

Report Of A Large Movement Of Alcids During The Truro Christmas Count, December 28, 2000

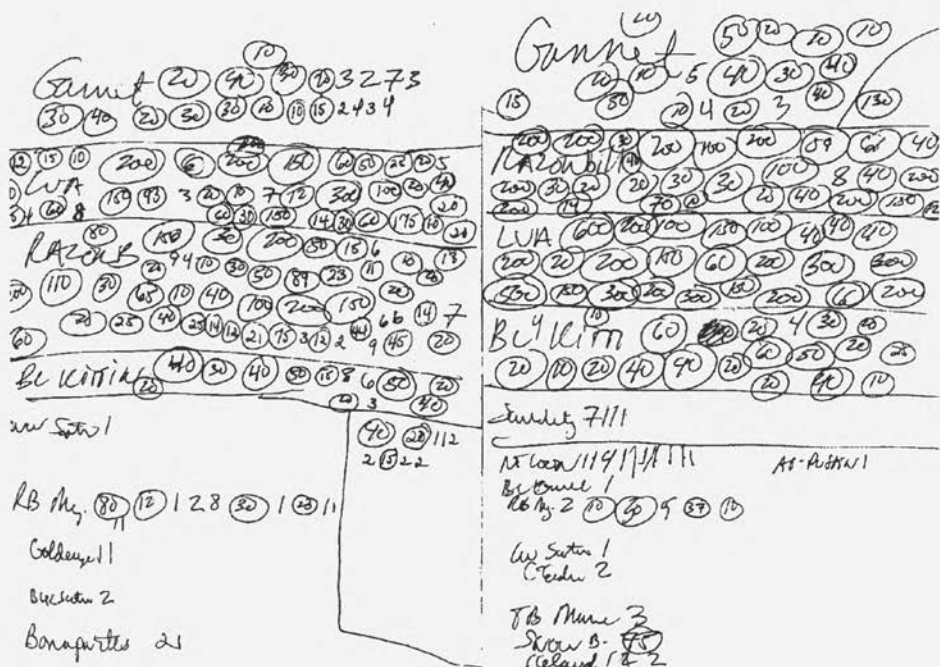
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On the morning of Thursday, December 28, while counting birds in the North Truro, oceanside sector of the Truro Christmas Count, Sheila Carroll and I arrived at Head of the Meadow Beach upper parking area just before 7 a.m. The weather was clear, sunny, and very cold and windy. We were both sick as dogs with newly blossoming colds, and were not, on the morning of Thursday, December 28, while counting birds in the North, exactly looking forward to spending a long time outside in the bitter cold. Immediately we witnessed small groups of alcids flying close to shore (you could see they were alcids with the unaided eye). On closer inspection, most of these proved to be Razorbills (*Alca torda*), a few Dovekies (*Alle alle*), and a very small number of murrelets. But the greatest number were simply ticked as LUAs (Large Unidentified Alcids), flying more than halfway out to the horizon. The Razorbills were easily picked out because of head pattern and jizz of body and head. The wind, although light to moderate, was from the north. The direction of flight was consistent, always right to left, or southeast to northwest, along the shore. Tides that day for Nauset Harbor were: High: 1:14 a.m.; Low: 7:30 a.m.; High: 1:19 p.m.

After ticking and carefully counting a few hundred alcids and also a good number of Northern Gannets (*Morus bassanus*) and Black-legged Kittiwakes (*Rissa tridactyla*) which were also on the same course, we had to continue counting birds in our sector elsewhere. At the time, there seemed to be a lull in the activity, and there was not much happening, so after counting birds at Head of the Meadow for about forty minutes, we left. This is one of the disadvantages of covering a large area for a Christmas Count: you are always under the gun to move on and count in the remaining places in your sector. However, in the back of both our minds was the plan to go back and check the area again, just to be sure no other alcids were passing by.

We returned to Head of the Meadow to check on the action close to 9:00 a.m., and as we were driving across the parking area to the ocean overlook we could see large skeins of alcids whipping by. Quickly we pulled up, got scopes out, and started to count. There was quite a bit of confusion because so much was going on, but finally we settled into a system. First, I was going to count, while Sheila sat in the car and wrote down the numbers I called out. Of course, Sheila wanted to see some of this spectacle too, so it was soon agreed that she would spot incoming flocks, look for alcids that were not Razorbills, and I would concentrate on counting close Razorbill flocks and distant LUA flocks. The car door was kept open, and the notebook laid open inside. I would turn and write down numbers every minute or so. On the one hand, this was a spectacular event to witness; on the other, I was in total panic trying to count these birds as they whipped past us.

