Endangered and Threatened Wildlife and Plants; Determination of Endangered and Threatened Status for the Piping Plover

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: The Service determines endangered and threatened status for the piping plover (Charadrius melodus) under the authority contained in the Endangered Species Act of 1973, as amended. The shorebird breeds on the northern Great Plains, in the Great Lakes, and along the Atlantic coast (Newfoundland to North Carolina); and winters on the Atlantic and Gulf of Mexico coasts from North Carolina southward and in the Bahamas and West Indies. Endangered status is determined for the plover in the watershed of the Great Lakes (Illinois, Indiana, Michigan, Minnesota, New York, Ohio, Pennsylvania, Wisconsin, and Ontario). Threatened status is determined for the plover in the remainder of its range: northern Great Plains (Iowa, northwestern Minnesota, Montana, Nebraska, North Dakota, South Dakota, Alberta, Manitoba, and Saskatchewan); Atlantic coast (Quebec, Newfoundland, Maritime Provinces and States from Maine to Florida); Gulf coast (Florida to Mexico); Bahamas and West Indies; and anywhere else found. The primary threats to the piping plover are habitat disturbance and destruction, and disturbance of nesting adults and chicks. This rule implements the protection of the Endangered Species Act of 1973, as amended, for the piping plover.

DATES: The effective date of this rule is January 10, 1986.

ADDRESSES: The complete file for this rule is available for inspection during normal business hours, by appointment, at the Endangered Species Division, U.S. Fish and Wildlife Service, Federal Building, Fort Snelling, Twin Cities, Minnesota 55111.

FOR FURTHER INFORMATION CONTACT: James M. Engel, Endangered Species Coordinator at the above address (612/725-2076 or FTS 725-3276).

SUPPLEMENTARY INFORMATION:

Background

The piping plover is a small, stocky shorebird first described in 1824. Adults weigh from 42 to 64 grams (1.5 to 2 ounces) with a length about 17 centimeters (7 inches) and a wingspread about 35 centimeters (15 inches) (Palmer, 1967). Both sexes are similar in size and color. The upper parts are pale brownish, and the underparts are white. A dark band encircling the body below the collar and a dark stripe across the forecrown and distinguishing marks in summer adults, but obscure in winter. Palmer (1967) further details the plumage and other characteristics of the piping plover.

The most recent edition of Checklist of North American Birds (American Ornithologists Union, 1983) refers the reader to the 1957 edition for the treatment of avian subspecies. That edition recognizes two subspecies of the piping plover: Charadrius melodus melodus (Atlantic coast of North America) and Charadrius melodus circumcinctus (northern Great Plains of U.S. and Canada). The birds found nesting in the Great Lakes are intermediate, but referred to as circumcinctus by the 1957 Checklist. The references in this rule to Atlantic, Gulf, northern Great Plains, and Great Lakes breeding populations are a breakdown of the species' breeding range.

Piping plovers occupy their breeding grounds from late March to August. Nest sites are sandy beaches along the ocean (Cairns, 1982) and inland lakes; bare areas on dredge and natural, alluvial islands in rivers (Faanes, 1983; Niemi and Davis, 1979); gravel pits along rivers (Ducey, 1982); and salt-encrusted bare areas of sand, gravel, or pebbly mud on interior alkali lakes and ponds (Whyte, 1985). Nests are shallow, scraped depressions, sometimes lined with small pebbles, shells, or other debris, and usually contain four eggs (Bent, 1929). Least terns (Sterna antillarum) are common breeding associates of piping plovers on the northern Great Plains and Atlantic coast. The piping plover winters along the coast from North Carolina to Florida and Mexico, and in the Bahamas and West Indies.

Historical references of population trends of the piping plover are largely qualitative or lacking altogether. Consequently, it is not possible to give a detailed and precise tabulation of plover populations for each State or Province since 1900, for example. However, there is enough available information to indicate a substantial decline in the species and its habitat, shrinkage of its breeding range, and continued threats to the species, its habitat, and range.

By 1900, the piping plover, described by nineteen century naturalists, such as Audubon and Wilson, as a common resident on the beaches of the Atlantic coast, had been greatly reduced by year-round shooting. In some areas on the Atlantic coast, the plover was close to extirpation. With Federal protection (Migratory Bird Treaty Act) the bird had recovered by the 1920's along the Atlantic coast and was considered common (Bent, 1929).

Since that time, there has been a decrease in the population over most of its range, and it has vanished as a nesting species from many areas. Since 1972, the National Audubon Society's "Blue List," a list designed to serve as an early warning system on the deteriorating status of North American breeding birds, has continued to include the piping plover each year as a bird in potential danger. In his treatise on the shorebirds on the world, Johnsgard (1981) viewed the piping plover as "... declining throughout its range and in serious trouble." The Canadian Committee on the Status of Endangered Wildlife in Canada (COSEWIC), an organization of specialists from Federal agencies, all Provincial and Territorial governments, and from nationally based private conservation organizations, assigned the status "Threatened" to the piping plover on May 2, 1978 (Bell, 1978). In April 1985 COSEWIC assigned endangered status to the plover in Canada.

Cairns and McLaren (1980) estimated 900 breeding pairs of piping plovers from Newfoundland to North Carolina. They encouraged further field work to confirm their estimates. Such work has been carried out and has revealed an estimated 722 breeding pairs (Table 1). Surveys and research have added substantially to the scientific data on the species and its habitat. Most current breeding locations are well documented.

