**DEPARTMENT OF THE INTERIOR**

**Fish and Wildlife Service**

**50 CFR Part 17**

**RIN 1018–AG13**

# Endangered and Threatened Wildlife and Plants; Final Determination of Critical Habitat for Wintering Piping Plovers

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

**ACTION:** Final rule.

**SUMMARY:** We, the Fish and Wildlife Service (Service), designate 137 areas along the coasts of North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, and Texas as critical habitat for the wintering population of the piping plover (*Charadrius melodus*). This includes approximately 2,891.7 kilometers (km) (1,798.3 miles (mi)) of mapped shoreline and approximately 66,881 hectares (ha) (165,211 acres (ac)) of mapped area along the Gulf and Atlantic coasts and along margins of interior bays, inlets, and lagoons.

The population of piping plovers that breeds in the Great Lakes States is listed as endangered, while all other piping plovers are threatened species under the Endangered Species Act of 1973, as amended (Act). All piping plovers are considered threatened species under the Act when on their wintering grounds. Critical habitat identifies specific areas that are essential to the conservation of a listed species, and that may require special management considerations or protection. The primary constituent elements for the piping plover wintering habitat are those habitat components that are essential for the primary biological needs of foraging, sheltering, and roosting, and only those areas containing these primary constituent elements within the designated boundaries are considered critical habitat. The primary constituent elements are found in coastal areas that support intertidal beaches and flats (between annual low tide and annual high tide) and associated dune systems and flats above annual high tide. Section 7 of the Act requires Federal agencies to ensure that actions they authorize, fund, or carry out are not likely to adversely modify designated critical habitat. As required by section 4 of the Act, we considered economic and other relevant impacts prior to making a final decision on what areas to designate as critical habitat.

**DATES:** This final rule is effective August 9, 2001.

**ADDRESSES:** The complete administrative record for this rule is on file at the U.S. Fish and Wildlife Service, Ecological Services Field Office, TAMUCC, Box 338, 6300 Ocean Drive, Corpus Christi, Texas, 78412. You may view the complete file for this rule, by appointment, during normal business hours at the above address. Copies of the final economic analysis and information regarding this critical habitat designation are available on the Internet at http://plover.fws.gov.

**FOR FURTHER INFORMATION CONTACT:** Allan Strand, Acting Field Supervisor, at the above address (telephone 361/994–9005; facsimile 361/994–8262; email winterplovercomments@fws.gov).

**SUPPLEMENTARY INFORMATION:**

## Background

### *Description*

The piping plover (*Charadrius melodus*), named for its melodic mating call, is a small, pale-colored North American shorebird. It weighs 43–63 grams (1.5–2.25 ounces) and is 17–18 centimeters (cm) (about 8 inches) long (Haig 1992). Its light sand-colored plumage blends in well with beaches and sand flats, part of its primary habitat. During the breeding season, the legs are bright orange, and the short stout bill is orange with a black tip. There are two single dark bands, one around the neck and one across the forehead between the eyes. Plumage and leg color help distinguish this bird from other plovers. In winter, the bill turns black, the legs remain orange but pale, and the black plumage bands on the head and neck are lost. Chicks have speckled gray, buff, and brown down, a black beak, orange legs, and a white collar around the neck. Juveniles resemble wintering adults and obtain their adult plumage the spring after they fledge (Prater *et al.* 1977).

### *Range and Biology*

Piping plovers breed in three discrete areas of North America: The Northern Great Plains, the Great Lakes, and the Atlantic Coast. The Northern Great Plains population historically bred from Alberta to Ontario, Canada, south to Kansas and Colorado. While Great Lakes breeding sites once ranged throughout the Great Lakes region, recent nesting records are limited to Michigan and Wisconsin. Atlantic Coast breeding sites are found from Newfoundland, Canada, south to North Carolina. Generally, piping plovers favor open sand, gravel, or cobble beaches for breeding. Breeding sites are generally found on islands, lake shores, coastal shorelines, and river margins.

Piping plovers winter in coastal areas of the United States from North Carolina to Texas. They also winter along the coast of eastern Mexico and on Caribbean islands from Barbados to Cuba and the Bahamas (Haig 1992). The international piping plover winter censuses of 1991 and 1996 located only 63 percent and 42 percent of the estimated number of breeding birds, respectively (Haig and Plissner 1993, Plissner and Haig 1997). Of the birds located on the United States wintering grounds during these two censuses, 89 percent were found on the Gulf Coast and 8 percent were found on the Atlantic Coast. Information from observation of color-banded piping plovers indicates that the winter ranges of the breeding populations overlap to a significant degree. Therefore, the source breeding population of a given wintering individual cannot be determined in the field unless it has been banded or otherwise marked.

Piping plovers begin arriving on the wintering grounds in July, with some late-nesting birds arriving in September. A few individuals can be found on the wintering grounds throughout the year, but sightings are rare in late May, June, and early July. Migration is poorly understood, but most piping plovers probably migrate non-stop from interior breeding areas to wintering grounds (Haig 1992). However, concentrations of spring and fall migrants have been observed along the Atlantic Coast (USFWS 1996).

Behavioral observations of piping plovers on the wintering grounds suggest that they spend the majority of their time foraging (Nicholls and Baldassarre 1990b; Drake 1999a, 1999b). Primary prey for wintering plovers includes polychaete marine worms, various crustaceans, insects, and occasionally bivalve mollusks (Nicholls 1989; Zonick and Ryan 1995), that they peck from on top or just beneath the surface. Foraging usually takes place on moist or wet sand, mud, or fine shell. In some cases, this substrate may be covered by a mat of blue-green algae. When not foraging, plovers can be found roosting, preening, bathing, in aggressive encounters (with other piping plovers and other species), and moving among available habitat locations (Zonick and Ryan 1996).

The habitats used by wintering birds include beaches, mud flats, sand flats, algal flats, and washover passes (areas where breaks in the sand dunes result in an inlet). Individual plovers tend to return to the same wintering sites year after year (Nicholls and Baldassarre 1990b, Drake 1999a). Wintering plovers are dependent on a mosaic of habitat

patches, and move among these patches depending on local weather and tidal conditions. One study by Drake (1999a) monitored the movement of 48 piping plovers in south Texas, for one season. She found, using 95% of the documented locations, that these birds had a mean home range of 1,262 ha (3,117 ac). Drake (1999) also noted that the mean linear distance moved per individual bird was 3,294 m (2 mi) for the fall through the spring of 1997–1998.

In late February, piping plovers begin leaving the wintering grounds to migrate back to breeding sites. Northward migration peaks in late March, and by late May most birds have left the wintering grounds (Eubanks 1994).

*Population Status*

In recent decades, piping plover populations have declined drastically, especially in the Great Lakes area. In the early 1900s, uncontrolled hunting drove them nearly to extinction. Protective legislation helped them to recover by 1925, and populations reached a high in the 1930s (USFWS 1994). These numbers soon plummeted, and numbers continued to decline in the 1940s and 1950s as shoreline development expanded, resulting in the loss of plover breeding habitat. River flow alteration, channelization, and reservoir construction have also led to loss of breeding habitat.

In 1973, the piping plover was placed on the National Audubon Society's Blue List of threatened species. By that time, the Great Lakes population of piping plovers had been extirpated from shoreline beaches in Illinois, Indiana, Ohio, New York, Pennsylvania, Minnesota, and Ontario, Canada, and only a few birds continued to nest in Wisconsin (Russell 1983) and Michigan. The Canadian Committee on the Status of Endangered Wildlife in Canada designated the piping plover as ''Threatened'' in 1978 and elevated the species'' status to ''Endangered'' in 1985 (Canadian Wildlife Service 1989). At the time the species was listed under the Act in 1985, the Great Lakes population numbered only 17 known breeding pairs, and the breeding areas had been reduced from sites in eight States to only northern Michigan (Stucker and Cuthbert, unpublished data). In recent years, the Great Lakes population has gradually increased and expanded to the south and west as a result of intensive conservation measures. Recent increases in the Atlantic Coast breeding population have also been attributed to intensive management of nesting beaches. While overall the Atlantic Coast population is increasing, increases are regionally variable with some areas experiencing declining populations. Breeding census results show a marked decline of the population breeding in the Northern Great Plains of the United States (Plissner and Haig 1997).

Overall winter habitat loss is difficult to document; however, a variety of human-caused disturbance factors have been noted that may affect plover survival or utilization of wintering habitat (Nicholls and Baldassarre 1990a, Haig and Plissner 1993). These factors include recreational activities (motorized and pedestrian), inlet and shoreline stabilization, dredging of inlets that can affect spit (a small point of land, especially sand, running into water) formation, beach maintenance and renourishment (renourishing the beach with sand that has been lost to erosion), and pollution (e.g., oil spills) (USFWS 1996). The peer-reviewed, revised recovery plan for the Atlantic piping plover population recognizes the need to protect wintering habitat from direct and indirect impacts of shoreline stabilization, navigation projects, and development. Adult survivorship over the wintering period plays a significant role in maintaining current populations and in accomplishing increases in population levels required to achieve recovery.

**Previous Federal Actions**

On December 30, 1982, we published a Notice of Review in the **Federal Register** (47 FR 58454) that identified vertebrate animal taxa being considered for addition to the List of Threatened and Endangered Wildlife. The notice included the piping plover as a Category 2 Candidate species, indicating that we believed the species might warrant listing as threatened or endangered, but that we had insufficient data to support a listing at that time. Subsequent review of additional data indicated that the piping plover warranted listing, and in November 1984, we published a proposal to list the piping plover as endangered (Great Lakes breeding population) and threatened (all other piping plovers, including all birds on non-breeding areas) in the **Federal Register** (49 FR 44712).

The proposed listing was based on the decline of the species and the magnitude of existing threats, including habitat destruction, disturbance by humans and pets, high levels of predation, and contaminants. On December 11, 1985, we published the final rule (50 FR 50720), listing the piping plover as endangered in the Great Lakes watershed (Illinois, Indiana, Michigan, northeastern Minnesota, New York, Ohio, Pennsylvania, Wisconsin, and Ontario, Canada) and as threatened elsewhere within its range. The listing includes piping plovers breeding in Canada, with their status under the Act determined by whether they breed in the watershed of the Great Lakes (endangered) or elsewhere (threatened). All piping plovers on migratory routes outside of the Great Lakes watershed or on their wintering grounds are considered threatened. We did not designate critical habitat for the species at that time.

In 1986, two U.S. recovery teams were appointed to develop recovery plans for the piping plovers breeding in the Atlantic Coast States and those breeding in the Great Lakes/Northern Great Plains region. We published those plans in 1988 (USFWS 1988a, 1988b). In 1994, we began to revise the plan for the Great Lakes/Northern Great Plains plovers by developing and distributing for public comment a draft that included updated information on the species. More recently, we decided that the recovery of these two regional populations would benefit from separate recovery plans that would direct separate recovery programs. Separate recovery plans for the Great Lakes and Northern Great Plains piping plovers are presently under development. The recovery plan for the Atlantic Coast-breeding plovers was revised in 1996 (USFWS 1996). We exchange observers and coordinate recovery activities with two Canadian recovery teams, with a strong focus on protection of the wintering habitat shared by piping plovers breeding in both countries.

In December 1996, Defenders of Wildlife (Defenders) filed a lawsuit against the Department of the Interior and the Service for failing to designate critical habitat for the Great Lakes population of the piping plover. Defenders filed a second, similar lawsuit for the Northern Great Plains piping plover population in 1997. These lawsuits were subsequently combined (*Defenders of Wildlife et al.* v. *Bruce Babbitt et al.,* Consolidated Cases Civil No. 1:96–CV–02695AER and Civil No. 1:97–CV00777AER). In February 2000, the court issued an order directing us to publish a proposed critical habitat designation for the Great Lakes population of the piping plover by June 30, 2000. Publication of a proposal for nesting areas of the Northern Great Plains population of piping plover by May 31, 2001, was also ordered. Since we cannot distinguish the Great Lakes and Great Plains birds on their wintering grounds, we felt it was appropriate to propose critical habitat for all U.S.-wintering piping plovers collectively. Further, we determined

that the appropriate course of action would be to propose critical habitat for all U.S.-wintering piping plovers on the same schedule required, under court order, for the Great Lakes breeding population. A subsequent order, after requesting the court to reconsider its original order relating to final critical habitat designation, directed us to finalize the critical habitat designations for the Great Lakes population by April 30, 2001, and for the Northern Great Plains population by March 15, 2002. On May 7, 2001, we published a notice in the **Federal Register** (66 FR 22983) announcing a 60-day delay, until June 29, 2001, in making our final determination of critical habitat for the wintering piping plover. The notice explained that we needed additional time to complete our analyses required under section 4(b)(2) of the Act.

We published our proposed designation of critical habitat for wintering piping plovers in the **Federal Register** on July 6, 2000 (65 FR 41782), and requested comments on the proposal by September 5, 2000. We held 10 public hearings and 10 public meetings on the proposed rule in Wilmington, North Carolina, on July 17, 2000; Savannah, Georgia, on July 19, 2000; Tallahassee, Florida, on July 21, 2000; Fort Myers, Florida, on July 24, 2000; Mobile, Alabama, on July 26, 2000; Baton Rouge, Louisiana, on July 27, 2000; Galveston, Texas, on July 31, 2000; Corpus Christi, Texas, on August 2, 2000; McAllen, Texas, on August 4, 2000; and South Padre Island, Texas, on November 14, 2000. We held additional public meetings in Morehead City, North Carolina, on August 16, 2000; in Manteo, North Carolina, on August 17, 2000; Marco Island, Florida, on October 10, 2000; and Rio Hondo, Texas, on August 23, 2000.

On August 30, 2000 (65 FR 52691), we published a notice in the **Federal Register** extending the public comment period to October 30, 2000, and announced the availability of the draft economic analysis. On October 27, 2000 (65 FR 64414), we again published a notice in the **Federal Register** extending the public comment period until (November 24), 2000, and provided notice of a tenth public hearing on the proposed rule. On February 22, 2001 (66 FR 11134), we reopened the comment period until March 1, 2001, to allow for additional comments to be incorporated into the record and allow for us to base our final decision on the best scientific and commercial information available.

**Summary of Comments and Recommendations**

As mentioned above, we requested all interested parties to submit comments or information that might bear on the designation of critical habitat for wintering piping plovers (65 FR 41782). We contacted all appropriate State and Federal agencies, Tribes, county governments, scientific organizations, and other interested parties and invited them to comment. In addition, we published newspaper notices inviting public comment and announcing the public hearings in the following newspapers—Wilmington *Morning Star* in North Carolina; Charleston *Post and Courier* in South Carolina; Savannah *Morning News* in Georgia; Florida *Times Union*, Tallahassee *Democrat*, Fort Myers *News Press*, Key West *Free Press, St. Petersburg Times*, Panama City *News Herald*, and Pensacola *News Journal* in Florida; *Mobile Register*, Alabama; Biloxi *The Sun Herald*, Mississippi; New Orleans *Times Picayune* and Baton Rouge *The Advocate* in Louisiana; and the Houston *Chronicle*, Galveston *Daily News, Port Arthur News, Texas City Sun, Brownsville Herald*, Corpus Christi *Caller-Times, The Monitor* (distributed from Rio Grande City to South Padre Island), and the *Facts* (Brazosport) in Texas.

We held 10 public hearings on the proposed rule (see ''Previous Federal Action'' section above for dates and locations). Transcripts of these hearings are available for inspection (see **ADDRESSES** section).

We received a total of 6,013 comments (counting both written and oral comments) from individuals, agencies, and organizations, plus one petition containing 537 signatures. Of these comments, 5,800 commenters and the petition were specific to the designation proposed for Marco Island, Florida. Of the Marco Island comments, 44 commenters and 537 signatories to the petition favored the designation as proposed, 5,736 opposed designation on Marco Island, and 20 supported a revised designation or only provided information relative to the proposal. There were 213 commenters who were not specific to Marco Island. Of those, 85 favored the designation, 94 opposed it, and 34 did not state a position but provided information.

We reviewed all comments received for substantive issues and new data regarding critical habitat and wintering piping plovers. Some comments resulted in changes between the proposed and final designations, and those comments are discussed in the ''Summary of Changes From the Proposed Rule'' section of this document. We address the rest of the substantive comments in the following summary. For readers' convenience we have assigned comments to major issue categories. Repeated or very similar comments are combined into single comments and responses.

*Issue A: General Biological Comments*

A number of commenters touched on biological issues surrounding the piping plover.

*Comment 1:* The Service's Southeast Region Home Page cites habitat loss due to navigation, dredging, and shoreline stabilization and replenishment projects as major contributors to the species' decline. That statement is unsupported in the literature. Piping plovers are extremely mobile and thrive in a changing environment. The cited activities do not adversely impact wintering piping plovers.

*Our Response:* We disagree with the statement made by the commenter. The commenter is referring to our website at http://plover.fws.gov, that describes the life history and threats of the piping plover throughout its range. Dredging projects and shoreline manipulations in wintering areas can have an effect on the bird's food base, and result in permanent habitat loss and direct disturbance of individual birds. We already consult with Federal agencies that fund or carry out projects involving dredging, beach nourishment, and other shoreline stabilization activities, most notably with the Army Corps of Engineers, because of the effect of such projects on piping plover habitat. The purpose of many shoreline stabilization projects is the prevention of overwash processes (the method by which sediment (sand) is transported across a barrier island) that form inlets and perpetuate sand and mud flats. As sand and mud flats are identified as critical habitat for the plover, there is a connection between these activities and the formation and maintenance of habitat for the plover. Zonick's (2000) dissertation similarly highlights the importance of preserving ''washover pass'' habitat in Texas. Zonick (2000) found that washover passes are used by piping plovers both as feeding and roosting areas. Washover areas are created by the flow of water through the primary dune line with deposition of sand on the barrier flats, marsh, or into the lagoon, depending on the storm magnitude and the width of the beach. Additionally, the peer-reviewed revised recovery plan for the Atlantic piping plover population recognizes the need to protect wintering habitat from direct and indirect impacts of shoreline stabilization, navigation projects, and

development. In general, through our consultations with other Federal agencies, we have found that these activities can be timed and designed to minimize effects on piping plovers.

*Comment 2:* Army Corps of Engineers projects are designed to avoid and minimize impacts to listed species and, where feasible, features to promote species conservation are included in projects. Corps of Engineers dredged material disposal benefits plovers by providing foraging habitat. These benefits should have been discussed in the proposal.

*Our Response:* We stated in the proposed rule that ''Several of these components (sparse vegetation, little or no topographic relief) are mimicked in artificial habitat types used less commonly by piping plovers (e.g., dredge spoil sites).'' Nicholls (1989) documented that piping plovers were observed on spoil areas 6 percent of the time and on sandflats 27 percent of the time. Her survey coverage included 2,705 km (1,680 mi) of coastline along portions of nine states from Virginia to Texas. Spoil sites do not seem to be the preferred habitat for the piping plover, although when more suitable habitat is lacking, spoil sites do create some habitat for these birds. We appreciate the Corps' efforts to promote species conservation through design feature modification of projects.

*Comment 3:* Project delays related to the critical habitat designation for wintering piping plovers, when added to already-narrow windows imposed by protection of other threatened and endangered species such as sea turtles, seabeach amaranth, and beach mice, may affect the Corps of Engineers' ability to conduct mission-related activities.

*Our Response:* Since the species was listed in 1986, the Corps of Engineers has been subject to the consultation requirements of the Act, including analyzing the potential effects on the species habitat. Timing of projects has been considered in consultations conducted under the jeopardy standard since listing, and, in general, we have found that projects can be timed and designed to minimize effects on piping plovers.

*Comment 4:* The causes for piping plover declines are unclear, but it is likely any declines are a result of threats to breeding areas rather than wintering habitat. Threats to wintering habitat are not discussed, nor are any declines in habitat acreage documented. Accordingly, how can the designation possibly benefit wintering piping plovers?

*Our Response:* Historically, plovers were decimated by unregulated hunting. The major present-day threats are largely on breeding areas, but wintering habitats are also essential to the conservation of this species. Adult survivorship over the wintering period plays a significant role in maintaining current populations and in accomplishing increases in population levels required to achieve recovery. In the face of current and foreseeable continued coastal development and increased recreational use, less suitable habitat may be available each year for piping plover recovery. Therefore, we have designated the areas that have consistent plover use and best meet the biological needs of the species. The amount of wintering habitat included in this designation appears sufficient to support future recovered populations, and the existence of this habitat is essential to the conservation of this species. In addition, the designation benefits species conservation by alerting public and private entities to the importance of wintering habitat.

*Comment 5:* Comments were received that questioned the relative use of a specific area compared to the overall population abundance. Of the 50 percent of piping plovers accounted for in the 1996 census, only 8 percent were documented on the Atlantic Coast. How can the Atlantic Coast be considered essential to the species' conservation?

*Our Response:* We have determined that most sites with consistent occurrence of piping plovers should be designated as critical habitat in order to provide for the recovery of the species. There are an estimated 32 pairs remaining of the endangered Great Lakes breeding population of piping plovers. Current data shows that Atlantic Coast sites are even more important to the Great Lakes piping plovers than those on the Gulf Coast. Of the 39 individuals from the Great Lakes population sighted on the wintering ground between 1993 and spring of 2000, 26 (67%) were in South Carolina, Georgia, or the Atlantic Coast of Florida (Wemmer 2000). Thus, we consider the Atlantic Coast to be essential to the recovery of the piping plover.

*Comment 6:* In basing the critical habitat designation on observational data, the proposal is biased toward areas most frequently visited by bird watchers and other beach users. Meanwhile, many areas with restricted access but likely containing excellent habitat were not proposed. Given that situation and the fact that 50 percent of wintering plovers are unaccounted for, how can the Service say the proposed areas are essential for this species?

*Our Response:* We believe the effect of observational bias is minimal because ornithologists and birders are persistent about seeking out birds. Data we received from state biologists documented surveys of the entire coastlines in many states. Some geographic data provided from the 1991 and 1996 International Censuses show that a large area of the coastline is not used by the birds. Only sites where plovers have been observed were included in the critical habitat designation.

*Comment 7:* One-hundred-forty-seven areas are proposed as critical habitat. How could failure to designate any one of these areas lead to extinction of the piping plover?

*Our Response:* The criterion for critical habitat designations is not whether the sites are essential to prevent extinction; it is whether the sites are essential to the conservation of the species and may require special management consideration or protection. Conservation means the use of all methods and procedures that are necessary to bring an endangered or threatened species to the point at which listing under the Act is no longer necessary (i.e., recovered). Subsection 4(b)(2) of the Act allows us to exclude areas from critical habitat designation where the benefits of exclusion outweigh the benefits of designation, provided the exclusion will not result in the extinction of the species.

There are an estimated 32 pairs remaining of the endangered Great Lakes breeding population of piping plovers and data show that this population uses both the Atlantic and Gulf Coasts (USFWS 1999; Wemmer 2000). Therefore, identification of essential habitat should not rule out any sites where piping plovers consistently over-winter, since these sites may be used by the highly endangered Great Lakes population. We have determined that most sites with consistent occurrence of piping plovers should be designated as critical habitat in order to provide for the recovery of the species.

*Comment 8:* The Service should define ''wintering.'' Does the designation include migrating piping plovers?

*Our Response:* We define ''wintering'' as areas used by birds during the non-breeding season. Piping plovers begin arriving on the wintering grounds in July, with some late-nesting birds arriving in September. A few individuals can be found on the wintering grounds throughout the year, but sightings are rare in late May, June, and early July.

