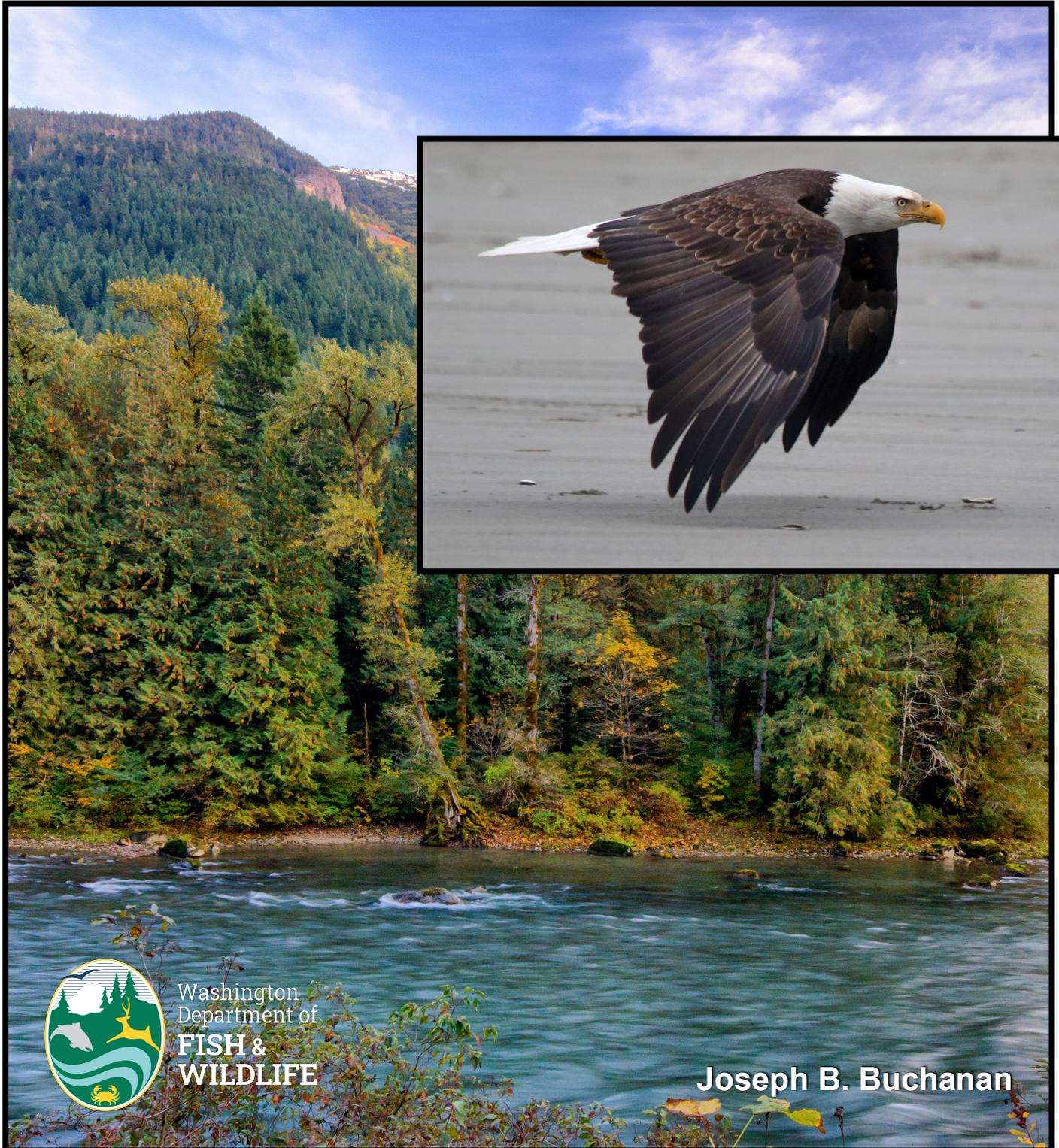


Periodic Status Review for the Bald Eagle



Washington
Department of
**FISH &
WILDLIFE**

Joseph B. Buchanan

The Washington Department of Fish and Wildlife maintains a list of endangered, threatened, and sensitive species (Washington Administrative Codes 220-610-010 and 220-200-100). In 1990, the Washington Wildlife Commission adopted listing procedures developed by a group of citizens, interest groups, and state and federal agencies (Washington Administrative Code 220-610-110). The procedures include how species listings will be initiated, criteria for listing and delisting, a requirement for public review, the development of recovery or management plans, and the periodic review of listed species.

