

PROSPECTUS OF THE 1936 BOWDOIN-KENT'S ISLAND EXPEDITION

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Bulletin No. 2      Bowdoin Scientific Station      June 1, 1936

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To the President and Trustees of Bowdoin College and  
the Acting-Directors of the Bowdoin Scientific Station

Sirs:

I have the honor to announce that the 1936 Bowdoin-Kent's Island Expedition will sail from Lubec, Maine on June 15, 1936, for a three months scientific research program in the Bay of Fundy. The party is being sent out under the auspices of Bowdoin College and will base at the Bowdoin Scientific Station on Kent's Island, N.B., Canada.

THE STAFF

A Board of Directors has been formed to sponsor the expedition and to direct its policies. It consists of Donald B. Mac Millan, Alfred O. Gross, John S. Rockefeller, Manton Copeland, Sumner T. Pike, Albert T. Gould, Edward N. Goding, Alger W. Pike, and Henry S. Shaw.

A "Scientific Advisory Board" is being formed, and announcement of this group will be made at a future date.

The Staff of the 1936 Expedition will be limited to about fifteen men. For the most part, Expedition assignments are made to College undergraduates who have had suitable training and experience for exploration work.

1. William A. O. Gross, Field Director, Bowdoin College
2. Ernest A. Joy, Warden and Winter Observer, Wood Island, Can.
3. James E. Levings, Chief-of-Surveying, Harvard University
4. Newell E. Gillett, Chief Navigator, Bowdoin College
5. John A. Crystal, Chief-of-Bird Banding, Bowdoin College
6. Latimer B. Hyde, Ornithologist, Bowdoin College
7. Howard B. Miller, Ornithologist, Bowdoin College
8. Thomas Gross, Chief Radio Operator, Brunswick, Maine
9. James W. Botsford, Commissary Officer, Buffalo, N.Y.
10. Ralph B. Savage, Machias Seal Island Base, Bowdoin College
11. Frederick H. Crystal, Asst. Radio Operator, Woodmere, L.I.

12. Henry A. Gleason, Jr., Botanist, Cornell University
13. Thomas Adams, Taxidermist, Bridgton Academy
14. N. Roy Pillsbury, Jr., Asst. Navigator, Bowdoin College
15. Charles B. Moseley, Biologist, Dartmouth College
16. Paul Murphy, Ornithologist, Summit, New Jersey
17. , Cook

An airplane pilot as yet unselected; Elmer Dunning, Mechanic; and Charles Ramsdell, carpenter and British Subject, will be connected with the expedition during the summer's operations.

A number of scientists have agreed to visit the Kent's Island Base and carry on research work for various periods of time during the summer:

Dr. Alfred O. Gross, Ornithology, Bowdoin College  
Prof. Philip W. Meserve, Geology, Bowdoin College  
Dr. David Potter, Botany, Clark University  
Mr. Charles Pomerat, Invertebrate Zoology, Clark University  
Mr. Richard C. Harlow, Oology, Harvard (Head Football Coach)  
Dr. Olin S. Pettingill, Ornithology, Westbrook Jr. College  
Mr. Arthur H. Norton, Mollusca, Portland Society Nat. Hist.  
Mr. Henry S. Shaw, Meteorology, Exeter, New Hampshire  
Mr. Thornton W. Burgess, Nature Writer, Springfield, Mass.

#### OBJECTIVES

Meteorology: One of the main objectives of the 1936 Expedition is the establishment of a meteorological station at Kent's Island. This station will be equipped with extensive weather recording devices that will enable the securing of a thorough survey of climatic conditions of the region at the mouth of the Bay of Fundy. The temperature of the air and the sea, the direction and velocity of the wind, the relative humidity of the atmosphere, the tide which is of great importance in the Bay of Fundy, and certain magnetic disturbances that have been noted at nearby points will all receive attention. We are very grateful to the assistance of the Harvard Meteorological Station at Blue Hill. Dr. Charles F. Brooks of the Blue Hill Station has given the expedition the use of an anemograph, a wind direction recorder, a thermograph, and a hydrograph. Mr. Shaw has contributed a specially-developed tide guage. A representative of the Blue Hill Observatory plans to visit the Island to examine the installation of the equipment. The meteorological observations will be carried on by Mr. Ernest Joy during the winter. It is planned to send daily weather reports from the Station by radio during the summer.

