Experiential Learning, Local Stewardship, and Archaeological Investigations along the Upper Greybull River Drainage, Northwestern Wyoming

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ABSTRACT

For the last four years, participants in Colorado State University's archaeological field school in western Park County, Wyoming documented nearly 200 previously unrecorded prehistoric sites and completed in-field coding of over 40,000 pieces of chipped stone at elevations between 2200-3300 m within the Shoshone National Forest. In addition to providing basic data on an archaeologically little known portion of the rugged Absaroka Mountain range, this non-collection survey project seeks to both refine archaeological survey methodology and improve techniques for monitoring archaeological site condition. The project also emphasizes 1) introducing university students to a range of environmental field research issues and approaches 2) providing members of the local community with information on the research, prehistory of the area, and relevance of protection of heritage resources through both presentations and workshops, and 3) exploring approaches to assist land management agencies in promoting long-term stewardship of heritage resources. A central focus of the project drainage scale investigations of multiple data sets in order to better understand long-term landscape dynamics.

THE GRSLE PROJECT

As initially conceived, archaeological survey along northwestern Wyoming's upper Greybull River drainage (Washakie Wilderness, Shoshone National Forest) would include a transect survey of about 30 km that would be centered on the main pack trail into the area during 20 days in 2002 . After four field seasons, this initially overly optimistic survey has is only about 50% completed, but a number of other areas have been sampled. Using a variety of GPS mapping coupled with in-field data collection, the project has accomplished the following:

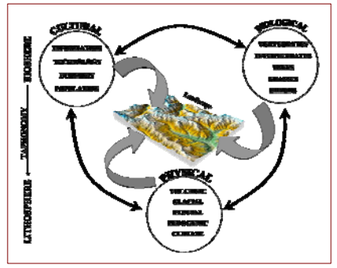


Figure 1. The Landscape Taphonomy model.

- In-field analysis of over 40,000 pieces of chipped stone
- Documentation of nearly 200 new archaeological sites
- Recorded 308 projectile points
- Completion of two MA theses
- Initiation of archaeological site monitoring program
- Annual presentations to local community & Plains Conference

Since 2003, the project has been undertaken as part of Colorado State University's summer archaeological field school and has shifted focus from a single archaeological survey to a broader-scale investigation of the conceptual and methodological relationships of archaeological practices with issues of long-term environmental sustainability. This broader project is labeled the Greybull River Sustainable Landscape Ecology (GRSLE) project. GRSLE emphasizes a landscape taphonomy perspective (Figure 2) in which the constant interplay between cultural, biological, and physical processes are stressed at all levels of interpretation. The perspective fosters a transdisciplinary approach that serves as a heuristic for introducing students and the public the complexity of contemporary archaeological interpretation.

Summary data on archaeological observations documented since 2002 are presented in Figures 2-4, and it Table 1. As can be seen in Figure 2, although artifacts have been recorded most often at elevations between 2700 and 2800 m, we also have evidence of use of the area at elevations over 3300 m. In addition to the over 900 ha surveyed as part of block surveys (Figure 3), we have examined almost another 50 ha as part of back county pack trail corridor survey (10m transect along 48 km of Forest Service trails). Diagnostic artifacts range in age from Late Paleoindian to Late Prehistoric (Figure 4).

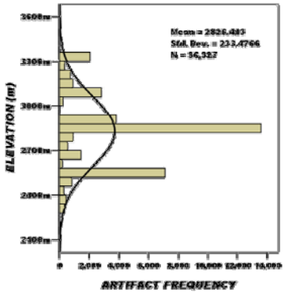


Figure 2. GRSLE Chipped Stone by Elevation

Piney Creek: 2004, 2005
90 ha, 1178 artifacts

Haymaker Flats: 2002, 2003
310 ha, 10687 artifacts

Gold Reef: 2003
115 ha, 234 artifacts

Dollar Mountain Area: 2003, 2004
90 ha, 2609 artifacts

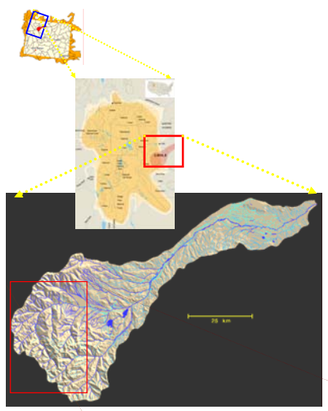
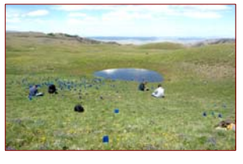


Figure 3. GRSLE project research areas: 2002-2005 surveys have covered approximately 1.5% of the area shown on photomap.

