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## Counting Birds at the End of the World

Flying biologist Heather Wilson’s unique skills take her to the Alaskan skies.

BY ERINN SPRINGER

“Do you do well in small planes?”

I don’t fully understand the question until the horizon tilts to 45 degrees, and the plane cabin hops over the wake of our jet stream. I’m in the jump seat of Heather Wilson’s Cessna 206, and until today, the smallest plane I’d been in was the commercial 40-seat Ravn Air flight that brought me here to Alaska’s Cold Bay.

Behind the yoke is Wilson, a biologist pilot for the United States Fish and Wildlife Service. She’s not your typical cruising-above-cloudline flier: With wings at 500 feet, Wilson skillfully and swiftly banks the plane towards the lagoon below, locking her eyes on a blur of flying Pacific black brant geese while she recites what she sees into the helmet-wired audio recorder.

We are here to count birds—thousands of them.



A persistent gray sky hangs heavy and low, blanketing everything beyond an arm’s length above my head.



Cold Bay has a small tangle of dirt roads connecting a few dozen free-standing houses and community centers, adorned with caribou antlers and parked ATVs. The old church, previously a military pre-fab Quonset hut with a DIY board-and-nail steeple, held its final mass in 2008 and is now used for storage.



Wilson transcribes her audio recordings in a corner table at the Izembek NWR headquarters.



“I think of the Cessna 206 as a Swiss army knife. It can do so many things well... and that makes it a very useful plane for aerial survey work,” says Wilson.

At the tip of the Alaskan peninsula, Cold Bay occupies a strip of land hugged by two tides emanating from the Pacific Ocean to the south and Bering Sea to the north. Cold Bay is 768 miles south of the Arctic Circle and 335 miles west of Honolulu: a place so remote that its permanent residents include 38 households and a rotating cast of brown bears, wolves, foxes, caribou, and lots of birds (at this time of year, about a quarter of a million).



After checking the weather and waiting for the 8:30 a.m. sunrise, Wilson drives Ol' Red, a much beloved Ford, to the USFWS hangar to begin the pre-flight protocol.

Every fall, thousands of migratory waterfowl take refuge in the lagoons of the nearby Izembek National Wildlife Refuge (NWR) and State Game Refuge, including the entire population



(roughly 160,000) of Pacific black brant geese. Peppered amongst Emperor geese, Canada geese, and Steller's eiders, brant annually reunite with their relatives to stage, or fatten up, on the world's largest eelgrass beds before setting forth to their respective wintering grounds. Some will travel to protected bays along the Pacific coast of the U.S., though most are headed for Mexico's Baja Peninsula, and an ever-growing portion—about 30%—remain in Izembek due to the warming winters.



Heather Wilson.

Wilson has been a part of the USFWS Migratory Bird Management program since 2007. One of a small group of people who have done this survey since its inception in the 1980s, she has flown more than 4,000 hours, and endless miles, over the wildest reaches of the American north. Counting the birds is extremely difficult, and necessitates the honing of an unusual skill. Before there were computer simulations, one way of sharpening the skills required for being an ocular counter was to throw a handful of rice on a table top. Using one's best cumulative spatial judgement, the trainee estimates how many grains there are as fast as they can. But, unlike rice, birds fly away—quickly.



On this flight, even I was part of the crew. The diligent pre-flight protocols and the skilled precision of Wilson's agility behind the yoke—all dialed into weather fluctuations and the birds' unpredictable movements—amounted to a once-in-a-lifetime experience.

That's no deterrent for Wilson. "I identify with air," she says. "I enjoy every environment, but I feel the best in open, high places, especially the air, and flying. It just seems natural to study animals who are the same way." She may be observing the geese, necessarily apart from them, but she relates to them, in a way: "The more you fly in windy places and among the birds, the more it becomes a part of you; they way I think it's a part of them."