This designation did not distinguish migrating birds; however, some areas designated as wintering habitat are also used by migrating and breeding birds in North Carolina and South Carolina. Migration is poorly understood, but it appears that inland birds may fly non-stop to Gulf coast sites (Haig 1992). It is believed that the Atlantic population follows a narrow strip along the Atlantic coast during spring and fall migration with some crossover to Gulf Coast wintering areas (USFWS 1996).

*Comment 9:* The international censuses provide only a snapshot of mid-winter distribution and abundance, but tell little about seasonal variation in habitat use and plover movements. While many plovers appear relatively sedentary, observations at certain sites in North Carolina (McConnaughy *et al.* 1990) and Texas (Eubanks 1994) have reported large numbers during or prior to migration. These staging and migratory stopover areas may be particularly critical for migratory shorebirds (Myers 1983; Skagen and Knopf 1993) and should be included as critical habitat.

*Our Response:* As stated above, migration is poorly understood, but it appears that inland birds may fly non-stop to Gulf Coast sites (Haig 1992). Based on McConnaughy's study, some areas are used as staging or stopover areas, and we have included those areas in the designation when we have survey data to support consistent piping plover use. It is believed that the Atlantic population follows a narrow strip along the Atlantic coast during spring and fall migration from the Gulf coast (USFWS 1996). The sites that McConnaughey *et al.* (1990) documented in North Carolina as having relatively high numbers of plovers observed during migration are within the designated critical habitat units. The sites identified by Eubanks (1994) in Texas are not consistently used and were not included in the designation.

*Comment 10:* The Louisiana coast is remote and not subject to extensive human presence. Further, there is no documentation that Louisiana supports a significant portion of the wintering plover population. Designation of over 1 million acres can only be considered excessive.

*Our Response:* We agree that human development is not as great a threat along Louisiana's coasts as it is in other areas within the plover's wintering range. We disagree however, that there is no documentation that Louisiana supports a significant portion of the wintering plover population. The International Piping Plover Surveys have consistently identified Louisiana as having the second highest numbers of wintering piping plovers after Texas. Since publication of the proposed rule we were able to conduct surveys in the remote deltas of Louisiana, where access is difficult. Based on the results of these surveys, we refined our critical habitat designation to the maximum extent possible to include only those areas having documented use by piping plovers. This has resulted in less acreage being designated in Louisiana.

*Comment 11:* No data were presented to show that piping plovers exhibit site fidelity and cannot simply move to other areas if an area is destroyed.

*Our Response:* Johnson and Baldassarre (1988) found relatively high site fidelity for plovers wintering in the Mobile Bay area in Alabama. The revised recovery plan for the piping plover Atlantic coast population noted several reports of banded birds returning year after year to the same wintering sites on both the Atlantic and Gulf coasts (S. Bogert, pers. comm. 1988; T. Below, National Audubon Society, pers. comm. 1988; T. Eubanks, pers. comm. 1989; Zonick and Ryan 1993; J. Fussell, pers. comm. 1995). Wemmer (2000) presents information on intra- and inter-year site fidelity for Great Lakes plovers, which documents one bird that has been observed during 9 of 11 winters since 1988 at Marco Island, Florida.

*Comment 12:* Comments have been received expressing concerns with the size of designated areas. Most think that the designated areas are too large; a few think that the units are not large enough, thereby not allowing for changes that occur during known dynamic coastal processes.

*Our Response:* As described in the ''Methods'' section of this rule, in the proposed rule, a single buffer distance was set for all units in all states (500 m (1,640 ft)). This buffering methodology resulted in areas of water (deeper than mean lower low water (MLLW)) and areas of dense vegetation being included in the designation, which are not utilized by piping plovers. MLLW is defined as the average of the lower low water height of each tidal day observed over the National Tidal Datum Epoch. In the final rule, we abandoned this methodology for a more precise means of defining the areas that contain the physical and biological features essential to the wintering piping plover. This change in methodology results in smaller units of designated critical habitat than that of the proposed rule. We also removed developed areas from mapped units where possible. (See our response to comments under ''Issue G: Mapping and Primary Constituent Elements.'').

In order to capture the dynamic nature of the coastal habitat and the intertidal areas used by the piping plover, we have textually described each unit as including the area extending out from the landward boundaries to the MLLW. Designating specific locations for critical habitat for the piping plovers is difficult because the coastal areas they use are constantly changing due to storm surges, flood events, and other natural geo-physical alterations of beaches and shorelines. Thus, to best insure that areas considered essential to the piping plover will remain in the designation over time, our textual unit descriptions will constitute the definitive determination as to whether an area is within the critical habitat boundary. Our textual unit descriptions describe the geography of the area using reference points, include the areas from the landward boundaries to the MLLW, which encompasses intertidal areas that are essential foraging areas for piping plovers, and may describe other areas within the unit that are utilized by the piping plover and contain the primary constituent elements (e.g., upland areas used for roosting and wind tidal flats used for foraging).

*Comment 13:* Requests have been made to modify specific units in order to avoid areas where existing and future projects are planned or may occur.

*Our Response:* Critical habitat is designated on the basis of scientific data, but areas may be excluded on the basis of economic impact or any other relevant impact if the Secretary determines that the benefits of exclusion outweigh the benefits of specifying such areas as critical habitat. We may not exclude areas if such exclusion will result in the extinction of the species. While the final Economic Analysis identifies some impacts following this critical habitat designation, this consultation activity is largely attributable to the listing. This is based on the fact that all the designated critical habitat units have documented use by piping plovers and planned projects are currently subject to the regulatory provisions of section 7(a)(2) and section 9 of the Act due to the listing of the piping plover. See the ''Economic Analysis'' and the ''Exclusions Under 4(b)(2) of the Act'' sections of this rule.

*Comment 14:* Many commenters have asked why we do not designate areas that are not heavily used and inaccessible by man, therefore more ideal for piping plovers.

*Our Response:* We have designated areas with consistent documentation of piping plover use. This includes both areas heavily used and inaccessible by man. Many inaccessible areas do not have the primary constituent elements needed by plovers. Piping plovers choose areas that meet their physical and biological needs. Plovers exhibit a certain amount of site fidelity and were using many of these places before they became developed.

*Comment 15:* Commenter states that literature (Nicholls Baldassarre 1990b) seems to suggest that people and off-road vehicles preclude piping plovers from occupying wintering sites. There are beaches where piping plovers and beach users successfully cohabit. Studies cited in the recovery plan do not provide conclusive scientific data on whether or not human-caused impacts influence wintering piping plovers.

*Our Response:* Section 4 of the Act requires us to base our critical habitat designations on the best available scientific information. We note that there are several studies documenting the effects of human presence on the behavior of birds. Bird species vary in their response to human disturbances (pedestrian and vehicular) (Rodgers and Smith 1997). On the breeding grounds piping plovers elicit a significantly higher response to humans than to potential predators or non-predator species (Flemming *et al.* 1988). Rodgers and Smith (1997) documented that shorebirds are more easily flushed than other species of coastal birds. This may be because shorebirds on the wintering grounds are migrant species that rarely interact with humans. Elliott and Teas (1996) evaluated direct and indirect measures of the effects of human disturbance on piping plovers in Texas. Piping plovers (breeding and wintering) not encountered by humans spend more time foraging and less time in active nonforaging behavior (Elliott and Teas 1996; Burger 1991). Zonick and Ryan (1996) documented in Texas that beach vehicular density and piping plover abundance were negatively associated. On the breeding grounds, the effects of people have caused increased shifts in habitat use and decreased foraging time with more time devoted to alertness (Burger 1991; Staine and Burger 1994).

Increased human disturbance increases energy expenditure by birds and reduces their food intake (Belanger and Bedard 1990). Whether this is enough to affect their maintenance of fat reserves for long-range migration or to maintain adequate body temperatures under cooler winter conditions is unknown. If the level of disturbance is high enough, piping plovers may be forced to move to less optimal habitat (Elliott and Teas 1996). We do not know what effect foraging in marginal areas has on the piping plover's ability to survive the winter, and successfully reach the breeding grounds, or on reproductive success once on the breeding grounds. Studies on the breeding grounds that may apply on the wintering grounds show that piping plovers that have diverse habitats available for foraging can more easily cope with space competition and human disturbances than those with fewer habitats (Burger 1994).

Since the piping plover was listed in 1986, no beach closures have occurred due to the presence of piping plovers in their wintering range, although in the breeding range (e.g., Plymouth, Massachusetts), partial beach closures have occurred to protect chicks and adult piping plovers prior to the chicks fledging. Additionally, as stated in our response to B.18, we believe that the effect of normal human presence on piping plovers in their wintering habitat does not have serious consequences at the population level, and we do not expect this designation to affect recreational beach use.

*Comment 16:* Several commenters suggested that certain units (Yent Bayou, Marco Island, Unit TX–34 (San Luis Pass), and Rollover Bay and surrounding areas) are not essential to the conservation of the species and should not be designated as critical habitat.

*Our Response:* As required under the Act, we designated critical habitat essential for the conservation of the species based on the best scientific data available. We identified areas throughout a broad geographic coverage along the coast that contained the primary constituent elements and where occurrence data indicated a consistent use by piping plovers. The essential features found on the designated areas may require special management consideration or protection to ensure their contribution to the species' recovery. We believe that the designated areas are sufficient, and are needed to support piping plovers when recovered. We have addressed these areas specifically in ''Issue B: Site-specific Biological Comments.''

*Comment 17:* One commenter questioned the need to designate critical habitat in areas where the piping plover does not breed.

*Our Response:* This designation is for wintering habitat only. Piping plovers spend up to 10 months (83 percent of their lifetime) of each year on the wintering grounds. It is, therefore, important to insure their biological and physical needs are met on the wintering grounds. See also response to A.4.

*Comment 18:* Several commenters requested that vast areas of open sandy beaches, open water, and heavily vegetated dunes not be designated critical habitat and questioned why the designation includes areas up to 100 meters offshore.

*Our Response:* We disagree with the statement that ''vast'' areas of open sandy beaches have been designated as critical habitat. Areas with documented piping plover use have been designated. These areas are used by piping plovers because they contain the primary constituent elements and are essential to the conservation of the species. The primary constituent elements are found in geologically dynamic coastal areas that support intertidal beaches and flats and associated dune systems and flats above annual high tide (i.e., sandy beaches). Because areas used by piping plovers are ephemeral habitats, we must consider their changing nature over time. As explained in the ''Methods'' section, we abandoned the buffering methodology used in the proposed rule and the revised textual unit descriptions are now the definitive source of determining unit boundaries. This change has resulted in critical habitat units that are significantly scaled down in size from what was presented in the proposed rule. We also believe that we have captured the ephemeral nature of the habitat within these unit descriptions, by including areas to MLLW.

*Comment 19:* While there may be some sites within the piping plover's range that are very remote or logistically difficult to survey, only sites with documented occurrence of the species should be designated as critical habitat.

*Our Response:* Since the initial proposal, we obtained data on piping plover occurrences in critical habitat areas where the primary constituent elements were present but where we had no piping plover occurrence data because the areas were logistically difficult to survey. We have subsequently refined our designation to include only those areas that contain the primary constituent elements essential for the conservation of the species and for that we have known piping plover occurrences. See the ''Summary of Changes From the Proposed Rule'' section and our response to A.10.

*Issue B: Site-specific Biological Comments*

A number of commenters spoke to specific geographical areas of the designation.

*Comment 1:* Several commenters have recommended the inclusion of

additional areas in the critical habitat designation and have submitted data supporting consistent use of these areas by piping plovers. The areas that fall under these criteria in South Carolina include Port Royal Mud Flats, Beaufort County. Areas in Florida include Dog Island, Franklin County; Big Hickory Island, Lee County; north tip of Anna Maria Island, Manatee County; high marsh and salt pans inland of Bunche Beach, Lee County (adjacent to Unit FL–25); Cape Haze/Gasparilla Sound State Buffer Preserve, Charlotte County; and northeast end of Spanish Harbor Keys ''Horseshoe Pit,'' Monroe County. In Alabama, Gulf State Park was recommended for inclusion.

*Our Response:* We appreciate receiving the additional information. We will continue to monitor and collect new information and may revise the critical habitat designation in the future if sufficient new information supports a change. Areas outside the critical habitat designation will continue to be subject to conservation actions that may be implemented under section 7(a)(1) and to the regulatory protections afforded by the section 7(a)(2) jeopardy standard and the section 9 take prohibition (see response to E.5). Should new information become available to support the need to designate critical habitat in other areas, we will consider amending this designation.

*Comment 2:* Other areas have been recommended for inclusion, based on presence of primary constituent elements; however, no significant data on plover occurrence was presented by commenters. Such areas recommended in North Carolina include expansion of units 6 and 7 to include all of the northern and southern Core Banks area. South Carolina areas are Fripp Island (habitat has been riprapped), Morse Creek, and St. Phillips Island, Beaufort. The areas in Florida include the South tip of Amelia Island, Nassau County; high marsh and salt pans of Charlotte Harbor State Buffer Preserve, Charlotte County; Passage Key National Wildlife Refuge, Manatee County; north end of Longboat Key, Sarasota County; Ft. Pickens, Santa Rosa County; Little Sabine, Santa Rosa County; Choctawhatchee Bay, Okaloosa County; Cape St. George, Franklin County; St. Marks National Wildlife Refuge, Piney Island, Wakulla County; Aucilla Wildlife Management Area, Steinhatchee Area, Taylor County; Cedar Key and area, Levy and Dixie Counties; Chassahowitzka National Wildlife Refuge, Homosassa Island, Citrus County; Siesta and Casey Keys, Sarasota County; Mouth of Peace River, Charlotte County; Pine Island and Pine Island National Wildlife Refuge, Mound Key, Carl Johnson Park, Lovers Key State Recreation Area, and Delnor Wiggins Pass, Lee County; Rookery Bay National Estuarine Sanctuary and Kice Island, Collier County; north end of Key Largo and other Keys in general, Monroe and Dade Counties; Hobe Sound National Wildlife Refuge and Blowing Rocks Preserve, near Jupiter Inlet, Martin County; Hutchinson Island, south of Ft. Pierce, St. Lucie County; Sebastian Inlet State Park, Pelican Island National Wildlife Refuge, Indian River County; Spessard Holland County Park, Brevard County; Canaveral National Seashore, Brevard and Volusia Counties; Anastasia State Recreation Area, St Augustine Beach to Ft. Matanzas Inlet, St. Johns County; Midnight Pass, Sarasota County; Sand Key, Pinellas County; St. Andrews State Recreation Area, Bay County; and Port Charlotte Beach State Recreation Area, Charlotte County. One area, Sand Island, was requested for inclusion in Mississippi. In Alabama, the area known as Alabama (also known as Florida) Point and Bon Secour National Wildlife Refuge were suggested for inclusion.

*Our Response:* No data were provided to support the designation of the above areas as critical habitat. Many of these sites have been monitored as part of piping plover and other shorebird surveys. No consistent use by piping plovers was recorded.

*Comment 3:* One commenter noted that observations of piping plovers occurred in the following areas during the international censuses, but that the areas were not included in the designated units in Texas—Rachel Site, east of Whites Point, Nueces Bay, Nueces County, 1991; Tule Lake, Nueces County, 1996; Redfish Bay area, Nueces County, 1991, 1996; Aransas Pass/Port Aransas causeway, Nueces County, 1991, 1996; Aransas National Wildlife Refuge, Calhoun and Aransas Counties, 1991; Aransas Bay/St Charles Bay reefs, Aransas County, 1991; Copano Bay bridge, Aransas County, 1991; Texas Point to McFaddin National Wildlife Refuge, Jefferson County, 1996 and Christmas Bird Counts.

*Our Response:* We appreciate receiving the additional information. For the following reasons we did not include these areas in the designation. The Rachel Site, east of Whites Pt. in Nueces County was not surveyed in 1996, nor is there indication of any surveys taken that show piping plovers have been seen at this site. The area has the potential habitat for piping plovers, but there has been no data reported to support designation of critical habitat. Six piping plovers were found in St. Charles Bay in 1991, but the site was not visited in 1996, and we did not include the area in the designation based upon a lack of documentation of consistent use. Although piping plovers were present on the margins of spoil islands at the Aransas National Wildlife Refuge in Calhoun and Aransas Counties in 1991, none were found at either site during the 1996 census, therefore we did not include this area in the designation because we lacked documentation of consistent use. Only one bird was found in both the 1991 and 1996 censuses on the Port Aransas causeway. This area was not included due to these low numbers, plus the fact that much of the area is made up of emergent marsh or mangroves and the primary constituent elements are not present for the piping plover. There are no data to support the presence of piping plover at the Copano Bay bridge site, and there is not much habitat available for the bird except in extreme low tide events. The Texas Pt. to McFaddin National Wildlife Refuge in Jefferson County is a very highly erosive narrow stretch of beach, and it is likely that very few birds would be present. The area of Tule Lake in Nueces County was not censussed in 1991, but 8 birds were found in 1996. This site is highly developed all around, and we determined that the characteristics of this area do not provide for the long-term essential needs of the piping plover. Redfish Bay in Nueces County supported 83 birds in 1991 and 20 birds were seen in 1996. Thus, this site could have been proposed for critical habitat designation. However, in order to include areas in this final rule, we would have to include them in our proposed designation and allow the public an opportunity to comment on their inclusion. As we stated in our response to Comment B.1 above, we may revise the critical habitat designation in the future if sufficient new information supports a change. Furthermore, areas outside the critical habitat designation will continue to be subject to conservation actions that may be implemented under section 7(a)(1) and to the regulatory protections afforded by the section 7(a)(2) jeopardy standard and the section 9 take prohibition.

*Comment 4:* One commenter requested to see the data upon which Yent Bayou (unit FL–10) was chosen as critical habitat for piping plover because their data do not support such a designation. Yent Bayou is a good site

for many shorebirds, but not for piping plover.

*Our Response:* We do not agree with the commenter. The 1996 International Census documented 11 birds; Sprandel *et al.* (1997) documented 12 during the winter of 1993–94; Climo (1998) visited Yent Bayou 21 times between 1993 and 1996 and saw an average of 5.1 piping plovers per visit.

*Comment 5:* At a public workshop, the Service failed to present scientific data supporting the inclusion of any portion of Marco Island in a critical habitat designation. There is no peer-reviewed published scientific literature to indicate that Florida or Marco Island beaches are essential to plover recovery.

*Our Response:* Although we did not present data at the workshop, designation of unit FL–27 at Marco Island was based on ample documentation that shoals at the north end of the island are regularly used by piping plovers. Individuals with expertise in plover biology wrote the piping plover recovery plans. The revised Atlantic Coast and Great Lakes populations recovery plans were peer-reviewed and they specifically mention Marco Island as essential for conservation of the plover. We have also reviewed available information from the 1991 and 1996 International Censuses (including field reports and notes) and the often-substantial data from local birders and ornithologists. Other publications used to evaluate Florida habitat included a ''Winter Shorebird Survey'' published by the Florida Game and Fresh Water Fish Commission (Sprandel *et al.* 1997), a thesis titled ''A landscape-level analysis of piping plover (Charadrius melodus) winter habitat'' by Lisa Climo (1998), and a thesis titled ''Distribution and other ecological aspects of piping plovers (*Charadrius melodus*) wintering along the Atlantic and Gulf Coasts' by Janice Nicholls (1989). While it would always be desirable to have more data, the critical habitat designations are based on the best scientific data available.

*Comment 6:* Marco Island is unlike other beaches proposed to be designated as critical habitat in that it is completely developed.

*Our Response:* With the reduction of the FL–27 (Marco Island) unit's size from the proposed rule, much of the highly developed areas are no longer included in the designation. We believe the new boundaries fully cover the areas regularly used by piping plovers and allow for the movement of sand bars and tidal flats. In general, if the primary constituent elements are present and we make a determination that the area is essential for the conservation of the species, the degree of development is irrelevant to critical habitat designations, except to the extent that there might be economic or other impacts that could outweigh the benefits of designating critical habitat. The final Economic Analysis did not identify economic impacts at Marco Island that suggested that this area should be excluded.

*Comment 7:* Marco Island is the northernmost of the Ten Thousand Islands. Virtually all of the other islands cannot be developed, so they would make ideal plover habitat without interfering with human use of beaches on Marco Island. Why was Marco Island (unit FL–27) proposed for designation as critical habitat, while other populated areas, such as Naples, Florida, were not nor were isolated beaches, such as at Keewaydin Island or the 50 miles of the Gulf coast south of Marco Island?

*Our Response:* The entire coastline of Lee and Collier Counties, including Marco Island and the Ten Thousand Islands, has been surveyed for shorebirds for many years. Naples lacks an inlet like Big Marco Pass, and the Ten Thousand Islands generally lack beaches or mud flats suitable for these birds. We have been provided reports of piping plovers using several sites near Marco Island, but do not have evidence of regular, repeated use that would indicate that they are essential to the conservation of the species. There is ample evidence that the critical habitat units designated in this rule are regularly used by piping plovers, and that other areas, including the coast south of Marco Island, are not.

*Comment 8:* Designating Marco Island beachfront as critical habitat will encourage the Service to create conditions favorable to the plover. This will encourage the plover to become established in an artificially created area in contrast to its long-term interest of using areas of lesser human presence.

*Our Response:* While the proposed rule included Marco Island's developed beachfront, nearly all of that developed beachfront has been excluded from the final rule based on data received during the comment period showing that piping plovers do not use that part of the beach. With regard to artificially created habitat, designation will not automatically require creation of wintering habitat for piping plovers. However, if it is possible to improve wintering habitat constituent elements as part of a Federal project, we will likely recommend such an action.

*Comment 9:* Piping plover habitat at Marco Island consisting of the intertidal area is ephemeral, has undergone significant changes over the last decade as a result of coastal processes and will, consistent with prior history, eventually degrade to the point where foraging habitat for the plover may no longer exist.

*Our Response:* Almost all piping plover wintering habitats are dynamic, consisting of beaches and flats that erode, accrete, or change position over time. We have included in our textual unit descriptions, the definitive legal source on unit boundaries, areas to the MLLW to insure that this critical habitat designation adequately captures the shifting primary constituent elements of critical habitat.

*Comment 10:* The scientific literature has shown that, on the wintering grounds, piping plovers generally are restricted to sand flats and intertidal areas, not beaches such as on the majority of Marco Island. The proposed critical habitat unit FL–27 at Marco Island includes large areas, mostly beaches, that are not used by wintering piping plovers. The unit should be reduced in size to cover only the sand flats and intertidal areas at Sand Dollar Island and Tigertail Beach at the north end of the island.

*Our Response:* The comment refers to the heavily developed portion of Marco Island's beach south of Tigertail Beach, that we now know is used little, if at all, by piping plovers. This area was removed from the FL–27 critical habitat unit.

*Comment 11:* One commenter noted that the boundaries of unit FL–27 at Marco Island extend far beyond the boundaries of a Critical Wildlife Area designated by the Florida Fish and Wildlife Conservation Commission to conserve shorebirds, especially breeding ones. Two other commenters provided data on piping plover use of the Marco Island area and aerial photographs.

