



Traveling out, looking for this month's column in the landscape, I found myself on Crescent Beach. Standing there, with a cold wind slapping me in the face, I was slow to notice the huge forms hovering a short distance over my head. Eagles. Two of them, flying side-by-side. Hanging stationary in the air on immense wings. And behind them, some distance away, there was a western gull, bound by fishing line, staying aloft somehow, despite the nylon tangle that encircled its head and trailed off to a terminal clump of debris, whipping in the wind a few feet behind. The scene reminded me of many things. It reminded me of the threats that have faced these birds, the injured, garbage-snared gulls that arrive at wildlife rescue centers in a continuous stream, with little hope for recovery. The 20<sup>th</sup> century has been a harsh, almost apocalyptic period for some Northwest wildlife, due to a steady succession of new threats, introduced intentionally or unintentionally, by the region's human inhabitants. Yet, it also reminded me of these birds' resilience, their perseverance; despite the many threats that they have faced, each is still airborne. As the end of this century approaches, bald eagles, once close to local extinction on the north coast, have rebounded at an awesome rate. Often, overhead, I am seeing eagles, their broad brown wings silhouetted against the sky, their calls filling the air with that high-pitched, rusted-pulley staccato. Never before have I seen so many eagles on the northern Oregon coast. And it reminded me of a phone call from a friend of mine, a couple days back. She had just spotted two eagles over town. "They're south of us...over by your place...can you see them?? They're flying your way. Wait! Now they're flying this way! Here they come!! I have to go! [click]" It is always exciting to see eagles.

Certainly, for as long as I can remember, I have been mesmerized by raptors, these big birds of prey. I came by it honestly, I suppose, the son of a man - a bird enthusiast and part-time pilot - who aided raptor rescue operations when I was very young. At that time, these big birds were used for target practice by many rednecks, who were short on compassion but had ammunition to spare. A dissenting group of rednecks, my father among them, were appalled by the practice. They would relocate hawks, owls, and eagles that were about to be killed; elsewhere, they would locate injured raptors, patch them up, keep them until they recovered, and then release them back into the wild. (Such Oregon coast operations as Bandon's Free Flight still continue this practice today.) Shortly before my birth, my father had adopted one of these birds, a red-tailed hawk. But when I was born, the hawk was sent packing; my parents feared that it would mistake me for a large, hairless rodent, which - everyone agreed at the time - I closely resembled. Though the old, welded perch sat empty, there was plenty of talk about raptors, and many fine Saturdays spent in places where the eagles and hawks soared overhead, or in the canyons below.

Among all of the birds that I saw in the skies, perhaps none was as awesome to behold as the bald eagle, *Haliaeetus leucocephalus*. With a densely-packed body, and a wingspan of up to 8 feet across, it is a very big bird. Yet, it is graceful in flight, and can perform great aerobic feats, swooping, diving, snagging fish from the water in its talons. Its thick hooked yellow beak, and huge, black talons are well-suited to the task of holding and shredding prey, including birds, rodents, shellfish, snakes, and, most of all, fish. Fish are their staple, and hundreds, even thousands of eagles can be seen along some Northwestern rivers during peak runs of herring or salmon. When pickings are scarce, eagles - adept fliers, all - will sometimes swoop down to jostle an osprey, yet another fish-catching raptor, stealing the osprey's catch in mid-air. On rare occasion, coast-dwelling eagles will try to snag a living bird off the rocks, sending raucous clouds of seabirds skyward. It is the sick and injured birds that the eagles seek out. Some say that nesting birds spring skyward when eagles approach, not to escape, but simply to demonstrate their health. Their unfortunate peers who don't leap up become conspicuous, potential targets, incipient Eagle Chow ®.

Under good conditions, bald eagles can live up to 30 years. Immature eagles are brownish in color, and are sometimes mistaken for other birds of prey (but notice - young eagles are bulkier than most raptors, mottled underneath with light white blotches). At age four or five, eagles become adults: their plumage takes on the characteristic white head and tail, and they select a mate. Somewhat like the salmon they consume, these birds range over great distances, but usually return to the vicinity of their birth to mate; once mates pair off, they usually stay together for life. When building nests, eagles occupy the tallest trees, the most sturdy of snags. Returning annually, eagles add on to the same nest, year by year, until their nests reach awesome proportions. Some nests may attain a diameter of almost 10 feet; some will, after many seasons, come to weigh almost 2000 pounds. Some will be used continuously until the tree's top collapses, sending the entire nest crashing onto the forest floor below. (Heads up.)

