

THE BALD EAGLE

SYMBOL OF OUR NATION



RACHEL
CARSON
COUNCIL 



BALD EAGLE FACTS

Our nation's symbol is the Bald Eagle, which is not really bald; it has white feathers on its head, neck, and tail. The word ***bald*** in the eagle's name comes from a derivation of ***balde***, an Old English word meaning ***white***.

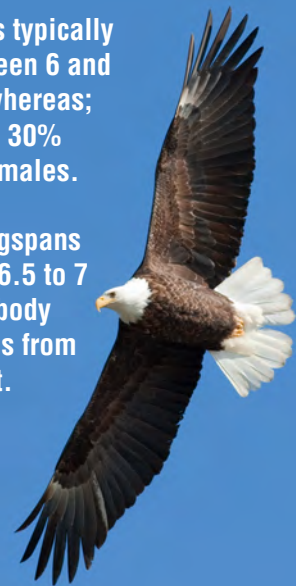


In **1782**, the U.S. Congress selected the Bald Eagle as our national symbol because of the bird's long life, great strength, and majestic looks.

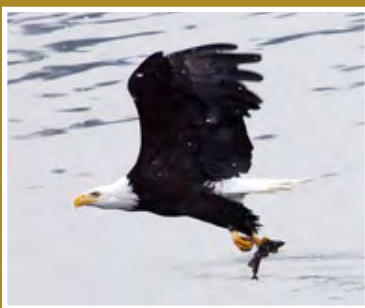
There are
8
different
species
of eagles
that inhabit
North America.

Male eagles typically weigh between 6 and 8 pounds, whereas; females are 30% larger than males.

Eagles' wingspans range from 6.5 to 7 feet, while body length varies from 3 to 3.5 feet.



Bald Eagles can live up to 30 years in the wild and 48 in zoos.



Bald Eagles feed primarily on fish, but will also feed on ducks, rodents, snakes, and carrion (dead animals).

They are diurnal (day) hunters that can swim, fly 20-40 miles per hour in normal flight, and dive at speeds over 100 miles per hour. Eagle nests are very large (they may use the same nest year after year, adding more twigs and branches each time). One nest found had been used for 34 years and weighed over 2 tons!



The bald eagle belongs to a group of birds known as raptors, or birds of prey that hunt and feed on other animals. They have very sharp vision that allows them to find prey during flight. They also have very strong talons (claws) and beaks. Raptors are important for a healthy ecosystem and by protecting them many other species are protected.

Other raptors include: Ospreys • Kites • Hawks • Harriers • Vultures • Falcons • Owls

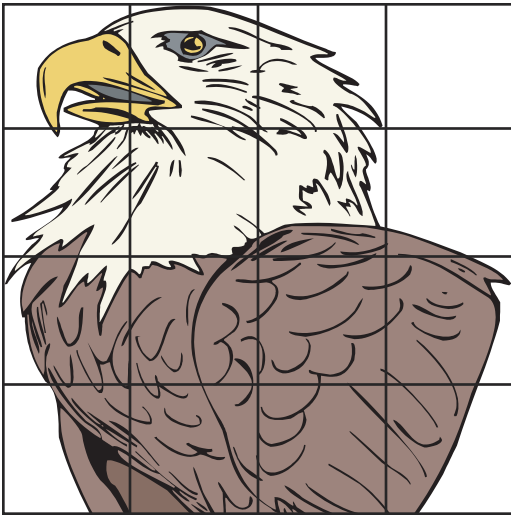
Removing one chemical, DDT, from the environment contributed to the recovery of the nation's symbol and most beloved bird...