TABLE 1.—ESTIMATED PAIRS ON ATLANTIC COAST (1985)

<table>
<thead>
<tr>
<th>Province</th>
<th>Pairs *</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newfoundland</td>
<td>1</td>
</tr>
<tr>
<td>Quebec</td>
<td>20</td>
</tr>
<tr>
<td>New Brunswick</td>
<td>85</td>
</tr>
<tr>
<td>Prince Edward Island</td>
<td>60</td>
</tr>
<tr>
<td>Nova Scotia</td>
<td>70</td>
</tr>
<tr>
<td>Subtotal (Canada)</td>
<td>246</td>
</tr>
<tr>
<td>State</td>
<td></td>
</tr>
<tr>
<td>Maine</td>
<td>12</td>
</tr>
<tr>
<td>New Hampshire</td>
<td>0</td>
</tr>
<tr>
<td>Massachusetts</td>
<td>112</td>
</tr>
<tr>
<td>Rhode Island</td>
<td>10</td>
</tr>
<tr>
<td>Connecticut</td>
<td>16</td>
</tr>
<tr>
<td>New York</td>
<td>100</td>
</tr>
<tr>
<td>New Jersey</td>
<td>60</td>
</tr>
<tr>
<td>Delaware</td>
<td>6</td>
</tr>
<tr>
<td>Maryland</td>
<td>10</td>
</tr>
<tr>
<td>Virginia</td>
<td>100</td>
</tr>
<tr>
<td>North Carolina</td>
<td>30</td>
</tr>
<tr>
<td>Subtotal (U.S.)</td>
<td>476</td>
</tr>
<tr>
<td>Total (United States and Canada)</td>
<td>722</td>
</tr>
</tbody>
</table>

* Source: references cited in this document and comments received in response to the proposal.
The plover is absent from many former nesting beaches on the Atlantic coast. Several recent status surveys have indicated low numbers and declines of plovers and continued threats to the species' habitat (Calli, 1980, 1983, 1984; Raithel, 1984; Seutuck Research Program, 1984, 1985). In light of the bird's 1920 status as a common resident (Bent, 1929), it is evident from today's low numbers that a substantial decline has occurred. For example, the number of breeding pairs of plovers on Long Island, New York, declined from over 500 in the 1930's (Wilcox, 1939; 1959) to the present 100 (Seutuck Research Program, 1984, 1985).

In the Great Lakes watershed the plover numbers 17 pairs (Table 2). Russell (1983) estimated the historical numbers at over 500 pairs. The species has been extirpated as a breeding bird throughout most of the Great Lakes. Barrows (1912) cited the bird as a very common summer resident along the Lake Michigan shoreline in Illinois. In Michigan, the range of the plover has been greatly reduced in recent years and the 77 adult birds in 1979 (Lambert and Ratcliffe, 1981) declined to 13 pairs by 1984. At Long Point, Ontario, a population of over 100 pairs in the 1920's had declined to zero by the late 1970's (Lambert and Nol, 1978).

On November 8, 1984, the Service published a proposed rule in the Federal Register (49 FR 44712) advising that sufficient information was now on file to support a determination that the piping plover is an endangered and threatened species pursuant to the Endangered Species Act of 1973, as amended. The proposal solicited comments on the proposed listing from any interested parties, especially concerning threats to this species, its distribution and range, whether or not critical habitat should be designated, and activities that might impact the species.

### Summary of Comments and Recommendations

In the proposed rule and associated notifications, all interested parties were requested to submit factual reports or information that might contribute to the development of a final rule. Appropriate State agencies, county governments, Federal agencies, foreign countries, scientific organizations, and other interested parties were contacted and requested to comment. Newspaper notices inviting general public comment were published in 41 newspapers throughout the breeding and wintering ranges of the plover.

Within 45 days of the publication of the proposed rule, the Service received requests for public hearings from Tom Pitts and Associates, Consulting Engineers, Loveland, Colorado (on behalf of the Colorado-Nebraska-Wyoming Interstate Task Force on Endangered Species [comprised of the Colorado Water Congress, Nebraska Water Resources Association, and the Wyoming Water Development Association]); Warren G. White, natural resource advisor at the Office of the Governor of Wyoming; Colorado Water Congress; Davis, Graham and Stubbs (on behalf of the Northern Colorado Water Conservancy District); Colorado Water Conservation Board; Board of Water Commissioners of the City and County of Denver; and the Nebraska Water Resources Association. They requested public hearings in Colorado, Nebraska, and Wyoming and a 60-day extension of the comment period.

The Audubon Society of Omaha, Nebraska; the Central Nebraska Public Power and Irrigation District; and Cook and Kopf, P.C., Lexington, Nebraska (on behalf of the Central Platte Natural Resources District) requested a public hearing be held in Nebraska. The Central Nebraska Public Power and Irrigation District also requested a 60-day extension of the comment period. The Wyoming Water Development Association requested a public hearing.

### TABLE 3—ESTIMATED PAIRS IN NORTHERN GREAT PLAINS (1985)

<table>
<thead>
<tr>
<th>Province</th>
<th>Subtotal (Canada)</th>
<th>Pairs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alberta</td>
<td></td>
<td>110</td>
</tr>
<tr>
<td>Saskatchewan</td>
<td></td>
<td>712</td>
</tr>
<tr>
<td>Manitoba</td>
<td></td>
<td>44</td>
</tr>
<tr>
<td>Ontario</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Subtotal (Canada)</td>
<td></td>
<td>866</td>
</tr>
<tr>
<td>State</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minnesota</td>
<td></td>
<td>22</td>
</tr>
<tr>
<td>Montana</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>North Dakota</td>
<td></td>
<td>152</td>
</tr>
<tr>
<td>South Dakota</td>
<td></td>
<td>50</td>
</tr>
<tr>
<td>Nebraska</td>
<td></td>
<td>505</td>
</tr>
<tr>
<td>Iowa</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Subtotal (United States)</td>
<td></td>
<td>571</td>
</tr>
<tr>
<td>Total (United States and Canada)</td>
<td></td>
<td>1,439</td>
</tr>
</tbody>
</table>

* Source: references cited in this document and comments received in response to the proposal.