Jack Creek Flats: 2003 & 2005
185 ha, 17887 artifacts



Upper Francs Fork: 2005
100 ha, 2629 artifacts

Meadow Creek Basin: 2004
90 ha, 1069 artifacts

Table 1. Summary of 2002-2005 Survey Areas

SURVEY BLOCK	MEAN ELEVATION	AREA (ha)	CHIPPED STONE	ART/HA
Dollar Mountain	3250	90	2609	29
Gold Reef	3200	115	234	2
Haymaker Flats	2580	310	10686	34
Jack Creek Flats	2875	185	17887	97
Meadow Creek Basin	3100	90	1069	12
Piney Creek	2540	90	1178	13
Upper Francs Fork	3075	100	2629	26
TOTAL		980	36292	37

Figure 4. Diagnostic Projectile Points 2002-2004 (Burnett 2005)

COMMUNITY INTERACTION

The GRSLE project seeks both to provide information to local stakeholders and to encourage their active participation in protection of "their" archaeological resources. Each season we've presented programs at the local school and county library that highlights the importance and fragile nature of the areas heritage resources. As seen in Figure 5, the opportunities for "outreach" have gone both ways – field school students have had numerous chances to learn from locals whose "traditional ecological knowledge" provides an alternative approach for understanding the Greybull River landscapes.

GRSLE tries to engage local stakeholders in both the research and stewardship process. We are fully convinced that effective resource management has to have an active education and outreach component and that seeking to develop local partnerships is essential for the long-term preservation of cultural heritage.

Figure 5. Students helping local rancher brand.

EXPERIENTIAL LEARNING

A key component of the GRSLE project has been introducing students to fundamental issues of transdisciplinary research. In the sense, one of the central themes presented to students is that concept that effective archaeological research requires research that address the biological and physical landscape processes. Therefore, many of the "archaeological" field class student projects involve superficially non-archaeological research domains such as the studies of "ghost forests" represented in this symposium. Students are encouraged to consider the archaeological record as being richly interconnected with other landscape dynamics and that the record can be most effectively researched as being the result of a complex series of processes, only some of which are cultural.

LONG-TERM STEWARDSHIP

As a non-collection survey project, GRSLE not only provides basic data, but also highlights the necessity for continued, systematic monitoring of the material left on the landscape. In general, conceptual and methodological approaches to monitoring are poorly developed in archaeology. While other ecological disciplines make significant use of monitoring (e.g., range conditions, invasive species studies, forest health), archaeological resources are often documented in ways poorly conducive to subsequent monitoring. In order to effectively monitor archaeological sites information not only on artifactual, but also biological (e.g., rodent disturbance, vegetation cover, grazing intensity, etc) and physical (e.g., erosion, sediment deposition, slumping/mass wasting, etc) also need to be documented.

A bundled, multidisciplinary approach to archaeological monitoring can add relevant data for a variety of other fields and has the potential for generating direct measures of human impacts environments. By extension, monitoring archaeological sites in Wilderness settings also provides unique, direct measures of Wilderness use attitudes (Figure 6). Ultimately, we'd like to see monitoring of archaeological resources serves as triggers for adaptive management responses. Just as a documented degradation of range conditions would predictably lead to changing in stocking rates or other actions, changes in archaeological site condition should lead to predictable management decisions such as closing areas to public access and strengthening education programs, allowing access by permit only, or implementing site steward programs.

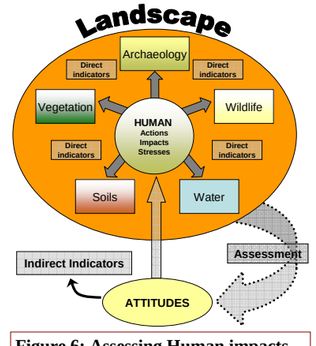


Figure 6: Assessing Human impacts along multiple dimensions.

REFERENCES
Burnet, Paul C. (2005). *Surface Lithic Scatters in the Central Absarokas of Wyoming*. MA Thesis, Colorado State University (http://www.greybull.org/Burnett-2005.pdf)

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