*Our Response:* We used the survey information and aerial photographs in adjusting the boundaries of the FL–27 critical habitat map unit. The southern boundary is now at the southern limit of sandbar formation since 1952. This southern boundary coincides with the southern boundary of the Critical Wildlife Area. The revised northern border of the critical habitat map unit includes isolated sand bars that are forming from just north of Sand Dollar Island to Coconut Island, but excludes Hideway Beach. The landward boundary does not extend inland from the vegetation line because this part of the island appears to be accreting. The seaward boundary extends only far enough to cover areas with sandbars. We believe the new boundaries fully cover the areas regularly used by piping

plovers and for the expected movement of sand bars and tidal flats.

*Comment 12:* A few commenters stated that the NC–10 unit needs to reflect the continuity of habitat at this site. The narrative does a good job of describing the site, which includes the sandy shoal islands within the inlet. But the designated areas on the map leave out the sandy shoal islands within the inlet. The map should be drawn as one contiguous unit.

*Our Response:* The sandy shoal islands referred to are northeast of the inlet. Trying to include all sandy shoals visible would have made NC–10 extremely large. We believe that NC–10 as described in the unit description is sufficient for conservation of the species in this area. Piping plovers still have protection under the Act whether they are within critical habitat or not.

*Comment 13:* What effect will the final designation have on vehicular access to areas that already allow beach driving within critical habitat units?

*Our Response:* Only actions involving a Federal agency are regulated by critical habitat. On non-Federal lands, beach driving is not regulated under the Act unless take of a listed animal is involved. Take of a listed animal could be authorized by an incidental take permit (ITP) from the Service. An ITP would be required regardless of critical habitat if take is involved. The issuance of the ITP is a Federal action and the decision to issue the ITP will include an evaluation of the effects to critical habitat. In most cases, measures to avoid and minimize harm would be incorporated in a habitat conservation plan that includes driving.

For lands under Federal control (National Park Service, Air Force, etc.) the managing agency is responsible for ensuring that their actions do not jeopardize the continued existence of, or destroy or adversely modify critical habitat, of listed species. Often times, the managing agency is able to control impacts to listed species from beach driving by redesigning routes and beach access points, and by temporarily closing off specific areas during critical seasons.

*Comment 14:* The critical habitat designations for North Carolina, South Carolina, Georgia, and Florida are conservative overall, as fairly discrete sites were selected. However, it seems a more comprehensive approach was taken for the selection of sites along a majority of the Gulf Coast from Alabama to Texas.

*Our Response:* Based on comments received, we have refined our critical habitat designation to the maximum extent possible to include only those areas that have documented consistent use by piping plovers and removed all areas that do not have consistent use documentation. This was done in order to ensure consistency in the designation of critical habitat units for all States. The configuration of habitat units differs across the wintering range as a result of basic differences in beach morphology throughout the South Atlantic and Gulf of Mexico.

*Comment 15:* It would be more cost-effective for the Service to designate all critical habitat for the Perdido Key and Choctawhatchee beach mice as critical habitat for the piping plover, since those species are already being monitored.

*Our Response:* Designating critical habitat for piping plovers based on the existence of critical habitat and monitoring for another listed species does not meet our requirements under 50 CFR 424.12(b). In this case, critical habitat must be based upon a consideration of the physical and biological features essential to the conservation of the piping plover.

*Comment 16:* One landowner in Louisiana voiced concern that his/her property was within proposed critical habitat boundaries even though it does not contain piping plover habitat.

*Our Response:* We recognize that not all parcels of land within the initially proposed critical habitat designation contain the habitat components essential to piping plover conservation. Since the initial proposal, we have refined our critical habitat maps to exclude, to the maximum extent possible, those specific areas that are not currently believed to contain the constituent elements of piping plover habitat. Areas that do not contain the primary constituent elements, but are included in the textual unit descriptions, are not, by definition, considered critical habitat.

*Comment 17:* Coastal land loss in Louisiana is more important than development in affecting critical habitat; the Service should shift its focus to fighting coastal land loss.

*Our Response:* We agree that coastal land loss is a major factor affecting piping plover wintering habitat. We represent the Department of the Interior on the Louisiana Coastal Wetlands Conservation and Restoration Task Force. That Task Force oversees planning, evaluation, funding, and implementation of projects funded under the Coastal Wetlands Planning, Protection and Restoration Act. The projects approved to date by the Task Force are expected to protect and restore nearly 95,000 net acres of coastal wetlands in Louisiana. That, however, does not relieve us of our obligation to designate critical habitat for the piping plover.

*Comment 18:* The designation of piping plover critical habitat on Grand Isle, Louisiana, could adversely impact the economy by curtailing recreational uses and limiting development of homes and businesses on the island.

*Our Response:* We have refined our critical habitat unit description since the initial proposal to include only those areas of Grand Isle that contain the primary constituent elements. On Grand Isle, that habitat is found seaward of the hurricane protection levees. We do not anticipate the development of homes or business in that area. We believe that the effect of normal human presence on piping plovers in their wintering habitat does not have serious consequences at the population level, and we do not expect this designation to affect recreational beach use.

*Comment 19:* Uninhabited barrier islands near Grand Isle, Louisiana, provide ideal habitat for piping plovers. The Service should work with local agencies to restore those islands rather than designate critical habitat on Grand Isle.

*Our Response:* We agree that some of those islands contain piping plover habitat; however, we are required to designate critical habitat based on the biological or physical constituent elements essential to the conservation of the species. The portions of those islands (including Grand Isle) that met those criteria and where survey data indicated consistent use by piping plovers were included in critical habitat.

*Comment 20:* Beach maintenance activities conducted by the Harrison County Development Commission (HCDC), Mississippi, are important in the overall protection of the seawall and U.S. Highway 90, and in maintaining sufficient habitat for piping plovers. HCDC supports the critical habitat designation provided it would not prohibit them from carrying out their mandate to maintain the beach in Harrison County, Mississippi.

*Our Response:* We agree that beach maintenance activities are important for the protection of seawalls, highways, and piping plovers. In general, we have found that beach nourishment activities can be timed and designed to minimize effects on piping plovers. We do not expect this designation to affect those beach maintenance activities.

*Comment 21:* At TX–12 (adjacent to Naval Air Station), the polygon provided by the Service for the critical habitat area appears to include a small part of the airfield.

*Our Response:* It was impossible to map all sites exactly within the time constraints directed by the court to publish the proposed designation. Only those areas within the textual unit descriptions that contain the essential elements necessary to support the piping plover are considered critical habitat.

*Comment 22:* We recommend that only land portions of South Bay be included in Texas Unit 1 and that the interior of the Boca Chica peninsula be excluded. Designation of the entire bay area as critical habitat seems excessive.

*Our Response:* Only those land portions in South Bay that have the piping plover primary constituent elements are considered critical habitat. If portions of the land masses that have been designated change, either due to natural events such as gradual accretion or erosion or storm events, or man-made causes such as the placement of dredge material, then these changing areas will be considered critical habitat when the primary constituent elements are present. The Boca Chica peninsula is an ever-changing land mass with accretion and erosion rates that cannot be fixed on a map. Therefore, only those areas on the peninsula that contain the primary constituent elements (i.e., support the piping plover for roosting and feeding) will be considered critical habitat.

*Comment 23:* We recommend including less of the interior area of South Padre Island (TX unit 3). Known use of these islands by piping plovers appears to be concentrated on the beach areas and exposed flats of both islands. The inclusion of interior areas appears to be inconsistent with the shore areas designated elsewhere along the coast.

*Our Response:* There are areas of the interior of South Padre Island where piping plovers have been sighted. We included interior areas that are not sand, mud, or algal flats, because piping plovers use flats for foraging and sparsely vegetated areas for roosting purposes, and these areas are also needed for roosting during storms and strong winds.

*Comment 24:* We recommend including less of the interior area of San Jose Island (TX Unit 18). Known use of these islands by piping plovers appears to be concentrated on the beach areas and exposed flats of both islands. The inclusion of interior areas appears to be inconsistent with the shore areas designated elsewhere along the coast.

*Our Response:* San Jose Island is composed of a variety of habitats that support the piping plover. Although there are portions that do not contain all of the primary constituent elements needed by the plover, aerial photographs indicate that piping plover habitat is present on San Jose Island. Most of the designated inland areas on San Jose Island (TX 15 and TX18) are relict hurricane washover passes, known to be preferred piping plover habitat. Thus, it is suitable bayside habitat that is somewhat lacking in this portion of the Texas Coast, and we have included it in the designation. See our response to B. 23 above for a discussion on the importance of interior habitat.

*Comment 25:* It appears that potential habitat in south and east sides of Galveston Bay has not been included, and should be.

*Our Response:* No specific sites were suggested. However, potential piping plover habitat exists on the south and east sides of Galveston Bay, as well as along the shorelines, flats, beaches, and disposal areas throughout Galveston and other Texas bays. Although piping plovers are occasionally seen at many of these sites, we have not designated areas unless they have consistent piping plover use. Five sites on the upper Texas Coast (TX–36, TX–35, TX–34, TX–31, and TX–27) have accounted for well over 90 percent of sightings during the previous three International Piping Plover Winter Censuses and these areas are included in the final designation.

*Comment 26:* The piping plovers that occur on the Sunset Lake Park area and other natural resources and public use values are already protected by an existing conservation easement. The Sunset Lake Park is already uniquely protected and preserved as a park under this easement and the park use designation by the City. The Act and Migratory Bird Treaty Act (MBTA) and the Sunset Lake Conservation Easement already provide adequate protection while enabling other compatible park recreational uses. Critical habitat designation will not help focus conservation activities for the species at Sunset Lake anymore than is already available for this public park operated under the existing easement.

*Our Response:* The conservation easement for Sunset Lake protects the body of the lake and the improvements to the natural wildlife habitat and sightseeing amendments. The area outside of the lake proper where piping plovers have recently been sighted is in the highway right-of-way adjacent to the lake. Highway reconstruction or improvements may cause direct or indirect impacts to this important habitat. The highway right-of-way is outside of the conservation easement. In addition, the easement does not provide adequate special management for the piping plover which can only be adequately provided by a legally operative plan that addresses the maintenance and improvement of the primary constituent elements important to the species, and manages for the long-term conservation of the species (i.e., implements conservation management strategies and provides for periodic monitoring). Therefore, the existing special management is insufficient to satisfy the requirements of the definition of critical habitat. Additionally, the publicity and heightened awareness of a rare bird's presence should help to support Sunset Lake's Conservation Plan by bringing additional bird-watchers and wildlife enthusiasts to the area, potentially creating an increase in economic value of the Sunset Lake.

It is also important to note that a critical habitat designation has no effect on situations where a Federal agency is not involved. For example, only private actions that involve Federal funding or a Federal permit, and where the Federal agency determines that the proposed action may affect a listed species or its critical habitat require consultation.

The protection of the piping plover under the MBTA does not in any way obviate our duties under the Act with respect to designating critical habitat.

*Comment 27:* Nothing in the data indicates that piping plovers were recorded from the vegetated portions of Unit TX–34. Data supporting the designation of vegetated areas within the critical habitat proposal does not exist. We request the Service to reconsider its proposed designation of Unit TX–34.

*Our Response:* TX–34 (San Luis Pass flats and contiguous beach) is considered one of five important piping plover aggregation sites on the upper Texas Coast. Past winter surveys have found upwards of 20 wintering birds there. Curt Zonick's (1993) study entitled ''Ecology and Conservation of Wintering Piping Plovers and Snowy Plovers,'' ranked San Luis Pass second of eight important Texas sites in density and fourth in population (average of 33.7 piping plovers). Sparsely vegetated areas as described in the ''Primary Constituent Elements'' section of this rule are used by the piping plover as roosting habitat in this unit.

*Comment 28:* Based on the habitat assessment performed on October 12, 2000, a review of 1995 and 1997 color aerial photographs, and U.S. Geological Survey (USGS) 7.5 minute quadrangle maps, most of Unit TX–34 does not contain the primary constituent elements essential for the conservation of wintering piping plovers. At least 17 percent (250 ac) of the unit is vegetated and does not provide foraging, roosting,

or resting habitat. Additionally, the majority of the beach within the proposed unit is very narrow and does not provide optimum habitat. The majority of the unit north of Highway 3005 consists of open water and should not be considered a primary constituent element of critical habitat.

*Our Response:* See our response to Comment B.27 above. Only those areas within the unit boundary, as described in the regulatory section of this rule, that provide the primary constituent elements for the piping plover are considered critical habitat. The critical habitat boundaries, as described in the regulatory section of this rule, stop landward where densely vegetated habitat, not used by the piping plover, begins and where constituent elements no longer occur.

*Comment 29:* The biological information obtained for Unit TX–34 does not provide sufficient information supporting the designation of critical habitat for piping plover. Only 2 percent of the piping plover sightings during the 1991 and 1996 Texas mid-winter surveys were recorded from the San Luis Pass area.

*Our Response:* While piping plover counts during winter survey periods have indeed been low, it should be noted that winter censuses have occurred for the most part during extreme low tidal events when both beach and tidal pass counts along the entire upper Texas Coast were very low. Other informal counts at this site, including a 1992 Service field study on file at our Clear Lake Field Office, and Curt Zonick's definitive 1991–93 study (see our response to Comment B.27 above) show clearly that this site is consistently used.

*Comment 30:* Since the northern Gulf beaches of Unit TX–34 are very narrow, and since Zonick and Ryan (1996) demonstrated a positive correlation between beach width and piping plover densities, these areas should not be included in the critical habitat proposal.

*Our Response:* Only those beaches shown to be consistently used by piping plovers, according to previous wintering bird censuses, are included in the designation.

*Comment 31:* A very commendable job has been done in setting aside critical habitat areas along the long coast of Texas, but we note what appears to be the significant omission of any area near the mouth of the Sabine River at the Texas-Louisiana State Line. There should be some appropriate beach and dune area between the Bolivar Peninsula and the Sabine River. While the west bank of the Sabine is marshland, we understand that there is a good area for plovers at or near Sea Rim State Park where, for example, plovers were found in both 1997 and 1998.

*Our Response:* While potential habitat exists along this extensive beach area, and while piping plovers are occasionally seen along this stretch of beach, winter counts and other studies have failed to show consistent use here.

*Comment 32:* Several commenters requested that Rollover Bay and the surrounding area not be designated as critical habitat for the piping plover. They feel that Rollover Bay is inconsistent with the Service's criteria for critical habitat. Rollover Bay and Pass is a major recreational area for the citizens of Texas and other States to enjoy fishing, boating, crabbing, and wading. Thousands of visitors come to Rollover Bay and Pass annually. The Intracoastal Waterway also crosses Rollover Bay. From time to time, the Army Corps of Engineers dredges sand from the waterway to renourish the beaches of Bolivar Peninsula, in order to keep the waterway open. This is done normally during the winter months. At this time the Texas General Lands Office (TGLO) and Galveston County are planning to dredge sand from Rollover Bay to renourish the beaches at Gilchrist and Caplin. This project will be one of the first major nourishment projects in Texas history. This project is vital to the above two communities. The Bolivar Peninsula Beaches are used during the winter months for citizens to drive and walk along hunting sea shells. This is also vital to the economy of their communities. Eight miles west of Rollover Bay there are 37 miles of beaches, and between High Island and Sabine Pass, thousands of acres of wetlands, and wildlife refuges that can be designated as critical habitat for the piping plover. They would not be disturbed by the public there because there is no highway for the public to get there. Highway 87 has been closed off and on for the past 18 years and completely for the last 11. We urge the Service to designate that area as critical habitat for the wintering piping plovers.

*Our Response:* We acknowledge that the Rollover Bay and surrounding area are heavily used recreation areas and currently the site of important beach habitat restoration activities. The 1991 coast wide survey by Texas Parks and Wildlife (Performance Report, Project No. 9.1 Piping Plover and Snowy Plover Winter Habitat Status Survey (Mitchell, Zonick, and Withers)) identified the Rollover Bay flats as holding a moderate winter population of piping plovers, an average of 12 birds (11, 14, and 12) for 3 survey trips. The average of 1990 through 1996 Audubon Christmas Bird Count circles that included the Rollover Bay area was 13 birds. The 1991, 1996, and 2001 International Piping Plover Censuses found very low numbers of birds along the beaches between Bolivar Flats and High Island, but these surveys were done by driving and did not cover the Rollover Bay area. In summary, the Rollover Bay site (TX–37) holds a moderate but consistent wintering piping plover population. It is the only site shown to consistently hold wintering birds along the Texas coast east of Bolivar Flats (TX–36), and should be rated probably the sixth most important upper Texas coast wintering site. It should be noted that past section 7 consultations involving beach restoration in general, and this site in particular, have supported beach restoration activities as improving the quality of piping plover habitat in the long term by preserving and protecting eroding beach habitat. We have not previously found that normal beach recreation activities would significantly affect piping plovers or their habitat in these types of areas, and we do not anticipate that normal recreation would be restricted as a result of this designation.

*Comment 33:* Commenters note that some areas of the Gulf coast were not proposed despite the fact that they are not developed and that they have all of the primary constituent elements of critical habitat. For example, the area between Rollover Pass, Texas, and the Louisiana/Texas state line appears to meet the requirements for piping plover wintering habitat. Similarly, the Gulf of Mexico shoreline on the last few miles of the western end of the Ft. Morgan peninsula, the shoreline of the Bon Secour National Wildlife Refuge's Perdue Unit, and other stretches of shoreline along the peninsula appear to meet the requirements for critical habitat. They question why these and similar shoreline areas have not been included in the proposed critical habitat designation. They assert that where census data are inadequate to prove consistent use by the wintering piping plover, the habitat in question contains the physical and biological features essential to the species, and the Service should include the area in the designation of critical habitat.

*Our Response:* We, and most ornithologists, assume that areas consistently holding aggregations of this species are essential to the conservation of the piping plovers. Therefore, this designation was primarily based on areas of consistent use that contain one or more of the primary constituent elements. We did not consider it in the

best long-term conservation interests of the piping plover to designate critical habitat where it is only infrequently known to occur. However, should new information become available to support the need to designate critical habitat in other areas, we will consider amending this designation.

*Comment 34:* Commenters request that the Service take under consideration the designation of portions of Long Island, Texas, located in Cameron County, Texas, as critical habitat for the piping plover. They feel that their close proximity to the current designated area and the physical and biological features of their island warrant serious consideration.

*Our Response:* While potential habitat exists along this extensive area, and while piping plovers are occasionally seen, survey counts and other studies have failed to show consistent populations here and we have not been able to conclude that these areas are essential to the conservation of the species.

*Comment 35:* The burden should be placed on the Service to prove to the land owners that their property is piping plover habitat and then negotiate with them the protection of the area. Almost the entire island from Gulf to Bay, including upland areas in the middle of South Padre Island, was designated as critical habitat. That is not fair or correct.

*Our Response:* The South Padre Island community encourages protection of wildlife areas. We do not expect any additional burdens placed on landowners, or the need for negotiation for protection of the area. Only private activities with Federal sponsorship that may affect the piping plover or its critical habitat require the Federal agency to consult with us. Although the piping plover's feeding habitat is located on mud, sand, and algal flats, upland areas with sparse vegetation offer the birds roosting habitat which is also important for its survival.

*Comment 36:* The spoil island area in Ingleside Cove was not included for consideration. It meets the criteria listed in the **Federal Register** for wintering piping plovers: intertidal beaches and flats, sand and/or mud flats with no or very sparse emergent vegetation. Piping plovers have been sighted in the spoil island area in Ingleside Cove Wildlife Sanctuary for many years, and it is possible that they may winter on the uninhabited spoil islands that border the Cove. Is the area around Ingleside Cove considered designated critical habitat for wintering piping plovers? These plovers have been sighted in Ingleside Cove Wildlife Sanctuary for many years, and commenters have felt that they may winter on the uninhabited spoil islands that abut the Cove.

*Our Response:* We have not collected any data that indicate piping plovers use this area, and since the proposed designation was based on known scientific surveys for consistent usage by the birds, we did not propose that area as critical habitat. We will, however, attempt to survey this site in the future.

*Comment 37:* The Cayo del Grullo arm of Baffin Bay and the tidal flats along Highway 48 from Highway 100 to where it intersects at Highway 48 were left out of the critical habitat designation. Plovers can be seen feeding near Vattman Creek near Kaufer-Hubert Memorial Park.

*Our Response:* Based on surveys performed in these areas, piping plovers do not use the areas consistently, and since the proposed designation was based on consistent use from known scientific surveys, we did not propose these areas for designation.

*Comment 38:* One commenter asked if the flats in Alazan Bay are used by piping plovers.

*Our Response:* We have not located any data to indicate that piping plovers use this area, and because the proposed designation was based on known scientific surveys for consistent use by the birds, we did not designate this area as critical habitat.

*Comment 39:* One commenter asked about Powderhorn Lake in Calhoun County. The Service owns the Whitmire Unit of Aransas National Wildlife Refuge. Those flats are used by lots of shorebirds.

*Our Response:* We have not located any data to indicate that piping plovers use this area, and because the proposed designation was based on known scientific surveys for consistent use by the birds, we did not designate this area as critical habitat.

*Comment 40:* Many residents of Padre Island oppose making the area of Pt. Aransas down to Pt. Mansfield nesting grounds for this or any bird species.

*Our Response:* This rule is issued to designate critical habitat for the wintering population of piping plovers, not nesting piping plovers, as these birds nest in the northern parts of the United States and Canada.

*Issue C: National Environmental Policy Act (NEPA) Compliance*

Some commenters expressed concern about our alleged failure to comply with NEPA.

*Comment 1:* The Service did not adequately comply with the requirements of the National Environmental Policy Act (NEPA). The decision to forego preparation of an Environmental Assessment (EA) and an Environmental Impact Statement (EIS) is based on reasons published in the **Federal Register** in 1983. Much has happened since 1983, and an EIS is required to properly analyze the full range of impacts of the designation, including social and economic effects. Contrary to species listings, where only the status of the species can be considered, critical habitat designation requires consideration of the economic and other relevant impacts of the designation. The commenters believe such considerations should be subject to a formal public process such as NEPA.

*Our Response:* The commenter is correct that we determined, for the reasons stated in a **Federal Register** notice published on October 25, 1983 (48 FR 49244), that neither an EA nor an EIS is required for actions taken under section 4(a) of the Act, including designation of critical habitat. We believe that the reasons for this determination remain valid despite the passing of nearly 18 years since our original determination. In addition, the economic impacts of the designation were analyzed in the Final Economic Analysis and considered in making this final determination. Finally, the public involvement and notification requirements under both the Endangered Species Act and Administrative Procedure Act provide ample opportunity for public involvement in the process.

*Comment 2:* Council on Environmental Quality Regulations (50 CFR 1502.21) state that no material may be incorporated by reference unless it is reasonably available for inspection by potentially interested parties within the time allowed for comment. The **Federal Register** document (48 FR 49244) referenced in the Service's determination that an EA or EIS is not necessary is not reasonably available.

*Our Response:* That document, as well as any other information supporting this designation, is available by following the instructions provided under the **FOR FURTHER INFORMATION CONTACT** section in both the proposed and final rules. We believe this easily-reachable source meets the requirements on the availability of supporting information.

*Comment 3:* According to a decision in *Catron County Board of Commissioners* v. *United States Fish and Wildlife Service,* 75 F3d 1429 (10th Cir. 1996) and *Oregon Natural Resources Council* v. *Lyns,* 882 F2d 1417 (9th Cir. 1989), the Service must prepare an EA on critical habitat

designation. In *Catron County,* the court noted that the Acts' procedures do not displace the NEPA requirements when critical habitat is proposed. The Service should follow *Catron County,* rather than *Douglas County* v. *Babbitt,* 48 F.3d 1495 (9th Cir. 1995), because the piping plover wintering critical habitat includes state and private lands, not just Federal land.

