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## ECOLOGICAL IMPORTANCE OF CUTTHROAT TROUT TO THE YELLOWSTONE GRIZZLY BEAR

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The importance of cutthroat trout (*Oncorhynchus clarkii*) to the Yellowstone grizzly bear (*Ursus arctos*) has changed over the decades. Early records from the 1930s suggested bears were foraging on cutthroat trout, but studies from the 1950s and 1960s found no evidence of fish use. Bears at that time likely did not use fish because their diets were composed primarily of garbage from park dumps. Following dump closure in the early 1970s, bear use of fish increased and likely peaked in the late-1980s, coinciding with a peak in the cutthroat population in Yellowstone Lake. Researchers estimated that about 44 grizzly bears fished on 61 percent of the 124 tributary streams. Female bears consumed most of the fish but females consuming fish had lower reproductive rates when compared to females not consuming fish. Bear use of fish began to decline as the cutthroat trout population declined as a result of predation from introduced lake trout (*Salvelinus namaycush*). Bear use of cutthroat trout was very low in the late 1990s and most fish were consumed by male bears. DNA capture mark recapture studies estimated that 68 individual bears used the area around Yellowstone Lake. Results from a recent study (2007-2009) suggest the number of bears using the area has not changed, but fish are no longer available or consumed by bears. They have shifted their diet to other natural foods including elk calves (*Cervus elaphus*) in habitat created by

the 1988 fires. Demographic studies of the Yellowstone grizzly bear during the decades of the 1980s-2000s suggests this dynamic flux in fish availability and use by grizzly bears did not abate population growth and range expansion.