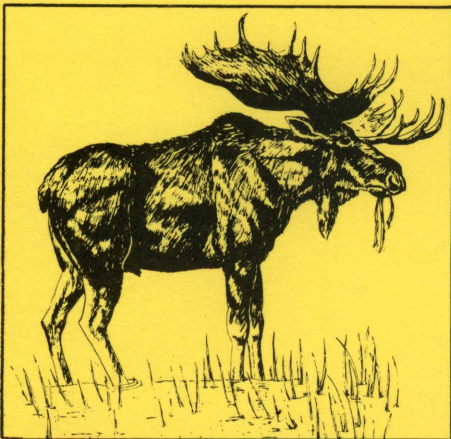
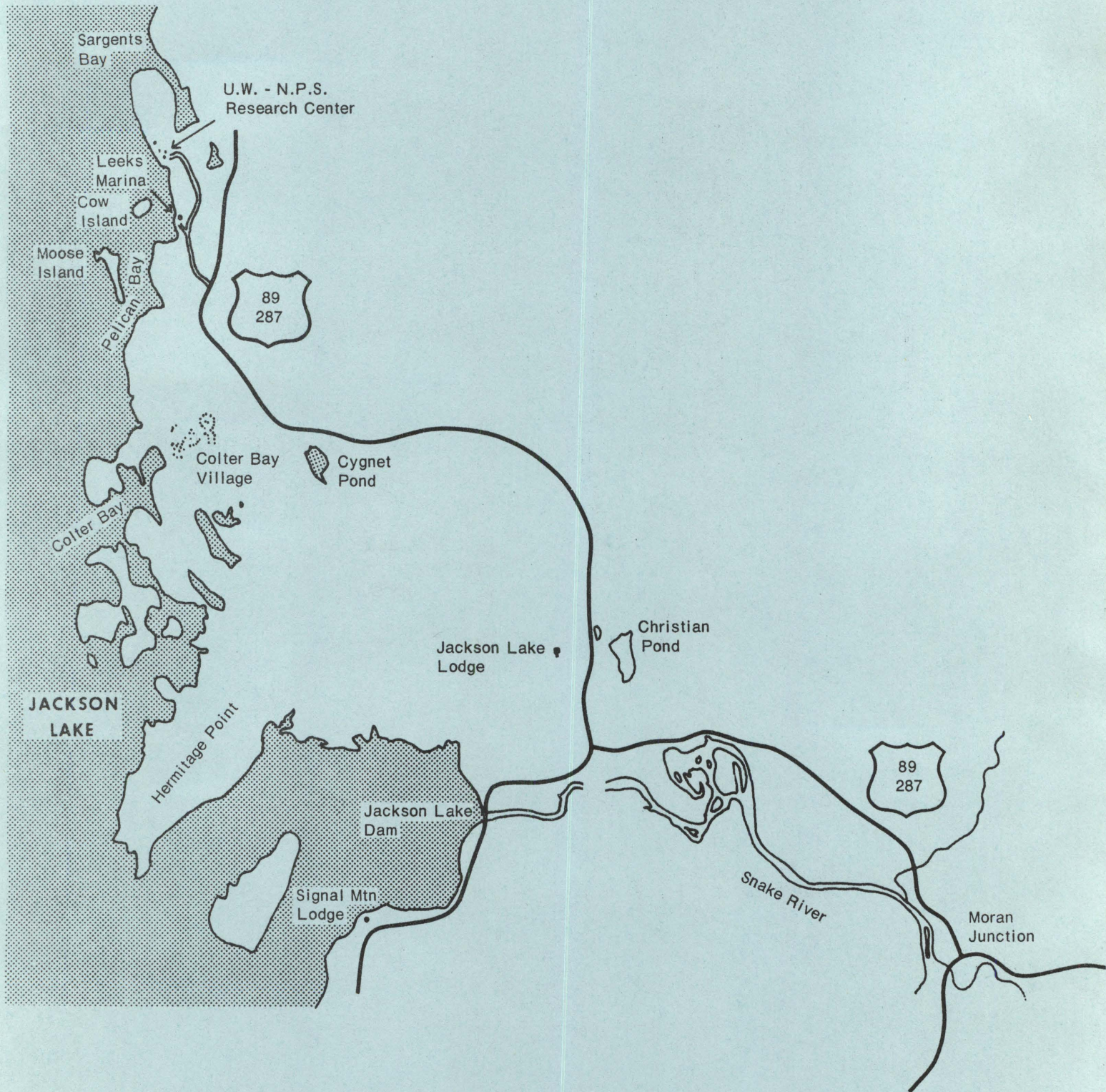




