
The GRSLE Project

Beginning in 2001, field teams from Colorado State University have undertaken research along the Greybull River Drainage in Northwestern Wyoming. The results of this three-year project have been showcased at the 2004 Gunnison River Symposium in Idaho. The Greybull River Sustainable Landscape Ecology (GRSLE) Project focuses on the archaeological, biological, and physical properties of a relatively undisturbed landscape in the Greater Yellowstone Ecosystem.

TRIPLE S ARCHAEOLOGY

The primary objectives of this project are:

1. To develop a better understanding of long-term human impacts with an emphasis on baseline documentation and monitoring modified by 20th-century development. Although the area has seen relatively low human impacts, this project will build a baseline for future analysis.

2. To implement a regional program of K-12, local, regional, and national education and outreach in order to fulfill our research goals and to instill in our students a sense of responsibility for the stewardship of the resource.

3. To build a regional perspective on human paleoecology in which multiple, tightly coupled data sets can be created within the context of limited baseline and personnel. Achieving this goal will provide cost-effective science that yields solid baseline data.

LANDSCAPE TAPHONOMY

Our archaeological research program focuses on developing and implementing a concept of Landscape Taphonomy in which landscape documentation results from a complex, unfolding, and changing landscape of cultural, biological, chemical, and physical processes. Investigating landscape-ecosystem research requires tightly coupled, interdisciplinary approach to human impacts into analytical domains amenable for integration with the other processes. The goal is to provide professionals and the public with a better understanding of the human landscape and its complexity over time.

COUPLING, LINKING AND BRIDGING

In order understand the operation of prehistoric populations within a coupled system, contemporary systems are an appropriate starting point. This makes little sense to accept uncertainty derived from application of global scale processes to the development of fine-grained local situations. Research in this observational domain permits understanding of past systems status on a much broader context, and also has the potential of developing insightful inferences, and research questions that are not intuitively obvious. Coupled systems studies are the common mode of investigation in ecological systems.

BACKCOUNTRY SURVEY & IMPACT ASSESSMENT

Predatory survey along the Greybull emphasizes the need to be more proactive to direct impact by recreational use (e.g., canoeing, hiking, fishing) and to the indirect, more often severe, impacts caused by artifact collectors by well-intentioned, recent recreational backcountry travelers. Therefore our focus has been on linear surveys centered on major trail and roadside systems into and through the area. In some areas, where trail surveys identified high densities of materials, large, block survey areas have been examined (Figure 5).

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BUNDLING: 5 AND DATA

A concern expressed by many of our colleagues when we've discussed this type of transdisciplinary archaeological research is that archaeological remains are not: the exclusive focus of documentation, but rather as one of a suite of equally relevant data sets. Data sets include cultural, biological, and physical sciences. It has been our experience, however, that is a pattern, hierarchical sampling framework is employed, and multi-disciplinary field crews assembled. It was observed that the overall cost per unit of information is prohibitive. In fact, given that most of the costs involved in backcountry fieldwork revolve around logistics, the overall data-benefits of bundled sampling framework produces much more information per unit cost, when compared to traditional, single-discipline monitoring efforts. Figure 6. It should be noted that these bundled data sets are not just useful – they are essential to any one or all of the key archaeological record of or post system dynamics.

ARCHAEOLOGY AS KEYSTONE DISCIPLINE

Stakeholder attitudes about landscape use play a significant role in determining the actions people take when they are in the wilderness. The common techniques to monitor attitudes and to assess the effectiveness of policy and educational programs to modify attitudes include questionnaires and surveys. Archaeological research, which monitors the physical effects of human actions and values, provides a long-term context for evaluating the effects of human activities. The behaviors of visitors can be categorized into three typologies: (1) random, (2) self-regulated, and (3) self-conscious. These typologies are useful for evaluating potential impacts. The behaviors of visitors can be categorized into three typologies: (1) random, (2) self-regulated, and (3) self-conscious. These typologies are useful for evaluating potential impacts.