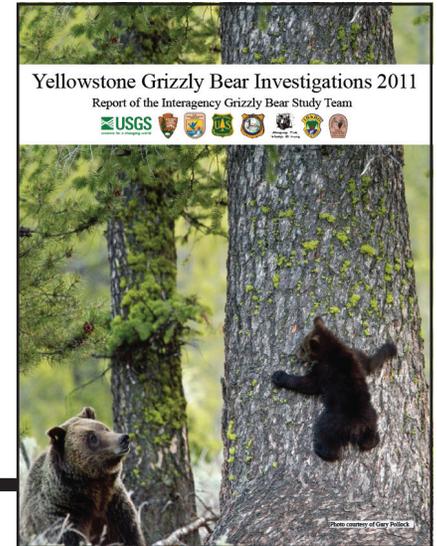


Interagency Grizzly Bear Study Team



2011 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: Eighty-six individual grizzly bears (*Ursus arctos horribilis*) were captured on 107 occasions during the 2011 field season. Forty captures were of new individuals that had not been previously marked. There were 61 research captures of 41 individuals. Forty-six captures of 46 individuals were the result of management trapping efforts. Twenty-four (10 females, 14 males) of these bears were transported. There were 21 (7 females, 14 males) management removals. One bear captured in a management situation was release on site because the mother and sibling could not be captured. One adult male initially captured at a management trap site was relocated and subsequently captured at a research trap site.

Aerial VHF Telemetry and Bears Monitored: A total of 858 aerial radio-locations were obtained from 92 individual grizzly bears radio-monitored during all or a portion of the 2011 field season. Twenty-nine of the grizzly bears radio-monitored were adult females.

Grizzly Bear Observation Flights: Two rounds of observation flights were conducted as part of our effort to count unduplicated females with cubs-of-the-year and document distribution of females with young (cubs, yearlings, or 2-year-olds). The first round of flights began June 15th, and 47 observation areas were surveyed during 89 flight hours. The second round of flights began on July 21st, and 35 areas were surveyed during 71 flight hours. A total of 431 grizzly bears were observed in 323 groups, including 29 observations of females with cubs-of-the-year and 26 observations of females with older young.

Estimating Numbers of Females with Cubs-of-the-Year and Grizzly Population Size: Thirty-nine unique females were differentiated from 134 sightings (49 from aerial sources, 85 from ground sources) of females with cubs. A total of 74 cubs were observed during the initial sightings of unduplicated females. Mean litter size was 1.90 cubs/litter with 13 single cub, 17 twin, and 9 litters of triplets observed. Applying our resight rules and using the sighting frequencies for each family, the Chao2 population estimate for females with cubs-of-the-year was 47. The 2011 model-averaged estimate based on linear and quadratic models of the Chao2 estimator for 1983–2011 was 56 (95% CI 45–68), which translated to a population estimate for the GYE of 593 (95% CI 533–652) grizzly bears.

