

# **FIFTEEN YEARS OF RESEARCH: AN ANALYSIS OF THE UW-NPS RESEARCH CENTER, A COOPERATIVE PARK STUDIES UNIT**

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**GLENN E. PLUMB ♦ ASSISTANT DIRECTOR  
UW-NPS RESEARCH CENTER**

## **♦ UNIT HISTORY**

The foundation of the University of Wyoming-National Park Service Research Center (UW-NPS) is rooted in the first research station established in a national park. The Jackson Hole Research Station, was initiated in 1948 by the New York Zoological Society and the Jackson Hole Preserve, Inc. In 1953, the University of Wyoming (UW) joined with the New York Zoological Society in operating and sponsoring that facility and its research program. A name change in 1954 to the Jackson Hole Biological Research Station (JHBRS) described the research emphasis of the program. In 1971, the Yellowstone Environmental Research Center (YERC) program was jointly established by the University of Wyoming and the National Park Service (NPS). Finally, a cooperative agreement between the University and the NPS in 1977 joined JHBRS with YERC to form the present UW-NPS Research Center, the first Cooperative Park Studies Unit (CPSU) in the Rocky Mountain Region (RMR) of the NPS. A field research facility at the former AMK Ranch continues to be cooperatively operated and maintained in Grand Teton National Park under a long-term special use permit.

With this reorganization, UW and NPS agreed to jointly sponsor and administer a new research program covering 19 national park areas in four states: Wyoming, Montana, North Dakota and South Dakota. In 1985, Utah was added to the program,

and Colorado was added in 1990 to reach a total of 41 park units. The Research Center is headquartered in the Department of Zoology and Physiology on the University of Wyoming campus, Laramie.

## **♦ UNIT ORGANIZATION**

UW-NPS is one of the first CPSU's in the United States and is unique because it is the only CPSU to fund and administer research projects through a competitive process, and it is the only CPSU which operates a field research station. The Research Center is governed by a ten-member Steering Committee composed of 5 NPS representatives and 5 UW representatives and is chaired by the Dean of the College of Arts and Sciences, University of Wyoming. Administration of the program and the field facilities is carried out by a Director. The Director is a faculty member in the Department of Zoology and Physiology (50% administration, 25% teaching, and 25% research). In addition, other UW-NPS personnel include an Assistant Director (75% administration and 25% research); 1 secretary-accountant, 1 half-time caretaker and maintenance supervisor, and 2 student summer laborers. Although there are now many CPSU's, UW-NPS is also unique in that other CPSU's are staffed by NPS personnel, whereas the UW-NPS Director is a UW faculty member with 1/4 NPS administrative salary support.



The Research Center solicits research proposals from university faculty or full-time governmental research scientists throughout North America through a request for proposals. Research proposals address topics developed by NPS scientists, resource managers, and administrators and generally deal with questions of direct management importance as well as those of a basic scientific nature. The Research Center also considers unsolicited proposals addressing applied and basic scientific questions related to park management, but which may not have been included in the request for proposal packet described above. Research proposals are distributed to research specialists for peer review and are also reviewed by the Research Center's staff and Steering Committee. This committee is responsible for ranking the proposals based upon their scientific merit.

#### ◆ UNIT GOALS AND RESPONSIBILITIES

##### AS A RESEARCH UNIT

1. To sponsor a collaborative, unbiased research program between concerned agencies and scientists, which supports applied and basic research in the biological, physical, and social sciences, and; which will lead to a better understanding, interpretation and management of natural and cultural resources of concern in national park areas of Wyoming, Utah, Montana, North Dakota, South Dakota, and Colorado, and;
2. To provide opportunities and facilities for conducting limited research symposia, workshops, conferences, and to promote the exchange of scientific information and methodology pertinent to natural and cultural resources issues, and;

##### AS A PUBLIC SERVICE ENTITY:

3. To provide scientific expertise and perspective in the evaluation and solution of natural and cultural resource management issues, and:

##### AS AN ACADEMIC SUPPORT UNIT:

4. To facilitate the exchange of University of Wyoming faculty and NPS scientific personnel

for greater understanding in teaching, scientific investigations and resource management.

