DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

Endangered and Threatened Wildlife and Plants; Advance Notice of a Proposal To Remove the American Peregrine Falcon From the List of Endangered and Threatened Wildlife

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Advance notice of a proposed rule.

SUMMARY: The U.S. Fish and Wildlife Service (Service) is reviewing the status of the American peregrine falcon (*Falco peregrinus anatum*), currently classified as endangered under the U.S. Endangered Species Act. Data currently on file with the Service indicate that this subspecies has recovered following restrictions on the use of organochlorine pesticides in the United States and Canada and because of management activities including the reintroduction of captive-bred peregrine falcons. Therefore, the Service intends to propose removal of the subspecies from the list of endangered and threatened wildlife and the critical habitat designation. The Service will also propose to remove the similarity of appearance provision that currently exists for all free-flying *Falco peregrinus* within the 48 conterminous States. Protection provided to American peregrine falcons by the Migratory Bird Treaty Act will not be affected. To ensure that the Service's proposal is based on the best available scientific information, the Service seeks data and comments from the public.

DATES: Comments from all interested parties must be received by August 29, 1995 to ensure consideration in the proposed rule.

ADDRESSES: Comments and other materials concerning this notice should be sent to Judy Hohman, Acting Field Supervisor, U.S. Fish and Wildlife Service, Ecological Services, Ventura Field Office, 2493 Portola Road, Suite B, Ventura, California 93003. Comments and materials received will be available for public inspection, by appointment, during normal business hours at the above address.

FOR FURTHER INFORMATION CONTACT: Robert Mesta at the above address (Phone: 805/644–1766).

SUPPLEMENTARY INFORMATION:

Background

The American peregrine falcon (*Falco peregrinus anatum*) occurs throughout much of North America, from the subarctic boreal forests of Canada and Alaska south to Mexico. It nests from central Alaska, central Yukon Territory, and northern Alberta and Saskatchewan, east to the Maritimes and south (excluding coastal areas north of the Columbia River in Washington and British Columbia) throughout Canada and the United States to Baja California, Sonora, and the highlands of central Mexico. The central Canadian provinces of Saskatchewan and Manitoba, and the central United States, including North and South Dakota, Nebraska, Kansas, Oklahoma, and Texas outside of Trans-Pecos, have historically contained relatively few nesting American peregrine falcons. Thus, the plains area of the continent effectively separates the more suitable nesting habitat and historically dense nesting areas of temperate eastern and western North America. Birds that nest in subarctic areas generally winter in South America, while those that nest at lower latitudes exhibit variable migratory behavior or are nonmigratory (Yates *et al.* 1988).

Peregrine falcons declined precipitously in North America following World War II (U.S. Fish and Wildlife, 1993). Research implicated organochlorine pesticides, particularly the pesticide DDT (dichloro diphenyl trichloroethane) applied in the United States and Canada during this same period as causing the decline (for a review, see Risebrough and Peakall 1988). Use of these chemicals peaked in the 1950's and early 1960's and continued through the early 1970's. Organochlorines can affect peregrine falcons either by causing direct mortality or by adversely affecting reproduction by causing egg breakage, addling, hatching failure, and abnormal reproductive behavior by the parent birds (Risebrough and Peakall 1988). DDE, a metabolite of DDT, prevents normal calcium deposition during eggshell formation, resulting in thin-shelled eggs that are susceptible to breakage during incubation.

During the period of DDT use in North America, shell thinning and nesting failures were widespread in peregrine falcons, and in some areas successful reproduction virtually ceased (Hickey 1969). As a result, there was a rapid and significant decline in the number of peregrine falcons in many areas of North America. The degree of exposure to these pesticides varied by region, and peregrine falcon numbers in more contaminated areas suffered greater declines. Those that nested outside of agricultural and forested areas where DDT was heavily used were affected less, although some individuals wintered in areas of pesticide use and presumably all individuals ate some migratory prey containing organochlorines (for reviews, see Hickey 1969; Kiff 1988). Peregrine falcons nesting in the agricultural and forested areas east of the Mississippi River in the United States and in eastern Canada south of the boreal forest were the most heavily contaminated and were essentially extirpated by the mid-1960's (Berger et al. 1969).

Due to population declines of American peregrine falcons, the Service, in 1970, listed this subspecies as endangered under the Endangered Species Conservation Act of 1969 (P.L. 91–135, 83 Stat. 275). American peregrine falcons were included in the list of threatened and endangered foreign species on June 2, 1970 (35 FR 8495), and were included in the United States list of endangered and threatened species on October 13, 1970 (35 FR 16047). The subspecies was subsequently listed under the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Recovery Implementation

The most significant event in the recovery of the peregrine falcon was the restriction placed on the use of organochlorine pesticides. Use of DDT was restricted in Canada in 1970 and in the United States in 1972 (37 FR 13369, July 7, 1972). Restrictions that controlled the use of aldrin and dieldrin were imposed in the United States in 1974 (39 FR 37246, October 18, 1974). Since implementation of these restrictions, residues of the pesticides have significantly decreased in many regions where they were formerly used. Consequently, reproductive rates in most surviving peregrine falcon populations in North America improved, and numbers began to increase (Kiff 1988).

