

IUCN Publications new series

No. 23

bears
—their biology
and management

A selection of papers
and discussion from the
Second International Conference
on Bear Research and Management

held at the
University of Calgary, Alberta, Canada

6 to 9 November 1970

under the sponsorship of the
Environmental Sciences Centre (Kananaskis)
and the University of Calgary



Edited by
Stephen Herrero, Ph.D.

and published by the

International Union
for Conservation of Nature and Natural Resources,
Morges, Switzerland, 1972

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Bear Proceedings
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PANEL 5: BEARS AND HUMAN BEINGS

Conservation of the Grizzly—Ecologic and Cultural Considerations

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The idea that before settlement the grizzly occurred far across the prairie eastward of the Rocky Mountains has prevailed for a long time (Seton 1929; Hall & Kelson 1959). Since the geographic distribution of a species is a matter of ecologic significance, it may be worthwhile to examine this information. It is recognized, of course, that a line on a map demarking the outer limit of a distribution in any direction does not represent necessarily either a continuous or static situation. The distribution of a species not only will be in accordance with its habitat, but also the extremistics of this will vary time—and-place-wise according to prevailing conditions. These often are most variable at a range periphery.

My concern in this paper is with the distribution of the grizzly bear on the prairie east of the rocky Mountains from Canada's Saskatchewan River southward to the Arkansas River in the United States. For information bearing on this matter, recourse was taken to a part of our heritage of historical literature, which is the source of an abundance of little used natural history information.

Henry Kelsey (1929) seems to have been the first European adventurer to leave a record concerning the grizzly in the mid-continent region. In his journal entry for 20 August 1691, he provides a description of this bear which is surprisingly brief considering it was doubtless a new experience. At that time, he seems to have been some 400 miles west of a place he called 'Deerings Point.' This locality is thought, by some, to be The Pas of the present Manitoba. Some 400 miles west of here by river channel would have placed Kelsey in the prairie region of what is now the Province of Saskatchewan.

Approximately one hundred years later, in 1789, Alexander Mackenzie traversed the country from Lake Superior to Fort Chipewyan on Lake Athabasca by way of Lake of the Woods, Lake Winnipeg, and the Saskatchewan, Beaver and Athabasca Rivers. Whether or not he saw any grizzlies in making this travel is unknown. At least he did not report seeing any until making his way up the Peace River from Fort Chipewyan in 1793 (Mackenzie 1927).

Paul Kane, the Canadian artist, made a similar traverse from Lake Superior to the Saskatchewan River and on westward. He did not report having seen any grizzlies until he reached the Saskatchewan River above 'Long Grass Prairie' (Kane 1968).

In the Red River region in 1800, Alexander Henry reported the grizzly as uncommon (Coues 1965a). Whether or not he actually saw any grizzlies in this region is not clear from the record he left.

According to Brackenridge (1814), this bear usually did not occur below the Mandan villages along the Missouri River. These villages were in the vicinity of present day Bismark, North Dakota.

Much later, in 1875, George Bird Grinnell seems to have regarded the grizzly as common in the Black Hills. The most easterly point at which he saw the species, however, was about the headwaters of the Heart River, some thirty miles east of the Little Missouri in the present State of North Dakota (Grinnell 1876). It was at the mouth of this river that Lewis & Clark first encountered and wounded a grizzly seventy-one years earlier on 20 October 1804 (Coues 1965b); two weeks earlier, they had seen the tracks of a large bear, taken to be of a grizzly, near the mouth of the Moreau.

Wilson Price Hunt, in 1811, left the Arikara villages near the confluence of the Grand River with the Missouri on an overland expedition to Astoria. He reported no information concerning the grizzly east of the Continental Divide except for one taken in the Big Horn Mountains in the headwaters area of Crazy Woman Creek (Rollins 1935).

Further to the southward, two great travel ways had become well established by the mid-nineteenth century. Robert Stuart is credited with being the founder of one of these—the Oregon Trail—in 1812. The only grizzly he reported for the region east of the Continental Divide along this route was one shot by his party in the Casper Mountains adjacent to the North Platte River (Rollins 1935). This would not be far from the present city of Casper, Wyoming.

Less than a decade later, Major Stephen H. Long led an army expedition up the Platte River to the Rocky Mountains, which returned by way of the Arkansas and the South Canadian Rivers to St. Louis. No sign of the grizzly was reported until they reached the place where the South Platte River issues from the Rocky Mountains. Here a grizzly was shot at without making a kill. This species also was observed by this party in the vicinity of the present city of Colorado Springs and of the presently named Beaver Creek in eastern Fremont County (James 1966).

