

U.S. Fish and Wildlife Service

DRAFT ENVIRONMENTAL ASSESSMENT

Definition of “Disturb” as applied under
the Bald and Golden Eagle Protection Act

DIVISION OF MIGRATORY BIRD MANAGEMENT



DRAFT ENVIRONMENTAL ASSESSMENT
Definition of "Disturb"
as applied under the Bald and Golden Eagle Protection Act

RESPONSIBLE AGENCY
Department of the Interior
U.S. Fish and Wildlife Service
1849 C Street, NW
Washington, D.C. 20240-0001

RESPONSIBLE OFFICIAL
H. Dale Hall, Director

FOR FURTHER INFORMATION CONTACT

Eliza Savage, Regulatory Analyst, or George Allen, Chief
Branch of Policy, Permits and Regulations
Division of Migratory Bird Management
4401 North Fairfax Drive, Mail Stop 4107
Arlington, Virginia 22203-1610
703 / 358-1714

December 2006

ABSTRACT

- The U.S. Fish and Wildlife Service has proposed to remove the bald eagle (*Haliaeetus leucocephalus*) from the list of threatened and endangered species under the Federal Endangered Species Act. If this action is taken, the Bald and Golden Eagle Protection Act will become the primary law protecting bald eagles.
- When Congress enacted and amended the Eagle Act, it provided a broad prohibition in its definition of “take,” by defining it to include pursue, shoot, shoot at, wound, kill, capture, trap, collect, molest or disturb. However, “disturb” has not been defined under the Eagle Act.
- This action is needed to ensure that the public is provided clear parameters for what constitutes disturbance under the Eagle Act in order to guide human activities in the vicinity of bald and golden eagles after delisting of the bald eagle.
- In this Draft Environmental Assessment we consider four alternatives for a regulatory definition of the term “disturb” under the Bald and Golden Eagle Protection Act.
- The preferred alternative is to define “disturb” to require an effect on individual birds that has a biologically significant impact.
- This alternative is expected to provide an accurate interpretation of the statutory term consistent with the language of the statute and its intent, thereby recognizing the protection of eagles provided by Congress, and giving clear notice to the regulated community of the requirements of the Eagle Act.
- This alternative is not expected to have any effects on the physical environment.

TABLE OF CONTENTS

INTRODUCTION 1

PURPOSE 1

NEED FOR ACTION 1

SCOPE OF ANALYSIS 2

AUTHORITIES 3

AFFECTED ENVIRONMENT 3

Bald eagle 3

Golden eagle 5

Biological and physical environment 6

Human environment 6

Socioeconomic 6

Religious and Cultural 6

Symbolic and Aesthetic 7

ALTERNATIVES 7

Alternative 1: No action 7

Alternative 2: Define "disturb" based on immediate effects on individual birds 7

Alternative 3: Define "disturb" to require both an effect on individual birds and a biological impact (proposed action/preferred alternative) 8

Alternative 4: Define "disturb" to require an action directed at one or more eagles that results in death or injury of the eagle(s) 8

ENVIRONMENTAL CONSEQUENCES OF THE ALTERNATIVES 8

Alternative 1: No action 8

Effects on bald and golden eagle populations 8

Effects on Other Wildlife and the Biological and Physical Environment 9

Effects on the Human Environment 9

Alternative 2: Define "disturb" based on immediate effects to individual birds 10

Effects on Bald and Golden Eagle Populations 10

Effects on Other Wildlife and the Biological and Physical Environment 10

Effects on the Human Environment 10

Alternative 3: Define "disturb" to require both an effect on individual birds and a biological impact (proposed action/preferred alternative) 11

Effects on Bald and Golden Eagle Populations 11

Effects on Other Wildlife and the Biological and Physical Environment 11

Effects on the Human Environment 11

Alternative 4: Define "disturb" to require an action directed at one or more eagles that results in death or injury of the eagle(s) 12

Effects on Bald and Golden Eagle Populations 12

Effects on other Wildlife and the Biological and Physical Environment 12

Effects on the Human Environment 12

CUMULATIVE IMPACTS 13

TRANS-BOUNDARY EFFECTS OF THE ALTERNATIVES 13

NATIONAL ENVIRONMENTAL POLICY ACT COMPLIANCE 13

REFERENCES 13

INTRODUCTION

The U.S. Fish and Wildlife Service (Service) has proposed to remove (delist) the bald eagle (*Haliaeetus leucocephalus*) from the list of threatened and endangered species under the Federal Endangered Species Act (ESA) (71 FR 8238, February 16, 2006). If the bald eagle is delisted, the Bald and Golden Eagle Protection Act (Eagle Act) will become the primary law protecting bald eagles. The Eagle Act prohibits take of bald and golden eagles and provides a statutory definition of “take” that includes “disturb.”