UNIVERSITY OF WYOMING-NATIONAL PARK SERVICE RESEARCH CENTER

University of Wyoming
National Park Service Research Center
Eighth Annual Report
1984





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PREFACE

The University of Wyoming-National Park Service Research Center sponsors and supports substantial and significant research in the biological, physical and social sciences which can best be done in National Park areas of Wyoming, Montana, North Dakota and South Dakota because of the unique features those areas possess. Administratively, the Research Center is governed by an 8-member Steering Committee composed of 4 University of Wyoming representatives and 4 National Park Service representatives. The Dean of the Arts and Sciences College serves as Committee Chairperson. A faculty member of the University of Wyoming is Director of the Research Center program and is administrator of the Research Center facilities. Also, the Director is an ex-officio member of the Steering Committee. The Research Center physical plant consists of laboratory, library, living, seminar, shop and storage accommodations. Those facilities are normally operational from mid-May to mid-October.

The Director annually calls for research proposals in early September from institutions and individuals requesting such notification. Included with this solicitation are 1) guidelines for proposal preparation, 2) housing and laboratory information, 3) Research Center operational policies, and 4) the Research Center operational calendar. Topics for research include 1) those research problems identified by Park personnel, and 2) research problems suggested by outside individuals on basic or applied proposals they consider to be timely and important and uniquely appropriate to the National Park areas of the four states concerned. While many of the research topics will be directed at solution to management problems and improvement of interpretation information, there will be a concerted effort to encourage and maintain support for a substantial basic research program. Research projects may extend beyond the exact boundaries of the Park areas to work on problems common to the Park lands and adjacent lands. Limited funds are available for support of meritorious research projects. Also, research studies may be funded by other institutions or by individuals.

Investigator(s) submitting proposals to the Research Center should be a faculty member of an academic institution or a full-time member of a governmental research institution. Scientific and fiscal accountability must be assigned to an academic or governmental research institution. Normally all proposals should reach the Director no later than mid-November. The decisions of the Steering Committee concerning approval and where applicable, funding, are released no later than early March.

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STEERING COMMITTEE MEMBERS

- Dr. Phyllis Bear, Department of Microbiology and Veterinary Medicine, University of Wyoming;
- Dr. Kenneth L. Diem, Ex-officio Member, and Director, UW-NPS Research Center;
- Dr. Michael Whelan, Department of Civil Engineering, University of Wyoming;
- Dr. James Steidtman, Department of Geology, University of Wyoming;
- Mr. Neil J. Reid, Chief Scientist, Rocky Mountain Region, National Park Service;
- Mr. Jack Stark, Superintendent, Grand Teton National Park, National Park Service;
- Mr. Jimmy D. Taylor, Superintendent, Grant-Kohrs Ranch National Historic Site, National Park Service;
- Mr. Robert Barbee, Superintendent, Yellowstone National Park, National Park Service;
- Dr. Joan Wadlow, Dean, Arts and Sciences College, University of Wyoming and Steering Committee Chairperson.

