

The Turkey Vulture

From SWS # 83

The sailor feels the lightest breeze as it flows across the face. The hairs on the sailor's cheek and neck signals the air's direction and strength. As experience accumulates the sailor comes to know the wind's behavior and how it veers and backs in response to its ever changing strength.

The sail of a boat can be likened to a bird's wing. The sail causing the boat to move through the water and the wing causing the bird to fly. So there has always been this connection -- a connection between sailboat and bird. Could this be why sailboat designers use bird names such as Dovekie and Marsh Hen when naming their designs? Could this also be why so many Shallow Water Sailors use names such as Egret, Turnstone, Pintail, Swan, Skimmer, Blue Heron, Shorebird, and Sparrow to name their boats? I expect the names Bright Feather and Dancing Feather also refer to our companions of the air.

But, for all the connections we pretend we have with our feathered friends, from the aerodynamic point-of-view, we utterly fail in coming anywhere close to what they can do. And that failure is shown most vividly and most dramatically when observing the remarkable turkey vulture as it skillfully soars over our heads. The bird glides for hours in the summer skies over much of the United States. It seldom has to flap its wings, but finds rising thermals, and soars thousands of feet into the summer sky.

Man's closest attempt at such flying was the Gossamer Condor -- a contraption of thin aluminum tubes covered with mylar plastic and braced with stainless steel wires. The dimensions and weight of the Gossamer Condor are as follows:

Wingspan - 96 feet
Length - 30 feet
Height - 18 feet
Weight -70 pounds + pilot = about 200 pounds



The brainchild of Dr. Paul B. MacCready and Dr. Peter B. S. Lissaman, both of Pasadena, California. They wanted to design and fly the first, truly man-powered, plane. On August 23, 1977, after many years of dedicated work, the Gossamer Condor successfully demonstrated sustained, maneuverable man-powered flight. Pilot (and engine) Bryan Allen took off from Shafter Airport, Shafter, California, at 7:30 a.m. and landed 7 minutes, 27.5 seconds later. The official circuit, a figure-8 course around pylons one-half mile apart with a 10-foot hurdle at the beginning and the end, covered 1.15 miles.

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The Gossamer Condor traveled a total of 1.35 miles from takeoff to landing. Its flight speed was between 10 and 11 mph, with Allen, a championship bicyclist and hang-glider enthusiast, developing, with great effort, one-third horsepower.

I remember being amazed and thrilled at the seemingly impossible feat of man powered flight. But, my dear friends, the Gossamer Condor is no turkey vulture! MacCready and his team couldn't even get the thing to make a turn, at first. As they tried to make it turn, its inner wing would stall and drop. Finally, they found if they actually bent the inner wing up, the contraption would make the turn without dropping out of the sky.

Consider, now, the bird. Yes, yes, it is ugly when you observe it close-up. Let's not get side-tracked by looks. Its dimensions and weight are:

- Wingspan - 6 feet
- Length - 2 feet
- Height - 1 foot
- Weight - 8 pounds

So now let's focus on how well this bird flies. The turkey vulture's flying abilities were demonstrated to me in a very intimate circumstance. It was mid-afternoon after an exhilarating sail in twenty knot winds. I had sought protection behind a stand of trees growing on a narrow peninsula. Nicely anchored I was enjoying the view when I noted a turkey vulture perched on a fallen, dead tree. It was a mere 50 feet away. What a big bird, nearly eagle sized. I got out my binoculars for a closer look. Just as I focused on the bird it took off.

The bird flapped its wings twice and started to glide. Now just remember there are no thermals, so close to the ground. The vulture was in the eddy of the trees. Sailors know about tree eddies. How many times have you gotten close to a tree line and have found the wind doing all kinds of weird things. I can't count how many times, while in such an eddy, I've looked up at my red wind direction indicator and saw it actually turning like a propeller!

Well, this vulture didn't have a red wind indicator on its head, but it sure knew what the wind was doing! The bird maneuvered close to the trees and seemed to find an up draft. It banked this way and that, never descending, but moving slowly out toward the end of the peninsula at an elevation of 15 feet.

It got to the end of the trees and turned into the twenty knot wind. At that point he disappeared from view, but soon I saw him gliding above the trees being lifted by the wind as it was deflected over the trees. Then it seemed to simply gain altitude stretching its wings to their full 6 foot dimension and holding them above the horizontal, forming the familiar dihedral wing pattern peculiar to the turkey vulture. Familiar too was its rocking and tilting motions.

I watched as it became a mere dot in the sky. Its altitude was probably a 1000 feet when I finally put the glasses down. Except for the first few wing flaps, I did not see the bird flap its wings again. So all the gained altitude and distance made good across country were accomplished by the seemingly magical use of the air and its currents.

This incredible soarer is common in the United States. Its keen sense of smell is vital for finding carrion. Black Vultures, a more southern species, lack its graceful flight and depend more on keen eyesight than sense of smell.

Here is how biologists class the turkey vulture:

- Kingdom: Animalia (animal)
- Phylum: Chordata (notochord)
- Subphylum: Vertebrata (backbone)
- Class: Aves (bird)
- Order: Ciconiiformes, e.g., Heron, Stork, Ibis, Flamingo families
- Family: Cathartidae, e.g. Condors, Turkey Vulture families
- Genus: *Cathartes aura* (Turkey Vulture)

We, the Shallow Water Sailors, class this bird as the true sailor of the skies!