Although disturbing eagles has been prohibited by the Eagle Act since the statute’s enactment, “disturb” has never been explicitly defined in regulation. While most of the Eagle Act’s prohibitions have relatively straightforward meanings, the plain meaning of “disturb” can vary more widely. The term has been used extensively in numerous bald eagle management guidelines used during the past three decades and in scientific literature. In the context of eagle management, “disturb” has been applied informally to as small a reaction as temporarily flushing an eagle from a nest or perch, to causing eagles to permanently avoid a geographical area.

To provide a consistent framework for managing bald eagles after delisting, the Service proposed a regulatory definition of “disturb” (71 FR 8265, 16 February 2006). In addition to proposing a regulatory definition of “disturb,” the Service introduced draft National Bald Eagle Management Guidelines to provide guidance to help people avoid disturbing bald eagles. The final guidelines will be based on the final regulatory definition of “disturb.” Because the Eagle Act prohibition against disturbance applies to both bald and golden eagles, the definition of “disturb” will also apply to golden eagles (*Aquila chrysaetos*).

PURPOSE

The Service seeks to codify a definition of “disturb” within regulations at 50 CFR 22.3. The selected definition must be in accordance with the goals that Congress intended to further in 1940 when it included the prohibition against disturbing eagles in the definition of prohibited “take” under the Eagle Act. In preparing this environmental assessment, we consider how state and federal agencies and the general public have applied the term “disturb” in implementing bald eagle management under the Eagle Act during the 66 years since it was enacted. The selected alternative should meet the following criteria: It should be (1) consistent with Congress’s intent to protect eagles, (2) consistent with the text of the Eagle Act, and (3) unambiguous and enforceable.

NEED FOR ACTION

When Congress enacted and amended the Eagle Act, it intended the Act to be the primary vehicle by which eagles would be protected from extinction, and as such it provided a broad prohibition in its definition of “take,” by defining it to include pursue, shoot, shoot at, wound, kill, capture, trap, collect, molest or disturb.

Congress added “poison” to the definition in 1972 (P.L. 92–535 [86 Stat. 1064]), October 23, 1972).

Even after the bald eagle was added to the list of threatened and endangered species under the ESA, the Eagle Act’s prohibition against disturbance continued to be the predominant legal framework protecting eagles from human interference. Various states, localities, and federal agencies developed guidelines to help people avoid harmful impacts to eagles, and those guidelines had as their primary focus, the prevention of disturbance of eagles. In 1996, the Service began issuing incidental take permits and ESA section 7 incidental take statements for bald eagles under the ESA. Thus, authorizations for incidental take of bald eagles have been granted through the ESA since 1996. However, the Service has continued to rely on pre-existing bald eagle management guidelines when providing technical assistance to the public, and those guidelines address the Eagle Act prohibition of disturbance.

Upon delisting, all prohibitions and potential future authorizations provided under the ESA will no longer apply to bald eagles.¹ The ESA prohibitions against “harming” and “harassing” eagles will cease to be of legal concern. The potential for human activities to violate Federal law by incidentally taking eagles will be limited chiefly to take as defined by the Eagle Act, primarily “disturbance.”

This action is needed in order to provide a consistent, predictable framework to guide human activities in the vicinity of eagles to ensure that the public is provided clear parameters for what constitutes disturbance under the Eagle Act. This action will minimize inadvertent violations of the Eagle Act and promote the protection of bald and golden eagles.

SCOPE OF ANALYSIS

In this assessment, we evaluate the effects of various alternatives for defining “disturb” under the Eagle Act. Different definitions have potentially different effects on bald eagles, other wildlife and natural resources, and the human environment. The potentially affected human environment includes the economy, cultural values, Native American religious practices, recreation, and aesthetic and symbolic values.

¹ If the bald eagle is delisted, the Service will honor existing ESA authorizations. During the interim period until the Service completes a rulemaking for permits under the Bald and Golden Eagle Protection Act, we do not intend to refer for prosecution the incidental take of any bald eagle under the Migratory Bird Treat Act of 1918, as amended (16 U.S.C. 703-712), or the Bald and Golden Eagle Protection Act of 1940, as amended (16 U.S.C. 668-668d), if such take is in full compliance with the terms and conditions of an incidental take statement issued to the action agency or applicant under the authority of section 7(b)(4) of the ESA or a permit issued under the authority of section 10(a)(1)(B) of the ESA. The Service intends to propose a rulemaking to establish criteria for issuance of a permit to authorize activities that would “take” bald eagles under the Eagle Act. The Service will consider addressing the existing ESA authorizations in that rulemaking, which if finalized might extend comparable authorizations under the Eagle Act.

