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Douglas H. Macdonald

University of Montana - Missoula, douglas.macdonald@umontana.edu

Richard E. Hughes

Geochemical Research Laboratory

Jannifer W. Gish

JG Research

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Recommended Citation

Macdonald, Douglas H.; Hughes, Richard E.; and Gish, Jannifer W., "Late-Paleoindian versus Early-Archaic Occupation of Yellowstone Lake, Wyoming" (2011). *Anthropology Faculty Publications*. 6.

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Late-Paleoindian versus Early-Archaic Occupation of Yellowstone Lake, Wyoming

*Douglas H. MacDonald, Richard E. Hughes, and
Jannifer W. Gish*

► **Keywords:** Altithermal, lithic technology, Yellowstone

Archaeological data from sites in the Greater Yellowstone Ecosystem (GYE) of Wyoming and Montana indicate that some portions of the region were attractive to early- and middle-Holocene hunter-gatherers. In this paper, we provide new data on a high-elevation early Plains Archaic site, Fishing Bridge Point (48YE381), that suggest land-use patterns contrasting with those of the late-Paleoindian period.

Fishing Bridge Point is located along the northwest shore of Yellowstone Lake, Wyoming, at an elevation of 7,785 ft. amsl, on the S2 lake shoreline dated to the early Holocene (Pierce et al. 2007). This site contained an early-Archaic burn feature within a buried soil on the incipient beach of the lake shore (MacDonald and Livers 2010). Wood charcoal from the feature returned an AMS ^{14}C date of 5910 ± 50 RCYBP (Beta-265310), with a $2\text{-}\sigma$ calibration of 6860–6640 CALYBP. It is the first early-Archaic feature ever to be excavated in Yellowstone National Park.

Comparing lithic raw-material data from Fishing Bridge Point with earlier late-Paleoindian occupations at the Osprey Beach site (Johnson et al. 2004; Shortt 2003) at Yellowstone Lake suggests dynamic shifts in settlement patterns during the early Holocene. Located only 20 km south of Fishing Bridge Point, Osprey Beach contained significant amounts of chert (46%) from at least six sources and volcanics from another 11 sources (54% of total). In stark contrast, early-Archaic Fishing Bridge Point occupations yielded nearly exclusively obsidian (90%), with 95% of that sourced to Obsidian Cliff. Cashman dacite from southwest Montana was the only other non-Obsidian Cliff source, while 4–6 sources of chert and other materials account for less than 10 percent of the material at the site. Total lithic assemblages analyzed from the two sites are not significantly different ($n = 127$ from Osprey Beach; $n = 90$ from Fishing Bridge).

These data suggest that hunter-gatherers at Yellowstone Lake switched from a wide-ranging settlement and/or trade pattern in the late-Paleoindian period (represented by 17 lithic sources) to a constricted, tethered settlement/trade pattern in the early Archaic (using only 6–8 lithic sources, including mostly

Douglas H. MacDonald, Department of Anthropology, the University of Montana, Missoula, MT 59812; e-mail: douglas.macdonald@mso.umt.edu

Richard E. Hughes, Geochemical Research Laboratory, 20 Portola Green Circle, Portola Valley, CA, 94028-7833; e-mail: rehughes@silcon.com

Jannifer W. Gish, JG Research, 5621 Grant Ave., Loveland, CO 80538; e-mail: jgresearch@yahoo.com

Obsidian Cliff). Cannon and Hughes (1995, 1997) made similar observations based on obsidian source-use contrasts at sites also within Yellowstone National Park.

8 Fossil pollen collected from the early-Archaic levels at Fishing Bridge Point (Gish 2010) indicates the presence of a shrub-grassland at Yellowstone Lake at the time of occupation (elevation 7,750 ft. amsl). Our pollen data corroborate soils data from nearby Dead Indian Pass in the Absaroka Mountains, which indicate substantial grasslands in the pass (elevation 7,900 ft. amsl) approximately 6000 RCYBP (Reider et al. 1988). Apparently, some portions of the high-elevation GYE drew grass-hungry ungulates and human predators during the early-Archaic period.

9 Lithic and pollen data from the Fishing Bridge Point site at Yellowstone Lake support those from other regional sites, confirming that the Altithermal was a significant climatic event for early- and middle-Holocene hunter-gatherers. After 9000 RCYBP, hunter-gatherers living in the northern Plains and Rocky Mountains moved into areas with reliable and permanent water sources, including river watersheds and lakes, especially those at higher (cooler) elevations such as Yellowstone Lake, Wyoming.

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