



# FYI

INFORMATION

*A Research  
Summary  
From the  
Washington  
Forest  
Protection  
Association*

## **Bald Eagle Population in Washington Thriving, Helped by Protection of Nest Sites and Good Forest Management Practices**

**T**he bald eagle, at one time hunted and poisoned to the brink of extinction, is again flourishing in Washington state, thanks in large part to a ban on hunting, the cessation of DDT usage, and prudent forest management plans that protect valuable nesting sites. Eagle populations have risen from only 106 nesting pairs in the state in 1980 to an estimated 650 pairs today, according to James Watson,

a senior wildlife research scientist for the Washington Department of Fish and Wildlife (WDFW).

"The bald eagle is thriving once more in the state," said Watson. "Extensive surveying over the last two decades has shown an extremely rapid rise in nesting pairs from 1980 to the early 90s, slowing in the latter half of the decade. This is an indicator that they have probably filled most of the breeding territory available to them in western Washington, although we still could see more growth in the sparser population east of the Cascades."

Bald eagles begin nest building in the late winter, lay their eggs in the spring, and return to the same sites year after year. Nearly all of their nest sites (97 percent) in Washington are within 3,000 feet of a marine, lake, or river shore. Nests are usually built in mature trees—common types include Douglas-fir and Sitka spruce along the coast, Ponderosa pines in eastern Washington, and in cottonwoods along rivers.

Tree types and ages, however, seem to be less important to the eagles than previously thought, according to Frank Isaacs, a senior faculty research assistant

with the Oregon Cooperative Fish and Wildlife Research Unit at Oregon State University. "Biologists used to believe old growth trees were necessary, and although they are preferable, the bald eagle has proven to be extremely adaptable both to nest locations and to human activity close by." Isaacs, an expert on the eagle population in the Columbia River basin, said there have been nests reported in such unlikely places as golf courses and power lines around the country.

### **Historically, Thousands of Pairs**

According to Isaacs, at the time of Lewis & Clark's expedition there were thousands of breeding pairs in the Pacific Northwest. Even in the late 1800s, although there were no official surveys, there are many written references attesting to their great numbers. As the area became more populous, however, there grew a common—albeit mistaken—sentiment among settlers that eagles were a threat to livestock and children. In similar fashion to wolves and coyotes, eagles were shot, trapped, and even poisoned both directly and by feeding on carcasses of other animals that were poisoned. "The first Northwest bird book published in the 1940s listed the bald eagle as



Photos by Dick Hancock

*Bald eagles usually build nests in mature trees near a body of water, as they rely on fish for the majority of their diet. In addition to those nesting in the state, many additional eagles come from all over the western U.S. and Canada to feed on spawning salmon in the winter.*



extremely scarce,” said Isaacs. “Between direct mortality from man and indiscriminate logging practices of the time, the bald eagle was in deep trouble.”

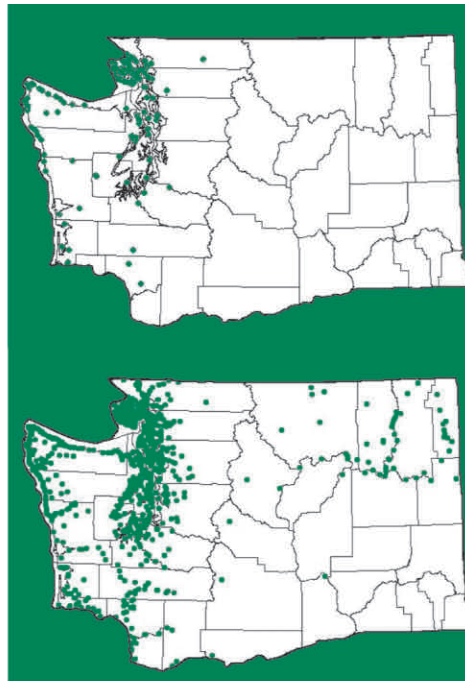
To compound the danger to the species, their already depleted numbers became critically threatened by the widespread use of DDT as a pesticide starting in 1945. Golden eagles were not as affected because they mostly feed on land animals. Bald eagles feed primarily on fish, and the aquatic food chain became saturated with the chemicals, causing thinning of the eagles’ egg shells and other serious reproductive problems in the species. When DDT was banned in 1972, there were probably only about 100 breeding pairs left in Washington.

