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The High School Student and the Profession of Forestry

Prof. G. B. MacDonald

One of the biggest problems confronting the high school student is the selection of the profession or business in which he will fit best for his life work. This involves not only the consideration of his own personality, characteristics and inclinations, but also the question of opportunities which are, and will be, afforded in the various lines of work. Many high schools, especially in the larger cities, give some attention to vocational guidance which has for its purpose the assistance of students in the selection of their life’s work.

In many instances, however, the high school student gropes around in an endeavor to find his niche and too often without any help from teachers or others best qualified to assist. Naturally the colleges and universities receive many inquiries from high school students which are for the purpose of helping them to decide on the line of work for which they are best fitted and in which there might be the best possibilities for success.

The Forest Schools receive many inquiries from students who think they would like to engage in professional forestry work. Many of these come from high school students who have very incomplete information in regard to the possibilities of the profession, the duties required and the most satisfactory means of preparing for this professional work. Some of the more common questions which are asked are the following:

1. What subjects should be elected in high school to serve as the best basis for a later forestry course?
2. What length of course should a student interested in forestry pursue?
3. Is it possible or profitable for a high school graduate to take a six month’s or one year practical course in preparation for professional forestry work?
4. What does the forestry course include?
5. What kinds of work do the graduates from forest schools engage in?
6. Are the salaries which foresters receive equal to the salaries received in other professions?
7. Is forestry work a passing fad or will there be a continuous demand for trained foresters?
8. What are the qualifications for forestry work?
It is with the above questions in mind that this article is prepared. It is an endeavor to answer more or less specifically the questions which arise in the minds of high school students who are thinking of preparing themselves for professional work in forestry.

In discussing the high school subjects which the student should pursue in order to secure a sound foundation for later forestry training, I believe all authorities will agree that the first essential is to get a good grounding in fundamentals. Many students, because of poorly equipped high schools or for other reasons, reach college without a good preparation in grammar, English or mathematics. This is unfortunate because it handicaps the student all through his college course whether this be forestry or some other line. The high school should be primarily for foundation work rather than specialization. I do not mean by this that the student should not be anticipating the line of work which he expects to go into, and, so far as this is possible, prepare himself by making a wise selection of subjects which would be most adaptable to his work. At the same time he should not eliminate foundation subjects.

The forester usually has to do with living things and the inclusion of biology, botany, and zoology in the high school curriculum serves a real purpose. Forestry work also involves a thorough understanding of economics. A foundation preparation in this field in high school makes it possible for the forestry student to take more advanced work after he enters college.

Those who have been in contact with college students for a number of years cannot help but feel the tremendous importance of thorough training in English, journalism and public speaking. These are subjects which are used every day and are essential tools in any line. A student leaving college, who has inadequate preparation in these subjects, will, very frequently, make a bad impression in applying for a position, or, if he secures a position will not do himself justice merely because he is unable to express his thoughts clearly or present them in an effective way in writing.

The high school student is usually restless and in a hurry to get to the more technical subjects in the line for which he is preparing. There is a tendency sometimes to overlook the fundamental subjects which are, after all, just as important as the technical. The profession of forestry requires not only practical men but also those of scholarly attainments—men who are able, through sound preparation, to advance to executive positions of high responsibility. The lack of fundamental training is sometimes the one thing which stands in the way of a man with fine technical ability from reaching the top.
As I have indicated, the ambitious high school student is restless to get established in the profession of his choice. Sometimes he is enticed to take a short cut into practical work. He may not realize that the important thing for him to consider is not the job which he may be able to secure immediately on completion of his training but where he will find himself ten, fifteen, or twenty years later in the profession. Forest schools have many inquiries in regard to short courses, ranger courses, courses of a practical nature, etc. The same idea is in view in most of the questions—that of securing a so-called "practical position" in the forestry field in six months or a years time. Many men have gone into forestry as a life work with no college training whatever, and have made a success. Others with a relatively short preparation have also made a success. These same men, however, with a thorough training would, no doubt, have been capable of more rapid advancement, and also possibly ultimately have reached to higher levels of attainment.

Except for minor positions in forestry, it is generally realized that real preparation in forestry can not well be accomplished in less than four years time. The tendency now is to go beyond this—that is, to continue study for a fifth year, either immediately, or after employment for a year or two in practical forestry work. Those who have been connected with Forest Schools find that a reasonably satisfactory preparation in fundamental and technical subjects can not be properly secured in a shorter period than four years. The student who has the means and the inclination go beyond this four-year period and secure an advanced degree in forestry, enters the profession with a more thorough training which is an asset the same as in any other field. The high school student thinking of forestry should be determined to secure just as good preparation in his field as other professional students do in theirs.

