

Washington's wolf population likely larger than estimated

Two years of study using dogs

By **NICHOLAS K. GERANIOS**
Associated Press

The number of wolves in Washington state is likely much higher than previously thought, according to a University of Washington researcher who spent two years studying the animals using scat-sniffing dogs.

Samuel Wasser said his dogs detected 95 wolves in one area of Stevens and Pend Oreille counties, in the rural northeast corner of the state, during the 2016-17 season. That approached the total number of wolves wildlife officials estimated for the entire state.

The state Department of Fish and Wildlife a year ago estimated Washington had a minimum of 122 wolves, grouped in at least 22 packs, and 14 successful breeding pairs.

Wasser told a state Senate committee last week that it's possible the population of wolves is closer to 200 animals.

State wolf managers also addressed the panel, saying Washington's wolf population has grown on average 30 percent per year.

"We are seeing a wave of recovery," said Donny Martorello, head of wolf policy for the Department of Fish and Wildlife. "This is indicative of adequate protections, available habitat and suitable prey base."

Washington also has fewer conflicts between wolves and cattle than many other states, he told the Senate Agriculture, Water, Natural Resources and Parks Committee.

The question of how many wolves roam the state is important because it deter-

mines whether wolves are considered a protected species under state and federal law.

Wolves are a state endangered species throughout Washington, where they were all but wiped out early in the last century but started returning from neighboring Idaho and Canada after the turn of the new century. They also remain federally protected in the western two-thirds of the state, where killing wolves is prohibited.

According to Washington's wolf recovery plan, wolves can be delisted after 15 successful breeding pairs are documented for three consecutive years, or after officials document 18 breeding pairs in one year.

Most likely, the state will document 18 breeding pairs in one year before they document 15 successful pairs over the course of three years, Martorello said.

In any event, those who wish for the removal of all wolves will not get their wish, the wildlife department's director, Kelly Susewind, told the committee.

"Wolves are doing quite well. They're here. They're here to stay," Susewind said.

The return of the wolves is problematic in ranching areas because they sometimes prey on livestock. To the dismay of some conservation groups, that has prompted the state to track and kill several wolf packs in recent years.

While many urban residents support the return of wolves, livestock producers on the front lines — in the lightly populated northeastern part of the state — are wary.

A state lawmaker from that rural area, where Wasser conducted his study, introduced a bill in the Legislature to create a wolf sanctuary in the heavily residential

Seattle suburb of Bainbridge Island. Republican state Rep. Joel Kretz's bill was in response to the legislator from Bainbridge Island introducing a bill to ban the killing of wolves.

"I'm sure the gray wolves will seek to placidly co-exist with the dogs, cats, horses, sheep, people and other peaceful animals of the island," said Kretz, of Wauconda.

His bill also said the state can kill wolves only after "four dogs, four cats or two children have been killed."

Wasser and his team used dogs to sniff out scat of different animals. By analyzing the excrement, biologists can determine whether an animal is malnourished, pregnant or stressed.

Wasser's team is also looking at how wolves and smaller predators, such as coyotes and bobcats, interact. Preliminary findings indicate wolves are avoiding coyotes.

Preliminary analysis of the scat composition shows wolves have been eating mostly deer, followed by moose and elk. Coyotes and bobcats have been eating mostly snowshoe hares.

Washington is a good place to study wolves because the animals haven't spread to all areas of the state, Wasser said. Studying areas where wolves are not widely found, such as south of Interstate 90, and observing how the ecosystem responds will shed light on the interaction between wolves and other predators.

The environmental group Conservation Northwest welcomed Wasser's findings on wolf numbers.

"Wolf recovery is progressing well in Washington," the group said. "Despite a few high-profile events, the rate of wolf mortality is much lower here than in Rocky Mountain states."

Frogs under threat by climate change

A new study projects extinction

By **ERIN ROSS**
Oregon Public Broadcasting

The Northwest is looking at another dry, low snow-pack year. That's bad news for the frogs, salamanders and newts that live at high elevation in Oregon and Washington state.

A new study, published in the journal Ecological Society of America, finds that increasing temperatures and decreasing snowpack could put populations of the Cascades frog, *Rana cascadae*, at risk of extinction by 2080.

The results were something of a surprise to the researchers, who thought that warmer, longer summers might actually help the high-elevation frogs. A longer summer would mean a longer growing season and more time for the frogs to load up on insects and get ready for hibernation.

"It started out as a potential good-news climate story," says ecologist Amanda Kissel, who was at Simon Fraser University in British Columbia at the time, and is now with Conservation Science Partners in Colorado.

But that good news wasn't reflected in the data. Instead, they found that snow-light winters and long summers meant drier ponds. And that meant less availability of crucial habitat for the frogs, which are listed as "near-threatened" by the International Union for Conservation of Nature.

For 15 years, researchers have trekked miles through the early-summer Olympics snow to their study sites, where they tagged adult frogs and tracked their abundance. Kissel says Olympic National Park is a perfect place to study the effects of climate change on frogs because it's protected from



University of Washington

Cascades frogs like this one face multiple threats: they're eaten by non-native trout, and now, increasingly, they're losing habitat to climate change.

the sorts of land use changes, like logging, that hurt or help native animals. It's also isolated, and amphibian-killing diseases such as chytrid fungus are rare there. The results were clear: warm, dry winters meant less frogs.

Then, they combined that data with models of how specific watersheds and ponds were expected to change because of global warming.

That data showed that warmer summers had the biggest impact on tadpoles. Unlike adult frogs, tadpoles are fully aquatic. They have gills and lack lungs, and they can't breathe outside of water. Most of the ponds tadpoles hatch in are seasonal and fed by snowmelt, so some disappear by the end of the summer. If they dry up too soon, so do the tadpoles. Their model showed that 17 percent more tadpoles would die due to pond drying by 2080.

Adult frogs won't escape, either. Adult survival is expected to decrease by 7 percent by 2080 — and since the adults lay the eggs, that has a big impact on the total population numbers. It's possible that warmer winters could harm the frogs, too, and not just summers. Normally, they hibernate all winter and save energy. But the warmth could temporarily wake them up, caus-

ing them to burn calories that they can't replace until snowmelt.

Seventeen and 7 percent may not seem like a lot, but they add up. By 2080, populations of frogs would be going extinct in 62 percent of the scenarios they ran. And this was under a middle-of-the-road climate scenario, one where some progress is made on curbing emissions. It could look a lot worse.

Although this study only looked at one species of frog in one location, Kissel says the research applies to amphibians throughout the Northwest. Salamanders and newts also rely on these seasonal ponds to reproduce and face the same challenges.

There might be a way to save the frogs and other native amphibians from extinction: Not all of the ponds in the Cascades evaporate by the end of summer. The larger lakes could serve as "climate change refuges" for the frogs, Kissel says. But many of the lakes are also stocked with non-native fish for anglers, and those fish eat amphibians.

University scientists have been collaborating with national park officials to figure out which lakes are best-suited to frogs, and which lakes would be the easiest to remove trout from.

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