

late Holocene (i.e. the last 5000 years) is also shown. This region is based on information obtained from skeletal remains as well as oral and written historic documentation. It reflects knowledge of distribution in the southern portion of the late Holocene range of wood bison, based on previous analyses of paleontological, oral and written information (van Zyll de Jong 1986; Gates et al. 1992), as well as similar information now available regarding areas further north. Finally, Figure 3 shows the region where oral and written accounts describe the presence of wood bison within the last few hundred years. The occurrence of additional dated and undated specimens east and west of the area where there is currently abundant evidence for the recent occurrence of wood bison suggests that future studies may reveal a wider late Holocene distribution than is presently known. Small-horned bison similar to wood bison also occurred in northern Eurasia during the Holocene (Flerov 1979; van Zyll de Jong 1986, 1993; Lazarev et al. 1998).

Zooarcheological, oral and written historical documentation demonstrate that much of Alaska and adjacent Canada is part of the original range of wood bison (Figure 3), and that this area is part of the "historic" range for the subspecies. However, we caution that in the absence of objective and biologically meaningful criteria, the implied dichotomy between "history" and "prehistory" obscures the continuum of time, introducing an ethnocentric bias (Lyman 1996) and confusing the study of the past (Tudge 1997:17). For example, if written records were selected as the sole criteria for "historic" status, the potential depth of "history" would range from thousands of years in parts of the Old World to less than 200 years in interior Alaska. The oral history of indigenous people as well as zooarchaeological and paleontological data would be excluded from the "historic" record. Oral, written, zooarchaeological and paleontological documentation are complimentary and supplementary sources of historical information and should be used in combination (Lyman 1996; 1998).

The available information supports the conclusion that geographical isolation and hunting are factors that acted in combination and led to the extirpation of wood bison. The discontinuous nature of late Holocene habitat probably played an important, albeit indirect, role while hunting is the most likely proximate factor that reduced numbers and prevented the recovery of subpopulations or recolonization of suitable habitat. Bison have recently prospered in suitable habitat in Yukon and other parts of northwestern Canada, and in Alaska, and we now know that additional suitable habitat exists in Alaska. The recent expansion of wood bison populations demonstrates that earlier declines, and the extirpation of bison in various regions, were not caused solely by changes in habitat.

There appear to be similarities in the timing and causes for the extirpation of wood bison and muskoxen in Alaska. Lent (1998) concludes that muskoxen were rare, and nearly extinct, in northern Alaska prior to the arrival of Europeans and the availability of firearms. A similar pattern characterizes the extirpation of wood bison in the northwestern portion of their original range. Some of the last records of isolated groups or individuals of both wood bison

and muskoxen in Alaska, and wood bison in Yukon, involve the taking of groups or individuals with firearms in the late 1800s or early 1900s. Hunting by humans appears to have been an important factor in the disappearance of both species (Lent 1998). Although populations of both animals had declined or, in some areas, disappeared before firearms were widely available, continued hunting of remnant populations with firearms is an additional factor that may have ultimately precluded repopulation of their original habitats.

A combination of factors has had various effects on the status of bison in North America and parts of the Old World. Over millennia the "Great Bison Belt" that extended across Eurasia into Beringia and southward across North America, diminished in size (Guthrie 1980, 1990: 51). However, the genus *Bison* was still widely distributed on North America's Great Plains, in eastern woodlands, and in northwestern Canada and Alaska during the late Holocene (Soper 1941; Dary 1989). It appears that bison herds numbering in the millions were unique to the Holocene Great Plains, with its huge expanse of contiguous grasslands (Guthrie 1980, 1982, 1990). Populations in other habitats did not fare as well as bison on the Great Plains. However, even on the plains and prairies, bison abundance and distribution were affected by human populations, particularly after the availability of horses altered patterns of mobility and changed procurement strategies, and horses became sufficiently abundant and widespread to compete with bison for forage (Flores 1996; Fisher and Roll 1997). A number of studies describe the significant role of predation by humans in the dynamics of late Holocene plains bison populations (Roe 1951; Guthrie 1980; Speth 1983; Flores, 1991, 1996; Belue 1996; Dobak 1996; Fisher and Roll 1997; Haynes 1997; Morgan 1997; Martin and Szuter 1999; Isenberg 2000).

The relationships between bison, human populations and other environmental factors have been diverse, with no single defining pattern. Nevertheless, it is clear that during the last millennia bison populations were dramatically reduced in Eurasia and much of North America in areas where the amount and distribution of suitable late Holocene habitat were more limited than on the Great Plains. The ecological history of bison suggests that bison and humans coexisted in Alaska and adjacent regions for a period exceeding 10,500 years, although the nature and extent of local and/or regional fluctuations in bison numbers are unknown. Wood bison were not extirpated in part of their original range in northern Canada, although they rapidly approached extinction following over-hunting during the 19<sup>th</sup> century. European bison also declined during the Holocene, with habitat reduction and overhunting being key factors causing their near extinction in the early 1900s, when a remnant population of less than 100 wisent (*B.b. bonasus*) persisted only in the forests of eastern Europe (Gstalter and Lazier 1996). Bison persisted in northern Eurasia into the middle or late Holocene but apparently disappeared earlier than in Alaska or parts of adjacent Canada (van Zyll de Jong 1993; Rusanov 1975; Flerov 1979; Archipov 1989; Lazarev et al. 1998). Plains bison persisted in a large region in North America despite being hunted extensively before the introduction of firearms. The status of contemporary wood bison, plains bison and wisent has improved as a result of

conservation efforts including reintroductions into suitable habitat, elimination of livestock diseases, and regulation of hunting (Dary 1989; Gates et al. 1992; Gstalter and Lazier 1996).

## Notes

<sup>1</sup> The *Gwich'in* are familiar with muskoxen (McKenna 1965) based on their historic presence some distance north and northeast of the Yukon Flats. Lent (1998) notes an absence of physical evidence for the occurrence of Holocene muskoxen in northeast Alaska, and cites oral accounts indicating that muskoxen were scarce in the eastern Brooks Range during the late 1800s, and absent farther south. In contrast, the remains of bison are common in interior Alaska, including in those areas specifically referred to in oral accounts as formerly inhabited by bison. Lent cites a report by Reed (1946) that describes an account by Henry Rapelle of Fairbanks who, in 1895, observed the head and skin of a young bull muskox that had recently been killed by an Indian on the Kandik River. While this appears to be the only record of a muskox occurring in low elevation habitat south of the Brooks Range during the period in question, archaeological data demonstrate the presence and intermittent human use of Holocene muskoxen in northwest Alaska and adjacent Canada (Gerlach and Hall 1988; Lent 1998).

<sup>2</sup> Studies of contemporary bison show the density of primary hair at the skin surface is the highest among bovids, and is substantially greater than in artiodactyls such as moose, elk (*Cervus canadensis*) or deer (*Odocoileus sp.*), contributing to the scarcity of ticks on bison (Peters and Slen 1964; Mooring and Samuel 1998) and making them a relatively poor host for other ectoparasites (B. Samuel, pers. comm.). However, there have been no studies of the effect of mosquitoes on bison.

<sup>3</sup> These *Gwich'in* terms and phrases were transcribed by Kathy Sikorski, Alaska Native Language Center, University of Alaska Fairbanks, from an audio recording of Rev. Salmon provided by T. O'Brien.

<sup>4</sup> Chief Christian was a prominent leader in the Venetie area during the early 1900s and provided substantial information to early ethnographers (see McKenna 1965). He was William Salmon's cousin (T. O'Brien, pers. comm.).

<sup>5</sup> Anecdotal information from commercial bison ranchers also indicates that bison hides are non-allergenic for humans, possibly because the hair is not oily, and the high density of hair discourages insects (Mike Fogel, pers. comm.).

