

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-

sources might well be depleted. However, there are case studies that attest to instances of effective and efficient management of communally owned resources by an identifiable community of users, where access to the resource is secure from trespass (in Berkes *et al.* 1989; McCay and Acheson 1987; National Research Council 1986).

This connection between access to the resource and resource depletion is reflected in many of the findings of fur trade historians who have commented on the intensity of demand for resources in the Canadian interior (e.g., Brightman 1989; Spry 1983). Periods of competition among trading companies resulted in a tremendous drain. Companies brought extra personnel into the contested areas, and sometimes competitors employed explicit scorched earth policies (Hudson's Bay Company Archives [HBCA] D.4/90 opp. p. 89). Some Aboriginal groups relocated to different territories in pursuit of their own economic and political goals. Bishop and Ray (1976) have even suggested that the 1763-1821 period of competition in the Canadian north so decimated game and furbearer populations that it laid the basis for the Aboriginal economic dependency of today.

These varying approaches to historical game depletions present a strong contrast. Macpherson's (1981) explanation ignores the trespass integral to the European fur trade and instead depends on a bridging concept of "new technology" to show why game depletions are associated with the fur trade. This explanation thrusts the responsibility for depletions back on the local Aboriginal peoples. It implies that indigenous conservationist values were either absent or were "swamped" by the impact of the new technology. As the following discussion will show, the connections between norms and behavior are much more complex. The behavior of the local fur traders themselves presents a strong argument for the connection between trespass and resource depletion.

Raup's (1933) Reconstruction of the Wood Bison Depletion

With these contrasting perspectives on historical game depletions in mind, I turn to one reconstruction of the near-extinction of wood bison in northern Alberta. In 1933, biologist Hugh Raup, published a

major study on the bison of Wood Buffalo National Park, including an interpretation of the decline in bison numbers. This account has been cited and briefly commented on by other biologists and wildlife managers (e.g., Soper 1941; Payne 1983; Wood Bison Recovery Team 1987) but not substantially critiqued. It remains the seminal work in this particular literary tradition. Common to Raup's discussion and to subsequent citations/commentaries is the focus on rifles and consequent overhunting as a causal factor in the decline of wood bison. No instances are adduced to support this interpretation: the idea merely recurs, undeveloped and vague. Associated with this idea is the assertion that the demands of the fur trade itself could not have been sufficient to motivate this overhunting. Although there is no attempt in these works to prove the point argued by Macpherson (1981), that new technology was instrumental in game depletions, the juxtaposition of ideas leaves the way open for such an inference.

Raup's 1933 review of the bison decline entailed a detailed and comprehensive discussion of the accounts of people who were mainly transients; that is, travellers and land and resource surveyors. These accounts derived primarily, but not entirely, from the second half of the 1800s and frequently were secondhand reports from unspecified sources. Raup drew conclusions about temporal and geographical aspects of the decline as well as about causes.

Early reports from the late 1830s and early 1840s indicated some abundance of animals on the Salt Plains to the west of Slave River and on the Birch Mountains, as well as heavy mortality among bison on the central and upper Peace River due to severe winters with deep snows (Fig. 1). There was a gap in the records used by Raup until the 1860-1870s, when they reported the near-extinction of bison in the upper Peace and Clearwater River regions. Raup conjectured that the 1840s may have marked the very beginning of the bison decline, with the most rapid period of decline occurring after 1860 or 1870. Subsequent discussions (Soper 1941; Payne 1985) accepted these dates.

Raup characterized the process of the decline as involving a general reduction in numbers and elimination of the wood bison first in the periphery of their distribution, until by 1890 there were only small