...the Bald Eagle

Egg size: 6-12 cm

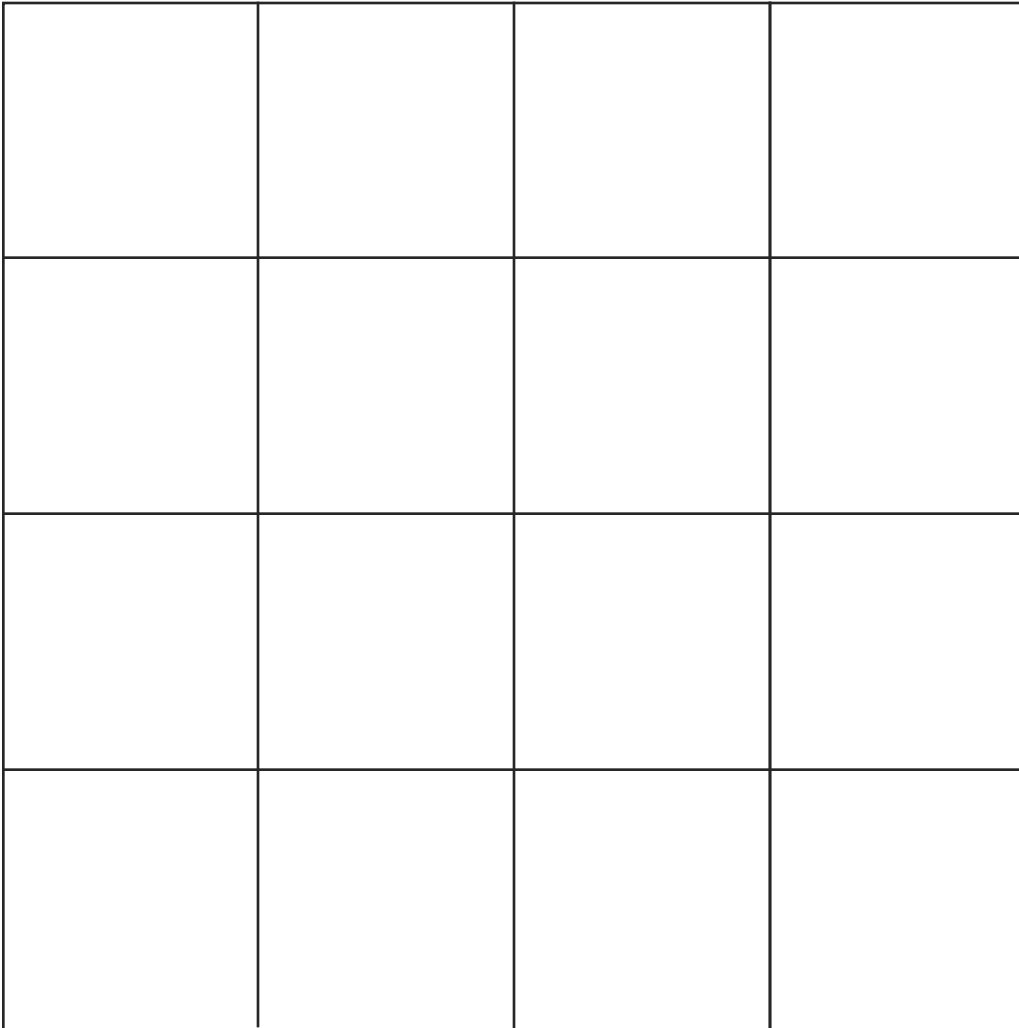
**Nest size:
up to 12 feet
diameter**





You Can Draw!

Use the grid to draw
the Bald Eagle.



BALD EAGLES

Common Name

Bald Eagle

Class

Aves

Order

Falconiformes

Family

Accipitridae

Genus species

Haliaeetus (sea eagle)

Leucocephalus (white head)

Size

3 - 3.5: ft in height;

6.5 - 7.5 ft wing span

Weight

Males 8 - 9 pounds;

females 10 - 14 pounds

Description

Adults have a distinctive white head and tail with a dark brownish black body and a bright yellow bill. Juveniles (younger bald eagles) lack the white head and tail. They are mostly chocolate brown with varying amounts of white over the body, tail, and under wings.