Ornithology: Kent's Island is one of the largest bird colonies along the Atlantic seaboard. This colony numbers some twenty thousand Herring Gulls besides many other forms, such as Eider Ducks, Petrels, Guillemots, Shore Birds, etc. On nearby Yellow Murr Ledge is a colony of Razor-billed Auks, a "cousin" of the famed extinct Great Auk. Intensive life history studies will be made of several species--special emphasis being placed upon the Gulls, Guillemots, Auks, Puffins, and Eider Ducks. It is planned to band some ten thousand birds with the numbered aluminum bands of the U.S. Biological Survey in order to effect studies of migration. This probably constitutes the most extensive banding operations by an expedition in recent years. Information regarding the over-abundant Herring Gull is to be secured for the benefit of the Canadian and United States Governments. Dr. Alfred O. Gross is sponsoring the ornithological investigations. Latimer B. Hyde and William A. O. Gross will complete their study of the Black Guillemot which was begun in 1935. Mr. Howard B. Miller will continue his study of the Black-backed Gull. Mr. Richard C. Harlow will make certain egg collections.

Biology: Research will be conducted in several fields of Biology besides Ornithology, Professor David Potter is preparing an extensive botanical report. Mr. Henry A. Gleason, Jr. will concentrate on botany during the course of the expedition. Four complete collections of plants will be made. One of these will be presented to the New York Botanical Garden and another to Harvard University. An ecological survey of the Island's plant life will be made--a description of plant associations and successions being involved. Mr. Charles Pomeroy will continue his investigation of the invertebrate forms--the nature of the region makes this study particularly important. Mr. Arthur H. Norton of the Portland Society of Nat. Hist. will make a survey of the Mollusca.

Geology: Professor Philip W. Meserve will make a survey of the Geology of the Island and the adjacent region.

Surveying: Mr. James E. Levings is in charge of the preparation of a large scale map (200 feet to the inch) of Kent's and the two adjoining islands. He will be assisted by members of the navigation department. The map will indicate the various types of terrain as well as contours at five foot intervals. Astronomical observations for latitude and longitude will be made. This constitutes the first intensive survey of the islands. Extension of surveying operations to include the Yellow Murr Ledge and Machias Seal Island will follow the completion of the work at Kent's Island. Mr. Levings will also investigate to a certain extent the magnetic disturbances that have been reported at several points near the Island.

Aerial Reconnaissance: It is planned to use an airplane in the photographic operations. Definite details of the flight to the Island are not yet available. It is probable that the cleared area on the Island will be suitable for a land plane. Otherwise a seaplane will be used. At this writing, negotiations are being made with Northeast Airways, Inc., of Portland, Maine, for a land ship. Radio communication will be established between Kent's Island and the flying field at Portland. This will eliminate the possibility of running into bad flying conditions in the Bay of Fundy during the flight. A five-meter transmitter and receiver will be installed on the plane and will be operated by one of the expedition's radio operators. Both motion pictures and still photographs will be made of the region near Kent's Island, and it is believed that the plane will prove useful in making population counts of bird life on various island colonies. Every effort will be made to establish the proper facilities at the Island for airplanes--its strategic position should make it an excellent emergency landing field. It has the only suitable field in that region.

Photography: A thorough photographic record will be made of all aspects of the expedition. A six-reel 16 mm. motion picture will be produced. Part of this film will be in natural colors. Standard 35 mm. film will be used in connection with the filming of important natural history subjects. The Bell & Howell Company has given the expedition every assistance in this work, and their Filmo and Eyemo cinema cameras will be used exclusively. Still photographs will likewise be made of the expedition's operations. The Expedition has a complete set of Graflex cameras that are equipped to secure any possible type of picture--flashlights of wild life, telephoto views, aerial photographs, etc. A Contax has been secured to serve on field parties and should prove most useful.