#### ◆ ANALYSIS OF UW-NPS

From 1984 - 1992, cooperative support between NPS and UW has allowed UW-NPS to award more than \$2.9 million to hundreds of research investigators from 45 host institutions (Table 1). During this period, NPS and UW contributed approximately \$2,560K (87%) and \$375K (13%) to research funding, respectively (Figure 1). Over the past seven years, research funds awarded through UW-NPS have expanded tremendously (from \$177K in 1985 to \$1.1 million in 1990) due to greatly increased commitment by the NPS RMR Branch of Science to regional research/management issues (e.g. NPS-NRPP: Program for insular populations) and the availability of Yellowstone National Park post-1988 fire research funds. While funds are competed for by authorized institutions from throughout North America, approximately 80% of total available funds have been awarded to host institutions located in the NPS Rocky Mountain Region (Table 1). Not represented by research funding is the cooperative financial support provided by NPS and UW for program administration and UW-NPS field station operation.

Although 45 institutions have successfully competed for funds, the goal of providing for an unbiased funding protocol has been achieved, for no single institution has received a disproportionate amount of NPS funding (see Figure 1). State of Wyoming funds can be awarded to any scientists working in Wyoming-based parks or Wyoming-based scientists working in parks outside of Wyoming. Between 1984 and 1988, UW funds supported 35 projects of which 22 were by out-of state researchers while NPS supported 62 projects of which 61 had non-Wyoming investigators. Total funds awarded to UW scientists from NPS funds during 1984-1991 are less than UW's financial contribution to the program. Budget reductions between 1987 and 1988 created a short term reduction in UW support for UW-NPS. Subsequently (1989-1991), increased funding (State of Wyoming research funds, salary for the Assistant Director, and improvements to the NPS owned UW-NPS Research Center field station) has reestablished UW's commitment (Figure 2).



Table 1. Research funding made available to 45 host institutions through UW-NPS Research Center from 1984 - 1991.

INSTITUTION	NPS REGION/PARK	UNIV.WYO.	TOTAL
Univ. of Wyoming	368,308	125,650	493,958
Utah State Univ.	241,286	5,568	246,854
Univ. of Montana	158,215	25,282	183,497
Fort Lewis College	178,780 <sup>1</sup>	0	178,780
Montana State Univ.	148,871	29,326	178,197
Syracuse Univ.	168,181	0	168,181
Univ. of Colorado	136,080	12,189	148,269
Univ. of Idaho	111,800	0	111,800
Univ. of Minnesota	94,447	13,970	108,417
Idaho State Univ.	95,222	8,673	103,895
Univ. of South Dakota	101,960	0	101,960
Brigham Young Univ.	97,306	0	97,306
Univ. of Oklahoma	69,500	0	69,500
San Juan College	67,877	0	67,877
Carnegie Mus. of Nat. Hist.	15,730	51,669	67,399
Univ. of Utah	29,321	33,850	63,171
Colorado State Univ.	55,513	0	55,513
U.S. Geol. Survey	31,520	15,994	47,514
Univ. of Oregon	44,950	0	44,950
U.S. Forest Service	42,700	0	42,700
Univ. of Nevada	36,552	0	36,552
Cornell Univ.	31,839	0	31,839
New Mexico State Univ.	0	29,197	29,197
Univ. of Northern Arizona	29,000	0	29,000
Colorado Dept. Nat. Res.	27,898	0	27,898
Loma Linda Univ.	15,776	5,000	20,776
Univ. of Nebraska (Omaha)	10,813	8,900	19,713
Northern Arizona Univ.	18,455	0	18,455
Oregon State Univ.	16,235	0	16,235
Western Wyoming College	15,990	0	15,990
Humboldt State Univ.	13,896	0	13,896
Univ. of Wisconsin	13,873	0	13,873
Snow College	13,702	0	13,702
Univ. of North Dakota	12,956	0	12,956
North Dakota State Univ.	12,499	0	12,499
Weber State College	12,000	0	12,000
Medaille College	4,937	0	4,937
Univ. of California	0	4,431	4,431
Univ. of Southern Colorado	3,612	0	3,612
San Diego State Univ.	3,500	0	3,500
Montana College of Mines	3,492	0	3,492
Purdue Univ.	3,450	0	3,450
Illinois State Univ.	0	3,410	3,410
South Dakota State Univ.	2,411	0	2,411
Univ. of New Mexico	0	1,817	1,817
<b>TOTALS</b>	<b>2,560,453</b>	<b>374,926</b>	<b>2,935,379</b>

\$61,600 awarded by USDA Forest Service in cooperation with NPS.

