Research turns up Virginia's link with an Arctic island.

by Curtis Badger

Greater snow goose number 44CC had apparently made herself at home. That was the conclusion my wife Lynn and I reached after spending several days looking for banded snow geese at Chincoteague National Wildlife Refuge last fall. After we made four trips and logged in 22 different birds, this goose was the only one present and accounted for on each occasion. She clearly had taken a liking to the shallow impoundment behind the beach, hanging out with others that, like her, had recently completed a trip from the Arctic and now were looking for a little R&R.

Waterfowl hunters have for years been harvesting banded ducks and geese and reporting the band numbers to government agencies. This helps biologists establish migratory patterns, and consequently, provide resting and foraging opportunities for waterfowl as they move between breeding grounds in the north and winter homes along the coast. Many national wildlife refuges, including Chincoteague, were created primarily to provide migratory habitat for waterfowl.

While banding reports no doubt helped biologists establish flyway patterns, there was one serious drawback. In pretty much every case, the band number came from a dead bird. The chances for a re-sighting, as with snow goose 44CC, were very slim. But modern technology now makes it possible to record band numbers, report them, and have the bird move on to be spotted again; thus giving biologists the opportunity to track the movements of individual birds.

It also gives amateurs like Lynn and me the opportunity to participate in a little citizen science. The snow geese are banded on their breeding grounds in the Arctic, and some of the females are fitted with a yellow neck collar in addition to the traditional metal leg band. The collar typically has a four-digit alpha-numeric code. Greater snow geese

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Image courtesy of ©Jean-François Lamarre

Female PC52 was found on Bylot Island, Nunavut Province, with newly hatched goslings.

Image courtesy of ©Marie-Christine Cadieux

A flock of geese (moulting adults and goslings) are rounded up and led into a holding pen for banding.

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Chasing Geese

Want to participate in a little citizen science? Reporting neck collar codes on snow geese helps biologists understand migration, and it can help you learn a lot about these geese that winter along the coast in flocks of a thousand or more.

You'll need a good binocular, or, preferably, a spotting scope with a solid support such as a tripod or car window mount. The collars are usually bright yellow, about four inches wide, with a four-digit code in black lettering. Even with a powerful scope, it still is necessary to get fairly close to the birds. We found that the best place to do this is at wildlife refuges that have access drives near impoundments used by the birds. At Chincoteague NWR, for example, Wildlife Loop circles around a huge impoundment used by geese for most of the winter. Geese seem to become accustomed to seeing vehicles and you can get fairly close.

Weather matters. Bright, sunny days make those yellow collars stand out. Windy days make the code difficult to read because the scope shakes and because moving vegetation can obscure the lettering.

It's easiest to get close to the birds soon after they arrive. Once they've been hunted, they will become very skittish. Last year, impoundments on Chincoteague NWR froze in early December and a memorable Christmas blizzard followed that, forcing the birds to scatter. Attempts to approach them in farm fields were not successful, and many birds moved farther south to find food.

Report collar numbers at www.reportband.gov. Once you've reported one and provided the required information, you can easily report others. If you have a re-sighting from the same area, it's best not to report it unless 30 days or more have passed since the previous sighting.

You should get an email notice that your report was received within a few minutes. A full report and "certificate of appreciation" should arrive by email in a few days, as long as information on the bird has been entered into the database.

Image courtesy of ©Marie-Christine Cadieux

Adult geese are put in a separate pen from goslings. Those with yellow collars are female adults.

Image courtesy of ©Marie-Christine Cadieux

The banding team is hard at work banding goslings first, then adults.