The northern Great Plains harbor the largest number of piping plovers in North America (Table 3). The bird occurs sparingly in northeastern Montana and on the Missouri River and its tributaries in the Dakotas and Nebraska. It is nearly extirpated from Iowa. In North Dakota, extensive surveys have indicated far fewer breeding pairs than the 500–1,400 pairs conjectured by Kantrud (in Faanes, 1982). The species is most numerous in Saskatchewan (Harris et al., 1985) but is declining throughout the prairie Provinces (Haig, 1985). For example, in Manitoba only 20 percent of historical nesting sites remain occupied by plovers. At the eastern edge of the Great Plains is the Lake of the Woods. Twenty-four pairs of plovers are found in this area: 22 in Minnesota, 2 in Ontario. In addition to a shrinking breeding range, reproductive success has been poor at several remaining sites because of human disturbance and artificially controlled lake levels (Haig, 1985).

#### Numbers of piping plovers on Gulf coast wintering grounds

May be declining as indicated by a preliminary analysis of Christmas Bird Count data published in *American Birds* (Raithel, 1985). Recognizing the limitations in analyzing such data (Raynor, 1973), Raithel's analysis may indicate that the plover population is partially cyclical but has been trending downward. Independent counts of plovers on the Alabama coast indicate a decline in numbers since 1950s (Dr. G.A. Baldasarre, pers. Comm., 1985). In Texas, there has been an estimated 30 percent loss of wintering habitat over the past 20 years (Texas Parks and Wildlife Department, unpubl. data, 1985).

On December 30, 1982, the Service published a notice of review in the *Federal Register* (47 FR 56454) identifying vertebrate taxa native to the U.S., being considered for addition to the List of Endangered and Threatened Wildlife. The notice included the piping plover as a category 2 species (i.e., a species still needing some data before a proposed listing could be made). Since then, the Service has reviewed further data on the status and biology of the plover in the northern Great Plains, Great Lakes, and Atlantic coast States, and Canada.
be held in Wyoming. Notice of public hearing and reopening of the comment period was published in the Federal Register on December 31, 1984 (50 FR 50748). A public hearing was held on January 18, 1985, at the Peter Kiewit Conference Center, Omaha, Nebraska. The comment period was extended until January 28, 1985.

After the 45-day public hearing request period had ended on December 24, 1984, the Service received additional requests for public hearings in Colorado, Nebraska, and Wyoming, and requests for a 60-day extension of the comment period from the Central Colorado Water Conservancy District, Nebraska Rural Electric Association; Niobrara River Basin Development Association, Ainsworth, Nebraska; The Republican Valley Conservation Association, McCook, Nebraska; Board of Public Utilities, Casper, Wyoming; James W. Sanderson of Saunders, Snyder, Ross & Dickson, P.C., Denver, Colorado (on behalf of the legal committee of the Colorado Water Congress' Special Project on Endangered Species); and U.S. Representative Virginia Smith, 3rd District, Nebraska. Notice of a second public hearing and reopening of the comment period was published in the Federal Register on January 29, 1985 (50 FR 3940). The second public hearing was held on February 27, 1985, at the Denver City Council Chambers, Denver, Colorado. The comment period was extended until March 29, 1985.

On April 15, 1985, the Service received a request for an additional 60-day comment period from James W. Sanderson of Saunders, Snyder, Ross & Dickson, Colorado (on behalf of the legal committee of the Colorado Water Congress' Special Project on Threatened and Endangered Species). Notice of reopening of the comment period for 30 days was published in the Federal Register on May 16, 1985 (50 FR 20481). The comment period closed on June 17, 1985.

Thirty-three people attended the public hearing in Omaha, Nebraska. Twelve of them presented oral comments. Six of the 12 commenters also submitted written comments. Twenty-nine people attended the public hearing in Denver, Colorado. Thirteen of them presented oral comments. Four of the 13 commenters also submitted written comments. Both hearings centered largely on the adequacy of the scientific data used to support the proposed listing of the piping plover in the northern Great Plains, especially in the Platte River system of Nebraska. The 25 public hearing comments and over 200 comments received by mail are summarized below.

Over 170 Federal, State, and Provincial agencies, biologists, conservation organizations, and other interested parties supported the proposed listing, and provided substantial comments on the plover's status and recommendations for management. The Service will incorporate appropriate management recommendations from these comments in future recovery activities for the piping plover. In addition to substantive comments, numerous written comments and oral statements at the public hearings either supported or opposed listing the piping plover, but provided no substantive data.

Opposition to the proposed rule was received from 25 water management organizations, attorneys representing the organizations, and consultants retained by the organizations. The principal concern of the Colorado and Wyoming water groups was the potential impacts this listing might have on water development projects on the South Platte River Basin of Colorado, Nebraska, and Wyoming. The Service conducted a 3-year project on the South Platte River, Colorado, and the North Platte River, Wyoming. Nebraska water groups expressed similar concerns for the two rivers, as well as the Platte River itself. The water groups contend that proposed reservoirs and other river-related projects may be curtailed because the piping plover nests on sandbars in the Platte River and its tributaries.

The concern of the water groups stems from previous Service actions on behalf of the whooping crane (Grus americana) and its critical habitat, a 53-mile reach of the Platte River between Lexington and Shelton, Nebraska (50 CFR 17.95). Breeding piping plovers and interior least terns (the latter listed as endangered on May 28, 1985; 50 FR 21764) require the same open sandbar habitat on the Platte River as the whooping crane requires for roosting. Critical habitat for the tern and plover has not been proposed.

