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Author(s): S. K. Ustinov

Reviewed work(s):

Source: *Bears: Their Biology and Management*, Vol. 3, A Selection of Papers from the Third International Conference on Bear Research and Management, Binghamton, New York, USA, and Moscow, U.S.S.R., June 1974. IUCN Publications New Series no. 40 (1976), pp. 325-326

Published by: [International Association for Bear Research and Management](http://www.iabrm.org/)

Stable URL: <http://www.jstor.org/stable/3872783>

Accessed: 26/04/2012 12:58

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## The Brown Bear on Baikal: A Few Features of Vital Activity

S. K. USTINOV

*East Siberian Branch of the All-Union Research Institute of Hunting Management and Fur Breeding, Irkutsk, USSR*

The brown bear, *Ursus arctos* L., occurs in all five ranges surrounding Baikal: Khamar-Daban, Ulan-Burgasi, Bargyzinski, Baikal and Primorski. Approximately 1,000-1,200 animals live in a territory of about 60,000 km<sup>2</sup>. The greatest densities occur on the western slope of the Bargyzinski Range between the Malaya Cheremshaya and Shirildi Rivers, on the eastern slope of the Baikal between Rita and Kotelnikovski Capes, and on the eastern slope of the Primorski between the Ulan-Khan and Zama Rivers. The Ulan-Burgasi Range has the fewest bears. All the areas have a low human population, extensive mountain taiga, an abundance of food and a prohibition on special hunting for bears.

The shores of Lake Baikal had about twice as many bears 30-40 years ago. Uncontrolled hunting and a series of poor years caused sharp declines in numbers. Hunters who killed more than 100 bears still live on the shores of Lake Baikal. However, measures for preservation of animals and their habitat have caused numbers to increase and densities in areas of concentration reach eight animals per 1000 ha.

The usual habitat of the bear in the ranges surrounding Baikal is the steep slopes of the mountains, river valleys with fallen trees, cliffs, old coniferous forests, places with numerous streams and burned over areas with many berry bushes.

In the second half of October, animals leave feeding places and move toward denning areas. In years of good food, animals enter dens in late October and early November, the time of permanent snow cover. Animals who do not have a den keep searching for a place for its construction.

A bear has rather strict demands for den location. Apparently the main requirement is dry earth. On large expanses of taiga, dens may be clustered. The author discovered three dens on 50 ha and four on 60 ha in the Bargyzinski Range. Bear dens are also known to be concentrated in the Altai.

Dens are constructed under large, flat stones and under roots of mature trees. The den entrance is usually oriented towards the south and west. Its height is 30-65 cm and width is 35-50 cm. The chamber is 110-200 cm long, 65-80 cm high, and 75-150 cm in diameter. In years of poor food, bears den in various places including hay stacks, winter quarters of hunters, fallen trees, and heaps of brush. Animals are alert in such dens and dangerous to anyone who happens to approach.

In one case the author discovered a 'camouflaged' den. Before leaving it, the bear broke six young, living Siberian spruce *Picea obovata* trees, 7 cm in diameter, into pieces 9-100 cm long and laid them together to block the entrance.

An animal uses the same den for several winters; if a den is not used by the original occupant and is in suitable condition, another bear may winter in it.

The bears know well where other dens are located, and a bear who is aroused during the winter may go to several dens trying to drive another bear out of a den so as to occupy it.

Bears leave dens in the middle of April; the peak date for a series of years for the Bargyzinski Range was 16 April. Solitary young animals and those that had poor fat reserves the preceding fall exit first. Females with young are the last to leave.

In good food years, bears acquire fat in late summer and increase body weight 30-35 percent. At the time of exit from the den they still have as much as 25 percent of their weight in fat. This is utilized until fresh grass appears.

In years of poor food supply, some bears do not hibernate and die during severe weather in mid-winter. Others may hibernate late and in poor places, and then come out of hibernation in mid-winter and perish.

A hungry animal is dangerous, both to people and fellow bears. In years of poor food, when bears appear near settlements, they attack domestic animals and people. The author has established more than 70 cases of attacks on people, mainly hunters. In 17 of these, the man died, and in five the man was almost completely eaten. Eleven attacks on humans were in the summer and more than 60 in the winter. Bears actively pursued or ambushed the man in 60 percent of the cases.

In spring or early summer, bears concentrate in forest clearings on steep mountain slopes on all five ranges in the Baikal area. Clearings range from several dozen m<sup>2</sup> to a hundred ha in size. Bears also concentrate on the shores of Lake Baikal in mid-May and sometimes cross on the ice. They are nocturnal at this time.

The main food of bears when they exit from dens is red whortleberries *Vaccinium vitis-idaea*, remaining from the preceding summer, ants *Formica lasius*, which are just starting to become active, and the nuts of *Pinus sibirica* and *Pinus pumila*, dug out of burrows of chipmunks *Tamias sibiricus*. Bears pursue moose *Alces alces* on the frozen taiga. They feed on green grass as it becomes available. In forest clearings, they feed on *Oxytropis strobilaceae*, *Phlojodicarpus baicalensis* and *Polygonum angustifolium*. On Lake Baikal, they feed on various kinds of animal life including spawning bullheads *Cottidae*. The main food in the fall is berries, cedar nuts and some small mammals.