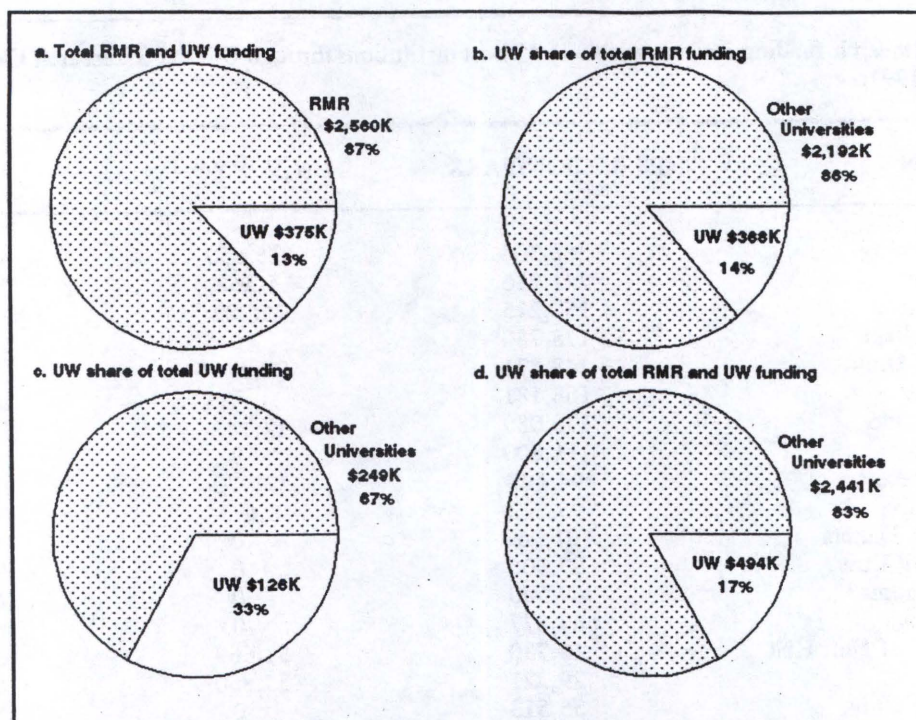


Figure 1. Research funding made available through the UW-NPS Research Center from 1984-1991: a. Funding contribution by NPS Rocky Mountain Region (RMR) and University of Wyoming (UW); b. Awards from available RMR funds; c. Awards from available State of Wyoming funds, and; d. Awards from total available RMR and State of Wyoming funds.

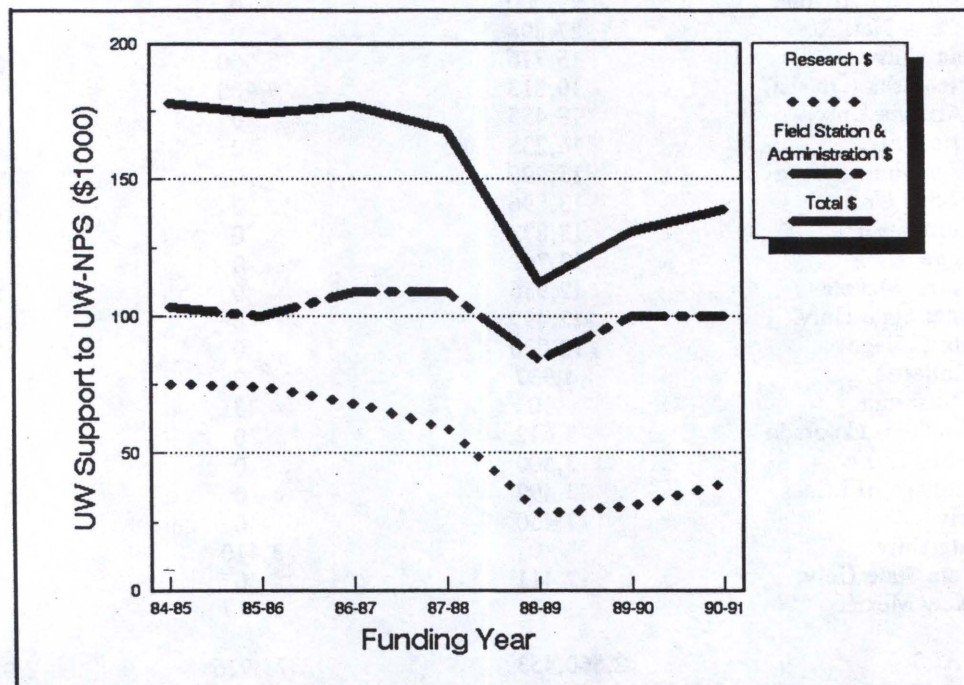


Figure 2. Contribution by University of Wyoming to the UW-NPS Research Center during 1984-1991.



