

# THE ECOLOGICAL IMPRINT:

# of the 2005 CSU Archaeological Field School on the Central Absaroka Mountain Range, WY.

**INTRODUCTION:** Since 2002, the CSU field school has been conducting research within the Upper Greybull Watershed. Not only is it important to note the impact locals and tourists have on the area but the researcher impact as well. Awareness of the researcher impact is an important factor to consider, especially when returning to an area multiple times; by observing and recording this year's data, the potential use for future sessions can contribute to the greater understanding of researcher impacts on remote settings.



**RESEARCH OBJECTIVE:** The purpose of this project is to continue and add to the similar research from 2003 and build a potential database of the field team's impact on the environment. A running database will be useful in assessing each year's camp location to avoid possible overuse or even reveal patterns of advantageous features.



**METHOD:** By recording tent locations, tent dimensions, door direction, cars, defecation areas, interconnecting trails and other researcher site modifications, a comprehensive reconstruction of camp sites over the 40 day period can be provided. It will be also useful for determining any violations of wilderness safety or hazards created that future researchers can avoid.



## REFERENCES:

- Cole, David N. (1989). "Low-Impact Recreational Practices for Wilderness and Backcountry". *Aldo Leopold Wilderness Research Institute*. 8 Oct. 05. <http://leopold.wilderness.net/pubs/183.pdf>
- Pokorny, Tami. "Leave No Trace: Outdoor Skills & Ethics". *Leave No Trace: Center for Outdoor Ethics*. 3 Oct 05. <http://www.lnt.org/training/resources/documents/NA.pdf-brochure>
- USDA Forest Service. "Off Road Vehicles (ORVs)". *U.S. Department of Agriculture Forest Service*. 8 Oct. 05. <http://www.fs.fed.us/r2/bighorn/recreation/orv/>



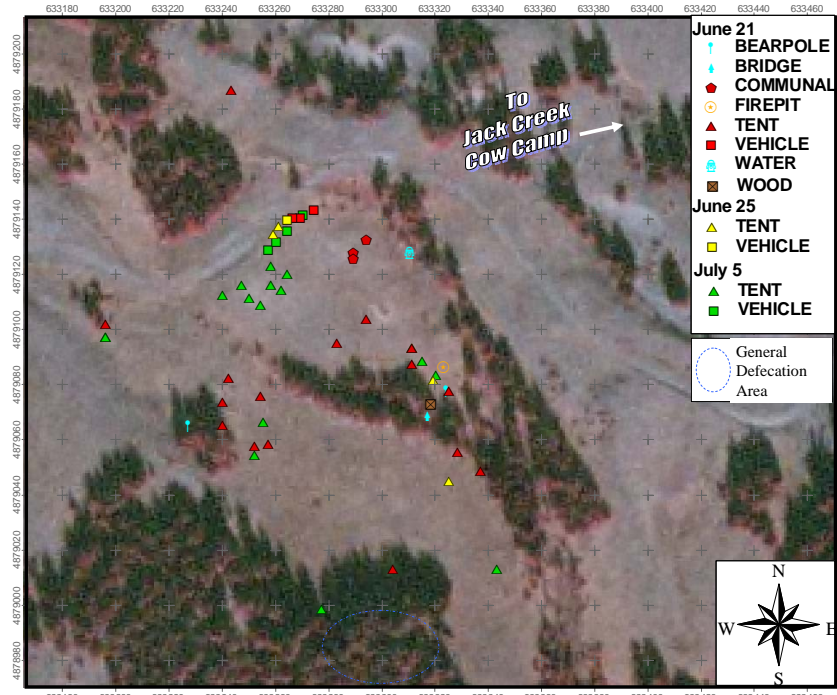
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## RESULTS



### Comparison of methods between 2003 and 2005

Below is a list of GPS waypoint recording similarities and differences to supplement further impact data collection.

