Conservation Corner:

New Research Identifies Breeding Grizzly Bear Habitat

By Niki Wilson

Through decades of study biologists have learned a lot about threats to grizzly bear survival. This knowledge means that management efforts can in theory focus on reducing mortality in order to protect populations. While important work is still being done in this area, for grizzly populations to persist into the future wildlife managers also need to to focus on conservation at the other end of the lifecycle: habitat important to breeding females.

So says Jason Fisher, a senior ecologist with Alberta Innovates-Technology Futures. Recently, in a study co-funded by Alberta Parks, he and colleagues Matthew Wheatley and Darryl Mackenzie developed a method to identify habitat preferred by female grizzly bears with young.

"We wanted to create a tool that we could, with some accuracy, chart where breeding females exist on the landscape," said Fisher.

Using photos of female grizzlies with young collected systematically by remote cameras throughout the Willmore Wilderness Area, the researchers calculated ¬– with 98 percent confidence – how often breeding females used various landscape types.

"We found breeding grizzly bears more often in high alpine areas above the tree line, but below the rock line, in that beautiful, shrubby, open habitat that everybody loves to go hiking in," said Fisher, who adds that grizzlies were found less often in mid-elevation conifer forests and low elevation wetlands.

Grizzly sow and cubs on a late summer morning PHOTO: © ALBERTA INNOVATES – TECHNOLOGY FUTURES; ALBERTA PARKS

Though the results do not indicate why the females are choosing the high elevation areas identified in the study, Fisher said it could be for a number of reasons, including good forage, like berries and other nutrient rich food. It could also be due to the female's avoidance of males at mid-elevations, given the tendency of male bears to kill cubs when they encounter them.

"In the big picture," Fisher says, "we're less concerned with understanding the mechanism, and more concerned with understanding how important those high elevation habitats are for breeding grizzly bears."

Fisher suggests this is especially important given the "tree line creep" occurring as a result of climate change. As tree line slowly moves up with warming temperatures, Fisher notes that ongoing research suggests there has been a reduction in alpine habitat in the Canadian Rockies.

He wonders what that will mean for breeding grizzlies. "Are they going to lose more of that preferred habitat, and will that manifest in a decrease in the rate at which they're breeding? It generates more questions that we think need looking into."

This study will be replicated in southern Alberta in Kananaskis and on the east slopes of the Rockies. Says Fisher, "There is more human disturbance down there – lots of recreational activity, seismic lines, cut blocks, and mining, etc. So we're going to do another analysis to see if breeding females are more or less likely [to occur] in relation to that disturbance." That analysis will be ready in the Spring of 2015.

Fisher hopes that eventually there will be an Alberta map that identifies habitat for breeding females, suggesting priorities for protection and management.

"This research shows that it's not just about making sure that grizzly bears aren't getting knocked off by poachers, or by managing access and railway lines, but also about making sure grizzly bears have enough places to produce cubs to replace those losses."

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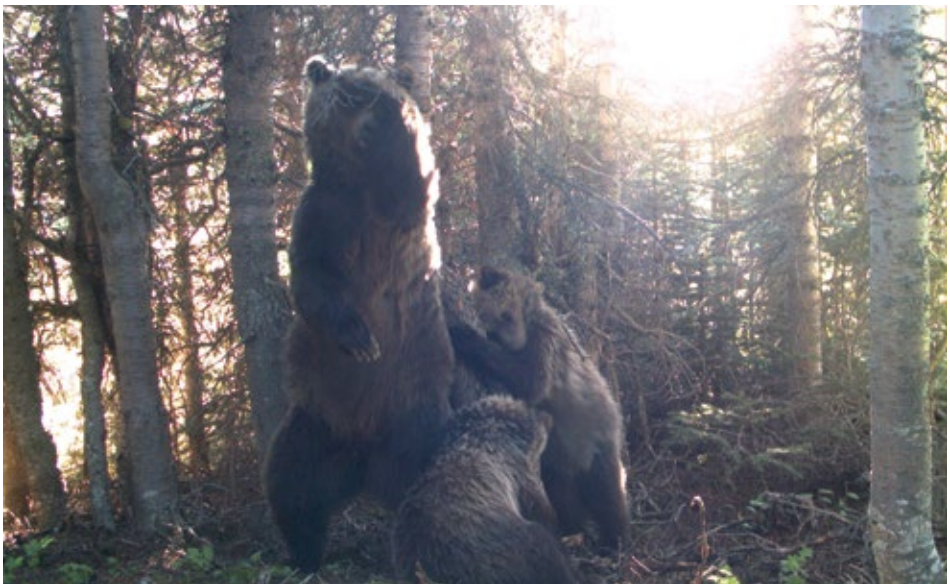

Grizzly sow and her cubs do some tree rubbing during an early July evening PHOTO: © ALBERTA INNOVATES – TECHNOLOGY FUTURES; ALBERTA PARKS

Water Plants. PHOTO: © G. FOSTER

Sedge Grasses. PHOTO: © G. FOSTER