*Our Response:* The Service acknowledges that the Tenth Circuit Court of Appeals determined in *Catron County* that NEPA requirements apply to designation of critical habitat. However the Ninth Circuit Court of Appeals held in *Douglas County* v. *Babbitt* that NEPA does not apply to the Service's designation of critical habitat because Congress intended that the Act's critical habitat procedures displace the NEPA procedures, NEPA is inapplicable to actions that do not change the physical environment, and the application of both NEPA and the Act's requirements would frustrate both statutes. The Ninth Circuit did not limit its decision to cases involving only Federal lands, holding instead that the public notice provisions and opportunities for comment under the Act's provisions were adequate to serve the NEPA function. Our current practice is to require NEPA compliance for designation of critical habitat only where the critical habitat designation is located within the Tenth Circuit (the states of Colorado, Kansas, Nebraska, New Mexico, Oklahoma, Utah, and Wyoming). That is not the case here. The decision in *Oregon Natural Resources Council* v. *Lyng* dealt with a U.S. Forest Service timber sale and is not applicable to the critical habitat designation issue.

*Comment 4:* While there may be some overlap between the requirements of the ESA and NEPA, NEPA requires Federal agencies to look at the short- and long-term effects of their actions, as well as cumulative effects, which the ESA does not. The public and other Federal agencies have raised legitimate concerns that can only be properly analyzed through the NEPA process.

*Our Response:* We disagree that NEPA is required for this action. We believe we have fully considered the relevant impacts of designation, as required by the ESA, and have found that these impacts are too insignificant to warrant a detailed analysis under NEPA.

*Issue D: Legal Issues*

Numerous commenters raised issues pertaining to compliance with the Act or with other laws and regulations (excluding NEPA issues).

*Comment 1:* Critical habitat may conflict with the public policy of the State of Texas, that stresses the need for open access to beaches for use by the public. Is this proposal subject to review by the Texas Coastal Management Program? There is potential for conflict between the designation and the Texas Open Beaches Act.

*Our Response:* The designation of critical habitat is not a listed activity in the Coastal Management Plan for Texas, and therefore is not subject to consistency review. The Coastal Coordination Council does have the opportunity to look at impacts to federally listed species and their critical habitat when reviewing permit applications and other projects.

*Comment 2:* In Texas, a mineral owner has unquestioned right to use as much of the surface as may be necessary to explore for oil, gas, and other minerals. The Federal Government should not pass laws that usurp State laws without providing just compensation to those affected.

*Our Response:* As stated in the proposed and final rules, we do not expect critical habitat designation to result in restrictions beyond those that resulted from the species' listing. We, therefore, see no conflict with existing State laws governing mineral exploration.

*Comment 3:* The court order does not require the Service to designate wintering habitat for the piping plover, only that critical habitat be designated for the Great Lakes and Great Plains populations.

*Our Response:* The commenter is correct in that the court ordered us to designate critical habitat for the Great Lakes and Great Plains populations of piping plover. As discussed throughout this rule, critical habitat includes those areas essential to a species' conservation. Piping plovers spend up to 10 months a year on the wintering grounds. Wintering grounds provide for an essential part of the species' life cycle. Without adequate conservation of wintering habitat, recovery of the species would be limited.

*Comment 4:* For the proposed rule, the Service drew broad boundaries and then excluded areas (e.g., buildings) within those areas. The only way to exclude areas from critical habitat is through 4(b)(2) of the Act, that requires an affirmative determination that the benefits of excluding an area outweigh the benefits of including it as critical habitat. No such cost-benefit analysis was provided in the proposal.

*Our Response:* Areas designated as critical habitat must meet the legal definition of critical habitat provided in this final rule. One prong of the definition is that an area must contain the physical or biological features essential to the conservation of the species concerned. Human-made structures do not contain such features and therefore do not meet the definition of critical habitat.

*Comment 5:* Critical habitat designation will provide opportunities for third parties to sue in order to stop activities like recreational use of the beach. In *Palila* v. *Hawaii Department of Land and Natural Resources,* 639 F. 2d. 495 (9th Cir. 1981), the court issued a mandatory injunction to eliminate the State's use of critical habitat in a way that was preventing the use of the habitat by the palila.

*Our Response:* The primary authority for third parties to sue to enjoin activities that harm endangered and threatened species is found in the citizen suit provision of the Act, 16 U.S.C. 1540(g)(1), that authorizes anyone to file suit to enjoin violations of the Act. Section 9 of the Act, 16 U.S.C. 1538(a)(1)(B) makes it unlawful for any person to ''take'' an endangered or threatened species. The Service's regulations define ''take'' as including actions that are likely to lead to the death or injury of threatened or endangered wildlife. *Palila* v. *Hawaii Department of Land and Natural Resources* was a citizen suit brought to enjoin the State of Hawaii from ''taking'' an endangered species by allowing goats to destroy the species' habitat. Neither section 7 consultation nor the designation of critical habitat were the basis of the suit. We do not expect that the designation of critical habitat for the wintering population of piping plover will increase the possibility of third party suits to enjoin use of beaches for recreational purposes.

*Comment 6:* In *Bennett* v. *Spear,* 520 U.S. 154, 169, 117 S.Ct. 1154 (1997), the Supreme Court cautioned that the requirement that the Service use the best scientific information available serves to ''ensure that the Act is not implemented haphazardly, on the basis of speculation or surmise.'' Although the cited case involved section 7 consultation, the same caution should be exercised in actions under section 4, such as designating over 1,600 miles of shoreline based on inconclusive or unavailable data.

*Our Response:* We disagree that the critical habitat designation is based on inconclusive or unavailable data. The Act requires that our decisions be based on the best scientific and commercial information available. All areas chosen have documented consistent use by piping plovers and are limited to areas within the designated units that currently contain the principal

biological and physical features essential to the piping plover. In addition, an estimated 32 pairs remain of the endangered Great Lakes breeding population of piping plovers. Data show that this population uses both the Atlantic and Gulf Coasts (USFWS 1999; Wemmer 2000). Additional areas are likely used by Great Lakes piping plovers, as most birds have not been accounted for in winter. Therefore, identification of essential habitat should not rule out any sites where piping plovers consistently over-winter until the wintering distribution of the Great Lakes population can be more accurately defined (USFWS 1999). Based on these numbers, as well as other supporting site data, we have concluded that most sites with consistent occurrence of piping plovers should be designated as critical habitat in order to provide for the recovery of the species.

*Comment 7:* Commenters called into question our conclusion that the designation will not have significant takings implications under the Fifth Amendment to the U.S. Constitution. They claim the Service needs to address takings implications as per the Supreme Court's rulings in such cases as *Lucas* v. *South Carolina Coastal Commission,* 505 U.S. 1003 (1992); *Penn Central Transportation Company* v. *City of New York,* 438 U.S. 104 (1978);. *Pennsylvania Coal Company* v. *Mahon* 260 U.S. 393 (1922); and *Dolan* v. *City of Tigard,* 512 U.S. 374 (1994); *Nollan* v. *California Coastal Commission,* 483 U.S. 825 (1987).

*Our Response:* As discussed in our responses to economic comments, the economic analysis found that designation of critical habitat would have no significant economic effect above that already imposed by listing. The primary effect of critical habitat designation on private property is to identify areas important for the conservation of the species. In addition, if a Federal action occurs on those private lands, such as issuance of a Clean Water Act section 404 permit, the Federal action agency would be required to consult with us pursuant to section 7 of the Act if that action may affect the piping plover, regardless of whether that habitat is officially designated critical habitat. If such a Federal nexus exists, we will work with the landowner and the appropriate Federal agency to ensure that the landowner's project can be completed without jeopardizing the species or adversely modifying critical habitat. Therefore, we do not believe that designation of critical habitat will cause a property owner to be deprived of such a substantial use of the property as to amount to a Fifth Amendment taking.

*Comment 8:* Failure to properly consider the effects of the designation through a Takings Implication Assessment violates Executive Order 12630.

*Our Response:* Executive Order 12630 requires that Federal actions that may affect the value or use of private property be accompanied by a takings implication assessment. For the reasons discussed above, we have complied with the requirements of the Executive Order.

*Comment 9:* The Regulatory Flexibility Act requires that agencies consider the effects of their actions on small businesses, small non-profit enterprises, and small local governments. If the action is expected to be significant, an initial regulatory flexibility analysis must be published with the proposed rule. If, as the Service did here, the agency certifies that the proposed rulemaking is not expected to be significant, it must publish with the certification a statement providing a factual basis for such a conclusion.

*Our Response:* The Regulatory Planning and Review section of the proposed rule (65 FR 41794) discussed our reasons for determining that this action will not have significant economic effects on the small entities listed by the commenter. We believe this constitutes a statement providing the factual basis for our determination.

*Issue E: Section 7 Consultation Issues*

A number of commenters, particularly Federal agencies, expressed concerns or had questions regarding the effects of designation on the section 7 consultation process.

*Comment 1:* An unclear and ambiguous definition of what constitutes adverse modification of critical habitat will result in varying interpretations under section 7. The Service needs to more clearly define adverse modification and allow review by Federal agencies in order to assess the impact of designation on agency programs.

*Our Response:* Section 4(b)(8) of the Act requires that we provide, in any proposed or final rule to designate critical habitat, a "* * * brief description and evaluation of those activities * * * which * * * may adversely modify [critical] habitat, or may be modified by such designation." In the proposed rule, in the section titled "Effects of Critical Habitat Designation" (65 FR 41792), we provided a relatively detailed discussion of the types of programs that have typically undergone section 7 consultation since the species was listed under the Act. We identified the action agencies and programs conducting such actions, and stated our belief that actions likely to adversely modify critical habitat would likely also jeopardize the continued existence of the species. We then provided a discussion of the types of activities that we foresee may adversely modify critical habitat.

We acknowledge the commenter's implication that specific standards should be given to properly advise citizens and Federal agencies as to what programs may be affected by critical habitat designation, but find such specificity impossible given the wide variety of projects and ecological conditions occurring throughout the designation area. In addition, the fact that we expect few or no restrictions to be imposed through the consultation process beyond those that have existed since the species was listed reinforces our belief that our discussion was adequate to meet the requirements of section 4(b)(8) of the Act.

*Comment 2:* The Service has represented that no additional impacts will result from critical habitat designation beyond those already in place through the listing of the species and required consultation under section 7 of the Act. This is premised on the argument that the prohibition of jeopardy for listed species is nearly identical to the prohibition against adverse modification of critical habitat. In addition, the commenter cites 64 FR 31871–31872 as an example where the Service has previously acknowledged that the adverse modification standard (for projects affecting critical habitat) is not identical to the jeopardy standard (for projects affecting listed species). Finally, the Service requires that an analysis for a critical habitat consultation be conducted independently from an analysis under the jeopardy standard.

*Our Response:* With regard to the commenters' contention that we have previously acknowledged the difference between jeopardy and adverse modification, the citation provided by the commenter is from our *Notice of Intent To Clarify the Role of Habitat in Species Conservation* (June 14, 1999; 64 FR 31871–31874). On cited page 31872, we stated "According to our interpretation of the regulations, by definition, the adverse modification of critical habitat consultation standard is nearly identical to the jeopardy consultation standard." We also stated "For almost all species, the adverse modification and jeopardy standards are the same * * * It should be noted that while the jeopardy and adverse

modification standards achieve similar results, the context of the analyses differ i.e., jeopardy analyses examine effects to the species while the adverse modification analyses examine effects to the habitat that supports the species. When addressing impacts to occupied habitat, effects to the habitat supporting the species will result in parallel effects to the species. If these effects rise to the level of adversely modifying designated critical habitat, then it is anticipated that these effects would also be sufficient to result in a jeopardy determination. We did acknowledge that in cases where unoccupied habitat is involved there may be additional consultation requirements because of critical habitat designation. However, we consider all designated wintering piping plover critical habitat units to be ''occupied'' in the sense that, when the primary constituent elements are present during the appropriate season, those features will be used by piping plovers at least occasionally.

Finally, the commenter is correct that our analysis of a project's effects on critical habitat and the analysis for the project's effects on the species are conducted independently (50 CFR 402). However, this has no bearing on our position that the results of the two analyses will essentially be the same under the jeopardy and adverse modification standards. This has been borne out as, after many years of conducting section 7 consultation, there have been no instances in recent times where a project was determined unlikely to jeopardize the continued existence of a species while at the same time deemed likely to destroy or adversely modify its critical habitat.

*Comment 3:* The final rule should include a clause that excludes previously authorized Federal project areas from the definition of primary constituent elements. Federal agencies are legally obligated to conduct these actions when an agreement between the agency and non-Federal sponsors exists. These types of projects should be ''grandfathered'' from the critical habitat designation.

*Our Response:* Federal actions that have already undergone section 7 consultation on the effects of the action on piping plovers, and that were determined unlikely to jeopardize the continued existence of the species, must undergo further consultation on the projects' effects to critical habitat only in instances—(1) where the project has not already been completed, and (2) where the Federal agency still has the discretion within its legal authority to modify the project should it be determined likely to adversely modify critical habitat. Where a project has been completed, or where the action agency has no discretion to modify the project, no further consultation would be necessary.

In cases where a previously consulted-upon action could still be modified within the agency's legal authority, and where that project may affect critical habitat, reinitiation of consultation is required (50 CFR 402.16). However, given that such a project would have already received a non-jeopardy biological opinion from us, and since actions unlikely to jeopardize the continued existence of the species would also usually be unlikely to adversely modify critical habitat, the project would likely proceed without additional constraints.

The Service has only had one jeopardy opinion issued for the piping plover wintering population since its listing in 1986. The proposed project was in Texas and was not undertaken for various reasons.

*Comment 4:* The Service should work with affected Federal agencies and others whose programs depend upon Federal funding or permits to develop general guidelines that can be used to expedite the consultation process. In this way the effects of designation will be minimized, especially if and when these guidelines are incorporated into project designs.

*Our Response:* We agree with this recommendation and are prepared to work with local interests in developing guidelines to guide and expedite the section 7 consultation process. We invite interested agencies and individuals to contact their local Service offices to begin this programmatic consultation approach.

*Comment 5:* Commenters have asked how the final designation will affect Federal and non-Federal projects currently under consideration for authorization within critical habitat units.

*Our Response:* All landowners, public and private, are responsible for making sure their actions do not result in the unauthorized taking of a listed species, regardless of whether or not the activity occurs within designated critical habitat. Take is defined as ''harass, harm, pursue, hunt, shoot, wound, capture, collect, or attempt to engage in any such conduct.'' Take is further defined by regulation to include ''significant habitat modification or degradation that actually kills or injures wildlife,'' which was upheld by the U.S. Supreme Court in *Sweet Home Chapter of Communities for a Great Oregon et al.* v. *Babbitt,* 515 U.S. 687 (1995).

All Federal agencies are responsible to ensure that the actions they fund, permit, or carry out do not result in jeopardizing the continued existence of a listed species, regardless of critical habitat designation. ''Jeopardize the continued existence of'' means to engage in an action that would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species (50 CFR 402.02). Because we designated only areas within the geographic range occupied by the piping plover, any activity that would result in an adverse modification of the plover's critical habitat would virtually always also jeopardize the continued existence of the species. Federal agencies must consult pursuant to section 7 of the Act on all activities that will adversely affect the plover both within and outside designated critical habitat.

The consultation process will change only to the extent that Biological Assessments must consider the effect of the project on critical habitat. However, we already need to consider the effect of the project on habitat (in the absence of critical habitat designation) based on the listing of the piping plover. Therefore, we anticipate that the additional workload burden created by critical habitat will not result in different outcomes of the jeopardy and adverse modification standards.

*Issue F: Public Involvement/ Coordination*

Several commenters expressed concerns about the adequacy of the opportunity for public input and other coordination issues.

*Comment 1:* All landowners within the area affected by the designation should have been notified.

*Our Response:* Given the wide-ranging nature of this designation, the thousands of landowners involved, and the amount of time available to complete the designation due to court order, contacting each individual landowner within the proposed area was not possible. However, we went well beyond the general notification requirements of the Act and the Administrative Procedure Act. This included notification of all State and local governments; mailings to over 898 interested parties; publication of notices in 23 newspapers; issuance of press releases for each public hearing and comment period reopening; and other informational materials. Given that we received over 6,000 letters of comment on the proposal, we believe that we adequately publicized the proposed action. We regret any instances where

interested parties may have been unaware of the proposed designation, but believe these instances are few.

*Comment 2:* The Service is attempting to implement critical habitat without giving landowners adequate time to review the information.

*Our Response:* The initial public comment period on this action was open from July 6, 2000, through September 5, 2000 (60 days). When the draft economic analysis of the proposal was completed, we extended the comment period until October 30, 2000 (65 FR 52691), and again until November 24, 2000 (65 FR 64414), for a total extension of 80 days. Finally, we reopened the comment period for 7 additional days (66 FR 11134) to accept further public comment on any and all aspects of the proposal and associated economic analysis. The public therefore had 147 days of open comment period on the proposed rule, and 87 days of open comment period on the draft economic analysis. The Act requires that a minimum of 60 days be allowed for comment on a critical habitat proposal. Thus, we exceeded the statutory requirement.

*Comment 3:* Some commenters felt that there were too few public hearings held, some questioned the geographic distribution of the hearing sites, and some were concerned that the hearings were poorly publicized or that too short a notice was given.

*Our Response:* The Act requires that at least one public hearing be held on a proposed designation of critical habitat if requested within 45 days of publication of a proposed rule. As described previously, in anticipation of the public's interest in the proposed designation we announced in the proposal that we would hold 9 public hearings. We added a tenth public hearing, that we announced in the **Federal Register** and local newspapers (for a complete discussion on the public hearings and our efforts at publicizing them please see the beginning of this ''Summary of Comments and Recommendations'' section). While we would have preferred to conduct more public hearings, budgetary, workforce, and time constraints prohibited us from doing so. Nonetheless, we far exceeded the requirement that one public hearing be held if requested. Further, given the large geographic distribution of wintering piping plovers and the resulting large area proposed as critical habitat, we chose our hearing locations to spread the sites as evenly as possible throughout the eight affected States. Once requested, four additional public meetings were held after the initial public meetings and hearings.

We disagree that the public hearings were poorly publicized, as we conducted extensive outreach prior to the hearing (see the discussion in F.1). We acknowledge, however, that notification of the Wilmington, North Carolina, and Savannah, Georgia, hearings was less than desired. Regulations (50 CFR 424.16(c)(3)) require 15 days notification prior to public hearings being held, but the Wilmington and Savannah hearings were publicized only 11 and 13 days, respectively, before they were held. While we regret this short notification, since only one hearing is required to meet our statutory obligations under the Act, we did not violate our regulatory requirements.

Finally, it is important to note that a public hearing is one part of the public participation opportunities provided under the Act and Administrative Procedure Act. Written comments receive equal consideration as oral comments, and we far exceeded the public comment period requirements in allowing ample time for submission of written comments. In addition, we were ordered by the court to complete the proposed and final designation in a 10-month period. Thus we could not have extended the comment period any longer and met the court deadline of April 30, 2001.

*Comment 4:* The proposed rule does not describe the type and level of coordination that has occurred with State wildlife agencies; their views should have been included in the proposal.

*Our Response:* We have long recognized the roles of States in management of listed species and their habitats, and coordinate with States to the extent practicable. The Act at (4)(b)(5)(A)(ii)) requires that States be given notification of, and opportunity to comment on, proposed listing actions. However, we generally coordinate with States during the proposal development process, as we did here.

Our biologists coordinated with the appropriate State agencies from all eight affected States in developing piping plover distribution information along the coast by meeting with them personally and soliciting their input prior to the proposed rule and/or during the comment periods. We incorporated their input and expertise into the proposed and final rules.

*Comment 5:* Why were persons with known experience in piping plovers not contacted for information prior to publication of the proposed rule? As a result of the Service's failure to seek local expertise, important areas were left out of the designation.

*Our Response:* It is our judgement that information collected pre-proposal was sufficient for a thorough and comprehensive designation to support all three populations of piping plovers when recovered. Areas outside the critical habitat designation will continue to be subject to conservation actions that may be implemented under section 7(a)(1) and to the regulatory protections afforded by the section 7(a)(2) jeopardy standard and the section 9 take prohibitions, as determined on the basis of the best available information at the time of the action. In developing the proposed and final rules, we coordinated with biologists in the appropriate State agencies from the eight affected States (see response to F.4).

*Issue G: Mapping and Primary Constituent Elements*

A number of commenters expressed concerns about map quality, the broad extent of the designation, the definition of the primary constituent elements, and other issues surrounding spatial aspects of the designation.

*Comment 1:* The critical habitat units are non-specific in that they include lands that do not contain the primary constituent elements. This will result in unnecessary section 7 consultations and add an unnecessary administrative burden to government agencies and private entities included within the mapped boundaries.

*Our Response:* While it would be ideal if we could map only areas that currently contain the primary constituent elements, there are three primary reasons why we were unable to do so. First, we are unaware of the existence of sufficient data with which to conduct the precise mapping requested by the commenters. Second, even if the data were available, the large extent of the species' range would render such fine-scale mapping impractical, especially given workforce and time limitations. Most importantly, the coastal areas inhabited by the piping plover are so highly dynamic that any map of currently suitable habitat would rapidly become obsolete.

For the reasons cited above, we mapped the critical habitat boundaries on a relatively coarse scale, and identified the areas within those boundaries that are essential to the species by describing those habitat features (primary constituent elements) essential to the plover's life-history requirements. In this way, critical habitat designation will accommodate the dynamic nature of the habitat, changing through time as the primary constituent elements form in one area while disappearing in another. We

believe that this approach is the only scientifically credible way to ensure that the critical habitat designation is compatible with the species' habitats' naturally ephemeral character. As suggested by one commenter, to ensure that interested persons understand that critical habitat is found only in areas where the primary constituent elements are present, our final critical habitat maps are footnoted to that effect. This is consistent with our regulations at 50 CFR 17.94(c), that indicate the management of critical habitat focuses only on the biological or physical constituent elements within the defined area of critical habitat.

Finally, as stated in both the proposed and final rules, section 7 consultation on piping plover critical habitat will only be required when a proposed Federal action may affect the primary constituent elements. Thus, no consultation will be necessary if those habitat features are not present, since consultation is triggered by a determination on the part of the Federal action agency that their proposed activity may affect piping plovers or their critical habitat. Our Ecological Services Field Offices (see contact information under ''Effects of Critical Habitat Designation'' section) will gladly work with Federal agencies and landowners to help determine whether piping plover habitat occurs on their property.

*Comment 2:* Including an area as critical habitat because it may support the primary constituent elements in the future violates the criteria specified in regulations at 50 CFR 424.12(b). This approach also circumvents the rulemaking requirements under the Act and the Administrative Procedure Act.

*Our Response:* The referenced regulation speaks to the definition of the primary constituent elements and lists the types of life-history requirements that may be included in critical habitat. One of those life-history requirements is ''(1) Space for individual and population growth, and for normal behavior.'' We believe the designation reflects this life-history requirement, in that critical habitat units were developed to take into account the shifting nature of primary constituent elements in coastal systems. That is compatible with piping plovers' normal behavior of shifting use areas based on tide, weather, food supply, etc. (Drake 1999a). Thus, we believe the designation accurately reflects the intent of 50 CFR 424.12(b).

