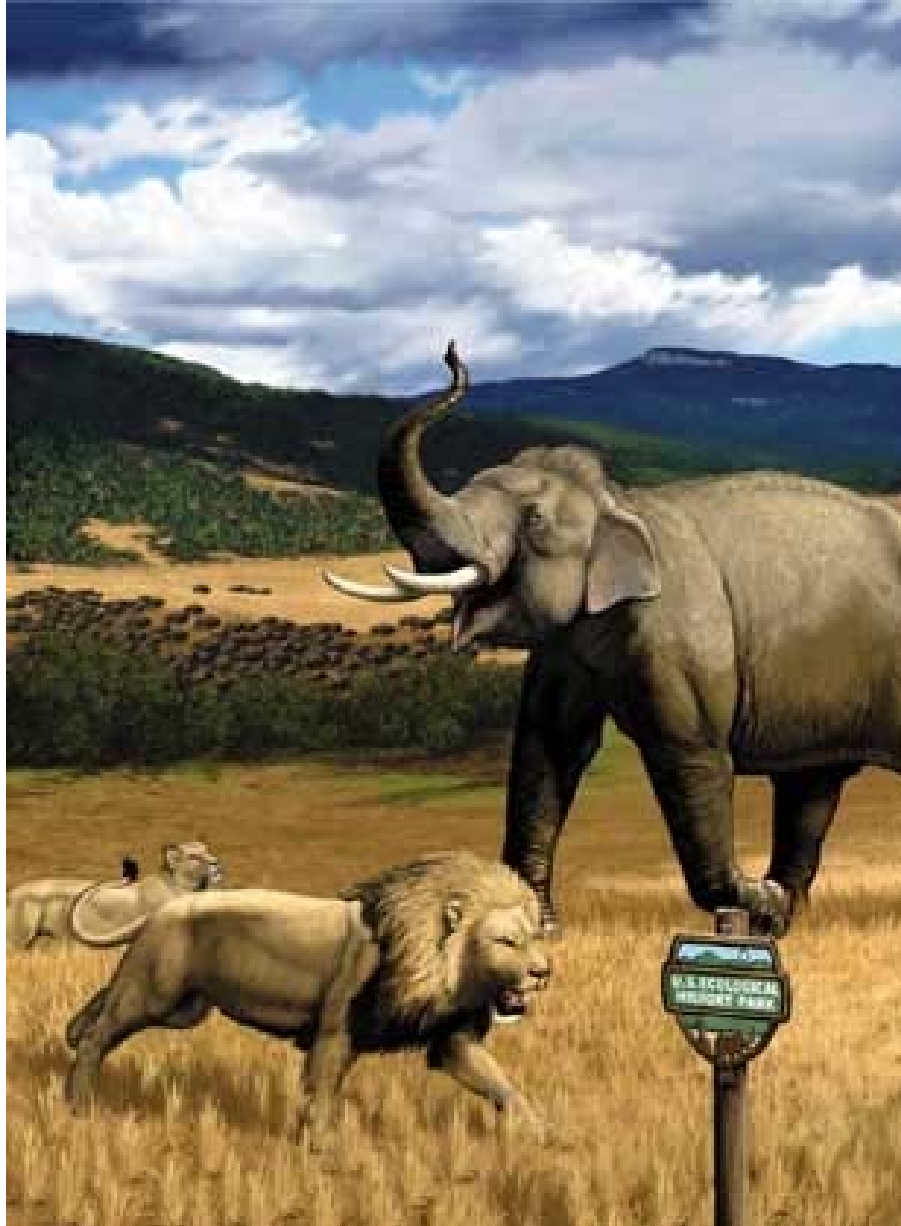


Applied Paleozoology in Conservation

Steve Wolverton, Spring 2009



www.rewilding.org

Fantasy or Fact? Evolutionary Perspectives on Modern Conservation Issues

Applied Paleozoology in Conservation

“Yet, archaeozoology often does not provide definitive answers: it is *wrought with fundamental problems* in sampling, data gathering, analysis, and interpretation (e.g., varying screen sizes; meta-sampling procedures; comparisons across diverse spatial, temporal, and environmental continua; etc.). Typically data must be evaluated through inference, rather than through direct observations and experiments. Moreover, environmental variation (e.g., climate change, sea level change, tectonic movement, etc.), as well as changes in societies, confounds the interpretation of long-term human–environmental trends. But, those challenges are not unique to archaeozoology, for biological and ecological phenomena are *no less subject* to multiple sources of environmental and social variation. The difference is that archaeologists are patently cognizant of these sources of variability, and they openly debate them when interpreting data, while in other disciplines these sources of change are *routinely ignored*” (Frazier 2007:163, emphasis added).

“It seems self-evident to me that if a national park, for example, has a staff archaeologist who deals with the archaeological resources on park lands, and has a staff biologist who deals with biological resources on park lands, then a marriage of the two would benefit both. However, given the increasing specialization of both archaeology and biology, a viable marriage may not be possible. The obvious alternative is a park staff zooarchaeologist who has a deep knowledge and understanding of both disciplines and has been trained to integrate the two” (Lyman 1996:121).