<sup>6</sup> Ms. Titus' said her grandfather, Charlie Johnson, recounted stories from his father, which held that the disappearance of bison from Alaska was related to a decision by Native elders. Shamans decided that when a certain group of Native people left Alaska for the south, they would take the "big animal" (bison) with them to live separately from the "small animals," including moose and caribou, which remained in Alaska. She later explained they had taken bison with them in a spiritual sense by taking a small amount of bison hide, hair, and meat with them in a basket. The decision that some people would move south was prompted by the fact that there were too many people, extremely cold winters, and the desire to find a warmer place. She was told that people would one day say the buffalo died out, but that actually they followed Athabascan people out of Alaska and would one day return.

<sup>7</sup> Recent studies show that North American bison sometimes harbor a limited number of ectoparasites, including lice and mites (Reynolds et al. 1982a). The ectoparasites found specifically on wood bison are not well known, although a species of chewing

louse (*Damalinea sp.*) probably occurs. This species would probably not be apparent to, or affect, humans (W. Samuel, pers. comm.).

<sup>8</sup> As noted in our discussion, bison travel and forage in snow exceeding 50 inches in depth.

<sup>9</sup> A date of 470±90 BP was previously reported for this specimen, based on an assay conducted soon after the specimen was found in 1969 (McDonald 1981). The more recent date is based on current AMS techniques. The skull was also radiometrically dated to 170±70 BP (D. Hood, Beta Analytic, Inc., pers. commun.) The suggestion that this specimen might represent a domestic cow (Dixon 1993: 33) is incorrect. The largely intact skull with horn sheaths has been identified by Guthrie, and by McDonald (1981) as representing *Bison*.

<sup>10</sup> Alaska Polar Regions Dept., Elmer E. Rasmussen Library, Robert A. McKenna Collection, Series 2, Box 3, Folder 16.

<sup>11</sup> These linguistic issues were discussed with linguists Richard Mueller of Fairbanks and James Kari and Lillian Garnett, Alaska Native Language Center, University of Alaska Fairbanks (pers. comm.). Mueller translates *ch'itthay* to mean "it's flesh" or "it's meat," while *ik* refers to "shirt." Kari translates *ch'itthay* as a nondescript term referring to a game animal and the phrase *ch'itthay ik* as "game coat." Mueller suggests that perhaps the informant was referring to *ch'itthay dighan* which he translates as "humped game." As described above, Rev. Salmon applied a similar term to bison.

<sup>12</sup> We reviewed this information with T.E. Taylor in January 1999. He obtained many of the local place names in northern Alaska, as reflected on USGS topographic maps, through discussions with local residents in the Yukon, Tanana and Kuskokwim drainages during the 1950s. His notes are on file at USGS, National Mapping Division, Anchorage, AK.

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## REFERENCES CITED

- Adams, L.G and B.W. Dale  
1998 Reproductive Performance of Female Alaskan Caribou. *Journal of Wildlife Management* 62(4):1184-1195.
- Ager, T.  
1974 *Late Quaternary Environmental History of the Tanana Valley, Alaska*. Institute of Polar Studies Report No. 54. Ohio State University, Columbus.
- Archipov, N.D.  
1989. Drevnye Kul'tury Iakutii. zdatel,stvo, Yakutsk.
- Armbruster, P. and R. Lande.  
1993 A Population Viability Analysis for African Elephant (*Loxodonta africana*): How Big Should Reserves Be? *Conservation Biology* 7:602-610.
- Balikci, A.  
1963a *Vunta Kutchin Social Change: A Study of the People of Old Crow, Yukon Territory*. Northern Co-ordination and Research Centre, Department of Northern Affairs and National Resources. Ottawa.
- 1963b Family Organization of the Vunta Kutchin. *Arctic Anthropology* 1(2):62-69.
- Bancroft, H.H.  
1886 *History of the Pacific States*. The History Co. Publishers, San Fransisco.
- Bartlein, P.J.  
1988 Late-Tertiary and Quaternary Paleoenvironments. In *Vegetation History*, edited by B. Huntley and T. Webb III, pp. 113-152. Kluwer Academic Publishers, Boston.
- Beaudry, M.C., ed.  
1994 *Documentary Archaeology*. Cambridge University Press, Cambridge.
- Beck, M.  
1996 On Discerning the Cause of Late Pleistocene Megafaunal Extinctions. *Paleobiology* 22:91-103.
- Belue, T.F.  
1996 *The Long Hunt: Death of the Buffalo East of the Mississippi*. Stackpole Books, Mechanicsburg, Pennsylvania.
- Berger, M., R.O. Stephenson, P. Karczmarczyk, and C.C. Gates  
1995 *Habitat Inventory of the Yukon Flats as Potential Wood Bison Range*. Alaska Department of Fish and Game, Fairbanks.
- Binford, L.R.  
1978 *Nunamiut Ethnoarchaeology*. Academic Press, New York.
- 1981 *Bones; Ancient Men and Modern Myths*. Academic Press, London.
- 1983 *In Pursuit of the Past*. Thames and Hudson, London.
- Birkedal, T.  
1993 Ancient Hunters in the Alaska Wilderness: Human Predators and Their Role and Effect on Wildlife Populations and the Implications for Resource Management. In *Partners in Stewardship; Proceedings of the Seventh Conference on Research and Resource Management in Parks and on Public Lands*, edited by W.E. Brown and S.D. Veirs, pp. 228-234. The George Wright Society, Hancock.
- Blitz, J.H.  
1988 Adoption of the Bow in Prehistoric North America. *North American Archaeologist* 9:123-145.
- Bork, A.M., C.M. Strobeck, F.C. Yeh, R.J. Hudson and R.K. Salmon  
1991 Genetic Relationship of Wood Bison and Plains Bison Based on Restriction Fragment Length Polymorphisms. *Canadian Journal of Zoology* 69:43-48.
- Broughton, J.M.  
1997 Widening Diet Breadth, Declining Foraging Efficiency, and Prehistoric Harvest Pressure: Ichthyofaunal Evidence