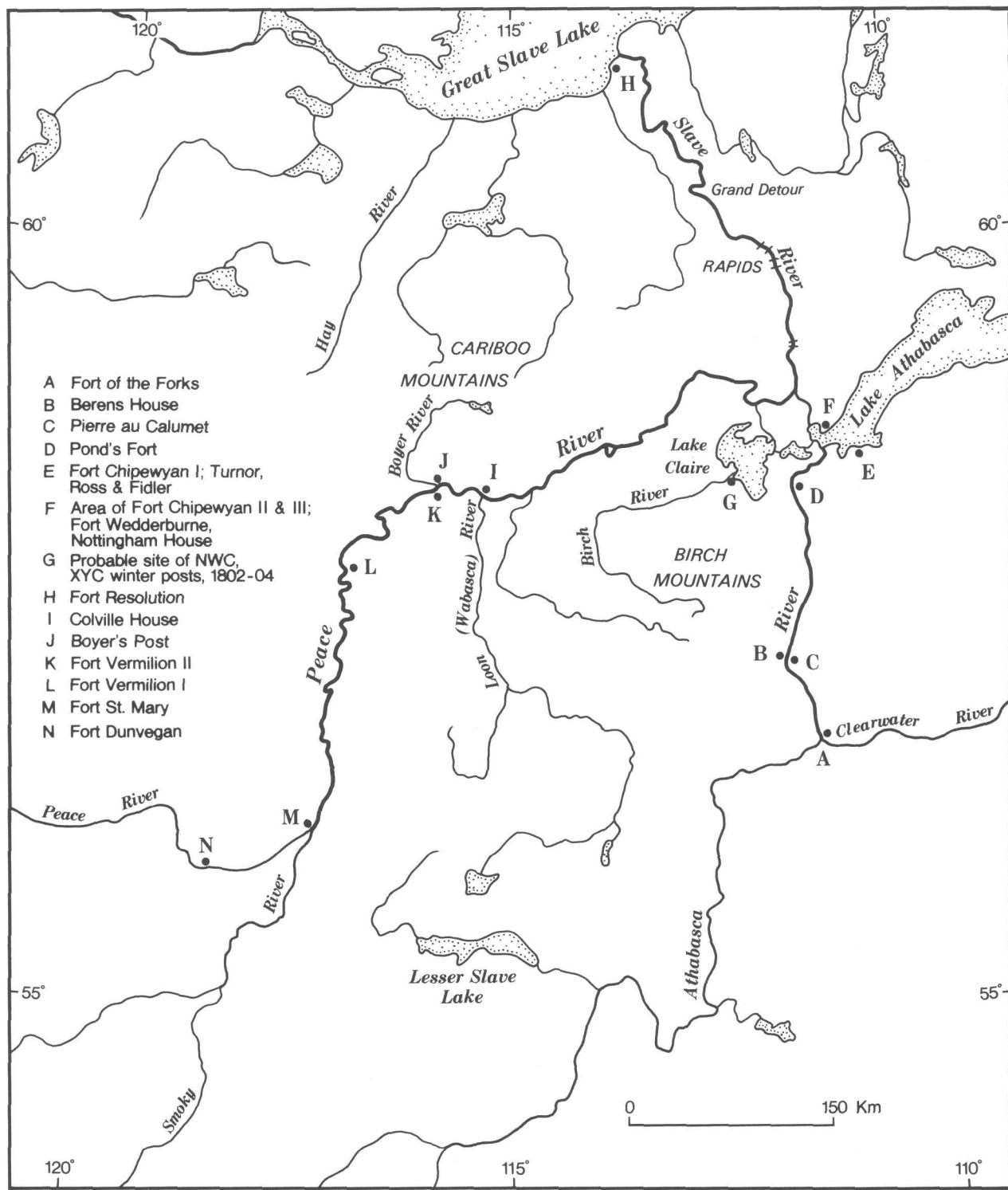


Figure 1. Fur trade posts in the Peace-Athabasca region (After L.H. Thomas n.d.)

scattered bands in isolated areas and the larger herd on the west side of the Slave River. He argued that the persistence of this latter herd, despite hunting pressure, indicated that this area was the original center of abundance of wood bison. Soper (1941: 362) disputed this point, arguing that the bison were probably preserved in this area by the absence of early agricultural settlement.

As to the causes of the decline, Raup (1933: 20-21) cited two main possibilities: increased snowfall and the introduction of the rifle and consequent overhunting. To support the snowfall theory in which he appears to be most interested, Raup made reference to stories documented by various travellers in the late 1800s. The stories referred to specific instances, some apparently as early as the 1820s, when deep snows with or without a hard crust had occasioned the deaths of many bison. Raup suggested that the northern bison were already at their northern environmental limit in this respect and that population losses resulting from a series of winters with deep snows could well have contributed to a decline. While Raup posited overhunting consequent to the introduction of the rifle, he did not examine this factor in detail. However, he did claim that “no systematic hide or meat hunts were ever made” in this area. As this paper will demonstrate, his assumption was erroneous.

Evidence from the Fur Trade Records: A New Reconstruction of Wood Bison Depletion

Unfortunately, in 1933 Raup did not have access to the region’s fur trade records. These consist of some North West Company (NWC) and especially Hudson’s Bay Company (HBC) documents, including journals, accounts, correspondence, and district reports. Produced by persons who were resident rather than transient in the area, these materials provide information on the trade’s impact on bison. However, these individuals did not necessarily have identical perceptions of the process of bison depletion, and their interpretations must be read critically.

Observers used terms such as “numerous,” “plentiful,” “scarce” and “exhausted” to describe bison populations. Their use of these terms was colored by their experience and expectations, their

needs for the production of bison meat or hides, or perhaps by “public relations” needs, such as promoting a particular image of game abundance. These records are also limited by their lack of Aboriginal perspectives and voices. They focus on trading post activities, concerns and personnel. Despite the importance of provisioning the past, game species were secondary to fur-bearers in the written record. There are no descriptions of bison management practices nor bison hunting techniques.³ Thus, the following discussion will not be able to provide a depiction of specific bison conservation measures that the fur trade rendered ineffective. It is possible only to outline the traders’ perceptions of the process and causes of the depletion of the wood bison.

Provisioning the Post: Requirements and Organization

It is beyond the scope of this paper to present a quantitative analysis of the fur trade’s consumption of provisions in the Peace-Athabasca area. Indeed, the records of the Peace River forts contain very little quantitative information on harvests at all. However, since this paper contends that the demand of the trade for provisions has been underestimated in some reconstructions of historical game depletions, it will provide an outline of what these demands comprised. More general discussions of the provisioning requirements of the western fur trade can be found in Ray (1974; 1984).

The provisioning requirements of the trade posts can be roughly categorized into internal and external purposes. Internally, provisions were required to feed the personnel at the posts, including officers and employees, their wives and children and dogs. Externally, provisions were required to feed the transport brigades and to supply provisions to other areas.

The amount of meat expended in the feeding of a trade post could be considerable. At Fort Chipewyan, Factor James Keith noted in 1823 that the standard daily food rations comprised four to five fish or eight to ten pounds of meat for a man, half as much for a woman or a dog and a quarter as much for a child (HBCA B.39/a/22, Oct. 11, 1823). This standard does not appear in any way unusual for the trade in the early 1800s, and it is accepted here as broadly repre-

sentative as a rationing standard for the Peace-Athabasca posts.

Since Fort Chipewyan was a “fish” post, meat was served only about twice a week to the personnel and not at all to the dogs, unless absolutely necessary. In contrast, the “buffalo” posts of the upper and central Peace fed their residents almost solely on large game. The forts of the Peace River had planted gardens since 1788 (Lamb 1970: 242), but these were not always a dependable source of food.

The amount of provisions required internally by the posts can be estimated by multiplying the rationing standard by the number of people the trade supported. These numbers could fluctuate considerably. One major factor in this fluctuation was whether a monopoly or a competitive trade situation prevailed. For example, there is a clear contrast in the number of posts on the Peace River between the 1806 NWC monopoly when the NWC operated four posts (J. Wallace 1928: 74-75), and the 1804 competitive period, when the NWC had five posts and the XY Company, four posts (HBCA B.39/a/3, May 20, 1804). A second example is provided by the contrast in the number of personnel at Lake Athabasca between the 1820 competitive period and the 1823 monopoly, following amalgamation. In 1820, each company had its own post. The NWC post was occupied by 76 men, 31 women, and 49 children. At the HBC post, there were 50 men and an unknown number of women and children. By 1823 there was only one post, with 57 men, 24 women, and 37 children (HBCA D.4/87, Report of Simpson to the Committee, Aug. 10, 1824; see Rich 1938: 121).

The second aspect of provisioning was the need to accumulate processed meats for the feeding of the brigades and the supplying of other areas. This processed meat consisted of pemmican, dried and pounded meat, and bags of grease. In the early post-merger period, the Peace River posts were usually requested to furnish 100-120 bags of pemmican, weighing 80-90 pounds each. Additional provisions were requested for the support of the 1825 Franklin Land Arctic Expedition and New Caledonia (e.g., HBCA B.39/b/3, June 12, 1825; HBCA B.39/b/2, McIntosh to Smith and Dease, Dec. 15, 1822). While these figures may not appear to represent huge quantities, the posts had difficulty in meeting the require-

ments. Data on these requirements are absent for the pre-merger period, but the larger brigades typical of that period would have required more provisions.