The Washington Department of Fish and Wildlife is directed to conduct reviews of each endangered, threatened, or sensitive wildlife species at least every five years after the date of its listing by the Washington Fish and Wildlife Commission. The periodic status reviews are designed to include an update of the species status report to determine whether the status of the species warrants its current listing status or deserves reclassification. The agency notifies the general public and specific parties who have expressed their interest to the Department of the periodic status review at least one year prior to the five-year period so that they may submit new scientific data to be included in the review. The agency notifies the public of its recommendation at least 30 days prior to presenting the findings to the Fish and Wildlife Commission. In addition, if the agency determines that new information suggests that the classification of a species should be changed from its present state, the agency prepares documents to determine the environmental consequences of adopting the recommendations pursuant to requirements of the State Environmental Policy Act.

This is the Periodic Status Review for the Bald Eagle. It contains a review of information pertaining to the status of Bald Eagles in Washington. It was reviewed by species experts and was available for a 90-day public comment period from 22 February 2024 through 22 May 2024. Comments received were considered during the preparation of the final periodic status review. The Department will present the results of this periodic status review to the Fish and Wildlife Commission at a meeting in June 2024.

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*Cover photos: Background by Justin Haug. Flying eagle by Tom Rowley.
Title page illustration by Darrell Pruett.*



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Periodic Status Review for the Bald Eagle in Washington



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June 2024

ACKNOWLEDGING THE INDIGENOUS PEOPLE OF THE PACIFIC NORTHWEST

Since time immemorial, Indigenous People have lived in the Pacific Northwest and hunted, fished, and gathered natural resources, traditional foods, and medicinal plants to support their diverse cultures. They were the original occupants and stewards of this land that all Washingtonians enjoy today.

The very survival of the Pacific Northwest Tribes is a testament of resiliency of what they have endured and continue to endure throughout generations on this landscape. Through many historical encounters of massacre, renunciation of religious freedom, systemic racism, cultural assimilation of native children through institutional residential schools, and the fight for their inherent rights and liberties, they have prevailed. Throughout this painful history brought by colonization, abrogated treaties, infringement of civil rights, and the salmon protests of the 1960s, the Northwest Tribes and the Washington Department of Fish and Wildlife (WDFW) have founded a commitment of respect, unity, and alliance informed by the realities of the past.

Today, tribal governments and WDFW work collaboratively to conserve and manage aquatic and terrestrial resources statewide and practice sound science to guide management decisions. The Tribes and WDFW work together to ensure the sustainability of fish, wildlife, ecosystems, and culture for the next seven generations and beyond.

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EXECUTIVE SUMMARY

The recovery of the Bald Eagle (*Haliaeetus leucocephalus*) across North America is a major success story in the history of wildlife conservation in the United States. When the species was listed as Endangered under the federal Endangered Species Act in 1978, the primary reason for its imperiled status was the effects of chemical contaminants and, to a lesser extent, habitat loss. Protection measures have allowed Bald Eagles to make an incredible recovery within Washington and nationally, which led to its federal delisting in 2007.

Although Washington Department of Fish and Wildlife (WDFW) no longer monitors Bald Eagle abundance, the U.S. Fish and Wildlife Service (USFWS) conducted extensive surveys across much of the United States outside Alaska in 2009 and generated an estimated population of 72,434 Bald Eagles. Based on surveys conducted in 2018-2019, the USFWS updated their estimate to 316,700 Bald Eagles of all age classes, a population estimate over four times greater than in 2009. In 2015, the total number of known territories in Washington was 1,334, reflecting the cumulative number of territories over time and not the number that were known to be active in any particular year. Bald Eagles are well distributed in Washington and are strongly associated with marine environments and nearly all major waterways, inland lakes, and reservoirs; Bald Eagles are most abundant west of the Cascade Range.