- from the Emeryville Shellmound, California. *Antiquity* 71:845-862.
- Brown, J.H.  
1978 The Theory of Insular Biogeography and the Distribution of Boreal Mammals and Birds. In *Intermountain Biogeography: A Symposium*, edited by K.T. Harper and J.L. Reveal, pp. 209-228. Great Basin Naturalist Memoirs 2.
- 1986 Two Decades of Interaction Between the MacArthur-Wilson Model and the Complexities of Mammalian Distributions. *Biological Journal of the Linnean Society* 28:231-51.
- Burch, E.S., Jr.  
1972 The Caribou/Wild Reindeer as a Human Resource. *American Antiquity* 37(3):339-368.
- 1975 *Eskimo Kinsmen: Changing Family Relationships in Northwestern Alaska*. West Publishing Co., St. Paul.
- 1991 From Skeptic to Believer: The Making of an Oral Historian. *Alaska History* 6(1):1-16.
- Burch, E.S. Jr. and C.W. Mishler  
1995 The Di'haii Gwich'in: Mystery People of Northern Alaska. *Arctic Anthropology* 32(1):147-172.
- Burke, A. and J. Cinq-Mars  
1998 Paleocological Reconstruction and Taphonomy of *Equus lambei* from the Bluefish Caves, Yukon Territory, Canada. *Arctic* 51(2):105-115.
- Campbell, C., I.D. Campbell, C.B. Blyth, and J.H. Mcandrews  
1994 Bison Extirpation May Have Caused Aspen Expansion in Western Canada. *Ecography* 17(4): 360-362.
- Campbell, J.M.  
1978 Aboriginal Human Overkill of Game Populations: Examples from Interior Alaska. In *Archaeological Essays in Honor of Irving B. Rouse*, edited by R.C. Dunnell and E.S. Hall, pp. 179-208. Mouton Publishers, New York.
- Campisi, J.  
1993 Final report on the Neets'aii Gwich'in Tribe of Alaska. United States District Court, Fairbanks, Alaska. Plaintiffs Exhibit 171 No. F86-075. 58 pp. plus appendices.
- Carbyn, L.N., S.M. Oosenburg, and D.W. Anions  
1993 *Wolves, Bison, and the Dynamics Related to the Peace-Athabasca Delta in Canada's Wood Buffalo National Park*. University of Alberta. Circumpolar Research Series 4.
- Charlie, D. and D.W. Clark  
1993 Lúthi Män and Tachän Män Hudé Hudä In Frenchman and Tatchun Lakes: Long People. Edited by R.M. Gotthardt, pp.1-26. Little Salmon-Carmacks First Nation, Carmacks, Yukon.
- Chowns, T., C. Gates, and F. Lepine  
1998 Large Scale Free Burning to Improve Wood Bison Habitat in Northern Canada. In *International Symposium on Bison Ecology and Management in North America*, edited by L. Irby and J. Knight, pp. 205-213. Montana State University, Bozeman.
- Christopherson, R.J., R.J. Hudson and R.J. Richmond  
1978 Comparative Winter Bioenergetics of American Bison, Yak, Scottish Highland and Hereford Calves. *Acta Theriologica* 23(2):49-54.
- Christopherson, R.J., R.J. Hudson and M.K. Christopherson  
1979 Seasonal Energy Expenditures and Thermoregulatory Responses of Bison and Cattle. *Canadian Journal of Animal Science* 59:611-617.
- Cinq-Mars, J.  
1974 Preliminary Archaeological Study, Mackenzie Corridor. (Second Report) *Northern Pipelines Taskforce on Northern Oil Development, Environment-Social Committee*. Report 74-11. Ottawa.
- 1991 Appendix I: NOGAP AMS Dates. In *NOGAP Archaeology Project: An Integrated Archaeological Research and Management Approach*, edited by J. Cinq-Mars and J.L. Pilon, pp. 149-159. Canadian Archaeological Association Occasional Paper No. 1.
- Cinq-Mars, J., C.R. Harington, D.E. Nelson and R. MacNeish  
1991 Engistciak Revisited: A Note on Early Holocene AMS Dates from the "Buffalo Pit". In *NOGAP Archaeology Project: An Integrated Archaeological Research and Management Approach* edited by J. Cinq-Mars and J.L. Pilon, pp. 33-44. Canadian Archaeological Association Occasional Paper No. 1.
- Clarke, C.H.D.  
1945 *Biological Reconnaissance of the Lands Adjacent to the Alaska Highway in Northern British Columbia and the Yukon Territory*. Unpublished report in the National Archives of Canada, RG85 Collection, vol. 1191, file 400-2, parts 1-2.
- Clark, D.W. and R.M. Gotthardt  
1997 *Archaeological Settlement Survey at the Frenchman-Tatchun Lakes Near Carmacks, Yukon, Canada*. Unpublished report on file with Archaeological Survey of Canada, Hull, Quebec, and Yukon Heritage Branch, Whitehorse.
- Coady, J.W.  
1980 History of Moose in Northern Alaska and Adjacent Regions. *Canadian Field Naturalist* 94:61-68.
- Cruikshank, J.  
1981 Legend and Landscape: Convergence of Oral History and Scientific Traditions in the Yukon. *Arctic Anthropology* 17(2): 67-93.

- Cruikshank, M.  
1986 *The Life I've Been Living*. University of Alaska Press.
- Dall, W. H.  
1898 Travels on the Yukon and in the Yukon Territory in 1866-1868. In *The Yukon Territory, the Narrative of W.H. Dall, Leader of the Expedition to Alaska in 1866-1868: The Narrative of an Exploration Made in 1887 in the Yukon District by George M. Dawson*. Extracts from the Report of an Exploration Made in 1896-1897 by William Ogilvie, pp. 1-242. Downey, London.
- D'Arrigo, R.D. and G. Jacoby  
1992 Secular Trends in Northern High Latitude Temperature Reconstructions Based on Tree Rings. *Climatic Change* 25:163-177.
- Dary, D.A.  
1989 *The Buffalo Book: The Full Saga of the American Animal*. Swallow Press/Ohio University Press.
- Dixon, E.J.  
1993 *Quest for the First Americans*. University of New Mexico Press, Albuquerque.
- Dixon, E.J., Jr., R.M. Thorson, and D.C. Plaskett  
1985 Cave Deposits, Porcupine River, Alaska. *National Geographic Research Reports* 20, 1979, edited by Winfield Swanson, pp. 129-154. National Geographic Society, Washington, D.C.
- Dobak, W.  
1996 Killing the Canadian Buffalo. *Western Historical Quarterly* 27(1):33-52.
- Donahue, P.F.  
1974 Appendix D: Old Chief Faunal Analysis (1973). In *Preliminary Archaeological Study, Mackenzie Corridor*, by Jacques Cinq-Mars. (Second Report) Northern Pipelines Taskforce on Northern Oil Development, Environment-Social Committee Report 74-11, Ottawa.
- DuBois, S.D. and R.O. Stephenson.  
1998 Alaska's Delta Bison Herd: Managing Free-ranging Bison in an Area with Diverse Land Uses. In *International Symposium on Bison Ecology and Management in North America*, edited by L. Irby and J. Knight, pp. 211-213. Montana State University, Bozeman.
- Dundes, A.  
1965 *A Study of Folklore*. Prentice-Hall, New Jersey.
- Dyke, A.S. and V.K. Prest  
1987 Paleogeography of Northern North America 18,000-5,000 Years Ago. Geological Survey of Canada Map 1703A.
- Fancy, S.G. and R.G. White.  
1985 Energy Expenditures by Caribou While Cratering in Snow. *Journal of Wildlife Management* 49:987-993.
- 1987 Energy Expenditures for Locomotion by Barren Ground Caribou. *Canadian Journal of Zoology* 65:122-128.
- Feit, H.A.  
1987 North American Native Hunting and Management of Moose Populations. *Swedish Wildlife Research Supplement* 1:25-42.
- Fisher, J.W. Jr. and T.E. Roll  
1997 Ecological Relationships Between Bison and Native Americans During Late Prehistory and the Early Historic Period. In *International Symposium on Bison Ecology and Management in North America*, edited by L. Irby and J. Knight, pp. 283-302. Montana State University, Bozeman.
- Fleener, C.  
1998 *A Study of Recent Environmental Changes in the Yukon Flats, Alaska, Based on Oral History and Climate Records*. Senior Thesis. School of Agriculture and Land Resources Management. University of Alaska Fairbanks.
- Flerov, K.K.  
1979. Systematics and evolution. In *European bison. Morphology, systematics, evolution, ecology*. Edited by V.E. Sokolov, pp. 9-127. Nauka Publishers, Moscow.
- Flores, D.  
1991 Bison Ecology and Bison Diplomacy. *Journal of American History* 78:465-485.
- 1996 The Great Contraction: Bison and Indians in Northern Plains Environmental History. In *Legacy: New Perspectives on the Battle of the Little Bighorn*, edited by C.E. Rankin, pp. 3-22. Montana Historical Society Press, Helena.
- Franklin, J.  
1970 *Narrative of a Journey to the Shores of the Polar Sea in the Years 1819, 20, 21, and 22*. 1824 Reprint. Charles E. Tuttle, Rutland.
- 1971 *Narrative of a Second Expedition to the Shores of the Polar Sea in the Years 1825, 1826, and 1827*. 1828 Reprint. M.G. Hurtig, Edmonton.
- Frison, G.C.  
1991 *Prehistoric Hunters of the High Plains*. Academic Press, San Diego.
- Frison, G.C. (ed.)  
1996 *The Mill Iron Site*. University of New Mexico Press, Albuquerque.
- Fuller, W.A.  
1962 *The Biology and Management of the Wood Bison of Wood Buffalo National Park*. Canadian Wildlife Service Wildlife Management Bulletin Series 1(16).
- Garraghan, G.J.  
1940 *A Guide to Historical Method*, edited by Jean Delanglez. Greenwood Publishers, Connecticut.