DIRECTOR'S REPORT

Thirty five proposals were submitted to the Research Center for the 1984 season. Twenty seven of these proposals submitted by investigators from 17 institutions were approved (Table 1). Research support totalling \$182,842 was awarded to 17 of these projects submitted by investigators from 10 institutions. Intensive management of both N.P.S. and State funds made it possible to supply funding for four projects approved but unfunded in 1983. This was not without cost since funds for 1985 projects will likely be decreased by approximately \$10,000.

Unexpected major repairs were required for part of the aging plumbing system in the Johnson Lodge and for the roof and some of the roof support members of the Sunroom Cabin. Grand Teton Park was able to provide funds for colored metal roofing in the foregoing cabin. The Johnson Lodge roofing has not been replaced since its construction in 1928. It will be necessary to replace that roofing no later than early fall 1985. Grand Teton Park has included that repair in their 1985 budget.

Increased investigator use of the Berol Lodge facilities required some protection for the bare fir flooring. The University was able to carpet the former living room and dining room areas. This floor covering not only provided the necessary floor protection but it reduced the noise level generated by researchers using that facility.

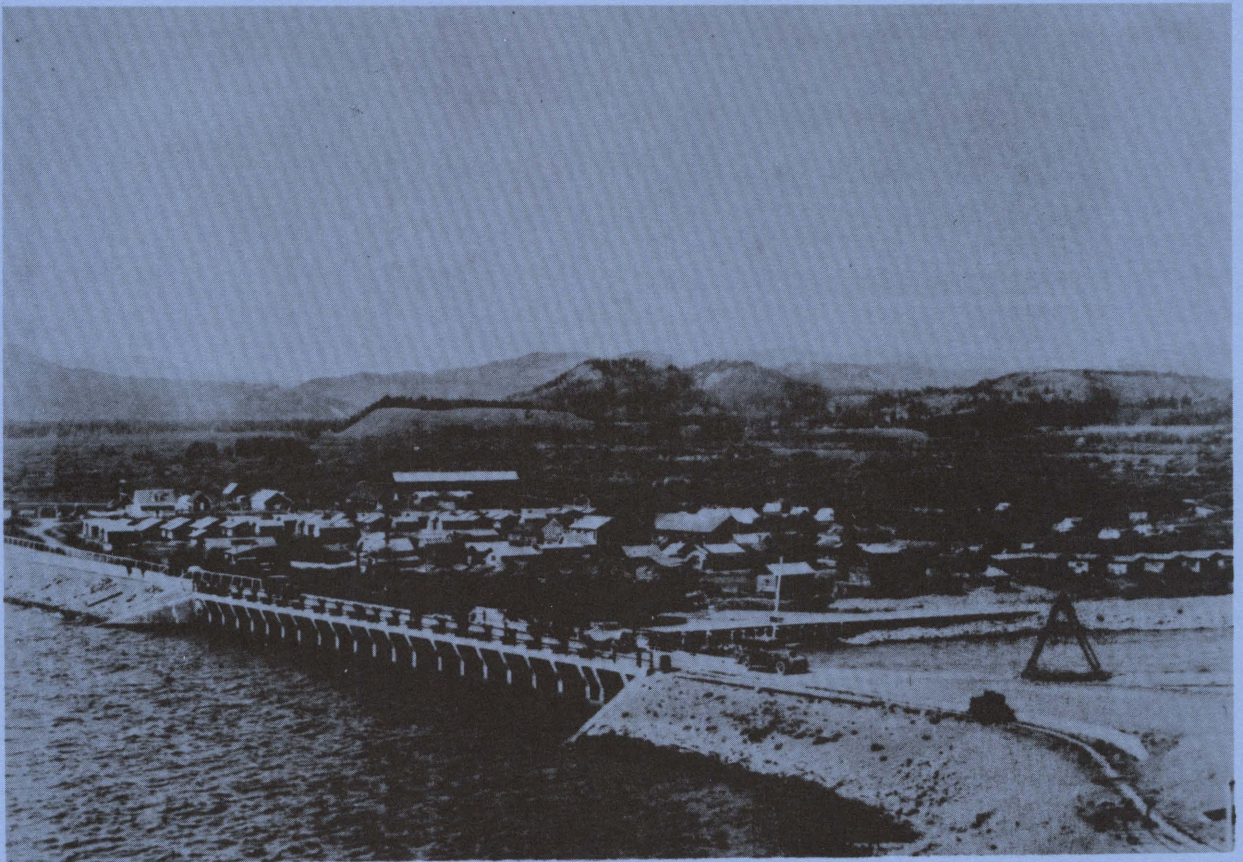
In September the Center again hosted the biennial meeting of scientist and/or resource managers from the National Park Service areas of Wyoming, Montana and North and South Dakota. In addition to evaluation of the Center program the participants developed the list of research topics for RFP solicitations in October. As an extension of that program improvement process, the Director visited Badlands National Park, Wind Cave National Park, Jewel Cave National Monument and Mount Rushmore National Monument. Discussions with park scientists, resource managers and park superintendents and on site visits of these areas were very productive.

