TEACHING/RESEARCH/SERVICE
Wilderness Research Center
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University of Idaho
College of Forestry, Wildlife
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Moscow, Idaho 83843 U.S.A.

January 3, 1992

Douglas G. Fox
Interior West Global Change Program
Rocky Mountain Forest & Range Exp. Sta.
240 West Prospect
Fort Collins, CO 80526-2098

Re: Cooperative Research Agreement

Dear Doug:

I'm pleased that you are willing to help us continue our efforts of environmental monitoring. The proposal is limited in scope but my main emphasis is to develop the environmental monitoring program at Taylor Ranch and, as you stated, we can add components in the future. I've gone through the proposal with John Hendee, Leon Neuenschwander and Dick Bottger, the college's administrative director. There's a few minor changes to the text and budget. When you send the cooperative agreement back for signatures, please include water sampling protocols, procedures for mailing samples, etc., and I'll get things rolling at the ranch. I assume Rush Creek would be the best stream to monitor although we could certainly do all four streams at the ranch if the agreement can support the analyses. A decision about placement of the meteorological station hasn't been made. I should be meeting with Payette Forest meteorological folks in March. We've suggested that another possibility would be placement on the Rush Creek lookout. The District Ranger reacted favorably but we'll have to wait and see. Meanwhile, I can move the station to our lower pasture, isolated from much of the ranch.

What's your thinking on the utility of continuing collection of soil, litter, and moss samples? We have 2 years (1989 & 1991) of moss, humus, and soil samples collected near Taylor Ranch following Bruce Wiersma's protocol. INEL analyzed the 1989 samples for 26 elements. Attached are 2 graphs Greg White put together comparing concentrations of 3 metals at Taylor Ranch and their Nancy Lake site. INEL, as you know, apparently is out of the environmental monitoring business (Greg White starts grad school with Bruce Wiersma this January) but we can have the samples analyzed here. The cost to have moss, litter, and soil samples (1 site, 10 subsamples for each medium) analyzed each year at UI is about $700.00.

I apologize for taking so long to respond to the proposal. Miscommunication among us here as to who was doing what. In the future, there'll probably be less delay on our end if you contact me directly. I can push whatever paperwork through the necessary channels fairly quickly.

Regards,

Jeffrey Yeo

Dr. Jeffrey Yeo
Scientist/Manager
(208) 885-5779

cc: L. Neuenschwander, J. Hendee, D. Bottger

COOPERATIVE RESEARCH AGREEMENT

Intermountain Station and University of Idaho

Title: Global Change Research, Environmental Monitoring and Assessment in cooperation with the University of Idaho, at the Taylor Ranch Wilderness Field Station.

Initiation: 1 December 1991

Funding: INT-4455 $5,200

Objective:

1) To monitor meteorology and air quality at the Taylor Ranch Wilderness Research Station within the Frank Church River-of-No-Return Wilderness.

2) To develop a coordinated research plan between the University of Idaho, the Interior West Global Change Research Program and appropriate management and staff from Regions 1 and 4 and relevant Forests and Districts. The plan will identify research needed to provide background information for wilderness research, environmental monitoring and assessment of conditions in the nation's largest wilderness complex in the lower 48 states:

Background:

The University of Idaho Wilderness Research Center (WRC) in the College of Forestry, Wildlife and Range Sciences operates the Taylor Ranch Wilderness Field Station as a focal point for interdisciplinary wilderness-related research by the University and cooperating institutions. A cooperative effort between the Wilderness Research Center and the Idaho National Engineering Laboratory (INEL) to develop background atmospheric monitoring as part of an integrated global environmental monitoring network was established in 1988. An atmospheric monitoring station was purchased and air, water, soil, and vegetation samples were collected in 1990 89 and will be again in 1991.

The 65-acre Taylor Ranch Field Station, located on the Big Creek drainage in the heart of the 2.3 million acre Frank Church River-of-No-Return Wilderness in central Idaho, is ideally suited for the location of such research. It is staffed year-round, has basic laboratory facilities, residence cabins, pack stock and an airstrip, four pristine mountain streams crossing the property, and it is the focal point for an on-going environmental and ecological research program focused on the wilderness conditions. Because Taylor Ranch is located in the center of the largest continuous acreage of designated wilderness in the lower 48 states, it serves as an excellent background site for a regional atmospheric monitoring program. Thus the research opportunity is "wilderness dependent," i.e. it will advance scientific understanding dependent on the wilderness conditions in the nation's largest wilderness complex. FCRNRW currently is proposed for United Nations Biosphere Reserve status.

National and international concerns about global change, including the effects of global warming, acid deposition, and air-borne pollutants on natural communities, will make long-term environmental monitoring and assessment increasingly important over the next several decades. The University has developed a program of wilderness research, which includes long-term environmental and ecological monitoring, over the past 2 decades at Taylor Ranch and elsewhere. The U.S. Forest Service recognizes the importance of long-term monitoring of ecological and environmental conditions of the lands

under its management. It is also active in the development of a number of international efforts to support monitoring networks. Some of these include:

USDA/Forest Service-Forest Health Monitoring
USEPA-EMAP
USDOI/BLM-IWAES and paired ecosystem study between N. America and USSR
North American Forestry Commission/Canada/Mexico/US-ARNEWS

In this cooperative program, the University provides an automated atmospheric air quality sampler plus Taylor Ranch personnel to perform routine collection of water samples and service on monitoring instruments. The USFS provides technical support, sample collection supplies (sterile plastic bags, water bottles, etc.), and laboratory analysis. University and Forest Service scientists will compile and analyze resultant data.