We also dispute the contention that this approach violates the rulemaking requirements of the Act or Administrative Procedure Act. The proposed rule and this final rule notify the affected public of the boundaries of the critical habitat designation and of the fact that the essential physical and biological features important to the piping plover are dependent upon a dynamic coastal system that changes through time. As explained above and throughout the proposed and final rules, we can think of no other approach consistent with the dynamic nature of the species' habitat.

*Comment 3:* Regulations at 50 CFR 17.94(c) state that the Service must focus on the biological or physical elements within the critical habitat area that are essential to the conservation of the species and that are known to require special management considerations or protection. Designation of such broad geographical areas expands the ''best available information'' requirement to render moot the fact that the data must be ''available'' and the presence of constituent elements ''known''.

*Our Response:* Regulations at 50 CFR 17.94(c) require that those constituent elements ''known to require special management considerations or protection'' be listed with the description of critical habitat. As stated in our response to G.2, critical habitat units were developed to take into account the shifting nature of primary constituent elements. We believe we have used the best information available and made a biologically sound designation based on the ephemeral nature of piping plover habitat.

*Comment 4:* Additional explanation of what constitutes the primary constituent elements would aid the general public in recognizing the species' critical habitat.

*Our Response:* We believe the primary constituent elements were well-described in the proposed rule. Further, we received information from state and county biologists who have documented the use of salterns (also called salinas, salt flats, salt barrens, and salt pans) by piping plovers in southwest Florida. They are bare sand flats in the center of mangrove ecosystems that are found above mean high water and are only irregularly flushed with sea water (Myers and Ewel 1990). We have added the term ''salterns'' to the description of primary constituent elements.

*Comment 5:* Critical habitat units should be mapped in sufficient detail to exclude developed areas. Merely excluding these areas verbally is inadequate.

*Our Response:* In the final rule we excluded a number of larger developed areas from the mapped units. We did this to the extent practicable given the available information and time to complete the mapping effort. We could not exclude every structure, road, or other feature from the critical habitat boundaries. However, these areas are not included by definition.

*Comment 6:* The designation should be revised to exclude developed and other areas that do not currently contain the primary constituent elements. By including non-habitat areas within the designation, the Service will not be able to distinguish which areas are habitat, and merit protection, and those areas that do not support plovers. This may result in adverse activities proceeding because the Service will not be able to distinguish between those areas adversely affected before the designation from those occurring after the designation.

*Our Response:* We believe we can assess whether an action area is habitat for piping plovers, much as we have done over the 15 years that the species has been listed. We will use aerial photographs and local records to determine the extent of development at the time of this critical habitat designation. When an action agency is contemplating an action, it is up to that agency to determine whether or not that action may affect a listed species or its critical habitat. If the agency determines its action may affect a listed species' habitat, it then initiates section 7 consultation. We then evaluate the effects of the action on the species or its critical habitat.

*Comment 7:* The Service should clarify that not all human-made structures are excluded from critical habitat. Some areas, such as renourished beaches, may benefit plovers if done correctly.

*Our Response:* We agree that not all human-made structures are excluded from critical habitat. Only those areas (whether human-made or natural) containing the primary constituent elements are considered critical habitat. We agree that beach renourishment is an example of human-made habitat that may benefit piping plovers. Habitat restoration and creation projects including beach nourishment, barrier island restoration, and islands created using dredged material may benefit plovers and such sites have been included in the critical habitat designation.

*Comment 8:* Areas should not be excluded from critical habitat merely because they are ''developed sites.'' Just because an area is already degraded does not preclude its designation if it is essential to the species' recovery.

*Our Response:* The proposed designation constitutes our assessment

of the wintering habitat needed to support a recovered piping plover population. In arriving at this designation we included areas that have documented consistent use. We mapped around developments adjacent to or directly on the beaches and only excluded developments that do not contain any primary constituent elements. For example, Grand Isle is a barrier island in Louisiana that is highly developed. Christmas bird count data indicate consistent use by plovers. We only mapped from the hurricane protection levee gulfward. The developed areas are currently from the levee landward.

*Comment 9:* One commenter suggested we add such terms as ''bridges, piers, and aids to navigation'' to the list of ''developed sites.''

*Our Response:* We elected not to list every conceivable type of ''developed site'' because such a list would be extensive and we would risk leaving out some type of development. Thus we believe that the appropriate course is to remain fairly general on this issue and allow the Federal action agencies the flexibility to determine which areas do or do not contain the primary constituent elements.

*Comment 10:* In the text of the rule, the Service excludes areas from critical habitat that do not contain the primary constituent elements, but fails to do so in the language amending 50 CFR 17.95.

*Our Response:* This assertion is incorrect, as the discussion on non-inclusion of non-suitable areas is given at the end of the regulatory section of the proposed rule (see 65 FR 41812), after the legal descriptions for the Texas units. However, in order to make this language more obvious and so that it clearly pertains to the entire designation, we have moved this discussion to the beginning of the regulatory portion of this final rule.

*Comment 11:* Verbally excluding areas from critical habitat is counter to regulations at 50 CFR 17.94(a), that require that critical habitat areas be defined by surveyable landmarks found on standard topographic maps of the area.

*Our Response:* This commenter is likely referring to 50 CFR 17.94(b), which states that critical habitats are described by reference to surveyable landmarks found on standard topographic maps of the area. As stated above and elsewhere in this final rule, piping plover habitat is composed of highly dynamic areas that can change quite rapidly, and are thus by their nature ephemeral. Thus, we defined the critical habitat boundaries textually using visual references found on Digital Orthophoto Quarter Quads (DOQQs) (i.e., digital aerial photography) and reference locations found on published maps. For the piping plover designation, we believe that textual unit descriptions, as described in the ''Methods'' section of this rule, will provide for a more precise means of defining the areas that contain the physical and biological features essential to the wintering piping plover and will allow the public to better determine the critical habitat boundaries. The textual unit descriptions allow us to capture the dynamic nature of the coastal habitat by describing each unit as including the area extending out from the landward boundaries to the MLLW. In this way we can include in the designation intertidal areas that are essential foraging areas for piping plovers. Our textual unit descriptions may also describe important areas within the unit that are utilized by the piping plover, such as wind-tidal flats, and areas that contain the primary constituent elements.

*Comment 12:* One commenter suggested that the critical habitat boundaries not be fixed, but rather be flexible so as to take into account the ever-changing nature of the coastal areas and account for shifts in the locations of important piping plover habitat features.

*Our Response:* As stated and described in the ''Methods'' section of this final rule, we believe the needed flexibility is provided in the textual unit by unit descriptions that account for the dynamic nature of plover habitat. These unit descriptions are being published in the regulatory section of this rule as the definitive source for determining the critical habitat boundaries. We recognize that important plover habitat may form over time in areas outside the designated boundaries and if it is determined to be warranted, the critical habitat designation could be revised through the rulemaking process in the future.

*Comment 13:* Some commenters expressed concern that the Universal Transverse Mercator System (UTM) coordinates published in the proposed rule resulted in boundaries that were in error. The final rule should be written to ensure that the UTM coordinates are consistent with the written descriptions of the critical habitat units.

*Our Response:* The coordinates we reported were generated by the Geographic Information System (GIS) software that was used to create the units. A GIS is a mapping software that links information about where things are with information about the area. Unlike a paper map, a GIS map can combine many layers of information and tools to analyze that information. The coordinates printed in the **Federal Register** were created from the text files that were generated from the GIS. During this process potential errors may have occurred due to the interpretive process of the coordinates. One known error was the reporting of Florida coordinates. We reported Florida coordinates to be UTM coordinates, when in actuality they were the map projection coordinates used within the State of Florida (Albers projection).

Another error was identified after the unit coordinates were published. This error occurred in the North Carolina data. The datum of the source imagery DOQQs (i.e., digital aerial photography) we obtained was reported inaccurately. The imagery was reported as North American Datum 1927 (NAD27), when it was actually North American Datum 1983 (NAD83). By utilizing the on-the-fly projection capability of the GIS software, the data was projected to NAD27 and all line work was digitized. This introduced an error in the data that shifted the features up to 500 meters. We have resolved this problem in this final rule. As noted within this rule, our textual unit descriptions are the definitive source for determining the legal boundaries of the critical habitat designation. Thus, we will not be publishing UTMs or Latitude Longitude coordinates as part of this final rule.

*Comment 14:* Some commenters pointed out that there were various errors in the legal descriptions. For example, the legal description for unit FL–27, when plotted, did not match the **Federal Register** maps. As such, landowners within erroneously described units were not properly notified of the designation, and critical habitat should therefore be re-proposed.

*Our Response:* See response to G.13. Due to an inadvertent error, the detailed maps we made were not published in the proposed rule; only the index maps were published. However, verbal unit descriptions were published, as well as who to contact for more information. Detailed maps were available to the public on the web at *http://southeast.fws.gov.* Legal notices were published in major newspapers announcing the public hearings and included contact information and the website address. In addition, site-specific maps were available at the public hearings. Thus, we believe that the public had ample opportunity to determine whether an area was included in the designation, based on the verbal unit descriptions, and to comment on the proposal.

*Comment 15:* The maps in the proposed rule were of insufficient detail for landowners to determine whether their property is within the critical habitat boundaries. The final maps should correct this.

*Our Response:* We acknowledge that there was a problem with the maps as published in the proposed rule. Through an inadvertent error, the more detailed maps provided for publication were not included in the proposed rule. However, due to **Federal Register** constraints of page size, even more detailed maps may not provide enough resolution to allow some individual landowners the ability to determine whether their property is in or out of a critical habitat unit. Thus, the maps published in the **Federal Register** are intended for general guidance only, while the textual unit descriptions should be used for definitive determinations.

*Comment 16:* It is difficult to determine from the maps published with the proposed rule the exact boundaries of the critical habitat units. In some areas it appears that highways were used as boundaries, and it is difficult to tell whether highway rights-of-way are within the critical habitat units. The final rule should explicitly exclude highway rights-of-way.

*Our Response:* We did not explicitly exclude highway rights-of-way in this final designation, because some rights-of-way containing the primary constituent elements may be essential to piping plover conservation. Unit map boundary lines as printed in the **Federal Register** cannot be used to determine whether a project would be affecting the species or adversely modifying its critical habitat. The textual unit descriptions should be used for definitive determinations as to whether an area is within the designated critical habitat boundary. Federal agencies will need to determine whether actions they fund, authorize, or carry out may affect wintering piping plovers or their critical habitat.

*Comment 17:* Only the 86 percent of the proposal that is public land should be designated.

*Our Response:* In selecting areas to propose as critical habitat, we did not consider land ownership per se, but rather selected areas based on whether or not they were essential as indicated by recorded consistent plover use or areas where the habitat conditions indicated probable use by plovers. Areas for which habitat conditions indicated probable plover use in Louisiana, were confirmed for occupancy this winter.

The Act does not allow exclusion of areas based on land ownership unless we determine under section 4(b)(2) of the Act that the benefits of excluding an area from the designation outweigh the benefits of including the area as critical habitat. See the Exclusions Under 4(b)(2) of the Act'' section of this rule for a further discussion of this issue.

*Comment 18:* The proposed rule incorrectly characterized Unit TX–34 as comprising almost entirely State-owned lands. In fact, the gulf beach is privately owned to the mean high-tide line, and the proposed area includes upland areas that are privately owned. Further, the area on the southernmost end of Galveston Island includes 300 acres of privately owned land, that were inaccurately portrayed on the map. The map of Unit TX–34 is woefully outdated.

*Our Response:* As described in the proposed rule, Unit TX–34 includes gulf beach and sand flats that belong to the State of Texas, and of which 57% is in the floodtide delta. The area is described as only including the delta to the northwest of the causeway, and the beach to the northeast of the causeway. Both sides of the San Luis Pass experience extremely high levels of erosion averaging 10.2 m (33.8 ft) per year on the Galveston Island side, and 18 m (60.1 ft) per year on the Follet's Island side (Morton 1989). As a result, maps of this dynamic area are out of date before they are published. We have described the area in narrative form, and mapped the area using aerial photography dated 1995.

*Comment 19:* Latitude and longitude information should be given to facilitate inclusion in the GIS of Federal, State, and local agencies.

*Our Response:* Because the source data DOQQs imagery used to map critical habitat were projected, we chose to report the legal descriptions in the proposed rule in projected values and not latitude and longitude. We believed that this methodology will facilitate overlaying the data in any GIS with the source imagery. However, in this final rule the definitive source for determining the precise legal boundaries of the designation are the textual unit descriptions.

*Issue H: Best Information/Science*

A number of commenters questioned the accuracy of the information on which the proposal was based and whether or not we used the best scientific and commercial information available.

*Comment 1:* The Service should follow the scientific decision-making process used for all Federal water and related land resource studies. This requires six significant steps-(1) identify and inventory problems and opportunities; (2) inventory and forecast conditions; (3) formulate alternative plans; (4) evaluate alternative plans; (5) compare alternative plans; (6) select a plan. The proposal does not explain how the Service went through this process.

*Our Response:* Please see our ''Methods'' discussions in the proposed and final rules, that explain the process we went through in arriving at this final designation. Although the process does not precisely mirror the one suggested by the commenter, we believe that our approach was a logical and rational approach to meeting the mandates of the Act. The Act requires that our decisions be based on the best scientific and commercial information available, and does not require ''reasonable scientific certainty.''

*Comment 2:* The proposal provides very limited information on the criteria and data used to determine the areas proposed as critical habitat. For example, there was no discussion of the data upon which the Service relied in concluding that the proposed areas contain the primary constituent elements, particularly in areas where plovers have not been recorded. More supporting data should be provided.

*Our Response:* We refer you to the ''Methods'' sections of the proposed and final rules. In those discussions, we provide information on the data considered throughout this process. While those discussions only summarize the data used, we welcome interested individuals to contact us if they wish to review the detailed supporting information in our files. Additional survey data this winter confirmed that all units are occupied.

The only areas included in the proposed rule that did not have survey data showing that they are used by plovers were the Mississippi River and the Wax Lake Outlet Deltas. We included those areas because of the high probability of use by plovers due to the broad expanse of mudflats known to exist in the river deltas. Those areas are remote and difficult to access and thus had not been surveyed. We have surveyed these areas since the proposed rule (Mississippi River Delta in December 2000, and the Wax Lake Outlet Delta during the February International Piping Plover Survey). Forty plovers were found on a few small dredged material islands in the Mississippi River Delta, none were found in the Wax Lake Outlet Delta. Those areas of the Mississippi Delta where no plovers were observed were not included and the entire Wax Lake Outlet Delta was likewise not included in the final rule. Additionally, during the International Census in February

2001, 40 piping plovers were observed on the same dredged material islands in the Mississippi River Delta. Although we do not have data to document use of these areas from previous wintering seasons, based on studies indicating that plovers exhibit a certain amount of site fidelity (see our response to Comment A.11 above), and the large numbers of plovers observed at these sites, we have included these areas in the designation because of the virtual certainty that they are consistently used. As we have stated, this designation is based on the best scientific and commercial information available, as required by the Act. We welcome any additional data on the piping plover and its habitat.

*Comment 3:* Critical habitat should be designated only in areas where the species is present. Some areas have been proposed where there are no data to show that the piping plover occurs there.

*Our Response:* In the proposed rule, we acknowledged that ''In some areas, adequate census data are not available to provide reliable presence or absence information for the plover. These areas are in remote locations where censuses are logistically difficult. However, the physical and biological features essential to piping plovers are known to be at least sporadically present in these dynamic areas, and our belief that these areas support piping plovers when essential habitat features are present is biologically sound'' (65 FR 41785).

The only areas included in the proposed rule that did not have data on piping plover presence were the Mississippi River and the Wax Lake Outlet Deltas. These areas were surveyed twice since the proposed rule. For the final rule, we have included those areas that contain piping plover habitat and for which we had documented use by piping plovers. See response to H.2.

*Comment 4:* The Service should provide the population data upon which this proposal is based. The Service should also census each proposed area and designate only those areas with high plover concentrations as critical habitat.

*Our Response:* As stated in the proposed rule, the data upon which the designation is based are available by contacting our Corpus Christi, Texas, Ecological Services Field Office (see **ADDRESSES** section). Inclusion of all the survey data in the proposed or final rules would be impracticable.

We agree that areas of high plover concentrations indicate that the areas are important to wintering piping plovers. But areas with low, yet consistent numbers are also important. This is true particularly for the endangered Great Lakes population. This population has approximately 32 pairs remaining, which winter in locations throughout the southeast, thereby making each critical habitat unit important to the survival and recovery of that endangered population. Plover use patterns may shift through time, both within and among seasons and years.

*Comment 5:* The designation should be delayed until plover activity is studied in detail.

*Our Response:* In this case, the court determined that we had failed to abide by the requirements of the Act for designating critical habitat when prudent and determinable and ordered us to complete the critical habitat determination. We did so using the best scientific and commercial information available, as required by the Act (4(b)(2)). While it is always preferable to have more information on virtually every listed species, the Act does not allow for indefinite delays until such information is acquired. Nonetheless, we will continue to use the best information available as we continue the species' recovery process, and may revise the critical habitat designation in the future if appropriate and necessary.

*Comment 6:* Has the Service considered less drastic alternatives such as designating only preserved areas or less developed areas, and regulating only those activities that are troublesome to the plover?

*Our Response:* As described in both the proposed and final rules, the intent of the critical habitat designation is to include all areas believed essential for the species' conservation, which includes its recovery. It is our biological conclusion that merely designating ''preserved'' areas or areas not subject to habitat threats would not be sufficient to provide for the species' eventual recovery. We did, however, avoid a number of developed areas within the range of the plover, designating only those areas we believe necessary for the species' conservation.

As to the regulatory effects of the designation, we will only formally review actions under section 7 consultation when Federal actions are likely to adversely affect the species or its habitat. In these cases we recommend that consultation be conducted regardless of whether the habitat is officially designated as critical. As indicated in the Final Economic Analysis, we believe that little if any incremental regulatory or economic effects above the listing will result from this designation.

*Comment 7:* Based on population numbers and the proposed acreage, the Service has allotted 600 acres per bird. Why does a 6-inch tall, 2-ounce bird need so much habitat?

*Our Response:* The actual area of critical habitat, as defined by the primary constituent elements, is considerably less than the coarse acreage included within the proposed boundaries. Critical habitat is designated to identify areas essential to the conservation of the species, including identifying sufficient habitat to achieve recovery. Further, wintering piping plovers do not simply ''occupy'' a certain static location, but rather move throughout an area as its needs (e.g., foraging, roosting, refuge from high winds or severe storms) change from day to day and over time as a result of the tides, weather, and other factors.

*Issue I: Definition of Critical Habitat*

Numerous commenters expressed concerns that the areas designated were either not essential to the conservation of the species, not in need of special management considerations or protection, or otherwise inconsistent with the statutory requirements for selecting areas to designate as critical habitat.

*Comment 1:* Why is critical habitat being designated in otherwise protected areas, such as State lands, national seashores, refuges, or parks? Managers should have the opportunity to implement management actions that would avoid the additional regulatory burden of critical habitat designation.

*Our Response:* As implied by this commenter, areas not in need of special management do not meet the definition of critical habitat and are therefore not included in a critical habitat designation. We use the following three criteria to determine if a management plan provides adequate special management or protection: (1) A current plan/agreement must be complete and provide sufficient conservation benefit specific to the species; (2) the plan must provide assurances that the conservation management strategies will be implemented; and (3) the plan must provide assurances that the conservation management strategies will be effective, i.e., provide for periodic monitoring and revisions as necessary. If all of these criteria are met, then the lands covered under the plan would no longer meet the definition of critical habitat.

Given the amount of time allowed to prepare the proposed designation, the wide distribution of wintering piping plovers, and the myriad of landowners and land managers within the species' range, we were unable to do a

comprehensive evaluation of all management plans that could potentially meet the criteria listed above. Although we did identify areas that have the potential for having a management plan, primarily Federal lands, and evaluated those plans if one was completed for the area. In the proposed rule we also solicited information on reasons why any area should or should not be considered critical habitat (65 FR 41793). The ensuing public comments included several instances where commenters believed certain areas are currently managed compatibly with the species and should therefore be excluded from the final designation. Those suggestions are addressed under the ''Site-specific Comments'' portion of this ''Summary of Comments and Recommendations'' section. We received no information that indicated that any of the public land management plans met our three criteria; therefore, no lands were excluded based on ''not [being] in need of special management protection.'' We did, however, exclude the Padre Island National Seashore based on section 4(b)(2) of the Act. Please refer to the ''Exclusions Under 4(b)(2) of the Act'' section of this rule.

We also note that we encourage management plans compatible with the conservation of threatened and endangered species, and that critical habitat designation neither discourages such voluntary actions nor adds significant regulatory burden. Management that does not adversely affect listed species or their critical habitat is not required to undergo formal section 7 consultation.

*Comment 2:* The piping plover already receives substantial protections, such as under sections 7 and 9 of the Act. Why is additional protection necessary? The Service has repeatedly claimed that they expect no adverse economic impacts beyond those attributable to listing. If this is so, why not abandon this designation? Why subject landowners to uncertainty and additional bureaucracy?

*Our Response:* We agree that protections afforded listed species under sections 7 and 9 are substantial, and that critical habitat designation usually adds only marginal protections above those already afforded listed species. Under section 7, Federal agencies are required to utilize their authorities to further the conservation of species and the ecosystems upon which they depend. Federal agencies are prohibited from implementing actions likely to jeopardize the continued existence of a species or to destroy or adversely modify a listed species' designated critical habitat. Regulations implementing the requirements of section 7 (50 CFR 402.02) define ''jeopardize the continued existence'' (of a species) and ''destruction or adverse modification'' (of critical habitat) so similarly that the two prohibitions are nearly identical, thus resulting in little additional protection through critical habitat designation.

Section 9 of the Act also provides substantial protection to listed species by prohibiting any person (as opposed to section 7 that involves only Federal agencies) from such activities as taking listed species without proper permits, as well as controlling transportation, selling, and importing or exporting listed species. Critical habitat is not protected under section 9, so no effect on strictly non-Federal activities are added through critical habitat designation.

Despite the little additional regulatory benefit critical habitat may provide listed species, section 4(a)(3) of the Act requires that critical habitat be designated for species listed as threatened or endangered unless such designation would not be prudent. Further, we believe designation of critical habitat for wintering piping plovers may be of some benefit. A critical habitat designation benefits species conservation by identifying important areas and by describing the features within those areas that are essential to conservation of the species, and alerting public and private entities to the areas' importance. Although the designation of critical habitat does not, in and of itself, restrict human activities within an area or mandate any specific management or recovery actions, it does help focus Federal, State, and private conservation and management efforts in such areas. Designating critical habitat may also provide some educational or informational benefits.

*Comment 3:* When the Service listed the piping plover in the 1980's it did not designate critical habitat because it was believed unnecessary. Some commenters questioned why we now believe critical habitat designation is prudent.

