

JACKSON HOLE BIOLOGICAL RESEARCH STATION
ANNUAL REPORT
1974



Oscar H. Paris, Director
UNIVERSITY OF WYOMING
Laramie, Wyoming

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ACKNOWLEDGMENTS

It gives me great pleasure to acknowledge the many individuals who assisted me with their interest, advice, moral support, and labor during my second year as Director of the Jackson Hole Biological Research Station. Ms. Marty Wagner Paris participated in many activities of the Station, ranging from constructively discussing administrative problems with me to actively helping in the construction of a new roof on a building--I am extremely grateful for her continued interest and support. Tom Collins again served as a valuable assistant to me, putting in long hours working for the Station during the day and then conducting a productive research project at night. Jeri Kersten also contributed significantly to the Station's operation. Nobel Gregory provided us with his usual invaluable assistance. Many members of the Grand Teton National Park staff were very helpful to me and to various investigators at the Station. I am very grateful for the interest in the Station shown by Superintendent Gary Everhardt; while I am sorry that he is leaving GTNP, I am pleased to see him appointed as Director of the National Park Service. Tony Bevinneto, Charles McCurdy, Peter Hayden and Bob Woods were especially helpful on numerous occasions. Vice President Elliott Hays and Director of Finance Keith Raitt provided their usual helpful assistance in handling the Station's financial matters. Ms. Priscilla Moree, Administrative Secretary in the Department of Zoology and Physiology, has worked diligently and competently on the Station's accounts and on the Annual Report. Finally, I wish to express very special thanks to Janice and Fred Jannett; during their three years of year-round research at the Station they have cheerfully and generously contributed their time, energy, and devotion to JHBRS--we shall miss them.

O. H. Paris

ADVISORY BOARD

1973-74 Academic Year

Dr. R. O. Asplund, Department of Chemistry
 Dr. A. A. Beetle, Division of Plant Science
 Dr. R. C. Bergstrom, Division of Microbiology and Veterinary Medicine
 Dr. D. J. Crawford, Department of Botany
 Dr. K. L. Diem, Department of Zoology and Physiology (Secretary)
 Mr. Peter Hayden, Research Aquatic Biologist, Grand Teton National Park
 Dean R. J. McColloch, Graduate School
 Mr. Charles McCurdy, Chief Naturalist, Grand Teton National Park
 Dean E. G. Meyer, College of Arts and Sciences
 Mr. Thomas Milligan, Backcountry District Ranger, Grand Teton National Park
 Dr. O. H. Paris, Department of Zoology and Physiology (Chairperson)
 Mr. K. K. Raitt, Director of Finance and Budget
 Dr. J. H. Schultz, Department of Recreation and Park Administration

1974-75 Academic Year

Dr. R. O. Asplund, Department of Chemistry
 Dr. R. C. Bergstrom, Division of Microbiology and Veterinary Medicine
 Dr. D. J. Crawford, Department of Botany
 Dr. K. L. Diem, Department of Zoology and Physiology (Secretary)
 Mr. Peter Hayden, Research Aquatic Biologist, Grand Teton National Park
 Dean R. L. Howey, College of Arts and Sciences
 Dean R. J. McColloch, Graduate School
 Mr. Charles McCurdy, Chief Naturalist, Grand Teton National Park
 Dr. M. May, Division of Plant Science
 Dr. E. G. Meyer, Vice President for Research
 Mr. Thomas Milligan, Backcountry District Ranger, Grand Teton National Park
 Dr. O. H. Paris, Department of Zoology and Physiology (Chairperson)
 Mr. K. K. Raitt, Director of Finance and Budget
 Dr. D. S. Warder, Department of Recreation and Park Administration

INTRODUCTION

This document is the second Annual Report of the Jackson Hole Biological Research Station. It contains resumes of research carried out at the Station during 1974, descriptions of cooperation between the Station and other agencies, a list of seminars presented at the Station during the summer season, a description of continuing efforts to improve working and living facilities, a financial statement, and a list of publications resulting from research conducted at the Station.

Cooperation with Grand Teton National Park

The Station continues to consider one of its major objectives to be to sponsor and support research which will contribute to management problems or the naturalist interpretive program of Grand Teton National Park. Of the 20 projects carried out at the Station during 1974, 13 were directed toward problems of concern to GTNP. This compares to 18 projects in 1973, of which 9 were of explicit interest to the Park. Thus, in 1974 there was an increase in both total research activity, and in the proportion of research directed toward Park problems.