Section 4(f) of the Act directs the Service to develop and implement recovery plans for listed species. Recovery teams produced four regional recovery plans for the American peregrine falcon in the United States. In addition, the Canadian Wildlife Service published an *Anatum* Peregrine Falcon Recovery Plan (Erickson et. al. 1988) for American peregrine falcons in Canada. No recovery plan or recovery objectives were established for Mexico.

Several of the recovery plans called for captive-rearing and release of falcons in several regions of North America. In the eastern United States, where American peregrines were extirpated, the initial objective was to reestablish the peregrine through the release of

offspring from a variety of wild stocks. Peregrine falcons were raised in captivity from parents of various subspecies, including subspecies then listed as endangered (*anatum, tundrius, peregrinus*), unlisted subspecies (*pealei, brookei*, etc.), and combinations thereof. The first experimental releases of captive-produced young occurred in 1974 and 1975 in the United States. Later, reintroduction was also pursued in eastern Canada, but breeding stock was limited to pure *Falco peregrinus anatum*. Because the birds released into the eastern United States were readily identifiable as peregrine falcons, but were not readily identifiable as to subspecies or genetic background, enforcement of the taking prohibitions of the Act for listed subspecies was a problem. The Service found it difficult to prosecute under section 9 of the Act for the take of a listed peregrine falcon because the released stocks of listed, unlisted, and mixed-parentage offspring were almost indistinguishable. To ensure the protection from illegal take of American and arctic (*F. p. tundrius*) peregrine falcons that may be nesting, migrating, or wintering in the lower 48 States, the Service designated any free-flying peregrine (*Falco peregrinus*) found within the lower 48 States as Endangered due to Similarity of Appearance in accordance with section 4(e) of the Act (49 FR 10520, March 20, 1984), thereby extending the taking prohibitions of section 9 to these birds.

In contrast to eastern populations, small numbers of American peregrine falcons in western North American survived the pesticide era and all birds released to augment wild populations were pure *anatum* subspecies, maintaining the genetic integrity of the subspecies. In Alaska and northwest Canada, populations were locally depressed but enough individuals survived the pesticide era that populations began to expand without the need for release of captive-bred falcons. Likewise, in the southwest United States, very few captive-bred birds were released, and populations recovered naturally as a result of restrictions on the use of organochlorine pesticides. In southwest Canada, the northern Rocky Mountain States, and the Pacific coast States, however, local populations were greatly depressed or extirpated, and over 3400 young American peregrine falcons were released to promote recovery in those areas (Enderson *et al., in litt.* 1995).

Recovery Status

Population growth was noted in the late 1970's in Alaska (Ambrose *et al.* 1988a) and by 1980 in many other areas (Enderson *et al., in litt.* 1995). Although the rate of recovery varied somewhat among regions, local populations throughout North America have increased in size, and positive trends in all areas suggest that a very large and extensive recovery of American peregrine falcons has taken place. Following is a summary of the status of American peregrine falcons in the five recovery regions.

Alaskan Recovery Plan (1982)—Recovery objectives are (1) to establish a minimum of 28 nesting pairs in two specified study areas (the upper Yukon and Tanana Rivers), (2) produce an average of 1.8 young per territorial pair per year (yg/pr), (3) achieve an average organochlorine concentration in eggs of less than 5 ppm (parts per million, wet weight basis) DDE, and (4) achieve eggshell thinning averaging no more than 10 percent thinner than pre-DDT era eggshells. These objectives were to be attained for 5 years before reclassifying to threatened status and an additional 5 years before delisting.

In 1994, 69 nesting pairs were present in the two study areas, and biologists estimate that at least 300 pairs currently nest in Alaska (R.E. Ambrose, pers. comm., 1995). Productivity surpassed the objective for the 14th year in 1994. Average DDE residues decreased from 17.0 ppm in 1967 to 4.2 ppm in 1991 (Ambrose *et al.* 1988b). It is now apparent that the 5 ppm objective was very conservative because normal reproduction occurred for several years before the average concentration declined to 5 ppm. Eggshells were estimated to be as much as 20–22 percent thinner statewide than pre-DDT era shells collected in the mid-1960's. Although the degree of thinning has gradually decreased over time, shells collected in interior Alaska still average 12.5 percent thinner than pre-DDT era shells, but reproduction has been sufficient to allow consistent population growth since the late 1970's. Therefore, the objective for eggshell thinning levels also may be overly conservative.