Three of the water groups, Denver Water Department (DWD), Central Platte Natural Resources District (CPNRD), and Tom Pitts & Associates (TPA) (on behalf of the Colorado Water Congress, Nebraska Water Resources Association, and the Wyoming Water Development Association) best summarized the comments of all the water groups:

Comment 1. The cause and effect relationship with respect to altered water flows and reduction in scouring of sandbars and increased vegetation is unsupported and not applicable to the Platte River Basin. Rather, the causative factor behind the development of the woody floodplain vegetation is the presence of water in the river on a year-round basis. A report by Ecological Analysts (1983) was submitted in support of this comment. In addition, another submitted report by Pitts (1985) maintained that there has been an upward trend in the flows of the Platte River from 1940 to 1982 and that Williams (1979) conducted an analysis of historical Platte River flows.

Service response: While the precise cause(s) may be of consequence to future Sections 7 consultations, the facts reduce open sandbar habitat and lower numbers of plovers remain and are of direct relevance to this rule. CPNRD, TPA (Ecological Analysts, 1983), and the Service (U.S. Fish and Wildlife Service, 1981) found that increased development projects on the Platte River system have resulted in vegetational changes. In the course of various public hearings and comment periods on matters dealing with the Platte River (e.g., Little Blue-Catherine Water Right Application), the Nebraska Game and Parks Commission (NGPC) also has received information that it is not lack of scouring that has caused vegetation encroachment. However, NGPC (1984) found, as did the Service and U.S. Geological Survey (1983), that a lack of scouring is a principal cause of the loss and modification of the open sandbar habitat.

In the present judgment of the Service, the dewatering of the Platte River over the past 50 years has been a causative agent in the reduction of available wetlands and sandbars for the piping plover and other species of wildlife, including the least tern and whooping crane.

The Service conducted a 3-year investigation (1978-1980) of the Platte River (U.S. Fish and Wildlife Service, 1981) "to define habitat-use patterns and habitat requirements of migratory bird populations utilizing the North Platte and Platte River valleys and to assess factors influencing woody vegetation establishment along these rivers." The report stated:

With approximately 70 percent of the Platte's annual flows diverted for various consumptive uses upstream in Colorado, Wyoming and western Nebraska, channel width in many areas has been reduced to 10-20 percent of former size. Habitat conditions within the existing channel have also changed as a result or reduced scouring of sandbars and shifting of alluvial sediments. A broad band of mature deciduous woodland now occupies tens of thousands of acres that formerly were part of the river and numerous
islands overgrown with woody vegetation exist within the channel.

A study by the U.S. Geological Survey (1983) supported the results of the Service's conclusion on vegetation encroachment. The study also affirmed the downward trend in Platte River flows discussed by Williams (1978). The Service's report concluded that "species that nest on the open sandbars of the Platte River have been affected adversely by the encroachment of woody vegetation. The most profound impact has been on the distribution and abundance of the least tern and piping plover. Both species require broad expanses of unvegetated river channel and sparsely vegetated sandbars." Faanes (1983) further detailed the nesting ecology of the piping plover and least tern and the present modification and curtailment of the bare sandbar habitat on the Platte River.

Comment 2. The habitat needs of four endangered or threatened species, the whooping crane, bald eagle (Haliaeetus leucocephalus), interior least tern, and piping plover are contradictory, and these species cannot co-exist in the same habitat or areas on the Platte River. Ecological Analysts (1983) discussed the incompatible river flow and habitat conditions required by the least tern, bald eagle, and whooping crane.

Service response: Bald eagles primarily use mature trees of riparian woodlands for communal roosts during the winter. Whooping cranes roost on unvegetated sandbars during their migration in spring and fall (Lingle et al. 1984). Critical habitat has been designated for the whooping crane along the Platte River (50 CFR 17.95). The interior least tern and piping plover breed on sparsely vegetated sandbars during the spring and summer. The maintenance of sandbar habitat will aid the recovery of the whooping crane, interior least tern, and piping plover. The well-established and extensive floodplain forest will continue to serve as a wintering area for bald eagles. The recovery plan for the bald eagle does not call for increasing the acreage of forest along the Platte River, and the whooping crane recovery plan does not call for mature forest removal (U.S. Fish and Wildlife Service, 1980, 1983a). The maintenance of open sandbars by removal or curtailment of early successional woody vegetation, however, may be needed for the benefit of the whooping crane, interior least tern, and piping plover (U.S. Fish and Wildlife Service, 1981).

The Service sees no biological conflict between the listed avian species. Currently, the bald eagle roosts within the whooping crane's critical habitat reach of the Platte River. There is no incompatibility in tern and plover nesting habitat, which is also found in the whooping crane's critical habitat. The Platte River Whopping Crane Habitat Maintenance Trust currently manages for the least tern, bald eagle, piping plover, and whooping crane and has no biological conflict in protecting these species (Faanes, 1983).

Comment 3. Habitat utilization of the central Platte River reach by the piping plover is due to the stable river flows, associated with the construction of the Kingsley Dam and the Tri-County Canal System in the early 1940's.

Service response: Prior to the European settlement of Nebraska, the Platte River was extremely wide and shallow, possessing far more numerous open sandbars (Williams, 1978) and habitat that could support a much larger population of piping plovers than exists today. Lewis and Clark observed the plover on sandbars in the Missouri River between Iowa and Missouri in 1804 (Swenk, 1935). In 1856 the Lieutenant G. K. Warren Expedition collected three piping plovers at the fork of the Platte River. (Cousins, 1874). At the turn of the century, the plover was described as common in Nebraska, with breeding along the Platte River, on the Loop River at Dannebrog (northwest of Grand Island), and on any of the rivers of the State where sandbars occurred (citations in Moser, 1942). This is further evidence of the presence of the species on the upper Missouri River system prior to extensive European settlement and regulation of these rivers.

The plover and least tern no longer breed on the Missouri River between Iowa and Nebraska. The river has been channelized and sandbars no longer exist in early summer. The plover no longer breeds on the Platte River between North Platte and Overton. This stretch of the river is narrow, bordered by a riparian forest, and is no longer suitable for plover nesting. Although a few pairs of plovers breed on the northeastern shore of Lake McConaughy and on Keystone Lake, the breeding population of the plover in Nebraska has decreased.