Life Span

up to 30 years in the wild and 48 years in zoos.

Adulthood Age

4 - 5 years old (this is the age when bald eagles get their white heads).

Eggs

Eagle eggs hatch in 31 - 45 days

Habitat

Bald Eagles occur from Baja, California, and Florida north to Newfoundland and Alaska. Within this area, they live and nest near coastlines, rivers, lakes, wet prairies, and coastal pine lands.

During migration, they may pass over mountains and plains.

Diet

Bald Eagles are predators & scavengers. Their primary prey is fish, but they will sometimes take small mammals, waterfowl, wading birds, and dead animal matter, especially during the winter.



Bald Eagle Basics Word Search



Find the terms listed below.

Words can appear horizontally, vertically, diagonally, forwards or backwards.



Fish and Sea Eagles

Bald Eagle

Talons

Waterfowl

Fish

Balde

Raptor

Predator

North America

Beak

DDT

Eyries

See page 7 for word definitions.

Glossary

Anadromous: Fish that migrate from salt water to fresh water to breed.

Bald Eagle: Raptor; National Emblem for the United States.

Balde: Old English word meaning “white”.

Beak: Yellow structure on an eagle’s head that is used to tear apart its prey.

DDT (Dichlorodiphenyltrichloroethane): a pesticide that caused the thinning of eagle eggshells.

EPA (Environmental Protection Agency): the Federal agency responsible for the control of all forms of pollution and other kinds of environmental hazards.

Eyries: Term used for an eagle’s nest

Fish: Animals that live in the sea and make up 90% of an eagle’s diet.

Fish and Sea Eagles: Group of birds that includes the bald eagle.

Mercury: A highly toxic heavy metal.

North America: The continent where bald eagles are found.

PCBs: (Polychlorinated biphenyls): A mixture of individual chemicals which are no longer produced in the United States, but are still found in the environment. They are known to cause cancer in animals.

Pest: Any living organism (plant or animal) that occurs where it is not wanted or that cause damage to crops or humans or other animals.

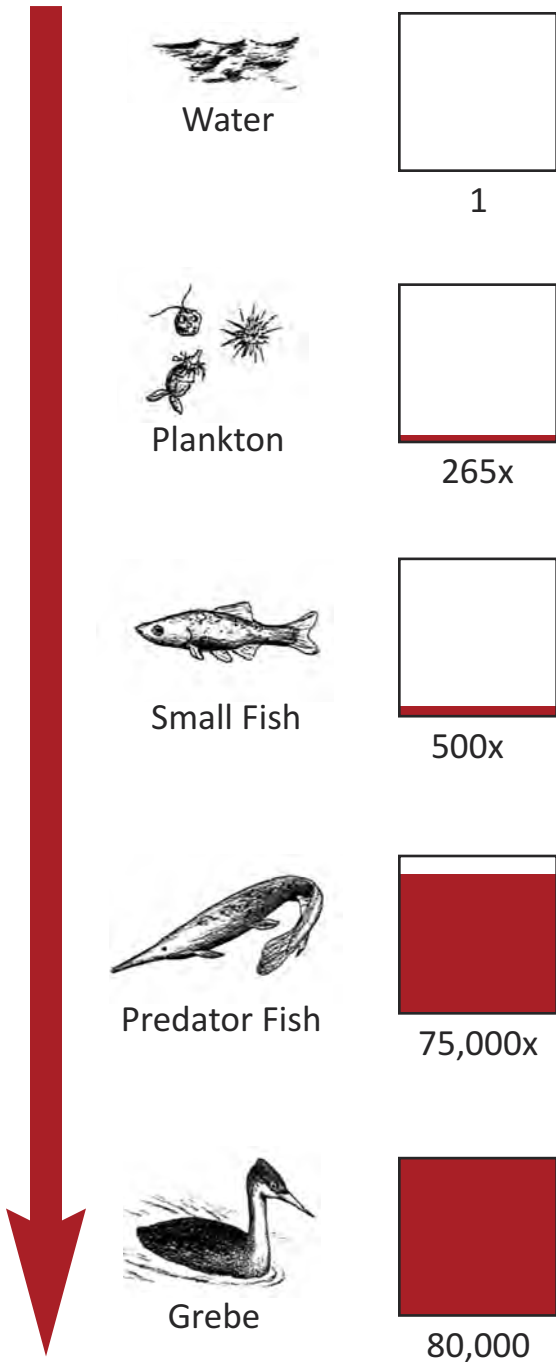
PPM (Parts per million): Concentration of a substance in water or soil out of 1 million.

