

**DEPARTMENT OF THE INTERIOR**

**Fish and Wildlife Service**

50 CFR Part 17

219-94

RIN 1018-AC01

**Endangered and Threatened Wildlife and Plants; Removal of Arctic Peregrine Falcon From the List of Endangered and Threatened Wildlife**

**AGENCY:** Fish and Wildlife Service, Interior.

**ACTION:** Final rule.

**SUMMARY:** The U.S. Fish and Wildlife Service (Service) determines that arctic peregrine falcons (*Falco peregrinus tundrius*) are no longer a threatened species pursuant to the Endangered Species Act (Act) of 1973, as amended. This determination is based upon evidence that arctic peregrine falcon populations have recovered due to a reduction in organochlorine pesticides in the environment. Section 4(g) of the Act requires the Service to monitor recovered species for at least 5 years following delisting. This rule includes the Service's post-delisting monitoring plan for arctic peregrine falcons. Removal of the arctic peregrine falcon as a threatened species under the Act will not affect the protection provided under the similarity of appearance provision of the Act listing all *Falco peregrinus* found in the wild in the conterminous 48 States as endangered; nor will it affect the protection provided to this species under the Migratory Bird Treaty Act.

**EFFECTIVE DATE:** October 5, 1994.

**ADDRESSES:** The complete file for this rule is available for inspection, by appointment, during normal business hours at Northern Alaska Ecological Services, Endangered Species, U.S. Fish and Wildlife Service, 1412 Airport Way, Fairbanks, Alaska 99701.

**FOR FURTHER INFORMATION CONTACT:** Ted Swem at the above address (907) 456-0441 or Skip Ambrose at the above address (907) 456-0239.

**SUPPLEMENTARY INFORMATION:**

**Background**

The peregrine falcon is a medium-sized brown or blue-gray raptor that preys predominantly upon birds. Three subspecies occur in North America—arctic peregrine falcon (*Falco peregrinus*

*tundrius*); American peregrine falcon (*F. p. anatum*); and Peale's peregrine falcon (*F. p. pealei*). Only arctic peregrine falcons are included in this rule; American and Peale's peregrine falcons are not affected. Arctic peregrine falcons nest in the tundra regions of Alaska, Canada, and Greenland. They are highly migratory with most individuals wintering in Latin America, although some may winter as far north as northern Mexico and southern Florida.

Arctic peregrine falcon numbers declined in the period following World War II as a result of contamination with organochlorine pesticides. Organochlorine pesticides, used widely in the United States and other nations in North, Central, and South America for control of agricultural and forest pests and mosquitos, are stable, long-lived compounds that persist in the environment. Organochlorines are deposited in the fatty tissues of animals eating contaminated food, and bioaccumulate in high concentrations in animals near the top of the food chain, such as peregrine falcons. Peregrine falcons contaminated with organochlorines can die if acutely poisoned, but a serious effect of organochlorines upon peregrine falcons in North America resulted from sublethal doses of the pesticide DDT. The principal metabolite of DDT is DDE. DDE prevents normal calcium deposition during eggshell formation, causing females to lay thin-shelled eggs that often break before hatching. Although organochlorines were not used in areas where arctic peregrine falcons breed, arctic peregrine falcons were nevertheless exposed to organochlorines because they and some of their prey species migrated through or wintered in areas of organochlorine use. Arctic peregrine falcon populations may have declined by as much as 75 percent as a result of organochlorine-caused mortality and reproductive impairment.

As a result of population declines, arctic peregrine falcons were protected in 1970 under the Endangered Species Conservation Act of 1969. They were later afforded the greater protection of the Endangered Species Act of 1973 upon its passage. The Act and its implementing regulations prohibit the take (includes harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect; or to attempt any of these), ship in interstate commerce in the

course of commercial activity, or sell or offer for sale in interstate or foreign commerce any listed species. The Act also requires review of all activities funded, permitted, or conducted by Federal agencies to consider impacts to endangered or threatened species. As a result of the prohibitions and requirements of the Act, harvest of peregrines for the sport of falconry was prohibited and peregrine falcon nest sites were provided protection. The pivotal action in aiding the recovery of peregrine falcons, however, was regulation of the use of organochlorine pesticides. The use of DDT was restricted in Canada in 1970 and in the United States in 1973. Restrictions that controlled the use of other organochlorine pesticides, including aldrin and dieldrin, were imposed in the United States in 1974.

Following restrictions on the use of organochlorine pesticides, reproductive rates in arctic peregrine falcon populations increased and populations began to expand by the mid- to late-1970's. By 1984, the recovery of arctic peregrine falcons had progressed sufficiently that the Service reclassified the subspecies from endangered to threatened (49 FR 10520, March 20, 1984). The number of arctic peregrine falcons continued to increase. In 1991, the Service announced that it was reviewing the status of the threatened arctic peregrine falcon to determine if a proposal to delist was appropriate (56 FR 26969, June 12, 1991). On the basis of all available information and the comments received in response to the notice of status review, the Service proposed to delist the subspecies on September 30, 1993 (58 FR 51035). A summary of the information demonstrating the recovery of arctic peregrine falcons follows.

Arctic peregrine falcons nest in the tundra regions of Alaska, Canada, and the ice-free perimeter of Greenland. The exact degree of population decline and subsequent recovery has been poorly documented because most breeding areas are extremely remote and because there were few population studies prior to the pesticide era, but it appears likely that the species' population has expanded 3-fold or more since the late 1970's. Counts of the number of pairs found breeding in one area in Alaska and three areas in the Northwest Territories, Canada (NWT), follow:

Year	Colville River, Alaska <sup>2</sup>	Hope Bay NWT <sup>3</sup>	Coppermine NWT <sup>3</sup>	Rankin Inlet NWT <sup>4</sup>
1959 <sup>1</sup>	35			
1968 <sup>1</sup>	32			

Year	Colville Fliver, Alaska <sup>2</sup>	Hope Bay NWT <sup>3</sup>	Coppermine NWT <sup>3</sup>	Rankin Inlet NWT <sup>4</sup>
1971 <sup>1</sup>	25			
1978	15			
1979	16			
1980	21			
1981	24			17
1982	27		17	19
1983	26	25	17	19
1984	32	27	28	20
1985	30	29	17	26
1986	34	18	24	25
1987	37	39	29	23
1988	47	35	25	23
1989	53	58	37	22
1990	51	61	34	26
1991	56	52	51	26
1992	57	45	42	24
1993	58	60	44	28

<sup>1</sup> From Cade *et al.* 1968; White and Cade 1975.

<sup>2</sup> 1978–1993—unpublished Service data on file, Fairbanks, Alaska.

<sup>3</sup> Data from Shank *et al.* 1993; Chris Shank, Dept. of Renewable Resources, Govt. of NWT, pers. comm., 1993.

<sup>4</sup> Data from Court *et al.* 1988; C. Shank, pers. comm., 1993.