Comment 4. There is insufficient data to indicate that the piping plover or its habitat is declining in the northern Great Plains.

Service response: In evaluating the status of the piping plover in the northern Great Plains, the Service examined the number of birds as well as habitat trends. Among the breeding avifauna of the northern Great Plains, the piping plover, like the least tern, has one of the most restricted breeding habitats.

In addition to the loss of sandbar habitat by Missouri River channelization, previously discussed, the remainder of the Missouri River in the Dakotas is largely a lake or reservoir where sandbars no longer occur. Habitat changes on the Platte River have already been discussed. In North Dakota two major plover nesting areas, Lakes Brecken and Holmes in the chain-of-lakes area of McClean County, have been modified and are no longer utilized by plovers. Major breeding areas in Saskatchewan and Manitoba have been modified or are threatened with alteration.

The Service points out that the overall range of the piping plover has decreased. The bird is nearly extirpated from the Great Lakes region which formerly represented nearly one-third of the breeding range. In addition, on the Atlantic coast the breeding range of the species has shrunk considerably within most States and Provinces. The modification, curtailment, and destruction of the piping plover's habitat and range continues. This trend persuades the Service to list the species throughout its range.

Comment 5. Censuses of plovers on the Platte River have only been conducted in conjunction with least tern censuses. Additionally, because plovers are more tolerant of vegetation at nest sites (Faanes, 1983), an increase in vegetation in the Platte River valley is not necessarily an encroachment or curtailment of the plover's usable habitat.

Service response: The Service's evaluation of least terns and piping plovers on the Platte River was directed at both species. Counting took place on the river itself and in the entirety of the central Platte Valley. Although the piping plover may be slightly more tolerant of vegetation at the nest site than the least tern, nearly 80 percent of the area around a nest consists of bare ground (Faanes, 1983). Ducey (1984) reported no obvious difference in the nest sites of piping plovers and least terns on the Missouri River. Nesting in vegetation is rare and in sparsely vegetated habitats is characteristic of plovers of the genus Charadrius (Page et al., 1985). Such vegetation must remain sparse in order to continue to be attractive to nesting plovers. Otherwise, suitable nesting areas will continue to decline.

Comment 6. A moratorium should be placed on any new or proposed listings of species in the Platte River Basin. Information regarding habitat needs should be referred to the Federal/State
Coordinating Committee on the Platte River Basin.

Service response: The Service has the responsibility to list species. Listing is required under the Endangered Species Act to be based solely on biological considerations. Listing is the process of identifying those species that are unlikely to survive or may become endangered without the protection of the Act. The Service has indicated at various times that cooperation is important.

A Federal/State Coordinating Committee on the Platte River Basin was recently formed in response to a request by the Colorado Water Congress, Nebraska Water Resources Association, and the Wyoming Water Development Association. The Service appreciates the considerable input from the Committee on the Platte River problems and looks forward to continued cooperation in the management of this system.

Comment 7. Impacts to the piping plover on the wintering range need to be thoroughly examined before the Service can conclude that impacts on the breeding range are primarily responsible for the alleged endangered and threatened status of the species.

Service response: The Service agrees that some reductions in numbers may have been caused by losses of habitat outside the breeding areas. In addition to extensive breeding area problems, the loss and modification of wintering habitat is a significant threat to the piping plover. Wintering beaches become unsuitable to the plovers when altered or destroyed. The most concentrated wintering area, the extensive Laguna Madre de Mexico, south of Brownsville, Texas, was lost when its water level was stabilized for a fisheries lagoon. Plovers typically winter on mud flats, and the greatest concentration of wintering plovers today occurs on the mainland side of South Padre Island, north of Brownsville, Texas. Continued development in the area will lead to stabilization of water levels, eliminating more wintering habitat. The Service views the listing of the species on the wintering range as a prudent course of action. Listing can aid in the preservation of wintering habitat. The Service's recovery plan for the piping plover will investigate the plover's wintering ecology.

The New York Department of Environmental Protection and the Minnesota Department of Natural Resources recommended that the piping plover have only one designation in each State. The Service had proposed that the plover be designated as endangered in the Great Lakes watershed, including those portions of New York and Minnesota in the watershed, and threatened everywhere else. Both Departments desired the change largely for administrative reasons.

Service response: Only biological factors may be considered in changing the classification of a species, as provided under the Act. The plovers in Lake Ontario are now reduced to a single pair on the eastern end of the lake in New York. Sixteen other pairs are all that remain of this species in the entire Great Lakes watershed. The plovers at Lake of the Woods (24 pairs; 22 in Minnesota, 2 in Ontario) are closer geographically to the plovers at Lakes Winnipeg and Manitoba. The Great Lakes watershed forms a natural boundary around this most endangered segment of the plover's populations. It is considered separate from the Atlantic Coast and Great Plains populations.

Stephen Flemming, Acadia University, Nova Scotia, commented that his research (Flemming 1994) in Nova Scotia presents sufficient data to warrant endangered status for the plover in Nova Scotia. Susan Haig, University of North Dakota, recommended endangered status for the plover throughout its Canadian range.

Service response: The Service recognizes that in certain Canadian Provinces and Atlantic States, taken in isolation, the piping plover might warrant endangered status. Classification under the Act is not being made on a Province-by-Province (or States-by-State) basis. Nova Scotia is on the northern edge of the plover's Atlantic coast range. Changes in status of any species on the periphery of its range is expected to be more dramatic than in the core areas. Ms. Haig provided no data that all Canadian birds are in danger of extinction in the immediate future. The species on the entire Atlantic coast and in the Great Plains is being classified as threatened because these birds are not in immediate danger of extinction.

The Montana Department of Fish, Wildlife and Parks (MDFWP) recommended that the piping plover not be designated as threatened in Montana because the State lies on the periphery of the species range. MDFWP noted that there are few records of regular occurrence and the status of the species is marginal, both historically and presently.