Each bald eagle has roughly 7100 feathers, of many different designs. To some Northwestern Native Americans, each type possessed a distinct ceremonial significance, manifesting the enviable qualities of eagles: their power, their fishing skills, their personal loyalty to mates and ancestral places. Traditionally, eagle down is tossed in the air at the end of political negotiations, weddings and other events, signifying a peaceful conclusion of transactions and the ceremonial 'binding together' of families or villages.

Eagles range broadly, from the icy northernmost fringes of North America down to northern Mexico, but always, they will locate near water: rivers, lakes, marshes. Whenever possible, they will locate close to the ocean. The proximity to fish is key. The size of an eagle's territory is a function of the local availability of fish; the fewer the fish, the greater the area required to make a living. Nesting and feeding areas require relative solitude, big trees, clean water, abundant fish; as these conditions have disappeared across the North American continent, so too has the eagles' habitat. In addition to the destruction and degradation of habitat, though, the 20<sup>th</sup> century has brought many other threats: not only target-shooting rednecks with rifles, but also farmers and ranchers, some of whom shot every raptor they saw, erroneously viewing them all as an equal threat to chickens and young livestock. Some eagles suffered from lead poisoning, as they snatched up injured birds, filled with hunters' lead shot.

Perhaps most threatening of all, though, was the pollution. A number of hazardous chemical compounds, PCBs, dieldrin, DDT, were spread liberally over the North American landscape in the mid-20<sup>th</sup> century. Though not toxic in small doses, creatures at the top of the food chain, cumulatively consuming vast numbers of infected prey, often ingested very large and hazardous doses. DDT, for example, sprayed on croplands throughout the country, would be washed off the land into nearby waterways. There, it was absorbed into the tissues of small aquatic plants and animals that were, in turn, eaten by fish. Eagles and other birds, such as ospreys, then ate these fish in large numbers. The contaminant grew more concentrated at each level up the food chain, finally reaching toxic levels among the eagles. DDT contamination caused eagles to develop nervous system disorders, and interfered with their reproductive cycle. Eagle's egg shells became very thin; the adult birds, attempting to incubate these eggs, would crush them under their own weight.

The impact on eagle populations was devastating. The contiguous 48 states housed up to 75,000 bald eagles two centuries ago, when they were declared the national bird. By the 1960s, when they were listed for Endangered Species Act protection, there were fewer than 450 nesting pairs left. As both a national symbol and an environmental poster-bird, the eagle's plight drew the attention of

an unusually broad spectrum of the American public. Their concerted efforts brought tangible results. DDT was outlawed in 1972 and, in the years that followed, restoration efforts sprang up around the country. Eggs from healthy birds were gathered and hatched in captivity. (When their eggs disappear, eagles simply lay another batch, doubling the number of offspring they might have that year.) Elsewhere, healthy eggs were used to replace eggs with fragile shells. As levels of DDT and other contaminants began to subside, eagles from thriving populations were sometimes relocated to areas where eagles had been depopulated in previous decades. In some places where eagle-friendly conditions persisted, such as at the Twilight Eagle Sanctuary, a short distance up the Columbia from Astoria, people with foresight took the opportunity to permanently set aside lands to house breeding colonies of eagles.

The results, so far, have been impressive; today, there are more than 4000 nesting pairs of bald eagles in the lower 48, and a surging population of youngsters who are, at present, unattached. Ten years ago, eagles were rare in the Cannon Beach area, with only one or two breeding pairs hiding out in the last stands of big timber. Today, it is quite likely that you will see eagles overhead. Most of them - and this is encouraging - are quite young. It may be decades before we see numbers close to those that existed historically, yet - so far - the trend is promising. But don't get too comfortable. (Heads up.) The eagles are not yet out of the woods. There are many chemical compounds still swirling around the food chain, including a few new ones, that have unknown impacts on living things, eagles among them. And, even in an environment free of hazardous contaminants, the absence of suitable habitat places restrictions on the number of eagles that might return. Once, it was commonplace to find giant trees, clean water, abundant fish, and quiet on the Oregon coast, but this particular combination has become increasingly rare. Still, there are still places, here and there, that have these things, that meet all of the eagles' needs. Look for these places. Take good care of these places. Right now, intentionally or unintentionally, we are deciding whether future generations will have the chance to stand on the beach, look up, and see bald eagles soaring overhead.

You can find much more information on bald eagles in David Gordon's book, *Audubon Society Field Guide to the Bald Eagle* (Seattle, Sasquatch Books, 1991) or Jonathan Gerrard and Gary Bortolotti's book, *The Bald Eagle: Haunts and Habits of a Wilderness Monarch* (Washington D.C., Smithsonian Institution Press, 1988). The North Coast Land Conservancy has played an important role in identifying and purchasing sensitive eagle nesting areas on the northern Oregon coast.

Everything is funny as long as it's happening to somebody else.  
Will Rogers

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