How does Idaho count wolves? Critics say state uses 'smoke and mirrors,' misleads public

March 16 2023, by Nicole Blanchard

Credit: CC0 Public Domain

As a scruffy gray-and-brown wolf stood in a grassy Idaho clearing, it fixed its gaze straight ahead. Another dark wolf trotted down a muddy

dirt road. A third stepped over gravelly terrain, its mouth open as it panted in the sun. Motion-triggered cameras, placed by the Idaho Department of Fish and Game, snapped photos of the wild animals along trails. Later, the agency would use those photos to help determine the number of wolves residing in Idaho.

But the accuracy of that method has been put into question.

For the last several years, the agency has used cameras placed throughout the state to record timed and motion-triggered images to count the number of wolves in Idaho. Critics have said its methods—in particular the motion-triggered photos—are seriously flawed.

Scientists, conservationists and even Idaho students have cited a paper written by Montana State University ecology professor Scott Creel that alleged major issues with the wolf population estimate model Idaho implemented in 2019.

Critics of the technique told the Idaho Statesman the agency still hasn't addressed their concerns just before the commission is due to decide on a management plan that could reduce the state's wolf population by two-thirds. An incorrect population estimate could eventually put wolves back on the Endangered Species Act list if their numbers are allowed to drop too low.

"Having an accurate estimate of the wolf population is key to any sort of management policy that Idaho Fish and Game does," Michel Liao, a Timberline High School senior who publicly criticized the method at a Fish and Game Commission meeting, told the Statesman in an interview. "It's like running a grocery store without knowing how much supply you have."

Fish and Game researchers told the Statesman they stand by their

population estimates and are actively fine-tuning them. But skeptics fear a plan that OKs a drastic population cut could have devastating effects—like the total eradication of Idaho wolves—if the agency's methods are flawed.

How does Idaho count wolves?

For years after wolves were reintroduced to Idaho in 1995, Fish and Game counted them by using radio collars, observing wolf packs to create an estimate of average pack size and applying that estimate to the total number of known packs in the state. It was expensive and labor intensive, Fish and Game state game manager Jon Rachael told the Statesman.

"When we were doing that, nobody really thought it was great," Rachael said. "We were working harder and harder, and we weren't even treading water."

Rachael said the agency couldn't say how accurate its estimates were, and providing an annual count became more difficult as wolves spread across the state.

Twenty years after wolves were reintroduced, Fish and Game began looking into other counting methods. It worked with researchers at the University of Montana and University of Idaho to develop the model it now uses, which relies on a network of 500 trail cameras that take a photo every 10 minutes as well as when they detect motion—a detail researchers are highly skeptical of.

Fish and Game then uses artificial intelligence to analyze the resulting millions of photos, finding those that contain wolves and applying a statistical model called a "space-to-event" model that calculates the average amount of space between wolves. Using that average,

researchers create a population estimate.

In an interim report published in February 2022, Fish and Game researchers said the method is based on the idea that if there are more wolves in one survey area, you would have to sample less space—or look at fewer photographs—in that area before finding a wolf.

Critics said the agency's camera placement and use of motion-triggered images could lead to an overcount. Idaho would be at risk of federal intervention if its wolf count fell to around 150 animals or fewer.

Fish and Game fully switched to the camera estimation method in 2019. That year, it estimated Idaho had 1,545 wolves. In 2020 and 2021, lawmakers made broad expansions of wolf hunting and trapping seasons and removed wolf bag limits.

By 2022, Fish and Game wildlife research manager Shane Roberts said, estimates showed a 13% drop to 1,337 wolves. Rachael told the Fish and Game Commission in January that a new management plan proposed whittling the number even further, to an estimated 500 wolves.

Critic says model was bent, likely broke

Liao, the Timberline High student, said he didn't know much about Idaho's wolves until 2021, when the Idaho Legislature vastly expanded wolf hunting and trapping. He learned his school had "adopted" a pack near Idaho City in 2003 through the Nez Perce tribe, which had primary responsibility for managing Idaho's wolves at the time.

Students and teachers tracked the animals for years and made field trips to study them. Later in 2021, Liao found out pups from the school's pack had been killed by Wildlife Services agents in their den.

Then he saw Creel's comments, which were submitted in 2021 to the U.S. Fish and Wildlife Service as it weighs reinstating Endangered Species Act protections for Rocky Mountain wolves. Creel, who studies large carnivore populations, criticized methods used for wolf population estimates in Idaho and Montana.

The points Creel made in his paper have become leading arguments for opponents of Idaho's wolf policies, including Liao, who has testified in front of the Fish and Game Commission twice.

Many of Creel's criticisms of Idaho's method focus on a paper Roberts co-authored that was published last year. In it, the authors used motion-triggered cameras to gather images for the space-to-event wolf counting method.

According to Creel and the researchers who pioneered the method, motion-triggered cameras can't be used with the space-to-event model to accurately count wolves. The model calls for instantaneous photos, while motion-triggered images introduce the need for researchers to calculate how fast an animal is moving.

