

REPORT ON THE ACTIVITIES  
OF THE  
JACKSON HOLE BIOLOGICAL RESEARCH STATION  
SUMMER 1956

L. Floyd Clarke, Director

## IMPROVEMENT OF PHYSICAL FACILITIES

Improvements continued during the past year.

1. As a result of Rural Electrification which was installed in 1955, additional electric outlets for lighting the grounds, and rewiring and additional wiring to various buildings was completed. The laboratory was provided with additional electrical appliances.
2. The central propane tank system installed during 1955 proved very effective. This system was further extended and improved last summer.
3. Plans were completed and approval obtained for obtaining housing and furnishings from the Jackson Lake Lodge Company at Moran. The units which are in the process of being moved this fall include:
  - a. The old Crandall Studio which is to be used for additional laboratory, library, and storage space.
  - b. Two living units to be furnished in a manner similar to the other living units.
  - c. One building to be converted into shower rooms and toilet facilities. This will require the installation of two wash basins, two toilets, two showers, and a septic tank.

The New York Zoological Society generously made an appropriation to assist in carrying out these plans for improvement.

4. The two old houses which are known as the Grimmacy place were put in usable condition for research workers last summer. These houses were in poor condition and required considerable repair and renovation before they could be utilized. Among other necessary repairs was the reroofing of these buildings. Since these houses are some distance from the Station and since we do not anticipate continuing to use them, electricity was not provided. Light was furnished by Coleman lanterns.
5. Additional cinder blocks were purchased and the project to replace the wooden supports under the cabins was continued.
6. The logs in all buildings were oil treated. The oil was applied by spray on the large buildings and with a brush on the small ones.
7. The research workers hauled gravel to resurface the roadway entering the Station.

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8. A new sign was constructed and placed at the entrance of the area. This sign states: BIOLOGICAL RESEARCH STATION of the NEW YORK ZOOLOGICAL SOCIETY and the UNIVERSITY OF WYOMING.
9. Constant attention was given to the general care and upkeep of the buildings and grounds.

No plans for addition of living units in excess of those mentioned above are anticipated. No attempt will be made to provide for all of those applying to do research. The large number of applicants will, however, give us an opportunity to select those research workers who will make the most significant contribution to the research program of the Station.



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### SEMINARS

An outstanding series of seminars was held during the summer with the following people participating. These seminars were held in the director's house. Slides and other visual aids were presented. Refreshments were served during the informal discussion periods which followed the lectures. This contributed to the informality of the occasion.

Margaret Altmann - Comparative study of social behavior in some wild ungulates of the U.S.A. and Europe.  
Charles S. Thornton - Influence of apical cap removal on limb regeneration in *Amblystoma*.  
Garth S. Kennington - Influence of altitude on animal metabolism.  
W. G. Solheim - Plant ecology in the Jackson Hole region.  
Alan A. Beetle - Significance of sagebrush and grass distributions.  
Gerald M. Scherba - Microclimate modification in ant mounds.  
Kenneth Armitage - Ecology and behavior of the yellow-bellied marmot.  
Norman Negus - Ecology of rodents; Distribution of weasels.  
Glenn A. Noble - Intestinal protozoa of mammals.  
George T. Baxter - Limnology of Swan Lake.  
Kenneth John - Observations on the Avoidance of obstacles by blind fishes.

Slides of wildlife and scenery were projected on several occasions for the enjoyment of the families of research workers. Informal conferences on station problems of mutual concern were held with station personnel. Campfire sings and picnics were held about once each week in which all participated.

### LIBRARY

The library books and journals are readily available for Station personnel. Some new books have been acquired and all subscriptions to periodicals continued.

Reprints continue to come in from research workers of previous years. These are made available as needed. A list of the reprints from publications which we have available on research conducted at the Station is included as an appendix to this report. Other papers are now in the process of being published. Duplicate copies of all reports of research workers during the past two summers are being prepared for use by the personnel at the Station. One copy is kept on file in the Department of Zoology at the University.

## COOPERATION WITH OTHER AGENCIES

Research workers at the Station cooperated with the Park Service, Forest Service, and Wyoming State Game and Fish Department exchanging ideas and mutually assisting each other to the benefit of all concerned. The Park Service personnel utilized the station laboratory including the museum for study. The relations with all these agencies were most freindly and helpful. We especially appreciate the cooperation of Mr. Frank Oberhansley, superintendent of Grand Teton National Park, Mr. Harry C. Parker, Chief Naturalist, Mr. Wilcox, district Ranger, Mr. Kransenberg, Cheif Engineer, and other Park Service personnel; and Mr. Arthur Buckingham, supervisor of the Forest Service and other Forest Service personnel.

## CONTRIBUTIONS TO VISITING SCIENTISTS

Approximately 200 people visited the Station during the summer. These visitors included many who were interested in various projects. Many of these contributed valuable suggestions to the research workers and in return received information of significance to their own scientific interests.