Raptor: Birds of prey, such as eagles, hawks, and falcons.

Talons: Sharp claw-like structures used to catch and kill prey.

USFWS: U.S. Fish and Wildlife Service.

DDD Concentrations in the Clear Lake Food Chain



In Lake Clear in northern California, DDD, one of the breakdown products of DDT, was concentrated in plankton at 265 times its concentration in the lake water. In grebes, the concentration had risen to 80,000 times that of the water.*

BIOMAGNIFICATION

The accumulation of a substance up the food chain from smaller organisms to larger organisms. Rachel Carson's book, *Silent Spring*, sounded the alarm about how people were using chemicals without knowing their impacts on the environment.

**Fint and van den Bosch, 1977*



Bald Eagle's Status: Past and Present

1782: Bald Eagle is adopted as the National Symbol of the U.S. and there are approximately 100,000 nesting pairs living in the lower 48 states (not including Alaska and Canada).

End of 1800s: Eagle numbers drop dramatically due to competition for the same food, and from habitat destruction by European settlers.

1930s: Bald Eagle numbers continue to decline.

1940: Bald Eagle Act passed to protect the nation's symbol. Also, the "miracle pesticide" DDT started being used against mosquitoes and other insects without prior testing of its effects on animal populations.

1940, 1950, 1960s: DDT accumulation up the food chain caused the egg shells of the Bald Eagle, and other birds, to become so thin and fragile that they were being crushed when mother eagles, and other birds, tried to incubate them.

By 1963: Only 417 nesting pairs of bald eagles remained in the lower 48 states.

1967: Bald Eagles are officially declared an endangered species in all areas of the lower 48 states under a law that preceded the Endangered Species Act of 1973.

1972: DDT use banned in the United States.

1973: The Endangered Species Act is signed into law by President Richard Nixon.

1978: Bald Eagle is listed as a threatened species in Minnesota, Wisconsin, Michigan, Oregon and Washington, and endangered in the remaining contiguous states.

1995: Recovery of bald eagle populations, due mostly to the banning of DDT, led to an upgrade from "endangered" to "threatened" by the USFWS.

1999: The USFWS proposes delisting the bald eagle from the Endangered Species list, but it was determined that they could not be delisted at this time.

2006/2007: There are at least 7,000 nesting pairs of bald eagles in the contiguous U.S.

June 29, 2007: Proposed date by which the USFWS will make a final determination on the eagle's status for delisting from the Endangered Species List.

August 9, 2007: the bald eagle was removed from the federal list of threatened and endangered species. After nearly disappearing from most of the United States decades ago, the bald eagle is now flourishing across the nation and no longer needs the protection of the Endangered Species Act.

*The single-most important regulation affecting bald eagle recovery may have been the banning of DDT for most uses in the United States.

*DDT is still used today in other countries such as Africa, Bolivia, and the Philippines to control mosquito populations in order to prevent the spread of malaria.

RAPTORS



Bald Eagle

The Bald eagle became our national symbol in 1782. In 1963, 400 breeding pairs of Bald eagles existed in the U. S. This was due in large part to the use of the insecticide DDT. By 2007 the estimated population of Bald eagles had exceeded 11,000 breeding pairs. This resurgence was primarily due to the protection offered by the Endangered Species Act (ESA), passed in 1973, and the banning of DDT use in our country for virtually all purposes in 1972. The Bald eagle was taken off the endangered species list in June 2007.

