

Response to the Critique of John A. Black

Jeffrey Kassner

Town of Brookhaven, Division of Environmental Protection

Applying ecological concepts to human populations is not without difficulty; after all, ecological theory was developed for non-human species. To be successful and meaningful, the application of ecological concepts to human populations obviously requires an understanding and synthesis of ecology and anthropology. Perhaps more importantly, however, considerable care and thought must be given to establishing the requisite conceptual parameters and analytical structure as well as to the development of the necessary analogs. When properly executed, ecological concepts can provide an excellent framework for exploring the functioning of human communities.

Professor Black's critique of my paper "The Baymen of the Great South Bay, New York: A Preliminary Profile" (cf. *MAST* 1988, 1(2)) reflects more the failure to undertake a critical application of ecological concepts to human communities than an indictment of its application to the baymen of the Great South Bay. His central argument is that I have misapplied the concept of niche and from this he proceeds to argue that a baymen niche does not exist. However, while he correctly defines niche as the "... functional role of a population in its community ...," he never rigorously evaluates the baymen against this definition. Had he done so, he should have been able to focus his analysis on the role of the baymen in the hard clam fishery and thereby avoid introducing considerations that are clearly superfluous.

Integral to niche is the concept of community; community is defined ecologically as a group of interacting populations of organisms in a particular place (Krebs 1972). Community can thus be directly applicable to the analysis of human population and is essential to my ecological analysis of the baymen. For the Great South Bay hard clam fishery it provides the structure to describe the organization of the several interacting populations (both human and non-human) and to analyze the functioning which includes how each of the individual populations interact, how the community is regulated and maintained, and how each of the populations respond to perturbation. In spite of its importance, Professor Black does not apply community to the Great South Bay hard clam fishery or to the baymen in the context of a fishery based community. As a consequence, he does not, from the outset, establish an appropriate analytical framework, one that community provides.

The Great South Bay hard clam fishery clearly meets the ecological criteria of a community: it has geographical limits and is comprised of, for simplicity, interacting populations of baymen, hard clams, and hard clam predators. The functional role of the baymen is essentially that of another species preying upon hard clams. Like the other hard clam predators in the Great South Bay hard clam fishery community, the size of the baymen population is directly related to the sufficiency of their hard clam harvest. Furthermore, the baymen, like the non-human predators, must confront intraspecific and interspecific competition for hard clams and must adapt to changing environmental conditions. Thus, a bayman niche clearly does exist in the Great South Bay hard clam fishery.

A second problem inherent in Professor Black's critique is that he does not appreciate that fishing is unlike most other occupations as it has a large cultural component. As

Gatewood and McCay point out, "... fishing is not just a livelihood, it is a way of life ..." (1988:126). In general, fishing as an occupation attracts a certain type of individual and fishermen can be characterized by a unique set of values and attitudes (see, for example, Poggie and Gersuny 1974) and there is no reason to believe that this is not true for the baymen. While a bayman is theoretically able to pursue any occupation, in reality, changing occupations is likely to be resisted. Furthermore, even though the baymen niche is open to all humans, in actuality the occupation is probably biased towards a particular personality type so there is some occupation selection. Thus, the movement into and out of the bayman profession is sharply constrained thereby making the bayman occupation fairly distinct.

It is true that the dynamics of the bayman population are somewhat different from that of non-human species but, given the validity of the bayman niche, this can be easily reconciled by applying the proper analogs. When the Great South Bay hard clam fishery is viewed as a community with the baymen one of the component populations, the 'origin' of a bayman does not matter; only the absolute number of baymen is important as this number determines competition and the rate of exploitation. To a hard clam, it does not matter if it is 'consumed' by a bayman or another predator and no matter who consumes it, it is unavailable to the other consumers.

The inflow and outflow of individuals into the bayman occupation is determined to a large extent by the relative economic attractiveness of harvesting hard clams as a profession. Just like any other species, under relative favorable conditions on the bay, baymen abundance will increase while it will decline whenever conditions deteriorate. Furthermore, under deteriorating conditions (i.e., reduced hard clam abundance), the fitter baymen (here defined as having more efficient harvesting skills and/or having lower operating and/or living costs) will remain longer on the bay than those that are less fit. Consequently, the baymen population as a whole becomes increasingly fit or else it goes extinct. The same scenario happens with nonhuman species. While the selection is not genetic, the results are essentially the same.

The only difference between baymen and other species is that whenever conditions deteriorate, the individuals in the baymen profession or niche have the potential for alternative employment or income, an option that other species do not possess. Again, from the perspective of the Great South Bay hard clam fishery as a community, it is the number in the bayman population and not the fate of an individual that is important. Once a bayman has left the bay, he is no longer participating in the community and that is all that matters to the community.