A prairie traveler, whose name has become intimately associated with the Oregon Trail, is Francis Parkman. His route up the Platte River, down the Rocky Mountain front and back along the Arkansas River, closely followed that of the Major Long expedition. In his journal of his tour, he reported the presence of the grizzly in the Chugwater Creek and Goshen Hole areas of present day Wyoming; and he also told of seeing a man who had been injured by a grizzly along the Arkansas River near the Pueblo, now the city of that name in Colorado (Wade 1947).

In 1849-50, an army expedition made the trip to the Great Salt Lake Valley and back over the Oregon Trail. The official report of this expedition, while it is replete with natural history observations including a few regarding bear, carries no information about these animals for the country east of the Continental Divide in Wyoming (Stansbury 1853).

Many of the travelers over the Santa Fe Trail, further to the southward, left accounts of their experiences in crossing the prairie. Jacob Fowler was one of these. According to him, a member of his party was so injured by a grizzly that death ensued three days later. This incident took place near the confluence of the Purgatoire River with the Arkansas in November of 1821 (Coues 1965c). The location of this incident would be near the present town of Las Animas, Colorado.

Josiah Gregg's 'Commerce of the Prairies' stands out as a classic concerning the natural history of the Santa Fe Trail region. In the high country above the city of Santa Fe, where the grizzly was known to occur, Gregg reported having seen the tracks of a large bear, presumably a grizzly. For the prairie country

to the eastward, he noted only the black bear, which he said was found in thickets along streams (Gregg 1954).

This review, while by no means exhaustive, helps to establish at least two points concerning the distribution of the grizzly eastward from the Rocky Mountain front. First, in the region of the northern International Boundary, it does show the grizzlies' range to have extended eastward to the great bend of the Missouri River in the present North Dakota, southward at least as far as the Moreau in the present South Dakota, and possibly eastward to the Red River region. This information, of course, is not new. Secondly, southward from this region to the Arkansas River country the prairie does not appear to have been habitat for the grizzly. Two locality records, one for Kansas and the other for Minnesota, both recognized as marginal by Hall & Kelson (1959), can be considered aberrant occurrences. This interpretation of the distributional information brought together here is consistent with that of Brackenridge (1814). He did not consider the grizzly an animal of the prairie as such; and he did point out that (in the northern prairie region) usually it was associated with woods adjacent to large streams.

Implicit in this information is the suggestion that from the first decade to the final quarter of the last century, the margin of the grizzlies' range receded westward from the Red River region rather quickly as settlement developed. It suggests, further, a likelihood of a scant population for this species at the outset of the historical era.

The grizzly, nevertheless, continues to be a wide-ranging species. At the beginning of North America's historic period, it was found in the mountainous West all the way from Mexico to the Arctic. With settlement, in addition to possible range lost in the Red River region, it has lost also the southern part of its range in the Rockies, as well as most of its former range in the Sierra-Cascade cordilleran system further west.

The broad geographic distribution of the grizzly suggests also a broad base of adaptation. This is reflected clearly in its feeding habits, which are thoroughly omnivorous but preeminently herbivorous. Adaptation in this direction is so complete that its sectorial teeth have lost their trenchant character as shearing carnassials, and have instead become tuberculate (Scott 1937). All the cheek teeth, in fact, have broad, tuberculate crowns. In this respect, their teeth are remarkably similar to those of man and of the swine, and atypical for a carnivore.

Studies show clearly that vegetation forms the foundation of the grizzly's diet (Palmer 1939; Chatelain 1950; Clark 1957; & Martinka 1970). Flesh and insects also are included among the materials it eats. Some of this is acquired through scavenging activity. Its diet would include more meat if this were easier to get, because this bear shows a strong fondness for meat whether it is fresh or carrion (Murie 1944).

In its feeding habits, therefore, the grizzly is not a specialist, but rather a generalist. Its ecologic niche is broad, since in the trophic system of which it is a part, it functions as a grazer, as a predator, and as a decomposer. Each of these functions also is performed by food specialists at each trophic level. The integrity and the survivability of the natural community is maintained and fairly assured owing to this trophic overlap.

Thus it is that a major community, like a biome for example, can lose a species or so and still not lose its essential ecologic identity or functioning. The presence of the grizzly appears not to be essential to the maintenance of

its community. In other words, its ecologic value apparently is not a critical one. The structuring of a staunch case for the conservation of the grizzly based only upon ecologic value, as presently understood, therefore, appears foredoomed.