Raptors occupy a place similar to people, high on the food chain. Thus they can serve to alert us to problems with contaminants before signs of toxicity become evident in the human population, as happened with the Bald eagles and DDT. Other raptors were also adversely affected by DDT.

Raptors are capable of flying great distances during their migrations. Due to their size, beauty, grace and flying abilities, they are much admired here and abroad. When raptors are suffering, people often respond by taking steps to protect them, even cooperating across borders.

Raptors have been used by airport managers to help keep away populations of unwanted birds that could collide with planes.

Eating high on the food chain, raptors depend on a series of lower life forms being healthy and forming sustainable links in the chain. For example, if the caddis fly larvae in our streams are reduced (perhaps due to pollution in the stream), then the survival of fish relying on them for food also can be reduced. Fish feeding on those fish are reduced as well. The osprey (a raptor) or the Bald eagle (a raptor) feeding on the fish can be stressed due to the lack of fish (an inadequate diet). They can also be stressed due to contaminated food sources, such as fish.

Breeding pairs of raptors often need a secure habitat in order to raise their young. Bald eagles



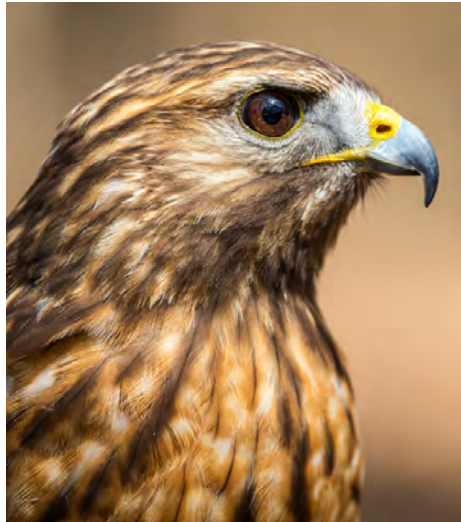
Peregrine Falcon

are extremely sensitive in this regard. If the parents are disturbed at certain critical times in this process, they may abandon their nest, leaving the eaglets (young eagles are called eaglets) to starve. Thus it is vital to Bald eagles' survival as a species, for their nesting areas to remain undisturbed (by trespassing humans).

Eagles and other raptors often need tall trees for their nests. In the Philadelphia area, between 1976 and 2004, two-hundred-thousand (200,000) shade trees were lost, according to a recent estimate.



Marsh Harrier



Red Tailed Hawk

Bald eagles can be harmed when fish populations decline or become contaminated due to toxic chemicals, such as pesticides. Salmon are an important food for Bald eagles. Here are three ways in which harm from pesticides can take place. (1) At high levels, such as following a toxic spill, pesticides can kill fish outright. (2) At non-lethal concentrations, pesticides can interfere with the salmon's ability to survive. The presence in salmon streams of even low levels of atrazine (a commonly used herbicide) has been found to interfere with salmon's sense of smell, their primary means of avoiding predators (from researchers at Simon Frazier University). (3) laboratory salmon died when exposed to combinations of pesticides that had not been deadly when tested individually (from Nat Scholtz of NOAA) - this may also take

place in the wild. U.S. wild salmon populations are declining and pesticides are believed to be contributing to this process.

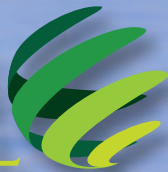
Very young birds in the nest are more sensitive to harm from toxic chemicals in food brought to them by parents. The only way to be certain that nestlings do not receive toxics in the food is to limit the amount of pesticide contamination in the environment.

Those who wish to help raptors survive should consider all of their needs, from preventing pesticide exposure to protecting their habitat and making certain adequate food is available.



Turkey Vulture

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Rachel Carson Council, Inc., February, 2014