*Our Response:* Section 4(a)(3) of the Act states that when a species is added to the endangered species list, we must designate critical habitat to the maximum extent prudent and determinable. The 1985 final listing rule for the piping plover did not include a critical habitat designation, not because it was unnecessary, but because it was not determinable and so it was deferred for one year. We did not make a prudency determination or designate critical habitat by the end of that year. Because of this omission, in December 1996, Defenders of Wildlife (Defenders) filed a lawsuit against the Department of the Interior and the Service for failing to designate critical habitat for the piping plover. As a result of the lawsuit, the court ordered us to publish a proposed critical habitat designation for the piping plover in the breeding area in the Great Lakes by June 30, 2000, with a final rule by April 30, 2001. We were also ordered to designate critical habitat for the Great Plains population by May 31, 2001, with a final rule by March 15, 2002. We have no evidence of vandalism or other threats that may occur based on disclosing the location of this species. Thus, we determined that the appropriate course of action would be to propose critical habitat for all US wintering piping plovers on the same schedule required, under court order, for the Great Lakes breeding population.

*Comment 4:* The Service has disregarded the prohibitions in section 3(5)(C) of the Act against designating the entire geographical area that could be occupied by the piping plover.

*Our Response:* We did not designate the entire geographical area that can be occupied by wintering piping plovers. In fact, the censuses upon which we based our initial identification of potential critical habitat areas have detected less than half the piping plover numbers known from their breeding areas. One may infer that at least some piping plovers winter in areas other than those designated as critical habitat. Areas that were not included in critical habitat include many sites where plovers have been documented at least once, but records do not indicate a consistent use. For example, in Florida we did not include the South tip of Amelia Island, Nassau County; high marsh and salt pans of Charlotte Harbor State Buffer Preserve, Charlotte County; and Passage Key National Wildlife Refuge, Manatee County. Additional sites are listed in Comments B.2 and B.3. A piping plover may be observed at any given time at any location along the Gulf and Atlantic coasts. We included in this designation only the areas essential for the conservation and recovery of the species as supported by consistent use by piping plovers.

*Comment 5*: Critical habitat for wintering piping plovers is not determinable because their biological needs are not sufficiently well known. Recovery plans for the species recommend significant research on wintering plovers; without such information it cannot be determined with reasonable scientific certainty which areas are essential to the species.

*Our Response*: We are required to designate critical habitat for species at the time they are listed under the Act to the extent prudent and determinable under section 4(a)(3). Regulations implementing the listing provisions of the Act state that critical habitat is not determinable when the biological needs of the species are not sufficiently well known to permit identification of an area as critical habitat (50 CFR 424.12(a)(2)(ii)). In cases where critical habitat is not determinable the regulations allow only a one-year extension. At the end of the extension critical habitat must be designated based on such data available at that time (50 CFR 424.17(b)(2)).

It has been over 15 years since the piping plover was listed under the Act, and a great deal of information has become available since the listing occurred. While we agree that more information would be preferable, we do not believe further delays in making this designation would be legally defensible under the statute and its regulations. In addition, the Act requires that our decisions be based on the best scientific and commercial information available, and does not require ''reasonable scientific certainty.''

*Comment 6:* A conclusion that areas identified during population surveys are essential to the plover population is speculative. Because a plover was sighted in an area does not make the area essential to the species' conservation.

*Our Response:* We agree that the mere sighting of one or more individuals of a species does not necessarily mean the area of the sighting is essential to the species' conservation. In fact, for most species it is difficult to know with certainty that a particular area is essential to its conservation. However, the Act clearly requires that we make such judgements based on the best scientific and commercial information available. The census data tell us that plovers occur in an area, from which we can infer that the animal derives some useful life-history benefit. We believe these occurrence data constitute the best available information upon which to base this designation. We also note that the commenter did not suggest an alternative approach to arriving at a biologically sound critical habitat designation. Other research has shown what type of habitat features are necessary to provide for the life-cycle needs of the species. Together, this information suggests to us which areas are essential for the conservation of the species.

*Comment 7:* Critical habitat should include only the minimum amount of habitat needed to avoid short-term jeopardy or habitat in need of immediate intervention.

*Our Response:* We disagree. The Act requires that areas designated as critical habitat be essential to the conservation of the species. The term ''conservation'' is defined as ''* * * the use of all methods and procedures necessary to bring any [listed] species to the point at which measures provided pursuant to this Act are no longer necessary * * *'' (i.e., the species is recovered and eligible for removal from the list of threatened and endangered species). Since the stated purpose of the Act includes ''* * * to provide a program for the conservation of such endangered species and threatened species * * *'', it is clear that Congress intended the provisions of the Act to be used for such conservation purposes rather than as stop-gap measures to prevent extinction.

*Comment 8:* The proposal contains 686 miles of privately owned shoreline. The Service justifies this by stating that shoreline development poses the biggest threat to plover habitat, especially along the Texas Coast. However, the regulatory basis for designation should be the evaluation of the habitat rather than the potential for development.

*Our Response:* As discussed above, the critical habitat designation is based on an evaluation of habitat and the survey data on piping plovers. This critical habitat designation for the wintering population of the piping plover includes areas that we know currently support the species. Areas described in the approved recovery plans (USFWS 1988, 1996) as essential to the conservation of the wintering population of the piping plover are being designated as critical habitat, if recent data support consistent use and the habitat remains suitable.

*Comment 9:* The Service designated areas that are inhabited by people and where plovers and people co-exist. Therefore critical habitat is unnecessary.

*Our Response:* We agree that piping plovers and people can co-exist in wintering areas. However, as explained in this final rule, critical habitat is not considered to be an optional process, and the fact that people use areas used by plovers does not provide sufficient justification for not designating critical habitat. We believe that the effect on plovers of normal human presence in their wintering habitat does not have serious consequences to the plover at the population level. See our response to Issue A.15 above.

*Issue J: Effects of Designation*

These comments involve issues related to the effects of designation on land management and habitat-modifying activities within the designated areas.

*Comment 1:* How will the proposed designation impact the future of Packery Channel? Will it have a minimal effect as discussed, or will it cause the Packery Channel opening to be shut down completely?

*Our Response:* We completed a Biological Opinion (BO) on August 1, 1994, for U.S. Army Corps of Engineers Permit Number 18344(01) Fish Trackers/Reopen Packery Channel Association. The BO included a ''finding of not likely to jeopardize the continued existence of the threatened and endangered populations of the piping plover'' based on the project design included in Permit 18344(01). Refer to Comment E.3 for the circumstances requiring Federal actions that have already undergone section 7 consultation to reinitiate that consultation.

*Comment 2:* Is it necessary to obtain a permit and contract an environmental consultant at the private landowner's expense, because the property that he/she wishes to build a house on is on the beachfront, upland area, or sand dune?

*Our Response:* Prior to procuring a consultant, we suggest that you contact the Service representative in your particular State (see the contact list in the ''Effects of Critical Habitat Designation'' section of this rule for the name and phone number of the person to contact). As discussed in comment E.5, all landowners, public and private, are responsible for making sure their actions do not result in the unauthorized taking of a listed species, regardless of whether or not the activity occurs within designated critical habitat. Take is defined as ''harass, harm, pursue, hunt, shoot, wound, capture, collect, or attempt to engage in any such conduct.'' Take is further defined by regulation to include ''significant habitat modification or degradation that actually kills or injures wildlife.'' This definition was upheld by the U.S. Supreme Court in *Sweet Home Chapter of Communities for a Great Oregon et al.* v. *Babbitt,* 515 U.S. 687 (1995).

All Federal agencies are responsible to ensure that the actions they fund, permit, or carry out do not result in jeopardizing the continued existence of a listed species, regardless of critical habitat designation. ''Jeopardize the continued existence of'' means to engage in an action that would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or

distribution of that species (50 CFR 402.02). Because we designated only areas within the geographic range occupied by the piping plover, any activity that would result in an adverse modification of the plover's critical habitat would virtually always also jeopardize the continued existence of the species. Federal agencies must consult pursuant to section 7 of the Act on all activities that will adversely affect the plover both within and outside designated critical habitat.

*Issue K: Economic Comments*

Numerous persons commented on the expected economic effects of the designation and on the draft economic analysis.

*Comment 1:* The designation of critical habitat on Padre Island National Seashore would restrict the ability to explore and develop mineral operations and cause a sizable economic impact if indeed these restrictions are upheld.

*Our Response:* As discussed in the ''Exclusions Under 4(b)(2) of the Act'' section of this rule, we considered the effects on exploration and development of mineral operations that would result from including Padre Island National Seashore in the final designation. Based on our analysis under section 4(b)(2), we concluded that the benefits of excluding Padre Island National Seashore were greater than the benefits of including, and therefore, we have excluded that area from the final designation.

*Comment 2:* Some commenters stated that the DEA was inadequate because it is based on the faulty assumption that the designation will not result in any greater burden than under the ''baseline'' of the listing of the plover. Relatedly, some commenters believed that we should have quantified the cost of designating the plover as an endangered species in our baseline calculations.

*Our Response:* The economic analysis does determine that there is a slight additional burden due to the designation of critical habitat for wintering piping plover and the economists attempted to quantify these costs in their analysis. See the ''Economics Analysis'' section of this rule.

While listing effects can be significant in some cases due to the prohibition on ''taking'' a listed species, Congress specifically directed the Service to base its listing decisions strictly on biological considerations. Economic effects caused by listing the wintering population of the piping plover as a federally protected threatened species, and by other statutes, are the baseline against which we evaluated, under section 4(b)(2) of the Act, the effects of the critical habitat designation.

*Comment 3*: Some commenters stated that they believed that the economic analysis should be completed before the rule is formally proposed.

*Our Response:* Given the nature of this rulemaking, we were unable to complete the economic analysis at the time we formally proposed this rule to the public. Both the proposed rule date and final rule date were established as a result of court rulings, that allowed less time than generally preferred by us to conduct a rulemaking. As a result, although we began the economic analysis before the rule was formally proposed, we were not able to complete it until later. Once we completed the economic analysis, we published in the **Federal Register** a Notice of Availability (65 FR 52691, August 30, 2000) and gave the public 90 days to comment on the analysis, along with other aspects of the rule. We have considered these comments and have produced a revised economic analysis, that we have submitted to OMB for review as part of this rulemaking package.

*Comment 4:* Some commenters believed that our economic analysis focused too narrowly on either current or near-term planned activities at the expense of longer-term planned activities.

*Our Response:* The revised analysis used a ten-year time horizon to identify likely current and planned activities that may be affected by critical habitat designation. We limited our analysis to a ten-year horizon because the estimation of future impacts becomes extremely speculative beyond that point. As stated in the analysis, our approach for estimating the potential effects of critical habitat designation followed four basic steps. First, the analysis identified land uses and activities likely to be affected by critical habitat designation. Second, the analysis looked at Federal nexuses that may allow certain land uses and activities conducted on critical habitat to be consulted on under section 7 of the Act. Third, out of the activities likely to occur on critical habitat having a Federal nexus, the analysis considered the likelihood that the Service would consult with the Federal agency under section 7 of the Act because such activities have the potential to adversely affect the plover or its critical habitat. Under this consideration, the analysis considered the likelihood that critical habitat designation would impose additional effects beyond listing, including effects on section 7 consultations and potential mitigation. Finally, the analysis also considered the potential for any further indirect effects resulting from the designation. While we believe the analysis did a credible job in identifying both current and planned future land use activities within proposed critical habitat, we also believe that to speculate about long-term, future activities on particular units, that are different than those currently being conducted or envisioned, adds little information of value to the decision-making process.

*Comment 5:* We received many comments concerning the impact that dredging and the disposal of dredged materials, along with beach nourishment, would have on critical habitat.

*Our Response:* Our revised economic analysis addresses this issue in greater specificity. In summary, we do not believe that beach nourishment activities, along with dredging and disposal activities, are likely to be impacted by this critical habitat designation. In the vast majority of cases we support beach nourishment activities as they benefit the wintering plover by providing them increased foraging habitat. Dredging and disposal activities have also not been significantly impacted by the presence of the plover, and we see no reason why critical habitat designation would alter this scenario.

*Comment 6:* We received several comments from citizens concerned specifically about the impact that critical habitat designation would have on Texas Gulf Coast activities including: (1) The exploration, development, and production of oil and gas reserves; (2) recreational use of coastal areas; (3) real-estate development projects for residential and commercial use; and (4) transportation of commodities on the Gulf Intracoastal Waterway. One economic study submitted by a commenter suggested that critical habitat designation could result in a total net present value cost over 30 years of $261 to $979 million to the Laguna Madre Environs economy.

*Our Response:* We believe that the above mentioned economic study submitted by BNP Petroleum Corporation overstates the effects that may result from this designation. The economic costs developed by the study's authors depend on two main assumptions. First, the authors assume that the critical habitat being designated for the wintering plover, contrary to our descriptions, consists of large areas of unoccupied territory lacking the necessary primary constituent elements needed to support the plover. As a result, the authors believe that delays will occur to future activities as project

proponents will need to enter into consultations with the Service, that will enviably lead to delays causing economic effects.

Regarding the first assumption, critical habitat, by definition, only includes those areas containing the primary constituent elements identified in the rule. We believe that all of these areas are currently occupied by the wintering plover and that Federal agencies are already required to ensure that the activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of the plover. Federal agencies already must notify us of activities that may adversely affect the plover. Because we are only designating areas occupied by the plover and because any activities that may adversely modify critical habitat would also likely jeopardize the continued existence of the species, we do not believe that critical habitat designation will have any appreciable economic effect above current effects resulting from the listing of the plover in 1985.

The BNP study estimates impacts to the natural gas industry, which constitutes the majority of their study's effects, based on the key assumption that critical habitat designation could result in project delays between six months and two years arising from section 7 consultations. In a review of piping plover section 7 consultations in the Gulf Coast Sates where critical habitat is being designated, very few involved oil and gas exploration and production activities. Mostly this is because existing oil and gas production activity takes place offshore and is not on the beaches or flats occupied by plover and as a result these activities were not likely to adversely affect the species. Also, in many instances where oil and gas production activities affect the areas occupied by the plover, such as pipeline crossings and gathering stations for near shore production, either the environmental impacts to the plover were not significant enough to warrant a formal consultation or the activity lacked a Federal nexus. Although the permitting process for oil and gas exploration and production activities is complex and involves a myriad of Federal, State, and local requirements, a formal consultation is normally completed within 135 days. We therefore disagree with the study's authors that section 7 consultations can lead to significant project delays for the industry.

Also, as noted in the BNP study, future production in the Gulf Coast is likely to occur in very deep water (14,000 to 18,000 feet), well away from critical habitat areas. This makes it highly unlikely critical habitat would have any effect. Due to the distance future production areas are from the shoreline, products will most likely be barged into existing ports with offloading facilities because it will be uneconomical or technologically infeasible to connect deepwater platforms to the existing infrastructure of near-shore pipelines. As a result, critical habitat areas are highly unlikely to be affected by future industry activities. In addition, we do not believe that the oil and gas industry will be affected by any significant increase in section 7 consultations because of this rulemaking, and we disagree with the findings in their study.

That being said, the economic analysis prepared for the Service finds that the designation of critical habitat for the piping plover may result in additional section 7 consultation costs because future consultations would need to address critical habitat issues, in addition to the effects on the species, and would therefore require more time. Additionally, we acknowledge that some Federal agencies may initiate consultation more often than before, because critical habitat has increased their awareness of the species. Even though consideration of critical habitat is not likely to impose further project modifications beyond those required by the listing of the plover, project proponents may nonetheless incur costs above and beyond those attributable to the listing of the plover as a threatened species. These costs might include the value of time spent in conducting section 7 consultations beyond those associated with the listing, and/or delays in implementing oil and gas activities. Refer to the ''Exclusions Under 4(b)(2) of the Act'' section of this rule for our analysis under section 4(b)(2) of the Act.

Similarly, we do not believe that this rule will have a significant effect on the other three factors: (1) Recreational use of coastal areas; (2) real-estate development projects for residential and commercial use; and (3) transportation of commodities on the Gulf Intracoastal Waterway. First, we do not believe that recreational use of coastal areas will be affected because no such effects have been experienced since the plover was listed in 1985, combined with the fact that we are only designating occupied critical habitat. Furthermore, the plovers spend the wintering season foraging and roosting and then migrate north in the summer where they breed. Breeding areas in the north may experience partial or temporary closures during the breeding season to protect ground level nests but such effects are not expected to occur in the wintering areas affected by this rule because of the fact that the birds are mobile and not nesting during the wintering season. Furthermore, in a recent study that looked at the effect of beach closures in breeding areas, no significant economic effects were identified due to the availability of nearby beaches (Unsworth, et al., An Economic Analysis of Piping Plover Recovery Activities in the Atlantic Coast, 1998).

Our revised economic analysis also considered in greater detail the effect the rule could have on real-estate development projects. Using a conservative assumption that critical habitat designation could result in one to two and one-half percent of forgone future lot development due to project modifications resulting from critical habitat designation, the analysis found that total costs to developers over a ten-year time frame could range from about $1.5 million to $4.5 million. This represents less than one percent of the total estimated value of future planned housing in southern Texas. Furthermore, the revised analysis found no evidence to support the claim that the section 7 consultation process has resulted in significant time delay estimates as argued by the commenter.

Finally, the revised economic analysis also further considered the effect the rule could have on commodity transportation within the Gulf Intracoastal Waterway. The commenter was specifically concerned that the designation of critical habitat could result in the closure of the waterway because the Service could require disposal of dredged materials to be disposed further from the beach areas, which could become cost prohibitive. This scenario, however, is highly unlikely as dredging and disposal operations in the area have taken place continually since the plover was originally listed as an endangered species in 1985. Because this area is occupied by the plover, any effects on dredging and disposal activities in the future would occur regardless of critical habitat designation. However, with a single, unique exception that is addressed in the revised analysis, dredging and disposal activities have not been negatively impacted by the presence of the plover and consequently are not expected to be further impacted by critical habitat.

*Comment 7:* We received many comments from citizens of Marco Island, Florida concerned over the impact that critical habitat would have on their recreational beach-use activities

as well as spillover effects to their local housing values.

*Our Response:* As mentioned previously, we do not believe that recreational use of coastal areas will be significantly affected because recreational impacts since listing have been minimal and only habitat that is currently occupied by the wintering plover is being designated. Again, while beach closures, or more commonly beach restrictions, have occurred to protect the piping plover, these closures occur during breeding season in the summer. Plovers typically migrate north in the spring and summer seasons to breed and occupy areas outside of wintering habitat, which this rule addresses. Furthermore, in a recent study that looked at the possible effects of beach closures in breeding areas, no significant economic effects were identified due to the availability of nearby beaches (Unsworth, *et al.,* An Economic Analysis of Piping Plover Recovery Activities in the Atlantic Coast, 1998).

*Comment 8:* Many commenters expressed concern that the designation includes unoccupied habitat that does not contain the primary constituent elements necessary to support the plovers and that the DEA overlooked this effect.

*Our Response:* The determination of whether or not proposed critical habitat is within the geographic range occupied by the plovers is part of the biological decision-making process and lies beyond the scope of an economic analysis. For a discussion of the biological justification of why we believe the area being designated is within the geographical area occupied by the plover, see our responses to Issue A.

*Comment 9:* The Environmental Protection Agency (EPA) indicated that our economic analysis should evaluate Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations.

*Our Response:* Executive Order 12898 requires that each Federal agency make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minorities and low-income populations. We do not believe that the designation of critical habitat for endangered and threatened species results in any changes to human health or environmental effects on surrounding human populations, regardless of their socioeconomic characterization. As such, we do not believe that Executive Order 12898 applies to critical habitat designations.

*Issue L: Critical Habitat and Habitat Conservation Plans (HCPs)*

In the proposed rule we requested input on alternative approaches to issuing any future incidental take permits under section 10(a)(1)(B) of the Act, and how that process may be influenced by critical habitat designation. Five alternatives were provided:

(1) Retain critical habitat designation within the HCP boundaries and use the section 7 consultation process on the issuance of the incidental take permit to ensure that any take we authorize will not destroy or adversely modify critical habitat;

(2) Revise the critical habitat designation upon approval of the HCP and issuance of the section 10(a)(1)(B) permit to retain only preserve areas, on the premise that they encompass areas essential for the conservation of the species within the HCP area and require special management and protection in the future. Assuming that we conclude, at the time an HCP is approved and the associated incidental take permit is issued, that the plan protects those areas essential to the conservation of the piping plover, we would revise the critical habitat designation to exclude areas outside the reserves, preserves, or other conservation lands established under the plan. Consistent with our listing program priorities, we would publish a proposed rule in the **Federal Register** to revise the critical habitat boundaries;

(3) As in (2) above, retain only preserve lands within the critical habitat designation, on the premise that they encompass areas essential for conservation of the species within the HCP area and require special management and protection in the future. However, under this approach, the exclusion of areas outside the preserve lands from critical habitat would occur automatically upon issuance of the incidental take permit. The public would be notified and have the opportunity to comment on the boundaries of the preserve lands and the revision of designated critical habitat during the public review and comment process for HCP approval and permitting;

(4) Remove designated critical habitat entirely from within the boundaries of an HCP when the plan is approved (including preserve lands), on the premise that the HCP establishes long-term commitments to conserve the species and no further special management or protection is required. Consistent with our listing program priorities, we would publish a proposed rule in the **Federal Register** to revise the critical habitat boundaries; or

(5) Remove designated critical habitat entirely from within the boundaries of HCPs when the plans are approved (including preserve lands), on the premise that the HCP establishes long-term commitments to conserve the species and no additional special management or protection is required. This exclusion from critical habitat would occur automatically upon issuance of the incidental take permit. The public would be notified and have the opportunity to comment on the revision of designated critical habitat during the public notification process for HCP approval and permitting.

*Comment 1:* All who commented on this issue favor alternative 1, to retain critical habitat within any future HCP boundaries and use the section 7 consultation process to evaluate the effects of the HCP on critical habitat. Most commenters believed that alternatives 3 through 5 are illegal under the Act, and that alternative 2 would likely be illegal as well.

*Our Response:* We recognize that critical habitat is only one of many conservation tools for federally listed species. HCPs are one of the most important tools for reconciling land use with the conservation of listed species on non-Federal lands. Section 4(b)(2) of the Act allows us to exclude areas from critical habitat designation where the benefits of exclusion outweigh the benefits of designation, provided the exclusion will not result in the extinction of the species. We believe that in most instances the benefits of excluding HCPs from critical habitat designations will outweigh the benefits of including them. A detailed rationale for this determination can be found in the ''Exclusions Under 4(b)(2) of the Act'' section of this final rule.

We anticipate that any future HCPs in the range of wintering piping plovers will include it as a covered species and provide for its long-term conservation. We expect that HCPs undertaken by local jurisdictions (e.g., counties, cities) and other parties will identify, protect, and provide appropriate management for those specific lands within the boundaries of the plans that are essential for the long-term conservation of the species. Section 10(a)(1)(B) of the Act states that HCPs must meet issuance criteria, including minimizing and mitigating any take of the listed species covered by the permit to the extent practicable, and that the taking must not appreciably reduce the likelihood of the survival and recovery of the species in the wild. We fully expect that our future

analyses of HCPs and section 10(a)(1)(B) permits under section 7 will show that covered activities carried out in accordance with the provisions of the HCP and section 10(a)(1)(B) permits will not result in the destruction or adverse modification of critical habitat designated for the piping plover.