We note that the Eagle Act does not include a private right of action. Therefore, the effects of the various alternatives discussed below would occur largely through government enforcement of the prohibitions of the Eagle Act. That enforcement can take the form of both criminal and civil penalties. The criminal penalties apply only if the violator “knowingly, or with wanton disregard for the consequences of his act” violates the prohibitions. In other words, actors who neither know that their actions will “disturb” (and therefore “take”) eagles, nor wantonly disregard that possibility, are not subject to criminal penalties under the Eagle Act. This level of intent is a statutory requirement that cannot be modified by regulation, and must apply to any potential criminal prosecution under the Eagle Act, regardless of which alternative definition of “disturb” is implemented.

The regulations that will be codified following this NEPA decision-making process will remain in effect indefinitely, or until a future rulemaking is undertaken to revise them. The Eagle Act is applicable throughout the U.S., so the definition of “disturb” will apply wherever bald and golden eagles occur in the country.

AUTHORITIES

The principal Federal authority for the actions analyzed in this EA is the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d). The Service is the Federal agency with primary statutory authority for the management of bald and golden eagles in the United States. Regulations implementing the Eagle Act are found in Subpart D of Part 22 of Title 50 of the Code of Federal Regulations.

AFFECTED ENVIRONMENT

Bald eagle

Bald eagles are a North American species that historically occurred throughout the contiguous United States and Alaska. The largest North American breeding populations are in Alaska and Canada, but there are also significant bald eagle populations in Florida, the Pacific Northwest, the Greater Yellowstone area, the Great Lakes States, and the Chesapeake Bay region. Bald eagle distribution varies seasonally. Bald eagles that nest in southern latitudes frequently move northward in late spring and early summer, often summering as far north as Canada. Most eagles that breed at northern latitudes migrate southward during winter, or to coastal areas where waters remain unfrozen. Migrants frequently concentrate in large numbers at sites where food is abundant and they often roost together communally. In some cases, concentration areas are used year-round: in summer by southern eagles and in winter by northern eagles.

Breeding bald eagles occupy territories, some of which have been used continuously for many years. Bald eagles generally nest near coastlines, rivers, large lakes, and streams proximate to an adequate food supply. They often nest in mature or old-growth trees, snags (dead trees), cliffs, and rock promontories; they rarely nest

on the ground; and they nest with increasing frequency on human-made structures such as power poles and communication towers. The breeding season ranges from October in Florida, to late April or even early May in the northern United States.

The first declines in bald eagle populations in the past 250 years occurred due to habitat loss as early European immigrants settled on shorelines in the Chesapeake Bay and elsewhere on the East Coast. More significant declines began in the late 19th century due to hunting for feathers, trophies, and bounty. In addition, eagles were killed by ingesting poisons used to bait and kill livestock predators. In 1940, Congress enacted the Bald Eagle Protection Act (amended in 1962 to protect golden eagles, and now called the Bald and Golden Eagle Protection Act). In the late 1940's, organochlorine pesticide compounds such as DDT (dichloro-diphenyl-trichloroethane) began to be used in large quantities. DDT metabolites accumulated in the fatty tissues of breeding bald eagles, resulting in production of eggs with abnormally thin eggshells, which cracked or failed to fully develop, causing a severe decline in bald eagle numbers. By 1963, a survey conducted by the National Audubon Society estimated the number of breeding bald eagles in the lower 48 states to be 417 breeding pairs.

Since DDT use in the U.S. was banned in 1972 and the bald eagle gained the protection of the ESA,² bald eagle numbers have rebounded.³ In 1999, the Service proposed to remove the bald eagle from the list of threatened and endangered species, prompting some states to stop conducting annual surveys for bald eagles. The most recent national census in 2000 counted 6,471 breeding pairs in the lower 48. On February 16, 2006, the Service re-opened the comment period on its 1999 proposal to delist the bald eagle (Federal Register 71:8238, 16 February 2006), conservatively estimating at least 7,066 breeding pairs in the contiguous U.S.

Numerous studies have sought to measure the sensitivity of bald eagles to a variety of human activities (see Buehler 2000), and have shown that bald eagle pairs may react to human activities very differently. Some pairs nest successfully just dozens of yards from human activity, while others abandon nest sites in response to activities much farther away. This variability may be related to a number of factors, including visibility, duration, noise levels, extent of the area affected by the activity, prior experiences with humans, and tolerance of the individual nesting pair.