The four-year forestry course at the Iowa State College has three definite objectives in view. First, the preparation of the prospective forestry student with a good foundation in fundamental and supporting subjects. Second, providing a thorough training in the technical branches of forestry work, and third, providing as much practical experience as possible for him during his college course. Space will not permit detailed discussion of the arrangement and content of the various subjects included in the forestry course. Briefly, a reasonable preparation in English, journalism, public speaking, mathematics, bacteriology, chemistry, physics and economies is required. Botany, general zoology, fish and game, and entomology subjects are emphasized since these are very important in forestry work. Some engineering, including mechanical drawing, and several courses in surveying are essential. The technical work includes
courses in silviculture, logging, lumbering, marketing, planting, forest mensuration, forest management, forest administration, forest valuation, forest policy, forest products, timber preservation, dendrology, wood technology, forest soils, forest entomology, forest pathology, mapping, and others.

The first summer for the forestry students is usually spent in the forestry camp conducted by the department. This camp is held for a period of ten or eleven weeks on a National Forest or other suitable region. During the past sixteen years these have been located in the Lake States, California, the northwest, Colorado, and the east. This work is required of all students and permits them to get some excellent experience in various woods operations, including timber estimating, surveying, log scaling, type studies and mapping, as well as to study the methods used in the administration and management of large forest areas. In addition it gives them an opportunity to study logging and milling operations and other types of industries at first hand.

The students live in tents and the traveling and other expenses are held down to a minimum. Opportunity is usually offered for some recreation and sightseeing depending upon the region where the camp is held from year to year.

During the second and third summers the sophomore and junior students are located on temporary positions for the vacation periods. They go to all parts of the country for these positions with the government, the states, lumber companies, paper companies, and others. At least one summer on practical work, in addition to the forestry summer camp, is required of all forestry students before graduation. The contacts which the students make during these periods of temporary employment very often result in permanent positions later.

Forestry naturally has its appeal to the red-blooded high school student. It has to do with the forests, the wild life, the mountains, the lakes and streams—found in the most fascinating regions of the country. The prospective forester can grow somewhat sentimental, and perhaps, rightly so. He has in mind not only his own livelihood but sees his work extending into the future—possibly, the planting and growing of a crop which he, during his span of life, may not harvest. He has in mind the needs of a future generation. Sentiment in forestry should not be stifled but forestry is more than sentiment—it is a real business. The high school student with meager information may have painted a picture which tells only a part of the story. The mental picture of the forest ranger "riding the range"—a fine upstanding type of young man depending largely upon his own resources, working in a wild, more or less uninhabited country, ready to meet any emergency as it arises, is
a picture which challenges the red-blooded young man. The professional work in forestry, however, does not necessarily begin and end with the forest ranger patrolling his district while keeping a lookout for forest fires. It is a tremendous field of activity touching in its scope every part of the country and having an influence directly or indirectly on the entire nation. It involves not only the whole national forest system and organized state forestry work but also has to do with the whole field of lumber production, distribution and utilization. Something like 10 million people in the country are depending directly or indirectly upon the products of the forest for their livelihood.

Each year the foresters are increasing their field of usefulness and this field will undoubtedly continue to increase. One needs only to look over the register of graduates of our Forest School in order to see the tremendously wide scope of activities for the technically trained men. Among the lines of activity of the forestry graduates of the Iowa State College we find many in government positions such as Assistant District Forester, Forest Supervisor, Assistant Forest Supervisor, Technical Assistant, Forest Examiner, Junior Forester, District Ranger, Junior Range Examiner, etc. These include administrative positions, investigative work, timber sales, fire protection, forest planting and other lines.

In state work the positions are administrative and in teaching, forestry extension and reforestation work. With timber, paper, lumber companies and others of a similar nature, the graduates occupy positions relating to management of timberlands, reforestation, wholesale and retail lumbering, salesmanship and many other phases.

New and more specialized fields are developing. In addition to the ordinary lines of activity, specialized work in forest chemistry, tree diseases, forest entomology and in fact, in many lines of research work are opening up new vistas for the thoroughly trained forester.

The student who enters the government forestry work usually does so by taking a Civil Service examination. This is an examination which is quite exacting and the men passing it demonstrate that they have a sound fundamental preparation. Some of the states also secure their employees through Civil Service examinations. In this way political preference is avoided and positions are awarded on merit rather than in some other less desirable way.

