

serious questions about Orr's (1968) assertion that only humans could have been responsible for abalone shells found in ancient terrestrial sediments on the islands. Our work also suggests that bald eagles can create middens that mimic those produced by humans in some important ways.

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References Cited

- Collins, P. W., N. F. Snyder, and S. D. Emslie. 2000. Faunal Remains in California Condor Nest Caves. *The Condor* 102:222-227.
- Erlandson, J. M. 1994. *Early Hunter-Gatherers of the California Coast*. Plenum, New York.
- Erlandson, J. M., and M. L. Moss. 2001. Shellfish Feeders, Carrion Eaters, and the Archaeology of Aquatic Adaptations. *American Antiquity* 66:413-432.
- Erlandson, J. M., and T. C. Rick. 1999. Marine Fauna and Subsistence Data from a 9200-Year-Old Shell Midden at CA-SRI-1, Santa Rosa Island, California. *Current Research in the Pleistocene* 16:23-25.
- Erlandson, J. M., T. C. Rick, R. L. Vellanoweth, and D. J. Kennett. 1999. Maritime Subsistence at a 9300 Year Old Shell Midden on Santa Rosa Island, California. *Journal of Field Archaeology* 26:255-265.
- Orr, P. C. 1968. *Prehistory of Santa Rosa Island*. Santa Barbara Museum of Natural History, CA.
- Rick, T. C., J. M. Erlandson, and R. L. Vellanoweth. 2001. Paleocoastal Marine Fishing on the Pacific Coast of the Americas: Perspectives from Daisy Cave, California. *American Antiquity* 66:595-613.

Earliest-Holocene Tool Assemblages from Northern Florida with Stratigraphically Controlled Radiocarbon Estimates (Sites 8LE2105 and 8JE591)

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Two sites in northern Florida have produced reliable radiocarbon determinations indicating earliest-Holocene ages for both side- and corner-notched projectile points and associated formal chipped-stone tools. Site 8LE2105 is a

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stratified site in Leon County, northwestern Florida, reported by R. Christopher Goodwin & Associates, Inc. as part of a CRM phase III mitigation project (Hornum et al. 1996). In addition to abundant debitage, the excavations produced 12 Bolen points (7 corner-notched and 5 side-notched), 4 Hendrix (side) scrapers, 4 unifacial adzes, and 2 fluted biface preforms in a single stratigraphic unit (Component III). The project was completed in 1995 and published as a limited distribution report in 1996. The artifacts are curated at the Department of Anthropology, Florida State University. Three radiocarbon ages average 9870 ± 40 RCYBP for this occupation (Table 1).

Table 1. Radiocarbon ages and pooled mean averages for 8LE2105 and 8JE591. Ages were first tested for chi-square contemporaneity, then averaged.

Site	Age (RCYBP) and sample number	Pooled Mean Average (RCYBP)
8LE2105, Component III	9,850 \pm 50 (Beta 81467)	Average of 3: 9870 \pm 40
	9,900 \pm 60 (Beta 81468)	
	10,090 \pm 70 (Beta 81469)	
8JE591, Page/Ladson Bolen Surface	9,930 \pm 60 (Beta 58858), log above surface	Average of 4: 9958 \pm 40
	9,950 \pm 70 (Beta 103888), hickory nut in surface	
	10,000 \pm 120 (Beta 21750), charred wood	
	10,000 \pm 80 (Beta 058857), wood stake in surface	
	10,280 \pm 110 (Beta 21752), "desiccated wood"	

Another site with earliest-Holocene age estimates for both side- and corner-notched points is the Page/Ladson site (8JE591) in the Aucilla River (Carter 2003; Dunbar et al. 1988, 1989). The submerged sediment bank at Page/Ladson is one of the deepest stratigraphic sections in the Southeast and includes both late-Pleistocene and early-Holocene sediments (Ellis et al. 1998). The stratigraphy at Page/Ladson contains a sealed occupational surface with Bolen notched points (both side- and corner-notched specimens), broken unifacial adzes, probable manuported rocks, and carved wooden stakes. Radiocarbon ages averaging 9958 ± 40 RCYBP for this occupation are shown in Table 1. A full report on early-Paleoindian evidence for this site is forthcoming (Webb pers. comm.); we draw attention here only to the earliest-Holocene age and co-occurrence of side- and corner-notched projectile points in a single stratum.

The fact that both side- and corner-notched points occur together in two stratigraphically secure and well-dated sites in Florida counters any previous assumptions of a sequential relationship between these varieties (i.e., side notching before corner notching). Similar radiocarbon ages for side-notched projectile points at Dust Cave in Alabama confirm the very early Holocene age of notched points in the Southeast (Driskell 1996). Given this evidence, to our

knowledge notched points in the southeastern United States represent the earliest such artifacts anywhere in the New World.