Human activities that cause prolonged absences of breeding adults from their nests can jeopardize eggs or young. Depending on weather conditions, eggs may overheat or cool too much and fail to hatch. Unattended eggs and nestlings are subject to predation. Irregular feeding due to human disruption can harm young. Adults startled while incubating or brooding young may damage eggs or injure their young as they abruptly leave the nest. Older nestlings may be startled by loud or intrusive human activities and prematurely jump from the nest before they are able to

² The bald eagle was first protected south of 40° north latitude by the Endangered Species Preservation Act in 1967, then listed as endangered in 43 contiguous states and threatened in the other five under the ESA in 1978, then reclassified to threatened in the lower 48 states in 1995.

³ Alaskan bald eagles were largely unaffected by DDT and were never protected under the ESA. Today, there are perhaps 50,000 to 70,000 bald eagles in Alaska.

fly. Human activities near or within foraging areas and communal roost sites may prevent eagles from feeding or taking shelter, especially if no other adequate feeding and roosting sites are available.

Golden eagle

In North America, golden eagles occur mainly in the west and in eastern Canada, nesting and wintering from Alaska south to central Mexico. In the eastern U.S., the golden eagle is primarily a winter resident, but a few pairs nest in Maine, Georgia, and Tennessee (Kochert *et al.* 2002). Historically, the breeding range of the golden eagle included most of North America (Bent 1937). Outside North America, the species is widespread, with five or six golden subspecies found throughout the northern hemisphere in Europe, Asia, and N. Africa and occasionally in the southern hemisphere (Kochert *et al.* 2002).

In North America, northern breeding golden eagles migrate longer distances to wintering areas than do southern eagles, sometimes up to thousands of kilometers. Golden eagles south of 55° north latitude migrate smaller distances or not at all. More research is needed to establish migration routes, but they appear to be concentrated along the Rocky Mountains and Appalachians (Kochert *et al.* 2002).

Golden eagles usually occupy open areas (canyon land, open desert, grassland, and shrub habitat) where their preferred prey can be found. Golden eagles feed primarily on small mammals, most commonly rabbits, hares, ground squirrels, marmots, and prairie dogs. They also eat carrion, birds, and reptiles, and less often fish and larger mammals. Millsap and Vana (1984), however, reported on the importance of waterfowl to wintering golden eagles in the eastern U.S.

Nest sites are often in cliffs or bluffs, less often in trees, and occasionally on the ground. Pairs establish and defend breeding territories that may contain multiple nests built and/or maintained by the pair, which are often re-used or attended in subsequent nesting seasons.

The golden eagle is a Species of Conservation Concern in the Great Basin, Northern Rockies, Southern Rockies/Colorado Plateau, and Badlands and Prairies Bird Conservation Regions (numbers 9, 10, 16, and 17, USFWS 2002). Braun *et al.* (1975) estimated a North American population of perhaps 100,000 individuals in the early 1970s. U.S. Breeding Bird surveys show no trend for this species (Significance Level $[P]=0.39$, Sauer *et al.* 2005). The current PIF-based U.S. and Canada population estimate is 40,000, with a "fair" accuracy rating and a "very high" precision rating. Good *et al.* (2004) estimated that there were just over 27,000 golden eagles in the four Bird Conservation Regions in which the species is of conservation concern (which comprise much of the western U.S. and most of the golden eagle population) in late summer and early fall in 2003. Breeding bird surveys and migration counts are inconclusive but suggest lowered reproduction rates in the western U.S., possibly due to habitat alteration and loss, with concomitant declines in prey (Kochert *et al.* 2002).

Golden eagles appear to be moderately sensitive to human activity. They commonly avoid urban and agricultural areas, but this is likely due at least in part to low prey availability in those locations. Breeding adults are sometimes flushed from

the nest by recreational climbers and researchers, sometimes resulting in death to the eggs or young due to nest abandonment, exposure of young or eggs to the elements, collapse of the nest, eggs being knocked from the nest by startled adults, or young fledging prematurely. However, golden eagles rarely flushed from the nest during close approaches by fixed-wing aircraft and helicopters during various surveys in Montana, Idaho, and Alaska (Kochert *et al.* 2002).

Biological and physical environment

As described above, bald eagles typically occupy coastal areas and shorelines of rivers and lakes, while golden eagles favor the open, more arid habitat of the western states. However, those statements are generalities; in reality, both species use a variety of habitats and geographical areas. The breeding and wintering habitats of bald and golden eagles together comprise a large portion of the United States. A detailed description of the biological and physical components of this large area is beyond the scope of this EA. For purposes of this assessment, the biological and physical environment will be addressed generally and will include: other wildlife, water and air quality, and overall ecosystem health.

