

ABOUT THE COVER

Northern Fulmar


The Northern Fulmar (*Fulmarus glacialis*) is an elegant "tube-nosed" petrel that is much hoped for on pelagic birding trips. The Northern Fulmar is a stocky, short-tailed bird with short rounded wings and a stubby yellow bill. The tube-nosed designation results from the tube on the upper surface of the bill through which highly saline solutions exuded by their nasal salt glands are ejected: an adaptation, common to many seabirds, that allows them to drink salt water. Fulmars vary in color from white to gray-brown, but all have light patches in their primaries and dark patches around their eyes. The surface of the upper wings in light-phased fulmars varies from nearly white to solid gray. Their flight is distinctive, with stiff, shallow wing beats interspersed with gliding on nearly horizontal wings. The sexes are similar in plumage.

Three subspecies are generally recognized: the Pacific *F. g. rodgersii* that shows more extreme color variation than the two Atlantic subspecies, *F. g. audubonii* that is a low Arctic breeder, and *F. g. glacialis* that is a high Arctic breeder. Some taxonomists lump the two Atlantic forms into a single subspecies. Pacific birds have dark gray tails; Atlantic birds, light gray. Northern Fulmars are Holarctic breeders, with colonies mostly on islands off Alaska and Canada, including Baffin Island and southern Newfoundland. In the east they winter south to Georges Bank in large numbers and occasionally some wander south to North Carolina. The largest concentrations of fulmars are found from December to March, when daily records are in the thousands, but they can occur in smaller numbers in near-shore waters from May to June and September to October. In Massachusetts they can be seen during any month of the year, but are considered a common to abundant offshore winter resident, and during storms can sometimes be seen from shore. They are usually not considered true migrants, but rather birds with a pelagic postbreeding dispersal.

The Northern Fulmar is a species with a low reproductive rate but long reproductive life. They defer their first reproductive effort for 8-10 years, and then usually produce but a single young each year. They may, however, breed for more than 40 years, and have an average life expectancy of greater than 30 years. They are monogamous and mate for life, although divorce and re-pairing often occur after reproductive failure. They are colonial breeders, preferring the ledges of precipitous sea cliffs on islands, with some colonies exceeding a quarter-million pairs. Vocalizations at nest include a limited repertoire of squawks and cackling variously described as *AARK*, *aaw*, *aak*, *AAARK-aaww*, or *cock-cock-cock-aawww*. They establish permanent nest sites and defend about three feet of air space. The nests are about 3-6 feet apart, and territorial squabbles may involve pecking at an opponent's eyes or making retching noises followed by spitting oil. Fights on the ocean surface may reach the extreme of one bird holding another under water and drowning it. Nuptial displays including cackling and head shaking. Typically, a mass exodus from the colony occurs before egg-laying as birds take a 1-3 week foraging trip prior to nesting. Pairing and mating has occurred before the exodus, and the females store the

deposited sperm until their return to nest, delaying fertilization until they are back home. The nest is a slight scrape or depression on pebbles, soil, or rock ledge. The clutch is a single white egg that is incubated by both parents, and both develop brood patches. During the seven-week incubation period, parents take turns spending 4-5 days at sea foraging. Chicks gain in weight, until by five weeks of age they may be fifty percent above adult weight. The parents stop feeding the chick several weeks before fledging, which occurs at 7-8 weeks. At fledging the young move to the edge of the cliff, practice flapping their wings, and eventually glide off on their maiden flight.

Northern Fulmars prefer to forage near the continental shelf break, where they take a broad spectrum of fish, squid, and other invertebrates, particularly copepods and amphipods, from the surface. Their foraging behavior includes dipping, surface-seizing, plunging, and pursuit diving where they may reach depths of ten feet and be submerged for six seconds. They forage at night and use their well-developed sense of smell to locate prey. They are also kleptoparasitic, chasing other birds to steal their food. In historic times they have become offal scavengers at commercial fishing fleets. They will also scavenge carrion, including seals and whales. Fulmars prefer fatty foods and produce stomach oils as a normal dietary residue.

The Northern Fulmar is a scientifically well-studied species, with studies initiated in the 1950s, particularly in Europe, still in progress. Some of the published papers are classics that demonstrate the importance of long-term studies on marked populations of birds. Over the past two or three centuries, the Atlantic Northern Fulmars populations, particularly in Iceland and the British Isles, have increased substantially, with offal from fishing vessels suspected as a primary cause. They were heavily hunted until outbreaks of ornithosis proved fatal to some of the hunters. They tend to avoid oil spills and thus tend to be spared a major source of mortality for other seabirds. Their natural predators include ravens, falcons, and Arctic foxes, but spitting oil at predators is often a successful defense – oil-contaminated birds frequently die. In the 1950s in Massachusetts, Northern Fulmars were considered rare vagrants. By the 1970s they were recorded breeding in Newfoundland, and since then have been recorded in increasing numbers wintering in New England waters. With Northern Fulmar populations continuing to expand, we may reasonably expect to see increasing numbers of these elegant petrels on future pelagic birding trips. 

William E. Davis, Jr.

About the Cover Artist

Tad Lawrence, a resident of Roslindale, MA, is a lifelong birdwatcher who grew up birding Mt. Auburn Cemetery. He received his Ph.D. in behavioral ecology in 1985 and began doing pen-and-ink illustrations of insects and their host plants for his thesis. Currently Tad teaches science and is the Dean of Faculty of the Cambridge School of Weston. The fulmars on the cover were drawn from a photograph taken on Skellig Michael, off the west coast of Ireland where Tad spends his summers. While in Ireland he paints watercolor landscapes and has exhibited his work in galleries in Ireland and the United States. 