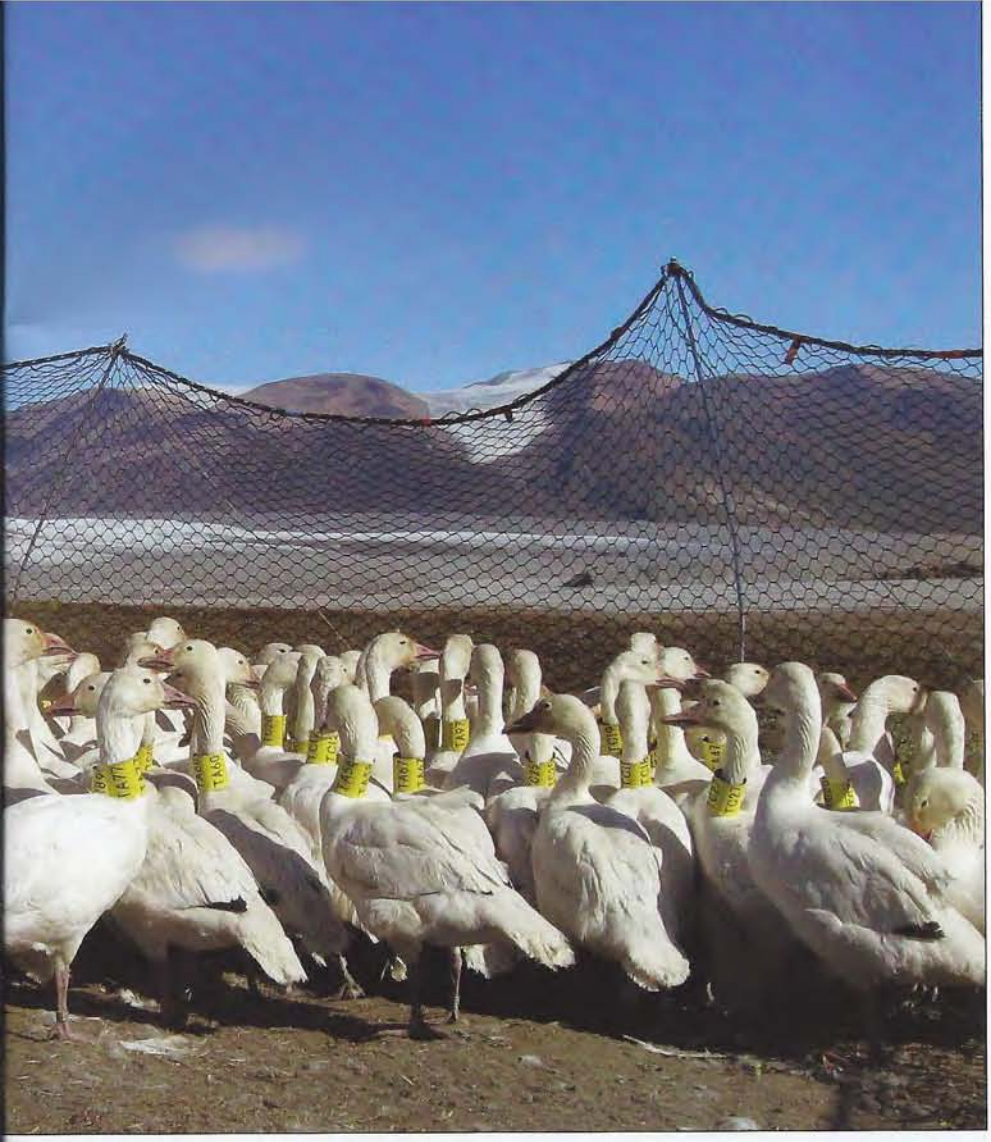


Image courtesy of ©Marie-Christine Cadieux

Goslings are held in a separate pen to ensure they are not trampled by adults.