Factors known to have impacted Bald Eagles include chemical contaminants and the absence of adequate regulations. With the restrictions placed on the use of DDT (dichloro-diphenyl-trichloroethane) and the decline in use of other environmental contaminants the Bald Eagle population has rebounded, despite contaminants that remain in the environment. Remaining threats to Bald Eagles are minor and current analyses indicate that the population continues to grow.

The Bald Eagle was delisted at the state level by the Fish and Wildlife Commission in 2016 and the species has continued to prosper. Bald Eagles will continue to be protected under three federal laws: the Bald and Golden Eagle Protection Act, the Migratory Bird Treaty Act, and the Lacey Act. Bald Eagles will continue to be classified as protected wildlife in Washington. Bald Eagles are abundant in Washington, and the species will continue to be an important and thriving part of our state's avifauna for the foreseeable future.

This is an update of the 2016 Periodic Status Review for the Bald Eagle in Washington (Kalasz and Buchanan 2016). It has been revised primarily to update information on regional and national population trends, recent information about disease and contaminants, and its length has been reduced to improve conciseness and brevity.

INTRODUCTION

The Bald Eagle (*Haliaeetus leucocephalus*) (Fig. 1) is one of two eagle species found in Washington. In 1978, it was listed as Endangered under the Endangered Species Act due to effects of chemical contaminants and, to a lesser extent, habitat loss. Protection measures allowed Bald Eagles to make an incredible recovery across the United States and the species was federally delisted in 2007 (U.S. Fish and Wildlife Service 2007) and delisted in the state of Washington by the Washington Fish and Wildlife Commission in 2016 (Kalasz and Buchanan 2016).



Figure 1. Pair of adult Bald Eagles. Photo by Justin Haug.

DISTRIBUTION

Bald Eagles are widely distributed across the United States and Canada, typically in aquatic habitats, including marine environments, rivers, and lakes. During the non-breeding season, Bald Eagles often aggregate in aquatic areas that remain unfrozen and support an abundance of food. Bald Eagles are well distributed in Washington with most of the population occurring in the lowlands west of the Cascade Range. Most nest sites in Washington are in or near the marine environment, including the Salish Sea, the Pacific Coast and associated estuaries, and the lower Columbia River. Bald Eagles are scarce or absent in higher elevations and portions of the Columbia Basin and Palouse region. Importantly, Bald Eagles that breed in other areas (e.g., Alaska) also aggregate in Washington, contributing to the overwintering population in the state.

NATURAL HISTORY

The nesting habitat for Bald Eagles is typically characterized as areas that support large, mature trees close to large bodies of water. Nest trees are often among the largest trees in a forest patch (Watson and Pierce 1998) and support nests that may weigh several hundred pounds. Nests are often reused year after year and many territories contain additional large trees or multiple alternate nest locations (Stalmaster 1987).

Human development and activity have played important roles in eagle behavior and nest site selection. Bald Eagles can be sensitive to human disturbance (Watson 1993, Watson and Pierce 1998, Watson 2004), and

unless habituated may alter their behavior and avoid areas with visible or audible human activity. It appears that some eagles are becoming more accustomed to human activity and some eagles now nest in suburban landscapes adjacent to human activity (Millsap et al. 2004, Gedir et al. 2023).

Breeding Bald Eagles are largely piscivorous. In Washington, Watson (2002) found that Bald Eagle diets consisted primarily of fish (78%), followed by birds (19%), and mammals (3%). Most prey is captured alive (73%), but Bald Eagles also use carrion and pirate food from other species in all seasons (Stalmaster 1987, Watson et al. 1991, Watson 2002, Dekker and Drever 2015). Chum salmon and other salmon species are important food in the autumn and early winter for Bald Eagles that overwinter in Washington (Stinson et al. 2007) and they rely more heavily on waterfowl in mid- to late-winter (Elliott et al. 2011).

Home range sizes of Bald Eagles are largely dependent on the quality and availability of food resources. Home range size during the breeding season varies throughout Washington based on habitat type. The average home range size during the breeding season over all habitats in Washington was 4.9 km² (Watson 2002, Garrett et al. 1993).

