

**PROGRESS OF FOREST MANAGEMENT IN
THE ADIRONDACKS. NEW YORK STATE
COLLEGE OF FORESTRY. CORNELL
UNIVERSITY. ANNUAL REPORT OF THE
DIRECTOR. BULLETIN 3, MARCH 1901**

Published @ 2017 Trieste Publishing Pty Ltd

ISBN 9780649266258

Progress of Forest Management in the Adirondacks. New York State College of Forestry.
Cornell University. Annual Report of the Director. Bulletin 3, March 1901 by B. E. Fernow

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B. E. FERNOW

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NEW YORK STATE COLLEGE OF FORESTRY.

CORNELL UNIVERSITY.

B. E. FERNOW, *Director.*

BULLETIN 3.

MARCH, 1901.

Progress of Forest Management

IN THE

Adirondacks.

Third Annual Report of the Director of the New York
State College of Forestry,

ITHACA, N. Y.

May 1915
30203

PRESS OF
ANDRUS & CHURCH,
ITHACA, N. Y.

REPORT OF THE DIRECTOR OF THE NEW YORK
STATE COLLEGE OF FORESTRY.

NEW YORK STATE COLLEGE OF FORESTRY,
CORNELL UNIVERSITY, ITHACA, N. Y., *January 15, 1901.* }

To the President of the University:

SIR—I have the honor to submit herewith, as Director, my third annual report on the operations of the New York State College of Forestry for your approval and transmission to the Legislature under the provisions of Section 122 of the Laws of 1898, establishing this College.

I may state at the outset that both the College and the operations in the College Forest have, during this, the second full year of their existence, experienced satisfactory progress, if increase in numbers of students in the first and development of the proposed management in the latter with the expectation of making it self-supporting from the start may be recognized as such progress.

STUDENTS, TEACHING FORCE AND COURSES.

During the year the first graduate of this College—the first graduate from any professional forestry school on this continent—has gone out and found ready employment with the New York State Forest, Fish and Game Commission. In addition, four special students, graduates of other colleges, who had spent one year in pursuing forestry courses, left the College, three of whom found employment with the Federal Forestry Division and one with a lumberman's firm. One most promising student in the freshman year was accidentally drowned during the summer, another was prevented from returning by business considerations, so that, at the beginning of the term, only ten of the seventeen students regularly inscribed during the previous college year returned.

This number has been increased to date by new registrations to twenty-five, as follows :

5	-----	seniors,
2	-----	juniors,
6	-----	sophomores,
5	-----	freshmen,
4	-----	specials,
3	-----	post graduates.

Of these, fifteen, coming from the State of New York, receive their tuition free of charge ; the tuition fees of seven in freshman and sophomore courses, and post graduates taking forestry as a minor—their instruction being mainly furnished by the University—goes to the University Treasurer, and the fees of three in the junior and senior years of the College. Maine, Connecticut, Pennsylvania, Michigan, Minnesota, Missouri, California and Russia are represented besides New York. Two of the post graduates are taking forestry as their minor subject for the degree of Doctor of Philosophy ; the third, holds this degree from Johns Hopkins University.

In addition to these regularly inscribed students, there are registered for certain courses 29 students from other departments, namely, from the Colleges of Architecture, of Civil Engineering and of Agriculture ; the registrations in all the courses during the fall term just past having been 76, by 54 students.

No changes have taken place in the faculty during the year, but provision has been made for additional lecturers on special subjects.

Dr. B. W. Evermann, of the United States Fish Commission, gave, during the spring term at Axton, the first course of twelve lectures on Fish Culture, three visitors attending besides the eight junior and senior students. The course proved of such practical interest and the lecturer so admirably fitted not only for presenting the subject in the class-room, but for introducing the students to field observations, that it is proposed not only to repeat the course, but to have Dr. Evermann also take charge of the course on Game Preservation.

In order to secure the preparatory course on morphology and classification of fishes, birds and mammals by the zoological department, the College, this year, pays half the salary of the instructor, Mr. H. D. Reed.

A short course in practical timber estimating under the direction of Mr. C. P. Whitney, a well known estimator, was also given in Axton, and will be repeated every season.

During the present year, a short course on "Marketing the Forest Crop," will be given by Mr. W. H. Wetmore, of New York, in which the business principles and methods applying in the lumber trade are to be discussed. Mr. Wetmore brings to his task an experience of more than sixteen years in various positions.

By another year, it is hoped that two additional very desirable courses may be established in coöperation with departments of the University, namely, a course in law and a course in engineering. Foresters are to become neither lawyers nor engineers, but as competent managers of forest properties, they cannot dispense with a certain amount of knowledge both as to the principles of law and as to certain selected portions of engineering. Such knowledge is usually acquired at the expense of the employer and by attrition in actual practice—an expensive process—but a rational scheme of education should at least provide a stable basis upon which to accumulate such knowledge.