### **Forestry’s Role in Recovery of State’s Bald Eagle Population**

The recovery of the species has been achieved through a combination of policies at both the federal and state level. The bald eagle is listed as “threatened” under the Endangered Species Act, meaning it is illegal to harm both the birds themselves and any known nesting site. In Washington, it is state law (WAC 222-16-080 1a) to have a wildlife biologist approve any forest management activity within a quarter mile of a known nesting or roosting site to ensure minimum disturbance to habitat. Julie Stofel, a WDFW biologist, has this responsibility in one of the state’s six regions. “Whenever a permit is requested for building or timber harvesting, the location is checked for proximity to any known bald eagle sites. If there is a conflict, landowners either bring their own plan to us for our approval, or we will work with them to develop a Bald Eagle Management Plan.”

According to Stofel, more than 1,150 of these plans have been developed over the last 20 years. “This type of oversight is especially important in our state because more and more private citizens are building waterfront homes, and over two-thirds of eagle nest locations are on private land. Our plans help people coexist with bald eagles with minimal disturbance to breeding cycles.”

Dan Varland, a wildlife biologist with Rayonier, a private timber company in



western Washington, said that his company has signed 21 bald eagle site management agreements with WDFW over the past decade. “Each plan is unique and site-specific,” he said, “and intended to minimize impact on bald eagle nesting. We’ve learned that carefully planned management activity can protect and enhance wildlife habitat and at the same time provide the landowner with an opportunity for timber harvest.”

Norm Schaaf, a vice president of Merrill and Ring, a timber company on the Olympic Peninsula, voiced much the same sentiment. “We have had a very good experience working with the state,” he said. “We currently are protecting 32 nests on our land under 11 different plans, and it has been very rewarding to see the eagles prospering and know we had a hand in their recovery.”

### **Bald Eagles’ “Carrying Capacity” Nearly Reached in Washington**

There are a finite number of nesting territories available, and the eventual goal is to have all of these areas occupied by breeding pairs, said Watson. Bald eagles are fiercely territorial when breeding, so a pair will defend a territory from other adults. The size of their territory varies greatly depending primarily on food availability. For example, territories are much larger in the drier regions east of the Cascades because there is far less density of prey.

### **Bald Eagle Nest Sites, 1980–98**

*These two maps illustrate the dramatic rise in the population of bald eagles in Washington over the last few decades. The top map shows known nest locations in 1980, the bottom in 1998. They have increased exponentially in number while also expanding to previously unoccupied territory. Sound forest management practices have contributed greatly, as more than 1,150 management plans have been developed statewide to protect individual nesting and roosting sites.*

Watson says that modeling of the nesting population indicates Washington’s carrying capacity—the number of territories that can coexist in a given area—will accommodate approximately 733 breeding pairs and 4,913 total bald eagles at equilibrium. After all of the state’s territories are occupied—which they nearly all are—a major indicator is competition for territory. According to Watson, there have been at least six recent fatal encounters between breeding adults and floaters (adults without mates). This, he said, is validation that our protection policies have worked and that the bald eagle has almost recovered. The successful return of the bald eagle is a prime example of the effectiveness of sound public policy and responsive forest management. ■

#### **For Further Information**

More information on the subject is available in the “Population of Bald Eagles Breeding in Washington at the End of the 20th Century,” co-authored by James Watson and published in the *Journal of Raptor Research*, 35:161-169.



**Washington Forest Protection Association**

724 Columbia Street NW, Suite 250

Olympia, Washington 98501

360-352-1500

[www.forestsandfish.com](http://www.forestsandfish.com)

[info@wfpa.org](mailto:info@wfpa.org)

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