Procedures:

(A) Initial monitoring will be limited to meteorology, air quality, and water quality. Meteorology monitoring equipment will be contributed by the University and operated by University personnel. Air quality monitoring will utilize filter pack technology described in Fox, et al (1987) and currently being implemented by the BLM. Filter pack equipment will be provided by the Forest Service and operated by University personnel. The technology involved in filter pack operation is only developing at the current time so this instrument will be provided when available. Water quality samples will be provided on a monthly basis. University will collect the samples using FS provided equipment and protocols. Forest Service will analyze the samples.

(B) The environmental monitoring and research procedures employed on National Forest land will be the minimum methods capable of achieving the essential results, in compliance with the spirit and policy applicable to the wilderness setting and the wilderness dependent opportunity to advance scientific understanding.

(C) Research will be conducted without the permanent installation of any fixed structures within the wilderness boundaries.

(D) University will be available for consultation regarding the development of research plans associated with identifying the role of wilderness in global change research.

Fox, D.G.; Bernardo, J.C. and Hoad, B. 1987. Guidelines for Measuring the Physical and Biological Condition of Wilderness Ecosystems. GTR-RM-146. 48p.

Budget

University Contribution

Salary Technician	$2,000.00
Fringe Benefits (24.5%)	490.00
Overhead	
31.3% x 2490	780.00
TOTAL UNIVERSITY CONTRIBUTION	$3,270.00

Forest Service Contribution

IWGC Funding to University

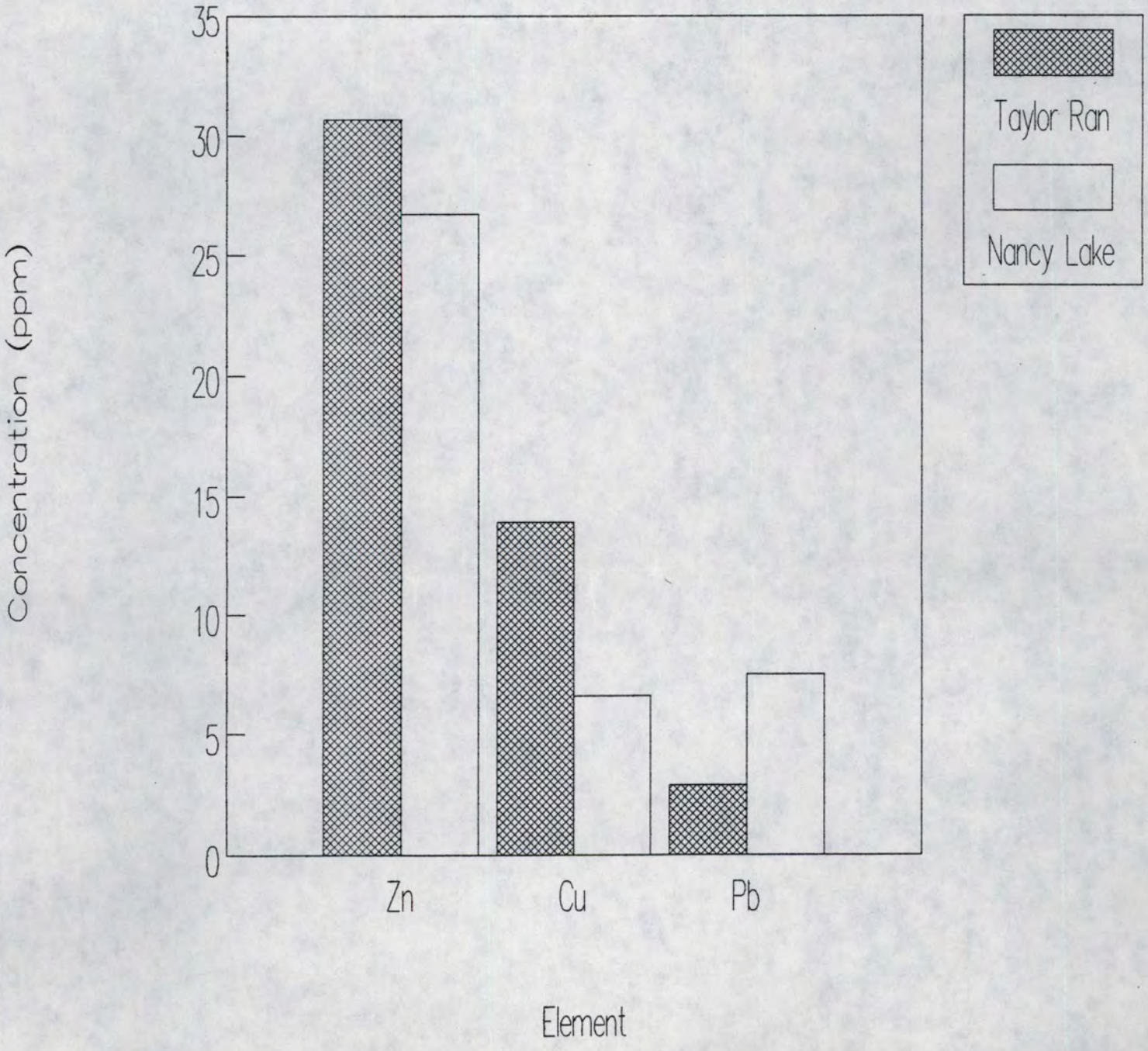
Sample equipment and shipping	$ 500.00
Personnel	2,000.00
Travel	500.00
	$3,000.00

IWGC Funding to RM-4452

Water sample analysis	
12 Samples @ $100/sample	$1,200.00
Meteorological data reduction	1,000.00
	$2,200.00
TOTAL FS CONTRIBUTION	$5,200.00

LITTER SAMPLES, 1989

Taylor Ranch v. Nancy Lake



MOSS SAMPLES, 1989

Taylor Ranch v. Nancy Lake