It is evident that the most common principles of property rights, real estate law and methods of trespass, and of contract and business law should be known to anyone entrusted with the management of a piece of property, enough, at least, to avoid the common mistakes which lead to unnecessary litigation. Such a course, selected not for professional lawyers, but for the needs of educated business men, would, indeed, be a most desirable addition to the curriculum of any student who expects, as the majority in these days do, to be employed in business.

A large part of the forester's business is concerned in the harvesting of his crop. The presumption is that foresters will be lumbermen, or lumbermen become foresters; and all that a lumberman knows or can do must become the property of the forester in moving the crop. To move this bulky crop most expeditiously and cheaply, no mean amount of engineering skill must be developed, and especially since cheapness is of more moment than excellence of structure, special attention in that direction is necessary. He should learn how to locate and construct cheap roads, cheap railroads, cheap dams and water ways and log slides; how to dispose of labor and materials so as to secure the quickest and most effective results. Again, this may finally and fully be learned only in practice, but since so much of the financial success of a forest manager depends on this part of his performance, it is rational to give him at least the basis upon which to start. The regular engineering courses, having other ends in view, are necessarily too full for the needs of a forester, hence a special course needs to be devised.

Practical Instruction in the Forest.

The policy of transferring the junior and senior classes for practical work to the College Forest during the spring term has proved an admirable one. The expected benefit to the students of direct contact with the woods under competent direction, in spite of the somewhat crude conditions at first encountered, has been fully realized. The season opened unusually late, three feet of soft snow covering the ground and making the woods inaccessible when the term opened; unfortunately, the library which was to be established at Axton was also late in arriving, and the accommodations were somewhat primitive. All of these difficulties have been overcome for the present year.

Although the College building which it was expected to erect at Axton has, for business reasons, not been built, by remodeling existing buildings a suitable lecture and reading room has been secured, and the boarding house facilities have been improved. A good library has been established, containing a sufficient selection of books of reference and of professional character.

The transfer of the classes will, under the new arrangement of dividing the college year into two semesters, not take place until after the Easter holidays, two weeks later than last year, when it is expected the woods will be more accessible. Practical forestry operations are now fully established in the College Forest and the opportunity for participating in them and observing them are therefore increased.

The time, during last spring, was occupied with field work in addition to the lectures on forest mensuration, forest protection, fish culture and game preservation, about as follows:

Inspection of logging operations.....	9 days,
Timber estimating and measuring.....	12 "
Surveying, and locating roads.....	10 "
Nursery work and planting.....	4 "
Marking trees for cutting.....	2 "
Practical work in sugar orchard.....	3 "
Excursions to fishing grounds and hatchery.....	4 "

Accommodations.

There is no greater need for the proper conduct of this College than sufficient accommodations. The same language which I used in my last report still fully applies to present conditions. It was as follows.

"Considering the crowded condition of the University, in many if not all of its departments, even this insufficient and unsatisfactory housing of this State institution must be gratefully accepted as real generosity, for which the University secures but small return from the prestige of administering the College.

"I can only repeat with more emphasis that 'the absence of convenient and permanent lecture and laboratory rooms retards the proper development of the College and is discouraging both to students and professors.'

"An adequate building, worthy of an institution which the great Empire State sees fit to maintain, is the foremost requirement now, since the College is otherwise fairly established."

While it is possible to arrange for lectures in unoccupied rooms of the University by choosing inconvenient hours, and to eke out laboratory facilities by dividing classes and lengthening the hours of professors, the greatest drawback which comes from the absence of permanent quarters is the impossibility of installing that most important tool of a modern educational institution, demonstration material. Collected and placed in a storage room, such material becomes inaccessible and impractical for daily use, and its collection is naturally postponed until opportunity to care for it and use it may be furnished.

THE COLLEGE FOREST.

There seems still to linger among a large class of people the idea that forestry consists in preventing lumbermen from cutting trees. These good people forget that our civilization is largely built of wood and that trees must be cut to furnish the necessary material. It would be possible, though, in most cases, foolish and undesirable, to set aside portions where, for some reason, the forest should be left undisturbed; in such cases of let-alone policy, no forestry, *i. e.*, application of knowledge and skill in reproducing forest crops and keeping up the forest production, is needed; nature and proper police forces will take care of such areas.

The forester is a harvester as well as a grower of a crop; he preserves the forest as the human race and all life is preserved, by removal of the old, and reproduction. In this last activity only, or mainly, does he differ from the lumberman, namely, in that he is bound to reproduce, not necessarily the kind of crop that nature planted, but one that is economically most desirable. He may secure this reproduction either by gradually removing the old crop, relying on seeds falling from, and seedlings developing under the