BOOK REVIEWS

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North American Archaeologist solicits reviews of new books in the field of archaeology. If you wish to submit a review, submit to the Book Review Editor at the above address. The Editor reserves the right of final decision on publication.


This particular volume, like a number of other recently published compendiums of papers with similar research objectives, emerged from a symposium entitled “Footprints on the Landscape: The Historical Ecology of Hunter-Gatherers” at the 74th annual meeting of the Society for American Archaeology, held in Atlanta. The organizers of this symposium and the editors of this reviewed work sought out speakers interested in ecology and archaeology associated with small scale economies, such as hunters, gatherers, fishers, and/or limited horticulturists. The
editors provide a quite distinct definition of Historical Ecology in the Introduction, which this reviewer found most helpful. According to the authors, Historical Ecology “takes the view that humans are a keystone species and thus primary drivers of ecological change” with the scale of this change being small or great depending on the intended or unintended actions of the human cultures involved (p. 2). In addition, Historical Ecology must be viewed from the perspective of how human cultures affect the landscapes by taking into account an understanding of the local and regional environment (p. 2). An interesting point is made that the Historical Ecology approach to understanding prehistoric changes on the landscape is the same being used in the establishment of baselines for the management of contemporary ecosystems (p. 3). In short, Historical Ecology used in the study of contemporary ecosystems (and their management) “provide baseline data on how these ecosystems changed over time, and the nature of the impact that humans had in shaping these systems” (p. 3).

The first case study, by Nicky Milner, is based on the investigation of two prehistoric shell middens of the transitional Mesolithic-Neolithic period (ca. 3,900 B.C.) of coastal Denmark. In this study the archaeological comparison of these two middens observed “(1) there is a clear shift in shellfish composition from predominantly oysters to cockles at the Mesolithic-Neolithic transition at many middens; (2) there is a visible decline in the size of oyster shells over time” (p. 17). The question posed for this study was whether human exploitation of the shellfish resulted in the differential accumulations of shellfish over time or was it a result of “climate change, natural predation, and catastrophic events” (p. 19) and what if anything could assist in the management of shellfish beds in contemporary Europe? After a review of various types of research data, Milner concluded that “human exploitation had some impact on the natural oyster beds” in that the continual gathering of the largest oysters for consumption—which are the most viable for reproduction—would not allow the oyster beds time to recover their species size and to propagate a new generation of oysters (p. 35). As a result, the selection of the largest oysters by these prehistoric foragers led to steady decline in this food source. Milner then applied this information on the exploitation of prehistoric oyster beds with the current situation facing contemporary efforts throughout Europe to preserve declining oyster beds and concludes without adequate information on which to develop a conservation plan even minimum human predation “may have a serious effect on the natural shellfish population” (p. 39) putting these shellfish species in peril.

In the next case study, Torben C. Rick presented information on the Historical Ecology of the California Channel Islands where the National Park Service is attempting to prevent the extinction of endemic island mammals. As Rick noted, historical ecological data recovered from prehistoric archaeological sites on the Channel Islands are critical to understanding “the long-term evolutionary and ecological history of plants and animals, helping discern the species that are
endemic (native) to a particular region and showing how these populations have responded to climatic and anthropogenic changes” caused by human introduced species in the past (p. 41). From the known archaeological record, native peoples have been living on these Channel Islands for at least the last 13,000 years, exploiting native species and introducing new ones (p. 46). Archaeologists have identified a small number of terrestrial endemic mammals on the Channel Islands from the study of archaeological sites—which include four extinct species (Columbian and dwarf mammoths, a species of vole, and a giant variety of deer mouse)—with the extant six species including a fox, spotted skunk, harvest and deer mouse, ornate shrew, and ground squirrel, many of which are not to be found in any other ecosystem (pp. 59-60). However, based on the available data the six extant endemic species on the Channel Islands are likely due to Native American introduction and dispersal throughout the island chain (p. 61). As the author notes, the National Park Service is currently involved in a successful captive breeding and release program of the island foxes, which challenges archaeologists and resource managers to “redefine” what the natural state of these island were in the past (p. 63), when the four extinct mammal species (e.g., Columbian and dwarf mammoth) are unlikely to be reintroduced at any time soon.

