

2009 Wildlife Research: Effects of Pathways on Black Bears



BACKGROUND

In March 2007 Grand Teton National Park issued a Record of Decision for a park-wide transportation plan/environmental impact statement that authorized the construction of about 45 miles of paved multi-use pathways between the park's south boundary and the Colter Bay developed area (Grand Teton National Park 2007). Concern about the potential impacts of new pathways on resident wildlife pervaded each step of the pathway planning process, leading to the inclusion of a wildlife research and monitoring program in the first phase pathway construction package.

Research was initiated in 2007 to evaluate the impacts of pathways on the movements and habitat use of black bears (Ursus americanus), their visibility, their road crossing tendencies, and their ability to acclimate to pathways. The research is scheduled to occur through 2010 gathering data during preconstruction, construction, and pathway use phases.

APPROACH

This year our efforts were directed at maintaining a desired sample size of 10-12 GPS radio-collared bears in the study area (Fig. 1) to continue an evaluation of temporal and spatial attributes of bear movements near the pathway. Habitat use models will be used to reveal the relative importance of pathways in determining how

bears use the landscape. Changes in bear visibility will be evaluated by comparing the frequency of locations in areas visible from the road before, during, and after pathway construction.

RESULTS

Between June 5 and July 30 we captured 10 black and 3 grizzly bears (Table 1). Six bears had been marked in previous research efforts; four black and 3 grizzly bears were marked for the first time.

Sixteen fixed-wing aerial relocation flights were conducted between March 11 and December 28, 2009, resulting in 136 locations of 15 individual black bears (Fig. 2). Not all bears were located on each flight. We documented two mortalities in 2009: 22077, an adult male, was legally harvested just outside the park on Shadow Mountain in September; and 22055, a 23 year old male, was apparently killed by another bear, likely a grizzly, at the site of an elk carcass on Shadow Mountain in September 2008. Hairs collected at the site will

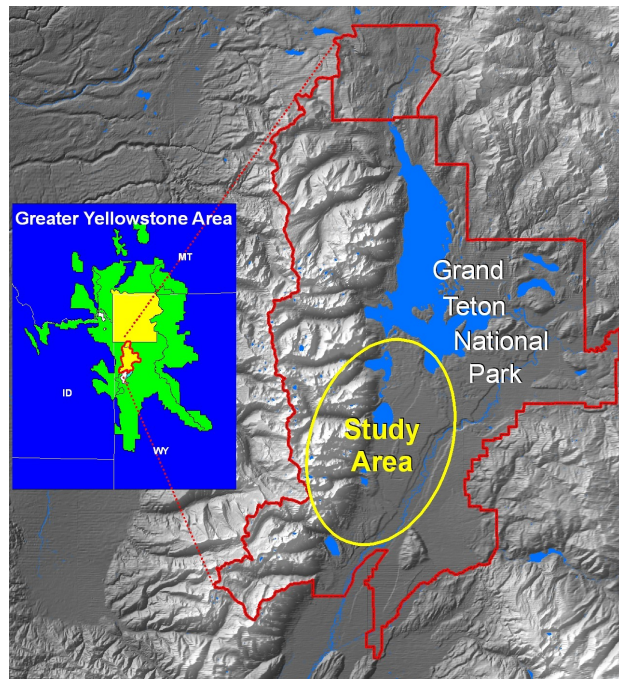


Figure 1. Black bear pathways effects study area.

Table 1. Location, sex, age, and collar status of black bears trapped in 2009.

Date	Location	Bear ID	Handled?	Sex	Age	Collared?
6/5/09	Whitegrass	22079	Yes	Female	4-5 <sup>1</sup>	Yes
6/14/09	Jenny Lake	22075	Yes	Male	5	Yes
6/16/09	Jenny Lake	22080	Yes	Female	5-6 <sup>1</sup>	Yes
6/20/09	Whitegrass	22081	Yes	Male	5 <sup>1</sup>	Yes
6-26-09	Lupine Meadows	GB610	Yes	Female	3	Yes
7/1/09	Lupine Meadows	22082	Yes	Male	5-6 <sup>1</sup>	No
7/10/09	Beaver Creek	22071	Yes	Female	6-7	Yes
7/16/09	Jenny Lake	22227	Yes	Female	6	Yes
7/17/09	Moose	GB G133	Yes	Male	2	No
7-20-09	Jenny Lake	22230	Yes	Male	7	Yes
7/22/09	Whitegrass	22070	Yes	Male	10-12	Yes
7/28/09	Moose	GB615	Yes	Female	3	Yes
7/30/09	Jenny Lake	22229	Yes	Male	10	Yes