In the event that future HCPs covering wintering piping plovers are developed within the boundaries of designated critical habitat, we will work with applicants to ensure that the HCPs provide for protection and management of habitat areas essential for the conservation of the piping plover by either directing development and habitat modification to nonessential areas or appropriately modifying activities within essential habitat areas so that such activities will not adversely modify the primary constituent elements. The HCP development process provides an opportunity for more intensive data collection and analysis regarding the use of particular habitat areas by the piping plover. We will provide technical assistance and work closely with applicants throughout the development of future HCPs to identify lands essential for the long-term conservation of the species and appropriate management of those lands. If the piping plover is a covered species under future HCPs, the plans should provide for the long term conservation of the species. The take minimization and mitigation measures provided under these HCPs are expected to adequately protect the essential habitat lands designated as critical habitat in this rule, such that the value of these lands for the survival and recovery of the piping plover is not appreciably diminished through direct or indirect alterations. If an HCP that addresses the piping plover as a covered species is ultimately approved, we may reassess the relevant critical habitat boundaries in light of the protection and management provided by the HCP. We may seek to undertake this review when the HCP is approved, but funding constraints may influence the timing of such a review. However, an HCP can proceed without a concurrent amendment to the critical habitat designation should all involved parties agree.

*Issue M: Other Comments*

*Comment 1:* The Service was ordered to designate critical habitat for piping plovers breeding in the Great Lakes and Great Plains states. How is the Service addressing the Atlantic Coast breeding population that might breed or winter in Great Lakes/Great Plains wintering locations?

*Our Response:* The wintering range of piping plovers from all three breeding populations overlaps the documented breeding range of the Atlantic Coast population in North Carolina and at one site in northern South Carolina. The designation of critical habitat for wintering and migrating piping plovers in this final rule, however, reflects the known distribution and habitat requirements of piping plovers during the non-breeding portion of their life-cycle, but provides the protection offered by critical habitat year-round. Outside of their breeding range, piping plovers are protected as a threatened species regardless of their originating breeding population, and this critical habitat designation encompasses wintering habitat essential to the conservation of piping plovers from all three breeding populations.

*Comment 2:* In order to comply with the Act the Service must designate critical habitat for breeding and migratory piping plovers on the Atlantic Coast.

*Our Response:* We are currently required to complete a significant number of listing-related actions, pursuant to court orders and judicially approved settlement agreements. Complying with these court orders and settlement agreements will require the Service to spend nearly all of its listing and critical habitat funding for fiscal year 2001, and a substantial amount in fiscal year 2002. We are currently working to prioritize our critical habitat workload within the Act's listing budget allocated by Congress. The priority for designating critical habitat for the Atlantic Coast breeding population of piping plovers relative to other species and pending litigation has not yet been determined. The other two peer reviewers did not respond.

**Peer Review**

In accordance with our policy published on July 1, 1994 (59 FR 34270), we solicited independent expert opinions from five persons who are familiar with this species to peer-review the proposed critical habitat designation. Three of these experts provided us with a written response generally supporting the designation and providing additional information, that we have incorporated into the rule as appropriate.

One of the reviewers stated her view that only sites with recorded plover use should be designated, and that the designation could be subsequently revised as new sites become known. However, she also stated her support for designating larger areas when at least some of these larger units have records of plover use. This is generally the approach we took. We sincerely appreciate the responses of these peer reviewers, and believe their input has provided a great deal of support for this designation.

**Critical Habitat**

Critical habitat is defined in section 3(5)(A) of the Act as: (i) The specific areas within the geographic area occupied by a species, at the time it is listed in accordance with the Act, on which are found those physical or biological features (I) essential to the conservation of the species and (II) that may require special management considerations or protection; and (ii) specific areas outside the geographic area occupied by a species at the time it is listed, upon determination that such areas are essential for the conservation of the species. ''Conservation'' means the use of all methods and procedures that are necessary to bring an endangered or threatened species to the point at which listing under the Act is no longer necessary. Thus, critical habitat areas should provide sufficient habitat to support the species at the population level and geographic distribution that are necessary for recovery.

Section 4(b)(2) of the Act requires that we base critical habitat proposals upon the best scientific and commercial data available, after taking into consideration the economic impact, and any other relevant impact, of specifying any particular area as critical habitat. We may exclude areas from critical habitat designation when the benefits of excluding those areas outweigh the benefits of including the areas within the critical habitat, providing the exclusion will not result in the extinction of the species.

In order to be included in a critical habitat designation, the habitat must first be ''essential to the conservation of the species.'' Critical habitat designations identify, to the extent known using the best scientific and commercial data available, habitat areas that provide essential life-cycle needs of the species (i.e., areas on which are found the primary constituent elements, as defined at 50 CFR 424.12(b)).

Section 4 requires that we designate critical habitat at the time of listing and based on what we know at the time of the designation. We are required to base our designations on what, at the time of designation, we believe to be essential to the species and in need of special management considerations or protection.

Our regulations state that, ''The Secretary shall designate as critical

habitat areas outside the geographic area presently occupied by the species only when a designation limited to its present range would be inadequate to ensure the conservation of the species.'' (50 CFR 424.12(e)). Accordingly, we will not designate critical habitat in areas outside the geographic area occupied by the species, unless the best available scientific and commercial data demonstrate that the conservation needs of the species can not be met by a designation that is limited to areas occupied by the species.

The Service's Policy on Information Standards Under the Endangered Species Act, published in the **Federal Register** on July 1, 1994 (Vol. 59, p. 34271), provides criteria, establishes procedures, and provides guidance to ensure that decisions made by the Service represent the best scientific and commercial data available. It requires Service biologists, to the extent consistent with the Act and with the use of the best scientific and commercial data available, to use primary and original sources of information as the basis for recommendations to designate critical habitat. When determining which areas are critical habitat, a primary source of information should be the listing package for the species. Additional information may be obtained from a recovery plan, articles in peer-reviewed journals, conservation plans developed by states and counties, scientific status surveys and studies, and biological assessments or other unpublished materials (i.e., gray literature).

Habitat is often dynamic, and species may move from one area to another over time. Furthermore, we recognize that designation of critical habitat may not include all of the habitat areas that may eventually be determined to be necessary for the recovery of the species. For these reasons, all should understand that critical habitat designations do not signal that habitat outside the designation is unimportant or may not be required for recovery. Areas outside the critical habitat designation will continue to be subject to conservation actions that may be implemented under section 7(a)(1) and to the regulatory protections afforded by the section 7(a)(2) jeopardy standard and the section 9 take prohibition, as determined on the basis of the best available information at the time of the action. We specifically anticipate that federally funded or assisted projects affecting listed species outside their designated critical habitat areas may still result in jeopardy findings in some cases. Similarly, critical habitat designations made on the basis of the best available information at the time of designation will not control the direction and substance of future recovery plans, habitat conservation plans, or other species conservation planning efforts if new information available to these planning efforts calls for a different outcome.

This critical habitat designation for the wintering population of the piping plover includes areas that we know currently support the species. Areas described in the approved recovery plans (USFWS 1988, 1996) as essential to the conservation of the wintering population of the piping plover are being designated as critical habitat, if recent data support consistent use and the habitat remains suitable. However, the recovery plans did not include the most recent comprehensive winter survey data and, therefore, the plans did not identify all possible areas essential to the survival and recovery of the species. Thus, we identified additional areas essential to the species' conservation, based upon unpublished data collected by state agencies, Christmas bird counts, individual birders, master's theses (Nicholls 1989, Climo 1998) and published data (Sprandel *et al.* 1997).

Designation of critical habitat can help focus conservation activities for a listed species by identifying areas that contain the physical and biological features that are essential for the conservation of that species. Designation of critical habitat alerts the public as well as land-managing agencies to the importance of these areas.

Critical habitat receives protection under section 7 of the Act through the prohibition against destruction or adverse modification of critical habitat by actions carried out, funded, or authorized by a Federal agency. Aside from the protection that may be provided under section 7, the Act does not provide other forms of protection to lands designated as critical habitat. Because consultation under section 7 of the Act does not apply to activities on private or other non-Federal land that do not involve a Federal action, critical habitat designation would not afford any protection under the Act from such activities on these lands.

Designating critical habitat does not, in itself, lead to the recovery of a listed species. The designation does not establish a reserve, create a management plan, establish numerical population goals, prescribe specific management practices (inside or outside of critical habitat), or directly affect areas not designated as critical habitat. Specific management recommendations for areas designated as critical habitat are most appropriately addressed in recovery and management plans, and through section 7 consultation.

*Primary Constituent Elements*

In accordance with section 3(5)(A)(i) of the Act and regulations at 50 CFR 424.12, in determining which areas to propose as critical habitat, we are required to base critical habitat determinations on the best scientific and commercial data available and to consider those physical and biological features that are essential to the conservation of the species and that may require special management considerations and protection. Such requirements include, but are not limited to, space for individual and population growth, and for normal behavior; food, water, air, light, minerals, or other nutritional or physiological requirements; cover or shelter; and habitats that are protected from disturbance or are representative of the historic geographical and ecological distributions of a species.

Behavioral observations of piping plovers on the wintering grounds suggest that they spend the majority of their time foraging (Nicholls and Baldassarre 1990b; Drake 1999a, 1999b). Primary prey for wintering plovers includes polychaete marine worms, various crustaceans, insects, and occasionally bivalve mollusks (Nicholls 1989; Zonick and Ryan 1995), which they peck from on top or just beneath the surface of moist or wet sand, mud, or fine shell. In some cases, this substrate may be covered by a mat of blue-green algae. When not foraging, plovers undertake various maintenance activities including roosting, preening, bathing, aggressive encounters (with other piping plovers and other species), and moving among available habitat locations (Zonick and Ryan 1996). The habitats used by wintering birds include beaches, mud flats, sand flats, algal flats, and washover passes (areas where breaks in the sand dunes result in an inlet). Individual plovers tend to return to the same wintering sites year after year (Nicholls and Baldassarre 1990b, Drake 1999a). Wintering plovers are dependent on a mosaic of habitat patches, and move among these patches depending on local weather and tidal conditions (Drake 1999b).

Based upon the behavioral characteristics of wintering piping plovers, we have determined that the primary constituent elements essential for the conservation of wintering piping plovers are those habitat components that support foraging, roosting, and sheltering and the physical features

necessary for maintaining the natural processes that support these habitat components. The primary constituent elements are found in geologically dynamic coastal areas that support intertidal beaches and flats (between annual low tide and annual high tide) and associated dune systems and flats above annual high tide.

Important components (primary constituent elements) of intertidal flats include sand and/or mud flats with no or very sparse emergent vegetation. In some cases, these flats may be covered or partially covered by a mat of blue-green algae. Adjacent unvegetated or sparsely vegetated sand, mud, or algal flats above high tide are also important, especially for roosting piping plovers. Such sites may have debris, detritus (decaying organic matter), or micro-topographic relief (less than 50 cm above substrate surface) offering refuge from high winds and cold weather. Important components of the beach/dune ecosystem include surf-cast algae for feeding of prey, sparsely vegetated backbeach (beach area above mean high tide seaward of the dune line, or in cases where no dunes exist, seaward of a delineating feature such as a vegetation line, structure, or road) for roosting and refuge during storms, spits (a small point of land, especially sand, running into water) for feeding and roosting, salterns (bare sand flats in the center of mangrove ecosystems that are found above mean high water and are only irregularly flushed with sea water (Myers and Ewel 1990)) (biologists have documented use of salterns by piping plovers in southwest Florida) and washover areas for feeding and roosting. Washover areas are broad, unvegetated zones with little or no topographic relief, that are formed and maintained by the action of hurricanes, storm surge, or other extreme wave action. Several of these components (sparse vegetation, little or no topographic relief) are mimicked in artificial habitat types used less commonly by piping plovers, but that are considered critical habitat (e.g., dredge spoil sites).

These habitat components are a result of the dynamic geological processes that dominate coastal landforms throughout the wintering range of piping plovers. These geologically dynamic coastal regions are controlled by processes of erosion, accretion, succession, and sea-level change. The integrity of the habitat components depends upon daily tidal events and regular sediment transport processes, as well as episodic, high-magnitude storm events; these processes are associated with the formation and movement of barrier islands, inlets, and other coastal landforms. By their nature, these features are in a constant state of change; they may disappear, only to be replaced nearby as coastal processes act on these habitats. Given that piping plovers evolved in this dynamic system, and that they are dependent upon these ever-changing features for their continued survival and eventual recovery, our critical habitat boundaries incorporate sites that experience these natural processes and include sites that may lose and later develop appropriate habitat components.

In most areas, wintering piping plovers are dependent on a mosaic of sites distributed throughout the landscape. The annual, daily, and even hourly availability of the habitat patches is dependent on local weather and tidal conditions. For example, a single piping plover may leave a site if it becomes inundated by a high tide or storm event, or if high winds or cold temperatures make the site unsuitable for foraging or roosting. This bird will move to other patches within the landscape mosaic that might provide refuge from inclement weather conditions, or that simply provide a roosting site until conditions become favorable to resume foraging.

*Methods*

In determining areas that are essential to conserve the wintering population of piping plover, we solicited information from knowledgeable biologists and reviewed the available information pertaining to habitat requirements of the species. We used areas identified in approved recovery plans and current draft recovery plans to initially suggest important areas essential for the recovery of the species. These areas were then further evaluated using site-specific data, such as documented bird observations. To map areas essential to the conservation of the species, we used GIS (described in our response to comment G.3) and data on known piping plover wintering locations, digital aerial photographs and regional shoreline-defining electronic files. Sources of data providing these locations include two international piping plover censuses (conducted by State and Federal biologists and local birders) carried out in January of 1991 and 1996, published reports (a complete list of all references cited in this final rule are available upon request from the Corpus Christi Ecological Services Field Office, see **ADDRESSES** section), Christmas bird counts, and other data from surveys focusing on shorebird distribution and abundance.

We have included those areas along the coast for which occurrence data indicate a consistent use (observations over more than one wintering season) by piping plovers within this designation. The only areas included in the proposed rule that did not have survey data showing that they are used by plovers were the Mississippi River and the Wax Lake Outlet Deltas. We included those areas in the proposed rule because of the high probability of use by plovers due to the broad expanse of mudflats known to exist in the river deltas. However, adequate census data were not available to provide reliable presence or absence information for the plover until recently (U.S. Fish and Wildlife Service and Louisiana Department of Wildlife and Fisheries unpublished data, 2001), because these areas are remote and difficult to access and thus had not been surveyed. Since the proposed rule, we have surveyed these areas (Mississippi River Delta in December 2000; and the Wax Lake Outlet Delta during the February International Piping Plover Survey). Forty plovers were found on a few small dredged material islands in the Mississippi River Delta, none were found in the Wax Lake Outlet Delta. Those areas of the Mississippi Delta where no plovers were observed were not included (portions of LA–6) and the entire Wax Lake Outlet Delta (portions of Unit LA–2) was also not included in the final rule. This has resulted in less acreage being designated in Louisiana. Additionally, during the International Census in February 2001, 40 piping plovers were observed on the same dredged material islands in the Mississippi River Delta. Although we do not have data to document use of these areas over more than one wintering season, based on studies indicating that plovers exhibit a certain amount of site fidelity (see our response to Comment A.11 above.), and the large numbers of plovers observed at these sites, we consider it virtually certain that these areas are consistently used and have included them in the designation and consider these areas essential to the conservation of the species.

For the proposed rule, units and shorelines were mapped at variable scales (zoom factors) and with less detail. For the final rule, all units and shoreline were mapped at 1:5000 or larger (greater zoom) scale. In addition to the standardized mapping scale, the units and shoreline were mapped more precisely. This change in mapping technique and detail resulted in an increase in reported total mapped shoreline kilometers and miles for some states. This also resulted in increases in reported mapped shoreline distances by ownership for some states. It also affected the reported total and

ownership acreages, in some cases resulting in an apparent increased area while in others the result was an apparent decrease in area. However, the areas included in the critical habitat designation are the same areas that we verbally described in the unit-by-unit descriptions in the proposed rule, except for areas which we omitted in the final designation (as described below in the ''Summary of Changes From the Proposed Rule'' section).

In the proposed rule, a single buffer distance was set for all units in all states (500 m (1,640 ft)). Since this methodology resulted in areas of water (deeper than MLLW) and areas of dense vegetation being included in the designation, which are not utilized by piping plovers, we abandoned this methodology for a more precise means of defining the areas that contain the physical and biological features essential to the wintering piping plover. This change in methodology results in smaller units of designated critical habitat than that of the proposed rule. In order to capture the dynamic nature of the coastal habitat, and the intertidal areas used by the piping plover, we have textually described each unit as including the area extending out from the landward boundaries to the MLLW. MLLW, as defined in our response to comment A.12, is the mean of the lower low water height of each tidal day observed over the National Tidal Datum Epoch. While, MLLW is published information that can be determined through nautical charts, it is not currently available in a GIS version.

Designating specific locations for critical habitat for the piping plovers is difficult because the coastal areas they use are constantly changing due to storm surges, flood events, and other natural geo-physical alterations of beaches and shorelines. Thus, to best insure that areas considered essential to the piping plover are included in this designation, our textual unit descriptions will constitute the definitive determination as to whether an area is within the critical habitat boundary. Our textual unit descriptions describe the geography of the area using reference points, including the areas from the landward boundaries to the MLLW (which encompasses intertidal areas that are essential foraging areas for piping plovers) and describes areas within the unit that are utilized by the piping plover and contain the primary constituent elements (e.g., upland areas used for roosting and wind tidal flats used for foraging).

For the proposed rule, ownership was assigned to three classes within a unit (Federal, State, and private). Federal lands were those federally owned; State lands and waters were those State owned; and private were all non-Federal or non-State owned lands. For this final rule, we have 3 classes (Federal, State, and other) for mapped shoreline and 3 classes (Federal, State, and other) for mapped unit area. Assignment is as follows: Federal—federally owned lands, State—State owned lands, and Other—non-Federal or non-State owned lands. In the proposed rule, there were errors in the values reported in Table 2 for Alabama and Texas, which we have corrected.

In the final rule, to the maximum extent practicable, we mapped critical habitat in sufficient detail to exclude currently developed sites. However, we were unable to exclude all buildings, marinas, paved areas, boat ramps, exposed oil and gas pipelines, and similar structures. These areas do not contain primary constituent elements essential for piping plover conservation and are not considered critical habitat even though they are within the mapped critical habitat unit boundaries. The Service will continue to explore ways in which to identify areas within mapped critical habitat boundaries that are not considered critical habitat because they do not contain the primary constituent elements essential for piping plover conservation.

*Critical Habitat Designation/Land Ownership*

The critical habitat areas contained within the conservation units described below constitute our best evaluation of areas needed for the conservation of the wintering piping plover. We may revise critical habitat through a rulemaking process if new information becomes available in the future.

We calculated linear distances of critical habitat shoreline (in kilometers and miles) by ownership for each State (Table 1). In addition, State-level values of area in hectares and acres were calculated for the critical habitat units by ownership (Table 2). Ownership for both the shoreline and units were broken into three classes (Federal—Federally owned lands, State—State owned lands, and Other—non-Federal or non-State mapped lands). Assignment of ownership was based on existing digital State-level managed/protected lands geodataset (GIS data set) where possible. If no existing digital data were available, ownership was assigned based on other data sources.

TABLE 1.—APPROXIMATE SHORELINE DISTANCES OF DESIGNATED CRITICAL HABITAT FOR WINTERING PIPING PLOVER BY STATE (ROWS) AND OWNERSHIP (COLUMNS) IN KILOMETERS (MILES)

| | Federal | State | Other | Total |
|---|---|---|---|---|
| NC | 1,24.9(77.4) | 44.9(27.8) | 33.5(20.8) | 203.3(126.0) |
| SC | 25.2(15.6) | 31.6(19.6) | 43.9(27.2) | 100.7(62.4) |
| GA | 52.3(32.4) | 42.7(26.5) | 39.7(24.6) | 134.7(83.5) |
| FL | 109.0(67.6) | 193.2(119.8) | 38.6(23.9) | 340.8(211.3 ) |
| AL | 16.1(10.1) | 21.8(13.6) | 38.5(24.0) | 76.4(47.7) |
| MS | 98.2(61.4) | 0.0(0.0) | 105.9(66.2) | 204.1(127.6 ) |
| LA | 143.2(89.5) | 236.1(147.6) | 168.6(105.4) | 547.9(342.5) |
| TX | 88.2(54.7) | 38.8(24.1) | 1,156.8(718.5) | 1,283.8(797.3) |
| Total | 657.1(408.7) | 609.1(379.0) | 1,625.5(1,010.6) | 2,891.7(1,798.3) |

TABLE 2.—APPROXIMATE LAND AREA OF DESIGNATED CRITICAL HABITAT UNITS FOR WINTERING PIPING PLOVER BY STATE (ROWS) AND OWNERSHIP (COLUMNS) IN HECTARES (ACRES)

| | Federal [1] | State [1] | Other [1] | Total |
|---|---|---|---|---|
| NC | 5,614(13,866) | 2,062(5,093) | 938(2,318) | 8,614(21,277) |
| SC | 388(958) | 663(1,639) | 1,222(3,018) | 2,273(5,615) |
| GA | 1,734(4,285) | 1,437(3,551) | 1,333(3,294) | 4,504(11,130) |

TABLE 2.—APPROXIMATE LAND AREA OF DESIGNATED CRITICAL HABITAT UNITS FOR WINTERING PIPING PLOVER BY STATE (ROWS) AND OWNERSHIP (COLUMNS) IN HECTARES (ACRES)—Continued

| | Federal [1] | State [1] | Other [1] | Total |
|---|---|---|---|---|
| FL | 5,135(12,683) | 5,070(12,524) | 858(2,121) | 11,063(27,328) |
| AL | 294(726) | 292(722) | 600(1,481) | 1,186(2,929) |
| MS | 2,376(5,870) | 0.0(0.0) | 1,479(3,655) | 3,855(9,525) |
| LA | 3,042(7,515) | 3,246(8,019) | 3,812(9,416) | 10,100(24,950) |
| TX | 1,934(4,777) | 2,604(6,432) | 20,748(51,248) | 25,285(62,454) |
| Total | 20,517(50,680) | 15,374(37,980) | 30,990(76,551) | 66,881(165,211) |

[1] Approximate land mass values that do not include intertidal areas.

We have divided the lands designated as critical habitat into 142 critical habitat conservation units that contain areas with the primary constituent elements for the piping plover in the wintering range of the species. These units are found in all eight States where piping plovers winter. Below, we describe each unit in terms of its location, approximate size, and ownership. Due to data limitations (resolution & availability) intertidal zone (area between high and low tide) could not be mapped; therefore, the size of each unit is considered approximate. These unit descriptions can be found in the regulatory section at the end of this rule, and are the definitive source for determining the critical habitat boundaries.

*North Carolina (Maps Were Digitized Using 1993 DOQQs, Except NC–3 (1993 DRG)*

Unit NC–1: Oregon Inlet. 404 ha (997 ac) in Dare County. This unit extends from the southern portion of Bodie Island to the northern portion of Pea Island. It includes all land south of the Oregon Inlet Marina and Fishing Center to 0.50 km (0.31 mile) south of the junction of Highway 12 and SR 1257. This unit includes lands from MLLW on the Pamlico Sound across (and including all land) to MLLW on Atlantic Ocean shoreline. Any emergent sandbars south and west of Oregon Inlet are included.

Unit NC–2: Cape Hatteras Point. 465 ha (1149 ac) in Dare County. The majority of the unit is within Cape Hatteras National Seashore. This unit extends south from the Cape Hatteras Lighthouse to the point of Cape Hatteras and then extends west 6.4 km (4.0 mi) along Hatteras Cove shoreline. The unit includes lands from the MLLW on the Atlantic Ocean and stops landward where densely vegetated habitat, not used by the piping plover, begins and where constituent elements no longer occur.