The following case study, by Junko Habu and Mark E. Hall, examined climate change and human impacts on the landscape of central and northern Japan by the Jomon culture—one of the more successful and long lived prehistoric hunter-gatherer cultures in the world. The work is based on the examination of material from the Sannai Maruyama site which dates to the abandonment of major Middle Jomon settlements in Japan (pp. 67-68) around 4,200-4,000 B.P. The questions posed of the material from this site is whether the abandonment of Middle Jomon sites was due to a cooling climate change, human impacts on the landscape through semi-cultivation of chestnut trees, or shifting subsistence specialization (p. 68)? What these researchers determined was that the Middle Jomon culture people increasingly relied on a subsistence specialization of the semi-cultivation of chestnuts to the exclusion of other natural foods, making their culture dependent on this one food source. By ca. 4,200 B.P. when a climatic cooling change adversely affected the chestnut food source the Jomon people had come to rely so heavily on for subsistence, this led to a population decline and abandonment of many villages. However, the authors argued that the succeeding Late Jomon culture should not be looked on as a “collapse” of the society as these smaller village sites were “characterized by complex rituals, sophisticated material culture, and signs of craft specialization, such as pottery production” (p. 77).

In the next case study, volume editor Victor D. Thompson, along with John A. Turck and Chester B. DePratter, examined the effects of the deposition of massive shellfish remains on the ecology of the islands along the coast of Georgia in North America. This 4,000-year long process altered these islands’
ecosystems by both creating and modifying their upland habitats (p. 80). The authors note that the singular ecosystem of the Georgia islands produces “one of the highest concentrations of shellfish and fish biomass on the Atlantic coast” (p. 81). This ecosystem was occupied intensely during the Late Archaic and Middle Woodland to Historic Contact periods, with a waning of use in the Early Woodland period due to a lowering of sea levels by some four meters, which adversely affected the potential biomass available to hunter-forager-fishing groups (p. 85). Thompson and his coauthors indicate the prehistoric cultures or “keystone species” which inhabited these coastal islands were modifying their ecosystem by the simple act of piling up shellfish and fish remains several meters in thickness. This activity “provided refuges for species, including humans, in the marsh ecosystem” (p. 94), but this intentional activity resulted in a filling-in of the barrier island ecology, which was responsible for the large natural biomass production of shellfish and fish upon which these cultures were dependent. Such a modification of the ecosystem created an unintentional change in the salinity of the surrounding waters. This is an ongoing work intended to study the coast and its transformation by humans which this reviewer hopes to see more studies produced in the future.

The following study examined the introduction of agriculture into the North American Southwest and Northeast Mexico. Written by Patricia A. Gilman, Elizabeth M. Toney, and Nicholas H. Beale, they examined evidence of the earliest agriculture from three closely associated desert watersheds—the Santa Cruz, San Simon, and Casas Grandes. Having attended the University of Arizona and excavated in the Santa Cruz watershed, this reviewer was especially interested in this work, as it highlights recent research on the introduction of agriculture to this general area during the Late Archaic period (2,000 B.C.–A.D. 150) (p. 96) and the foundation for a foraging and limited agriculture society. This new information has led to the renaming of the Late Archaic to Early Agricultural period (p. 97). During this period, people in these watersheds moved to the floodplains to plant crops and construct irrigation ditches to supplement the natural rainfall (p. 100). This disturbance of the ecosystems through the planting of crops had an unintentional tendency of increasing some faunal species drawn to feed on these crops, which then entered the diet of the people who resided nearby (p. 104). It also likely lowered the occurrence of deer and antelope in their diet (p. 110). The authors conclude that with the exception of lower numbers of deer and antelope “the impacts of this early agriculture were not as heavy as the built environment of canals, fields, and houses might suggest” (pp. 112, 118). One interesting side note is that the San Simon watershed, like the other two watersheds under study, did not have a major disturbance to its ecosystem in the Early Agricultural period. However, with the introduction of more people in the succeeding Pit Structure period the watershed was completely abandoned about A.D. 1,050.
The authors speculate this later society “affected the land in such an adverse manner that no one could make a living farming there for the next thousand years” (p. 119).