Upon what grounds, then, can conservation of the grizzly be justified? Among other values which might be recognized, it should be appropriate to give weight to values culturally derived, that is to say man-conferred. The more primitive societies of mankind commonly hold more or less in reverence certain wild-life species. Parkman (1946) in 'The Oregon Trail,' stated that the Dakotas regarded the grizzly as 'the divinity of war.' A reverence for the bear was common among the north American Indians according to Grinnell (1962). In our culture, by way of contrast, we seem not to reverence any animal unless it be the golden calf or the Wall Street bull.

Some of the grizzly's activities, to be sure, are clearly inimical to man's interests. There should be no need to review these here, since they are already largely a matter of common knowledge.

Nature adventuring, whether it be hunting, fishing, birdwatching, wild-flower-ing, rock-hounding or scenery enjoyment, is a well established tradition among Americans. With the increased affluence of the last score or so of years, there has been a spectacular growth in the number of persons seeking this sort of satisfaction. But one can wonder whether this seeking may be a fad of the times or whether it truly is demonstrative of a deep-seated sense of nature appreciation—a sense released largely by recently acquired affluence.

The results of a survey issued by the National Wildlife Federation (1969) provide grounds for this wondering. In this survey, people were asked what they thought to be 'the most pressing problem connected with our natural surroundings.' There was a choice of one answer out of seven possibilities. Three of these concerned pollution, and one concerned wildlife preservation. Seventy-five per cent of the respondents chose pollution against five per cent for wildlife preservation.

Owing to the current general concern about pollution, this result really was not surprising. What was surprising perhaps was that primary school children, the less affluent, and the residents of small towns all expressed more concern about wildlife than other groups. Does wildlife truly mean comparatively little to the big city resident? The more affluent? Or the better educated? Is this apparent indifference toward wildlife reflective of a higher level of humanization among these latter groups?

Eric Hoffer (1969) has, in fact, equated the humanization of man with the conquest of nature. According to him: '... the overcoming of nature, so crucial in the ascent of man, can be a most effective agency of humanization in the decades ahead. One would like to see mankind spend the balance of the century in a total effort to clean up and groom the surface of the globe—wipe out the jungles, turn the deserts and swamps into arable land, terrace barren mountains, regulate rivers, eradicate all pests, control the weather, and make the whole land a fit habitation for man. The globe should be our and not nature's home, and we no longer nature's guests.'

Hoffer's ideas are patently anti-ecologic. Complete fulfillment of them would mean the *Gottterdammerung* of the nature treasured by many persons the world over, and held in reverence by many others, including those we consider less civilized than ourselves. Civility, which itself is a mark of humanization, does

not equate itself necessarily with 'advanced civilization.' Is there an implication of Hofferism, either conscious or non-conscious, in the ever growing urban-technological sophistication?

There are, it is reassuring to observe, other winds blowing. Increasingly one feels the press of concern for change. Long established institutions are being criticized and even challenged. The hand which feeds is being bitten. One result has been the arousal of a nation-wide concern for great improvement in the quality of our environment. No longer is destruction of environment together with the life dependent upon it being passively accepted as the price of economic development. Destructive forces have been rampant far too long in our society. Long standing apathy toward them has cultivated much indifference or even callousness toward nature—toward environment and life alike.

The time is ripe to cultivate and promote constructive influences. Endeavour in nature conservation certainly is one of these. It manifests a civil rather than a barbaric attitude toward our world; and on man its effect is humanizing—an effect greatly to be desired at any time, but especially so today. Man's attitude toward the world of wild nature, that is, toward wildlife and its habitat, may well portend the quality of living he destines for his future. In a recent work, Clark (1969) admonishes us to remember that we are but part of a great whole we know as nature—'All living things are our brothers and sisters.' In part, he was echoing what Pope (1951) had said more than two hundred years earlier with the lines:

'All are but parts of one stupendous whole,
Whose body nature is, and God the soul.'

Nature appreciation, already present in our society, needs greatly to be reinforced. How can this be accomplished? How is an attitude of appreciation, of love, for nature to be cultivated until it becomes an indelible part of the American ethos? Persons tend not to harm that which they love. It seems to me that the conservation of the grizzly bear is intimately associated with these questions. Of what meaning to our society is the grizzly, for example? The conservation of this bear must come to be viewed not only in the usual format concerning a wildlife species, but also in terms of its humanistic significance as well. To achieve enduringly the grizzly's conservation, the whole man must be reached—his body and his soul.

