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Study Points To Value Of Greater Yellowstone Ecosystem For Future of Wolverines

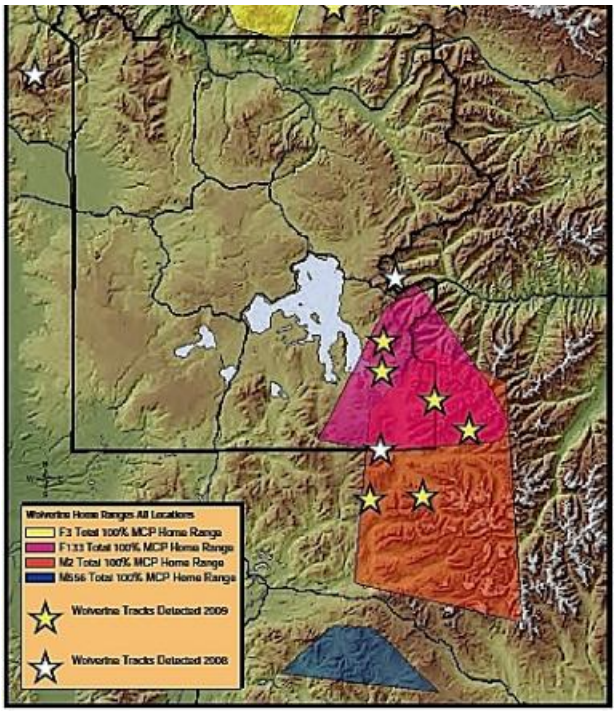
Submitted by Kurt Repanshek (/users/kurt-repanshek) on May 23, 2011 - 1:17am

A four-year search for wolverines in Yellowstone National Park (http://www.nps.gov/yell) and the ecosystem neighboring the eastern half of the park detected surprisingly few of the carnivores, but concluded that the park has increasingly valuable habitat that could help the species avoid extinction in the contiguous United States.

From 2005 into 2009 researchers from the U.S Forest Service and Northern Rockies Conservation Cooperative (http://www.nrccooperative.org/), underwritten by the Yellowstone Park Foundation (http://www.ypf.org), crisscrossed roughly 8,000 square miles of the park and portions of the adjoining Absaroka-Beartooth Mountain Range in Montana and Wyoming.

The goal was to better define presence of the small, but feisty, carnivore in the park and greater Yellowstone ecosystem. But the results were disappointingly small. Just four wolverines were captured during the study period, although biologists were also able to monitor three others that previously had been captured and fitted with transmitters by Wildlife Conservation Society (http://www.wcs.org/) biologists.

We documented resident wolverines only in the Absaroka-Beartooth Wilderness (north of the Yellowstone National Park boundary) and the Thorofare region (Washakie and Teton Wildernesses, and south-east portion of the park). We failed to document residents in the North Absaroka Wilderness and vicinity, an area of apparent prime habitat that extends south of Cooke City to Sylvan Pass and that includes the Upper Lamar River and Sunlight Basin. We did not detect wolverines in the Red Mountains or the Washburn, Snake River, and southern portion of the Gallatin Ranges. However, the Wildlife Conservation Society documented resident wolverines



A four-year search for wolverines in Yellowstone National Park found few of the carnivores. Top photo, by Kelsey Gabrian, and graphics reflecting the search area and where wolverine tracks and home ranges existed, via Wolverine Conservation in Yellowstone National Park report.

with home ranges that extended into the park along the northwest and southwest boundaries, individuals associated with well-established populations in the northern portion of the Gallatin Range, the Madison Range, and the Teton Range. Although many areas of our study area did not support residents, wolverines commonly used it during dispersal and for periodic forays, behaviors that may explain the occasional historical sightings and anecdotal information on wolverine occurrence in areas such the southern Gallatin Range.

Jeff Copeland, one of the authors of the resulting report, ***Wolverine Conservation in Yellowstone National Park*** (http://www.greateryellowstonescience.org/download_product/3198/0), said the research team was left groping for an answer as to why so few wolverines were spotted in Yellowstone during the field research, which identified many areas of the park with prime wolverine habitat.

"That was a huge question for us," Mr. Copeland, one of the world's foremost wolverine researchers who recently retired from the Forest Service, said Friday. "We were a little bit baffled. There is pretty good historical presence evidence for the Absarokas that we just expected that they would be there and the habitat looks right. So why we couldn't find wolverines there we really don't know.

"We could speculate, but nothing that we did or saw provided us with any insight as to why that was."

Indeed, despite various research projects that have been conducted down through the years, little is known of wolverines and their behavior. A circumpolar species native to breal, sub-alpine, and alpine regions of Asia, Russia, Europe, and North America, the species once roamed from Maine west to Washington and south along the Rocky Mountain spine into northern New Mexico. By 1920, though, wolverines were nearly extinct in the continental United States, a victim of poisoning and heavy trapping for its fur.