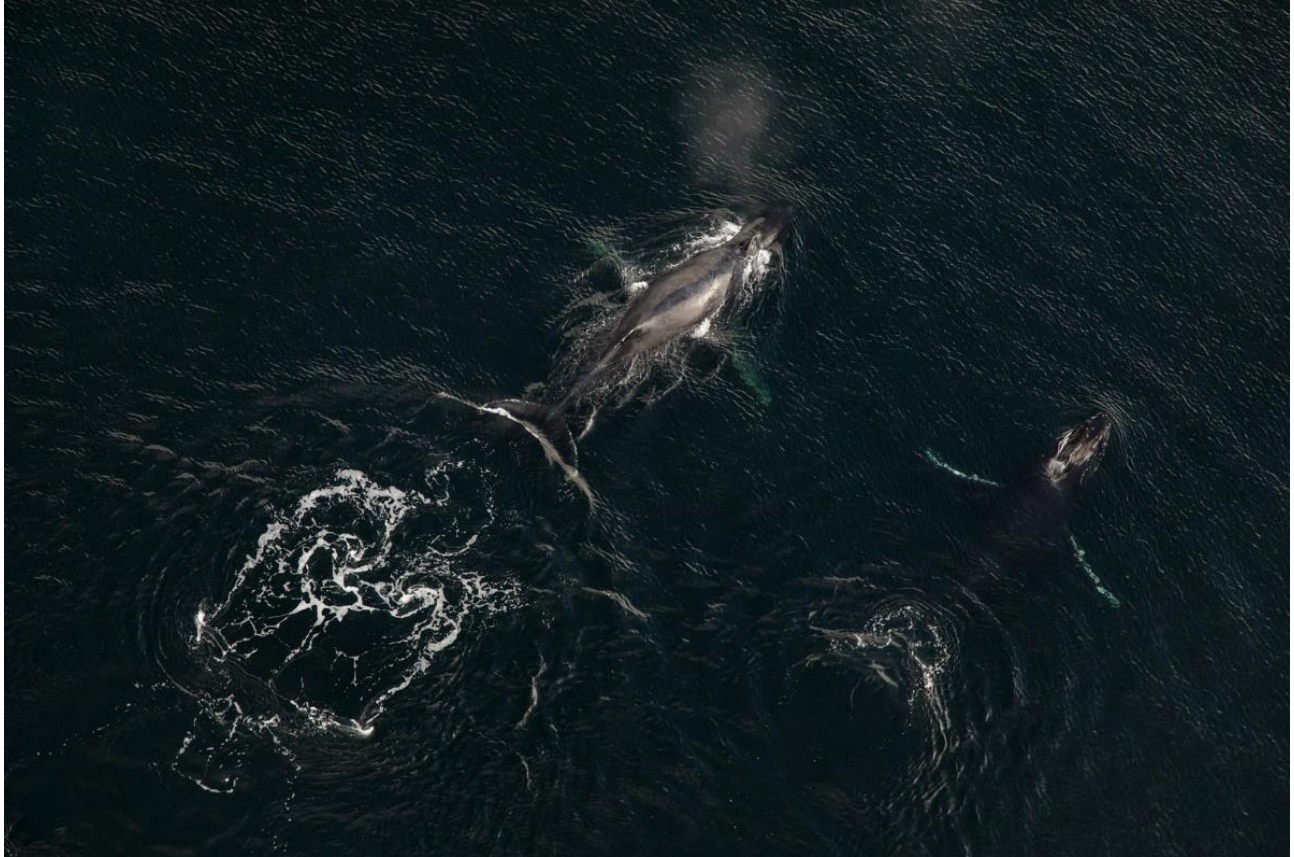
"The biologist pilot sect is a really special group. It's a labor of love," Wilson says. "The more you fly in windy places and among the birds, the more it becomes a part of you, the way I think it's a part of them."



“Our coast line is thawing,” says Wilson. “I see it out my cockpit window, and combined with less sea ice, there is less protection for the land, which creates a perfect storm for erosion. This affects not only the birds, but the people who live in these areas. A lot of the most productive habitat for breeding waterbirds is located along these sensitive coastal fringes. I’m not sure how the vast numbers of birds using these areas are going to adapt to the rapid changes, but I think I’ll see it within my career, and I hope we are doing our best to help them.”

Wilson’s work puts her at the frontlines of our changing climate, and her surveys inform wildlife regulations and conservation decisions. Being a biologist pilot, she says, is different to other jobs that require flight. “You always feel that you’re contributing to something bigger,” she says. “It’s not just about ‘getting there’; it’s our platform for observation, and ultimately conservation.”





In our search for brant, we saw walrus, harbor seals, humpback whales, sea otters, brown bears, and arctic foxes. It was a four-hour aerial safari. Ultrabright teal rivers unraveled into glassy seas and ATV paths wove through the wild shrubs. The open horizons and expansive wilderness felt still and uninhabited—with the small outpost of Cold Bay as the lone exception.

In contrast to the rapid decline of songbirds, waterfowl are thriving. Most waterfowl are highly adaptable creatures, and some of the changes wrought by a changing climate are actually beneficial to the brant. Land that once froze over by November is now staying fertile for months longer, providing increased habitat and abundant eelgrass. But as the thaw continues, this may not remain the case. How these alterations to habitat and timing will ultimately play out for the birds is a story that is still unfolding.



With an altimeter at anywhere between 125 to 500 feet, Wilson has fully adapted to life in the air. She banks, dives, and yaws every few seconds, constantly adjusting her view to ensure the most optimal lock on the blur of birds below.



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When I first heard of Wilson, I immediately thought of *Fly Away Home*, the 1996 film inspired by the work of naturalist William Sladen; it tells the story of a girl who trains a family of geese to fly south by following her homemade ultralight aircraft. Wilson too is the heroine of a modern environmental story between woman and bird. Her life's work has brought her to the skies to fly among the creatures she loves, above some of the planet's most precious lands. She seeks answers about the planet's health, and using the information she gleans, Wilson creates a portrait of our planet that displays the interconnection between land, birds, and people: a woman with wings.



“Cold Bay is a really important epicenter and stopover place for people and animals alike. The salmon, the birds, the weather, and the hunters are all [here] at the same time in the fall. No other place I survey has quite the same eruptive nature to it. [Our job] is to keep track of things in the background for people who enjoy the landscape. I always feel lucky to be afforded an aerial view of these huge wetlands across the state; it gives you the opportunity to develop a visceral feel of how places are changing from year to year.”



Joining Wilson on this particular survey is fellow USFWS wildlife biologist and bird fanatic Tamara Zeller. “Biologist pilots are important because they understand the science behind the data they are collecting,” says Zeller. “They have to have the technical skills to fly the airplane, but also the capacity to analyze what they are seeing and help contribute to management decisions.... When you know that your counts could influence whether a species can be hunted or is put on the endangered species list, I think you try harder to get it right. They have very unique role in conservation.”



As one of Wilson's frequent flyers, Zeller noted, "There is always some type of adventure that awaits. [She] is different than others I've worked with because she really goes after what she wants in life and in her career, and invests in the success of each project. She's had to break through so many stereotypes and barriers and is such an excellent role model—she has reinforced that the skies have plenty of room for women."