Human environment

Socioeconomic

The potentially affected human environment includes the economy, cultural values and norms, religious practices, recreation, and aesthetic and symbolic values.

The degree to which businesses and industry in the vicinity of bald and golden eagle habitat will be affected will depend in part on the proper application of the Eagle Act. Industries most likely to be affected may include residential developers, timber managers, resource development and recovery operations, utilities, shipping companies, commercial fishing operations, and businesses that depend on tourism and recreation. The economic value of private land shared by eagles may also be affected.

Numerous facets of the American lifestyle could be affected beyond pure economics. Among the many societal "norms" that could be affected are: transportation, urban planning, energy development and consumption, recreation, location of schools and hospitals, and waste management. The magnitude of the lifestyle impacts resulting from the definition of "disturb" depends in part on the degree to which the prohibition is recognized, accepted, and enforced.

Religious and Cultural

Bald and golden eagles are sacred to many Native Americans, and are central to the religious practices of some tribal cultures. Some Native American religious ceremonies call for the harvest of eagles from the wild. Under the provisions of the Eagle Act, permits are available for this purpose in certain circumstances. The definition of "disturb" does not affect the availability of such permits.

Symbolic and Aesthetic

Eagles have served as powerful symbols in numerous cultures throughout history. In the United States, Congress chose the bald eagle to be depicted on the official seal of the United States, selecting it over the golden eagle (Lawrence, 1990), and more famously, the wild turkey. As the Nation's symbol, the bald eagle represents Americans' sense of autonomy, courage, and power. Today, bald eagle imagery is ubiquitous in American culture, attesting to the widespread symbolic importance the bald eagle holds in American society.

Apart from American cultural symbology, eagles are valued as wildlife by a society with a strong conservationist philosophy. The aesthetic value people derive from wildlife is sometimes called "existence value" because it stems from the very knowledge that wildlife exists. From this perspective, biodiversity has value irregardless any economic or material benefits. Among wildlife, birds are particularly valued by society, as evidenced by the number of Americans who consider themselves bird watchers, and also by the degree of legal protection accorded to birds. Raptors evoke special admiration, and bald and golden eagles generate particular awe and respect.

In recent decades, the bald eagle has come to symbolize America's growing environmental awareness of society's impact on the environment. The fluctuation of its population reflects the ecological footprint of people on this continent: being abundant prior to colonialism, declining during the expansion of the frontier and late 19th century industrialism; then nearly becoming extinct due to expansive use of chemical pesticides during the booming post World War II years; only to recover as the nation's growing ecological awareness led to increased regulation of pesticides and the passage of environmental laws such as the National Environmental Policy Act and the ESA. Because of this history, for many people, the bald eagle symbolizes American ecological consciousness and the health of our environment.

ALTERNATIVES

In the absence of extensive legislative history clarifying Congress's intentions when it included a prohibition against disturbing eagles in the Eagle Act, we believe it necessary to consider a broad range of reasonable interpretations of the term "disturb". Not defining "disturb" is also an option.

Alternative 1: No action

Under this alternative, the Service would not define "disturb." Disturbance would remain a prohibited act under the Eagle Act, but no regulatory interpretation would be provided.

Alternative 2: Define "disturb" based on immediate effects on individual birds

The Service would define "disturb" as having a direct effect on one or more eagles as evinced by an immediate behavioral response on the part of an eagle(s), without

consideration for secondary, biologically significant events. The definition would be "To agitate or bother a bald or golden eagle to the degree that disrupts the normal behavior of the eagle." Indications that an eagle has been disturbed would include, but would not necessarily be limited to: flushing from the nest, perch, or foraging area; vocalizations (alarm calls); disrupted flight patterns in the vicinity of the nest, roost tree, or foraging area; or any detectable physiological reactions indicating alarm.

Alternative 3: Define "disturb" to require both an effect on individual birds and a biological impact (proposed action/preferred alternative)

Under this alternative, "disturb" would require there be some psychological or physiological effect to an eagle in order for disturbance to have occurred, but the disturbing action must also have a negative biological effect on eagles. This approach is most similar to how "disturb" has been interpreted in the past by the Service and other Federal and State wildlife and land management agencies. The definition the Service proposed in its February 2006 action read: "to agitate or bother a bald or golden eagle to the degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, causing injury, death, or nest abandonment." Based on public comments received on that definition and for purposes of clarification, the Service is considering modifying the definition and adding a definition of "injury," one of its terms. The revised definition would read: "*Disturb* means to agitate or bother a bald or golden eagle to the degree that causes (i) injury or death to an eagle (including chicks and eggs) due to interference with breeding, feeding, or sheltering behavior, or (ii) nest abandonment." Injury would be defined as "a wound or other physical harm, including a loss of biological fitness significant enough to pose a discernible risk to an eagle's survival or productivity."

