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Like Ducks and Penguins, With Nervous Stomachs



James Estrin/The New York Times

Cormorants on the roof of an abandoned building on Swinburne Island.

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The smell of Swinburne Island is the smell of the birds: layers of guano, decaying fish, salt water. It is a smell both tangy and rotten, and it intensifies as you fight your way through shoulder-high brush toward the bare branches where cormorants are nesting.



Colin Grubel looking for clues to the feeding habits of double-crested cormorants on Swinburne Island.



Researchers climbed onto Swinburne Island earlier this month to study the cormorants there.



Cormorants flee their nests when a predator approaches. Called devil birds by some, they are accused of depleting fish stocks.

Colin Grubel, a graduate student in biology at [Queens College](#), is delighted when he spies something on the ground — on close inspection, the mummified, half-digested body of a fish, poached in stomach acid. Mr. Grubel gets down on his hands and knees and slips it into a baggy. This is what he came for.

“It’s not necessarily glamorous, you know,” said Mr. Grubel, 30. “I pick up cormorant vomit. I’m not sure very many people would want that on their résumé. But I love it.”

The double-crested cormorant, threatened across the country during the 1960s by the use of the insecticide DDT, is a relatively new arrival to New York Harbor. The first documented sighting in New York City was in 1985. A census this year by a wildlife group counted 1,046 breeding pairs. On harbor islands like Swinburne — where hospitals were built long ago to quarantine contagious immigrants with yellow fever and cholera — they have built boisterous colonies, claiming once-human spaces for their own.

Their arrival has drawn mixed reactions. Cormorants are big and black, with sharp curved bills and a habit of vomiting when threatened. When they stretch their wings out to dry, they seem to be wearing the black cloaks associated with vampires. They are also mercilessly efficient marine predators, with the ability to fly like ducks and dive like penguins, which has not endeared them to fishermen (or, for that matter, anchovies).

Susan Elbin, an ornithologist, said that the cormorant’s recovery has tracked almost perfectly with the bald eagle’s. But a typical audience hearing about the eagle will “go, ‘Yay,’ ” while “when you say, ‘cormorant,’ they say, ‘Oh.’ ”

“I’ve heard them called ‘devil birds,’ ” said Ms. Elbin, a senior scientist at the Wildlife Trust, a group dedicated to protecting biodiversity that conducted the cormorant census. “They sit with their wings out like Dracula. They sit really low in the water — they’re built for diving. Maybe they look snakelike. There’s a lot of them. And they smell.”

This dynamic, referred to by biologists as “human-cormorant conflict,” has played out in one region after another as the cormorant population has recovered, thanks in large part to the Clean Water Act and a federal ban on DDT. Cormorants are expanding into new territory. In the Great Lakes region, fishermen have pressed for a mass killing of the birds, which they believe are depleting fish populations. Similar rumblings are coming from Long Island Sound, where fishermen are worried about the supply of winter flounder.

That is one reason Mr. Grubel is collecting vomit samples, an activity he cheerfully compares to “a treasure hunt.” Back in his laboratory, spending long days over “balls of flesh,” he is making a painstaking catalog of what cormorants are eating.

“I love the birds,” he said, “And at the same time I think the fishermen are great people,” with a strong grasp of trends in fish populations. “I’d like to do my part to help the fishermen understand the birds.”

This particular Thursday was hot, and the air in the harbor hung low and heavy as the researchers’ boat passed the Verrazano-Narrows Bridge and drew near Swinburne Island. The island, closed to the public, has the remote, overgrown look of an ancient ruin.

There are 264 cormorant nests on the island. The birds have made it their own; they have stripped trees of their bark, leaving them with the bleached smoothness of bones; they have whitewashed old walls and green leaves with guano; and they have turned the color of the ground itself to chalk.

Mr. Grubel, who grew up in Brooklyn Heights, has been making these trips for two years, gathering data for his master’s thesis. He grew accustomed, long ago, to the looks he gets on the subway when he rides home after a day’s work, smelling like a cormorant colony. His wife has made her peace with the presence of bagged vomit samples, which made their way into their home’s freezer when the Queens College laboratory’s space ran short. Most of his colleagues, he said, set their sights on exotic subjects: elephants, say, in Kenya. But his days on New York City’s islands intoxicate him.

“I’d love to be able to see Kenya someday, but I’m a Brooklyn boy,” he said. “There’s a lot of wild places in New York.”

As the boat approached the island, many of the birds flushed, rising off the branches and settling on the roof of an abandoned building. Sometimes, when Mr. Grubel ventures into a colony, he said, he hears thumping, as the birds regurgitate on their way to a safer perch.

It is not entirely clear why cormorants are such prodigious vomiters. Like many birds, they feed their young regurgitated fish, but they also vomit when approached by predators — perhaps to drop weight in preparation for flight, but possibly also to distract their predators. There is also, said John Waldman, a Queens College biology professor and Mr. Grubel's thesis adviser, the “nervousness theory.”

Whatever the explanation, the phenomenon has become so much a part of Mr. Grubel's work that one colleague recommended he “build a hat with a bowl on top.”

The thumps he hears are exciting for him: In gobs of vomit, to be referred to in his thesis as boli, he has identified eels, mud snails, oyster toadfish and menhaden. Sometimes he will hear a thump so loud it can only be a whole fish, or close to it. This, he says, is particularly interesting.

“I've been hit on occasion,” he said. “In some ways it's almost this great personal experience between you and the birds.”

Mr. Grubel got down on his hands and knees, picking up about a dozen samples for what Professor Waldman describes as frantic ichthyology — a search for ear bones or other fragments that could identify a certain species. The fish he found were nothing unusual: cunner and tautog, small fish generally found around pilings or rocky shores, and one weakfish.

And then he collected himself to leave. Mr. Grubel works quickly, to avoid disrupting the birds for too long. He compared his work in the colonies to “going through someone's closet and finding out where their money is stashed.”