Flocks of birds were flying from right to left, ranging from relatively close to shore where they were easy to identify, to all the way out to where the horizon



Pages from the author's notebook

shimmer prevented absolutely perfect views. These distant birds were automatically counted as LUAs, even if I had good enough views that under normal circumstances I would have called them Razorbills. Most attention was paid to the closer flocks as we poured over them to look for species other than Razorbills. But besides an Atlantic Puffin, three Common Murres, a small number of Thick-billed Murres, and some guillemots, they were *all* Razorbills. In fact, I am convinced that most of the alcids passing were Razorbills, but would much rather be cautious. Birds were generally in small groups of 10-20 on up to 30-50. Sometimes singles would be seen. The action was not consistent. At times, a spate of flocks would pass overlapping in our view to the horizon, and then there would be a small pause until the next group of flocks passed. A few flocks landed right in front of us and could be seen feeding. Several flocks landed among feeding Red-breasted Mergansers, but these soon continued on their way.

Believe it or not, the large numbers of Razorbills we recorded have to represent a low count. To begin with, birds were already moving when we arrived, so we missed many birds while we were elsewhere. Second, often we would miss groups in the confusion of trading places and getting warm in the car (it was *very* cold out). In addition, we concentrated on the close groups, and the numbers of LUAs farther out represented a percentage of the actual birds passing. Sometimes too, we would be distracted by other birds like passing waterfowl, or by counting the large number of kittiwakes and gannets, or by identifying white-winged gulls that were in front of us.

At one point a possible Thayer's Gull put a real crimp in counting as I turned my scope on it. (It turned out that it was most likely just an Iceland Gull.) All the while, groups of alcids were whipping by. I did not try to estimate overall what we were missing, but counted (by tens) only birds as we saw them passing, usually pausing to write down when I got to some multiple of 100. In the end, we concentrated on counting birds in the narrow space between eleven and one o'clock on the horizon when movements were particularly heavy.

By 10:30 a.m., action was slowing down. Although small groups still passed, the pauses in between the action lengthened. The number of kittiwakes and gannets also decreased. We were relieved for a short time by Lisa and Simon Hennin while we went to Highland Light to see how the flocks looked passing there. This slightly higher overlook is just south of Head of the Meadow. Here flocks passed close by too, but seemed to be coming in more from the east, i.e., out at sea and to our right.

By 11:30 a.m. the show for all the species was essentially over. From 1:45-2:45 in the afternoon, we all reconvened on the spot and saw no alcids at all and only a handful of kittiwakes and gannets, all of which were now flying from left to right.

Obviously I had some questions:

What were these birds doing? Flying to or from a feeding area? Georges Bank, a feeding area for Razorbills, is far out from this area, but in the general direction from which these birds were feeding. Another point to consider was that a major nor'easter was due in two days and a storm system was forming far to our south off the Carolinas. Were these birds' movements anticipating the oncoming storm?

Where were these birds going? Cape Cod Bay? Stellwagen Bank? Is there some unknown spot that holds unnoticed dense flocks of Razorbills?

How many Razorbills actually do winter off our shore?

Last, and more to the point, what percentage did our count represent of the actual number of Razorbills wintering in the western North Atlantic? I tried to determine this when we got home. In *Birds of Massachusetts*, Petersen and Veit describe the status of Razorbills in our waters as "Varily uncommn to abundant migrant and winter resident offshore. Occasionally abundant within sight of land after storms" (p. 250). Maximum numbers sighted included "4,700+ Provincetown, 22 January 1984 (Nikula); 4,363 Cape Cod CBC, 20 December 1979 (Pease)," and other records are in the high hundreds. What percentage of the total world's population are these high Massachusetts counts?

In *Auks: An Ornithologist's Guide*, Ron Freethy writes: "Like all the auks, Razorbills are difficult to census, but it is not a common species and the world population will probably not exceed 200,000 and about 75% of these are concentrated around Great Britain and Ireland" (p. 61). According to these statistics, somewhat in the vicinity of 50,000 Razorbills would then winter in the western North Atlantic. Anthony Gaston and Ian Jones in *The Auks* currently estimate the world population of Razorbills at "500,000-700,000 pairs (of which half could breed at Latrabjarg)"

(p. 129). (Latrabjarg is a noted breeding colony in northwest Iceland.) Indeed, "the majority of the world's population breeds in Iceland" (p. 127). Jones and Gaston (1998) indicate that those Razorbills that breed in Labrador and the Gulf of Saint Lawrence winter from Nova Scotia south to New England. These are the birds that we see in our waters.

In the *Handbook of the Birds of the World, Volume 3*, del Hoyo et al. (1996) estimated that there are 700,000 pairs of Razorbills worldwide, with a low estimate of 300,000 pairs and a high estimate of 1,200,000 pairs, with roughly 70 percent in Iceland, and 3 percent in the western Atlantic (p. 711). Gaston and Jones (1998) cite the research of Nettleship in estimating that 70 percent of the world's population of Razorbills breed in Iceland, 20 percent in the British Isles mainly in Scotland and Ireland, 4 percent in Norway and Finland, and 2 percent in eastern Canada (p. 129). They are most common as breeders in Atlantic Canada between 54 degrees and 58 degrees north, but do breed south to Matinicus Rock in Maine (Powers 1983). It is these Canadian birds that we would most likely see in our waters. Taking 3 percent of the worldwide population estimate of 1,400,000 individuals, we can attempt to estimate the western Atlantic population. This gives a *very* ballpark figure of about 42,000 Razorbills that perhaps could inhabit the western North Atlantic and be found in Massachusetts waters. Of course, it must be taken into account that some of that total has to inhabit Canadian waters and waters off the coast of Maine as well.