Population size has increased in these four areas, although the rate of increase has varied among areas. Long-term, historical data are not available from other areas within the breeding distribution of arctic peregrine falcons; however, similar trends have been observed in several other areas for which short-term data are available. The range-wide population size remains unknown because so few areas have been thoroughly sampled, but certainly the breeding population now numbers in the thousands.

Only one local population was known to have been extirpated; this was a small population of about 15 nesting pairs on the north slope of the Yukon Territory (Mossop 1988). This area is apparently being gradually recolonized by individuals from adjacent populations (Dave Mossop, Dept. of Renewable Resources, Yukon Territory, pers. comm., 1992).

Counts of the number of peregrine falcons seen passing fixed points during migration also provide evidence of the rapid increase in the number of arctic peregrine falcons since the late 1970's. Although some of the peregrine falcons seen during migration are American peregrine falcons, the majority seen on the east coast and near the Great Lakes are arctic peregrine falcons (Yates *et al.* 1988; William S. Clark, Cape May Bird Observatory, pers. comm., 1992; Mueller *et al.* 1988). The number of migrants seen during fall migration at two well-known concentration areas on the east coast, Assateague Island, Maryland, and Cape May, New Jersey, reflect the overall growth of the arctic peregrine falcon population. In the years 1970–1975, the average number seen per year at Assateague Island was about 100; by

1976–1979 the average number had increased to 310; and between 1990 and 1993 an average of 564 were counted (Seegar and Yates 1991; Seegar *et al.* 1993; William Seegar, U.S. Army, pers. comm., 1994). At Cape May, the average number seen in 1976–1979 was 136; by 1990–1993, the average number seen per year was 588 (Schultz *et al.* 1992; Paul Kerlinger, Cape May Bird Observatory, pers. comm., 1994). Counts conducted at Cedar Grove, Wisconsin, show a similar trend—the number seen decreased in the 1950's and 1960's, reached a low in the mid-1970's, increased rapidly in the 1980's, and may now equal the numbers seen in the 1930's (Mueller *et al.* 1988).

**Review of Peregrine Falcon Recovery Plan**

Four regional recovery plans were produced by the Service for peregrine falcons. The Peregrine Falcon Recovery Plan, Alaska Population (Alaska Recovery Plan), was the only plan that established recovery criteria for arctic peregrine falcons. The Alaska Recovery Plan, while including both arctic and American peregrine falcons nesting in Alaska, did not pertain to populations outside of Alaska; recovery objectives and criteria for arctic peregrine falcon populations in Canada and Greenland were never established. This rule applies only to arctic peregrine falcons so only those sections of the Alaska Recovery Plan that pertain to arctic peregrine falcons are mentioned in this discussion.

The Alaska Recovery Plan was written in 1982 using the best information then available. It included a strategy for population monitoring, recovery objectives, and criteria for reclassification. The monitoring scheme

proposed that breeding surveys be conducted regularly in the two areas in Alaska (Colville and Sagavanirktok Rivers) for which historical population data were available. The Alaska Recovery Plan listed four parameters to be measured in the study areas to assess recovery status of those populations, and established an objective for each of the parameters. The four parameters and objectives were:

- (1) Number of nesting territories occupied by pairs with an objective of 36 total pairs within the 2 specified study areas;
- (2) Average number of young per nesting attempt with an objective of 1.4 young per nesting attempt;
- (3) Average organochlorine concentration in eggs with an objective of less than 5 ppm DDE; and
- (4) Average degree of eggshell thinning with an objective of shells averaging not more than 10 percent thinner than pre-DDT era eggs.

The Alaska Recovery Plan based reclassification criteria upon these objectives. It was suggested that these objectives should be met for 5 years before downlisting to threatened status, and the parameters should remain constant or improve during the ensuing 5 years before delisting.

Recovery plans and objectives are expected to guide and measure recovery, but are intended to be flexible enough to adjust to new information. Research conducted since the Alaska Recovery Plan was written in 1982 has shown that some of the recovery objectives were based upon incorrect assumptions. A discussion of the basis of each objective, the current status of arctic peregrines as measured against the objectives, and a review of recent

information pertaining to the objectives follows:

(1) The objective of 36 pairs occupying territories in the two study areas was based on historical data and assumed that there were 51 available territories and 70 percent of these would be occupied in a fully recovered population (70 percent  $\times$  51 = 36). The plan suggested that 36 or more pairs should occupy territories for 10 or more years before delisting. Thirty-six pairs occupied the areas for the first time in 1984, and the number has increased each year since then. Seventy-seven pairs were present in the study areas in 1993, the tenth consecutive year in which this objective was met. The number of pairs now occupying breeding territories (77) greatly exceeds the original estimate of the number of available territories (51).

(2) The objective of 1.4 young per pair was based upon early studies of arctic peregrine falcons. Productivity exceeded 1.4 young per pair for the first time since the pesticide-era in 1982, and averaged about 1.6 young per pair for the 12-year period of 1982-1993.

(3) The objective of DDE residues in eggs averaging less than 5 ppm for 10 or more years was based upon the assumption that arctic peregrine falcons would not reproduce normally as long as residues exceeded this measure (this assumption was based upon the observation that peregrine falcons in the Aleutian Islands reproduced normally in the early 1970's when residues in eggs averaged 5 ppm). Average DDE residues declined below 5 ppm in arctic peregrine falcons in Alaska between 1984 and 1988, but it is unclear exactly when this threshold was crossed. It is therefore uncertain if the objective has been met for at least 10 years.

However, it is now apparent that this objective was inappropriate; normal reproduction was occurring for several years before the average concentration declined to 5 ppm and may have occurred while residues exceeded 10 ppm. The exact relationship between DDE residues in eggs and reproductive success remains unknown. The Service now believes that it is most appropriate to gauge "acceptable" contaminant exposure by reproductive success. Because reproductive success has been sufficient to allow population growth since the late 1970's and the objective for the production of young (1.4 young per pair) has been met or exceeded for 12 years, the Service considers the desired objective for exposure to organochlorines to have been met.

(4) The criterion requiring eggshells to average less than 10 percent thinner than pre-DDT era shells was based upon the observation that Peale's peregrine falcons in the Aleutian Islands reproduced normally with shells 8 percent thinner than normal in the early 1970's. This assumed that peregrine falcons could not reproduce normally if shells were more than 10 percent thinner than normal. Subsequent field work has shown this to be incorrect. Although the degree of thinning has gradually decreased over time, shells collected in arctic Alaska still average approximately 12.5 percent thinner than pre-DDT era shells. Reproduction, however, has been sufficient

to fuel population growth since the late 1970's, and productivity has met or exceeded the stated objective for 12 years. The Service considers, therefore, that the basic goal that eggshell thinning not significantly affect reproduction, population growth, or recovery for at least 10 years, has been met.

