

The Bald Eagles of Holtwood Dam

I was hiking along Route 624 near Long Level, ahead of my family, eager to finish this unpleasant stretch of trail. The road is rather busy and there is not much room to walk. The cars rush past leaving behind a swirl of exhaust for one's offended nose. I looked up, out at the river. Soaring above me, I saw unmistakably a bald eagle, its white head and tail brilliant against its black body. I urged my family to look as the cars zoomed by, oblivious. Seeing the perfect eagle had completely made up for all the cars and exhaust and ennui of this section. When we were hiking north of Apollo Park, we saw three birds that may have been juvenile eagles and south of Codorus Furnace we saw another bird that could have been an eagle. But it was only on busy Route 624 that we were lucky enough to definitely see one of these majestic birds.

Bald eagles are versatile birds, ranging from Canada to Florida. Adults bear the familiar white head and tail paired with a black body. Juveniles are mottled grey and black and white in appearance until their fourth or fifth year of life (Terres 447). Female eagles are larger than the males and can have wingspans of up to seven and a half feet. Eagles thrive in places with tall trees for nests and much water from which they can pull fish, their primary food. These birds have extraordinary vision, which allows them to see their prey from high in the sky. A nictitating membrane acts as a second eyelid and protects the eye. The arrangement of their feathers has evolved to be the most beneficial for flight (Dudley 10). In the winter many eastern eagles migrate along the Appalachian Mountains along with many other raptors. Tish Swam of the York Audubon Society says that one can see as many as seventy eagles in a day congregating at Conowingo Dam during the winter months.

Predatory bald eagles are the top of their food chain. Unfortunately, this chain can be very precarious. After World War II, DDT, or dichlorodiphenyltrichloroethane, was used as an insecticide. It was used on crops throughout the country. Residue from the sprayings washed into the waterways. Then, small aquatic organisms living in these contaminated waterways absorbed the chemicals. The fish then ate these small organisms and gained higher and higher concentrations of DDT in their bodies. The eagles subsequently ate the fish and large amounts of DDT built up inside of their bodies. In her book, *Silent Spring*, Rachel Carson tells of how when small things are harmed, the consequences can be anything but small. This is quite evidenced by the eagles. DDT's effect on the eagle population was devastating. The DDT caused the eagles' eggshells to thin. Then the eggshells could not hold the weight of a mother eagle and were crushed before they could incubate. Some eggs simply did not hatch. Fewer and fewer eagles were being born. The effects of DDT combined with habitat loss and encroaching humans caused the eagle population to plummet, leaving the eagles a dying species. They were put on the Endangered Species List and in 1972 the use of DDT was banned. Still, in 1980, according to the Pennsylvania State Game Commission, there were only three nesting pairs of eagles in the state. Humans began to make amends for their role in decimating the eagles. Captive breeding programs began, letting the eagles lay one set of eggs, then taking them away so the eagles could raise another. The eagle populations finally began to rebound. As our national bird, eagles have great popularity. People see eagles as an embodiment of freedom and power. Eagles soar the skies, the top of the food chain. They are possibly the most admired bird in the world, yet people's actions

were putting the eagles on the path to extinction. Patent says, “It is important for us to understand the power we have over living things and to use that power wisely.”

Their protection was a task joyfully shouldered by the nation. In 1973, the Endangered Species Act protected the eagles as their first species. At the Patuxent Wildlife Research Center, eagles were bred in captivity, largely increasing their numbers. Scientists have taken blood samples from eagles to analyze the components and determine how different toxins are affecting the eagles, and how to remedy the damage. In 2006, the Pennsylvania State Game Commission reported one hundred six breeding pairs of eagles in the state.

Jim Smith is a naturalist who works with the Pennsylvania Power and Light Company (PPL). He studies the eagles around Lock 12 on both sides of the river. During the nesting season, he posts a report on the PPL website about the lives of the eagles. In 2006, Smith tells of the pair of eagles who nest in the electric wires above Holtwood Dam. They have been nesting here since 1999 and have produced twenty-two offspring. He describes the eagles as they ready for their eggs in February. Sticks and leaves are added to enlarge the nest. The female goes through a period of “false incubation” where she lays in the nest as if she has eggs. With the advent of the eggs, the female and the male eagles will switch off sitting on the eggs and bringing food to the other. By April the eggs have hatched, bringing three voraciously hungry eaglets into the world. A huge storm that caused much flooding of the river coincided with the time the eaglets should be fledging, or taking their first flights. Smith was concerned after the storm when he could only see one eaglet in the nest. A few days later, the other two were spotted, full-fledged juveniles. The 2006 breeding season ended with three new

successes. 2007 was a different story. Unfortunately, the female was killed. The male's new mate was young and inexperienced. She left the nest one day when the egg was within a week of hatching. The temperature was below freezing and the embryo froze. This was one tragic example of the death of an eagle that was not by human causes. Fortunately, this failure was not so catastrophic today as it would have been just twenty years ago.

The bald eagles of Pennsylvania, particularly the ones at Holtwood Dam, are a story of humans and nature interacting in ways both amazingly beneficial and horridly devastating. Some times the interaction is neither of the extremes but still the eagles and the humans must live together. The eagles at Holtwood nest in the power lines. Tall trees that may have hosted the eagles' nest were cut down to make room for those power lines, so the eagles took the man-made alternative. This could backfire upon the eagles if maintenance was needed for surely for people the power lines would come before the eagles. On the other side, from March through July, hikers on the Mason-Dixon Trail must take a detour around the eagles' nest to not disturb the eagles during the nesting season. Another consideration is the dam. The dam is man-made, creating Lake Aldred from which the eagles fish. Elsie Singmaster tells of the Holtwood area before the dam as a stretch of river dreaded by boatmen because of the great turbulence of the rapids as the river rushes down to the Bay. Would the eagles have nested here if the dam did not create this lake? Humans in their quest for quelling nature almost eradicated the bald eagles. Yet the eagles surely would not have been able to recover so quickly without the aid of humans. The decline of the eagles resulted from a gross assumption on the part of humans that nature is at their disposal. However, the resurrection of the bald eagles came

from the efforts of the humans to check themselves and repair the great damage they had caused. From our mistakes, we humans must learn to respect nature and coexist, for as Rachel Carson so eloquently tells us, “Although modern man seldom remembers the fact, he could not exist without the plants that harness the sun’s energy and manufacture the basic foodstuffs he depends upon for life,” (64).