Post-breeding dispersal of Bald Eagles is complex in Washington. After nestlings have fledged, breeding Bald Eagles generally migrate to British Columbia and Alaska in late summer and then return in early winter to their nesting territories (Watson and Pierce 2001). However, Washington also supports a substantial abundance of overwintering eagles from nesting areas in British Columbia, Alaska, and the Northwest Territories (Watson and Pierce 2001). In addition, some Bald Eagles in Washington remain near where they nested throughout the year (Stinson et al. 2007).

Breeding productivity varies widely across the species' distribution and is likely influenced by factors such as food availability, weather, and human disturbance (Buehler 2000). The estimated productivity in the United States, excluding the American Southwest (which is slightly lower), was 1.12 young per occupied nest (Millsap et al. 2016, Zimmerman et al. 2022). Productivity in Washington may have been lower than this (see estimate in Stinson et al. 2007:21).

POPULATION AND HABITAT STATUS

Using post-delisting monitoring data from 2009, the estimated population of Bald Eagles in the United States – excluding Alaska and the American Southwest – was 72,434 birds (Millsap et al. 2016). More recently, a population estimate which integrated aerial survey results from the 2018-2019 breeding seasons and data on relative abundance derived from eBird, was generated for the United States, excluding Alaska and the American Southwest. That newer estimate, of 316,700 Bald Eagles, was more than four times greater than the estimate derived from data collected in 2009 (USFWS 2020); following peer review, Zimmerman et al. (2022) reported a slightly revised population estimate of 333,001 Bald Eagles. Results were reported by each of four flyways in the United States, and the estimated

abundance of occupied nests of Bald Eagles in the part of the Pacific Flyway covered by the survey (Washington, Oregon, and Idaho; the northern portions of California, Nevada, and Utah; northwestern Colorado; and western parts of Montana and Wyoming) was 9,674, and the estimated total abundance of eagles for that region was 44,212. Only two-thirds of adult Bald Eagles in the 2018-2019 surveys were associated with breeding sites, which indicates the existence of a substantial population of nonterritorial eagles, specifically nonbreeding adults, juveniles, and subadults (Zimmerman et al. 2022).

As indicated above, Washington is visited by eagles that do not breed in the state and occur only as winter visitors. Data collected during Christmas Bird Counts between 2011 and 2021 indicate stable or increasing abundance of Bald Eagles (Figure 2). The CBC is not designed to distinguish between resident and nonresident Bald Eagles. Therefore, even though CBC data provide a helpful indicator of trends in the abundance of Bald Eagles during winter, it does not, without additional analysis, tell us about the trends of eagles that occur in Washington only during the winter.

WDFW no longer monitors Bald Eagle abundance in Washington. As reported in the previous status review, through 2015, the number of known territories had continued to increase each year (Kalasz and Buchanan 2016), although the total number of territories reflects the cumulative number of sites and not the number of

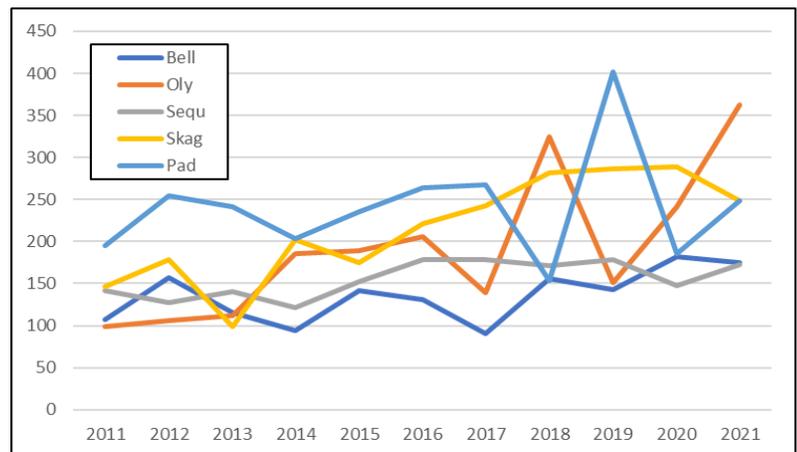


Figure 2. Abundance (on vertical axis) of Bald Eagles at five Christmas Bird Count (CBC) locations in Washington between 2011 and 2021. Data are from Bellingham (Bell), Olympia (Oly), Sequim-Dungeness (Sequ), Skagit Bay (Skag), and Padilla Bay (Pad) CBC circles. These results are indicative of results from other CBC areas in Washington. Data from <https://www.audubon.org/conservation/science/christmas-bird-count>.

sites that are known to be active in any particular year. Similarly, the population in British Columbia was robust during that same period (Elliott et al. 2011).