REFERENCES

- BRACKENRIDGE, H. M. 1814. *Views of Louisiana; together with a journal of a voyage up the Missouri River, in 1811.* Cramer, Spear & Richbaum, Pittsburg.
- CHATELAIN, Edward F. 1950. Bear-moose relationships on the Kenai Peninsula. *Trans. 15th North Amer. Wldf. Conf.*, pp. 224-234.
- CLARK, Kenneth 1969. *Civilisation. A personal view.* Harper & Row, New York.
- CLARK, Webster K. 1957. Seasonal food habits of the Kodiak bear. *Trans. 22nd North Amer. Wldf. Conf.*, pp. 145-151.

- COUES, Elliott (Ed.) 1965a. *New light on the early history of the greater northwest*. The manuscript journals of Alexander Henry and David Thompson, 1799-1814. Ross & Haines, Inc., Minneapolis. (Reprint).
- 1965b. *History of the expedition under Lewis and Clark*. Dover Publications, New York. (Reprint).
- 1965c. *The journal of Jacob Fowler...1821-22*. Ross & Haines, Inc., Minneapolis. (Reprint).
- GREGG, Josiah 1954. *Commerce of the prairies*. Edit. by Max Moorehead. Univ. Okla. Press, Norman.
- GRINNELL, George Bird 1876. Zoological report. In *Report of a reconnaissance from Carroll, Montana Territory, on the upper Missouri to the Yellowstone National Park in the summer of 1875*, by William Ludlow. Government Printing Office, Washington.
- 1962. *Blackfoot lodge tales. The story of a prairie people*. Bison Book, Univ. Neb. Press, Lincoln. (Reprint).
- HALL, E. Raymond & KELSON, Keith R. 1959. *The mammals of North America*. The Ronald Press Co., New York.
- HOFFER, Eric 1969. *The temper of our time*. Perennial Library, Harper & Row, New York.
- JAMES, Edwin 1966. Account of an expedition from Pittsburgh to the Rocky Mountains, ... 1819 and 1820, ... under the command of Maj. Stephen H. Long. In *Early Western Travels*, by Reuben Gold Thwaites (Ed.), AMS Press, Inc., New York. (Reprint).
- KANE, Paul (1968). *Wanderings of an artist among the Indians of North America, 1846-48*. Edit. by L. J. Burpee, Radisson Society, Toronto.
- KELSEY, Henry 1929. *The Kelsey papers*. With an introduction by Arthur G. Doughty and Chester Martin. F. A. Acland, Printer, Ottawa.
- MACKENZIE, Alexander 1927. *Voyages from Montreal...through the continent of North America...1789-93*. Edit. by John W. Garvin, Toronto, Christino Edition.
- MARTINKA, C. J. 1970. *Grizzly ecology studies, Glacier National Park*. National Park Service, West Glacier, Montana.
- MURIE, Adolph 1944. *The wolves of Mount McKinley*. National Park Service, Fauna No. 5, Washington, D.C.
- National Wildlife Federation 1969. *The U.S. Public considers its environment. A National Opinion Trend Report of a survey conducted by the Gallup Organization, Inc., Princeton, New Jersey*.
- PALMER, L. J. 1939. Data of Table 2, in Chatelain, E. F. q.v. above.
- PARKMAN, Francis 1946. *The Oregon Trail*. Literary Guild Edition, Doubleday & Co., Inc., Garden City, N.Y.
- POPE, Alexander (1951). An essay on man. In *Selected works*, Edit. by Louis Kronenberger, The Modern Library, New York.
- ROLLINS, Philip Ashton 1935. *The discovery of the Oregon Trail—Robert Stuart's narratives of his overland trip eastward from Astoria in 1812-13*. Charles Scribner's Sons, New York.

- SCOTT, W. B. 1937. *A history of land mammals in the western hemisphere*. The Macmillan Co., New York.
- SETON, Ernest Thompson 1929. *Lives of game animals*. Doubleday, Doran & Co., Garden City, N.Y.
- STANSBURY, Howard 1853. *Exploration and survey of the valley of the Great Salt Lake of Utah*. Robert Armstrong, Public Printer, Washington.
- WADE, Mason (Ed.) 1947. *The journals of Francis Parkman*. Harper & Bros., Publishers, New York.