

Wood Bison and the Early Fur Trade

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Introduction

The intent of this paper is to present data from fur trade records documenting the depletion of the northern Alberta wood bison,¹ or buffalo, as perceived by fur traders prior to 1840 and to consider the implications of these data for contemporary game management strategies, especially involving Aboriginal harvesters. The paper briefly reviews different analyses of the causes of historical game depletions and outlines Raup's 1933 reconstruction of the wood bison depletion. It then expands upon and modifies Raup's analysis, using data from the pre-1840 fur trade records of northern Alberta. Finally, it discusses the implications of these data.

Studying Historical Game Depletions

The past decade has produced ample literature on the debate over the rights of Aboriginal people to make decisions about local wildlife management. Reconstructions of historical game depletions have played a role in this debate. In fact, one article by Macpherson (1981) asserts that historical game depletions are evidence that no Aboriginal system of resource management could have existed. The explanation provided for this conclusion has two components. First, the general principle behind Hardin's (1968) "tragedy of the commons" argues that communally owned property is prone to be abused as individual users attempt to maximize their own gain without regard for the common good. Second, access to more efficient technology through the fur trade is identified as the critical factor that allowed Aboriginal individuals to over-harvest. This interpretation of the past is used to argue that a centralized approach to wildlife management was and is the only effective means of conserving the resource.

Fur trade historians (e.g., Brightman 1989; Krech 1981; Martin 1978; Ray 1978) have also analyzed

historical game depletions but have identified a much broader range of relevant socio-economic factors, including territorial shifts of Aboriginal groups, the interrelationship between introduced diseases and Aboriginal belief systems, and competition between trading companies. The introduction of new technology is not irrelevant, but it is linked with these other factors in a network of complex causality. Indeed, some feel that traditional Aboriginal technology would have been sufficient to overhunt animal resources (e.g., Bishop 1981; Martin 1978).

Such analyses also accept that Aboriginal motivation differed greatly from the "profit motive" essential to Hardin's thesis (Ray 1974, 1978). Debate over the precise nature of the motivations of specific groups has produced an extensive literature, particularly on the relationship among Aboriginal beliefs, hunting practices and conservation (e.g., Brightman 1989; Krech 1981; Martin 1978). This discussion is constrained by our extremely limited knowledge of aspects of Aboriginal life other than those directly involved in the fur trade (Brown 1990).

Historical game depletions are also of interest to common property resource management theory and practice (Berkes *et al.* 1989; McCay and Acheson 1987; National Research Council 1986). This research examines the conditions under which communally-based management, both past and present, of renewable resources has either succeeded or failed. Taking issue with the idea that only a central government agency can effectively manage these resources, this approach stresses the specification of type of access to resources as critical to success or failure. In fact, Hardin's (1968) thesis of the loss of the commons has been challenged precisely on this point. Essentially, Hardin's case study examined only one kind of access, in which anyone could use the resources and individual users were not subject to communal regulation. Under such conditions re-