The National Park Service and Grand Teton National Park actively supported the Station's activities in many ways. Several of the projects received financial support from the Yellowstone Environmental Study Center, which is funded jointly by NPS and the University, or from other NPS funding sources. Various kinds of logistic support was provided by Park personnel to investigators from the Station who were working in the field. Park personnel from both Grand Teton and Yellowstone participated in the Station's seminar program.

Cooperation and Support from the New York Zoological Society

The Jackson Hole Biological Research Station continued to benefit from and enjoy its affiliation with the New York Zoological Society. The NYZS granted \$1764 to the Station in 1974, to help support research projects on coyotes, beaver, and fire ecology. This financial help greatly assisted these projects and the Station.

Improvement of Facilities

Efforts to improve the facilities continued during 1974. The most significant improvement was the rewiring of electrical systems in 13 of our 16 buildings. A complete modernization of the electrical systems in all of the old log structures was achieved; these structures were the Director's cottage, main laboratory, small laboratory, shop, bath house, and cabins 1, 2, 3, 6, 11, 12, and 15. In the Seminar Building, the 220V wiring for

the electric water heater was re-done. As a result we now have adequate lighting in all of the buildings, ovens in the laboratory can now be used, and residents can safely use such appliances as electric fry pans, toasters, and space heaters in the cabins.

The process of winterizing the small laboratory was continued. A double roof was installed on the building, with 3 inches of fiberglass insulation placed between the old and new roof. The work remaining to be done in this winterizing process is the installation of permanent storm windows (plastic sheeting is serving in this capacity temporarily), installation of a storm door and snow shelter at the entrance, and permanently close off the crawl space beneath the building (logs and plastic sheeting are serving in this capacity temporarily). We hope to finish this project in 1975.

All of the buildings needed to be treated with log oil or to be painted at the beginning of 1974. We purchased 15 gallons of linseed oil at the price of \$7.50/gal, with which we were able to cover the outside of the Director's cottage, the main laboratory building, and 1/2 of the small laboratory. Additional linseed oil would have cost \$11.25/gal, and log oil was priced at \$11.50/gal. Our dwindling supply and repair budgets made it necessary for us to suspend this project in 1974. We expect to resume oiling the old log buildings in 1975, and to paint the newer buildings (seminar and cabins 16, 17, and 18) either in 1975 or in 1976.

A variety of other improvements were made. New commodes were installed in the bath house. A new floor was installed in the attic of the shop. A new roof was installed on the Director's cottage. The garbage can area was cleaned up and a new stand constructed to keep the cans off the ground. A new barbecue pit and fire ring were built in the picnic area, and sections of logs were placed around the fire ring to serve as seats. Seven 6-lb. fire extinguishers (class ABC) were purchased as part of a program to phase out the old water-filled soda-acid or pressurized extinguishers, which have to be removed from the Station in the winter to prevent freezing; the new extinguishers are operable to -40°F and therefore can be left at the Station year round. Station personnel repainted our gate. The Park Service Maintenance Department repainted our signs at the entrance to the Station, and again applied a dust palliative to our drive.

Increased Research Activity

As was pointed out earlier, in 1974 20 research projects were carried out at the Station. This total is an increase of 2 projects over the number accommodated in 1973, an 11% increase. The increase in activity was further reflected in the fact that living quarters were totally filled from mid-June to mid-August, and two of the projects with very large staffs quartered some of their personnel at Park campgrounds. Rent received in 1974 amounts to \$877.01, compared to \$665.75 in 1973. Of the 20 projects

carried out at the Station in 1974, 6 were new and 14 were continuing. Two investigators worked at the laboratory year-round in 1974, utilizing the partially winterized small laboratory during the winter months. Resumes from the research projects are contained in the section which follows.

