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United States Department of Agriculture, BUREAU OF FORESTRY.

SUGGESTIONS TO PROSPECTIVE FOREST STUDENTS.

INTRODUCTION.

The Bureau of Forestry receives a large and increasing number of requests for information upon matters treated in this circular. The purpose of its publication is to supply this information fully and promptly. Inquiries from those who think of taking up forestry, which are not covered by this circular, will always be answered willingly. It will be understood, however, that, although the Bureau of Forestry stands ready, so far as it can, to assist and advise the forest student, it can reasonably go no further than to explain the situation and point out the means by which a man may prepare himself for it. It can no more assume the responsibility of deciding for the prospective forest student whether he will do well to take up forestry than it can predict to what position he will attain as a forester.

POSITION OF FOREST STUDENT.

The only position in this Bureau open to those whose training in forestry is incomplete is that of Forest Student. It has been created in order to afford young men who have determined to make forestry their profession, an opportunity to become familiar with the methods of this Bureau in the field and in the office. It must be clearly understood that work as a Forest Student does not constitute in itself a stepping-stone to higher positions in the Bureau of Forestry, but forms a part only of the training useful in fitting a man for the profession of forestry. It is the policy of the Bureau to retain a man as Forest Student only long enough for him to gain full advantage from the opportunities for field and office work which the position affords. He will then be expected to continue his training elsewhere.

Forest Students are, as a rule, appointed for the field season only. This varies from three to six months or more, according to the locality and the demands of the work. A limited number are retained after the field season closes, in order to assist in the office of the Bureau in working up data obtained in the field. The eligibility of a Forest Student to be continued in the office during the winter depends upon the quality of his field work and upon the seriousness of his intention to take up forestry.

Forest Students, while in the field, receive \$25 per month, with the payment of their expenses for living and for local travel. They are required to defray their traveling expenses to the field from their homes. If they take up work in the office at the close of the field season, the cost of the journey from the field to Washington is borne by the

Bureau. Those Forest Students with field experience whose services are desired in the office during the winter are assigned to duty as Assistant Forest Experts, and are paid at the rate of not more than \$500 per annum while working in Washington.

An application blank for the position of Forest Student is furnished on request by the Forester, U. S. Department of Agriculture. This blank, when filled in and returned by the applicant, is filed for consideration when the appointment of Forest Students for the field season is taken up. The fitness of the applicant for appointment is judged from his answers to the questions upon the blank. The two main conditions upon which his appointment depends are that he has definitely decided to make forestry his profession, and that in age, physical condition, and general training he is well equipped for the duties of Forest Student, and is fitted to profit by his work. No applicant under 20 years of age is eligible for appointment as Forest Student. Men, therefore, who are already advanced in the study of forestry, either at a forest school or elsewhere, and who are in other respects well qualified, stand the best chance of appointment. In the same way, college graduates take precedence of undergraduates, and undergraduates of those who have had school training only. Men entirely without college training are appointed to the position of Forest Student only when they are exceptionally well fitted for work in the woods. The number of applicants from students of forest schools has, of late, generally exceeded the number of appointments to be made, and it is probable that the excess will grow steadily larger. The likelihood, therefore, of the appointment of men who have not begun their training is small, since the first claim to the position open goes by right to the men who in general training are best prepared to take up the technical work incident to a scientific profession.

The field work required of Forest Students is severe, monotonous, and often entails some hardship. Forest Students in the field usually live in camp and are required to keep lumbermen's hours. Their work consists chiefly in "valuation surveys," or measurements of the standing timber upon given areas, and in "stem analyses," or measurements of contents and rate of growth made upon felled trees.

Cheerful obedience to orders is required of all Forest Students. Laziness or discontent is fatal to camp discipline and to effective work. No Forest Student is retained who proves physically unfit for his duties or who shows a desire to shirk them. Bodily soundness and endurance are absolutely essential for those who take up the work of a Forest Student. Work in the woods differs profoundly from camp life as it is usually understood. A Forest Student must be prepared to combine severe mental work with severe bodily labor under conditions which make each one peculiarly trying.