Fish and Game's current method is slightly different from the paper Creel criticized. It uses both time-lapse photography and motion-triggered cameras, and a different system for camera placement.

Still, Creel told the Statesman in an interview, his initial concerns hold water against the official Fish and Game model. For instance, the agency is still using motion-triggered camera images for part of its analysis.

The original model also requires that researchers use randomly placed cameras. Fish and Game instead aims its cameras at trails or roads where wolves are more likely to travel.

In an interview, Roberts told the Statesman that's because wolves almost exclusively travel on established roads or game trails. But researchers say the method would skew toward an overestimation.

Creel said had the camera placement been random, "99.999%" of the agency's photos wouldn't have wolves.

"So instead of just acknowledging that (the model) didn't work, they're instead bending the assumptions and hoping that they haven't bent them so bad that the method broke," Creel told the Statesman. "I'm fairly persuaded they've bent the assumption so badly that the method broke."

Creel said the space-to-event method was developed on elk populations, and the researchers who created it said it's "more useful for common species than for very rare or elusive animals." Creel said wolves are just that—a difficult-to-detect species that's a poor fit for the current counting method.

Adrian Treves, an environmental studies professor at University of Wisconsin-Madison, has also been critical of various states' wolf-counting techniques. In a paper critiquing Wisconsin's method, Treves and his co-author, Francisco J. Santiago-Ávila, also expressed concerns about methods in Idaho and Montana.

Treves told the Statesman that Wisconsin wildlife officials had largely ignored his critiques, and Idaho wildlife officials seemed to be doing the same thing with Creel's comments.

"I feel like the agency just views us as like biting flies: They swat us away with the power of the state government, and they forge ahead with the science that is demonstrably not the best available," Treves said.

For their part, Idaho Fish and Game officials said they've heard few

complaints about the model. Roberts and Rachael defended the method despite its inconsistencies with the original space-to-event counting method.

"There are things we do—like pointing (cameras) at trails—that are a violation of a random camera placement model assumption," Roberts said. "As wildlife biologists using statistic models, there are few natural systems that hit every statistical model assumption. We try to match the best we can."

Roberts said when the agency must break a method's rules—for example by using motion-sensored cameras—it experiments to see how its changes impacted the results. In 2022, for example, agency officials compared its camera wolf count with population estimates from genetic samples they collected from wolf feces. In two of the three years, they "closely mirrored" one another.

Roberts said the agency concluded the camera method was "pretty robust" despite the inconsistencies with the original model.

Critics say Idaho has political motive on wolves

Despite Fish and Game's assurances about its technique, critics said they view the agency's motivations as political, not scientific.

Dick Jordan, a former Timberline High School science teacher who led the push to adopt the school's pack, said he thinks Fish and Game is "using smoke and mirrors to mislead the public to think they've got a sound estimate" on wolves.

"We're not seeing the best of science being used, and that's what really bothers me," Jordan said. "It's sad when the science and the math is not looked at with scrutiny and with a fine-tooth comb. The politics set the

stage in a state like Idaho."

Jordan and Wood River Wolf Project co-founder Suzanne Stone said Idaho doesn't count any other wildlife species in the same way as wolves or manage any other species as aggressively. Indeed, Fish and Game isn't using the space-to-event model to create official estimates for any other species, though researchers told the Statesman it has been tested on mountain lions.

Stone said there's "no scientific justification" for the agency's proposed wolf management plan, which would reduce wolf numbers from its estimated 1,300 to 500. What's more, she and other critics said, if Fish and Game's population estimate is off, wolf numbers could drop even lower than 500.

"We could lose most if not all of our wolves, and we've done it before," Stone said.

"Even though you want to trust the state wildlife agency, it's being manipulated both internally and externally by the state Legislature, by people who are very anti-wolf," she added. "And it's affecting the decisions they're making and how they're making them."

Fish and Game officials acknowledged emotions run high on all sides of wolf issues. Rachael said trusting a complex method like the camera-counting technique can require people to take a "leap of faith." He said some people believe the agency is vastly overcounting the animals, while others are convinced Idaho's wolf population is twice the Fish and Game estimate.

"There's people that aren't really interested in believing anything different than what they already believe," Rachael said. "We're not going to satisfy those people. We'll continue to do the best we can,

implementing the best science we have available, and when we find out there are issues with that, we take steps to make it better."

State wildlife officials said they'll forge ahead with camera-based counting methods. Stone and Creel said the agency would be better off with tried-and-true methods that include radio collaring, animal surveys and good, old-fashioned counting. Jordan said he's the first to admit he doesn't know what the best method would be.

"I can only pray there would be a sensible approach that brings the public in and brings the scientists in," Jordan said. "I've lost all faith in Fish and Game biologists that have to answer to the political powers that be."

Citation: How does Idaho count wolves? Critics say state uses 'smoke and mirrors,' misleads public (2023, March 16) retrieved 17 July 2024 from https://phys.org/news/2023-03-idaho-wolves-critics-state-mirrors.html