In 2005, when an average of approximately 75% of the known breeding territories were occupied, the number of nesting territories in Washington was thought to be at or possibly beyond estimated carrying capacity (Stinson et al. 2007). The outcome of exceeding carrying capacity would be for the abundance of Bald Eagles to subsequently decline to the general level of carrying capacity where it would then stabilize (Stinson et al. 2007). Results of the 2018-2019 national surveys conducted by the U.S. Fish and Wildlife Service indicated that densities of Bald Eagles had increased substantially in many parts of the United States (Zimmerman et al. 2022), likely including Washington. Through time, we may obtain a better understanding of carrying capacity as defined by the abundance of breeding Bald Eagles compared to carrying capacity of all eagles, which includes a substantial number of nonbreeding eagles (Zimmerman et al. 2022).

FACTORS AFFECTING CONTINUED EXISTENCE

Contaminants. Bald Eagles are apex avian predators, and contaminants present in aquatic systems may bioaccumulate through the food chain and into their tissues. The chemical DDT was largely responsible for the decline of Bald Eagles. While use of DDT was restricted decades ago in the United States, it breaks down to the metabolite DDE, which remains persistent in the environment although in slowly decreasing concentrations in some areas (Dykstra et al. 2005).

Many studies have tested Bald Eagles for the presence of various toxins (Cesh et al. 2010). These toxins are declining both in the environment and in animal tissues (U.S. Environmental Protection Agency 2006), but they remain present and pose an unknown risk to Bald Eagles (Cesh et al. 2010). Because some contaminants are persistent in the environment, the potential threat of contaminants will likely continue. According to necropsy reports, high levels of toxins were identified as the likely cause of death of 34 out of 225 Bald Eagles that were inspected for cause of death in Washington between 2006 and 2022 (James Watson, WDFW, personal communication). Other sources of contaminants include poisoning from lead (e.g., 20 of the 34 deaths attributed to poisons, above), primarily from bullet fragments in carrion (Hunt et al. 2009, Cruz-Martinez et al. 2012, Slabe et al. 2022) and possibly rodenticides (Huang et al. 2016, Niedringhaus et al. 2021). Of note, a study by Hanley et al. (2022) found that lead poisoning results in reduced resilience of Bald Eagles. Despite the presence of contaminants, Bald Eagle populations continue to increase within Washington and nationally.



Figure 3. Bald Eagle at Ocean Shores Beach. Photo by Tom Rowley.

Disease. Disease impacts have not been a concern historically regarding the status and health of the Bald Eagle population in the United States, although recent assessment research indicates potentially broad distribution and regional impacts due to disease. Bald Eagles from 19 states, including Washington, were assessed and 32 percent (of 47 eagles) exhibited Bald Eagle Hepacivirus; most eagles with the virus were from Wisconsin and the outcome of the assessment was that the

disease was not impacting the population (Goldberg et al. 2019). In another study, the impacts of Highly Pathogenic H5N1 influenza were documented in several states in the southeastern United States; numerous Bald Eagles were found dead and in two areas where the disease was documented (several counties in both Florida and Georgia) nesting success was substantially lower than it had been in previous years (Nemeth et al. 2023).

Habitat Loss. Washington's human population is expected to increase to nearly 9 million people by 2040 (Washington Office of Financial Management 2016), placing increased pressure on natural resources. There is an ongoing risk of losing Bald Eagle habitat into the future.

