

Seabird skills are well attuned ocean wind conditions

Birds I View



Bill Montevecchi

“You don’t need a weatherman to know which way the wind blows.”
Bob Dylan *Subterranean Homesick Blues*

If the winds on Christmas Eve blow from the north, Santa knows he’ll arrive in Newfoundland much sooner than if he and his flying ungulates have to face southerly gales. If you sail or spend time on the water, you are well attuned to wind and how to move with, through and away from it. Yet if you were a marine bird, wind is much more than a periodic engagement – it’s a way of life or death with a 24/7 contingency.

I have spent considerable time scanning flocks of murre and gannets returning to their large colonies on Funk Island. Owing its distance from the coast and its low-lying topography, Funk is the only seabird community where I have 360 degree views of birds returning to their mates and offspring. The returning flocks are not randomly distributed but rather clumped in incoming directions.

These birds are returning to the island with fish for their chicks and are coming from sites where they had successfully captured fish. This is the sort of information that fisherman often want to keep to themselves, but in the world of breeding seabirds the compass orientations of returning flocks provide public information about good fishing areas for those who might want to use it.

To assess if seabirds exploit this information, we watch birds flying out from the island and compare their compass orientations to those of incoming flocks. If the directions of incoming and outgoing birds match up, this suggests that the information is being used. From watching and also tracking birds, we are learning that the birds rely on memory of previously successful trips as you would if you were a fisherman, and public information when they need it.

Yet what struck me most in my observations is that even though the returning flocks are moving toward the island, often they are not directly oriented at it, especially when the wind is strong. While they know exactly where they're going, their movement orientation is in relation to the wind and how they have to negotiate it to get back to the tiny islet.

A murre's wings are small for its body size, and they have much heavier wing-loadings than do gannets. As flying costs are much greater for murres than for gannets, flight efficiency is an even more critical concern for murres.

The murre's relatively small wings provide other advantages, by allowing murres to fly both in air and under water. Their wing structure is a compromise between one with a large surface area that facilitates heavy-bodied aerial flight and a small flipper-like appendage that enhances swimming below the surface.

When ocean gales crest white-capped waves and stir foamy turbulence, foraging can be very difficult for gannets trying to find surface-schooling fishes like mackerel and herring. Yet wind-driven turbulence has little influence on deep-diving murres pursuing capelin.

For both murres and gannets and many other birds, flight efficiency is also gained by flying in V-shaped flocks. Lead individuals create whirling vortices of air that reduce resistance for birds further back in the lines. Flight efficiency is particularly important for seabirds returning from distant fishing areas and carrying loads of fish in their gullets or beaks for their chicks.

Flocking birds take turns in the high-energy demanding lead position as they move. Interestingly younger birds [gannets can be aged by the black feathers in their plumage] are always further back in the flock and never in the lead position. Flight skills are honed over a seabird's life time.

Energy costs and flight efficiency are crucial concerns for birds, especially for parental birds provisioning young at the nest. Cost-efficient parents have more time to spend with mates and care for their offspring.

Air traffic control

What happens when the birds arrive at the colony involves an entirely different set of flying skills. There is heavy aerial traffic around a seabird colony, particularly large ones. Traffic is very heavy at Funk Island where more than a million birds come and go from the small rock in the sea. Seabirds like aircraft land and take flight into the wind.

Congregations of returning birds fly about the island in huge rotating circles while aiming for their nest-site and mate. At the right opportunity they drop down for a landing. Depending on the wind direction, the circling birds rotate in either a clockwise or counter-clockwise flow to maximize the ease and probability of a safe landing.

This social convention also minimizes inflight collisions which though extremely rare can be fatal when they occur.

Long-distance migration, out of range vagrants and seabird wrecks along the coasts are all wind-driven events that will be considered in future columns.

Extracting herring from the ocean

In mid-November, gannets and whales were near Cape Race, likely feeding on fall spawning herring. These fishes can be extraordinarily abundant in coastal waters, and massive concentrations on the west coast near Bonne Bay are attracting birds, mammals and fishermen.

The day I was in town there was continuous dawn to dusk purse-seining by large long-liners moving between the schools and wharf. Herring were vacuum-pumped into large fish boxes that were rapidly shuttled by fork-lifts into huge refrigerated trailer trucks. It was load and go.

And go they did - to the distant Beothuk fish plant in Valleyfield on the northeast coast, some 500 km away. And for what? - to make feed for mink and aquaculture farms -at least one of which is heavily subsidized and neither of which is sustainable or environmental sensible.

And what is the sustainability and sensibility of the herring extraction? Even if such rapacious removals were sustainable, it is at best a crass way to interact with a wild animal food source.

Nutrient-rich herring are a delicious healthful food, just ask the Scandinavians. With so much concern about local food security and nutritious diets, we could eat a lot more of it too. The same goes for seal.

Birds in the area and around the province

Large flocks of diving ducks [scoters, ring-necked ducks, goldeneye] have been visiting Hughes Pond, where they are likely feeding on crustaceans, mollusks and benthic vegetation [Dick Whitaker].

Most of our breeding seabirds have migrated south, while winter vacationing eiders, white-winged Iceland and glaucous gulls, thick-billed murre and dovekeys are arriving

from the Canadian Arctic and Greenland. Large flocks of local herring gulls have been spending some ice time on Murray's Pond – something not noted in the past [Dick Whitaker].

Female harlequin ducks were seen in Cripple Cove near Cape Race [Tony Power]. Richard Northcott spotted a killdeer at White Bear Bay in mid-November and a great blue heron Ramea at the end of the month.

It's looking to be another BIG year for snowy owls. On 28 November, Bruce Mactavish counted 38 owls on the Cape Race road. They are on the move. Jon Ladha literally bumped into a juvenile snowy owl perched outside a building at St. Mary's University in Halifax.

Bird feeders are active. In the past two weeks, evening grosbeaks visited feeders at the Mayo's and West's in Portugal Cove. Mourning doves, goldfinches, a nuthatch and sharp-shinned hawk are also indulging at the West's. A flock of goldfinches feeding more naturally was among knapweed on the trail to Beachy Cove Mountain [Janet Montevocchi].

Boxing Day is Christmas Bird Count day in St. John's which includes Portugal Cove - St. Philips. A few of us will be making the local rounds. If you're out or watching your feeder on 26 December and see any birds please let me know.

Best wishes for a Murrey Christmas and for an engaging peaceful 2015. Godspeed.

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