Canadian Recovery Plan (1988)—The *Anatum* Peregrine Falcon Recovery Plan for Canada divides the historical range of the American peregrine falcon throughout Canada into three regions subdivided into nine zones. The zones are (1) Maritime, (2) Great Lakes, (3) Prairies, (4) Mackenzie River Valley, (5) Northern Mountains, (6) Southern Mountains, (7) Eastern Mackenzie Watershed, (8) Western Canadian Shield, and (9) Eastern Canadian Shield. The objectives of the plan are (1) to establish by 1992 a minimum of 10 territorial pairs in each of zones 1 to 6, and (2) to establish by 1997 in each of 5 of these 6 zones a minimum of 10 pairs naturally fledging 15 or more young annually, measured as a 5-year average commencing in 1993. No recovery goals were established for zones 7, 8, and 9.

In zones 3 through 6 in western and west central Canada, 206 pairs were found between 1990 and 1993, with minimum targets achieved in each zone. In east central and eastern Canada, the goal of 10 territorial pairs has been surpassed in zone 1, the Maritime, but has not apparently been achieved for zone 2, the Great Lakes. Both captive releases and natural recruitment have contributed to the current number of pairs. An assessment of productivity in these populations will not be conducted until 1997. However, based on current population size and productivity, with the possible exceptions of zones 2 and 3, it is likely that this objective will be met by 1997. It is unclear whether or not the second productivity-based goal has been met for zone 1. In summary, it appears the goal of 10 territorial pairs has been achieved for 5 of the 6 recovery zones.

Pacific Coast (U.S.) Recovery Plan (1982)—This plan recommends that delisting be considered when (1) 185 wild, self-sustaining pairs are established with the following distribution: California-120, Oregon-30, Washington-30, Nevada-5; and (2) fledging success averages 1.5 yg/pr for a 5-year period.

The current Pacific population of American peregrine falcon totals approximately 224 pairs, and the State-specific objectives for number of pairs have been met. Although close, productivity objectives have not been met throughout the Pacific population; however, reproduction has been sufficient to maintain a positive population growth. The release of captive bred American peregrines into this population ceased in 1992, and the effect of releases on population growth and stability in this region is not yet known. However, if the current population level is maintained or continues to increase, the population could be considered self-sustaining. Current reproduction supports an expanding population despite high organochlorine residue concentrations and associated eggshell thinning in some areas.

Rocky Mountain/Southwest Population Recovery Plan (revised 1984)—The objectives for reclassification are (1) a minimum of 183 breeding pairs with the following distribution: Arizona 46, Colorado 31, Idaho 17, Montana 20, Nebraska 1, New Mexico 23, North Dakota—1, South

Dakota—1, Texas—8, Utah—21, and Wyoming 14; (2) average production of 1.25 yg/pr without manipulation; and (3) eggshell thickness within 10 percent of pre-DDT eggshells for a 5-year span. When these objectives are reached or significant new data are obtained, the objectives and species classification would be reassessed.

Based on 1994 surveys, the current Rocky Mountain/Southwest population consists of 559 breeding pairs, surpassing this recovery objective by 376 pairs. With the exception of Montana, Idaho, Nebraska, and North and South Dakota, all States within the Rocky Mountain/Southwest population have met their specific recovery goals for breeding pairs. Although much of this increase is undoubtedly attributable to natural growth, a substantial amount also resulted from releases of captive bred young, and an increased survey effort, and a gradual increase in the number of breeding areas that have been checked for the presence of peregrines. The second objective of 1.25 yg/pr for 5 years has not been met in all States, but the current reproductive level has been sufficient to support considerable population growth. Based on degree of recovery achieved and a general trend toward thicker eggshells, the original eggshell thickness objective appears unnecessary for the recovery.

Eastern (U.S.) Population Recovery Plan (1979; revised 1985 and 1991)—This plan reflects some of the earliest scientific recommendations regarding peregrine falcon recovery through reintroduction of captive bred offspring. Release of progeny of various listed and unlisted subspecies, and combinations thereof, commenced in the eastern United States in 1974 and 1975. The current plan indicates that the peregrine should be considered recovered when a minimum of 20–25 nesting pairs are established in each of five recovery units and are sustained for a minimum of 3 years, and, overall, a minimum of 175–200 pairs demonstrate successful, sustained nesting. The five recovery units are (1) Mid-Atlantic Coast, (2) Northern New York and New England, (3) Southern Appalachians, (4) Great Lakes, and (5) Southern New England/Central Appalachians.