Service response: The Service includes Montana because the species nests at the Ft. Peck Reservoir, where there is high human disturbance, and breeds on alkali wetlands such as those on the Medicine Lake NWR in northeastern Montana, only a few miles from breeding sites in North Dakota.

Dr. Lewis W. Oring, University of North Dakota, commented that there are no data available to support the Service's statement in the proposed rule that the piping plover's breeding population consists of three distinct subpopulations. He stated that this is precisely the question that is being addressed by Susan Haig's doctoral research. Two other comments stated that some taxonomists no longer regard Charadrius melodus circumcinctus as valid. The completeness of the breast band is merely variable among individuals (Wilcox, 1959).

Service response: In the proposed rule the Service references the American Ornithologists' Union's (AOU) 1957 treatment of avian subspecies, which has not been addressed since by the AOU. The 1983 edition of AOU's Checklist of North American Birds does not address subspecies but refers the reader to the 1957 edition for recognized subspecies. However, the Service is persuaded by the comments and discussions with Susan Haig that further research is necessary to determine the validity of the subspecies, often defined as geographical subpopulations that are distinguishable from others by morphological characteristics. Both the proposed and final regulations promulgation treat the piping plover at the species level, Charadrius melodus. The Service simply classifies the species as endangered in the Great Lakes watershed and threatened everywhere else found in the wild. The Service's breakdown of the plover's breeding range into the Atlantic coast breeding range, Great Lakes region, and northern Great Plains is not intended to convey the occurrence of subspecies or totally separate genetic populations, but rather to take note of the discontinuous distribution of the species.

The Missouri River Division (MRD) of the U.S. Army Corps of Engineers commented that both the least tern and piping plover utilize similar habitat for nesting and nest during the same period. MRD stated its intention of protecting selected sandbars at Gavins Point Dam, South Dakota, to Ponca State Park, Nebraska. MRD added that balancing the various project purposes such as navigation and hydropower production may make it impossible to consistently operate in a manner that would maximize piping plover reproduction. MRD commented that there are ongoing studies of alternative ways to increase the hydropower production of dams. One alternative would require raising the level of Lewis and Clark Lake, which
would inundate headwater sandbars. If the plover is listed, MRD believed that any action or project would be subject to the section 7 consultation requirement.

Service response: High flows on the Missouri River caused by discharges from Gavins Point Dam have significantly restricted or eliminated annual production of plovers on habitat between Gavins Point and Ponca, Nebraska. The Service will reserve judgment on the projects until any section 7 consultation is completed. The Nebraska Game and Parks Commission (1985b) has developed a plan that it views is compatible with river operational schemes while providing some protection and recovery of the piping plover and least tern.

Seventeen comments disagreed with the Service's reasons for not designating critical habitat. The Service had stated in the proposed rule that critical habitat designation for the piping plover would not be prudent because of the often ephemeral nature of the plover's nesting habitat. For example, beaches and interior wetlands may or may not be used by plovers each year because of varying water levels or natural changes in beach characteristics. Alluvial islands in rivers appear, disappear, and reappear depending upon water conditions.

Julie Zickelfoose, Director of the Nature Conservancy's least tern/piping plover recovery program in Connecticut, commented that all of the nesting migratory birds in the State, the piping plover is among the most predictable in its choice of nest site. Certain sites have been used consistently for many years. If such areas receive continued protection, plovers are likely to use them consistently.

The New Jersey Department of Environmental Protection commented that an effort should be made to define critical habitat which allows for its ephemeral nature. Several areas of critical habitat in the State would advance the plover's conservation. The non-designation of critical habitat and the section 7 consultation on Federal actions on a case-by-case basis may result in unacceptable continued loss of potential habitat. That is, it may be difficult for other areas not occupied at the time of a section 7 consultation, but historically used or with a potential for future use.

The North Dakota Game and Fish Department recommended critical habitat designation for the chain-of-lakes area in McClean County and the Missouri River from Garrison Dam to Hazleton, North Dakota. These two areas support over 50 percent of the North Dakota breeding population. Dr. Mark R. Ryan and Eleanor M. Prindiville stated that specific regions in North Dakota where piping plovers occur predictably. These two glacial outwash plains (one in McClean County and another area in Kidder and Stutsman Counties) are critical centers of distribution for breeding plovers in North Dakota even though numbers of breeding pairs fluctuate at specific lakes.

The Nebraska Ornithologists' Union commented that specific nest sites of piping plovers may be ephemeral; however, general localities have extremely high fidelity by nesting piping plovers as evidenced by the plover's annual nesting effort at several sites in Nebraska and as documented elsewhere in North America.

Dr. Erica Nol, University of British Columbia, commented that piping plovers are site tenacious from year to year and hence habitats could be set aside for their nesting. Female plovers will return to previous nest sites, if successful in raising young in that site.

Service response: The Service will review the determinability of these and other potential critical habitat areas. In particular, habitats for the Great Lakes population determined to be endangered in this rule will be most closely examined, although all areas under United States jurisdiction that have plovers regularly nesting may be considered. The prudence of such a determination will be reviewed within one year, as allowed under section 4(b)(6)(C) of the Act.

Summary of Factors Affecting the Species

After a thorough review and consideration of all information available, including the comments received, the Service has determined that the piping plover should be classified as endangered in certain parts of its range and threatened in the remainder of its range. Procedures found at section 4(a)(1) of the Endangered Species Act (16 U.S.C. 1531 et seq.) and regulations promulgated to implement the listing provisions of the Act (codified at 50 CFR Part 424) were followed. A species may be determined to be endangered or threatened due to one or more of the five factors described in section 4(a)(1). These factors and their application to the piping plover (Charadrius melodus) are summarized below.