Research resource capacities at the Center were improved in 1984 with the acquisition of microfiche and/or microfilm copies of 95% of the journal periodicals in the Center's Library. That change over provided an 80% increase of shelf storage space for new book acquisitions.

Table 1. Funding sources, recipient institution and location of research conducted through the U.W.-N.P.S. Research Center, 1984.

| | | Funding Source | | | | |
|---------------------|-----------------------------|-----------------------|------------------------------------|-----------------------------------|---------------|----------|
| Recip. | Location | National Park Service | | Other Grants or Non-Grant Support | | |
| | | Recip. | Location | Recip. | Fund | Location |
| A.R.S. | G.T.N.P. & Y.N.P. | Brigham Young Univ. | Badlands N.P. | Univ. of New Orleans | Priv. | G.T.N.P. |
| Univ. of Utah | G.T.N.P. | Oregon State Univ. | Custer Nat'l Battlefield | Univ. of S. CA | NSF | G.T.N.P. |
| Utah State Univ. | Devils Tower | ND State Univ. | Knife River Indian Villages N.H.S. | Univ. of San Francisco | Priv. | G.T.N.P. |
| Montana State Univ. | Glacier N.P. | Univ. of SD | Mt. Rushmore N.M. | Claremont Grad. Sch. | Priv. & Univ. | G.T.N.P. |
| Univ. of WY | Bighorn Canyon N. Rec. Area | SD State Univ. | Wind Cave N.P. | Ft. Lewis College | N.S.F. | Y.N.P. |
| Univ. of WY | G.T.N.P. | Univ. of CO | Y.N.P. | | | |
| Univ. of WY | G.T.N.P. | Utah State Univ. | Y.N.P. | MT S. Univ. | Priv. & Univ. | G.T.N.P. |

| | | | | | | |
|-------------|------------|----------------------|---------------------------|-------------------|-------------------|------------|
| Univ. of WY | G.T.N.P.P. | Univ. of WY | Bighorn Can. Rec. Area | Sc. Mus. of MN | Sc. Mus. of MN | G.T.N.P.P. |
| Univ. of WY | Y.N.P. | | | | | |
| Univ. of WY | G.T.N.P.P. | Ft. Lewis College | Y.N.P. | | | |



OLD TOWN MORAN
Photo By: Kenneth L. Diem

RESEARCH PROJECT REPORTS

The following project reports have been prepared primarily for administrative use. The information reported is of a preliminary nature and may be subject to change as the investigations continue. Consequently, the information presented may not be used without written permission from the author(s).

RESEARCH PROJECT REPORT

The following report has been prepared for the National Park Service, Wyoming State Office, Cheyenne, Wyoming. It is the result of a research project conducted by the author, [Name], during the period [Date] to [Date]. The project was funded by the National Park Service, Wyoming State Office, Cheyenne, Wyoming. The report is intended to provide information on the [Topic] and to serve as a basis for further research and management decisions. The findings of this project are presented in the following sections: [List of sections].