Substantial progress has been made toward achieving the recovery criteria, with three of the five recovery units (Mid Atlantic Coast, Northern New York, and Great Lakes) having surpassed the identified target of 20–25 nesting pairs for 3 years. The remaining two units—the Southern Appalachians and southern New England/Central Appalachians have not done so (10 pairs and 5 pairs respectively, located in 1994), and are unlikely to reach their goal in the near future due to great horned owl (*Bubo virginianus*) predation and other factors. Overall, in excess of 150 pairs have established nesting territories in the five units, and the recovery target of 175–200 pairs will likely be reached by 1996 or 1997 (M. Amaral, *in litt.*, 1995).

Mexico—None of the recovery plans written for peregrine falcons in North America established recovery criteria for American peregrine falcons that nest in Mexico. Furthermore, there is very little historical or recent information on peregrine falcons in Mexico with which to accurately assess current status in this area. Most of the research that has been conducted took place on the Baja Peninsula and in the Gulf of California. It is likely the status of the subpopulation is similar to that of the subpopulation occupying similar habitat in nearby Arizona (G. Hunt, pers. comm., 1995). There are no recent data known to the Service that indicate local American peregrine falcon populations in Mexico are declining, are imperiled by organochlorine pesticides, or have not recovered in recent years similarly to local populations in the United States and Canada.

Summary

In accordance with 50 CFR 424.11(d), a species may be delisted if the best scientific and commercial data available substantiate that neither endangered nor threatened status is appropriate because the species is recovered, extinct, or the original data for classification of the species were in error, and that the five factors presented in section 4(a)(1) of the Act are no longer applicable to the species.

Exposure to organochlorine pesticides caused drastic population declines in American peregrine falcons. Following restrictions on the use of organochlorines in the United States and Canada, residues in eggs declined and reproduction rates improved. Improved reproduction, combined with the release of thousands of captive-reared young, has allowed the American peregrine falcon to recover. Pesticide residues, reproductive rates, and the rate of recovery have varied among regions within the vast range of the subspecies. In some areas, such as portions of California, the lingering effects of pesticides have caused reproductive rates to remain low, and recovery may not yet be complete. Point source contamination may cause continued reproductive problems in these areas in California, and the recovery in these areas may not be complete for many years. In eastern and southwestern Canada, the rate of recovery, or onset of recovery, apparently lagged behind most other areas within the range of this population segment; but, recent trends suggest that historical nest sites will continue to be gradually recolonized in this area. Although the recovery of the American peregrine falcon is not complete throughout all parts of the historical range, those areas in which recovery has been exceptionally slow comprise a small portion of the range of the subspecies. Furthermore, evidence collected in recent years shows that a combination of lingering residues of organochlorines in North America and contamination resulting from the continued use of organochlorines in Latin America has not prevented a widespread and substantial recovery of American peregrine falcons. The Service concludes, therefore, that the continued existence of American peregrine falcons is no longer threatened by exposure to organochlorine pesticides. The peregrine would remain protected by the Migratory Bird Treaty Act, which governs the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests.

Section 4(g)(1) of the Act requires that the Secretary of the Interior, through the Service, implement a monitoring program for at least 5 years for all species that have been recovered and delisted. The purpose of this requirement is to develop a program that detects the failure of any delisted species to sustain itself without the protective measures provided by the Act. A monitoring plan for the American peregrine will be described in the proposed rule.

Public Comments Solicited

The Service intends for the forthcoming proposal to remove the American peregrine falcon from the Lists of Endangered and Threatened Wildlife to be based on complete and accurate information. Therefore, the Service hereby solicits data, comments or suggestions from the public, other concerned governmental agencies, the scientific community, industry, or any other interested party, concerning such a proposal. Comments particularly are sought concerning:

(1) Biological, commercial trade, or other relevant data concerning any threat (or lack thereof) to this subspecies;

(2) additional information concerning the range, distribution, and population size of this subspecies;

(3) current or planned activities in the range of this subspecies and their possible impacts on this subspecies;

(4) data on population trends in Mexico;

(5) information and comments on the potential impacts of falconry upon peregrine falcon populations; and

(6) information and comments pertaining to a monitoring plan.

References Cited

A complete list of all references cited herein is available upon request from the Ventura Ecological Services Field Office (see **ADDRESSES** section).

Authors

The primary authors of this notice are Robert Mesta, U.S. Fish and Wildlife Service, Ventura, Ecological Services Field Office (see ADDRESSES section), (805/644–1766), Ted Swem, U.S. Fish and Wildlife Service, Fairbanks Ecological Services Field Office, 1412 Airport Way, Fairbanks, Alaska 99701 (907/456–0441), and Susan Lawrence, U.S. Fish and Wildlife Service, Division of Endangered Species, Washington, D.C., 20240 (703/358–2105).

Authority

The authority for this action is the Endangered Species Act of 1973 (16 U.S.C. 1531 *et seq.*).

Dated: June 23, 1995.

Mollie H. Beattie,

Director, Fish and Wildlife Service.

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