Another estimate by Powers (1983) gives a slightly different figure. Based on offshore studies, he estimates 26,000 Razorbills in winter in New England waters with another 16,000 unidentified alcids counted during his studies. "Thus, the total population of Razorbills in Atlantic Canada may be in the order 60,000 to 65,000, and my estimate for shelf waters off the New England coast accounts for only 40 to 45 percent of this" (p. 137). He does ask the question as to where the rest of the Razorbills winter, noting that perhaps numbers winter in the Bay of Fundy or the Grand Banks. However, a study cited by Powers found no evidence of any Razorbills on the Grand Banks.


Our counted totals for Razorbills for that day were 6330, and undoubtedly I missed more by leaving the site prematurely. If you count only *half* of the LUAs that were tallied as Razorbills, then you come up with a total of 10,578 Razorbills seen that morning as a low number. I firmly believe the vast majority of the LUAs were in fact Razorbills. We probably saw somewhere in the vicinity of about 25 percent of the estimated North Atlantic population of Razorbills that morning! If you calculate that most of the LUAs were Razorbills, then that percentage increases to close to 34 percent. If you use Powers' estimated numbers of Razorbills quoted above, then we witnessed from 25-40 percent of the estimated population of wintering Razorbills thought to be found in New England waters (again, only counting half of our LUAs as Razorbills).

That number seems pretty extraordinary to me, and some caveats need to be applied. Every source cited emphasized the difficulty in estimating Razorbill population size. So at best, numbers quoted were very rough approximations. Also, at

the time of the year we saw these birds, populations were augmented greatly by young born that year, although Powers (1983) estimates that 60 percent of the wintering population are breeders (p. 137). Still, we witnessed a significant percentage of the estimated western Atlantic population that morning, and it may be best to leave it at that. Is that great a percentage of the western Atlantic population wintering just in Massachusetts waters? Are the wintering populations of Razorbills in our waters perhaps augmented by Razorbills from populations farther northeast, like Iceland? These questions can only be answered by further extensive and difficult studies, although most authors indicate that Massachusetts Razorbills are predominately from the eastern Canadian populations. Studies done by Rolwett (1980) indicate that extremely few Razorbills get as far south as Chesapeake Bay. In the *Revised Atlas of Eastern Canadian Seabirds*, Brown's shipboard studies indicate that most of the Canadian population of Razorbills winters just south of Canada probably "in the Gulf of Maine and on Georges Bank" (p. 94). So, perhaps the bulk of the western Atlantic Canadian population of Razorbills do winter in Massachusetts waters.

My next question was "what were they doing?"

Veit and Petersen (1993) state that Razorbills feed in shallower water than other large alcids and are abundant on Nantucket Shoals and Georges Bank (p. 200). Their food is indicated to be Atlantic cod, sand eels, capelin with small amounts of crustaceans, and polychaetes (del Hoyo et al. 1996). Gaston and Jones (1998) write that the Razorbill's prey "consists mainly of mid-water schooling fishes: capelin, sandlance (*Ammodytes* spp.), herrings (*Clupea harengus*), sprats (*Sprattus sprattus*), juvenile cod" (p. 130). Furthermore, "concentrations of alcids are almost always found in association with major areas of upwelling" (del Hoyo et al. 1996, p. 686). Gaston and Jones (1998) concur when they indicate that Razorbills feed closer to shore than murres and that they also make use of tidally induced upwellings in "coastal areas" (p.129). It therefore seems likely that one explanation for this particular movement of Razorbills is that it was related to prey and in some way perhaps connected to a tidal situation that was concentrating the prey. Either they were flying from some favored feeding area like Georges Bank or flying to some choice feeding spot near Stellwagen Bank or Cape Cod Bay. Knowledge about the location and concentration of Razorbill food items off our coast at that time, particularly sandlance, would probably do a lot to explain why such unusual numbers were seen in such a short amount of time in this particular place. Gaston and Jones also note that Razorbills have been seen feeding in association with several other bird species including Black-legged Kittiwakes (p. 129), and we had an extraordinary number of Kittiwakes at the same time (see totals below). Like Common Eiders, the concentration of such a significant percentage of the population of Razorbills in a relatively small area, if even only temporarily, makes them vulnerable to environmental disasters like severe storms and oil spills.

Analysis aside, this was an amazing spectacle to witness, beautiful and mysterious. Avian events like this one bring home how little we understand of many species of bird populations and movements, even when they are considered locally common, and how much research needs to be done. 

References

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Totals

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| Northern Gannet (only a few first winter birds) | 981 |
| Unidentified jaeger species | 1 |
| Black-legged Kittiwake | 1577 |
| Black Guillemot | 3 |
| Dovekie | 24 |
| Thick-Billed Murre | 9 |
| Common Murre | 3 |
| Razorbill | 6330 |
| Large unidentified alcid species | 8496 |
| Atlantic Puffin | 1 |

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