

INITIALED FILE COPY

Dear Mr. Flexner:

	A.F.	11.17/25		

In any further consideration of physical oceanography three men whom one should have in mind are;

Professor Henry B. Bigelow, Museum of Comparative Zoology,
Harvard University;

Dr. T. Wayland Vaughan, Director of The Scripps Institution
for Biological Research, La Jolla, California;

Dr. A. G. Huntsman, Curator, Atlantic Biological Station,
St. Andrews, New Brunswick, Canada.

WR/LFA

J. H. COMSTOCK, Professor emeritus
 J. G. NEEDHAM, Professor
 GLENN W. HERRICK, Professor
 C. R. CROSBY, Professor
 O. A. JOHANNSEN, Professor
 J. C. BRADLEY, Professor and Curator
 G. C. EMBODY, Professor
 ROBERT MATHESON, Professor
 E. F. PHILLIPS, Professor
 P. W. CLAASSEN, Assistant Professor

CORNELL UNIVERSITY
 NEW YORK STATE COLLEGE OF AGRICULTURE
 DEPARTMENT OF ENTOMOLOGY
 ITHACA, NEW YORK

L. P. WEHRLE, Instructor
 C. K. SIBLEY, Instructor
 L. S. WEST, Instructor
 W. T. M. FORBES, Instructor
 R. B. COWLES, Instructor
 GRACE H. GRISWOLD, Instructor
 H. J. PACK, Instructor
 P. P. BABIY, Assistant Curator
 R. B. WILLSON, Specialist in Apiculture

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March 16, 1926

Dr. Wickliffe Rose,
 General Education Board,
 61 Broadway,
 New York, N.Y.

W.R.	MAR 18 1926	W.R. 3/18/26
M.S.D.		M.S.D.

Dear Dr. Rose:

Since you were here I have been having the grip. Dr. Embody promptly prepared his part of a statement for submission to you, but my part has been unavoidably delayed.

Herewith we submit our plan. In so far as equipment and methods are concerned, it falls naturally in two parts:

1. Warm water fishes, whose improvement and management mean domestic fish culture. It is this in which the College of Agriculture is most interested, and for which it has provided our present equipment.

2. Cold water fishes, mainly trout. Scientific study of the means of improving the fishing in natural waters has only just begun.

The big common problems for both warm water and cold water fishes are four:

1. Forage and how to increase it.
2. Breeding to obtain improved cultural varieties.
3. Diseases and how to control them.
4. Management, looking toward agriculture on a permanent basis. We still rob the wilderness for fish eggs!

The gist of our proposal lies in two things:

1. Getting competent, well-trained men, and setting them to studying key problems.
2. Giving these men the things they will need with which to work.

We submit herewith a summary - estimate of what this will cost, and give some additional data on a separate sheet.

For completion of equipment of present Fish Cultural Experiment Station (Note 1)	\$23,000
For special laboratory equipment (annually)	2,000
For trout farm (Note 2)	15,000
For "better trout fishing" experiments (Note 3) (annually)	3,000
For permanent employees (Note 4) (annually)	5,000
For salaries of trained collaborators commissioned to study key problems (Note 5) (annually)	12,000
For Secretary (Note 6) as much as may be needed of (annually)	3,000
For miscellaneous expenditures (Note 7) (annually).	1,000
Grand total	<u>\$64,000</u>

of which \$38,000 is initial and \$26,000 annual expense.

Whatever cooperation may be arranged, I think it may be said that Cornell University will contribute in many ways, chief of which are the following:

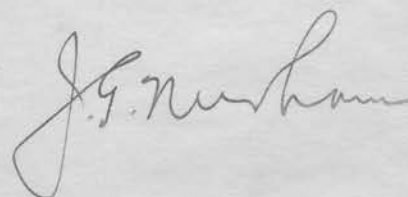
1. The use of its offices, laboratories and library, as needed.
2. The use of its present Fish Cultural Experiment Station, with its hatchery, ponds and helper.
3. It will allow Dr. Embury and myself to supervise this work. We have spent a good share of our lives gaining experience that should make us useful.
4. Local administrative supervision.

There are many members of the scientific staff of the University who, as individuals, will freely give us the benefit of their experience, when questions arise touching their respective fields of study. That is one of the greatest advantages that come from locating this sort of an undertaking at a University. That sort of cooperation is well nigh universal among us.

We may count on cooperation from the U. S. Bureau of Fisheries and from the states of New York, New Jersey, and probably Kansas and Michigan, to the extent of furnishing materials for investigation, and making practical application of our discoveries in large scale operations.

Dr. Embury and I greatly appreciate your interest. Should you be willing to help us with this great undertaking, we will do our utmost to secure results that will justify your aid.

Yours sincerely,



Notes

The following general statement can be made relative to the equipment required:

Note 1.- In 1918, Cornell University started the development of a 9-acre tract of land, on the University Farm, into an Experimental Fish Farm. Up to the present time funds have not been available to do more than to initiate this construction.

Completion of this development would be one of the first steps necessary for carrying out any line of investigation.

This would involve the construction of more warm ponds, additions to the laboratory, better control of water supply, construction of care-taker's cottage and other items.

Note 2.- The University does not have a suitable site for trout work; but there is a small farm situated within range of the college activities which it is believed may be purchased for a reasonable sum. This farm is provided with fair buildings, and an abundance of spring water entirely suitable for trout culture and which may easily be brought under control.

Fifteen thousand dollars should cover the purchase price and the cost of constructing the hatchery, ponds, etc.

Note 3.- Investigations bearing on the improvement in wild waters for fishing involve studies on the ecology of various aquatic organisms, biogenic capacity of streams and lakes, methods of stocking and otherwise increasing the number of fish.

An experimental trout stream which could be treated in various ways and the results studied in detail would constitute a valuable asset to this work. Such a stream is located on the proposed fish hatchery site and could easily be brought under control for the purpose in view. Close cooperation could be expected from the States of New York and New Jersey.

This equipment together with the control of the experimental stream should not cost more than an additional \$1500 with \$1500 annually for travel and assistance.

Note 4.- The following permanent employees and additions to the staff will be required:

One research assistant	\$2,500
One practical fish culturist	1,500
One caretaker or laborer	1,000

Note 5.- Since you were here we have been looking over the field for the best men whom we have trained for this sort of work, and we find them nearly all nailed down to other positions. I doubt if even three of the very first grade will be at once available. We want only the best; and it may prove advisable at the

first to use the funds provided, for a larger number of younger men at small salaries, and then to pick from among them the ones desired for continuance.

We feel, that in order to justify competent men in abandoning other lines of work and going into this one, a continuance of support for their researches should be guaranteed for five years.

Note 6.- This is a big undertaking involving far more routine than Dr. Embury and I can handle in person in addition to our present load. we will, therefore, need a secretary, to attend to orders, bills, correspondence, records, etc., and \$3,000 per year, or as much of it as may be needed, should be provided for this.

Note 7.- Miscellaneous expenses: local travel for materials, for conferences, etc., temporary assistance of technical specialists, mechanics, chemists, translators of odd languages, etc., supplies, extras, freight charges, postage, etc.

March 18, 1926

Dear Professor Needham:

Your letter of March 16 and the
accompanying notes are received this morning.
I will take the matter up with my associates
and will advise you later. We trust you
will not be disappointed if we are rather
deliberate in considering the proposal.

on C.L.

Very sincerely yours,

WICKLIFFE ROSE

Professor J. G. Needham
New York State College
of Agriculture
Cornell University
Ithaca, New York

WR/LFA