<sup>1</sup> Estimate based on tooth wear and eruption.

be analyzed to confirm the presence of a grizzly at the site. No collars were cast in 2009. At the end of the season, 12 black bears (collared bears in Table 1 plus 22074, 22076, and 22215) entered dens with active radio collars, all with fall 2010 drop off dates.

We downloaded 3 GPS data sets during 2009, two from the bears that died (22055, 22077) and one from bear 22075 whose collar was replaced when he was recaptured in June (Fig. 3).

## 2010 RESEARCH

Field activities in 2010, the last year of data collection for this study, will mirror those of 2009. Collars deployed in 2010 will be scheduled for release October 2010, so that all collars can be retrieved.

## ACKNOWLEDGMENTS

This study is funded by the National Park Service. M. Haroldson, Interagency Grizzly Bear Study Team (IGBST) coordinated data base management, L. Frattaroli (GTNP) trapped bears, D. Stinson of Sky Aviation located collared bears, and K. West and S. Podruzny (IGBST) assisted with several important logistical details.

## LITERATURE CITED

Grand Teton National Park. 2007. Transportation plan, environmental impact statement, record of decision, March 2007. U.S. Dept. Interior, National Park Service, Grand Teton National Park, Moose, WY. 21pp.

## CONTACT

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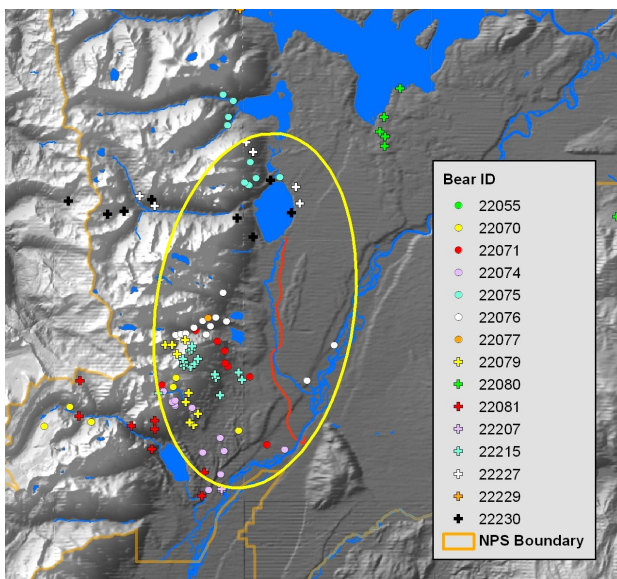


Figure 2. Aerial VHF radio locations of 15 black bears in 2009 (primary study area shown in yellow ellipse).

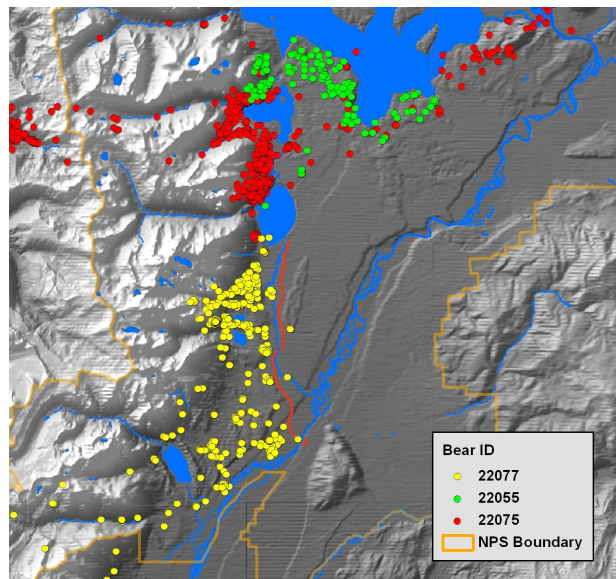


Figure 3. GPS positions from 3 black bear collars retrieved in 2009.