The provisioning of the post with meat depended not only on the supply of big game, but also on the availability of people with the skills to harvest big game and the commitment to do so for the post. The Fort Chipewyan records show how this activity was organized in the post-merger period. In the fall, local individuals with a reputation as skilled hunters would be hired and outfitted to hunt big game for the fort for the October-March period. They were commonly referred to as Fort Hunters (e.g., HBCA B.39/a/23, Oct. 19, 1824). These individuals appear to have been aided by members of their extended family. As animals were killed, the carcasses were cached and runners sent to inform the Fort. Fort employees were then dispatched to haul the fresh meat back to the post by dog sled. Other Native people would occasionally bring in both processed and fresh meat or ask that employees be sent to haul cached carcasses to the fort. The fresh meat would be used as needed. The processed meats would be used for trips by the meat haulers and would be stored for the spring brigade (e.g., HBCA B.39/a/22, April 13, 1923). It was a mark of dire necessity if post personnel had to be fed on seasoned provisions (e.g., HBCA B.39/a/25, entries of late October 1826).

The winter hunting season generally came to an end by mid-March. By this time the fort expected to have sufficient supplies of fresh meat to survive the difficult spring season and sufficient seasoned supplies to provision the brigades. If necessary, fresh meat was processed for brigade use (e.g., HBCA B.39/a/24, April 12, 1826). Even if supplies were inadequate, factors associated with the advancing season meant that large game provisioning had to slow down: trappers were returning to the fort area, the increased hunting pressure made it more difficult to harvest animals, the melting of ice and snow impeded the transportation of the meat, the Fort Hunters were eager to be off for the productive spring waterfowl and muskrat hunt, and the animals themselves were in poorer condition April through June (e.g., HBCA B.39/a/24, Mar. 31, 1826; HBCA B.39/a/29, Mar. 10, 1833). Over the April-June period, the fort supported itself with the northward migrating

flocks of waterfowl and stored food (e.g., HBCA B.39/a/22, April 23, 1823).

The summer hunt lasted from July through September. Fewer Fort Hunters were needed in the summer than in the winter, as the summer establishment of the fort was smaller. Most of the men and some family members left with the brigades in May or June. Game permitting, the Fort Hunters usually hunted within a short distance of the Fort, providing mainly fresh meat. Other local people, travelling more widely, were encouraged to make good provision hunts, process the meat so that it would not spoil, and bring these provisions back to the fort in August and September (e.g., HBCA B.39/a/29, entries of Sept. 1832). Unlike fresh kills, which were often recorded in the post journal by species and poundage, seasoned provisions were simply inventoried by poundage, so we have little idea what proportion was bison. These provisions were stored at the fort to feed the brigades or the fort personnel during periods of the winter when the harvest was unproductive.

In the pre-merger period, the relationship between local people and the fur trading companies, particularly the newcomer HBC, was more tenuous. For the HBC, gaining the confidence of local people was a major hurdle. Local people were reluctant to commit to or even to interact with a company whose future was uncertain. Their rationale is well expressed in the case discussed by Halcro in the 1818-1819 journal of Colville House (HBCA B.44/a/1, Oct. 5, 1818). Halcro used liquor to try to bribe a Beaver Indian into acting as Fort Hunter, but the man refused. His argument was that it would be too risky to link himself in this way with Colville House, because if the HBC did not return the following year, he would be at the mercy of a vengeful NWC. The forced withdrawal of the HBC in 1803 and 1815 from the Peace lent authenticity to the image of the Company as a “bird of passage” and was a powerful weapon in the NWC’s arsenal to bind the Native people to them.

With no reliable access to local Fort Hunters, the HBC developed other strategies to secure provisions. In 1804, for instance, Peter Fidler at Nottingham House on Lake Athabasca could not convince anyone to act as Fort Hunter, so he and his employees lived on a few provisions traded by various Native

individuals at a high rate of pay, in addition to the fish, rabbits and partridges harvested directly by HBC employees in the vicinity of the post (HBCA B.39/a/4, various entries, Nov. and Dec., 1804). The practice of sending post employees to winter with Native groups provided food for those men, as well as increased the possibility of provisions being made for the post. By 1817, the HBC had built up a relationship with “freemen,” former NWC employees, and was able to employ them as Fort Hunters (e.g., HBCA B.39/a/13, Decoigne to Jonas Bird, Dec. 6, 1817).

Documenting Wood Bison Decline in the Pre-1840 Trade Records

The pre-1840 records provide information about bison depletion that can be grouped into the following sequence. For the pre-1800 period, bison were represented as abundant in certain areas and less abundant elsewhere in northern Alberta. From 1800 to 1820, documentation is scarce, and the focus of the records was on the fierce competition between rival trading companies. Persistent references to bison depletion were made for the period 1820-1830, but there was disagreement as to whether this situation was a localized or general problem. Finally, for the period 1830 to 1840, it was evident to all that the problem of game depletion generally and bison depletion specifically was a widespread one in the Peace-Athabasca area. Different causal factors were debated.

Pre-1800: the “Buffalo Hunting Grounds”

In this earliest fur trade period, comments about the regional distribution of bison and the use of bison by the fur trade are most clearly provided by Ross, Turnor and Fidler, the members of a HBC reconnaissance team which wintered at Lake Athabasca in 1791-92. The provisioning of future HBC posts and brigades in the area was a major concern. Based on information they received from NWC men, their reports identified the central and upper Peace River as the major buffalo hunting ground. The Beaver Indians at the NWC post of Boyer River (Fig. 1) supplied seasoned provisions, “Buffalo flesh both fresh and cured such as beat meat and rendered fatt” (Tyrrell 1934: 452). Ross commented that without the provisions from Boyer River, the NWC would

never have been able to transport out their furs (HBCA B.9/a/1, Aug. 29, 1791). In 1792, Turnor noted that a canoe travelled between Boyer River and Lake Athabasca, bringing down two tons of seasoned provisions at a time (Tyrrell 1934: 452). Although most of the NWC provisions appear to have been taken from the Boyer River area, buffalo were recorded to be just as abundant at the post above Boyer River, located somewhere around the Whitemud River. These comments on the abundance of game in the Peace were supported and amplified in the same year by Mackenzie who referred to “vast herds” of elk and bison (Lamb 1970: 259).