Alternative 4: Define "disturb" to require an action directed at one or more eagles that results in death or injury of the eagle(s)

This alternative would require that the act that causes the disturbance be intentionally directed at the eagle(s), and must result in an actual death or injury to one or more eagles or eggs. The definition would read: "To purposefully interfere with normal breeding, feeding, or sheltering habits of a bald or golden eagle, causing injury or death to the eagle or its young or eggs."

ENVIRONMENTAL CONSEQUENCES OF THE ALTERNATIVES

Alternative 1: No action

Effects on bald and golden eagle populations

The potential impacts to eagles of leaving disturb undefined are difficult to predict. If the bald eagle is delisted without defining "disturb" under the Eagle Act, the public may have difficulty anticipating which activities would be likely to result in a violation of the law. The usefulness of National Management Guidelines for avoiding disturbance would be reduced without a clear definition of what "disturb" means.

Uncertainty as to the meaning might constrain people from undertaking some activities out of fear that their impacts would be considered a violation of the Eagle Act, leading to fewer disruptive effects on eagles. On the other hand, the Service would be less able to effectively enforce the Eagle Act prohibition against disturbance without an established definition of what it is. Diminished enforcement capability could lead people to undertake more activities that negatively affect eagles.

Effects on Other Wildlife and the Biological and Physical Environment

The effects of this alternative on the biological and physical environment are difficult to predict. In general, activities (or lack of activities) that benefit eagles and their habitat will usually benefit other wildlife, water quality, soil stability and other ecological components.⁴

Because enforcement of this alternative could be problematic, more activities that interfere with eagles' use of nesting, foraging, and roosting areas might go forward, leading to a degradation or loss of habitat of other wildlife species, or disruption of normal behaviors essential to their survival. Impacts would likely be greatest in riparian areas where bald eagles nest, roost, and forage. The habitat degradation and/or loss could have a significant effect on populations. Alternatively, people may refrain from a variety of activities due to concern about violating the Eagle Act, and a decrease in human activities in eagle habitat would likely provide benefits to other wildlife, and the physical environment.

Effects on the Human Environment

Leaving "disturb" undefined would likely result in public confusion and economic uncertainty. Without knowing whether the effects of an action constitute a violation of the law, project proponents and lenders could be leery of taking any action that might be viewed as disturbing to eagles. This could result in delay or cancellation of residential and commercial development projects, timber operations, natural resource extraction, and other activities that occur in habitat used by bald eagles, even where the activity may not have a significant effect on eagles. In addition, some routine activities, including some types of outdoor recreation, could be suspended while clarity is sought regarding how eagles will be affected. The result could be inadvertent and unnecessary restrictions on land use, and ensuing economic losses. However, as the public comes to recognize the difficulty of enforcing a prohibition that is undefined, people may engage in an increasing number of activities that negatively impact eagles.

⁴ Less often, expanding eagle populations can detrimentally affect other species, particularly where eagles occupy areas from which they may have been historically absent. For example, along some areas of the Platte River in Nebraska, due to fire suppression and reduced river flow, cottonwood stands have grown up in what used to be open river, slough, and wet meadow habitat for piping plover (threatened), least tern (endangered), whooping crane (endangered), sandhill crane, and many grassland species. The cottonwood stands now serve as roost sites for wintering bald eagles, creating a challenge for grassland restoration efforts.

Aesthetic values could be altered as a result of leaving “disturb” undefined. If more eagles and other wildlife are preserved because fewer human activities are conducted in important eagle areas, people who appreciate the existence of eagles and other wildlife are likely to find their aesthetic values enhanced. Conversely, loss of eagles or eagle habitat due to leaving “disturb” undefined could lead to negative effects on those aesthetic values.

Because the likely effects of not defining “disturb” include substantial public uncertainty and a potential decrease in protection for bald and golden eagles, this alternative does not meet the purpose of our action.

Alternative 2: Define “disturb” based on immediate effects to individual birds

Effects on Bald and Golden Eagle Populations

The initial result of this alternative would probably be consternation on the part of the public, resulting in fewer activities being conducted in the vicinity of eagles. The effect on eagles could be beneficial - less noise and disruption and fewer impacts to eagle habitat.