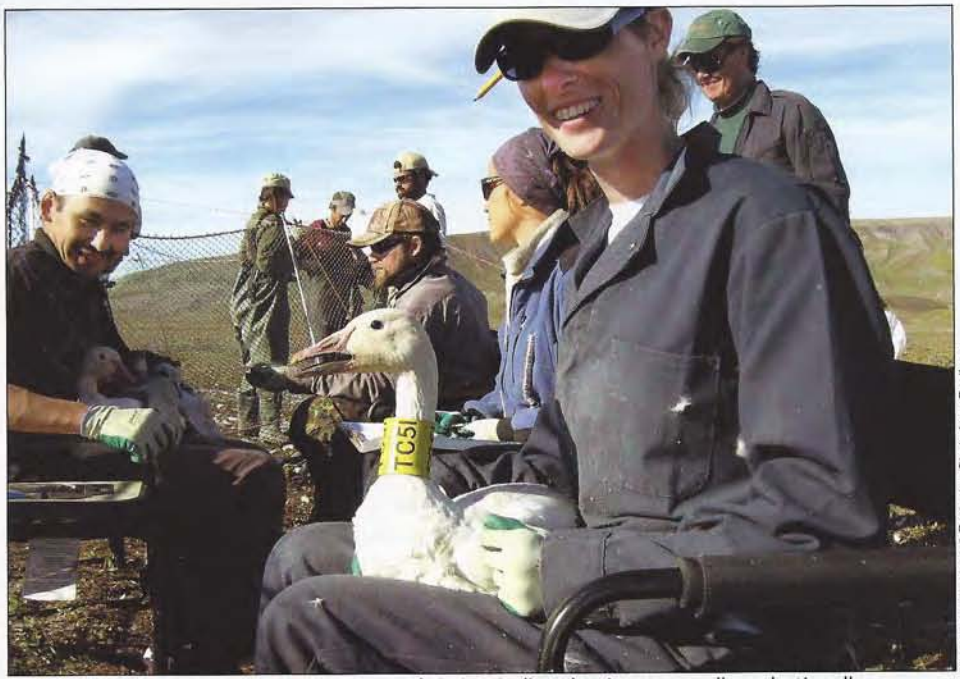


Image courtesy of ©Marie-Christine Cadieux

Biologist and banding manager Marie-Christine Cadieux has just put a yellow plastic collar on this female snow goose.

tend to fly in large flocks and keep their distance from people, but we found that with a good quality spotting scope and a great deal of patience, we could accurately read the code numbers and report them.

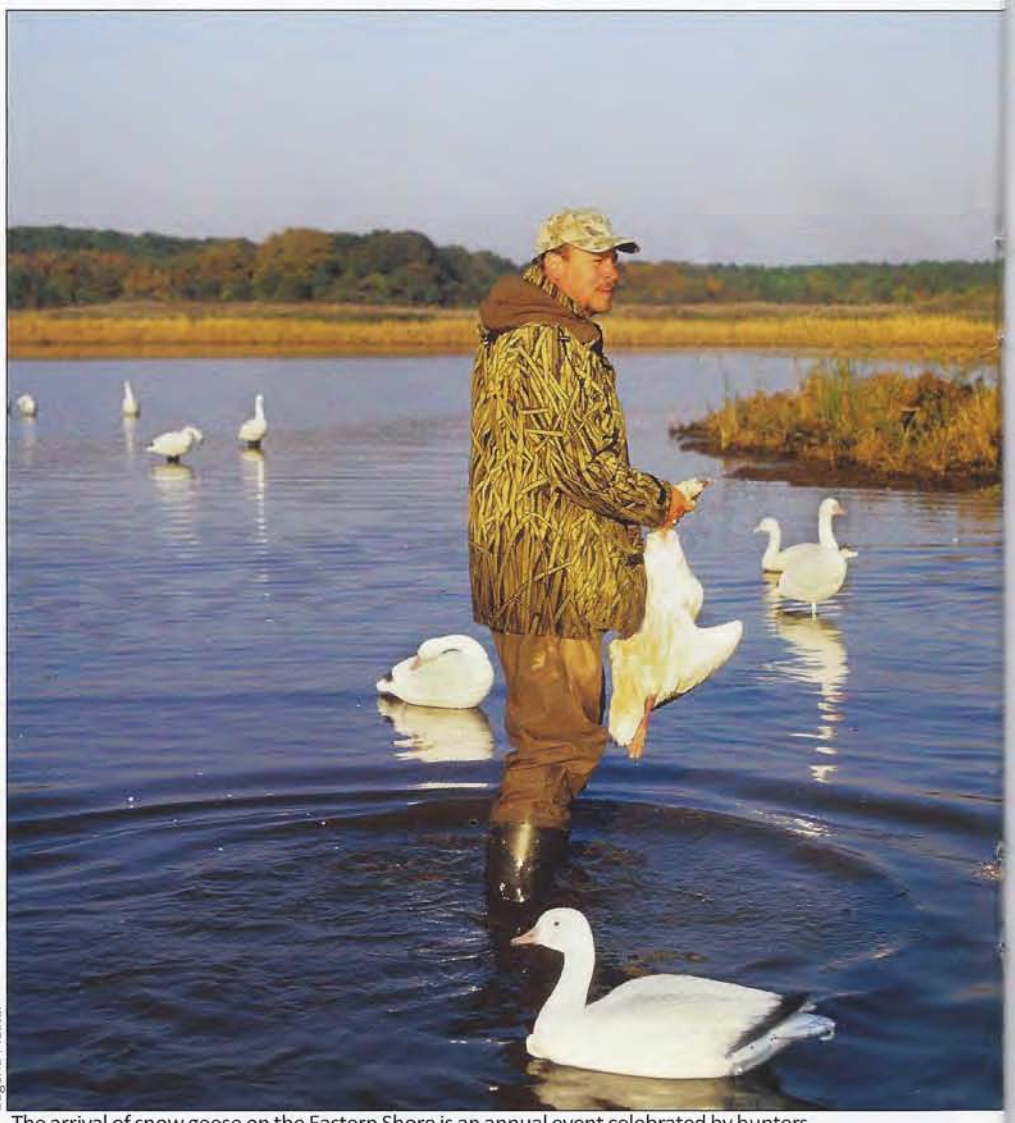
Reporting collar numbers, not surprisingly, involves the Internet. After each trip we went to www.reportband.gov, which took us to the website of the Patuxent Wildlife Research Center Bird Banding Laboratory. Reporting each number takes only a minute or so, and the report was quickly confirmed by an email. The fun part comes a few days later when an email arrives giving the date and place the bird was banded, the name of the bander, and the age and sex of the bird. All of this comes in the form of a certificate of appreciation from the U.S. Geological Survey (Patuxent's parent organization) and the Canadian Wildlife Service, who are cooperating in the program.