Turnor identified the mixed prairie-woodland of the Salt Plains on the west side of the Slave River as a second buffalo hunting ground. He recommended that any post on Lake Athabasca should establish a provisioning post at the rapids on the Slave River to procure and season buffalo meat (Tyrrell 1934: 456). Mackenzie (Lamb 1970: 167-168) and subsequent authors also described this area as abounding in game, including bison, moose, beaver and waterfowl.

A third area noted in these records as “famous for Buffaloe and Red Deer” (Tyrrell 1934: 461) was the Clearwater River and its confluence with the Athabasca River. This area was heavily exploited, because the brigades used this route to the Methye Portage. Early provisioning posts of the Athabasca District were located at the Forks of the Athabasca and the Clearwater and further down the Athabasca River (Tyrrell 1934: 460; Lamb 1970: 129). The upper reaches of the Clearwater River were exploited by hunters from the Ile à la Crosse district.

Notably absent from these early reports on bison hunting grounds was the Peace-Athabasca Delta. Today this delta is the home year-round for Wood Buffalo National Park’s largest bison herds. In the early 1800s, however, it was evidently not considered a major bison hunting ground, although some bison wintered in the delta near Lake Claire and were used on occasion by the Lake Athabasca posts. For instance, in the 1802-04 period of intensive competition in the Athabasca area, both the NWC and the XY Company located winter provisioning posts there, which relied mainly on bison (HBCA B.39/a/3, Sept. 23, 1803; B.39/a/4, Sept. 25, 1804). This intensity of

use does not necessarily derive from great abundance of the resource. The failure of the XY Company to establish a post on the Peace meant that provisions had to be secured in the Lake Athabasca area. The NWC post was established as part of a policy of setting up posts wherever its competition did, in order to choke off competing trade.

1800-1820: Competitive Stress in the Peace-Athabasca region

Periods of intensified competition among trading companies characterize these two decades. From 1802 to 1804, both the XY Company and the HBC made unsuccessful attempts to oppose the NWC in the Peace, associated with a sharp increased in the number of traders in the region. Not only were there now XY Company and HBC employees, but the NWC brought in additional personnel to meet the challenge. Some of the new personnel were eastern Aboriginal peoples, Iroquois and Ojibway. Some Iroquois had arrived in the West as early as the 1790s, either independently or under contract to the NWC (Lamb 1970: 411; HBCA B.39/e/4). Many others were brought out under contract to the NWC in the 1800-04 period (Nicks 1979). In 1804, there were apparently 110 Iroquois in the upper Peace region alone. This group provided about a quarter of the NWC’s returns for the entire Peace-Athabasca district and over half of the XY Company’s returns for the district (HBCA B.39/a/3, May 20, 1804). After the main period of competition ended in 1804 with the merger of the NWC and XY Company, many of the Iroquois returned east, but a substantial group remained and settled in the West, as did other former employees or “freemen.” It was among the “freemen” that the fur traders found their skilled and committed workers.

In 1815 the HBC made another, even more disastrous, bid for the Peace. Again, starvation was the result, as the NWC cut the trading party off from all provisions. In the second half of this decade, there are a number of references to a marked decline in beaver (Masson 1960: 109, 113) and a scarcity of provisions on the Peace (HBCA B.39/a/13, Dec. 9, 1817). Both Wentzel (Masson 1960: 109) and Harmon (1920: 193) attributed much of the decline in beaver to the hunting practices of the Iroquois. Perhaps the

scarcity of provisions was due to the same cause. Harmon (1920: 193) commented on the Iroquois attitude towards resources:

As they are mere rovers, they do not feel the same interest, as those who permanently reside here, in keeping the stock of animals good, and therefore they make great havock among the game, destroying alike the animals which are young & old.

In 1817 the HBC made its third and eventually successful move into the Peace. Ironically for the NWC, this time the HBC was able to secure provisions successfully by employing Iroquois freemen from the Lac la Biche area. Decoigne, the HBC Factor at Lake Athabasca and a former "Norwester," was quite explicit about this strategy. He intended to employ "Cardinall and Glaudus [sic] with all the Iroquouis [sic]" (HBCA B.39/a/13, Decoigne to Lewis, Dec. 6, 1817) in making provisions at the forks of the Athabasca and Clearwater for the HBC brigade. He further recommended that freemen be hired as Fort Hunters and interpreters "Particularly till such time as we acquire a footing among the Indians" (HBCA B.39/a/13, Decoigne to Bird, Dec. 6, 1817).

As a result, both the Colville House and Fort St. Mary contingents of the HBC brought Iroquois employees with them to harvest game and to act as liaison in procuring provisions from the local Beaver Indian population. Fort St. Mary also relied on both an Iroquois group already resident in the Smoky River area and a French-Cree freeman, Baptiste Bisson. Hiring Bisson as Fort Hunter and interpreter was seen as a coup because he was "the best without exception in the North" (Rich 1938: 64), as well as connected by marriage with a Saulteaux family which had a good reputation as fur hunters. Even after the HBC posts were relatively well-established on the Peace, Simpson stressed the advantages of hiring freemen, "as we depend on them in a great measure for provisions" (Rich 1938: 278).

While we can only speculate on the quantitative impact of these years of fur trade competition on bison numbers, the condition necessary for a "tragedy of the commons" is evident: an influx of outsiders interested in local resources. There is evidence that the immigrant specialist hunters and trappers over-exploited the beaver resource. As their activi-

ties were also considered vital for the provisions trade, declines in bison, the major provisioning species, are equally likely. Indeed, this is supported by the records for the following decade.

1821-1830 Varying Perceptions of the Bison Decline

With the establishment of the HBC monopoly in 1821 comes the most extensive documentation of conditions in the Peace-Athabasca region and the earliest clear evidence of the decline of bison in the central and upper Peace. Before turning to the Peace River material, some comments are due on the other buffalo hunting grounds.

As mentioned previously, the Peace-Athabasca Delta area was not considered to be a major hunting ground, but its proximity to the Lake Athabasca forts did mean that its small bison population was exploited from time to time. Although there is no overt reference to bison diminishing in the delta, bison were no longer harvested there after the late 1820s. Instead, Fort Chipewyan journal references to bison harvests locate them on the north shore of the Peace River or, more rarely, up the Athabasca River. One period of heavy exploitation is well-documented, which may have been instrumental in the bison decline. After an unsuccessful autumn hunt in 1820, Simpson directed the Fort Wedderburne Fort Hunters to Lake Clair, "where there are generally a number of Buffaloe at this season of the year" (Rich 1938: 182, Dec. 5, 1820). In February, the lake fisheries failed, and buffalo meat became the mainstay of the HBC post, Fort Wedderburne. Apparently, most of this meat was harvested around Lake Clair. The NWC post, Fort Chipewyan, was undoubtedly also affected by the failure of the fisheries. Its harvest of large game over that winter was estimated by Brown of the HBC at 300 animals (HBCA B.39/e/3). If many of these were bison from the Lake Clair herds, it is not surprising that references to bison harvests in the delta diminish in subsequent years.

