



**Proposal for a Long-Term Wilderness Ecosystem Research and Monitoring  
System in the FC-RNRW**

**BY**

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**and**

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**I. Objectives:**

- (1) To compile long-term, integrated, baseline data;**
- (2) That measures wilderness values and attributes of naturalness and solitude;**
- (3) Suitable for :**
  - A. Assessing external and internal threats to wilderness conditions;**
  - B. Defining natural ecosystem processes to support ecosystem management; address forest and range health; and endangered species;**
  - C. Address wilderness management issues;**
  - D. Meet other information needs.**

**II. Logical Partners in the Consortium:**

**USFS R-4; R-1**

**Idaho Fish and Game**

**Aldo Leopold Wilderness Research Institute**

**University of Idaho Wilderness Research Center**

**F&WS - Idaho Cooperative F&W Research Unit**

**National Biological Service - IWAES and Paired  
Ecosystem Studies**

**Bureau of Land Management**

**Ag Research Service - NW Water Research Center**

**Others? As partners or consumers?**

**Wilderness Society**

**Wilderness Watch**

**Idaho Outfitters and Guides**

**III. Elements of Cooperation:**

- A. Consortium of partner institutions contributing financial or in-kind support;**
- B. Direction, guidance and feedback through an Executive Steering Committee from principal partners;**
- C. Annual reports of baseline measures and other study data;**
- D. Sharing of pertinent information for the data base from each partner institution's activity (e.g., big game or fish counts or hunting permits; wilderness visitation data, etc.).**

**IV. Organization, Direction and Management:**

- A. An Executive Steering Committee (ESC) consisting of principal leaders for the partner institutions**
- B. ESC to be co-chaired by the responsible land management and research officials (Regional Forester or Unit Administrator); Director Leopold Institute; Director UI-Wilderness Research Center.**
- C. ESC duties would be to:**
  - (1) Define information needs;**
  - (2) Provide strategic direction with advice from a Scientific Steering Committee;**
  - (3) Provide and coordinate funding;**

- (4) Meet at least annually to consider findings and provide feedback.

**V. Scientific Steering Committee (SSC):**

- A. Consisting of principal scientists from the consortium partners and maybe others;
- B. Chaired by prominent scientific leaders(s) in appropriate fields;
- C. SSC Duties:
  1. Advise ESC on research/monitoring priorities, locations, data system and data collection;
  2. Solicit and peer review RFPs;
  3. Quality control consideration.

**VI. Scope and Integration:**

- A. Information needs and clearly defined questions will guide data collection.
- B. Intensive Data Collection focused in one major, "baseline drainage" that contains most wilderness attributes (such as Waterfall Creek), to provide a reference point for studies and data from other locations (in the wilderness complex and for other monitoring efforts such as IWAES, paired ecosystems, Reynolds Creek, etc.
- C. Supplemental data collection locations will be used as necessary to complete the continuum of desired information on wilderness attributes (e.g. collect anadromous fisheries data from Rush Creek since Waterfall Creek does not have them; location of atmospheric monitoring station at Taylor Ranch or Rush Peak Lookout if not allowed in Waterfall Creek, or Salmon Forest lichen study monitoring site).
- D. All relevant studies in the wilderness will be integrated into the data system -- through design of a flexible, data management/GIS system, study reporting requirements and feedback, peer review, etc.

**VII. Information Needs/Data Collection:**

- A. Wilderness Values/Attributes
  1. Air quality (chemical and visibility)
  2. Water quality, bio-chemical and turbidity of lakes and streams
  3. Noise -- natural background and introduced
  4. Recreation
    - a) Extent (type, length, season, purpose)
    - b) Recreation impacts
  5. Solitude (maybe an index from 3 and 4)
  6. Naturalness
    - a) Plant communities/habitats (aquatic, riparian, terrestrial)
    - b) animal populations: (aquatic, terrestrial, avian)
    - c) Disturbance regimes (fire, flood, wind, avalanche, insects, disease)

- d) Exotics (species, rate of spread, ecological trajectories)
- 7. Cultural sites
- 8. Meteorology: temperature, precipitation, wind, solar radiation, etc.

**VIII. Priority Actions:**

- 1. Commitment by leaders in wilderness ecosystem research and monitoring by Forest Service R-4 and FC-RNRW; Leopold Institute; and UI-WRC.
- 2. Develop strategic framework and vision for planning.
  - A. Solicit partner institutions
  - B. Form Executive Steering Committee
  - C. Appoint Scientific Steering Committee
  - D. Visit candidate areas (Waterfall Creek, Rush Creek, etc.)
- 3. Develop a Research and Monitoring Strategic Plan specifying:
  - A. Institutional Cooperative Agreements
  - B. Study and data collection locations
  - C. Data collection needs, priorities, methods, guiding questions.
  - D. Coordination with Wilderness Management (fire, recreation, hunting, fish, outfitters).
  - E. Opportunities to integrate related studies
  - F. Criteria for data management systems
  - G. Financial requirements and strategy

**IX. Implement Action Plan**

- A. Develop data management system -- Cooperative Agreement Proposal from UI-WRC to develop system.
- B. Arrange to extend and integrate on-going studies into the baseline watershed e.g., Jeff Yeo's terrestrial monitoring, Minshall's riparian studies, Peterson's amphibian studies; Peek's habitat utilization and succession studies; Krumpe's campsite inventory and impact studies; BYU lichen study.
- C. Establish wilderness attribute monitoring system (data collection in the baseline watershed and supplemental areas.
- D. Host FC-RNRW research and monitoring workshop for:
  - 1. Presentation and review of on-going and potential research and monitoring in FC-RNRW
  - 2. Complete development of a research and monitoring agenda for FC-RNRW.
  - 3. Develop specific proposals.

**X. Proposed Roles of UI-Wilderness Research Center**

- A. A principal partner in executive leadership and planning with FS (R-4 and FC-RNRW) and Leopold Institute;
- B. Use of University (WRC) framework:
  - 1. For conducting research and monitoring program (Graduate research assistants under faculty supervision);
  - 2. Seasonal work by faculty;

3. **Publishing and peer review of results;**
  4. **Maintain long-term data system;**
  5. **Facilitate external funding;**
- C. **Use of Taylor Ranch Wilderness Field Station as staging area for fieldwork;**
  - D. **Hands on work: writing plans; convening workshops; arranging field trips; communicating results; soliciting and peer review of RFP's; etc.**
  - E. **National and international communication and coordination with scientific community.**

C:Ogden