- Gasaway, W.C., R.D. Boertje, D.V. Grangaard, D.G. Kelleyhouse, R.O. Stephenson and D.G. Larsen.  
1992 The Role of Predation in Limiting Moose at Low Densities in Alaska and Yukon and Implications for Conservation. *Wildlife Monographs* 120.
- Gates, C.C.  
1992 Cursory Evaluation of the Habitat Potential of the Yukon River Flats, Alaska, for a Reintroduction of Wood Bison. Unpublished Report. 7 pp.
- Gates, C.C., T. Chowns, and H.W. Reynolds  
1992 Wood Buffalo at the Crossroads. In *Buffalo*, edited by J. Foster, B. Harrison, and I.S. MacLaren, pp. 139-165. Alberta Nature and Culture Series, University of Alberta Press, Edmonton.
- Gates, C.C. and N.C. Larter  
1990 Growth and Dispersal of an Erupting Large Herbivore Population in Northern Canada: The Mackenzie Wood Bison (*Bison bison athabascae*). *Arctic* 43:231-238.
- Geist, V.  
1991 Phantom Subspecies: The Wood Bison *Bison bison "athabascae"*, Rhoads 1897, is not a Valid Taxon, but an Ecotype. *Arctic* 44:283-300.
- Gerlach, S.C. and E.S. Hall  
1988 The Later Prehistory of Northern Alaska: The View from Tukuto Lake. In *The Late Prehistoric Development of Alaska's Native People*, edited by R.D. Shaw, R.K. Harritt, and D.E. Dumond, pp. 107-137. Aurora, Alaska Anthropological Association Monograph Series, No. 4.
- Gordon, B.C., and H. Savage  
1973 Appendix C: Research Report. MjTp-1 The Whirl Lake Site, Northwest District of Mackenzie, Northwest Territories, Canada. In *Preliminary Archaeological Study, Mackenzie Corridor*, edited by Jacques Cinq-Mars, pp. c1-C43. (IAND Publication QS-1506-000-EE-Xa1) Northern Pipelines Taskforce on Northern Oil Development, Environment-Social Committee Report 73-10, Ottawa.
- 1974 Whirl Lake: A Stratified Indian Site Near the Mackenzie Delta. *Arctic* 27(3): 175-188.
- Grayson, D.K.  
1991 The Biogeographic History of Mammals in the Great Basin: Observations on the Last 20,000 years. *Journal of Mammalogy* 68:359-75.
- Greenland Ice Core Project  
1993 Climate Instability During the Last Interglacial Period Recorded in the GRIP Ice Core. *Nature* 364:203-207.
- Greer, S.S.  
1986 *Kusawa Lake Archaeology: Management, Research and Interpretation. Final Report of the 1985 Kusawa Lake Archaeology Project*. MS on file with Archaeological Survey of Canada, Canadian Museum of Civilization, Hull.
- In prep. Pre-Contact Land Use Patterns in the Carcross-Tagish Area: Archaeological and Oral History Perspectives. Manuscript in Possession of the Author.
- Grove, J.M.  
1988 *The Little Ice Age*. Methuen and Company, London.
- Gstalter, A. and P. Lazier  
1996 *Le Bison d'Europe*. Traces/E&C éditions. Paris.
- Gunn, A., R. Decker and T.W. Barry  
1984 Possible Causes and Consequences of an Expanding Muskox Population, Queen Maud Gulf Area, Northwest Territories. In *Proceedings of the First International Muskox Symposium*, edited by D.R. Klein, R.G. White and S. Keller, pp. 41-46. Biological Papers of the University of Alaska, Special Report 4.
- Guthrie, R.D.  
1966 Bison Horn Cores: Character Choice and Systematics. *Journal of Paleontology* 40:328-340.
- 1968 Paleocology of the Large-Mammal Community in Interior Alaska During the Late Pleistocene. *American Midland Naturalist* 79:346-363.
- 1980 Bison and Man in North America. *Canadian Journal of Anthropology* 1:55-73.
- 1982 Mammals of the Mammoth Steppe as Paleoenvironmental Indicators. In *Paleocology of Beringia*, edited D. M. Hopkins, J.V. Matthews, Jr., C.E. Schweger, and S.B. Young, pp. 307-329. Academic Press, New York.
- 1985 Woolly Arguments Against the Mammoth Steppe: A New Look at the Palynological Data. *Quarterly Review of Archaeology* 6:9-16.
- 1990 *Frozen Fauna of the Mammoth Steppe: The Story of Blue Babe*. The University of Chicago Press, Chicago.
- 1995 Mammalian Evolution in Response to the Pleistocene-Holocene Transition and the Break-up of the Mammoth Steppe: Two Case Studies. *Acta Zool. Cracov.* 38(1): 139-154.
- Hardisty, W. L.  
1872 "The Loucheux Indians." *Annual Report of the Smithsonian Institution for 1866*. Pp. 311-30. Government Printing Office, Washington, D.C.
- Harrington, C.R.  
1961 *History, Distribution and Ecology of the Muskoxen*. Unpublished M.Sc. thesis. McGill University.
- 1977 Pleistocene Mammals of the Yukon Territory. Unpublished PhD. dissertation, University of Alberta, Edmonton.
- 1978 Quaternary Vertebrate Faunas of Canada and Alaska and Their Suggested Chronological Sequence. *Sylogus* 15:1-105.