A. The present or threatened destruction, modification, or curtailment of its habitat or range. The enormous loss of appropriate sandy beaches and other littoral habitats due to recreational and commercial developments, and dune stabilization in the Great Lakes region and on the Atlantic coast is evident and responsible for some decline of the species. The breeding range of the plover has declined most drastically in the Great Lakes watershed. In those States and Provinces where the plover has not been extirpated, the species now has fewer available breeding sites. Historic habitat has been destroyed or modified. Such destruction and modification continues. Where breeding does occur, breeding success is curtailed primarily because of human disturbance (The Nature Conservancy, 1985), especially on the Atlantic coast and in the Great Lakes region. Foot and vehicular traffic (including raking of beaches for trash) destroys nests and young.

Daming and channelization of rivers have eliminated nesting sandbar habitat along hundreds of miles of rivers in the Dakotas, Iowa, and Nebraska. For example, along the three short stretches of the Missouri River not inundated by reservoirs, untimely water releases from dams subject remaining sandbar habitat to alteration and flooding during the breeding season. The damming and withdrawal of water for irrigation and other purposes have altered water flows in rivers such as the Platte River. This has led to the establishment of dense vegetation less suitable for nesting plovers (Faanes, 1983; U.S. Fish and Wildlife Service, 1981). The listed interior least tern occupies habitat very similar to that of the plover on the Platte and Missouri Rivers.

Although some saline wetlands in the northern Great Plains have been privately drained or adversely altered, the drainage and modification of these wetlands has been less common than the drainage of other types of wetlands. Several major plover breeding areas are, however, threatened with developments.

B. Overutilization for commercial, recreational, scientific or educational purposes. Not currently applicable for the piping plover.

C. Disease or predation. Disease has not been a problem known to occur in this species. Along with increasing urbanization and use of beaches on the Great Lakes and Atlantic coast there has been an increasing number of unleashed pets, as well as feral dogs and cats. The result has been predation of plover chicks and eggs and abandonment of nesting areas. Human developments near beaches have attracted an increased number of predators such as skunks and raccoons.
On the northern plains, the raccoon (Procyon lotor) has greatly expanded its range since the 1940's and is a common predator of the American avocet (Recurvirostra americana), which nests in habitat similar to that of the plover (Sidle and Arnold, 1982). Gulls (Larus sp.), which have increased rapidly in portions of the Great Lakes and Atlantic coast over the past 30 years, may be a significant factor in reducing plover numbers by predation of eggs and young. Trampling by large confined herds of cattle on nesting grounds in the northern plains may be adverse to breeding success.

D. The inadequacy of existing regulatory mechanisms. Several States (Iowa, Illinois, Michigan, Minnesota, New Jersey, New York, Virginia, and Wisconsin) list the piping plover as threatened or endangered. At a few nesting sites, human intrusion is prohibited by local conservation efforts during the breeding season. The Migratory Bird Treaty Act (16 U.S.C. 703 et seq.) protects the bird from taking, and bans trade in piping plovers and their parts. However, that Act does not protect habitat and, by itself, will not be adequate to prevent the further loss of the species' habitat. The Endangered Species Act would offer additional protection for the species, largely through the recovery and consultation processes.

E. Other natural or manmade factors affecting its continued existence. Over the past forty years the number of vehicles and people on beaches of the Great Lakes and Atlantic coast has greatly increased. Plovers are attracted to unvegetated beach areas in early spring only to be disrupted after human recreational and vehicular activities have intensified in late spring and summer. Foot traffic, dune buggies, and other vehicles can crush eggs and chicks. Human presence can disrupt incubation or interfere with fledging success by separating chicks from parents (Flemming, 1984). A lack of undisturbed habitat has been cited as a reason for the decline of other sand nesting birds, such as black skimmer (Rynchops niger) and least tern. On the northern plains, recreational use of rivers is increasing, and remaining bare alluvial islands are subjected to growing human intrusion. Human disturbance in the remote, sparsely populated alkali wetland country of the Dakotas, Montana, and Saskatchewan is small, although even here chicks have been crushed by off-road vehicles.

The Service has carefully assessed the best scientific and commercial information available regarding the past, present, and future threats faced by this species in determining to make this rule final. Based on this evaluation, the preferred action is to list the piping plover as endangered or threatened. Endangered status seems appropriate for the Great Lakes because of the species' near extirpation from there. Threatened status is warranted for the remainder of the species' range because of continued threats and the bird's low numbers. Although some States already list the plover, their laws do not provide the same degree of protection afforded by the Endangered Species Act. Not to list this bird would be contrary to the evidence gathered to date.

Critical Habitat

Section 4(a)(3) of the Endangered Species Act, as amended, requires that, to the maximum extent prudent and determinable, the Secretary shall specify any habitat of a species which is considered to be critical habitat at the same time the species is determined to be endangered or threatened. The Service received extensive comments on possible areas for critical habitat designation for the piping plover. Under section 4(b)(6)(C) of the Act, the Service extends for a period of one year the determination of critical habitat for the plover. A proposed regulation may be published, based upon such data as then available, designating, to the maximum extent prudent, such habitat. A final rule must be published within one year, unless the determination is not prudent.

Available Conservation Measures

Conservation measures provided to species listed as endangered or threatened under the Endangered Species Act include recognition, recovery actions, requirements for Federal protection, and prohibitions against certain practices. Recognition through listing encourages and results in conservation actions by Federal, State, and private agencies, groups, and individuals. The Endangered Species Act provides for possible land acquisition and cooperation with the States and requires that recovery actions be carried out for all listed species. Such actions are initiated by the Service following listing. The protection required of Federal agencies and the prohibitions against taking and harm are discussed, in part, below.