Hunting Snow Geese

Snow geese are plentiful along the Virginia coast in winter, often flying in flocks of more than a thousand. But hunting them can be problematic. It usually takes a lot of decoys to attract a huge flock of geese, and mature birds that have been shot at before are very wary. Grayson Chesser, owner of Holden Creek Gun Club (757-824-9666) on the Eastern Shore, has been hunting snow geese for years, using everything from large rigs of decoys set around a pit blind, to using no decoys at all.

"The most decoys I've used was about 2,700, but this was a long-term rig," says Chesser. "It worked well, but birds that had been in the area for a while learned to avoid it, so we depended on new arrivals. The most important aspect of goose hunting today is scouting. You need to find out where the birds are feeding, and then locate an area nearby that still has plenty of food available. Often, in a situation like this, you don't even need decoys. You need to be well concealed, and it takes patience. Sometimes the flock will land out of range, but they'll work their way to you. It's exciting to be there in a blind and have the geese come in around you, and you can hear them and watch their behavior."

Chesser advises hunters not to try to creep up on a flock. "If they see you do that, they assume you're a predator. It's better to just walk slowly toward them. We had our best day last year doing that. I sent the dog out in front of us, and the geese seemed mesmerized by the dog. We were able to approach until the geese were in range."



Eugene Hester

The arrival of snow geese on the Eastern Shore is an annual event celebrated by hunters, birders, and visiting tourists.

We reported collar numbers from four trips dating from November 5 through December 2, all at Chincoteague NWR. We reported 30 numbers, eight of which were re-sightings. As we received responses from the website, we set up a spreadsheet of our own and made an interesting discovery. Nearly all of the birds we reported had been banded at the same place—on the south plain of Bylot Island, just north of Baffin Island in the Nunavut Province in Arctic Canada, by a team led by Dr. Gilles Gauthier of Laval University. A few of the birds had been banded that summer, but some of them had been banded in 2002 and 2003, making them nearly ten years old. All of them make the annual trip from the Virginia coast to Bylot Island and back again—a distance of some 4,800 miles!

