OUTDOORS

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Locating, counting golden eagles can be 'like a rodeo'

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The golden eagle is one of best-known birds of prey in the Western United States, and you have a good chance of spotting one whether you're just outside Laramie, in the high plains of the Dakotas or even crossing the deserts of Nevada.

One problem for wildlife managers, though, is that no one really knows how many golden eagles are out there or whether that population is growing or declining. They occupy large territories, so how has increased urbanization affected them? That's where a team of scientists at Western EcoSystems Technology Inc. comes in.

The Cheyenne-based consulting company, which also has a Laramie office, has been conducting golden eagle surveys for the last few years for the U.S. Fish and Wildlife Service by flying around the country.

The latest round of sampling took place earlier this fall, after the young had learned to fly but before Candian eagles migrated south for the winter. Scientists counted actual birds instead of nests because a significant population of the eagles, called floaters, don't breed and instead wait to fill an unoccupied territory.

Their survey window was only about four weeks long, so two teams of scientists had that much time to cover the entire West in their Cessnas at 100 miles per hour, 300 feet above the ground, looking for eagles. Their boundaries were four management areas determined by the wildlife service based on ecosystems, and they didn't even enter California because so much territory has been lost there

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that eagles are hard to find.

"It's kind of like a rodeo when you're doing these surveys," said wildlife biologist Rhett Good. "You're in a different town each night. It's a neat way to see the whole country."

Statistician Ryan Nielson explained that by using a technique called distance sampling, scientists can use the number of birds they spot to calculate how many they didn't see, and then use that to calculate how many are actually out there.

"It's not just based on how many birds we count. It's also based on how many birds we think we missed," he said.

Once the spotters saw an eagle, they circled the plane back around to confirm the sighting and take a GPS location. By measuring the distance of the bird from their route, they can determine the difference in the number of birds they spotted close to the plane versus the number they saw at a given distance away. That difference provides a way to calculate how many birds weren't spotted, which allows a calculation of density.

Nielson said the distance sampling method of counting wildlife was developed by professors at Colorado State University and the University of Wyoming.

"It does have a regional basis, which is kind of cool," he said.

The big birds sit about three feet high, have a seven-foot wingspan and have no natural predators to hide from, so they weren't exactly hard to spot, Nielson said.

"They tend to be perched in prominent locations — fence posts, tops of barns, powerlines, rocky outcrops — and they don't hide out behind rocks or behind bushes," he said.

And when a small plane full of scientists circled an eagle, it wouldn't even look their direction.

"Those big birds could care less that we're out there flying," Nielson said. "They don't even move."

After completing the third year of sampling, the scientists will be able to detect population trends with more certainty than anything yet.

"We've established a baseline, so in future surveys we can tell if they're up or down," said Good. "It's a widespread bird, but they aren't that common."

So how many golden eagles are out there? The 2003 survey they did came up with about 27,000. Good and Nielson said that while the results of 2006 and 2007 surveys aren't official, the results are similar, suggesting that the overall population hasn't changed in the past several years.

Surveyers didn't fly over military bases, forest fires or bodies of water, so the estimate is probably conservative, they said. They also didn't fly over cities or land above 10,000 feet in elevation.

Another factor the scientists tried to determine was the age of the eagles they did see, based on their color. Juveniles have white tail feathers and are darker overall. Younger birds are more sensitive to habitat changes, and a change in their numbers would precede an overall population decline.

That number could be a starting point for figuring out how many eagles the existing habitat can support, and whether today's population is at a healthy level or not. At the very least, it's a number that gives scientists a greater understanding of how well the golden eagle is surviving in the West.