The case study by Paul R. Fish, Suzanne K. Fish, Paulo DeBlasis, and Maria Dulce Gaspar involved the examination of the monumental sambaqui shell middens along the coast of Brazil—an area containing some of the largest known shellworks attributable to foraging and fishing cultures, which are on a comparable scale to Monks Mound at Cahokia and the earthworks at Poverty Point. The authors refer to the Brazilian coastal ecosystem as a “persistent place” or one which contains “(1) features of natural environment that attract repeated human occupation, and (2) man-made features and resources that draw people to a particular location” (p. 121). Sambaquis (the Brazilian name for shell middens) were noted by 16th Century European explorers of the Brazilian coast and primarily “occur in highly productive bay and lagoon ecotones where the mingling of salt and freshwaters supports mangrove vegetation and abundant shellfish, fish and aquatic birds” (p. 123). It is estimated that the 1,000+ known sambaquis are but a fraction of the original number of shell middens constructed by the coastal foraging and fishing communities, and the research conducted by the authors indicate “continuous, heavy exploitation over the [fifty] centuries of the sambaqui era suggests little impact from human predation” (p. 125) demonstrating the richness of coastal Brazil’s natural resources. The massive sambaqui shell middens from the field work conducted by the authors appear to be the result of “a repetition of mortuary events at successive funerary loci rather than ongoing residence” (p. 130). Repeated mortuary interments and ceremonies appear to have been conducted by specific “affinity groups, whose membership was based on kinship, territorial affiliation, or other social principles” (p. 130) over thousands of years. One such sambaqui is estimated to contain 44,000 burials, interred over two thousand years (p. 134). The authors suggest that fisher-forager groups that were capable of constructing such massive structures even incrementally over thousands of years of repeated interments “lowers our expectations for the role of agency and power in monumentality” (p. 140) and further that these structures “likely signaled belonging and territorial rights while promoting the exploitation of abundant resources in a manner that conserved their viability across expanding generations” (p. 140).

The final case study is by María N. Zedeño, who has undertaken research on the role of hunting among Blackfeet males on federally managed lands adjacent to their reservation in the present day. She also examined how hunting in the 20th Century has evolved from a means of subsistence to defining modern Blackfeet identity (p. 142). Zedeño noted the Blackfeet, upon Euroamerican contact, were a plains-dwelling and bison hunting tribe, which were resettled in the Rocky Mountains by the federal government where they switched to elk hunting to maintain the core values of their hunting ethos. The author asserts this
adapation to hunting a new large game species helped the Blackfeet maintain their cultural values within the context of reservation life (pp. 142-143). The emergence of a new hunting ethos for elk was not an easy transition for the Blackfeet who were under pressure to become ranchers of domestic livestock during the first half of the 20th Century. During this period, as a means to supplement reservation rations, the Blackfeet began to hunt elk on surrounding federal lands, in accordance with treaty rights to hunting on public lands, where the species had established itself in herds too large for the land to support their numbers (p. 152). Over time the ceremonies and traditions once associated with bison hunting were merged into the taking of elk on public lands, which not only maintained the hunting ethos for the Blackfeet, but also assisted federal land managers who were attempting to balance federal land legislation, such as the Wilderness Act of 1964, with earlier treaty rights with the Blackfeet (p. 156). Zedeño noted that this new hunting ethos led to the creation of various types of hunting and ritual camps on public lands over the last 100 years. Although she did not precisely mention it, this reviewer notes how the change in the Blackfeet hunting ethos created a new series of historic archaeological sites on public lands. This study of the adaptation process of the Blackfeet has the potential to be applied to hunting camps and sites, which may have been created by similar changes in the hunting ethos prehistorically.

By focusing in this volume on the effects of small-scale societies on ecosystems, such as foraging (i.e., hunting, gathering, and fishing) and limited agricultural ones, the various authors included in this volume explored the basic assumption that such groups “tread lightly on the landscape.” The case studies in this work demonstrate these societies in some cases existed in relative harmony with their ecosystem for thousands of years, such as the sambaquis of coastal Brazil; in other instances they destroy it after a few generations to the point that the landscape was of limited use to future cultures, such as the San Simon watershed of southern Arizona. Such societies were the norm for 99% of human history, so understanding how these groups interacted with their ecosystems could be the basis for the management of contemporary landscapes and achieving a deeper understanding of the functioning of past cultures (pp. 8-9).

Understanding the processes by which prehistoric foraging and limited agricultural societies managed—either intentionally or unintentionally—their ecosystems holds great promise for comprehending how such groups were able to maintain themselves over thousands of years, how they evolved through time, or abandoned their depleted landscapes. Even with our comparatively advanced technological innovations, modern societies encounter many of the problems with their ecosystems which our prehistoric ancestors faced. Historic Ecology gives us a reasonable means by which we may better understand how these groups dealt with their ecosystems. In turn, such solutions have the potential to be applied to modern situations concerning the preservation of those parts of the
environment which are necessary to our modern societies. Thus, there lies an area of collaboration between ecologists and archaeologists. This volume is highly recommended, both for archaeologists attempting to ascertain the functional aspects of prehistoric societies and for ecologists developing baseline ecology for management purposes.

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Many persons interested in American archaeology have expressed a desire for an organization in this city to promote study and diffuse knowledge upon the subject. All willing to join an Archaeological Association are requested to attend a meeting at the Smithsonian Institution . . . for a conference upon the subject and the formation of such a society [Lamb 1906:564-565].


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