“Perhaps the most prophetic message paleoecology has to offer conservation biology is that we **must** plan to facilitate climatic change in the future. It is futile to assume that the species associations (“communities”) that we observe today and that we are trying to capture in our reserves will be the same over long spans of time, perhaps less than hundreds of years. As metaphorically stated by Hunter et al., ‘Today’s distribution of species and communities is from one frame of a movie recording continuously changing distributions and associations of taxa’” (Graham 1988:393).

Course Structure:

The course will be a seminar in which students lead discussion of weekly readings. The course will be reading-heavy with a required research paper and presentation in the last section of the course. The goal of the course is to provide a comprehensive overview of zooarchaeological and paleontological (together paleozoological) contributions to conservation biology. Paleozoology offers a unique perspective to conservation biology because it studies the long-term record of ecological change, the fossil and subfossil record. However, there are inherent challenges to use of paleozoological datasets that must be covered early in the course. Issues and topics that will be considered include, from a temporal perspective, what does it mean for wilderness to be “pristine?” Or, how does study of a deep temporal record change the meaning and relevance of “sustainability?” By the end of the course students should have a cohesive impression of the importance of and limitations to considering conservation issues from an explicitly temporal perspective.

Required Text:

Lyman, R. L. and K. P. Cannon (editors) 2004. *Zooarchaeology and Conservation Biology*. University of Utah Press, Salt Lake City.

Outline

Week 1 Jan 26	<i>The Call of the Wild: A Paleozoological Awakening?</i> Part 1 Lyman 1996, Lyman and Cannon 2004, Landres 1992
Week 2 Feb 2	<i>The Call of the Wild: A Paleozoological Awakening?</i> Part 2 Graham 1988, Butler and Delacorte 2004; Hunter 1996
Week 3 Feb 9	<i>Deep time</i> Russell 2003, Callicott 2002, Borgmann 2000/Leopold 1949 (Thinking Like a Mountain)
Week 4 Feb 16	<i>Case studies</i> Swetnam et al. 1999; Cannon and Cannon 2004; Etnier 2004
Week 5 Feb 23	<i>Case studies</i> Grayson 1987; Lyman 1991; Emslie 1987; Lyman 1988
Week 6 Mar 2	<i>Case studies</i> Darwent and Darwent 2004; Harpole 2004; Schmitt 2004
Week 7 Mar 9	<i>Paper proposal presentations</i>
Week 8 Mar 16	<i>Spring Break</i>
Week 9 Mar 23	<i>Phenotypic plasticity</i> Lyman 2004; Lyman 2006; Wolverton et al. 2007
Week 10 Mar 30	<i>Aboriginal Overkill</i> Kay 1994; Yochim 2001
Week 11 Apr 6	<i>Aboriginal Overkill/ Pleistocene Extinctions</i> Martin and Szuter 1999; Lyman and Wolverton 2002; Donlan et al. 2005;
Week 12 Apr 13	<i>Pleistocene Extinctions</i> Martin 1973; Grayson and Meltzer 2003; Wolverton et al. in press
Week 13 Apr 20	<i>Summary papers</i> Frazier 2007; Lyman 2006

Weeks 14, 15, 16: Research presentations (**Final Monday May 11 @ 6 pm**)

Grade structure

- 10% in-class discussion participation
- 40% in-class presentations of readings
- 10% paper proposal presentation
- 15% final paper presentation
- 25% final paper due Monday, May 11 @ 6 pm (hard copies only)

Final Grades 90% & above = A; 80 – 89.4% = B; 70 – 79.4 % = C; 60 – 69.4% = D; below 60 % = F

DISABILITY ACCOMODATION

The Department of Geography, in cooperation with the Office of Disability Accommodations, complies with the Americans with Disabilities Act in making reasonable accommodations for qualified students with disabilities. Please present your written accommodation request by the second lab.

EXTRA CREDIT

The Department of Geography does not allow extra credit assignments (work not specified on a course syllabus).

ACADEMIC DISHONESTY

Students caught cheating or plagiarizing will receive a "0" for that particular assignment or exam. Additionally, the incident will be reported to the Department of Geography and the College of Arts and Science. According to the UNT catalog, the term "cheating" includes, but is not limited to: (a) use of any unauthorized assistance in taking quizzes, tests, or examinations; (b) dependence upon the aid of sources beyond those authorized by the instructor in writing papers, preparing reports, solving problems, or carrying out other assignments; (c) the acquisition, without permission, of tests or other academic material belonging to a faculty or staff member of the university; (d) dual submission of a paper or project, or resubmission of a paper or project to a different class without express permission from the instructor(s); or (e) any other act designed to give a student an unfair advantage. Altering a returned test and claiming a grader or scanning machine made an error is also considered cheating. The term "plagiarism" includes, but is not limited to: (a) the knowing or negligent use by paraphrase or direct quotation of the published or unpublished work of another person without full and clear acknowledgment; and (b) the knowing or negligent unacknowledged use of materials prepared by another person or agency engaged in the selling of term papers or other academic materials.

CLASSROOM COURTESY

Please follow these guidelines to avoid disrupting the class:

- (1) Turn off cell phones before arriving.
- (2) Do not arrive late or leave early (except for a bathroom break or emergency).
- (3) Do not sleep or eat during class.
- (4) Do not work on other assignments during class.
- (5) Do not talk when the instructor is lecturing, unless prompted for feedback by the instructor.

ATTENDANCE POLICY

After missing (excused or unexcused) 2 class periods (3 hours per period, night class) a student will receive a WF for the course.

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