In summary, the Alaska Recovery Plan identified four parameters to be measured in two study areas in arctic Alaska to monitor population health and recovery. Objectives were established for measuring recovery and indicating when downlisting and delisting were appropriate. The plan suggested that the four objectives were to be met or exceeded for 5 years prior to downlisting to threatened status and an additional 5 years prior to delisting. Two of the four objectives have been met for the 10-year interval suggested as a prerequisite for delisting. However, knowledge gained subsequent to the writing of the recovery plan indicates that the two objectives that have not been met were based upon incorrect assumptions. The Service concludes, based upon current information, that the basic goals underlying all four objectives have been reached—the number of pairs occupying territories in two study areas surpassed the objective for the tenth consecutive year in 1993; productivity surpassed the objective for the twelfth year in 1993; DDE residues in eggs have not prevented population growth and recovery since the late 1970's; and eggshell thinning has not inhibited population growth and recovery since the late 1970's.

#### Summary of Comments and Recommendations

In the September 30, 1993, proposed rule, the Service requested that all interested parties provide information and comments on the status of arctic peregrine falcons, on the proposed delisting of the subspecies, and on the draft monitoring plan included in the delisting proposal. The appropriate foreign, state and provincial governments, Federal agencies, scientific organizations, and other interested parties were contacted and encouraged to comment. During the 90 day comment period, 39 responses were received by the Service. Responses were received from one Federal agency, 9 foreign governments, 16 State governments, and 13 organizations or private individuals. No requests for public hearings were received. Comments concerning the status of arctic peregrine falcons and the proposed delisting are presented below; comments that addressed the proposed monitoring plan are presented in the Monitoring Plan section of this rule.

Of the 39 responses, 24 (61 percent) expressed support for delisting, 5 (13 percent) opposed delisting, and 10 (26 percent) stated no position. Of those expressing support for delisting, 11 (the government of Trinidad and Tobago, 8 State governments, and 2 organizations) specifically addressed the need for the Service to implement the proposed, post-delisting monitoring plan. Two of those (the government of Trinidad and Tobago and the State of Pennsylvania) stated that their support for delisting was contingent upon implementation of the monitoring plan. One nation (France, which governs the colony of French Guiana in South America), three individuals and one conservation organization opposed delisting. No position on delisting was given by the governments of Canada or Greenland, which are the only nations other than the United States in which arctic peregrine falcons nest.

Responses to the Service's proposal to delist arctic peregrine falcons contained several concerns. In some cases, similar or identical concerns were raised by more than one individual or party submitting comments. Similar comments have been grouped; the different comments and the Service's response to each are listed below.

*Comment 1:* Arctic peregrine falcons are still at risk from natural and human-caused factors. Additionally, pesticides, in low-level concentrations, may interact synergistically with other human-caused or natural stresses to negatively affect arctic peregrine falcons.

*Service response:* The Service recognizes that little is known of the effects of low-level pesticide contamination upon arctic peregrine falcons and the synergistic interactions of pesticides with other decimating factors. However, the Service must base its decision to list or delist species upon the factors discussed in the "Summary of Factors Affecting the Species" section of this rule. A species is protected if one or more of the five factors affects its continued existence. Since the late 1970's, arctic peregrine falcon populations have steadily increased in size, indicating that the cumulative and synergistic effects of pesticides and other decimating factors have been insufficient during this interval to threaten arctic peregrine falcons at the population level. The monitoring plan included in this rule is designed to detect any possible changes in the status of the subspecies following delisting, regardless of what factor or combination of factors prompts the change in status.

**Comment 2:** The use of pesticides may increase in Latin America as agricultural development proceeds.

**Service response:** The Service is concerned that arctic peregrine falcons and their migratory prey are exposed to pesticides during migration and the winter. Decreasing residues in blood and eggs show that contamination with pesticides is declining, however, despite continued agricultural development in Latin America. As part of the post-delisting monitoring effort, the Service will continue to monitor pesticide residues in arctic peregrine falcon blood and eggs so an increase in contamination can be documented.

**Comment 3:** The potential for over-utilization of arctic peregrine falcons for falconry following delisting has been underestimated by the Service.

**Service response:** Take of arctic peregrine falcons will remain prohibited under the Act in the conterminous 48 States by the listing of all *Falco peregrinus* wherever found in the wild due to similarity of appearance. In Alaska take will be governed by the Migratory Bird Treaty Act (16 U.S.C. 703 *et seq.*). Section 2 of the Migratory Bird Treaty Act requires that in adopting regulations for the take of migratory birds, the Secretary of the Interior is to ensure that take is compatible with the protection of the species. Therefore, take of arctic peregrines, as with other migratory birds, will be regulated so as to provide for adequate conservation of the subspecies.

**Comment 4:** The *anatum* Peregrine Recovery Team, Canadian Wildlife Service, expressed concern about harvest for falconry following delisting. This Team asked that the Service ensure that capture of migrant falcons will not remove birds from breeding populations not yet completely recovered. They suggested that this could be accomplished by allowing take only on the breeding grounds.

**Service response:** Take of arctic peregrine falcons migrating through the 48 conterminous States will be prohibited under the Act due to the listing of all *Falco peregrinus* due to similarity of appearance. Moreover, the management of migratory birds, including arctic peregrine falcons, is governed in the United States by the Migratory Bird Treaty Act. The Migratory Bird Treaty Act provides for the cooperative protection of migratory bird resources that are shared by the Treaty signatory nations, including Canada. As the Service develops regulations allowing the harvest of arctic peregrine falcons, the concerns of other nations with which the United

States shares this resource will be addressed. In particular, the Service will work with the appropriate Canadian officials to provide for the protection of breeding populations that have not recovered to the satisfaction of Canadian resource managers and recovery teams.

**Comment 5:** The Florida Game and Fresh Water Fish Commission pointed out that the Service was incorrect in stating that arctic peregrine falcons winter exclusively in Latin America. An estimated 200-300 arctic peregrine falcons over-winter in Florida each year.

**Service response:** The Service acknowledges that some of the peregrine falcons over-wintering in Florida are undoubtedly of the arctic subspecies. The Service has updated its information on the subspecies to reflect this correction.

**Comment 6:** The final rule delisting arctic peregrine falcons should be modified to include those American peregrine falcons that nest north of 55 degrees N latitude. This is appropriate because the northern American peregrine falcons have recovered similarly to arctic peregrine falcons. Limiting the delisting rule to arctic peregrine falcons is confusing, inconsistent, and ignores a large portion of a stable, recovered, and definable population of American peregrine falcons.

**Service response:** The Service listed arctic and American peregrine falcons as endangered under the Endangered Species Protection Act in 1970. They were listed separately, by subspecies, in order to differentiate these subspecies from Peale's peregrine falcons, which did not warrant or receive protection. Arctic and American peregrine falcon populations were affected by pesticides differently—arctic peregrine falcons did not decline to the same extent as American peregrine falcons and they recovered more quickly after the use of organochlorine pesticides was restricted. Additionally, although the recovery of arctic peregrine falcons appears to have progressed to a comparable degree throughout the range of the subspecies, American peregrine falcons have recovered to dissimilar degrees and at various rates in different portions of their range. As a result, the Service is handling the reclassification of American peregrine falcons separately.