RESEARCH PROJECT REPORTS

SEMINARS

- June 18, 1974 "Olfactory Repellents for Coyotes"
Dr. Philip N. Lehner
Department of Zoology and Entomology
Colorado State University
- June 25 "The Bison of Yellowstone National Park"
Dr. M. Mary Meagher, Research Biologist
Yellowstone National Park
- July 2 "The Geophysics of Yellowstone National Park
and Seismic Activity in Grand Teton National Park"
Dr. Robert B. Smith
Department of Geological and Geophysical Sciences
The University of Utah
- July 9 "The Fire Management Program in Yellowstone
National Park"
Dr. Donald Despain, Research Biologist
Yellowstone National Park
- July 16 "Microbial Studies of a High Alpine Water Supply
Used for Recreation in Grand Teton National Park"
Dr. Gordon A. McFeters
Microbiology Department
Montana State University
- July 23 "Population Dynamics of Microtus montanus in
Jackson Hole"
Dr. Aelita J. Pinter
Department of Biological Sciences
University of New Orleans
- July 30 "Yellowstone Fisheries Investigations"
Dr. Jack Dean
U.S. Fish and Wildlife Service
Yellowstone National Park
- August 6 "From the Scientist's Research to the Naturalist's
Program in Grand Teton National Park"
Mr. Charles McCurdy, Chief Naturalist
Grand Teton National Park
- August 13 "The Grizzly Bear Management Program in Yellowstone
National Park"
Dr. Glen F. Cole, Supervisory Research Biologist
Yellowstone National Park

SCIENTIFIC VISITORS TO THE STATION

Dr. Robert Atherton
Department of Zoology and Physiology
The University of Wyoming
Laramie, Wyoming

Mr. Franz Camenzind
Department of Zoology and Physiology and
Department of Zoology and Entomology
Colorado State University
Fort Collins, Colorado

Dr. Rollin Denniston
Department of Zoology and Physiology
The University of Wyoming
Laramie, Wyoming

Dr. Paul A. Johnsgard
Department of Life Sciences
University of Nebraska
Lincoln, Nebraska

Dr. Charles Love
Western Wyoming Community College
Rock Springs, Wyoming

Mr. Fusao Shioyama
School of Agriculture
University of Utsunomiya
Utsunomiya City Tochigi-ken, Japan

Dr. Allen Stokes
Department of Wildlife Science
Utah State University
Logan, Utah

Mr. Walter M. Tzilkowski
Department of Forestry and Wildlife
University of Massachusetts
Amherst, Massachusetts

Ms. Sandra J. Walls
Department of Wildlife Science
Utah State University
Logan, Utah

COOPERATION WITH OTHER ORGANIZATIONS

Cooperation with Grand Teton National Park and the New York Zoological Society has been discussed already, on Page 1. Other organizations which cooperated with the Station included the National Elk Refuge, on which two of our research projects were conducted. In addition, the National Forest Service cooperated with several of our investigators, particularly in the area of fire ecology. The Wyoming Game and Fish Department in Jackson and Cheyenne cooperated with our investigators who were working with game and fur-bearing animals. Finally, students from Teton Science School and personnel from the Teton Environmental Education Center attended most of our seminars.

FINANCIAL REPORT

1973-74

<u>Item</u>	<u>Budgeted</u>	<u>Reappropriated from 1972-73</u>	<u>Total</u>	<u>Expended</u>
Assistants, P/T	\$ 2,100.00	\$	\$ 2,100.00	\$ 2,100.00
Research Project	9,100.00		9,100.00	9,100.00
Contractual	1,000.00	23.70	1,023.70	1,011.80
Contractual/Repairs	400.00	400.00	800.00	800.00
Travel	300.00		300.00	300.00
Supplies	1,800.00	1,885.58	3,685.58	3,685.58
Equipment	1,300.00	2,609.00	3,909.00	3,909.00
Fixed Charges	<u>100.00</u>	<u>386.00</u>	<u>486.00</u>	<u>486.00</u>
Total.	\$16,100.00	\$ 5,304.28	\$21,404.28	\$21,392.38

Rent received in the amount of \$665.75 was placed in the General Fund of the University of Wyoming.

Grants-in-aid totaling \$4500.00 were awarded to investigators by the New York Zoological Society.

1974-75

<u>Item</u>	<u>Budgeted</u>	<u>Reappropriated from 1973-74</u>	<u>Total</u>	<u>Expended*</u>
Assistants, P/T	\$11,300.00	\$	\$11,300.00	\$ 7,541.96
Contractual	1,100.00	569.81	1,669.81	1,322.76
Contractual/Repairs	400.00	392.16	792.16	1,241.30
Travel	400.00		400.00	400.00
Supplies	1,900.00	728.67	2,628.67	2,557.34
Equipment	1,400.00	436.86	1,836.86	594.91
Fixed Charges	<u>100.00</u>	<u>100.00</u>	<u>200.00</u>	<u>36.00</u>
Total.	\$16,600.00	\$2,227.50	\$18,827.50	\$13,694.27

Rent received in the amount of \$877.01 was placed in the General Fund of the University of Wyoming.

Grants-in-aid totaling \$1,764.00 were awarded to investigators by the New York Zoological Society.

*as of March 14, 1975.