Enforcement of this definition could be difficult, however, because it may appear unreasonable to curtail a large number of human activities that have no meaningful, long-term effect on eagles. Every activity that caused an eagle to alter its normal routine in any way could be deemed a disturbance. For example, a particularly boisterous crowd at a suburban Florida Little League baseball game might cause an eagle to hesitate before returning to the nest site with additional nesting material prior to egg-laying. Unless the eagle in this example is repeatedly interrupted and abandons the nesting attempt altogether, there is no meaningful impact to eagles, yet the situation would meet the threshold for disturbance. Further complicating enforcement, would be the difficulty in demonstrating that the threshold has been met, since the outcomes of these types of situations are transient. The eagles soon return to their normal behaviors.

Public recognition that enforcement of “disturbance” is compromised could eventually lead to an increase in human activities that actually would have negative impacts to eagles (e.g., consistent disruption of an important winter roost site caused by expanded freight operations in a nearby port, leading to mortality of eagles due to exposure).

Effects on Other Wildlife and the Biological and Physical Environment

Effects on the broader biological and physical environment would largely parallel effects on bald and golden eagles.

Effects on the Human Environment

Many routine societal functions could be disrupted by the application of an unnecessarily restrictive interpretation of “disturb.” Development and maintenance of infrastructure, transportation of commodities, border security, and many recreational activities could be restricted in order to avoid very minor, temporary effects to eagles.

Such hypothetical impacts would not be consistent with a reasonable construction of the term “disturb.”

This alternative does not meet the purposes of our action. It is not a reasonable interpretation of the term “disturb.” It is also inconsistent with the text of the Eagle Act because it encompasses effects on eagles that are irrelevant to the preservation of the species and by doing so creates an undue burden on the public. Furthermore, it is inconsistent with current usage of the term as applied to eagles, which attributes “disturb” as having a biologically relevant component.

Alternative 3: Define “disturb” to require both an effect on individual birds and a biological impact (proposed action/preferred alternative)

Effects on Bald and Golden Eagle Populations

Under this alternative, bald and golden eagles would be protected from many types of interference that would have caused a breeding attempt to fail or death or injury to eagles due to a disruption in feeding or sheltering behaviors. Because this alternative requires a biological impact (injury, death, or nest abandonment), people will be better able to predict the potential of various activities for disturbing eagles, particularly with the assistance of National Bald Eagle Management Guidelines. This approach will help people avoid disturbing eagles and will also be enforceable. Therefore, this alternative should reasonably safeguard bald and golden eagle populations. Because this alternative accurately describes the regulatory scope of the Eagle Act, there would be no change in the environmental status quo

Effects on Other Wildlife and the Biological and Physical Environment

Other wildlife that occurs in areas used by eagles would, for the most part, benefit from the protections afforded to breeding, feeding, and sheltering eagles. This definition would bring more benefits to wildlife and the biological and physical environment than would alternatives 1, 2, and 4.

Effects on the Human Environment

Because this alternative requires a specific effect on at least one individual bird (that it be agitated or bothered to the degree that causes (i) injury or death...or (ii) nest abandonment), it would not extend to other impacts that degrade habitat without such effect. Consequently, human activity would not be unduly burdened by restrictions on land use activities that do not actually agitate or bother at least one eagle. This threshold requirement is consistent with the current use of “disturb.” Energy production and distribution, manufacturing, transportation, real estate development, recreation, and other human activities can continue with more predictability because the definition of “disturb” will be set out in a binding rule.

This alternative meets the purposes of the action. It is consistent with Congress’s intent to protect bald and golden eagles; consistent with the text of the Eagle Act; feasible and predictable; consistent with current usage of the term; and unambiguous and enforceable.

Alternative 4: Define “disturb” to require an action directed at one or more eagles that results in death or injury of the eagle(s)Effects on Bald and Golden Eagle Populations

Under this definition, disturbance must be the result of an action intentionally directed at one or more eagles which actually kills or injures the eagle(s) or eggs. Many activities such as construction, resource extraction, and recreation, could proceed in the vicinity of eagles, since none of these activities would be intended to affect eagles. Activities that cause adults to abandon a nest with nestlings or eggs (which die) would meet the threshold for disturbance only if the actions were intentionally directed at eagles. Under this alternative, numerous nests, foraging areas, and concentration areas are likely to be abandoned by eagles, resulting in a rise in eagle mortalities and a decline in eagle populations.

Furthermore, because the threshold is actual injury, death, or nest abandonment, this alternative would be difficult to enforce, since those outcomes are often removed in time and/or location. This lack of enforceability would likely increase negative impacts to eagles.

Effects on other Wildlife and the Biological and Physical Environment

Increased human activities in areas used by eagles would likely negatively affect other wildlife due to habitat loss and degradation. Air and water quality could also decline depending on the nature and extent of the human activities.