The Migratory Bird Treaty Act makes it illegal to take, possess, sell, deliver, carry, transport, or ship piping plovers or their parts, eggs, nests, and young. However, it affords no protection to their habitat. Section 7(a) of the Endangered Species Act, as amended, requires Federal agencies to evaluate their actions with respect to any species that is proposed or listed as endangered or threatened, and, with respect to its critical habitat, if any is being designated. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR Part 402 and are now under revision (see proposal at 48 FR 29990; June 29, 1983). Section 7(a)(2) requires Federal agencies to insure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of a listed species or to destroy or adversely modify its critical habitat. If a Federal action may affect a listed species, or its critical habitat, the responsible Federal agency must enter into formal consultation with the Service.

As indicated elsewhere in this proposal, the plover is a widely distributed species that has suffered from habitat losses and disturbances throughout most of that range. Those losses and disturbances have been largely caused by the development of coastal beaches, the damming and channelization of rivers, the drainage or altering of wetlands, and human disturbance during the nesting season.

It is not possible now to state with certainty all projects or areas of activity which would require consultation and possible modification. Water development projects (e.g., Two Forks, Prairie Bend, Narrows, Catherland, Enders, Twin Valley, Wildcat Reservoirs) and activities (e.g., relicensing of Kingsley Hydropower Project) in the Platte River Basin may require consultation. The Service has already entered into consultation with Federal agencies in regard to the effects of some of these projects on the whooping crane and its critical area along the Platte River. Beach development projects on the Great Lakes, Atlantic, and Gulf coasts that involve Federal funding, permits, or licensing might require consultation.

This does not indicate that all such actions will, in fact, be found to require the termination of any such project. Modification of Federal actions rather than termination has been the experience of the Service. Reasonable and prudent alternatives may be implemented to avoid causing jeopardy to the piping plover. The U.S. Army Corps of Engineers and the Bureau of Reclamation are the two principal Federal agencies that are expected to be impacted by the listing of the piping plover. Private developers, who are working without any Federal permits, and other parties not requiring such authorizations or monies, will be
This listing will bring sections 5 and 6 of the Endangered Species Act into effect with respect to the piping plover. Section 5 authorizes the possible acquisition of lands for the purpose of conserving endangered and threatened species. Pursuant to Section 6, the Service can grant matching funds to affected States for management actions aiding the protection and recovery of the piping plover.

The Service will develop a recovery plan for the plover. Such a plan will bring together both State and Federal efforts for conservation of the plover. The plan will establish an administrative framework, sanctioned by section 4(f) of the Act, for agencies to coordinate activities and cooperate with each other in conservation efforts. The plan will set recovery priorities and estimate the cost of the various tasks necessary to accomplish them. It will assign appropriate functions to each agency and a time frame within which to complete them. The plan will also identify specific areas needed to be monitored and possibly managed for plovers. Guidelines on protective measures for nesting pairs of plovers would also be established.

The Act and implementing regulations found at 50 CFR 17.21 for endangered species and § 17.31 for threatened species, set forth a series of general prohibitions and exceptions that apply to all endangered or threatened wildlife. These prohibitions, in part, make it illegal for any person subject to the jurisdiction of the United States to take, import or export, ship in interstate commerce or sell for sale in interstate or foreign commerce listed species. It is illegal to possess, sell, deliver, carry, transport, or ship any such wildlife that has been taken illegally. Certain exceptions apply to agents of the Service and State conservation agencies.

Permits may be issued to carry out otherwise prohibited activities involving endangered and threatened animal species under certain circumstances. Regulations governing permits are at §§17.22, 17.23, and 17.32. For endangered piping plovers (Great Lakes watershed), permits are available for scientific purposes or to enhance the propagation or survival of the species. In some instances, permits may be issued during a specified period of time to relieve undue economic hardship that would be suffered if such relief were not available. Since the plover is not allowed in trade by the United States, Canada, or Mexico, no economic hardship cases are expected. A broader category of permits are available at 50 CFR 17.32 for those birds with threatened status. Permits for educational purposes or public exhibition may be issued for threatened species, in addition to the purposes above.

The Service will review the piping plover to determine whether it should be considered for placement upon the Annex of the Convention on Nature Protection and Wildlife Preservation in the Western Hemisphere, and whether it should be considered for other appropriate international agreements. Because the plover is not in international trade, the Service does not plan to propose the species for inclusion in the appendices of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

National Environmental Policy Act

The Fish and Wildlife 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 Endangered Species Act of 1973, as amended. A notice outlining the Service’s reasons for this determination was published in the Federal Register on October 25, 1983 (48 FR 49244).

List of Subjects in 50 CFR Part 17

Endangered and threatened wildlife, Fish, Marine mammals, Plants (agriculture).

Regulation Promulgation

PART 17—[AMENDED]

Accordingly, Part 17, Subpart B of Chapter I, Title 50 of the Code of Federal Regulations, is amended as set forth below:

1. The authority citation for Part 17 continues to read as follows:


2. Amend § 17.11(h) by adding the following, in alphabetical order under “BIRDS,” to the List of Endangered and Threatened Wildlife:

§ 17.11 Endangered and threatened wildlife.

(h) * * * * * * * * *

**Table:**

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<th>Species</th>
<th>Common name</th>
<th>Scientific name</th>
<th>Historic range</th>
<th>Vertebrate population where endangered or threatened</th>
<th>Status</th>
<th>When listed</th>
<th>Critical habitat</th>
<th>Special rules</th>
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<tr>
<td>Plover, piping</td>
<td>Charadrius melodus</td>
<td>U.S.A. (Great Lakes, northern Great Plains, Atlantic and Gulf coasts, PR, VI), Canada, Mexico, Bahamas, West Indies.</td>
<td>Great Lakes watershed in States of IL, IN, MI, MN, NY, OH, PA, and WI and Province of Ontario.</td>
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P. Daniel Smith,
Acting Assistant Secretary for Fish and Wildlife and Parks.

[FR Doc. 85-29414 Filed 12-10-85; 8:45 am]

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