**Comment 7:** It is difficult to identify subspecies of peregrine falcons in the wild. The conservation of listed subspecies, which may be confused with arctic peregrine falcons, will be compromised if arctic peregrine falcons are delisted.

**Service response:** The Service considers all *Falco peregrinus* in the conterminous 48 States to be endangered under the similarity of appearance provision of the Act and this consideration will not be affected by delisting arctic peregrine falcons (see Effects of This Rule section below). This is to ensure that protection given to American peregrine falcons, currently considered to be endangered, is not weakened by confusion with members of other subspecies. Although this protection pertains only to peregrine falcons in the United States, the Service hopes that other nations, where the subspecies ranges overlap, will similarly regard all peregrine falcons as endangered in order to assist the full recovery of American peregrine falcons.

**Comment 8:** Delisting will affect international laws and legislation.

**Service response:** This final rule applies only to United States domestic law. All peregrine falcons are listed under Appendix I to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). Delisting arctic peregrine falcons under the Act will not directly affect classification of the species or subspecies under CITES. Separate procedures to delist the subspecies under CITES can be pursued. Such amendments of the CITES appendices are done cooperatively by the numerous parties to the Convention in accordance with provisions outlined in the Convention's Articles XV and XVI. There are no other international laws or legislation that will be affected by this delisting.

**Comment 9:** The opinions of Canada and Greenland, countries principally involved, have not been solicited, considered, or provided.

**Service response:** The Service announced on June 12, 1991, that it was reviewing the status of arctic peregrine falcons and considering whether proposing to delist the subspecies was warranted. The Service notified the federal governments of Canada and Greenland of the status review and asked that they provide pertinent information and comments on whether delisting was appropriate. Neither nation stated a position on delisting but numerous biologists and resource managers within Canada provided the Service with information on the status of the subspecies in Canada. On September 30, 1993, the Service proposed to delist the subspecies and again the governments of Canada and Greenland were asked to provide information and to comment on delisting. The response of the *anatum* Peregrine Falcon Recovery Team,

Canadian Wildlife Service, stated that "the proposal to remove the arctic peregrine falcon from the U.S. list of endangered and threatened wildlife seems well justified by the population increases and sustained productivity that is documented in the September 30, 1993 Federal Register." One specific concern was raised (see Comment 4 above) concerning the harvest of arctic peregrine falcons for falconry; this concern will be addressed by the Service when harvest regulations are formulated under the Migratory Bird Treaty Act. No comments were received from the government of Greenland.

**Comment 10:** The data presented in the proposal indicate that populations in some areas have declined for the last two years. The Service attempted to discount this trend as being the result of "exceptional years."

**Service response:** Surveys of nesting peregrine falcons at Hope Bay and Coppermine, NWT, are conducted by helicopter at about the time that falcons in these areas are hatching (Shank *et al.* 1993). Failed or non-nesting pairs may be absent at nesting cliffs during single, brief visits to cliffs, so may go undetected in this type of survey (C. Shank, pers. comm., 1992). As a result, annual variation in the number of pairs counted can be greatly affected by annual variation in nesting success. In years with good success, most pairs have viable nests and are present when nest sites are checked. In years with poor nest success, many pairs may have failed by the time surveys are conducted and the adults may go undetected. Annual variation in nesting success is large at Hope Bay and Coppermine, and is probably caused by the extreme weather conditions found near the coast in arctic areas (C. Shank, pers. comm., 1992).

Regression analysis provides a means of detecting and describing trends in the number of pairs found at these areas despite annual variation. Regression analysis shows that the number of pairs at Coppermine and Hope Bay has increased significantly since surveys began and that the rate of population growth has averaged about 10 percent per year. Furthermore, surveys in 1993 showed a slight increase from the previous year at Hope Bay and a substantial increase from 1992 at Coppermine (see SUMMARY section above). The Service believes, therefore, that despite several short-term decreases in the number of pairs detected, local populations at both Hope Bay and Coppermine have shown considerable growth in the last 10 to 12 years. Furthermore, the Service believes that decreases seen between 1990 and 1992

do not indicate that populations are declining in either area.

**Comment 11:** The recovery plan established four criteria to be met before delisting should be considered but only two of the four currently have been met. The data on organochlorine concentrations in eggs and eggshell thickness (the two criteria that have not been met) are unpublished and as such have not been verified and validated by scientists.

**Service response:** As required by the Act, the Service collected all available information on the status of arctic peregrine falcons before deciding whether delisting was warranted. Much of the available information is unpublished. In using unpublished data, the Service is able to include the most recently acquired data as well as data collected by a broader array of sources. The Service recognizes, however, that unpublished data have not been subjected to review by the scientific community.

The unpublished data and the Service's interpretation of that data were presented to the scientific community for review in the proposal to delist, which was published in the *Federal Register* (September 30, 1993). Since the *Federal Register* is not widely read among scientists, the Service sent copies to and requested comments from over 30 professional biologists that have worked with peregrine falcons in Greenland, Canada, and the United States. Additionally, copies were sent to members of the Western Peregrine Falcon Recovery Team, a number of professional ornithological organizations, the appropriate natural resource agencies in seven provinces and territories in Canada, and every State fish and game agency in the United States. Several professional biologists or resource managers expressed support for delisting—none expressed opposition to delisting. Furthermore, neither the validity of any data contained in the proposal nor the Service's interpretation of the data were questioned.

#### Summary of Factors Affecting the Species

According to the Act and implementing regulations outlined in 50 CFR part 424, a species shall be listed if the Secretary of the Interior determines that one or more of five factors listed in section 4(a)(1) of the Act threatens the continued existence of the species. A species may be delisted, according to § 424.11(d), if the best scientific and commercial data available substantiate that the species is neither

Endangered or Threatened for one of the following reasons:

1. Extinction;
2. Recovery; or
2. Original data for classification of the species were in error.

After a thorough review of all available information, the Service has determined that arctic peregrine falcons are no longer endangered or threatened with extinction. A substantial recovery has taken place since the 1970's, and none of the five factors addressed in section 4(a)(1) of the Act currently jeopardizes the continued existence of arctic peregrine falcons. These factors and their relevance to arctic peregrine falcons are as follows:

**A. The present or threatened destruction, modification, or curtailment of its habitat or range.** Arctic peregrine falcons nest in arctic tundra regions of Alaska, Canada, and Greenland. They migrate through the mid-latitudes of North America across a broad front, but concentrate in some coastal and estuarine areas along the Atlantic coast and Gulf of Mexico. Migrants also pass through inland areas including the Great Lakes, Great Plains, and Rocky Mountains, although the relative importance of coastal and inland habitats to migrants is unknown. Most arctic peregrine falcons spend the winter in Latin America, but some winter as far north as southern Florida. Although the rate of habitat alteration in nesting, migration, and wintering habitats is greater now than in the past, the rapid increase in the number of arctic peregrine falcons during the last 15 years indicates that habitat modification does not currently threaten the continued existence of the subspecies.