The buffalo hunting ground on the west side of the Slave River seems to have been preserved from this kind of overhunting, probably due to factors of location and access to labor. This hunting ground was abutted by trade posts which were located on good fishing lakes. The forts' requirements for game were accordingly lower. Also, this area was far

enough from either post that only its margins were easily accessed by the Fort Hunters. To overcome this, a provisioning post could have been established in the area, as Turnor suggested in 1792, but the Chipewyan occupants were at that time notoriously reluctant to part with their provisions (Tyrrell 1934: 414; Gillespie 1975).

Data on bison in the Clearwater-Athabasca forks area are scanty. In 1820, Simpson's Athabasca Report (Rich 1938) predictably characterized the area as abounding in bison and deer. The subsequent withdrawal of a regular post there as part of his post-merger austerity program resulted in few references to the game situation in the 1820-1830s. Existing reports are contradictory (W.S. Wallace 1968: 136), so this area will not be discussed further.

As noted above, the records from the Peace River provide the clearest evidence of the bison decline. Yet, even in these records, different perceptions of this decline existed. The Peace River Chief Traders, William MacIntosh of Fort Dunvegan and Colin Campbell of Fort Vermilion stressed that the upper and central Peace were depleted of game from the very first of the post-merger records of 1822. The Fort Vermilion District Report for 1822 noted, for instance, "the exhausted [sic] state of the country in large animals" (HBCA B.224/e/1), and Fort Dunvegan was characterized as "formerly a plentiful place Buffalo has been very scarce their [sic] some years past" (HBCA B.39/e/4, fo. 7d).

MacIntosh and Campbell continued to correspond with the Chief Factors of the District about this problem throughout the 1820s and into the 1830s (HBCA B.39/b/2 to B.39/b/5). These two Chief Traders were former NWC traders and had both lived in the Peace for some years, MacIntosh since about 1805 and Campbell since 1811 (W.S. Wallace 1934: 431, 473). Their comments on game depletion appear to have been made in comparison to the harvests of earlier years. Their remarks suggested a regional, not just a local, depletion.

At least one of their superiors agreed with them. Edward Smith, Chief Factor at Fort Chipewyan, was vehement in his analysis of the problem of game decline:

Witness, Hay River and Fort Vermilion; had never Iroquois been introduced you would have still

handsome Returns from these Places. Now they are dwindled away to nothing. The Poor Beaver Indians with all their industry scrape only a miserable livelyhood —, their Country exhausted of Beaver and large Animals, and by who? — by the Wild, ambitious policy of the Whites Who study their own interest first and then that of the Natives [HBCA B.39/b/2; Smith to MacIntosh, May 1823].

A different view of the game situation in the Peace was presented by George Simpson in 1820 (Rich 1938). Simpson characterized the two HBC posts there as having suffered in past winters from starvation due to local depletion, despite being situated in the midst of general or regional abundance. Perhaps he considered this local depletion through overhunting inevitable, because he emphasized that the real problem was the lack of transportation, recommending that horses be imported to provide the necessary access to the more distant hunting grounds.

Similarly, when Fort Vermilion experienced a crisis in provisioning in the winter of 1822-23, Simpson disagreed with Factor Campbell's suggestion that the post be moved nearer to the Caribou Mountain fishery. He counter-proposed that an outpost should be provided to the Hay River Chipewyans, presumably to encourage and facilitate the provisions trade (HBCA B.39/b/2, Simpson to Smith, Feb. 8, 1823). Again, this solution depended on an abundance of game elsewhere in the region and focused on how to gain access to it.

In fact, Simpson's sole reference to conservation of game in the Peace River region in this decade emerged as a *post hoc* evaluation of the 1826-28 closure of Fort Dunvegan. Simpson noted that game was recovering in the Dunvegan area and surmised that once Dunvegan re-opened and the Beaver Indians of the upper Peace returned from the Fort Vermilion area, Fort Vermilion's resources would recover as well (HBCA D.4/90, Simpson's Report to the Governor and Committee, York Factory, July 25, 1827).

In summary, beginning in the early 1820s, observations about a regional bison decline were made by the Factors of the Peace River posts. Given their long experience in the area, their arguments have, to my mind, great credibility. Simpson seriously underrated the threat to game and specifically to bison

populations in the region. By viewing depletion as a localized phenomenon, he deferred, and on one occasion, stifled the development of alternate strategies for provisioning. While Simpson commented on the value of conservation strategies for dealing with localized depletion in the case of Fort Vermilion (1826-28), his regional policies to address other issues had variable impacts on the provisioning issue. The reduction of personnel and posts had the beneficial impact of reducing the demand on food resources. On the other hand, once the summer beaver hunt was banned to conserve beaver, Aboriginal people were doubly encouraged to make provisions during the summer (HBCA D.4/87, Report of Simpson to the Governor and Committee, Aug. 10, 1824). Essentially, it appears that the many other issues that the HBC faced after the 1821 merger - fur bearer populations, expenditures, and trader-aboriginal relations - took precedence. As long as provisions were forthcoming from the Peace, the problem of game decline assumed a low priority.

1830-1840: Consensus on Decline of Bison; Discussion of the Causes

Simpson's optimism continued until at least 1829 (HBCA D.4/93, letter of Mar. 1, 1829), but by 1832, his opinion about the resources of the Peace suffered a sharp reverse. Simpson now characterized the entire Athabasca District as having been "overwrought during a series of violent oppositions but even now does not recover as it should" (HBCA D.4/99, Report to the Governor and Committee, Aug. 10, 1832, point 63). In response, John Charles, the Chief Factor for the Peace-Athabasca District reported that beaver populations had recovered (HBCA B.39/b/5, Charles to Simpson, June 1, 1833), but the same could not be said for big game. By this period, the regional decline in game appears to have been generally acknowledged, even if not decisively addressed. Nonetheless, the Peace River posts were still pressured to supply provisions (HBCA B.39/b/11, Fisher to Shaw, Sept. 2, 1840).