Since its inception, more than 350 papers, theses, and abstracts have been published as a result of support provided through UW-NPS (UW-NPS Bibliography, 1951-1991). Additionally, UW-NPS staff provides service and extension functions by consulting with NPS resource managers and scientists, and other federal and state agencies regarding research needs. Outreach and extension services are also provided by involving residents and park employees in workshops and seminars focusing on research important to Grand Teton National Park and the Greater Yellowstone Ecosystem.

In the past 8 years, the UW-NPS Research Center's field station has provided the setting for more than 100 research investigations by scientists from around the world; as well as more than 20 important limited symposia, workshops, and conferences including the North American Conference of Mycorrhizae, the North American Oligochete Society Bi-Annual Meeting, the International Conference on Martens, numerous inter-agency task groups meetings and section meetings of the Wildlife Society.

The Research Center also plays a major role in supporting the exchange of scientific information and methodology pertinent to natural and cultural resources issues in park areas. Since 1987, UW-NPS staff have published 4 books (e.g. Boyce 1989 and Keiter and Boyce 1991), >20 refereed papers, and given >40 presentations at local, regional, national, and international professional meetings. UW-NPS staff have also recently provided important support for major conferences and symposia such as "Examining the Greater Yellowstone Ecosystem: A Symposium on Land and Resource Management-1989", and "Plants and their environments: first biennial scientific conference on the Greater Yellowstone Ecosystem-1991".

In order to facilitate exchange of understanding in teaching, scientific investigations and resource management between UW faculty and NPS, 12 NPS scientists have recently been given appointments as Adjunct Professors at the University of Wyoming.

## ◆ SUMMARY

In 1989 the UW Provost hosted an academic review of the Research Center (Office of the UW Provost 1989). The review committee gave the program high marks for enhancing cooperative relations with NPS, and emphasized that the program is a "real and significant asset" to UW, "consistent

with the strength of the University in teaching and research in the area of natural resources." The review also emphasized UW-NPS's value to the State of Wyoming and noted that "As the State searches for additional resources, the Center's activities can be usefully advocated for making contributions to economic development and the enhancement of tourism." The review report concluded that the "program represents a successful cooperative venture of which the University and the State of Wyoming should be proud."

In addition to UW's review of the program, the Inspector General's Office of the U.S. Department of the Interior also reviewed the program in 1989 and praised the cooperative program suggesting that it was unique in the nation, and should serve as a model for other Cooperative Park Studies Units (Office of Inspector General 1990). Strengths that were emphasized included an efficient mechanism for administering federal research contracts, and a highly cost-effective vehicle to ensure the best possible science in national parks. In reviewing NPS's need for reliable knowledge gained through research, Leopold (1991) regards UW-NPS's competitive grants program as a successful if "little appreciated" marriage of agency and academia. I believe that competition is fundamental to ensuring good science. As in all endeavors, only stiff competition brings out the very best; so as to increase the quality of proposals and research being conducted in national parks (Boyce 1990).

Presently, because NPS does not have a clear mandate from congress that includes research, NPS must justify research as a support service on which to base resource management (National Park Service 1991). As such, matching funds represent a very important source of support for research being conducted in national parks. An important role of UW-NPS to date has been to attract outside funding support for research in parks of the Rocky Mountain Region. Research proposals submitted to UW-NPS often bring funding from outside sources to supplement their budgets. In fact, during the UW-NPS 1990-1991 funding year, research investigations (43) received an average \$14,120 while contributing an average \$12,782 in matching support. Important research funds successfully encumbered through UW-NPS for science in national parks have come from NPS, universities and colleges, the State of Wyoming, the Montana Department of Fish, Wildlife and Parks, the U.S.D.A. Forest Service, the U.S. Fish and Wildlife Service, the U.S. Geological Survey, and other non-NPS funds.



Continued support for the UW-NPS Research Center is delayed while the NPS science program is being reviewed by the National Academy of Science. It is expected that the NAS report will make recommendations for the administration of NPS cooperative research programs. In the meantime, the UW-NPS Research Center continues to support park-based research using State of Wyoming funds. The Research Center is also participating in developing climate change studies funded by NPS and will be an important participant in the new Central Grasslands climate change research program involving a number of NPS units.

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