**B. Over-utilization for commercial, recreational, scientific, or educational purposes.** Delisting of the Arctic peregrine falcon will not result in the over-utilization of the subspecies for the following reasons. All *Falco peregrinus* found in the wild in the conterminous 48 States are listed as endangered due to similarity of appearance. Therefore, take of arctic peregrine falcons migrating through the conterminous 48 States will be prohibited by the Act. Additionally, the take of all migratory birds, including arctic peregrine falcons, is governed by the Migratory Bird Treaty Act and the corresponding regulations codified in 50 CFR Part 21. Migratory bird regulations allow for the take of wild peregrine falcons subsequent to obtaining a permit, for recreational, scientific, and educational purposes, but require that harvest is limited to levels that prevent over-utilization.

C. *Disease or predation.* Although individuals may be vulnerable to disease or predation, these factors are not known to affect arctic peregrine falcons at the population level.

D. *The inadequacy of existing regulatory mechanisms.* Arctic peregrine falcons will remain protected by the similarity of appearance provision of the Act while in the conterminous 48 States as long as other subspecies occurring in this area remain listed. This protection will not extend beyond such time that other peregrine falcons occurring in those areas are removed from the list of endangered and threatened wildlife.

Arctic peregrine falcons are also protected by the Migratory Bird Treaty Act, which governs the taking, killing, possessing, transportation, and importation of migratory birds, their eggs, parts, and nests. A more thorough discussion of the protection offered by the Migratory Bird Treaty Act is included in the Effects of This Rule section below.

In addition to Federal laws governing the taking of arctic peregrine falcons within the United States, international agreements govern the transport of arctic peregrine falcons across international borders. The Convention on International Trade in Endangered Species (CITES) is an international agreement that regulates trade in species threatened with extinction and those that may become threatened if trade is not regulated. The arctic peregrine falcon is currently listed under Appendix I of CITES, and, as a result, international trade in arctic peregrine falcons is restricted by the United States and 122 other signatory nations. This final rule only affects United States domestic endangered species law and does not result in removal of arctic peregrine falcons from Appendix I of CITES.

E. *Other natural or manmade factors affecting its continued existence.* There is general agreement within the scientific community that contamination with organochlorine pesticides was the principal factor responsible for the decline of arctic peregrine falcons. The population decline was likely a result of both reproductive impairment from sublethal dosage and direct mortality from lethal dosage, although the relative importance of those two factors remains unknown. Change in population size, therefore, is the best indicator of the total impact of pesticides because population size is affected by both direct mortality, which is extremely difficult to measure in wild populations, and reproductive impairment, which is more easily

quantified in the wild. The consistent growth in arctic peregrine falcon numbers since the late 1970's, previously discussed in the Background section of this rule, provides the strongest supporting evidence that organochlorine pesticides no longer pose a threat at the population level.

The use of organochlorine pesticides was restricted in the United States and Canada in the early 1970's. Their use in Latin America continues, however, and some arctic peregrine falcons undoubtedly winter in areas where organochlorines are currently used. It has been shown, by comparing blood samples collected during fall and spring migration, that migrant peregrine falcons accumulate pesticides while wintering in Latin America (Henny *et al.* 1982). Additionally, some of the avian prey utilized by arctic peregrine falcons during the summer in arctic and subarctic areas also winter in Latin America. Many of these prey return to their northern nesting areas with pesticide residues accumulated during the winter (Fyfe *et al.* 1990). Peregrine falcons preying upon these birds during the summer are thus further exposed to Latin American pesticides. Pesticide use in Latin America, however, may never have been great enough to cause a decline in the number of arctic peregrine falcons. The widespread reproductive failure and population crash coincided with the period of heavy organochlorine use in the United States, and a noticeable increase in productivity occurred in Alaska within a few years following restrictions on the use of organochlorines in the United States.

Furthermore, the exposure of arctic peregrine falcons to organochlorines continues to decrease. Average DDE residues in blood collected from peregrine falcons during spring migration in Texas decreased 38 percent between 1978-1979 and 1984 (Henny *et al.* 1988). Pesticide residues in arctic peregrine falcon eggs have decreased similarly. A sample of eggs from 9 clutches collected in arctic Alaska in 1968 averaged (geometric mean, wet weight basis) 23.5 ppm DDE with a maximum of 99 ppm (Jeff Lincer, BioSystems Analysis, pers. comm., *in litt.*, 1992). By the late 1970's to early 1980's, the average DDE concentration in eggs collected from 19 clutches had declined to 9.3 ppm with a maximum of 46.4 ppm (unpubl. Service data, on file in Fairbanks, Alaska). In 1990-1991, eggs from 13 clutches averaged 3.3 ppm with a maximum of 5.3 ppm (unpubl. Service data, Fairbanks, Alaska). Similar trends were observed in Canada. Residues in eggs collected in arctic

Canada averaged 9.9 ppm DDE in 1965-1972 (maximum 72.0); 8.5 ppm in 1973-1979 (max. 19.6); and 6.8 ppm (max. 18.5) in 1980-1986 (Peakall *et al.* 1990). Eggs from 36 clutches collected at Rankin Inlet, NWT, in 1981-1986 averaged 7.6 ppm DDE (Court *et al.* 1990). Eggs collected in Greenland between 1972 and 1978 averaged 12.8 ppm DDE (Burnham and Mattox 1984), but by 1981 and 1982 the maximum (average not given) in 9 eggs was 9.1 ppm (Mattox and Seegar 1988). To put these values in perspective, concentrations of DDE in peregrine falcon eggs in excess of 15 to 20 ppm (parts per million, wet weight basis) are associated with high rates of nesting failure; if residues average less than this critical level, productivity is usually sufficient to maintain population size (Peakall *et al.* 1975; Newton *et al.* 1989). Residues of other organochlorines in arctic peregrine falcon eggs have also decreased since the 1970's, and residues are currently well below concentrations associated with reproductive impairment or population declines.

Most researchers consider DDE-caused eggshell thinning to be the proximate factor that caused peregrine falcon populations to decline in North America. Average eggshell thickness decreased by as much as 24 percent in Alaska during the peak period of organochlorine contamination. This decreased eggshell thickness correlated with greatly reduced reproductive success. Eggshell thickness has increased significantly since the use of DDT was restricted in the United States, but pesticides accumulated in Latin America still affect shell thickness. Shells from Rankin Inlet, NWT, collected in 1981-1986 averaged 15.8 percent thinner than pre-DDT shells (Court *et al.* 1990). Alaskan shells collected in 1979-1984 averaged 13.4 percent thinner than pre-DDT thickness measurements, and shells collected in 1988-1991 averaged about 12 percent thinner. Peregrine populations are expected to decrease in size if eggs have shells averaging at least 17 percent thinner than normal while populations with eggs averaging less than 17 percent thinning generally remain stable or can increase in size (Kiff 1988). Although arctic peregrine falcon eggs remain vulnerable to an increase in exposure to organochlorines, eggshell thinning has been insufficient to prevent widespread population recovery since the late 1970's.