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|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>BOTH 2003 AND 2005</b>                                                                                                                                                                                                                                                                                                                  | <b>2003 SESSION ONLY</b>                                                                                                                                                                     |
| <ul style="list-style-type: none"> <li>•Fire pit</li> <li>•Woodpile</li> <li>•Bear poles</li> <li>•Water Sources</li> <li>•Man-made alterations (other than cut trees)</li> <li>•Weather</li> <li>•Tent locations</li> <li>•Foot trails</li> <li>•Communal tent dimensions</li> <li>•Personal vehicles</li> <li>•Trampled areas</li> </ul> | <ul style="list-style-type: none"> <li>•Total campsite area</li> <li>•Site context</li> <li>•Cut trees in camp</li> <li>•Road proximity</li> <li>•Last estimated time of site use</li> </ul> |
|                                                                                                                                                                                                                                                                                                                                            | <b>2005 SESSION ONLY</b>                                                                                                                                                                     |
|                                                                                                                                                                                                                                                                                                                                            | <ul style="list-style-type: none"> <li>•Tent sizes</li> <li>•Vehicle sizes</li> <li>•Excrement areas</li> </ul>                                                                              |

The map above only represents the 3<sup>rd</sup> and 4<sup>th</sup> session, 21st-30th June and 5th-14th July, 2005. One site occupied twice allows for the assessment of tent location comparisons, violations of recommended guidelines, and areas of concentrated use.

## PROBLEMS TO ADDRESS:

- In grizzly bear country it is recommended that people travel in groups of four or more to make noise (Cole:1989). This was not always the case on prolonged hikes, usually resulting in the separation of the crew depending on the rate of speed.
- Lack of GPS data for defecation areas. With information available, not always 61 meters from closest tent, as seen above for the 3<sup>rd</sup> and 4<sup>th</sup> sessions (Pokorny).
- Tents were placed to close to bear poles on the 3<sup>rd</sup> and 4<sup>th</sup> sessions, as it is recommended to keep a distance of 61 meters (Pokorny).
- Develop standardized photo waypoint and degrees so that comparative photos are from the same position each year they are taken.



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## ASSESSMENT:

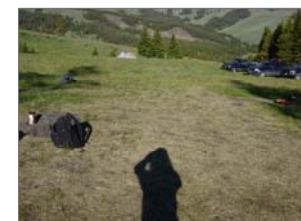
- Tent door direction changed throughout the field session as seen by the means to the right. The number of doors facing toward the eastern hemisphere increased as people generally set their doors to face the rising sun in the east, possibly to melt off the frost or dry shoes placed out front sooner.
- Tents condensed to closer, flatter ground between last 2 sessions.
- Trash was tediously packed out or burned.
- Used existing fire pits or a fire blanket underneath when needed.
- Constant attention to avoid switchbacks.
- Food and other animal attractants were kept out of tents and in bear canisters or up bear poles; the waste sump was also more than 100 ft. away.
- Used "Cat holes" to properly dispose of human waste.
- No unnecessary subsurface alterations, i.e. trenches around tents.
- Although allowed to park cars 300 ft. (91.5 m) from a road according to USDA Forest Service regulations, no car went more than 5m off road (USDA).

Session	Doors Facing	
	Mean Direction	Eastern Hemisphere
1) 198°	5	
2) 148°	10	
3) 156°	12	
4) 144°	13	

## RECOVERY:



The Science Tent Area on 14 July, 2005.



The Recreation Area on 14 July, 2005.



The Fire Pit Area on 14 July, 2005.



The Science Tent Area on 22 September, 2005.



The Recreation Area on 22 September, 2005.



The Fire Pit Area on 22 September, 2005. \*Fire Pit used in other seasons (hunting).

**CONCLUSION:** The combination of methods from 2003 and 2005 provides a general outline for future impact data collection. The improvement of problems identified this year and continuing current successful methods can assist other researchers working in similar situations. An active program to monitor researcher impacts in remote settings continually provides the most efficient way of conducting research with as little cost to the ecosystem as possible.