In 1833, MacIntosh of Fort Dunvegan and Charles of Fort Chipewyan corresponded extensively on this topic. MacIntosh emphasized the part played in the decline of the harvest at Fort Dunvegan by the loss of the area of the upper Smoky River to an

Iroquois/freeman group. He described this area as once highly prized and carefully conserved by the Beaver Indians with respect to both fur-bearers and game animals, "but the Cattle are now destroyed in that Valuable portion of their Lands by the people on whom it was bestowed" (HBCA B.39/b/5, MacIntosh to Charles, Oct. 22, 1833).

In December 1833, Charles summarized the situation for the Governor and Committee, presumably on the basis of this correspondence:

Peace River in Respect of Large Animals, is not the same Country it was in Days long Since gone by, there is no Buffalo in that Quarter now, And the Exertion of the Beaver Indians ... on their Circumscribed Grounds with the encouragement held out by us for Provisions and Leather has I believe thinned the Moose Deer considerably [HBCA B.39/b/5, Charles to Governor and Committee, Dec. 1833].

However, the last existing letter in this correspondence between Charles and MacIntosh states the bottom line:

Our Object however at present is to obtain all the Provisions we can and however we may Wish to preserve the Cattle in our own District We must defer the Commencement of any Measure to this Effect, till after Autumn, 34 When in all probability some other Arrangement will be made Connected with Supplying Caledonia [HBCA B.39/b/5, Charles to MacIntosh, Dec. 1, 1833].

As Charles reminded MacIntosh, Dunvegan was still able to produce its quota of seasoned provisions for the brigade and Caledonia.

The role of experience in channelling expectations is made quite clear in this correspondence. Charles, a relative newcomer, viewed the current harvest from Dunvegan as adequate for the current trade demand and, to a certain extent, as advantageous with respect to the supply from Fort Vermilion. MacIntosh, the "old-timer," compared Dunvegan's current supply unfavorably to Dunvegan's former harvest, and he indicated that the game populations were not equal to the current Aboriginal demand (HBCA B.39/b/5, MacIntosh to Charles, Oct. 7, 1833, Oct. 22, 1833).

Outside groups continued to exert pressure on the resources of the Peace in this period. In the late 1820s and the 1830s, the Fort Dunvegan area in

particular and the Fort Vermilion area to a lesser degree experienced a series of incursions of Aboriginal groups from the Saskatchewan District. In part, these appear to have been motivated by the Peace's continuing, if increasingly illusory, reputation for resource abundance. The famine of the mid-1830s in the Saskatchewan District was certainly also a motivating factor at that time (HBCA B.56, Feb. 1, 1837). Each of these incursions was viewed with great distrust by the Beaver people, and each was followed by assertions that the invading group had exhausted resources, as documented below.

Correspondence from 1833 indicates that the intrusion of the Fort Saskatchewan freemen was probably a yearly event since the 1828 re-establishment of Fort Dunvegan. The continuation of the freeman group's "exterminating system of destroying whatsoever comes in the way at all seasons of the year" was deplored (HBCA B.39/b/5, Charles to MacIntosh, Feb. 28, 1833). References in the post journals in 1829 specifically pinpoint the Fort Assiniboine Iroquois as devastating the beaver (Provincial Archives of Alberta (PAA) 74.1 box 4, item 120, entries of Feb. 26 and Nov. 1, 1829). Subsequent invading groups included the Assiniboine of Fort Assiniboine in 1835 (HBCA B.56/a/4, Aug. 23, 1835); the Plains Cree in 1836, who were accused of "having exhausted the best part of the country for larger animals" (HBCA B.56/a/5, Nov. 2, 1836); and in 1837 the Saskatchewan freemen from Jasper House, who were accused of having hunted out the beaver (HBCA B.56/a/6, May 25, 1837, Jan. 20, 1838).

By 1831, Fort Vermilion had moved downriver to its current location, but the bison herds did not recover. In the post records of the mid-1830s, it is clear that moose was the main game animal in the vicinity of the fort, although there are indications that game, including bison, was more abundant in the hinterland areas of the Hay and Loon⁴ Rivers (HBCA B.224/a/4, Oct. 17, 1834, Mar. 25, 1835). By the early 1840s, bison was no longer ranked as either first or second in availability around the fort. In February, 1842, for instance, when moose was unusually scarce, the only alternative discussed for provisioning was that of woodland caribou on the Caribou Mountains (HBCA B.224/a/8, Feb. 23, 1842). The last journal

reference to the Fort Hunters hunting bison appeared in January, 1842 (HBCA B.224/a/8, Jan. 13, 1842).

The Chief Traders at Fort Dunvegan continued to comment on the difficulty with which provisions were procured (HBCA B.39/b/5, MacIntosh to Charles, Aug. 29, 1834; B.39/b/8, Campbell to Smith, Apr. 30, 1837). The post records from the mid-1830s on, although scanty, appear to indicate an increased dependence on moose and "cabri."⁵ Campbell noted in 1840 that since the large game had disappeared the Fort Dunvegan Indians were forced to depend on rabbits, and, with the rabbit cycle at a low point, the people were expected to starve (HBCA B.39/b/11, Campbell to Fisher, Oct. 9, 1840). Stories of starvation continued into the 1840s (e.g., HBCA B.56/a/11, Apr. 10, 1843). By 1860, the Fort Chipewyan District Report referred to the wild meat requirements of Fort Dunvegan as being met through moose and black bear. Bison were not mentioned at all (HBCA B.39/e/10).

There were, however, observations from the late 1800s of small bands of bison in the upper Peace between Fort Dunvegan and Fort St. John (Ogilvie 1893: 39). It may be that bison never disappeared entirely from the area until after that time, although we should not dismiss the possibility that the upper Peace was occasionally re-entered by migrant bands of bison from the foothills.

The Salt Plains apparently continued abundant in bison. In later years, Salt River settlement was established on this hunting ground and served as a source of provisions to the HBC. Over the decades, hunting pressure from these provisioning activities may have been partly responsible for a decrease of bison. Disease may have also played a role. According to local tradition, bison were plentiful in the Salt Plains area until the 1850s or 1860s, but many died one summer due to disease. This mortality and others noted for the area in the fur trade reports are documented in Ferguson and Laviolette (1992).