Machias Seal Island Sub-Base: Mr. Ralph B. Savage has been assigned to the new sub-station at Machias Seal Island. This island is about 12 miles South West of Kent's Island. It has one of the best colonies of Atlantic Puffins in existence. The Puffins are one of the most striking forms of bird life along the seaboard. They are fairly large in size, being related to the Auks, and have a large highly colored bill that has caused them to be called "Sea Parrots". Relatively little is known about their life history cycle, and Mr. Savage will concentrate his efforts on a study of this species. Mr. Crystal will carry on bird banding work (Arctic Terns, Puffins, Petrels) at Machias Seal Island before pursuing his banding of the young Herring Gulls at Kent's Island in August. Mr. Crystal will be relieved by another member from the base, so that the

sub-station will have a staff of at least two members during the entire course of the summer. Of unique interest is the fact that the political status of Machias Seal Island has never been ascertained. Both the United States and Canada have certain claims to the island, and the expedition will make an attempt to uncover additional evidence as to which country the island belongs. The Canadian Government now operates a lighthouse on the island, but there is reason to believe that a United States light was once maintained there. The Expedition's base will be in daily five-meter radio communication with the station at Machias Seal Island.

Radio Operations: The radio equipment of the expedition will be used for both communication and experimental purposes. The Canadian Government has very kindly agreed to grant the expedition suitable transmitting licenses. VELIN, the party's station, is probably the only Canadian-licensed amateur radio station in existence that is operated by Americans. The main transmitter is a Collins 30FXC 200 watts output short wave unit. The receiver is a Hallicrafter Super Skyrider. This station will be operated on all of the amateur bands above 28 megacycles. It is expected that the 75 and 20 meter phone bands will be most frequently used. Schedules have been arranged to handle messages from the expedition with United States amateurs in important cities. Frequent communication is planned with the Bowdoin College Physics Department's station WLOR, in Brunswick, Maine.

The main ultra high frequency station will use a high power concentric grid oscillator employing an HF-300 tube. Outputs up to 500 watts with complete modulation are obtainable. The Machias Seal Island base will be equipped with an ICA five-meter transceiver. It is hoped that this apparatus will facilitate experimental work together with reliable communication. The airplane will be equipped with a special RTL five-meter Duplex Transmitter-Receiver. The radio staff will endeavor to collect data upon five-meter reception under different meteorological conditions. It seems probable that our studies in five-meter communication should prove of great value to future exploring parties desiring suitable field communication.

Building Construction: One of the projects of the 1936 Expedition is the construction of suitable buildings of a permanent sort to house future as well as the present staff. Funds for two of these structures have been contributed by Messrs. Pike, Rockefeller, Shaw, and Pierce--for this assistance the Station is most grateful. Three buildings are planned. The Hodgson Company has generously donated a Hodgson Portable House (20' x 10') which will make an ideal structure for the meteorological and radio equipment. The second is a Mess Hall (40' x 16')

which will be the largest of the Station's buildings. A third building is a laboratory which will have a cellar and various refinements. It will be more or less removed from the main part of camp. The warden uses the present administration building for his winter quarters--this structure has proved very satisfactory, and the other buildings will be built from similar plans. A vessel will bring lumber and other building materials from Nova Scotia directly to the Island. Mr. Charles Ramsdell has been secured to do the carpentry work.

### CONTRIBUTIONS

It would be impossible to give a complete report in the Prospectus of the various contributions that have been made to the Expedition by various people and concerns. However, it would be well to mention these briefly at this time.