Food Availability. Winter food abundance has been identified as one of the major factors influencing Bald Eagle population size (Elliott et al. 2009), as most Bald Eagle mortality occurs in late winter (January-April) when salmon become less available (Elliott et al. 2011). That mortality factor includes overwintering eagles that breed in other states and has not been linked to Bald Eagles in Washington. Decreased food abundance in late winter may force some birds into higher risk areas, exposing them to more anthropogenic threats (Millsap et al. 2004) although this has not been assessed in Washington. Competition for food resources is thought to be the factor that will cause the increasing trend of eagle abundance to level off in the future (Stinson et al. 2007), but as indicated above regarding overall carrying capacity, this may not yet have occurred. Human population growth may also put increased pressure on fisheries, although to the best of our knowledge information linking Washington salmon abundance to Bald Eagle population performance has not been established, other than that Bald Eagles respond to prominent salmon runs during early winter when this resource is also important to eagles prior to the breeding season (Elliott et al. 2011, Walters et al. 2021).

Climate change. It is not expected that predicted future climate change for this region will have a direct adverse effect on Bald Eagles (Harvey et al. 2012). Warmer winters should not cause abandonment from the region. Increasing wildfire risk and subsequent loss of suitable nest trees could impact eagle presence in such landscapes. Another important consideration, however, is the influence of predicted sea level rise and changes in other marine conditions in coastal estuaries, and how those changes may alter food resources including salmon, forage fish, and wintering waterfowl.

Other factors. Bald Eagles are vulnerable to collisions in a variety of contexts including with vehicles and wind turbines (Nasman et al. 2021). Scavenging behavior of Bald Eagles makes them susceptible to vehicle collisions as they feed on road-killed animals along roadsides. This may be particularly true for eagles in suburban landscapes that may be less wary of vehicles; first-year mortality of eagles from suburban areas is higher than for those that fledged from rural landscapes (Millsap et al. 2004). Ninety-nine of 225 (44%) Bald Eagles for which cause of death could be identified between 2006 and 2022 had experienced some type of physical trauma (James Watson, WDFW, personal communication), including 44 vehicle strikes. With an increasing level of eagle activity in urban and suburban landscapes there is a likelihood that this source of mortality will increase locally in the future. Based on necropsy reports from 2006 to 2022, other causes of death included interactions with other eagles (n = 26, 11.6%), grounded birds (n = 17, 7.6%), drowning (n = 14, 6.2%), electrocution (n = 10, 4.4%), disease (n = 10, 4.4%), gunshot wounds (n = 8, 3.6%), and other (n = 7, 3.1%) (James Watson, WDFW, personal communication).

MANAGEMENT ACTIVITIES

In 2007, the Bald Eagle was removed from the federal list of species protected under the Endangered Species Act and was down listed in Washington from the designation of Threatened to Sensitive status. It was delisted by the Washington Fish and Wildlife Commission in 2016 (Kalasz and Buchanan 2016). The Bald Eagle is no longer included in WDFW's Priority Habitats and Species program, nor is protection of its nesting habitat covered by Forest Practices Rules.

There are significant protections afforded Bald Eagles, including the Bald and Golden Eagle Protection Act ("Eagle Act"), Migratory Bird Treaty Act, and the Lacey Act. The Eagle Act is the primary mechanism for Bald Eagle protection and prohibits unauthorized "taking" of Bald Eagles (U.S. Fish and Wildlife Service 2016); limited numbers of permits per regional landscape area are available from the U.S. Fish and Wildlife Service to authorize take of Bald Eagles.

At the state level, the Growth Management Act may be an effective means to manage growth and development and therefore minimize impacts to Bald Eagles and their habitat. Forest practices rules now provide substantial protection to riparian zones on nonfederal lands throughout Washington; the protection

standards of those rules should result in recruitment of very large trees in riparian zones that through time would support Bald Eagle nests.

CONCLUSION AND RECOMMENDATION

The Bald Eagle population is continuing to increase and has increased by a factor of four nationally since 2009. Bald Eagles both in Washington and throughout nearly all parts of their range have clearly recovered. Identified or suspected threats appear to be minor in terms of impacts in Washington, and none – individually or in combination – have had deleterious effects. The most recent analyses indicate that Bald Eagle populations may continue to grow throughout the United States, including a sizable population segment of nonbreeding adults. The Bald Eagle was delisted in Washington in 2016 by the Fish and Wildlife Commission, and we recommend no changes be made to its status. This action does not remove existing protections, and Bald Eagles are still protected under the Bald and Golden Eagle Protection Act, the Migratory Bird Treaty Act, and the Lacey Act. Bald Eagles will continue to be classified as protected wildlife in Washington. The Bald Eagle population, including the segment that occurs in Washington, is robust, and all indications are that the species will continue to be an important and thriving part of our state’s avifauna for the foreseeable future.