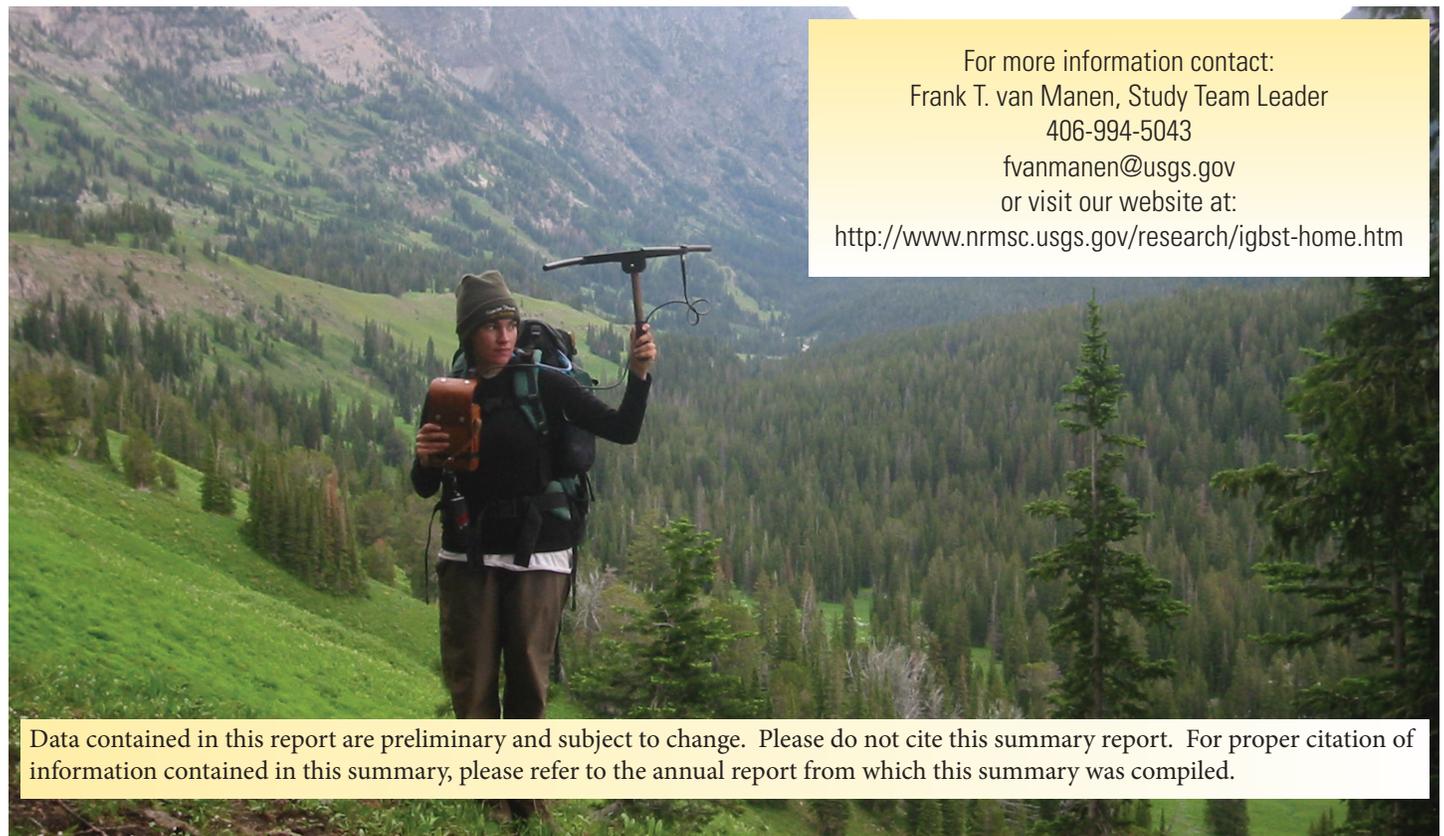
Distribution of Females with Young (cubs, yearlings, or two-year-olds): Females with young were documented in 16 of 18 Bear Management Units (BMU) within the Recovery Zone; 18 of 18 BMUs have been occupied by females with young at least 4 of the last 6 years.

Grizzly Bear Mortality: We documented 44 known and probable grizzly bear mortalities in the GYE during 2011. Of these, 37 were attributable to human causes including 14 independent (aged ≥ 2) females, 16 independent males, and 7 dependent young. We also documented 3 natural mortalities and 4 mortalities from undetermined causes. Two of these mortalities from undetermined causes occurred during 2010, but were not discovered until 2011. Estimated total mortality for independent females and males exceeded sustainable limits during 2011. The numbers of human-caused mortality for dependent young were within sustainable limits.

Carcass Surveys: Surveys to determine an index of spring ungulate carcass availability were conducted between April and mid-May. Approximately 255 km of transect routes were surveyed in 5 different ungulate wintering areas. A total of 32 elk, 52 bison, and 2 mule deer carcasses were observed for a rate of 0.34 ungulate carcasses/km. Carcass counts were higher than results obtained during 2010 and were indicative of a more severe winter.

Army Cutworm Moth Aggregation Sites: A total of 272 grizzly bear observations in 209 groups were recorded at 27 of 53 army cutworm confirmed and possible moth aggregation sites. Seven (17.9%) of 39 initial observations of unduplicated females with cubs-of-the-year and 18 (13.4%) of all 134 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 good cone production on live trees. Twenty-two transects were read. Overall, mean cones/tree was 19.8. We observed no additional tree mortality caused by mountain pine beetle (*Dendroctonus ponderosae*) among trees originally surveyed since 2002, although we continue to observe beetle activity on recently marked trees. Thus total mortality on transect trees read since 2002 remains 72.6% (138/190) and 94.7% (18/19) of transects contain beetle-killed trees. Five (71.4%) of the 7 new transects exhibited beetle activity.



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