As noted above, Governor George Simpson had recognized the scarcity of the game in the Peace-Athabasca area by the early 1830s and on at least one occasion ascribed this to the violence of the competition for that area. However, a new theme emerges in the administrative reports about this time, that of Native peoples killing large numbers of game during

winters of heavy snowfall. Reports from both the Mackenzie and the Plains noted that great numbers of game animals had been run to exhaustion and killed in extremely deep snows in the winter of 1830-1831. Game scarcity in subsequent months in these areas was attributed to these events (HBCAD.4/125, Colin Robertson, Fort Pelly, to Simpson, Feb. 13, 1831; Edward Smith, Fort Simpson, to Chief Traders and Factors, Nov. 28, 1830). The Fort Dunvegan post journal recorded a similar incident in the winter of 1829-30. The trader, MacIntosh noted that this "wanton" killing by the Fort Hunters provided more than twice the number of bison actually required by the post, but that since the animals were so lean, the meat was of little use (PAA 74.1, box 4, item 120, Feb. 16, 1830).

Such an event could be interpreted in a number of ways. It might represent a continuation of the traditional practice of running down game in deep snow, but at a time when game was sufficiently reduced that the practice was maladaptive. It could also have been an over-reaction to an easy harvest after a number of years of scraping out "a miserable livelihood." There is also the possibility of a mercy killing of starving animals. Finally, it could have been a reaction to intrusion on their resources. Just a few months previously, the local Beaver people and freemen were "working the Beaver without incitement and say for their reasons ... that if they do not kill it, the Iroquois etc. of Fort Assiniboine will be before them" (PAA 74.1, box 4, item 120, Nov. 1, 1829). A similar rationale could have been applied to the bison harvest.

The occurrence of such events appears to have been discussed among the fur trade administrators and gained some currency as an explanation for game declines in the Canadian interior. At least, Maclean attacked this reasoning in his 1849 memoirs (W.S. Wallace 1968: 354). After asserting that the HBC had never passed any regulations to conserve large game, but instead had encouraged the collection of provisions, he noted:

That the natives wantonly destroy the game in years of deep snow is true enough; but the snow fell to as great a depth before the advent of the whites as after, and the Indians were as prone to slaughter the animals then as now; yet game of every de-

scription abounded and want was unknown. To what cause then are we to ascribe the present scarcity? There can be but one answer - to the destruction of the animals which the prosecution of the fur-trade involves.

In summary, while the records of this decade 1830-1840 document general agreement on the depletion of bison in the Peace River area, the causes to which this depletion are ascribed vary. Factors discussed in earlier decades are mentioned again, especially the pressure for provisions by the trade, exacerbated by strategies employed in the early competitive period. By the end of the 1830s, however, a new cause is proposed: the lack of good game management practices by Aboriginal groups. Ironically, the correspondence and reports of this decade parallel aspects of the contemporary debate over wildlife management.

Discussion

The data discussed above offer a new perspective on Raup's (1933) reconstruction of wood bison depletion. They inform the argument that historical game depletions are evidence that Aboriginal people could not manage their resources, by providing evidence about a set of conditions under which one game population was depleted. The following discussion will consider these salient points.

Raup concluded that the decline in bison occurred gradually between 1840 and 1860 and quite rapidly thereafter. In contrast, these early fur trade records make it clear that bison populations were in marked decline before 1840. Given the observations on game depletion in the first consistent records from the early 1820s, we can suggest with some confidence that the depletion began in the earlier period of 1800-1820.

Raup also concluded that the decline first affected wood bison in peripheral areas and only later in the core of their range, which he assumed was just west of the Slave River. The fur trade journals and correspondence indicate the opposite, that the initial depletion occurred in the core area, which was located in the region of the upper and central Peace River.

The other buffalo hunting grounds in northern Alberta, including the Peace-Athabasca Delta, were

subject to hunting pressures which were largely dependent on their specific locations with respect to fur trade posts. For the Peace-Athabasca Delta area, the evidence for bison decline before 1840 is clear. However, there is little definite evidence on the relative state of the bison population in the hunting grounds on the west side of the Slave River and in the Clearwater River at this time.

Finally, Raup concluded that the bison near-extinction was caused by increased snowfalls and by overhunting consequent upon the introduction of the rifle. In contrast, the long-time Peace-Athabasca traders firmly placed the responsibility for game depletion on the demands of the fur trade for provisions. These demands were satisfied through the introduction of immigrant specialist hunter-trappers who serviced the trade, initially under contract and then as "freemen." New technology was not the cause.

The emphasis in these records on overhunting as a cause of bison depletion does not constitute a refutation of Raup's hypothesis concerning the role of increasing snowfall. On the contrary, some of the events mentioned above could be used to bolster such a hypothesis. Other sources (e.g., Goddard 1916) also repeat stories of deep snowfall causing heavy mortality among the northern bison. John Maclean may not have been entirely correct in his argument that the snowfalls of the sort experienced in the 1830s and 1840s were always common occurrences. The final cold period of the "Little Ice Age" is usually dated to the mid-1800s, and an increase in snowfall may well have been a feature of this climatic oscillation. The pre-1840 records are too early to reflect a trend of increasing snowfall. The post-1840 records may be more useful in this respect. Presumably, the balance among bison, snowfall, and Aboriginal hunting had survived earlier similar oscillations. That the bison population barely survived the 1800s indicates the operation of at least one additional factor. We would have to conclude from the documentary record that this factor was the fur trade's demands for provisions.

The literature about common property resource management is concerned with the conditions under which communally-based institutions of resource management succeed or fail. It highlights the need to

consider the context of any resource management activities. Instances of overhunting are not proof that no cultural value is placed on the sustainable use of resources. The relationship between cultural value and action is more complex. Particular social, economic and ecological circumstances operating at any one time can have a profound effect on which values are selected for expression in specific adaptive strategies (Stuchlik 1976: 7-45).

For instance, communities which practice effective resource management but which cannot repel intruders may eventually decide to exhaust the resource themselves in order to realize a benefit. One example may be the Beaver Indians and freemen, who trapped beaver intensively possibly because of repeated intrusions from the south. It does not follow that the Beaver Indians no longer had respect for a norm of sustainable use, nor does it follow that they never had respect for such a norm. The social context was simply not conducive to the expression of that traditional value. This perspective can be applied as well to the European fur-traders. Short-term adaptation by fur traders to competitive circumstances can be identified as one factor leading to resource depletion. A broader analysis of socio-economic and ecological conditions, although beyond the scope of this paper, could be performed, perhaps in the vein of Margolis' 1977 study of frontier cultivation.