We contacted the banders and began to learn more about Bylot Island and about snow geese in general. Foremost, they are creatures of habit. The pairs mate for life, and the females tend to return to the same breeding territory year after year. They also use the same migratory routes year after year, weather permitting. What puzzled us was this connection between Bylot Island and the Virginia coast. Bylot is icebound for most of the year. We thought of it as a 6,900-square-mile ice cube, punctuated by mountain peaks separated by perpetual glaciers. And then we learned more.

"Most of Bylot Island is mountainous, but south of the mountain range is a plain with extensive lakes, ponds, and grassy wetlands, along with elevated terraces and hills," explained Marie-Christine Cadieux, project coordinator for the Bylot Island studies.

geese could have on the Arctic tundra. In recent years research has expanded to include a broad range of plant and animal communities.

"The original intent was to assess the impact of goose grazing on the Arctic tundra," said Cadieux. "But over the years the research program has broadened considerably and now includes other components of the terrestrial ecosystem. We also are interested in learning how climate change may impact the plant and animal communities of the tundra."

It is difficult to believe that the Arctic tundra—wildly remote and covered with ice for most of the year—could have anything in common with the Virginia coast. But it does, and this connection is evident in the life of the greater snow goose. A range map on the Laval University website (www.cen.ulaval.ca/gongsg/) shows summer breeding grounds in a fairly concentrated area on Bylot Island. Winter grounds center on the Virginia coast, extending northward along the Delmarva Peninsula into the Bombay Hook area of Delaware and southward to the sounds and shallow lakes of eastern North Carolina. The two are connected by a migratory route through central Quebec, with a staging area along the St. Lawrence estuary.

Snow geese travel to the Arctic to breed because in summer the tundra provides excellent habitat for nesting and raising goslings, with plenty of young grasses for forage. Timing is critical, however, because nesting can't occur until the snow melts, and the geese must raise their young, molt, and be ready to head south before the fall snows arrive. Bylot averages only 101 days a year when the temperature climbs above freezing.

"The average laying date on Bylot Island is June 12," said Cadieux. "The eggs will hatch 23 to 24 days after the last egg is laid. The geese average about four eggs per nest, but nesting success depends largely upon weather and predators. The Arctic fox, parasitic jaeger, and raven are some of the principal predators of eggs and young birds. The adults also are vulnerable during the nesting season as they molt (shed and re-grow) all their flight feathers. So timing is everything. If snow-melt occurs later than usual, the birds might not nest at all."

At this time of year, a trip to the coast will provide a clue as to the success of the summer nesting season. Find a flock of snow geese in a wildlife refuge or farm field, scan them with your binoculars or scope, and see how many dusky gray birds are scattered in with the snowy white adults. The gray ones would be the juveniles, the birds that hatched last July, the ones that followed their parents on a flight through Quebec to the St. Lawrence wetlands, and finally to the coast of Virginia for the first time. And while you're scanning, keep an eye out for a bright yellow neck collar. If you happen to see number 44CC, tell her we say, "Welcome back."

Curtis Badger, whose most recent book is A Natural History of Quiet Waters (UVA Press), has written widely about natural history and wildlife art. He lives on Virginia's Eastern Shore.

"These drier areas are a polar oasis supporting a great diversity of plant life. There are 360 plant species and 74 species of birds, including more than 100,000 greater snow geese in the summer. It's the largest breeding colony of snow geese in the world."

So when Bylot Island's blanket of snow disappears in the summer, the landscape becomes one of creeks, ponds, wetlands, and sloping uplands covered with grasses and sedges. Sound familiar? In July, Bylot might be a lot like Chincoteague in January.

The study of greater snow geese on Bylot began in 1988 through a partnership between Laval University in Quebec and the Canadian Wildlife Service. When the study began, snow goose numbers were growing tremendously, and biologists were worried about the negative effects a large breeding colony of

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