Reproductive success is another parameter used in measuring the effects of pesticide poisoning upon peregrine falcons. "Normal" productivity rates vary among regions; therefore, it is

difficult to assess the health of a local population based upon productivity rate alone. In Alaska, productivity reached its lowest level of about 0.6 yg/pr in the mid 1970's. Productivity improved in the late 1970's, reaching 0.9 yg/pr in 1979. From 1980 to 1993 it varied between 1.3 and 2.0 yg/pr, which was sufficient to support an average annual increase in the breeding population size of about 9 percent (unpublished Service data on file, Fairbanks, Alaska). In Canada, a decrease in the productivity of arctic peregrine falcons was never clearly documented, although populations decreased in size so productivity almost certainly declined. At Rankin Inlet, NWT, productivity averaged about 1.5 yg/pr between 1981 and 1992 (Court *et al.* 1988; C. Shank, pers. comm., 1991, 1992), although annual productivity varied tremendously in response to variation in weather conditions (Court *et al.* 1988). Productivity in Ungava Bay, Quebec, reached a low of 1.33 yg/pr in 1970, and exceeded 2.7 yg/pr in each of 3 surveys conducted since 1980 (Bird and Weaver 1988; David Bird, pers. comm., *in litt.*, 1991). Reproductive rates have remained high in Greenland since observation began in 1972. In western Greenland productivity from 1972 to 1992 remained at least 1.80 yg/pr (William Mattox, Greenland Peregrine Falcon Survey, pers. comm., *in litt.*, 1992). Similarly, in southern Greenland, production remained high from 1981 to 1991 (Knud Falk, Ornithology Consult A/S, pers. comm., *in litt.*, 1992).

The only recent measurable effect presumably attributable to organochlorine use in Latin America has been found in Rankin Inlet in the NWT. Between 1982 and 1986, pesticides caused about 10 percent of the nesting pairs to fail, but average productivity within the population was high, and numbers were stable at the extremely high density of one pair per 17 square kilometers (Court *et al.* 1988). Despite the effect on a small portion of the pairs, the overall impact to the population in this area was minimal. There has been no other recent evidence of pesticide-caused reproductive failure found in any other arctic peregrine falcon population studied.

In summary, the reproductive failure and resultant population crash seen in arctic peregrine falcons were likely the result of the heavy use of organochlorines in the United States and possibly Canada. However, arctic peregrines are still exposed to organochlorine pesticides due to continuing use in Latin America. Because organisms at the top of the food chain bioaccumulate environmentally

stable contaminants, arctic peregrine falcons remain vulnerable and could suffer from an increase in the use of organochlorines or the widespread use of other stable toxins that affect survival or reproduction. The concentration of organochlorines in arctic peregrine falcon tissues continues to decline, though, and is currently well below those levels associated with population declines. The widespread recovery of arctic peregrine falcon populations is convincing evidence that pesticides and other contaminants do not currently threaten the continued existence of the subspecies.

The Service has carefully reviewed all available scientific and commercial data and concluded that the threat or threats that caused arctic peregrine falcon populations to decline no longer pose a risk to the continued survival of the subspecies. A widespread recovery has followed restrictions on the use of organochlorine pesticides in the United States and Canada. This recovery indicates that the subspecies is no longer endangered or likely to become endangered within the foreseeable future in a significant portion of its range. Under these circumstances, removal from the list of threatened and endangered wildlife is appropriate.

In accordance with 5 U.S.C. 553(d), the Service has determined that this rule relieves an existing restriction and good cause exists to make the effective date of this rule immediate. Delay in implementation of this delisting would cost government agencies staff time and monies conducting formal section 7 consultation on actions which may affect species no longer in need of the protection under the Act. Relieving the existing restriction associated with this listed species will enable Federal agencies to minimize any further delays in project planning and implementation for actions that may affect arctic peregrine falcons.

#### Effects of This Rule

Pursuant to the similarity of appearance provisions of section 4(e) of the Act, species (or subspecies or distinct vertebrate population segments) that are not considered to be endangered or threatened may nevertheless be treated as such for law enforcement purposes of protecting a listed species (or subspecies or vertebrate population segment) that is biologically endangered or threatened. Under the similarity of appearance provision (implemented by 50 CFR 17.50), the Service must find:

(a) that the species so closely resembles in appearance an endangered or threatened species that enforcement personnel would have substantial

difficulty in identifying listed from unlisted species;

(b) that the effect of the substantial difficulty is an additional threat to the listed endangered or threatened species; and

(c) that such treatment of an unlisted species will substantially facilitate the enforcement and further the purposes of the Act.

The Service considers "all free-flying *Falco peregrinus*, not otherwise identifiable as a listed subspecies, to be endangered under the similarity of appearance provision in the 48 conterminous States" (49 FR 10520, March 20, 1984). Therefore, arctic peregrine falcons will be protected as endangered or threatened while migrating through the 48 conterminous States as long as American peregrine falcons that occur in this area are classified as endangered or threatened. American peregrine falcons are known to occur or could occur in all areas in which arctic peregrine falcons are found in the 48 conterminous States, so protection would be complete in this region. The protection of this provision would not extend beyond such time that the American peregrine falcon is delisted. The Service anticipates that recovery will eventually allow the American peregrine falcon to be removed from the list of endangered and threatened wildlife. At such time, the Migratory Bird Treaty Act will govern the take of arctic peregrine falcons, as will the appropriate State regulations. State regulations applying to falconry currently vary among States and are subject to change with time. The applicable State regulations, however, may be more but not less restrictive than Federal regulations.

The similarity of appearance provision does not apply to arctic peregrine falcons while they are outside the conterminous United States. Although American peregrine falcons occur in northern areas, such as Alaska, there is no overlap in the breeding ranges of the two subspecies in Alaska (arctic peregrine falcons breed north of the Brooks Range and along the west coast near Norton Sound whereas American peregrine falcons breed south of the Brooks Range). If this proposal is enacted, therefore, the taking of arctic peregrine falcons within their breeding range would not be prohibited by similarity of appearance protection and would, therefore, be governed by the Migratory Bird Treaty Act. Additionally, the similarity of appearance protection is provided by United States domestic law; this protection does not apply to arctic peregrine falcons outside the United States.