Finally, it should be noted that fishermen are able to transfer experience from one generation to the next through their common culture and heritage (see, e.g., McCay 1984). Many of the present baymen, for example, have attitudes that can be traced to events occurring before they became baymen. This transfer of information is analogous to genetic transmission from parent to offspring.

At the conclusion of his critique, Professor Black suggests that rather than apply an ecological metaphor to anthropological thought, I should investigate "... how cultural mores, lobbying and legislation can interact to convert, 'rugged, independent individualists' into welfare recipients ..." This suggestion is contradictory because cultural mores, lobbying and legislation can best be examined from an ecological perspective. All are forms of adaptation, mechanisms by which a species is better able to cope with its environment. Over time, these activities have proven to be the most effective for enhancing the survival of the bayman population. They are therefore maintained, passed from generation to generation, even though they are culturally based. Furthermore, they work

and thus persist because society as a whole has allowed them to work and for this the baymen should not be faulted. Lobbying and pro-baymen legislation are simple and direct solutions to the problems facing the baymen.

It appears, therefore, that all of Professor Black's criticisms of my application of ecological concepts to the baymen are based more on a faulty analysis of the baymen rather than an inherent flaw in the validity of my work. Of course, ecological concepts had to be constructed and refined to take into account human differences, but this did not compromise the legitimacy of my approach. Whether ecological analyses can be successfully applied to other human communities, however, must be assessed on a case-by-case basis.

References Cited

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 1988 Job Satisfaction and the Culture of Fishing: A Comparison of Six New Jersey Fisheries. *Maritime Anthropological Studies* 1(2):103-28.
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Book Reviews

ACHESON, James M. *The Lobster Gangs of Maine*. Hanover: University Press of New England, 1988. xiv + 193 pp., 23 b&w photographs, maps, figures, appendix, notes, references, index. \$20.00 (cloth) \$9.95 (paper)

This book presents the results of extensive anthropological fieldwork and practical projects carried out over several years. While it focuses on a narrow group of producers, a particular fishery, it raises some important general questions regarding kinship, territoriality, technical skills, resource management, and the economics of the firm.

The discussion is divided into eight chapters. The first chapter describes the biology of lobster, the climate, geography, and ecology of the coast of Maine, and their implications for the activities of lobstermen in the daily round and the annual cycle. The second chapter shifts from the natural to the social, emphasising local identities and the social relations of lobstermen and other members of the harbour communities. Belonging to a community, Acheson explains, is not simply a matter of residence and ownership of land, for many property owners and permanent or semi-permanent residents in the harbour communities – summer people and retired folk or 'outsiders' and 'newcomers' as the insiders call them – never become 'full' members of the local community. They remain "black holes in the social universe," as Acheson puts it (p. 42), unless they gain access to a local network of kinship relations. Such networks are not necessarily in complete agreement with genealogical facts, for people "create . . . (their) kinship past with certain contemporary aims in mind" (p. 30). Together the first two chapters provide the necessary background for understanding the activities and the cultural models of lobstermen, discussed in the chapters that follow.

The central grouping among lobstermen is that of the informal 'harbour gangs.' Gang members share important information and collectively they protect the fishing territories they use. To be a competent lobsterman, to have access to information and fishing space, therefore, means to belong to a harbour gang, to respect its rules, and to identify with its members. While the gang is united when competing for fishing space with other gangs in the neighborhood, it is not a homogeneous group. Some lobstermen are successful 'highliners,' others are less successful 'dubs.' Lobstermen tend to regard fishing as a highly individualistic game, and they are right to the extent that skippers play on their own without the aid of a team, but Acheson emphasises that the players are not autonomous individuals and that playing the game is intimately connected to the politicking of the harbour community, in particular the negotiation of gang membership and the control of access to fishing territories. The defense of fishing areas is a complex process with important economic and ecological implications. There are two kinds of fishing areas, Acheson argues; fishermen have no terminology to describe the differences but they are well aware of them. In 'nucleated' areas fishermen's sense of territoriality is strongest at the centre, decreasing with distance from harbour, whereas in 'perimeter-defended' areas the sense of ownership is just as strong at the boundary as closer to the centre. Fishing effort, Acheson points out, is less in the latter areas than the former, lobsters are consequently larger and fishing is more economical.

The chapter on fishing skills, 'Tricks of the Trade,' is the longest one in the book. Acheson argues, on the basis of folk accounts as well as statistical analyses, that personal differences in fishing skills partly explain differential success and that the most important skills relate to trap placement, the ability to guess where lobsters occur and to manoeuvre around offshore ledges. Acheson admits (p. 105), however, that the statistical results