- 1980a Radiocarbon Dates on Some Quaternary Mammals and Artifacts from Northern North America. *Arctic* 33:815-832.
- 1980b Pleistocene Mammals from Lost Chicken Creek, Alaska. *Canadian Journal of Earth Sciences* 17:168-198.
- 1984 Mammoths, Bison and Time in North America. In *Quaternary Dating Methods*, edited by W.C. Mahaney, pp. 299-309 Elsevier Science Publications, Amsterdam.
- 1989 Pleistocene Vertebrate Localities in the Yukon. In *Late Cenozoic History of the Interior Basins of Alaska and the Yukon*, edited by L.D. Carter, T.D. Hamilton and J.P. Galloway. U.S. Geological Survey Circular 1026: 93-98.
- 1990 Arctic Bison. *BIOME* (Canadian Museum of Nature) 10(2):4.
- Harrington C.R. and J. Cinq-Mars  
1995 Radiocarbon Dates on Saiga Antelope (*Saiga tatarica*) Fossils from Yukon and Northwest Territories. *Arctic* 48(1):1-7.
- Haworth, L.  
1989 *Holocene Glacial Chronologies of the Brooks Range, Alaska and Their Relationship to Climate Change*. Unpublished Ph.D. dissertation. State University of New York at Buffalo.
- Haynes, T.  
1997 Bison Hunting in the Yellowstone River Drainage, 1800-1884. In *International Symposium on Bison Ecology and Management in North America*, edited L. Irby and J. Knight, pp. 303-311. Montana State University, Bozeman.
- Heimer, W.E., F.J. Mauer, and S.W. Watson Keller  
1994 The Effects of Physical Geography on Dall Sheep Habitat Quality and Home Range Size. *Proceedings of the Biennial Symposium*, North American Wild Sheep and Goat Council 9:144-148.
- Hollin, J.T. and D.N. Shilling.  
1981 Late Wisconsin-Weichsalen Mountain Glaciers and Small Ice Caps. In *The Last Great Ice Sheets*, edited by G.H. Denton and T.J. Hughes, pp. 179-206. John Wiley & Sons, New York.
- Holmes, C.E.  
1979 *Report of Archaeological Reconnaissance: Withdrawal Areas, Fort Greeley, Alaska*. Report to the Alaska District, Corps of Engineers (DACA85-79-M-0001).
- 1996 Broken Mammoth. In *American Beginnings: The Prehistory and Paleoecology of Beringia*, edited by F. H. West, pp. 312-318. The University of Chicago Press, Chicago.
- 1998 *Archaeological Testing and Evaluation of the Gerstle River Quarry, East-Central Alaska, 1996*. Office of History and Archaeology Report Number 65, Division of Parks and Outdoor Recreation, Alaska Department of Natural Resources.
- Holmes, C.E., and G. Bacon  
1982 *Holocene Bison in Central Alaska: A Possible Explanation for Technological Conservatism*. Paper Presented at the 9th Annual Meeting of the Alaska Anthropological Association, 2-3 Apr 1982, Fairbanks.
- Hone, E.  
1934 *The Present Status of Muskox in Arctic North America and Greenland*. American Committee for International Wildlife Protection Special Publication No. 5.
- Ice Core Working Group  
1998 *Ice Core Contributions to Global Change Research: Past Successes and Future Directions*. National Ice Core Laboratory, Science Management Office, University of New Hampshire.
- Isenberg, A.C.  
2000 *The Destruction of the Bison: An Environmental History, 1750-1920*. Cambridge University Press, Cambridge.
- Jacoby, G. and R.D. D'Arrigo  
1989 Reconstructed Northern Hemisphere Annual Temperature Since 1671 Based on High Latitude Tree-ring Data from North America. *Climatic Change* 14:39-59.
- Janetski, J.C.  
1997 Fremont Hunting and Resource Intensification in the Eastern Great Basin. *Journal of Archaeological Science* 24:1075-1088.
- Jeckell, G.A.  
1933 Letter and Article to M.T. Stephens. In Yukon Archives Collection, YRG-1, series 3, file 12-13A, part 1, Sept. 8, 1933.
- Jennings, J.D.  
1968 *Prehistory of North America*. McGraw-Hill, New York.
- Joly, D.O., F.A. Leighton and F. Messier  
1998 Tuberculosis and Brucellosis Infection of Bison in Wood Buffalo National Park, Canada: Preliminary Results. In *International Symposium on Bison Ecology and Management in North America*, edited L. Irby and J. Knight, pp. 23-31. Montana State University, Bozeman.
- Jones, S.  
1872 *The Kutchin Tribes. Notes on the Tinneh or Chipewyan Indians of British and Russian America*. Annual Report of the Smithsonian Institute for the Year 1866:320-327, Washington.
- Juday, G.P., R.A. Ott, D.W. Valentine, and V.A. Barber.  
1998 *Forests, Climate Stress, Insects and Fire. In Implications of Global Change in Alaska and the Bering Sea Region*. Proceedings of a Workshop, 1997:23-49. Center for

- Global Change and Arctic System Research, University of Alaska Fairbanks.
- Kay, C.E.  
1994a Aboriginal Overkill: The Role of Native Americans in Structuring Western Ecosystems. *Human Nature* 5:359-398.
- 1994b The Impact of Native Ungulates and Beaver on Riparian Communities in the Intermountain West. *Natural Resources and Environmental Issues* 1:23-44.
- 1995 Aboriginal Overkill and Native Burning. Implications for Modern Ecosystem Management. *Western Journal of Applied Forestry* 10:121-126.
- 1996 Ecosystems Then and Now: A Historical-Ecological Approach to Ecosystem Management. In *Proceedings for the Fourth Prairie Conservation and Endangered Species Workshop*, edited by W.D. Williams and J.F. Dormaar, pp 79-87. Natural History Occasional Paper 23, Provincial Museum of Alberta.
- 1997 Aboriginal Overkill and the Biogeography of Moose in Western North America. *Alces* 33:141-164.
- 1998 Are Ecosystems Structured from the Top-down or Bottom-up: A New Look at an Old Debate. *Wildlife Society Bulletin* 26(3):484-498.
- Kelsall, J.P.  
1969 Structural Adaptations of Moose and Deer for Snow. *Journal of Mammalogy* 50:302-310.
- Kirkby, W.  
1865 *A Journey to the Youcan, Russian America*. Annual Report of the Smithsonian Institution for the Year 1864, pp. 416-420. Washington.
- Komers, P. E., F. Messier, and C.C. Gates.  
1992 Search or Relax: The Case of Bachelor Wood Bison. *Behavioral Ecology and Sociobiology*. 31(3):195-203.
- Komers, P.E., F. Messier and C.C. Gates.  
1993 Group Structure in Wood Bison: Nutritional and Reproductive Determinants. *Canadian Journal of Zoology* 71:1367-1371.
- Komers, P.E., F. Messier, P.F. Flood, and C.C. Gates  
1994 Reproductive Behavior of Male Wood Bison in Relation to Progesterone Level in Females. *Journal of Mammalogy* 75(3):757-765.
- Krech, S., III  
1976 The Eastern Kutchin and the Fur Trade, 1800-1860. *Ethnohistory* 23(3):213-235.
- 1978 On the Aboriginal Population of the Kutchin. *Arctic Anthropology* 15(1):89-104.
- 1979 The Nakotcho Kutchin: A Tenth Aboriginal Kutchin Band? *Journal of Anthropological Research* 35(1):109-121.
- 1981 "Throwing Bad Medicine": Sorcery, Disease, and the Fur Trade Among the Kutchin and Other Northern Athabaskans. In *Indians, Animals, and the Fur Trade*, edited by Shepard Krech III, pp. 73-108. The University of Georgia Press, Athens.
- 1987 The Early Fur Trade in the Northwestern Subarctic: The Kutchin and the Trade in Beads. In *Le Castor Fait Tout*, edited by Bruce G. Trigger, Toby Morant, and Louise Dechene, pp. 236-77. Lake St. Louis Historical Society, Montreal.
- Kreutz, K.J., P.A. Mayewski, L.D. Meeker, M.S. Twickler, S.I. Whitlow, and I.I. Pittalwala.  
1997 Bipolar Changes in Atmospheric Circulation During the Little Ice Age. *Science*. 277(29):1294-1296.
- Lamb, H.H.  
1995 *Climate History and the Modern World*. Routledge.
- Lande, R.  
1988 Genetics and Demography in Biological Conservation. *Science* 241:1455-1460.
- Larsen, H.  
1968 Trail Creek, Final Report on the Excavation of Two Caves at Seward Peninsula, Alaska. *Acta Arctica*. 15:7-79.
- Larter, N.C. and C.C. Gates  
1990 Home Ranges of Wood Bison in an Expanding Population. *Journal of Mammalogy* 71(4):604-607.
- 1991 Diet and Habitat Selection of Wood Bison in Relation to Seasonal Changes in Forage Quantity and Quality. *Canadian Journal of Zoology* 69:2677-2685.
- 1994 Home-range Size of Wood Bison: Effects of Age, Sex, and Forage Availability. *Journal of Mammalogy* 75(1):142-149.
- Lazarev P.A., Boeskorov G.G., Tomskaya A.I.  
1998 *Mlekopitavskie Antropogena Yakutii*. Edited by Yu.V. Labutin. Sibirskoe otdelenie Rossiiskoi Akademii Nauk. Yakutskii Nauchnyi Centr, Yakutsk.
- Le Blanc, R.J.  
1984 *The Rat Indian Site and the Late Prehistoric Period in the Interior Northern Yukon*. National Museum of Man Mercury Series, Archaeological Survey of Canada, Paper No. 120. Ottawa.
- 1988 *Archaeological Research in the Mackenzie Delta Region, N.W.T., Archaeological permit 87-617*. Report on file, Archaeological Survey of Canada, Canadian Museum of Civilization. Hull, Quebec.
- 1991 New Data Relating to the Prehistory of the Mackenzie Delta Region of the NOGAP Study Area. In *NOGAP Archaeology Project: An Integrated Archaeological Research and Management Approach*, edited by J. Cinq-Mars and J.L. Pilon, pp. 65-76. Canadian Archaeological Association Occasional Paper 1.