Those appointed to the position of Forest Student in this Bureau should realize fully in the beginning that they will receive no formal

instruction in forestry. They are not attending a summer school, but are taking a salaried position, the duties of which they will be rigidly required to perform. Forest Students in the field are placed under the supervision of trained foresters in the execution of technical forest work. The head of the party is at all times willing, in so far as it does not interfere with his own duties, to explain matters to the men under his charge and to suggest and further lines of individual study. He has, however, no time to deliver lectures nor to give formal instruction of any kind. The Forest Student has in his daily work abundant opportunity to learn; whether he makes the most of it rests with him.

POSITION OF FOREST ASSISTANT.

The position in this Bureau open to trained foresters is that of Forest Assistant. It carries a salary of from \$720 to \$1,000 a year in the beginning, with the payment of all living and traveling expenses incident to field work. Forest Assistants generally spend about six months of the year in the field; the other six months are spent in the preparation of reports in Washington. The position entails a severe technical examination under the U. S. Civil Service Commission, which no man may reasonably expect to pass unless he has been thoroughly trained in forestry.

PREPARATION FOR FORESTRY.

The preparation for forestry as a profession may best begin with a college or university course, in which the student should acquire some knowledge of the auxiliary subjects necessary in forestry. Of these, the more important are geology, physical geography, mineralogy, chemistry, botany, in particular that branch which deals with the anatomy, physiology, and life history of plants, and pure and applied mathematics, including a practical understanding of the principles of surveying. The student who, in his college course, can include physics, meteorology, and political economy will be the better equipped to take up his technical forest studies.

Graduation at a college or university should be followed by a full course at a school of instruction in professional forestry, of which there are now several in this country.

Vacations, during the course of training, should be spent in the woods so far as possible. The student should take advantage of every opportunity to study forest conditions and to acquaint himself with technical forest methods in field work. He should also see all he can of lumbering, which, on its executive side, is closer to forestry than to any other calling. A good knowledge of the lumberman's methods is an essential part of a forester's education.

Whenever possible the forest student should supplement his systematic studies in this country by six months to a year spent in studying the effects of forestry upon the forest in Europe. Although European

forest methods can seldom be adopted without modification in this country, they have been rich in suggestion in the application of practical forestry to American forests. The American forest student who puts aside a chance to see forestry in Europe makes the same mistake that a medical student would be guilty of who ignored an opportunity to practice in the best hospitals abroad.

College or university training, followed by a full course at a forest school and supplemented by work in the woods in this country and in Europe, may not be possible for every student of forestry. A thorough preparation for forestry as a profession should, however, include these lines of work. How many of them the student may omit and still retain a fair chance of success in his profession can not be laid down altogether within hard and fast lines, although study at a forest school has become essential. A great deal must depend upon a man's zeal and industry, and upon his natural fitness for forest work. On the other hand, the man who is considering forestry as a profession will do well to remember that the only sound basis for success in forestry, as in any other scientific profession, is a thorough and systematic preparation; that no matter how high his natural abilities may be, the insufficiently trained forester can not hope to compete with those who have enjoyed full advantages in their preparation; and that in this country, perhaps more than in any other, forest problems present difficulties which require, above all, a thorough understanding of his work in the man who undertakes to deal with them.

THE OPENING FOR FORESTERS.

The management of the National forest reserves will require the services of many trained men. The Bureau of Forestry will require an increasing number of suitably prepared foresters to supply its needs. The lack of foresters to care for the forest interests of several States is already making itself strongly felt. An increasing number of foresters will be required by private forest owners, as the great holders of timber lands come to realize more generally that conservative lumbering pays better than the methods now employed. The Forestry Bureau in the Philippines offers what is in some ways an unrivaled opportunity to trained men.

As regards compensation, forestry offers the well-prepared man a fair living. It is naturally impossible to foretell what will be the pay of foresters in this country. It is reasonably certain, however, that their salaries will never be large. Trained foresters in the employ of the Bureau of Forestry now receive from \$900 to \$3,500 a year.

Approved:

JAMES WILSON,
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GIFFORD PINCHOT,
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