Effects on the Human Environment

The increased ability to conduct activities on land used by eagles would have economic benefits to many landowners in those locales. People who value the presence of eagles and other wildlife in such areas could find their aesthetic values diminished, while those who are able to relocate to new residential developments in these high value areas would presumably feel their aesthetic values enhanced. People who enjoy recreational activities that do not depend on preservation of natural areas could benefit, since more land would be available for stadiums, amusement parks, golf courses, and other recreational facilities. Hikers, fishermen, bird watchers, and others whose recreation requires relatively natural settings may lose some recreational opportunities.

This alternative does not overly hinder human activity and it is unambiguous and enforceable. However, it does not meet the purposes of this action because it is inconsistent with Congress’s intent to protect bald and golden eagles. It is also inconsistent with the text of the Eagle Act: Congress would not have included the term “disturb” in the definition of “take” if it simply meant “wound” or “kill,” since it already included those two terms in the take definition. Additionally, this alternative is inconsistent with the general interpretation of “disturb” in current bald eagle management: Disturb has not been limited to acts that are directed at eagles; nor has the death or wounding of an eagle been a necessary outcome.

CUMULATIVE IMPACTS

We predict that cumulative impacts from Alternatives 1, 2, and 4 would be detrimental to bald and golden eagle populations, as described in the “Effects of the Alternatives” sections for each alternative. We do not foresee negative cumulative impacts resulting from Alternative 3 (proposed action) because the definition of “disturb” under that alternative is similar to the current accepted use of the term. Cumulative impacts have been addressed in more detail in the “Effects of the Alternatives” section of this document.

TRANS-BOUNDARY EFFECTS OF THE ALTERNATIVES

There are no foreseeable effects of Alternative 1 on bald or golden eagles in Canada or in Mexico. Alternative 4 has the potential to result in a long-term population decline of either or both species in the U.S. A reduced reservoir of young produced in the U.S. to buffer changes in the population in either Canada or Mexico could lead to declining eagle populations in either or both those countries. The preferred alternative (proposed action) is expected to protect the current populations of both species in the United States and is not likely to affect bald eagles or golden eagles in Canada or Mexico.

NATIONAL ENVIRONMENTAL POLICY ACT COMPLIANCE

We reviewed this issue to determine whether the proposed action met any of the general criteria for preparation of an Environmental Impact Statement. We concluded that under the guidance in the Fish and Wildlife Service Manual (550 FW3) and the Council on Environmental Quality regulations (40 CFR Part 1501), defining “disturb” for the purposes of the Bald and Golden Eagle Protection Act does not comprise a major federal action, and does not warrant preparation of an EIS.

REFERENCES

- Bent, A.C. 1961. Life histories of North American birds of prey: Part 1. Dover Publications, Inc., New York.
- Buehler, D. A. 2000. Bald Eagle (*Haliaeetus leucocephalus*). Number 506 in The Birds of North America, A. Poole and F. Gill, editors. The Birds of North America, Inc., Philadelphia, Pennsylvania.
- Braun, C. E., F. Hamerstrom, T. Ray and C. M. White. 1975. Conservation committee report on status of eagles. Wilson Bulletin 87: 140-143.
- Good, R. E., R. M. Nielson, H. Hall Sawyer, and L. L. McDonald. 2004. Population Level Survey of Golden Eagles (*Aquila chrysaetos*) in the Western United States. Final Report submitted to the Division of Migratory Bird Management, U.S. Fish and Wildlife Service. Western Ecosystems Technology, Incorporated; Cheyenne, Wyoming.

- Kochert, M. N., K. Steenhof, C. L. McIntyre, and E. H. Craig. 2002. Golden Eagle (*Aquila chrysaetos*). Number 684 in *The Birds of North America*, A. Poole and G. Gill, editors. The Birds of North America, Inc., Philadelphia, Pennsylvania.
- Lawrence, E.A. 1990. Symbol of a nation: the bald eagle in American culture. *Journal of American Culture* 13(1): 63-69.
- Millsap, B.A. and S.L. Vana. 1984. Distribution of wintering golden eagles in the eastern United States. *Wilson Bulletin* 96:692-701.
- Sauer, J. R., J. E. Hines, and J. Fallon. 2005. *The North American Breeding Bird Survey, Results and Analysis 1966 - 2004. Version 2005.2.* USGS Patuxent Wildlife Research Center, Laurel, Maryland. <http://www.mbr-pwrc.usgs.gov/bbs/bbs.html>.
- U.S. Fish and Wildlife Service. 2002. *Birds of Conservation Concern 2002.* U.S. Department of the Interior, Fish and Wildlife Service, Division of Migratory Bird Management, Arlington, Virginia.



DIVISION OF MIGRATORY BIRD MANAGEMENT