

When grizzly populations expand, they run up against more armed people. This has resulted in unsustainable mortality for bears, especially where livestock graze on public land. Many more grizzlies are ending up dead in recent years. Same for confrontations in elk hunting camps in the backcountry. Bears learn gunfire means dinner and they smell and approach gut piles where they're frequently killed.

Is this the future or is there a solution? **Grizzly bears** are protected under the Endangered Species Act, but their mortality rate is exploding mainly from human conflicts. Bears are expanding their range, largely due to food shortages in places like the Greater Yellowstone Ecosystem. Grizzlies are confronted by armed people at cattle ranches and locations of unsecured foods and garbage.

Range expansion by bear populations is important for their long-term survival for two main reasons. One is a change in their food base due to climate warming. As plants and animals adapt, often by moving north, individual bears must explore new areas to survive. When they appear, people often respond with fear and alarm. If we hope to have them avoid extinction, changes in our daily routines are needed.

This includes securing attractions, in some cases by erecting inexpensive electric fences. The latter have been demonstrated as effective since the early 1970s, for example around commercial bee yards in Alberta where I did field studies aimed at protecting honey producer businesses from black bears. A second reason range expansion is important for current grizzly populations is to reduce inbreeding by connecting small, isolated populations (like those in the Yaak of NW Montana). There is sufficient wild habitat left in Montana if grizzlies can get to it.

Bears that show a predilection to investigate new habitat have been labeled explorers. The terms explorer or innovator may be seen as a cultural trait, a learned ability; we must advocate for protection of these individual bears that are most at risk from people. In this way we can save our small bear populations. Some concerned ranchers, like those in Tom Miner Basin north of Yellowstone National Park, have supported bear protection. Special protection of explorer types is crucial because they innovate in finding new grizzly habitat and foods when climate warming causes plant and animal declines. These bears are the harbingers of adaptive types or cultures.

We all need to protect these bears if we are going to have **grizzly bears**. The "explorers" or innovators come from small core populations that generate them. In his publications Valerius Geist stressed the importance of innovators as an adaptive phenotype promoting population survival and expansion. Explorers have personality traits that involve boldness, aggressiveness, activity, exploratory tendency, and sociability.

Cultural differences in grizzly and black bears are explained in my recent book *One of Us: A Biologist's Walk Among Bears*. These traits can lead to better relationships between humans and grizzlies because bears can habituate to human presence if we stop harassing and killing them. We see this cultural change in bears on salmon streams like Brooks River in Alaska, where people and bears have occupied the same area for at least 40 years without any serious injuries to people.

This appeal may seem paradoxical, coming from a guy who was almost killed in Yellowstone by a grizzly. I surprised and approached one far too close. But not long after recovering I returned to bear behavior studies, mostly on salmon streams in Alaska and coastal British Columbia. We have the knowledge and tools to stop the decimation of **grizzly bears**. Now we need the will to act.