Because of the favorable location of the Research Station, it is able to render a service to the many scientists who visit the Jackson Hole area each summer either as members of scientific conventions or as individuals on vacation or on scientific projects in the area. As an example, the Rocky Mountain Section of the American Psychological Society held meetings at the Jackson Lake Lodge. Several behaviorists at this convention visited the Station to consult with the research specialists engaged in behavior studies. Among other conventions held at the Lodge in which members were interested in the research at the Station were the meetings of the Wyoming State Medical Society and a sectional meeting of Geologists. Among individuals who came to the Station to consult on scientific matters of concern to them were scientists from the U. S. Park Service; Wyoming Game and Fish Department, Federal Fish and Wildlife Service, U.S. Forest Service including the Regional Forest Pathologist, and other individuals too numerous to mention representing research agencies and institutions of higher learning. The following list of visitors might indicate the wide range of interest in the Station.

Dr. Ralph Ames, Head Department of Botany and Plant Pathology, Utah State Agricultural College.

Dr. Dale Bohmont, Head of Department of Agronomy, University of Wyoming Agricultural Experiment Station.

Dr. C. R. Carpenter, Head Department of Psychology, Pennsylvania State University, and Coordinator Animal Behavior Research Program, New York Zoological Society. Officially representing the New York



Zoological Society, gave valuable advice on projects underway and plans for the development of the Station.

Eugene Cronin, Botanist, U.S.D.A.

Dr. Frank C. Craighead, Supervisor of Rocky Mountain Sheep Refuge, Las Vegas, Nevada.

Miss Elizabeth Cushman, Student Conservation Corps Representative of the National Parks Association, to discuss the ways in which the Research Station can cooperate in the Training Program for the Student Conservation Corps.

Norberto Dellacroce, Italian Institute of Biology, Novara, Italy, on special assignment for biological study in this country.

Arthur S. Hale and J. Norvel Brown, Federal Fish and Wildlife Service.

Dr. E. H. Hen, Behaviorist, Department of Psychology, University of Chicago.

Dr. James L. Mickle, Forest Pathologist, Intermountain Forest and Range Experiment Station.

Dr. Fairfield Osborn, President, New York Zoological Society. Valuable advice on business operation, plans for improvement, and research projects which could be developed were given to the director.

Alec and Sig Overfeldt from Germany, in this country on special assignment for biological study.

Mr. Harry C. Parker, Chief Naturalist, Grand Teton National Park. And many other biologists from the Park Service.

George Post, Biologist, head of Wyoming Game and Fish Research Laboratory.

George Treichel, employed by New York Zoological Society to make extensive studies of African wildlife.

Dr. Eugene S. Tunnell, University of Colorado Medical Center.

Dr. C. A. Whitney, Psychiatrist, Veterans Administration Hospital and University of Utah Medical School.

Donald E. Wilbert, Range Specialist, Wyoming Game and Fish Department.

### PROJECTS FOR 1957

Margaret Altmann - Behavior of moose.  
Kenneth Armitage - Behavior of yellow-bellied marmot.  
Alan Beetle - Sagebrush-grass competition; Factors affecting the ecology of Teton National Forest.  
L. Floyd Clarke and George Baxter - Limnology of Swan Lake.  
Ralph Honess - Ecology of cattle helminth worms.  
Kenneth John - Population dynamics of Utah chub in Two Ocean Lake.  
Garth Kennington - Influence of altitude on animal metabolism.  
Norman Negus - Taxonomy and ecology of rodents.  
Glenn Noble - Intestinal protozoa of mammals.  
Gerald Scherba - Ecology of ants.  
Dixie Smith - Evaluation of certain exclosures.  
W. G. Solheim - Aquatic plants of Swan Lake; Fungi of the area.  
Charles S. Thornton - Regeneration of tissues in Amphibia.

Applications for the initiation of new projects have been received.



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## FINANCIAL REPORT

1955-1956

October 1, 1955-June 30, 1956

<u>Item</u>	<u>Budgeted</u>	<u>Expended</u>	<u>Carried Over to Next Year's Budget</u>
Part-time Assistants .....	\$ 850.00	\$ 850.00	
Equipment .....	500.31	500.31	
Supplies .....	305.68	305.68	
Contractual .....	1406.68	292.91	\$1113.77
Travel .....	170.11	78.99	91.12
Fixed Charges .....	<u>72.00</u>	<u>72.00</u>	
	\$3304.78	\$2099.89	\$1204.89

July 1, 1956-October 1, 1956

	<u>Budgeted</u>	<u>Expended</u>	<u>Unexpended</u>
Part-time Assistants ....	\$1000.00	\$ 350.00	\$ 650.00
Equipment .....	800.00	308.45	491.55
Supplies .....	464.00	359.36	104.64
Contractual .....	1741.77	755.89	985.88
Travel .....	491.12	190.56	300.56
Fixed Charges .....	36.00		36.00
Extraordinary Expense ...	<u>147.00</u>	<u>123.05</u>	<u>23.95</u>
	\$4679.89	\$2087.31	\$2592.58

\$560.20 received for lodging at the Station was placed in the General Fund of the University.

The New York Zoological Society contributed \$500 toward the Director's salary in the form of an honorarium.

Grants-in-aid in the amount of \$1600 were given by the New York Zoological Society.

Grants from the National Science Foundation amounted to \$9200.

\$7500 supplied by Interregional Research Program to Wyoming Agricultural Experiment Station for sagebrush study; \$5300 for cattle helminths study.

\$2000 from Natural Resources Board for range studies.