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The references cited in this document are categorized for their level of peer review pursuant to section 34.05.271 RCW, which is the codification of Substitute House Bill 2661 that passed the Washington Legislature in 2014. A key to the review categories under section 34.05.271 RCW is provided in Table A.

Table A. Key to 34.05.271 RCW categories.

Category Code	34.05.271(1)(c) RCW
i	Independent peer review: review is overseen by an independent third party.
ii	Internal peer review: review by staff internal to the department of fish and wildlife.
iii	External peer review: review by persons that are external to and selected by the department of fish and wildlife.
iv	Open review: documented open public review process that is not limited to invited organizations or individuals.
v	Legal and policy document: documents related to the legal framework for the significant agency action including but not limited to: (a) federal and state statutes; (b) court and hearings board decisions; (c) federal and state administrative rules and regulations; and (d) policy and regulatory documents adopted by local governments.
vi	Data from primary research, monitoring activities, or other sources, but that has not been incorporated as part of documents reviewed under the processes described in (c)(i), (ii), (iii), and (iv) of this subsection.
vii	Records of the best professional judgment of department of fish and wildlife employees or other individuals.
viii	Other: Sources of information that do not fit into one of the categories identified in this subsection (1)(c).

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APPENDIX A. PUBLIC COMMENTS

There were three public comments for the Bald Eagle Periodic Status Review. One comment supported the recommendation and provided data corroborating Bald Eagle recovery. One comment was concerned about broader environmental protection. One comment asked WDFW not to delist the species, which has already occurred.

WASHINGTON STATE STATUS REPORTS, PERIODIC STATUS REVIEWS, RECOVERY PLANS, AND CONSERVATION PLANS

Periodic Status Reviews

2024	Northern Spotted Owl
2024	Mardon Skipper
2023	Western Gray Squirrel
2023	Woodland Caribou
2023	Columbian White-tailed Deer
2022	American White Pelican
2022	Brown Pelican
2022	Snowy Plover
2022	Cascade Red Fox
2021	Ferruginous Hawk
2021	Oregon Vesper Sparrow
2021	Steller Sea Lion
2021	Gray Whale
2021	Humpback Whale
2021	Greater Sage-grouse
2020	Mazama Pocket Gopher
2019	Tufted Puffin
2019	Oregon Silverspot
2018	Grizzly Bear
2018	Sea Otter
2018	Pygmy Rabbit
2017	Fisher
2017	Blue, Fin, Sei, North Pacific Right, and Sperm Whales
2017	Sandhill Crane
2017	Western Pond Turtle
2016	Canada Lynx
2016	Marbled Murrelet
2016	Peregrine Falcon

Conservation Plans

2013	Bats
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Status Reports

2021	Oregon Vesper Sparrow
2019	Pinto Abalone
2017	Yellow-billed Cuckoo
2015	Tufted Puffin
2007	Bald Eagle
2005	Aleutian Canada Goose
1999	Northern Leopard Frog
1999	Mardon Skipper
1999	Olympic Mudminnow
1998	Margined Sculpin
1998	Pygmy Whitefish
1997	Aleutian Canada Goose

Recovery Plans

2020	Mazama Pocket Gopher
2019	Tufted Puffin
2012	Columbian Sharp-tailed Grouse
2011	Gray Wolf
2011	Pygmy Rabbit: Addendum
2007	Western Gray Squirrel
2006	Fisher
2004	Sea Otter
2004	Greater Sage-Grouse
2003	Pygmy Rabbit: Addendum
2002	Sandhill Crane
2001	Pygmy Rabbit: Addendum
2001	Lynx
1999	Western Pond Turtle

Status reports and plans are available on the WDFW website at: <http://wdfw.wa.gov/publications/search.php>

