

# Land reclamation benefits Alberta grizzly bears

January 20 2016, by Jennifer Pascoe

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In the face of ongoing demand for resource extraction, scientists are challenged to minimize disruption to sensitive wilderness species. A team from the University of Alberta has studied the effects of human

disturbance—specifically mining and reclaimed mines—on grizzly bear movements.

"We were concerned that mining and reclamation might be very disruptive to grizzly bear habitat use," says Mark Boyce, professor of biological sciences at the U of A. "There is a lot more use of those landscapes than we anticipated, especially by female grizzly [bears](#) with cubs. One of the arguments for why they are more willing to tolerate some human activity and disturbance is because they avoid big males who tend to occupy more remote sites."

Boyce notes that male grizzlies are more sensitive to disturbance and will avoid mine sites more than the females will, but that both males and females are more cautious in their movement in the areas of mines or reclaimed mines. Boyce worked with his graduate student Bogdan Cristescu, lead author of the study, along with scientists from fRI Research. Using radio telemetry to receive precise locations from the bears every hour over a period of nine years, the researchers concentrated on the Cheviot mine and two reclaimed mines in the Cadomin region in Alberta.

Though Boyce mentions that active mining sites are a "disaster area" for wildlife, he explains that reclaimed sites provide excellent wildlife habitat. "Bears prefer remote places where there's no disturbance and little human activity. That said, bears thrive on early successional vegetation, meaning that areas under reclamation previously disturbed by mining are sometimes the best places for foraging." Common reclamation practices are to plant rapid ground cover—like clover—to prevent erosion and establish good vegetation on the site.

## **Grizzly bear conservation**

The study provides recommendations for conserving the [grizzly bear](#)

population. "We see that by reclaiming industry roads after industrial use and preventing recreational use, we can substantially reduce displacement of the bears and also reduce poaching," says Boyce, adding that although legal hunting of grizzly bears has been banned for 10 years in Alberta, poaching continues to be a major problem. "From a conservation standpoint, bears need protection, but their habitat requirements are quite flexible."

Boyce notes that though the reclaimed sites are vegetated and productive, they are nothing like the original landscape. "It will take at least a hundred years before the landscapes return from grassland to a forest."

However, preventing industrial roads from providing blanket access to the landscape can maintain the habitat value of the areas for wildlife. "Reclamation is absolutely essential," says Boyce. There are industrial sites in the province that have not been reclaimed. It's almost criminal."

This year marks Boyce's 40th anniversary as a university professor. His bear studies in the Cadomin region on the province started in 1999, the year he arrived at the U of A.

The findings, "Large Omnivore Movements in Response to Surface Mining and Mine Reclamation," were published in January in the *Nature* journal *Scientific Reports*.

**More information:** Bogdan Cristescu et al. Large Omnivore Movements in Response to Surface Mining and Mine Reclamation, *Scientific Reports* (2016). [DOI: 10.1038/srep19177](https://doi.org/10.1038/srep19177)

Provided by University of Alberta

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