- Leechman, D.  
1954 *The Vanta Kutchin*. National Museum of Canada Bulletin 130. Anthropological Series 33. Department of Northern Affairs and National Resources, Ottawa.
- Lent, P.  
1998 Alaska's Indigenous Muskoxen: A History. *Rangifer* 18:133-144.
- LeResche, R.E., R.H. Bishop and J. Coady  
1974 Distribution and Habitat of Moose in Alaska. *Le Naturaliste Canadian* 101:143-178.
- Libby, D., and L. Medlock  
1979 *An Analysis of Lithic Debris from Old John Lake in Northeastern Alaska*. Ms. on file, Bureau of Indian Affairs, ANCSA Division, Anchorage.
- Lotenberg, G.  
1996 *History of Wood Bison in the Yukon: A Reevaluation Based on Traditional Knowledge and Written Records*. Report Submitted to Yukon Renewable Resources Department, Whitehorse.
- Loy, T. and E.J. Dixon  
1998 Blood Residues on Fluted Points from Eastern Beringia. *American Antiquity* 63(1):21-46.
- Luke, H.  
1998 *My Own Trail*. Edited by J. Steinbright Jackson. Alaska Native Knowledge Network. Fairbanks, Alaska.
- Lyman, R.L.  
1994 *Vertebrate Taphonomy*. University of Cambridge Press, Cambridge.  
1996 Applied Zooarchaeology: The Relevance of Faunal Analysis to Wildlife Management. *World Archaeology* 28(1):110-125.  
1998 *White Goats, White Lies: The Abuse of Science in Olympic National Park*. The University of Utah Press, Salt Lake City.
- MacArthur, R.H. and E.O. Wilson  
1967 *The Theory of Island Biogeography*. Princeton University Press, Princeton.
- Mackenzie, A.  
1801 *Voyages from Montreal, on the River St. Lawrence, through the Continent of North America, to the Frozen and Pacific Oceans; in the Years 1789 and 1793, with a Preliminary Account of the Rise, Progress, and Present State of the Fur Trade of the Country*. T. Cadell and W. Davies, London. (Reprinted: University Microfilms, Ann Arbor, Michigan, 1966).
- MacNeish, R.S.  
1964 *Investigations in Southwest Yukon: Archaeological Investigations, Comparisons and Speculations*. Papers of the Robert S. Peabody Foundation for Archaeology 6(2):xiii, 199-488. Phillips Academy, Andover.
- Martin, P. S. and R. G. Klein, editors.  
1984 *Quaternary Extinctions: A Prehistoric Revolution*. University of Arizona Press, Tucson.
- Martin, P. and H. Wright  
1989 *Pleistocene Extinctions: The Search for a Cause*. Yale University Press, New Haven.
- Martin, P.S. and C.R. Szuter  
1999 War Zones and Game Sinks in Lewis and Clark's West. *Conservation Biology* 13(1): 36-45.
- Matheus, P.E., W. Payton, and M. Kunz  
1999 *Isotope Ecology of Late Quaternary Mammals in Eastern Beringia*. Paper Presented at the 32<sup>nd</sup> Annual meeting of the Canadian Archaeological Association, Whitehorse, Yukon. April 28-May 2.
- Matthews, J.V., Jr.  
1982 East Beringia During Late Wisconsin Time: A Review of the Biotic Evidence. In *Paleoecology of Beringia*, edited by D.M. Hopkins, J.V. Matthews, Jr., C.E. Schweger, and S.B. Young, pp 127-150. Academic Press, New York.
- McClellan, C.  
1975 *My Old People Say: An Ethnographic Survey of Southern Yukon Territory*. Canada, National Museum of Man, Publications in Ethnology 6. Ottawa.  
1981 Inland Tlingit. In *Handbook of North American Indians. Vol. 6. Subarctic*, edited by W.C. Sturtevant, pp. 469-480. Smithsonian Institution, Washington.
- McDonald, J. N.  
1981 *North American Bison, Their Classification and Evolution*. University of California Press, Berkeley.
- McGhee, R.  
1996 *Ancient People of the Arctic*. University of British Columbia Press, Vancouver.
- McKenna, R.A.  
1965 *The Chandalar Kutchin*. Arctic Institute of North America Technical Paper 17, Montreal.
- Meagher, M.  
1973 *The Bison of Yellowstone National Park*. National Park Service Scientific Monograph. No. 1. USGPO. Washington, D.C.  
1976 Winter Weather as a Population-Regulating Influence on Free-Ranging Bison in Yellowstone National Park. In *Research in the Parks. Trans. National Park Centennial Symposium*, pp. 29-39. American Association for the Advancement of Science. Dec. 28-29, 1971. Ser. No. 1. USGPO, Wash. D.C.
- Melton, D.A., N.C. Larter, C.C. Gates and J.A. Virgl  
1989 The Influence of Rut and Environmental Factors on the Behaviour of Wood Bison. *Acta Theriologica* 34(12):179-193.