With respect to defining such conditions, a complicating factor in the Peace-Athabasca case is the number of intruding groups. In the early period of competition there were two and on occasion three competing European fur trade companies in the Peace-Athabasca area, as well as the specialist Iroquois/Saulteaux group of trappers. In addition, the Lake Athabasca-lower Peace distribution of the Chipewyan represented a shift south and west from their traditional territory. This shift began in the 1770s (Gillespie 1975: 374), and by 1830 there was a stable population of Chipewyans in this area. The history of Cree movement is more controversial, but certainly both the Cree and Chipewyan had expanded into Beaver territory and from time to time continued to impinge on Beaver Indian lands. In subsequent years, the trespassers came from the south and included Saskatchewan River and Fort Assiniboine peoples.

Part of the significance of multiple alien groups is that each one may have had different goals and strategies of resource exploitation. The Fort Assiniboine-Saskatchewan River intruders of the late 1820s-early 1830s, for instance, engaged in "raids" on the resources of the upper Peace, perhaps as a short-term alternative to resource exploitation in their own country. The Plains Cree used the strategy of burning the country as they passed through, in order to drive away the large game, according to MacIntosh (HBCA B.56/a/5, Oct. 24, 1836). The use of fire to favor certain game species by altering the vegetation appears to have been commonplace in northern Alberta (Ferguson 1979; Lewis 1982), but its use to affect the subsistence of other groups adversely was more characteristic of the Plains (Loscheider 1977).

The other groups cited above appear to have had longer-term commitments to the area, but this did not necessarily translate into actions which were consistently conservationist in nature. The fur trading companies presumably anticipated long term residence in the country, a goal consistent with good resource management, but since access to provisions was the crucial point on which the initial contest rested, short-term remedies to the competition problem involved resource abuse. Similarly, the Chipewyan were described as managing their own beaver resource well but at the same time over-exploiting that of neighboring lands (HBCA D.4/93, Simpson to Committee, Mar. 1, 1829).

A second part of the significance of this multiplicity of trespassers has to do with the specific relationships among the various intruders and local groups. The ability or the inclination of the resident peoples to repel invaders was important. From Turnor's observations in 1792, we might conclude that the Beaver Indians were fully committed at that time to meeting the NWC's relatively low subsistence needs. In view of this, the NWC decision to bring in additional labor to deal with competitors could reflect a number of different factors: First, there may have been insufficient Beaver Indian hunters to provision and trap for an increased number of NWC posts, possibly due to epidemic diseases (HBCA B.41/a/2, Oct. 5, 1802). Second, the Beaver Indians might have decided to play the competing companies against each other rather than working solely for the

NWC. Indeed, the Fort St. Mary journals comment on La Flux, the trading chief, who divided his harvests between the NWC and the HBC so that they would vie for his products and both would remain in the country (Rich 1939: 113). Third, the NWC may have recognized the benefit from introducing a competitor for the Beaver Indian role of providing furs and meat. Promoting competition among Fort Hunters of different ethno-cultural backgrounds was certainly a feature of post-1821 provisioning (HBCA B.39/a/22, Oct. 15, 1823). Finally, a transfer of labor to the Peace-Athabasca region may have partly resolved issues of resource depletion and of relationships with Aboriginal groups in eastern Canada.

Although there are references to hostilities between the Beaver and the Chipewyan (e.g., HBCA B.39/a/24, Feb. 10, 1826), there is no reference to hostilities with the Iroquois, despite the latter's role in depleting the resources of the upper Peace. Their role as employees of the companies may have provided some protection. Yerbury (1986: 85) suggested that such tensions may have been reduced by Beaver-freemen intermarriage, which would have served to equalize access to trade goods. This suggestion is somewhat spoiled by his use of the example of Baptiste Bisson and his sisters, who married members of a Saulteaux family. Bisson is characterized by Yerbury as a Beaver Indian chief, but he was a Métis freeman (Rich 1938: 64, footnote). This particular set of marriages is support for Nicks' (1979) observation that the freemen tended to marry among themselves. However, if we wanted to find a contrary example, Bisson's brother, Bastonais would serve. Some of his descendants are living today in the Assumption-Fort Vermilion area as part of the Beaver/Slave population (Ferguson n.d.).

The absence of hostilities between the Iroquois and the Beaver may have been aided by the Iroquois' final selection of territory. MacIntosh (HBCA B.39/b/5, MacIntosh to Charles, Oct. 22, 1833) commented on their occupation of the upper Smoky River, an area apparently not intensively used by the Beaver but kept as a seed area. These foothills may have served also as a buffer area between the Beaver and other Aboriginal groups. Occupying intertribal buffer zones rich in game resources would have been a likely strategy for intrusive groups which intended

to settle. The Chipewyan occupation of the Hay River, an area intermediate between Beaver and Slave peoples, may have represented a similar phenomenon.

A final point that may be significant is the role played in this resource depletion by informational lag. Simpson, despite extensive travel in the Peace-Athabasca region, took almost eight years to arrive at the same conclusion about resource depletion as the local Peace River traders, that the Aboriginal groups from the Fort Assiniboine and Saskatchewan River were raiding an area that was already seriously depleted. In part, this lag was a product of relative abundance of resources. The Peace River probably was resource-rich in comparison to other areas and yielded a return which yet justified the effort. Nonetheless, this continued exploitation was instrumental in pushing the bison towards extinction.

In conclusion, then, this case study contributes to a refutation of the way in which historical game depletions have been depicted and used, as illustrated in Macpherson (1981). Perhaps such a case study of single big-game species can make its way more easily across disciplinary boundaries into the wildlife management literature. Yet, given the recent initiatives in co-management of northern wildlife resources, this concern over the representation of historical game depletion or management is almost passe. Certainly, Macpherson (1986) appears to be advocating a revised approach. Current negotiations do not overtly depend on this line of argument - and rightly so, because it is significant only if one assumes that what people did or did not do in the distant past is directly related to what their descendants can or cannot do in the present - and this is palpably false.

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Notes

1. The wood bison were a northern bison population, represented as a distinct subspecies, *Bison bison athabascae*. That designation is now questioned (Geist 1991). They are commonly referred to as "buffalo."
2. The omission of the upper Peace in what is now British Columbia is a direct result of the extreme paucity of early post journals for that area.
3. But see Goddard (1916) for oral tradition concerning communal techniques of bison hunting among the Beaver people.
4. Now called Wabasca River.
5. The term "cabri" is generally used in the historical literature to refer to pronghorn antelope. It is a term which appears in the Fort Dunvegan journals, but not in those from Fort Vermilion. Banfield (1974: 402) does not consider the historical distribution of the pronghorn to extend to the Upper Peace. Either Banfield was mistaken or the term was used by some people to refer to another species, such as a deer.

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