The Migratory Bird Treaty Act regulates the taking of migratory birds for educational, scientific, and recreational purposes, such as falconry. Section 2 states that the Secretary of the Interior is authorized and directed to determine if, and by what means, the take of migratory birds should be allowed, and to adopt suitable regulations permitting and governing the take. In adopting regulations, the Secretary is to consider such factors as distribution and abundance to ensure that take is compatible with the protection of the species. Existing regulations applying to the use of raptors for falconry and the captive propagation of raptors are outlined in 50 CFR 21.28 to 21.30.

In addition to Federal regulations, Alaska State regulations would apply to harvest of arctic peregrine falcons in Alaska. Alaska State regulations outlined in 5 AAC 92.037 do not currently allow for the use of arctic peregrine falcons for falconry, but it is likely that State regulations will be amended to allow harvest in the near future. Alaska State regulation 92.037(b)(3) requires that "no person may permanently export a raptor taken from the wild in Alaska unless the person has legally possessed that raptor for at least one year." The Service anticipates little or no pressure within Alaska to amend this latter regulation; therefore, the take of arctic peregrine falcons in Alaska should remain limited to the roughly 30 falconers who are permanent residents of Alaska.

Falconry regulations in Canada and Greenland do not allow foreign falconers to take raptors, so this delisting will not result in United States residents taking arctic peregrine falcons within these countries. Take of arctic peregrine falcons in Canada and Greenland by residents of those nations is not affected by United States domestic law; therefore, delisting will not affect regulations allowing harvest in those countries. In addition, as mentioned above, international trade in arctic peregrine falcons is regulated as a result of the subspecies' inclusion on the CITES Appendix I list.

#### Future Conservation Measures

Section 4(g)(1) of the Act requires that the Secretary of the Interior, through the Fish and Wildlife Service, monitor species for at least 5 years after delisting. If evidence acquired during this monitoring period shows that endangered or threatened status should be reinstated to prevent a significant risk to the species, the Service may use the emergency listing authority provided for by the Act. At the end of

the 5-year monitoring period, the Service will, based upon results of monitoring efforts, decide if relisting, continued monitoring, or an end to monitoring activities is appropriate.

The Service included a draft monitoring plan in the September 30, 1993 (58 FR 51035) proposal to delist arctic peregrine falcons. The public was asked to provide comments and suggestions for improving the draft plan. Of the 39 parties responding to the proposal, 15 specifically addressed the monitoring plan, including 11 State fish and game agencies, one Federal agency, the government of Trinidad and Tobago, and two non-governmental organizations. Of the 15 that addressed the plan, five supported the plan as written, five stressed the importance of implementing the plan, two stated they supported delisting only if the monitoring plan was implemented, and three suggested modifications to the plan. The parties suggesting improvements raised three different concerns; those concerns and the Service's responses are given below:

*Comment 1:* The Service has chosen an inappropriate criterion for considering relisting if population size again declines. Thirty-five pairs found nesting along the Colville River in 1959 should be considered the historical norm for this population, not 57 pairs found in 1992.

*Service response:* The Service believes that recent survey results provide the most accurate estimate of the number of pairs that will nest along the Colville River when the population is in a normal, healthy condition. Furthermore, the Service's post-delisting monitoring plan for arctic peregrine falcons is designed to detect a change in the status of the subspecies. The Service believes that a significant (25 percent or more) change in population size will indicate that some factor or factors is affecting either reproductive performance or survival within the population. A change in productivity or survival will be more quickly detected and accurately measured if recent population estimates are used as baseline levels.

*Comment 2:* The monitoring plan should be expanded to include one nesting area in the Canadian arctic, one nesting area in Greenland, and migration data from Assateague Island, Maryland, and Cedar Grove, Wisconsin. Cooperative agreements should be pursued with the governments of Canada and Greenland to ensure the continuation of projects in those nations.

*Service response:* In formulating the monitoring plan, the Service emphasized breeding surveys conducted

in Alaska because surveys in northern Alaska were designed to measure the criteria listed in the Peregrine Falcon Recovery Plan, specifically, population size, reproductive performance, and contaminant levels. These factors are the most important in monitoring the status, trends, and threats to the subspecies, and they are not consistently measured in any other study area in North America. Additionally, the Service has greater influence over the funding and implementation of monitoring efforts conducted in the United States, and in particular, those conducted by the Service.

The Service agrees that continuation of on-going research on arctic peregrine falcons will contribute greatly to monitoring the subspecies following delisting. In particular, three nesting surveys in the NWT, Canada, and one in Greenland, and counts of migrants conducted at a number of different sites have provided data substantiating the recovery of the subspecies. The delisting criteria have been modified to consider information on breeding pairs gathered in Canada and Greenland. In addition, the Service intends to utilize all available information when reviewing the overall status of the subspecies, and will encourage the continuation of all research efforts wherever possible.

*Comment 3:* The monitoring plan should be extended to 10 years to allow adequate measurement of the impacts of resumed falconry harvest, to compensate for short-term variability in productivity due to weather and other variables, and to measure long-term changes in organochlorine contamination and eggshell thickness. This is particularly important because the Service reevaluated criteria concerning organochlorine concentrations in eggs and eggshell thickness in the recovery plan.

*Service response:* Although two of the recovery criteria in the original recovery plan were reevaluated to reflect current information, the Service feels that the subspecies has recovered sufficiently to warrant delisting without reservation. At the end of the minimum 5-year monitoring period, the Service will review all available information, including organochlorine contamination and eggshell thickness, to decide if continuation of monitoring is warranted for any reason. The Service believes that this evaluation process allows for adequate consideration of all pertinent factors.

After consideration of the comments received on the draft monitoring plan, the Service has produced the following monitoring plan. This plan will be

revised, as appropriate, to incorporate new knowledge of threats to the subspecies, research techniques, or other applicable information.

**Monitoring plan.** As discussed above, exposure to organochlorines, particularly DDT, was the primary factor causing the decline of arctic peregrine falcons. Organochlorines affected populations by reducing reproductive success, although the mortality rate of adults and juveniles may have increased as well. As productivity and recruitment declined to levels insufficient to replace mortality, populations dwindled. This monitoring plan, therefore, is designed to detect changes in the status of arctic peregrine falcons by monitoring population size, reproductive performance, and contamination with organochlorine pesticides and other pollutants.

In reviewing the status of arctic peregrine falcons and preparing the proposal to delist the subspecies, the Service relied heavily on data provided by Service biologists. However, information from research projects conducted by non-governmental organizations and Canadian provincial agencies was also used extensively. The Service is hopeful that research efforts will continue and that investigators will continue to share data with the Service for management purposes. Monitoring efforts, therefore, will utilize to the fullest extent possible information collected at a number of sites by a variety of organizations and agencies. However, information on each of the parameters to be measured is not collected in every research project. A discussion of each parameter, how the parameter is measured or evaluated, and likely sources of data on the parameter follows.

(1) **Number of Breeding Pairs.** To detect changes in population size, the Service will rely on counts of the number of breeding pairs in selected areas in North America. In order to detect a change in population size in a given area, surveys must be conducted for several years, and the survey area, methods, and timing must be consistent among years. Surveys in four areas have met these criteria. These areas are the Colville River in Alaska and Hope Bay, Coppermine, and Rankin Inlet in the NWT, Canada. Results from surveys in other areas that meet these criteria will be included in future status reviews.