- Mills, R.O.  
1993 *Geist Fund Narrative and Financial Report. Kutchin Athabaskan Protohistoric Bison Procurement*. Geist Fund Narrative and Financial Report on file at University of Alaska Museum.
- Miquelle, D.G.  
1985 *Food Habits and Range Conditions of Bison and Sympatric Ungulates on the Upper Chitina River, Wrangell-St. Elias National Park and Preserve*. National Park Service, Alaska Region Research/Resources Management Report AR-8.
- Mishler, C., editor  
1995 *Neerihinjik: We Traveled from Place to Place, the Gwich'in Stories of Johnny and Sarah Frank*. Alaska Native Language Center, University of Alaska Fairbanks, Fairbanks.
- Mooring, M.S. and W.M. Samuel.  
1998 Tick Defense Strategies in Bison: The Role of Grooming and Hair Coat. *Behaviour* 69:1-26.
- Morgan, R.G.  
1997 The Destruction of the Northern Bison Herds. In *International Symposium on Bison Ecology and Management in North America*, edited L. Irby and J. Knight, pp. 312-325. Montana State University, Bozeman.
- Morlan, R. E.  
1972a *NbVik-1: An Historic Fishing Camp in Old Crow Flats, Northern Yukon*. National Museum of Man, Mercury Series, Archaeological Survey of Canada Paper 5, Ottawa.  
1972b *The Cadzow Lake Site (MjVi-1): A Multicomponent Historic Kutchin Camp*. National Museum of Man, Mercury Series, Archaeological Survey of Canada Paper 3, Ottawa.  
1973 *The Later Prehistory of the Middle Porcupine Drainage, Northern Yukon Territory*. National Museum of Man, Mercury Series, Archaeological Survey of Canada Paper 11, Ottawa.  
1999 Canadian Archaeological Radiocarbon Database. [www.canadianarchaeology.com/radiocarbon/card/card.htm](http://www.canadianarchaeology.com/radiocarbon/card/card.htm)
- Morrison, D.A.  
1997 *Caribou Hunters in the Western Arctic: Zooarchaeology of the Rita-Claire and Bison Skull Sites*. Canadian Museum of Civilization, Mercury Series, Archaeological Survey of Canada Paper 157, Ottawa.
- Murray, A.H.  
1910 *Journal of the Yukon, 1847-1848, by Alexander Hunter Murray*, edited by Lawrence J. Burpee. Publication of the Canadian Archives- No. 4. Government Printing Bureau, Ottawa.
- National Oceanic and Atmospheric Administration.  
1986 *Climatological Data Annual Summary, 1986*. Vol. 72. No. 13. National Climatic Data Center, Asheville.
- Nelson, R.K.  
1973 *Hunters of the Northern Forest: Designs for Survival Among the Alaskan Kutchin*. University of Chicago Press, Chicago.
- Newmark, W.D.  
1987 A Land-bridge Perspective on Mammalian Extinctions in Western North American Parks. *Nature* 325:430-432.
- O'Brien, S.R., P.A. Mayewski, L.D. Meeker, D.A. Meese, M.S. Twickler and S.I. Whitlow  
1995 Complexity of Holocene Climate as Reconstructed from a Greenland Ice Core. *Science* 270:1962-1964.
- O'Brien, T.  
1997 *Athabaskan Implements from the Skin House Days as Related by Reverend David Salmon*. Unpublished M.A. thesis, University of Alaska Fairbanks.
- n.d. *The Life Story of David Salmon*. Unpublished manuscript in possession of the author.
- Orth, D.J.  
1971 *Dictionary of Alaska Place Names*. Geological Survey Professional Paper 567. U.S. Government Printing Office.
- Osgood, C.  
1936 *Contributions to the Ethnography of the Kutchin*. Yale University Publications in Anthropology 14, Yale University Press, New Haven.
- Overpeck, J., K. Hughen, D. Hardy, R. Bradley, R. Case, M. Douglas, B. Finney, K. Gajewski, G. Jacoby, A. Jennings, S. Lamoureux, A. Lasca, G. MacDonald, J. Moore, M. Retelle, S. Smith, A. Wolfe, and G. Zielinski  
1997 Arctic Environmental Change of the Last Four Centuries. *Science* 278:251-1258.
- Peden, D.G. and G.J. Kraay.  
1979 Comparison of Blood Characteristics in Plains Bison, Wood Bison, and Their Hybrids. *Canadian Journal of Zoology* 59(9):1778-1784.
- Peek, J.M., D.G. Miquelle, and R.G. Wright  
1987 Are Bison Exotic in the Wrangell-St. Elias National Park and Preserve? *Environmental Management* 11(2): 149-153.
- Peters, H.F. and S.B. Sien  
1964 Hair Coat Characteristics of Bison, Domestic x Bison Hybrids, Cattalo, and Certain Domestic Breeds of Beef Cattle. *Canadian Journal of Animal Science* 44:48-57.
- Peterson, R.O. and D.L. Allen  
1974 Snow Conditions as a Parameter in Moose-Wolf Relationships. *Le Naturaliste Canadian* 101:481-492.
- Petitot, E.  
1970 The Amerindians of the Canadian North-West in the 19th Century, as seen by Emile Petitot. *Volume 2, The Loucheux Indians*, edited by Donat Savoie. Northern Science

- Research Group, Department of Indian Affairs and Northern Development, Ottawa.
- Péwé, T.L.  
1975a *Quaternary Geology of Alaska*. US Geological Survey Professional Paper 835: 1-145.
- 1975b *Quaternary Stratigraphy and Nomenclature in Unglaciated Central Alaska*. US Geological Survey Professional Paper 862:1-32.
- Pielou, E.C.  
1991 *After the Ice Age*. University of Chicago Press. Chicago.
- Powers, R., R.D. Guthrie, and J.F. Hoffecker  
1983 *Dry Creek: Archaeology and Paleoecology of a Pleistocene Alaskan Hunting Camp*. Report Submitted to the National Park Service, Contract CX-9000-7-0047.
- Reed, I.M.  
1946 *Appendix C to a letter to The Hon. Julius A. Krug, Secretary of the U.S. Department of Interior, November 16, 1946*. Stefansson Collection, Dartmouth College Library.
- Reppening, C.A., D.M. Hopkins, and M. Rubin  
1964 Tundra Rodents in a Late Pleistocene Fauna from the Tofty Placer District, Central Alaska. *Arctic* 17(3):177-197.
- Reynolds, H.W., and C.C. Gates  
1991 Managing Wood Bison: A Once-Endangered Species. In *Wildlife Production: Conservation and Sustainable Development*, edited by L.A. Renecker and R.J. Hudson, pp. 363-371. AFES Miscellaneous Publication 1-6. University of Alaska Fairbanks.
- Reynolds, H.W., R.D. Glaholt and A.W.L. Hawley  
1982a Bison. In *Wild Mammals of North America: Biology, Management, Economics*, edited by J.A. Chapman and G.A. Fledhamer, pp. 979-1007. Johns Hopkins University Press, Baltimore.
- Reynolds, H.W., R.M. Hansen and D.G. Peden  
1978 Diets of the Slave River Lowlands bison herd, Northwest Territories, Canada. *Journal of Wildlife Management* 42:581-590.
- Reynolds, H.W. and A.W.L. Hawley, eds.  
1987 *Bison Ecology in Relation to Agricultural Development in the Slave River Lowlands, NWT*. Canadian Wildlife Service Occasional Paper No. 63. Occasional Paper No. 63.
- Reynolds, H.W., J.R. McGillis and R.D. Glaholt  
1982b *Range Assessment of the Nisling River Valley, Yukon Territory as Habitat for Wood Bison*. Unpublished Canadian Wildlife Service Report, Edmonton.
- Reynolds, H.W. and D.G. Peden  
1987 Vegetation, Bison Diets, and Snow Cover. In *Bison Ecology in Relation to Agricultural Development in the Slave River Lowlands, N.W.T.* edited by H.W. Reynolds and A.W.L. Hawley, pp. 39-44. Canadian Wildlife Service Occasional Paper No. 63.
- Reynolds, P.E.  
1998 Dynamics and Range Expansion of a Restablished Muskox Population. *Journal of Wildlife Management* 62(2):732-744.
- Richardson, Sir J.  
1851 *Arctic Searching Expedition: A Journal of a Boat-voyage Through Rupert's Land and the Arctic Sea, in Search of the Ships Under Command of Sir John Franklin with an Appendix on the Physical Geography of North America*. Longman, Brown, Green, and Longmans, London.
- Roe, F.G.  
1951 *The North American Buffalo: A Critical Study of the Species in its Wild State*. University of Toronto Press, Toronto.
- Roseneau, D., P. Stern, and C Warbelow  
1975 *The Kutchin Caribou Fences of Northeastern Alaska and the Northern Yukon*. Arctic Gas Biological Report Series, Volume 32. Canadian Arctic Gas Study, Limited and Alaskan Arctic Gas Study Company.
- Rusanov, B.S.  
1975 *Iskapaemye bizony Iakutii*. Iakutskoe Knizhnoe Izdatel'stvo, Yakutsk.
- Russell, F.  
1898 *Explorations in the Far North*. State University of Iowa Press.
- Schneider, W.S.  
1986. *On the Back Slough*. In *Interior Alaska: A Journey Through Time*, edited by J.S. Aigner, R.D. Guthrie, M.L. Guthrie, R.K. Nelson, W.S. Schneider, and R.M. Thorson, pp. 147-194. Alaska Geographic Society, Anchorage.
- Sidney, A., K. Smith and R. Dawson.  
1977 *My Stories are My Wealth: As Told to Julie Cruikshank*. Council for Yukon Indians. Willow Printers, Whitehorse, Yukon Territory.
- Simms, S.R.  
1984 *Aboriginal Great Basin Foraging Strategies: An Evolutionary Analysis*. Unpublished PhD. Dissertation. University of Utah, Salt Lake City.
- Skinner, M.F., and O.C. Kaisen  
1947 The Fossil Bison of Alaska and Preliminary Revision of the Genus. *Bulletin of the American Museum of Natural History* 89:126-256.
- Slobodin, R.  
1962 *Band Organization of the Peel River Kutchin*. National Museum of Canada Bulletin 179. Anthropological Series 55. Department of Northern Affairs and National Resources, Ottawa.