When we consider that the great bulk of the timber of the country is in the hands of private timber companies and that many of these organizations have not yet undertaken a constructive forestry work, one can realize that this field of activity in
the future offers excellent possibilities. Paper companies which are dependent on the products of the forest have already engaged in practical forestry work in order to insure raw products for their mills.

The field of research in forestry is not far advanced. The federal government is recognizing the necessity of an extensive research program. Increased appropriations have already been made. This field is calling for the highest type of technically trained foresters—men who are thinkers and who are able to initiate investigative work which will help to solve some of the big forestry problems. The field of forest economics also offers opportunities for highly trained practical foresters.

One of the questions often repeated by prospective foresters relates to compensation. Salaries, of course, depend upon many things including the native qualifications of the individual concerned. Those men, who after passing the Civil Service examination, enter the United States Forest Service as Junior Foresters, are engaged, at the present time, at a salary of $2000.00 per year in addition to field expenses when they are away from their headquarters district. The advancement depends upon the individual capability of the man as well as upon the opportunities which happen to be afforded in the locality where the individual is located. Sometimes the opportunities are better at one time than another. The beginning salary for positions with lumber companies, paper companies and in other commercial positions varies greatly. As a general thing the beginning salary is relatively low but the possibility of substantial increases for the men who display real ability are especially good. At the present time the salaries which are being paid technically trained foresters are comparable with the salaries which are being paid other college graduates in somewhat similar lines—for example, engineering. There should be no hesitation on the part of a forestry minded individual undertaking professional work in this field because of inadequate salary recognition. After all, the ultimate salary and position will depend not only on the training which the individual has received but also upon the personality and natural ability of the man.

Questions are asked sometimes which would lead one to believe that there is a feeling with some that forestry is a fad—a profession which will become more or less popular for a time and then fade away. Just how this impression sometimes comes about is a little hard to realize. When one considers that forestry is dealing with the production of a basic resource—one which has been quite largely depleted and which must receive scientific attention, then it is quite apparent that instead of forestry being or becoming a fad it will be recognized as a
growing profession and one which each year will become better understood as a business of vital importance to the nation.

If forestry were a passing fad, there would be little, if any, justification for our forest schools. We need only to look to some of the foreign countries to see the possibilities in the establishment of our forests on a sound economic basis in such a way as to insure a continued and adequate supply of forest products for the proper development and service of the nation. Rather than forestry being a passing fancy it is becoming a definite business proposition for the federal government as well as the states and the private timber producers. Any reasonable conclusion would show that the field of opportunity in forestry will increase for many years to come.

Now, about qualifications for the forester. I am reminded a few years ago of a young forestry student who came into the office and with a rather discouraged countenance put the question, "Say, Prof., do you think there is any use of my taking forestry?" There he stood, small in stature with not a very commanding physique, but a young man who had displayed considerable native ability. On being asked the reason for the question he said, "Look at me, a little runt; what can I do in forestry?" This young lad was informed that a fine physique is always a big asset not only in forestry but in any other profession; that a strong body will often be of great assistance to the forester during strenuous field activities, but was also advised that forestry demanded just as good brains as most other professions. This young man finished his college course, went into practical forestry work and has been successful. No student should neglect his physical development, since a brilliant mind in a poor body may function but not at its best.

As a rule, foresters are drawn to the out-of-doors. They like the woods and a little sentiment toward the profession is not a bad thing. However, this should not be the controlling factor. Forestry should be looked upon as a business proposition and one which offers good opportunities as well as a pleasant and profitable occupation. The prospective forester should have the desire or the inclination to take up this field of activity. Unless he has this desire he will probably not make a success. He should be willing to dispense with the bright lights of the towns and cities for considerable periods of time when necessary, although the present day forester is not expected to make a hermit out of himself.

The forester is often thrown upon his own resources. He should be able to take care of himself in the woods under adverse conditions when necessary. He should have confidence in himself as a woodsman. Space will not permit a detailed discussion of all the qualifications which are desirable in a for-
ester. He should have reasonable ability. He should be a tireless worker. He should be dependable, without which he will not go far. He should be a man of good character since this profession as well as others recognizes this as an essential quality. In fact, the qualifications for the forester are not especially different from those which we would expect to find in the successful business man.

In conclusion, it would be well to point out to the high school student expecting to take up forestry that this is a relatively new field, is alive with possibilities, is interesting and is a going profession. In forestry, as in any other line, success depends largely upon ability, training, industry or application, character and dependability.