



SKIMMING AND MURMURATION

Birds in flight capture my attention: eagles circling and soaring in a warm afternoon updraft, fall geese formed in V's drafting to conserve energy, osprey and terns divebombing fish to capture their meal, herons using their long wings arching nearly touching their wingtips to take full advantage of each stroke, or the lightning quick "here I am, now I'm not" flight of a hummingbird. There are two birds in flight that top my list: pelicans flying low, skimming over the water surface, and when shorebirds fly in unison, large groups darting and weaving. For years they've drawn my curiosity but only recently did I learn their purpose.

When birds fly low to the water, skimming permits the birds to take advantage of an aerodynamic phenomenon known as "ground effect." Basically, as the bird glides over the water, the air is "funneled" between the lower surfaces of the wings and the upper surface of the water. The air is thereby compressed and functions like a cushion of dense air that supports the bird aloft, in addition to the normal aerodynamic forces at work. As the bird nears the water surface, the ground effect becomes stronger. Thus, everything else being equal, it is more efficient to fly close to a surface than far from it. But things are rarely equal, which is why birds tend to take advantage of the ground effect when the "ground" is water. The ground effect only occurs when the flying object is much less than a wingspan from the surface – and at such an altitude over land a bird would be continually flying among obstacles, through grass, and so on. Only water is sufficiently uncluttered to permit such close safe passage. This aerodynamic phenomenon is very important to aerial wildlife, and it has been copied by humans. During World War II, long-range bombers often flew close to the water's surface to conserve fuel.

Several species take advantage of skimming: skimmers, petrels, albatrosses, shearwaters, cormorants, geese, and others. Brown pelicans with their seven-foot wingspan are a master of this technique, skimming along the shoreline following the crest and troughs of waves with ease, needing only intermittent flapping of their wings to maintain height. Brown pelicans visit the Washington coast seasonally, typically from April through November. Over the past decade, as many as 16,000 brown pelicans have been spotted during annual surveys in the Columbia River estuary and off the Washington coast.

Have you ever been awestruck watching flocks of starlings and shorebirds flying in a tightly packed mass, making astonishingly



sharp turns, darting and pulsing that appear to the unaided eye to be conducted entirely in unison? Their choreographed mayhem isn't happenstance, it's purposeful, and it even has a name, murmuration. Why do they do it? Murmuration often occurs when there is a predator nearby. These large, irregular shapes of flight are for their protection. It's when a predator lunges that being in a crowd really pays off. Numerous studies have shown individuals who travel in groups are more vulnerable when they stray off by themselves. This is due, in part, to the bewildering things an assemblage can do. By turning rapidly or simply tilting a bit on their axis, birds shift the appearance of their plumage from dark (their upperparts) to light (their underparts), creating a swift flashing effect that might startle or confuse predators. Studies have shown Merlin hunting shorebirds are most successful when they're pursuing individuals. Falcons do go after tightly packed crowds of dunlins and other shorebirds, but those hunts are most likely less successful than when they pursue a lone individual bird that has strayed from the flock.

There are numerous YouTube videos taken of birds in murmuration, this is one of my favorites: www.youtube.com/watch?v=_JWitLWXOAU.

"There is mounting evidence that the act of observing birds in nature is calming to our minds and bodies. In addition, birding is an excellent activity for the whole family," K. Zupich noted.

Island County has numerous locations to view birds. On Camano, visit English Boom, Utsalady Bay, and Barnum Point County Parks. On Whidbey, popular locations are Crockett Lake, Deer Lagoon, Dugualla Bay Preserve and beach. Whidbey Audubon Society is a great source for those who wish to learn more: www.whidbeyaudubonsociety.org.

Dave Davis, and his wife Barb Hardman, are members of the Sound Water Stewards Class of 2019, and participate in kelp bed temperature monitoring, invasive European green crab surveys, outdoor education and beach cleanups. They live on South Whidbey Island in the Sandy Hook community.



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Thank you, June, for being part of our Team!

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