References Cited

- Carter, B. 2003 *Page Ladson (8JE591): Excavation of an Early Holocene Occupation Site in the Aucilla River, Florida*. Unpublished Ph.D. dissertation. Department of Anthropology. University of Florida. Gainesville.
- Driskell, B. N. 1996 Stratified Late Pleistocene and Early Holocene Deposits at Dust Cave, Northwestern Alabama. In *The Paleoindian and Early Archaic Southeast*, edited by D. G. Anderson and K. E. Sassaman, pp. 222–237. University of Alabama Press, Tuscaloosa.
- Dumbar, J. S., S. D. Webb, and D. Cring 1989 Culturally and Naturally Modified Bones from a Paleoindian Site in the Aucilla River, North Florida. In *Bone Modification*, edited by R. Bonnicksen and M. H. Sorg, pp. 473–497. Center for the Study of Early Man, University of Maine, Orono.
- Dumbar, J. S., M. K. Faught, and S. D. Webb 1988 Page/Ladson (8JE591): An Underwater Paleoindian Site in Northwestern Florida. *Florida Anthropologist*, 41 (3):442–452.
- Ellis, C., A. C. Goodyear, D. E. Morse, and K. B. Tankersley 1998 Archaeology of the Pleistocene-Holocene Transition in Eastern North America. *Quaternary International* 50:151–166.
- Hornum, M. B., D. J. Maher, C. Brown, J. Granberry, F. Vento, A. Fradkin, and M. Williams 1996 *Phase III Data Recovery at Site 8LE2105 for the Proposed Florida Gas Transmission Company Phase III Expansion Project, Leon County, Florida*. Prepared by R. Christopher Goodwin and Associates, Inc. for Florida Gas Transmission Company.

Below Folsom at Two Moon: Paleoamericans and Rockshelters in Wyoming's Bighorn Mountains

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In 2003 we reported a fragmented Folsom projectile point and an associated 10,000-year-old radiocarbon date from Two Moon Shelter, a rockshelter located in northwestern Wyoming's Bighorn Mountains (Finley et al. 2003). Such finds are rare in Paleoamerican research, but a handful of western North American rockshelters yield early artifacts or contemporaneous age estimates. This note supplements recent findings at Two Moon Shelter by reporting new information regarding a cultural level positioned stratigraphically below that bearing the Folsom artifact.

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Test excavations at Bighorn Mountain rockshelters utilize a detailed methodology designed to maximize information on both natural and cultural formation processes. In dense cultural deposits such excavation becomes a time-consuming endeavor, requiring at sites like Two Moon nearly 10 years to excavate completely a 1-by-2-m unit less than 1 m deep. The reward comes, however, in resolving issues where potentially important discoveries are found in stratigraphically complex situations.

Deposits in the 1-by-2-m unit at Two Moon have returned more than 32,000 pieces of Phosphoria chert debitage, nearly 4,000 of which are plotted in situ. Owing to the sheer density of artifacts, distinguishing cultural levels during excavation is sometimes difficult. Approximately 1 to 2 cm of culturally sterile sediment separates the lowest component from the overlying Folsom level (Figure 1). Figure 1 demonstrates the relationship between the $10,060 \pm 60$ RCYBP date (Beta 164002), the Folsom projectile point fragment, and the lowest component. Whereas debitage from the Folsom level represents mid-stage bifacial reduction (few cortex-bearing flakes present and minimal bifacial thinning), the lower level bears a full range of debris from initial core reduction to biface finishing. Present are *outré passé* flakes, intentionally prepared to remove the margin opposite the striking platform, as well as possible blades.

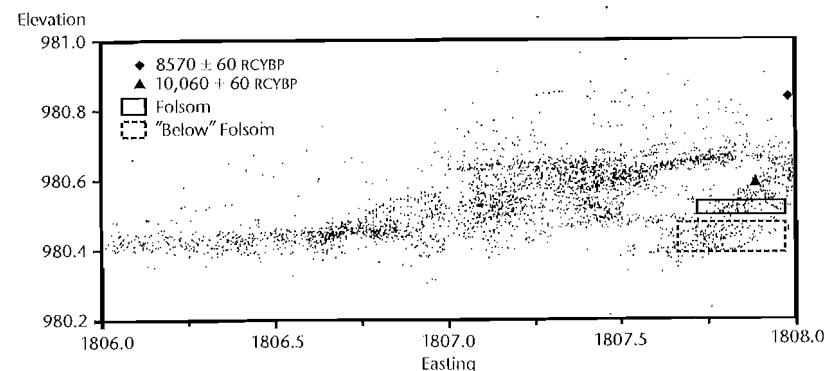


Figure 1. A two-dimensional artifact backplot demonstrating the association between the Two Moon Shelter 10,060 ± 60 RCYBP date (Beta 164002), the Folsom artifact, and the lowest cultural level.

Currently we cannot secure an age estimate for this lowest level, only to say that it is "below Folsom." A fragmented deer-size mandible is directly associated with artifacts, but as yet no age estimate is available. Until this becomes known, we are reluctant to assign cultural affiliation to Two Moon's lowest component. Although *outré passé* flakes are characteristic of Clovis manufacturing techniques, their presence alone is not enough to make this association since they may just as likely represent an older Folsom component. Most importantly, however, Two Moon represents an important addition to our understanding of Paleoamerican landscape utilization through repeated use of rockshelters for the express purpose of procuring toolstone.