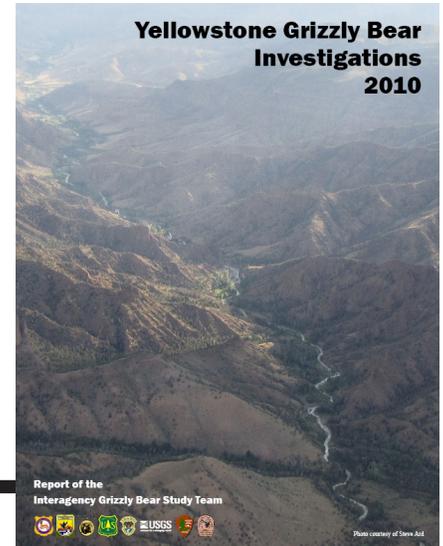


Interagency Grizzly Bear Study Team



2010 Annual Report Summary

These data include information collected by the Interagency Grizzly Bear Study Team (members include the U.S. Geological Survey, National Park Service, Wyoming Game and Fish, Idaho Fish and Game, Montana Fish, Wildlife and Parks, U.S. Fish and Wildlife Service, U.S. Forest Service, and the Eastern Shoshone and Northern Arapaho Tribal Fish and Game Department) for the entire Greater Yellowstone Ecosystem (GYE). Data obtained are not broken out separately by administrative unit.



Capturing and Collaring: Ninety-five individual grizzly bears (*Ursus arctos horribilis*) were captured on 111 occasions during the 2010 field season. Fifty-seven captures were new individuals that had not been previously marked. Of the bears captured in 2010, 36 were research captures of 26 individuals. There were 75 management trapping captures of 70 individuals. Forty-nine (17 females, 32 males) of these bears were transported on 52 occasions. There were 20 (9 females, 11 males) management removals, which included 1 subadult female and 1 subadult male. Three bears captured in management situations were released on site.

Aerial VHF Telemetry and Bears Monitored: A total of 696 aerial radio-locations were obtained from 85 individual grizzly bears radio-monitored during all or a portion of the 2010 field season. Thirty-three of the grizzly bears radio-monitored were adult females.

Grizzly Bear Observation Flights: Two rounds of observation flights, for a total of 194 flight hours, were conducted as part of our effort to count unique females with cubs-of-the-year and document distribution of females with young (cubs, yearlings, or 2-year-olds). A total of 437 grizzly bears were observed in 319 groups, including 38 observations of females with cubs-of-the-year and 27 observations of females with older young.

Estimating Numbers of Females with Cubs-of-the-Year and Grizzly Population Size: Fifty-one unique females were differentiated from 286 sightings (67 from aerial sources, 219 from ground sources) of females with cubs. A total of 101 cubs were observed during the initial sightings of unique females. Mean litter size at initial observation was 1.98 cubs per litter with 15 single cub, 23 twin, 12 triplet, and 1 quadruplet litters observed. Applying our resight rules and using the sighting frequencies for each family, the Chao2 estimate for females with cubs-of-the-year was 56. The 2010 model-averaged estimate of a linear and a quadratic model of the Chao2 with years (1983–2010) was 57 (95% CI 47–69) which translates to a population estimate for the GYE of 602 (95% CI 541–663).

Distribution of Females with Young (cubs, yearlings, or two-year-olds): Females with young were documented in 18 of 18 Bear Management Units (BMU) within the Recovery Zone and 18 of 18 BMUs have been occupied by females with young at least 4 of the last 6 years.

Grizzly Bear Mortality: We documented 48 known and probable grizzly bear mortalities in the GYE during 2010. Of these, 43 were attributable to human causes. We also documented 4 natural mortalities and 1 mortality from an undetermined cause. Human-caused mortalities of dependent young were within sustainable limits. Estimated total mortality for independent male bears exceeded sustainable limits during 2010. Although estimated total mortality for independent females initially documented during 2010 was within sustainable limits, additional female mortalities discovered during 2011 and attributed to 2010 exceed the mortality limit for independent females in 2010.

Carcass Surveys: Surveys to determine an index of spring ungulate carcass availability were conducted between April and early May. Approximately 256 km of transect routes were surveyed in 5 different ungulate wintering areas. A total of 17 elk and 7 bison carcasses were observed for a rate of 0.09 ungulate carcasses per kilometer. Carcass counts were lower than results obtained during 2009 and were indicative of a mild winter.

Army Cutworm Moth Aggregation Sites: A total of 231 grizzly bear observations, in 163 groups, were recorded at 21 of 52 confirmed and possible army cutworm moth aggregation sites. Nine (17.6%) of 51 initial observations of unique females with cubs-of-the-year, and 22 (8%) of all 286 sightings of females with cubs-of-the-year occurred at moth aggregation sites.

Whitebark Pine Surveys: Whitebark pine (*Pinus albicaulis*) surveys during late July and early August showed poor cone production on live trees. Twenty-two transects were sampled and overall, mean cones per tree was 5.25. Mountain pine beetle (*Dendroctonus ponderosae*) activity continues at high levels on the original 19 transects. Additional mortality among extant trees surveyed since 2002 was observed. Total tree mortality since 2002 is 72.6% (138/190) and 94.7% (18/19) of the original transects contain beetle killed trees, whereas 5 (71.4%) of the 7 new transects exhibited beetle activity.



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