Commissary Department: Selection of a cook for the expedition has not yet been made. Mr. Botsford, Commissary Officer, will be responsible for the securing of foodstuffs once the party is in the field. The use of seal meat by the 1935 group was so successful that regular hunting parties will be organized this year. The gift of a kerosene-operated Electrolux refrigerator by Servel, Inc., will allow the keeping of this meat over extended periods so that seal can be served at regular intervals throughout the summer. A fine cook stove has been contributed by the Kalamazoo Stove Company for the base camp. The Burnham & Morrill Company is again supplying the Kent's Island party with food supplies. Other contributors of supplies include General Foods Corp., Geo. A. Hormel Co., Hawaiian Pineapple Co., Lever Bros., Libby, McNeil & Libby Co., California Fruit Growers Exchange, Corn Products Co., Standard Brands, Inc., Swift & Co., National Biscuit Co., R. J. Reynolds Tobacco Co.

Equipment: Among the concerns who have materially aided the expedition are Celotex Corp. (Pres. Dahlberg), Universal Motor Co., Hamilton Watch Co., Johnson Motor Co., American Brass Co., Sparklet Ltd., Western Clock Co., Carl Zeiss, Inc., Aluminum Co. of America, General Fireproofing Co. (Pres. George C. Brainard), Boston-Bostitch Co., Bendix Marine Products Co., Casein Co. of America, Inc., Hodgson Co., Folmer Graflex Corp., Bell & Howell Co., E. I. Du Pont Co., Western Cartridge Co., Winchester Repeating Arms Co., Dazey Churn & Mfg. Co., The Carborundum Co., Coleman Lamp and Stove Co., Sears, Roebuck & Co.

It is a great pleasure to state that the Standard Oil Co. of New York is again supplying all of the expedition's petroleum needs. The Exide Battery Co., a past supporter of the Bowdoin expeditions, is supplying a complete battery installation.

Mr. Bradford Washburn of the Institute of Geographical Exploration has most kindly lent surveying equipment to the expedition. The support of the Blue Hill Observatory has already been noted.

The manifold radio activities of the expedition have required much equipment and for this we acknowledge contributions from the following concerns: Collins Radio Co., Astatic Microphone Laboratories, Inc., Trimm Mfg. Co., Radio Transceiver Laboratories, Burgess Battery Co., E. F. Johnson Co., Amperex Electronic Products, Tobe Deutschmann Corp., National Union Radio Corp., Carter Motor Co., United Transformer Co., Franklin Transformer Co., Bliley Electric Co., Rola Co., Sprague Products Co., Allen D. Cardwell Corp., Sangamo Electric Co., Kester Solder Co., United Electronics Co., Kester Solder Co., United Electronics Co., Thordarson Transformer Co., Electric Soldering Iron Co., Doolittle and Falknor, Inc., Insuline Corporation of America, Belden Mfg. Co., Ward Leonard Electric Co., Triplett Electrical Instrument Co., Ohmite Mfg. Co., Heintz and Kaufman, Ltd., Hugh H. Eby, Inc., Universal Microphone Co., Wright Decoster, Inc., Pioneer Gene-motor Corp., Bud Radio, Inc., International Resistance Co., Radio Corp. of America, The Hallcrafters Co., and the Kato Co.

The Annual Report of the Bowdoin Scientific Station will incorporate a full review of the 1936 operations, several scientific treatises, and a list of bibliography of the Kent's Island expeditions. A copy will be sent upon request.

The Bursar of Bowdoin College serves as treasurer of the expedition and as the Brunswick representative during the summer. Mr. Alger W. Pike is the Agent for the expedition at Lubec, Maine, where the supply depot is located. Mail may be sent to the party by addressing it to White Head, Grand Manan, N.B., Canada. Radio messages may be sent via amateur radio stations. The expedition's call letters are VELIN.

The generous support that has been showered upon the Kent's Island Expedition is highly appreciated. To our friends and supporters, the party extends its best wishes, and trusts that its work will come up to their expectations.

Respectfully submitted,

WILLIAM A. O. GROSS  
(Field Director)

THE SECOND ANNUAL REPORT OF THE BOWDOIN SCIENTIFIC STATION

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John S. Rockefeller  
Sumner T. Pike  
Edward M. Goding  
Albert T. Gould  
Alger W. Pike  
Henry S. Shaw

Field Director

William A. O. Gross

THE BOWDOIN SCIENTIFIC STATION

Kent's Island, Bay of Fundy

Dominion of Canada