- 1981 Kutchin. In *Handbook of North American Indians, Volume 6 Subarctic*, edited by June Helm, pp. 514-532. Smithsonian Institute, Washington.
- Smith, E.A.  
1983 Anthropological Applications of Optimal Foraging Theory: A Critical Review. *Current Anthropology* 24:625-651.
- Smith, E.A. and B. Winterhalder, eds.  
1992 *Evolutionary Ecology and Human Behavior*. Aldine de Gruyter, New York.
- Soper, J.D.  
1941 *History, Range and Home Life of the Northern Bison*. Ecological Monographs 11: 347-412.
- Speth, J.D.  
1983 *Bison Kills and Bone Counts*. University of Chicago Press, Chicago.
- Stefansson, V.  
1921 *The Friendly Arctic*. Macmillan and Co., New York.
- Stephens, D.W. and J.R. Krebs  
1986 *Foraging Theory*. Princeton University Press, Princeton.
- Stevenson, M.G.  
1996 Indigenous Knowledge and Environmental Assessment. *Arctic* 49(3):278-291.
- Stiner, M.C.  
1990 The Use of Mortality Patterns in Archaeological Studies of Human Predatory Adaptations. *Journal of Anthropological Archaeology* 9:205-251.
- Strobeck, C., R.O. Polziehn and R. Beech  
1993 Genetic Relationship Between Wood and Plains Bison Assayed Using Mitochondrial DNA Sequence. In *Proceedings, North American Public Bison Herds Symposium*, July 27-29, edited by R.E. Walker, pp. 209-221. Custer State Park, Lacrosse.
- Taylor, R.J.  
1984 *Predation*. Chapman and Hall, New York.
- Tener, J.S.  
1965 *Muskoxen in Canada: A Biological and Taxonomic Review*. Queen's Printer, Ottawa.
- Tudge, C.  
1997 *The Time Before History: 5 Million Years of Human Impact*. Touchstone, New York.
- Vansina, J.  
1986 *Oral Tradition as History*. The University of Wisconsin Press. Madison.
- Vanstone, J.W.  
1974 *Athabaskan Adaptations: Hunters and Fisherman of the Subarctic Forests*. Chicago; Aldine.
- van Zyll de Jong, C.G.  
1986 *A Systematic Study of Recent Bison, with Particular Consideration of the Wood Bison*. (*Bison Athabasca* Rhoads 1898). Publications in Natural Sciences 6:69. National Museums of Canada, Ottawa
- 1993 Origin and Geographic Variation of Recent North American Bison. *Alberta* 3:21-35.
- van Zyll de Jong, C.G., C.C. Gates, H. Reynolds, and W. Olson  
1995 Phenotypic Variation in Remnant Populations of North American Bison. *Journal of Mammalogy* 76:391-405.
- Vereschagin, N.K. and G.F. Baryshnikov  
1982 Paleocology of the Mammoth Fauna in the Eurasian Arctic. In *Paleocology of Beringia*, edited by D.M. Hopkins, J.V. Matthews, Jr., C.E. Schweger, and S.B. Young, pp. 267-280. Academic Press, New York.
- Ward, P.D.  
1997 *The Call of Distant Mammoths: Why the Ice Age Mammals Disappeared*. Copernicus, Springer-Verlag New York.
- Wenzel, G.W.  
1999 Traditional Ecological Knowledge and Inuit: Reflections on TEK Research and Ethics. *Arctic* 52:113-124.
- West, F.H.  
1963 *The Netsi Kutchin: An Essay in Human Ecology*. Unpublished PhD dissertation, Department of Anthropology, Louisiana State University, Baton Rouge.
- 1982 *The Archaeology of Beringia*. Columbia University Press, New York.
- Whitman, J.S. and R.O. Stephenson.  
1998 History and Management of the Farewell Bison Herd, Alaska. In *International Symposium on Bison Ecology and Management in North America*. Edited by L. Irby and J. Knight, pp. 267-270. Montana State University, Bozeman.
- Whitney-Smith, E.  
1998 Late Pleistocene Extinctions by Second Order Overkill, or Why the Bison Made It! In *International Symposium on Bison Ecology and Management*, edited by L. Irby and J. Knight, pp. 337-345. Montana State University, Bozeman, Montana.
- Whymper, F.  
1868 A Journey from Norton Sound, Bering Sea, to Fort Yukon (Junction of Porcupine and Yukon Rivers). *Journal of the Royal Geographical Society* 38:219-237.
- Will, R.T.  
1984 *Muskox Procurement and Use on Banks Island by Nineteenth Century Copper Inuit*. Biological Papers of the University of Alaska. Special Report No. 4:153-161.

Wilson, A.C., R.L. Cann, S.M. Carr, M. George, U.B. Gyllensten, K.M. Helm-Gychowski, R.G. Higuchi, S.R. Palumbi, E.M. Prager, R.D. Sage and M. Stoneking.  
1985 Mitochondrial DNA and Two Perspectives on Evolutionary Genetics. *Biological Journal of the Linnaean Society* 26: 375-400.

Wilson, G.A. and C. Strobeck.  
1999 *Genetic Variation Within and Relatedness Among Wood and Plains Bison Populations*. *Genome* 42:483-496.

Wilson, M.C.  
1978 Late Pleistocene and Holocene Bison on the Northern Great Plains. Abstracts of the Fifth Biennial Meeting of the American Quaternary Association, Edmonton, Alberta, September 2-4, p. 97.

1996 Late Quaternary Vertebrates and the Opening of the Ice-Free Corridor, with Special Reference to the Genus Bison. *Quaternary International* 32:97-105.

Winterhalder, B.  
1981a Optimal Foraging Strategies and Hunter-Gatherer Research in Anthropology: Theory and Models. In *Hunter-Gatherer Foraging Strategies*, edited by B. Winterhalder and E.A. Smith, pp. 13-35. University of Chicago Press, Chicago.

1981b Foraging Strategies in the Boreal Forest: An Analysis of Cree Hunting and Gathering. In *Hunter-Gatherer Foraging Strategies*, edited by B. Winterhalder and E.A. Smith pp. 66-98. University of Chicago Press, Chicago.

Wood Bison Recovery Team  
1998 *Draft National Recovery Plan for the Wood Bison*. Report Prepared for the Committee for the Recovery of Nationally Endangered Wildlife. Ottawa, Canada.

Workman, W.B.  
1978 *Prehistory of the Aishikik Kluane Area, Southwest Yukon Territory*. National Museum of Man Mercury Series, Archaeological Survey of Canada, Paper No. 74. Ottawa.

Yesner, D.R.  
1989 Moose Hunters of the Boreal Forest? A Reexamination of Subsistence Patterns in the Western Subarctic. *Arctic* 42(2):97-108.

1994 Seasonality and Resource "Stress" Among Hunter-Gatherers: Archaeological Signatures. In *Key Issues in Hunter-Gatherer Research*, edited by E. S. Burch, Jr. and L. J. Ellana, pp. 151-167. Berg, New York.

Zamora, L.E.  
1983 *An Analysis of Bison Erythrocyte Antigens and Blood Proteins*. Unpublished M.Sc. thesis. Texas A&M University, College Station.

Zimov, S.A., V.I. Chuprynin, A.P. Oreshko, F.S. Chapin III, J.F. Reynolds, and M.C. Chapin  
1995 Steppe-Tundra Transition: A Herbivore- Driven Biome Shift at the End of the Pleistocene. *The American Naturalist*. 146(5): 765-794.