendancy to be overoptimistic with the intangible values and to give slight attention to realistic calculations of values from specific forest production. It seems to me that Mr. Nixon has leaned well in the other direction and that, in general, he has tied his thesis too much to "logs" and not enough to the many other values involved in private estate for similar forest ownerships where the primary objective is often other than wood products. On such properties the owner is often perfectly willing to pay for "silvics" in contrast with the statement made on page 34.

On page 8 I believe it is a little too strong that, "Benefits to one will never result in benefits to both." On page 19 I believe the calculations would show 46 per cent instead of 53 per cent of the total small areas of timber, etc. On page 22 I believe one could readily find more than the six listed factors and would at least add "and others". At the bottom of page 22 and the top of page 23 I would add a number 4, "The amount of business he is able to secure." It seems to me that the assumptions on the last half of page 23 and those on page 28 are highly hypotnetical. I realize that the author must make

some specific assumptions in order to tie down this portion of the thesis. In the first paragraph on page 31 I believe that the forester is to the land owner another practitioner rather than another tradesman. I have a very hard time following G. R. Phillips statement as quoted on page 32 and wonder if something was omitted. On page 43 I would question the statement, "But education is not a service." Perhaps it is not a marketable service. I would agree with the general contention that the home is not a good place for the professional man to set up his office but believe there are distinct exceptions to this rule depending upon the floor plan and other factors.

The conclusion section of Mr. Nixon's paper is particularly well done, and his list of reference material is excellent. Just as a matter of curiosity, I wonder why he apparently did not contact George Banzhaf who would be a source of excellent opinion and advice in this field.

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G.W. Pack Professor of
Forest Land Management

WFR/lh