(2) **Reproductive Performance.** To assess reproductive performance, the Service will rely on counts of the number of young produced per territorial pair. Such data are currently available only from the Colville River, Rankin Inlet, and western Greenland

study areas; however, pre-DDT era data on reproductive performance are only available for the Colville River study area. In reviewing data on reproductive performance, the Service will utilize information from all study areas where appropriate data are available.

(3) **Contaminant Exposure.** The Service will analyze arctic peregrine falcon blood and eggs in Service-contracted laboratories to monitor exposure to organochlorine pesticides and other environmental contaminants. The Service will collect addled eggs along the Colville River, Alaska, as feasible, during 1995-1999. In addition, the Service will continue its ongoing long-term study on contamination levels by collecting at least 10 eggs in a given year (repeated at approximately 5-year intervals), so that residues at the end of the minimum 5-year monitoring period can be compared with residues found in earlier periods. Additionally, the Service will encourage the collection of eggs from Rankin Inlet, NWT, and western Greenland, near or at the end of the minimum 5-year monitoring period for comparison to earlier collections in those areas.

Blood will be collected from migrants during spring 1999 at Padre Island, Texas, as part of an ongoing study to track changes in the exposure of arctic peregrine falcons to organochlorines during the winter. Organochlorine concentrations in 1999 will be compared to those in blood collected in 1978-1979, 1984, and 1994.

Eggs and blood will be analyzed, using gas chromatography/mass spectroscopy, for organochlorines, other pesticides (including mirex), and polychlorinated biphenyls and hexachlorobiphenyls. These analyses will be modified, if appropriate, to include other contaminants that are identified as posing a risk to arctic peregrine falcons.

(4) **Migration Counts.** In addition to the three factors mentioned above, the Service will also review counts of migrating arctic peregrine falcons. Counts of migrating peregrine falcons passing fixed points along migration corridors provide information on gross trends in population size. Hundreds of arctic peregrine falcons are counted annually during fall migration at Cape May, New Jersey, Assateague Island, Maryland, and Padre Island, Texas. Smaller numbers are counted at a number of other locations. The Service will continue to request count data each year from all studies.

Region 7 (Alaska) of the U. S. Fish and Wildlife Service is responsible for coordinating the listing, recovery, and monitoring of arctic peregrine falcons.

Therefore, Region 7 will coordinate this monitoring effort. Region 7's efforts will include three facets:

(1) Region 7 staff will continue ongoing arctic peregrine falcon status surveys on the Colville River, Alaska, measuring population size and reproductive performance, and collecting biological samples (eggs, blood, feathers) for contaminant analyses as appropriate.

(2) Region 7 staff will encourage, through memoranda of agreement or similar mechanisms, the continuation of non-Service research efforts that have provided important data on the status of the arctic peregrine falcon throughout its range.

(3) Region 7 staff will exchange information with parties involved in arctic peregrine falcon studies throughout North America and Greenland. Region 7 will compile pertinent information and conduct annual reviews of the status of the subspecies based upon all available information.

At the end of the 5-year monitoring period, the Service will review all available information to determine if relisting, termination of monitoring, or continued monitoring is appropriate. The Service will consider relisting if during, or after, the 5-year monitoring effort, it appears that a reversal of the recent recovery has taken place. If one or more of the following conditions exists, the Service will deem it an indication that a reversal of recovery has taken place and relisting will be considered:

(1) The number of pairs occupying territories in any of the major breeding areas declines by 25 percent or more. Baseline information must meet the standards defined earlier in this section. For example, reclassification would be considered if the number of pairs occupying territories along the Colville River falls below 42 pairs (this would be a 25 percent reduction from the 1992 breeding population of 57 pairs) in any one year;

(2) Average productivity of peregrine falcons nesting along the Colville River drops below 1.4 young per territorial pair for two consecutive surveys (unless other identified factors, such as abnormal weather conditions, explain the lowered productivity). Pre-DDT data are not available on arctic peregrine falcons for Greenland and Canada, so no thresholds of concern for subpopulations in these countries are identifiable;

(3) Average contaminant residues in arctic peregrine falcon eggs or blood exceed those values associated with

widespread reproductive failure or mortality; or

(4) If the number of migrating arctic peregrine falcons declines by 25 percent or more for three consecutive years, the Service will also consider relisting arctic peregrine falcons.

If one or more of these criteria indicate that arctic peregrine falcon populations are declining, the Service will review all available information to determine if arctic peregrine falcons are threatened or endangered with extinction in accordance with listing guidelines outlined in the Act.

The Service will monitor arctic peregrine falcons for a minimum of 5 years following delisting. If, after the 5-year period, studies show that recovery is complete and that no factors that threaten arctic peregrine falcons have been identified, the monitoring program may be reduced or eliminated. If studies show that arctic peregrine falcon populations are declining or if one or more factors that appear to have the potential to cause decline are identified, the Service will continue monitoring beyond the 5-year minimum period. Additionally, if harvest of arctic peregrine falcons is implemented, the

Service may conclude that surveys and monitoring are necessary. If continuation of the monitoring effort is warranted for any reason, the Service will evaluate the current 5-year monitoring plan to determine if modification of the plan is necessary.

#### National Environmental Policy Act

The Service has determined that an Environmental Assessment, as defined under the authority of the National Environmental Policy Act of 1969, need not be prepared in connection with regulations adopted pursuant to section 4(a) of the Act. A notice outlining the Service's reason for this determination was published in the Federal Register on October 25, 1983 (48 FR 49244).

#### References Cited

A complete list of all references cited herein is available upon request from Ted Swem (see ADDRESSES above).

#### Author

The primary author of this document is Ted Swem (see ADDRESSES above).

#### List of Subjects in 50 CFR Part 17

Endangered and threatened species, Exports, Imports, Reporting and

recordkeeping requirements, Transportation.

#### Regulation Promulgation

Accordingly, part 17, subchapter B of chapter I, title 50 of the Code of Federal Regulations, is amended as set forth below:

#### PART 17—[AMENDED]

(1) The authority citation for part 17 continues to read as follows:

**Authority:** 16 U.S.C. 1361–1407; 16 U.S.C. 1531–1544; 16 U.S.C. 4201–4245; Pub. L. 99–625, 100 Stat. 3500; unless otherwise noted.

#### § 17.11 [Amended]

2. Section 17.11(h) is amended by removing the entry for "Falcon, Arctic peregrine, *Falco peregrinus tundrius*" under "Birds" from the list of Endangered and Threatened Wildlife.

Dated: September 23, 1994.

Mollie H. Beattie,

Director, Fish and Wildlife Service.

[FR Doc. 94–24560 Filed 10–4–94; 8:45 am]

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