Last December, when the U.S. Fish and Wildlife Service agreed the wolverine should be given protection (http://us.vocuspr.com/Newsroom/Query.aspx?SiteName=fws&Entity=PRAsset&SF_PRAsset_PRAssetID_EQ=112371&XSL=PressRelease&Cache=True) under the Endangered Species Act, it said wolverine populations currently are restricted to the North Cascades Range in Washington and the Northern Rockies of Montana, Idaho, and Wyoming. It did note, additionally, that at least one individual wolverine was known to inhabit the Sierra Nevada and one in the southern Rocky Mountains, saying that "both are thought to be recent migrants to these areas."

Along with the seven individuals that turned up in the greater Yellowstone search, in recent years wolverines have been tracked in Grand Teton National Park (http://www.nps.gov/grte), found on the landscape containing North Cascades National Park (http://www.nps.gov/noca), and photographed (http://www.artforconservation.org/store/product_details.php?pr=2986) in Rocky Mountain National Park (http://www.nps.gov/romo). Glacier National Park (http://www.nps.gov/glac) boasts the highest densities of wolverines in the 48 contiguous states, with between 40 and 50 individuals estimated, according to Mr. Copeland. Though Yellowstone doesn't feature as much optimal wolverine habitat as does Glacier, the wildlife biologist said, the park is twice as large and does contain habitat that should support at least 8-10 individuals.

"You know, these things vary. Populations fluctuate over time," he said. "We may have just hit it at a bad time. There was some discussion for the potential for displacement by wolves. Most of the historical occurence was evident prior to the reintroduction of the wolves. ... We had great hopes in the beginning that we would be able to monitor enough animals for a long enough period of time that we might actually be able to see some relationships between wolverines and some of the other carnivores in the park, but it just didn't work that way."

Throughout history, this 30- to 40-pound ball of tenacity has been known by a smattering of names, and none very flattering. There was “skunk bear” and “Indian devil,” and to 19th-century French fur trappers the animal was “carcajou.” That’s how the trappers’ tongues stumbled through the Micmac Nation word “kwi’kwa’ju,” which translates to “evil spirit.” And the trappers no doubt viewed wolverines as evil spirits, for they have a long and well-deserved reputation for not only raiding trap lines but breaking into cabins to forage trappers’ provisions.

And yet, admiration also flows for wolverines.

"I wonder if there is another inhabitant of northern wilderness that so excites the imagination,” Olaus Murie, the noted American wildlife biologist and conservationist, once wrote. “Merely seeing those tracks in the snow made it a red-letter day.”

Climate change could make those tracks harder to find, though. In its determination that wolverines need help, Fish and Wildlife Service officials specifically pointing to changing climatic conditions that could shrink the snowfields that wolverines rely on for denning.

“The threats to the wolverine are long-term due to the impacts of climate change on their denning habitat, especially important to assist the species in successfully reproducing,” said Steve Guertin, who heads the service’s Mountain-Prairie Region. “If we work with state and other partners to help the wolverine now, we may be able to counter the long-term impacts of climate change on their habitat and keep them from becoming endangered.”

According to the agency, "Data and analysis requested from the University of Washington Climate Impacts Group and the U.S. Forest Service Rocky Mountain Research Station predict a reduction of wolverines’ cold and snowy habitat of 63 percent by 2099. As wolverine habitat is reduced, the Service expects the remaining habitat will become more fragmented, with distances growing between habitat 'islands.' Evidence suggests this diminished and fragmented habitat will support fewer wolverines with reduced connectivity between populations. The impact of climate warming may exacerbate the impact of other threats, such as recreational use of habitat, infrastructure development, and transportation corridors."

The higher elevations of Yellowstone and the Absarokas just might be able to withstand the harshest impacts of climate change and provide wolverines with a refuge, said Mr. Copeland.

A recent paper currently awaiting publication examined how climate change might impact wolverines and "suggests that available habitat, at least as it is defined by the distribution of persistent spring snow, will decrease fairly dramatically across the western United States, but there will be areas that will maintain a persistent snowpack even in a warming climate," the biologist said.

"One of those areas will be up in the Yellowstone ecosystem. It's probably just simply related to its high elevational character, which will allow for snow to persist longer into the spring," he continued. "So if we assume that that measure is effective in defining habitat, then the Yellowstone ecosystem could be one of the more valuable areas for wolverine presence in the future."

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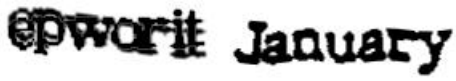

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