Unit NC–3: Clam Shoals. 28 ha (70 ac) in Dare County. The entire unit is owned by the State. This unit includes several islands in Pamlico Sound known as Bird Islands. This unit includes lands on all islands to the MLLW.

Unit NC–4: Hatteras Inlet. 516 ha (1273 ac) in Dare and Hyde Counties. The majority of the unit is surrounded by Cape Hatteras National Seashore, but is privately owned. This unit extends west from the end of Highway 12 on the western portion of Hatteras Island to 1.25 km (0.78 mi) southwest of the ferry terminal at the end of Highway 12 on Ocracoke Island. It includes all lands where constituent elements occur from MLLW on the Atlantic Ocean across to MLLW on Pamlico Sound. All emergent sandbars within Hatteras Inlet between Hatteras Island and Ocracoke Island are also included.

Unit NC–5: Ocracoke Island. 80 ha (197 ac) in Hyde County. The majority of this unit is within Cape Hatteras National Seashore. It includes the western portion of Ocracoke Island beginning 3.5 km (2.2 mi) west of the junction of Highway 12 and the local road (no name) extending west to Ocracoke Inlet. It includes all land from MLLW on the Atlantic Ocean across to MLLW on Pamlico Sound. All emergent sandbars within Ocracoke Inlet are also included.

Unit NC–6: Portsmouth Island-Cape Lookout. 3187 ha (7873 ac) in Carteret County. The entire unit is within Cape Lookout National Seashore. This unit includes all land to MLLW on Atlantic Ocean to MLLW on Pamlico Sound, from Ocracoke Inlet extending west to the western end of Pilontary Islands. This unit includes the islands of Casey, Sheep, Evergreen, Portsmouth, Whalebone, Kathryne Jane, and Merkle Hammock. This unit also extends west from the eastern side of Old Drum Inlet to 1.6 km (1.0 mi) west of New Drum Inlet and includes all lands from MLLW on Atlantic Ocean to MLLW on Core Sound.

Unit NC–7: South Core Banks. 552 ha (1364 ac) in Carteret County. The entire unit is within Cape Lookout National Seashore. This unit extends south from Cape Lookout Lighthouse, along Cape Lookout, to Cape Point and northwest to the northwestern peninsula. All lands from MLLW on the Atlantic Ocean, Onslow Bay, and Lookout Bight up to where densely vegetated habitat, not used by the piping plover, begins and the constituent elements no longer occur are included.

Unit NC–8: Shackleford Banks. 716 ha (1769 ac) in Carteret County. The entire unit is within Cape Lookout National Seashore. This unit is in two parts: (1) The eastern end of Shackleford Banks from MLLW of Barden Inlet extending west 2.4 km (1.5 mi), including Diamond City Hills, Great Marsh Island, and Blinds Hammock; and, (2) The western end of Shackleford Banks from MLLW extending east 3.2 km (2.0 mi) from Beaufort Inlet. The unit includes all land from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur and any emergent sandbars within Beaufort Inlet. This unit is bordered by Onslow Bay, Shackleford Slue, and Back Sound.

Unit NC–9: Rachel Carson. 445 ha (1100 ac) in Carteret County. The entire unit is within the Rachel Carson National Estuarine Research Reserve. This unit includes islands south of Beaufort including Horse Island, Carrot Island, and Lennox Point. This unit includes entire islands to MLLW.

Unit NC–10: Bogue Inlet. 143 ha (354 ac) in Carteret and Onslow Counties. The majority of the unit is privately owned, with the remainder falling within Hammocks Beach State Park. This unit includes contiguous land south, west, and north of Bogue Court to MLLW line of Bogue Inlet on the western end of Bogue Banks. It includes the sandy shoals north and adjacent to Bogue Banks and the land on Atlantic Ocean side to MLLW. This unit also extends 1.3 km (0.8 mi) west from MLLW of Bogue Inlet on the eastern portion of Bear Island.

Unit NC–11: Topsail. 451 ha (1114 ac) in Pender County and Hanover County. The entire area is privately owned. This unit extends southwest from 1.0 km (0.65 mi) northeast of MLLW of New Topsail Inlet on Topsail Island to 0.53 km (0.33 mi) southwest of MLLW of Rich Inlet on Figure Eight Island. It includes both Rich Inlet and New Topsail Inlet and the former Old Topsail Inlet. All land, including emergent sandbars, from MLLW on Atlantic Ocean and sound side to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur. In Topsail Sound, the unit stops as the entrance to tidal creeks become narrow and channelized.

Unit NC–12: Figure Eight Island. 134 ha (331 ac) in New Hanover County. The majority of the unit is privately owned. This unit extends south from the western end of Beach Road on Figure Eight Island to the northern end of Highway 74 on Wrightsville Beach. The unit includes Mason Inlet and the sand and mudflats northwest of the inlet from MLLW on Atlantic Ocean to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur.

Unit NC–13: Masonboro. 61 ha (150 ac) in New Hanover County. The entire unit is within the North Carolina National Estuarine Research Reserve. This unit extends 1.1 km (0.70 mi) south from the MLLW of Masonboro Inlet on Masonboro Island. This unit includes all lands along the Atlantic Ocean, Masonboro Inlet, and Masonboro Sound from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur.

Unit NC–14: Carolina Beach Inlet. 374 ha (924 ac) in New Hanover County. The majority of the unit is within Myrtle Grove Sound on Masonboro Island and is owned by the North Carolina National Estuarine Research Reserve. It extends 1.80 km (1.12 mi) west along the south shoreline of Wolf Island from the mouth of the Altamaja sound. This unit extends south from 3.2 km (2.0 mi) north of MLLW at Carolina Beach Inlet on Masonboro Island to 1.1 km (0.70 mi) south of MLLW at Carolina Beach Inlet on Carolina Beach. It includes land from MLLW on Atlantic Ocean across and including lands to MLLW on the western side of Masonboro Island, excluding existing dredge spoil piles. Emergent sand bars within Carolina Beach Inlet are also included.

Unit NC–15: Ft. Fisher. 790 ha (1951 ac) in New Hanover and Brunswick Counties. This unit is within Ft. Fisher State Recreation Area and Zeke's Island Estuarine Reserve. This unit extends south from Ft. Fisher Islands (from the rocks), south of the ferry terminal, to approximately 0.8 km (0.5 mi) south of MLLW at Corn Cake Inlet on Smith Island. It includes all land (including Zeke's Island) from MLLW on Atlantic Ocean across to MLLW on the eastern side of the Cape Fear River.

Unit NC–16: Lockwood Folly Inlet. 36 ha (90 ac) in Brunswick County. The entire unit is on Oak Island (formerly known as the Town of Long Beach) and is privately owned. This unit extends from the end of West Beach Drive, west to MLLW at Lockwood Folly Inlet, including emergent sandbars south and adjacent to the island. This unit includes land from MLLW on Atlantic Ocean across to MLLW adjacent to the Eastern Channel and the Intracoastal Waterway.

Unit NC–17: Shallotte Inlet. 120 ha (296 ac) in Brunswick County.The entire unit is privately owned. This unit begins just west of Skimmer Court on the western end of Holden Beach. It includes land south of SR 1116, to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur to the MLLW along the Atlantic Ocean. It includes the contiguous shoreline from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur along the Atlantic Ocean, Shallotte Inlet, and Intracoastal Waterway stopping north of Skimmer Court Road. The unnamed island and emergent sandbars to MLLW within Shallotte Inlet are also included.

Unit NC–18: Mad Inlet. 112 ha (278 ac) in Brunswick County. The entire unit is privately owned. This unit extends west 1.2 km (0.75 mi) from the end of Main Street (SR 1177) on western Sunset Beach to the eastern portion of Bird Island and includes the marsh areas north of western Sunset Beach shoreline. The shoreline area begins at MLLW on the Atlantic Ocean and continues landward to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur.

*South Carolina (Maps Were Digitized Using 1994 DOQQs)*

Unit SC–1: Waites Island-North. 75 ha (186 ac) in Horry County. This unit includes the northern tip of Waites Island from the MLLW at Little River Inlet and runs west along the Atlantic Ocean shoreline 2.0 km (1.25 mi) and includes land from the MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur. The unit continues north and west of Little River Inlet stopping at Sheephead Creek, including land from MLLW to dense vegetation line. The majority of the unit is privately owned.

Unit SC–2: Waites Island-South. 58 ha (142 ac) in Horry County.This unit includes the southern tip of Waites Island from the MLLW at Hog Inlet and runs east along the Atlantic Ocean shoreline 0.80 km (0.50 mi) and includes MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur. It continues north and west of the Hog inlet, stopping at the first major tributary. Critical habitat includes from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur. Emerging sandbars within Hog Inlet and adjacent to the tip if eastern Cherry Grove Beach are also included from MLLW to where densely vegetated habitat or developed structures, not used by the piping plover, begins and where the constituent elements no longer occur. The majority of this unit is privately owned.

Unit SC–3: Murrells Inlet/Huntington Beach. 135 ha (334 ac) in Georgetown County. The majority of the unit is within Huntington Beach State Park. This unit extends from the southern tip of Garden City Beach, just south of the groins (a rigid structure or structures built out from a shore to protect the shore from erosion or to trap sand) north of Murrells Inlet from MLLW to where densely vegetated habitat or developed structures, not used by the piping plover, begins and where the constituent elements no longer occur stopping perpendicular with the southern end of Inlet Point Drive. It includes from MLLW south of Murrells Inlet to the northern edge of North Litchfield Beach approximately 4.5 km (3.0 mi). The unit includes the MLLW from the Atlantic Ocean up to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur. The lagoon at the north end of Huntington Beach State Park is also included.

Unit SC–4: Litchfield. 11 ha (28 ac) in Georgetown County. This unit includes the southern tip of Litchfield Beach beginning 0.50 km (0.30 mi) north of Midway Inlet and stopping at the MLLW at Midway Inlet. It includes from the MLLW on the Atlantic Ocean shoreline across and including land to the MLLW on the back bayside. This unit is mostly privately owned.

Unit SC–5: North Inlet. 99 ha (245 ac) in Georgetown County. The majority of the unit is within Tom Yawley Wildlife Center Heritage Preserve. This unit extends from MLLW to 1.0 km (.62 mi) north of North Inlet on Debidue Beach. It includes shoreline on the Atlantic Ocean from MLLW to the MLLW on the western side of the peninsula. This unit also includes from the MLLW south of North Inlet 1.6 km (1.0 mi). It includes the shoreline on the Atlantic Ocean from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur. It includes shoreline running south and west of the inlet from the MLLW stopping at the MLLW at the first large tributary (no name).

Unit SC–6: North Santee Bay Inlet. 305 ha (753 ac) in Georgetown County. The majority of the unit is within the Tom Yawley Wildlife Center Heritage Preserve and the Santee-Delta Wildlife Management Area. This unit is at the North Santee Bay inlet and includes lands of South Island, Santee Point, Cedar Island, and all of North Santee Sandbar. This unit includes from MLLW at North Santee Bay Inlet running north along the Atlantic Ocean side of South Island 7.2 km (4.5 mi), stopping 0.60 km (0.4 mi) north of an unnamed inlet. It includes areas from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur. This unit includes the eastern side of Cedar Island adjacent to the North Santee Bay Inlet from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur. All of North Santee Sandbar to MLLW is included.

Unit SC–7: Cape Romain. 315 ha (777 ac) in Charleston County.The majority of the unit is within Cape Romain National Wildlife Refuge. This unit includes the MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur on the southern and southeastern most 1.9 km (1.2 mi) portion of Cape Island, the southernmost portion of Lighthouse Island from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur, all of Lighthouse Island South to MLLW, and the southern side of the far eastern tip of Raccoon Key from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur.

Unit SC–8: Bull Island. 134 ha (332 ac) in Charleston County. The majority of the unit is within Cape Romain National Wildlife Refuge and land owned by the South Carolina Department of Natural Resources. This unit includes from Schooner Creek on north and south of the river to north of Price's Inlet on the southern portion of Bull Island along the Atlantic Ocean 1.6 km (1.0 mi) and south of Price's Inlet on the northeast tip of Capers Island Heritage Preserve 1.4 km (.86 mi) along the Atlantic Ocean. All areas begin at MLLW and extend to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur.

Unit SC–9: Stono Inlet. 495 ha (1223 ac) in Charleston County.Most of this unit is privately owned. It includes the eastern end of Kiawah Island (approximately 4.0 km (2.5 mi)) from MLLW on Atlantic Ocean running north to MLLW on first large tributary connecting east of Bass Creek running northeast into Stono River. It includes MLLW up to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur along Stono Inlet and River. All of Bird Key-Stono Heritage Preserve and all of Skimmer Flats to MLLW are included. The Golf course and densely vegetated areas are not included.

Unit SC–10: Seabrook Island. 117 ha (290 ac) in Charleston County.This unit runs from just 0.16 km (0.10 mi) north of Captain Sams Inlet to the southwest approximately 3.4 km (2.1 mi) along the Atlantic Ocean shoreline. It includes land areas from the MLLW on the Atlantic Ocean to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur. Most of this unit is privately owned.

Unit SC–11: Deveaux Bank. 130 ha (322 ac) in Charleston County. The entire unit is within Deveaux Bank Heritage Preserve. This unit includes all of Deveaux Island to the MLLW and is State-owned.

Unit SC–12: Otter Island. 68 ha (169 ac) in Colleton County.The majority of the unit is within St. Helena Sound Heritage Preserve. This unit includes the southern portion of Otter Island to the eastern mouth of Otter Creek. It includes the MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur. The entire unit is State-owned.

Unit SC–13: Harbor Island. 50 ha (122 ac) in Beaufort County. The majority of the unit is State-owned. This unit extends from the northeastern tip of Harbor Island and includes all of Harbor Spit. It begins at the shoreline east of Cedar Reef Drive running south, stopping at the mouth of Johnson Creek. It includes the MLLW on the Atlantic Ocean and St. Helena Sound to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur. All of Harber Spit to MLLW is included.

Unit SC–14: Caper's Island. 238 ha (589 ac) in Beaufort County. Most of this unit is privately owned. This unit includes the southern-most 4.5 km (2.8 mi) along the Atlantic Coast shoreline of Little Caper's Island beginning at MLLW on south side of the inlet (un-named). It includes the MLLW on the Atlantic Ocean shoreline to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur.

Unit SC–15: Hilton Head. 43 ha (106 ac) in Beaufort County. The majority of this unit is State-owned. This unit includes the northeastern tip (Atlantic Ocean side) of Hilton Head Island and all of Joiner Bank. It begins at the shoreline east of northern Planters Row and ends at the shoreline east of Donax Road. It includes the MLLW of Port Royal Sound and the Atlantic Ocean to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur. All of Joiner Bank to MLLW is included.

*Georgia (Maps Were Digitized Using 1993–94 DOQQs)*

Unit GA–1: Tybee Island. 37 ha (91 ac) in Chatham County. The majority of the unit is privately owned. This unit extends along the northern tip of Tybee Island starting from 0.8 km (0.5 mi) northeast from the intersection of Crab Creek and Highway 80 to 0.7 km (0.41 mi) northeast from the intersection of Highway 80 and Horse Pen Creek. The unit includes MLLW on Savannah River and Atlantic Ocean to where densely vegetated habitat or developed structures, not used by the piping plover, begin and where the constituent elements no longer occur.

Unit GA–2: Little Tybee Island. 719 ha (1776 ac) in Chatham County. The majority of the unit is within Little Tybee Island State Heritage Preserve. This unit extends just south of the first inlet to Wassaw Sound along the Atlantic Ocean coastline, extending north along the sound 1.7 km (1.1 mi). It includes habitat from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur.

Unit GA–3: North Wassaw Island. 108 ha (267 ac) in Chatham County. The

entire unit is within Wassaw National Wildlife Refuge. This unit includes the north-east tip of Wassaw Sound, 1.6 km (1.0 mi) along the inlet side and extending south along the Atlantic Ocean shoreline for 1.6 km (1.0 mi). It includes land from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur.

Unit GA–4: South Wassaw Island. 61 ha (151 ac) in Chatham County. The entire unit is within Wassaw National Wildlife Refuge. This unit extends from the last southern 1.6 km (1.0 mi.) on Atlantic Ocean side, around the southern tip of Wassaw Island, up to mouth of Odingsell River. It includes land from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur.

Unit GA–5: Ossabaw Island. 434 ha (1072 ac) in Chatham County. entire unit is within Ossabaw Island State Heritage Preserve. This unit includes the northeastern tip from the mouth of the Bradley River east and 12 km (7.5 mi) south along the Atlantic Ocean shoreline to a point 0.4 km (0.25 mi) past the south-center inlet. It includes land from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur.

Unit GA–6: St. Catherine's Island Bar. 54 ha (135 ac) in Liberty County. The entire unit is State owned and located east-northeast of St. Catherine's Island. This unit includes the entire St. Catherine's Island Bar to MLLW.

Unit GA–7: McQueen's Inlet. 215 ha (532 ac) in Liberty County. The majority of the unit is private land along the eastern-central coastline on St. Catherine's Island. This unit extends from McQueen's Inlet north approximately 3.5 km (2.2 mi) and south approximately 1.8 km (1.1 mi). It includes land from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur.

Unit GA–8: St. Catherine's Island. 60 ha (147 ac) in Liberty County. The majority of the unit is private land on the southern tip of St. Catherine's Island. This unit starts 1.2 km (0.75 mi) north of Sapelo Sound (along Atlantic Ocean shoreline) and stops inland at Brunsen Creek. It includes land from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur.

Unit GA–9: Blackbeard Island. 129 ha (319 ac) in McIntosh County. The entire unit is within the Blackbeard Island National Wildlife Refuge. This unit includes the northeastern portion of the island beginning just east of the mouth of the confluence of McCloy Creek and Blackbeard Creek and continuing east and running south along the Atlantic Ocean shoreline for 1.4 km (.90 mi). It includes land from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur.

Unit GA–10: Sapelo Island. 85 ha (210 ac) in McIntosh County. The entire unit is State-owned and within Sapelo Island. The unit extends south of Cabretta Tip approximately 0.2 km (0.13 mi) and north of Cabretta Tip 1.6 km (1.0 mi). It includes land from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur.

Unit GA–11: Wolf Island. 238 ha (590 ac) in McIntosh County. The majority of the unit is within Wolf Island National Wildlife Refuge and private lands just north of the Refuge. This unit includes the southeastern tip of Queen's island adjacent to the Doboy Sound and includes the eastern shoreline of Wolf Island. It includes land from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur.

Unit GA–12: Egg Island Bar. 61 ha (151 ac) in McIntosh County. This unit is State owned and includes all of Egg Island Bar to the MLLW.

Unit GA–13: Little St. Simon's Island. 609 ha (1505 ac) in Glynn County. The majority of the unit is private land on Little St. Simon's Island. This unit includes the entire eastern coastline along Little St. Simon's Island. It begins 1.1 km (.70 mi) west of the northeast tip of Little St. Simon's Island and runs east and then south along the Atlantic Ocean shoreline stopping at the minor tributary (no name) on the southeast tip of Little St. Simon's Island north of Hampton Creek. It includes land from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur. All of Pelican Spit to MLLW is included when this sand bar is emergent.

Unit GA–14: Sea/St. Simon's Island. 191 ha (471 ac) in Glynn County. The majority of the unit is private land on the south tip of Sea Island and on the east beach of St. Simons Island. This unit extends north of Gould's Inlet (Sea Island) 2.5 km (1.54 mi) starting just south of the groin and extends south of Gould's Inlet (St. Simons Island) 1.6 km (1.0 mi). It includes land from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur.

Unit GA–15: Jekyll Island. 49 ha (121 ac) in Glynn County. The majority of the unit is within State lands on Jekyll Island. This unit includes the southern region of Jekyll Island beginning at the mouth of Beach Creek, running towards the tip of Jekyll Island and includes the shoreline running north along the Atlantic Ocean shoreline 1.9 km (1.20 mi) from the southern tip of Jekyll Island. It includes land from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur.

Unit GA–16: Cumberland Island. 1454 ha (3591 ac) in Camden County. The majority of the unit is along Cumberland Island Wilderness Area and Cumberland Island National Seashore. This unit includes the majority of the eastern Atlantic Ocean shoreline of Cumberland Island. It begins .50 km (.31 mi) north of the inlet at Long Point, continues south along the Atlantic Ocean shoreline stopping 1.8 km (1.1 mi) west of the southern tip of Cumberland Island National Seashore. It includes land from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur.

*Florida (Maps Were Digitized Using 1994–95 DOQQs)*

Unit FL–1: Big Lagoon. 8 ha (19 ac) in Escambia County. The majority of the unit is within Big Lagoon State Recreation Area. This unit includes the peninsula and emerging sand and mudflats between 0.33 km (0.21 mi) west of the lookout tower along the shoreline and 0.24 km (0.15 mi) east of the lookout tower along the shoreline. Land along the shoreline from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur. All emerging sandbars to MLLW are included.

Unit FL–2: Big Sabine. 182 ha (450 ac) in Escambia County. The majority of the unit is owned by the University of West Florida. This unit includes areas adjacent to Santa Rosa Sound of Big Sabine Point and adjacent embayment between 8.0 km (5.0 mi) and 11.6 (7.2 mi) east of the Bob Sike's Bridge. It begins 0.10 km (.06 mi) north of SR 399 to MLLW on the Santa Rosa Sound.

Unit FL–3: Navarre Beach. 48 ha (118 ac) in Escambia and Santa Rosa Counties. The majority of the unit is owned by Eglin Air Force Base and Santa Rosa Island Authority. This unit includes lands on Santa Rosa Island Sound side, between 0.09 and 0.76 mi

east of the eastern end of SR 399 to MLLW on Santa Rosa Sound side.

Unit FL–4: Marifarms in Bay County. Excluded. The proposed rule included this unit, but it was deleted for lack of evidence of regular use by piping plovers.

Unit FL–5: Shell/Crooked Islands. 1789 ha (4419 ac) in Bay County.The majority of the unit is within Tyndall Air Force Base and St. Andrews State Recreation Area. This unit includes all of Shell Island, Crooked Island West, and Crooked Island East from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur.

Unit FL–6: Upper St. Joe Peninsula. 182 ha (449 ac) in Gulf County.The majority of the unit is within St. Joseph State Park. This unit includes the northern portion of the peninsula from the tip to 8.0 km (5.0 mi) south along the Gulf of Mexico from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur.

Unit FL–7: Cape San Blas. 158 ha (390 ac) in Gulf County.The entire unit is within Eglin Air Force Base. This unit includes the area known as the Cape between the eastern boundary of Eglin and mile marker 2.1, including the peninsula and all emerging sandbars. It includes land from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur.

Unit FL–8: St. Vincent Island. 146 ha (361 ac) in Franklin County.The majority of the unit is within St. Vincent National Wildlife Refuge. This unit includes the western tip of St. Vincent Island that is adjacent to Indian Pass (0.80 km (0.50 mi) east of tip along Indian Pass, and 1.9 km (1.2 mi) from tip southeast along Gulf of Mexico). The unit also includes St. Vincent Point from the inlet at Sheepshead Bayou east 1.6 km (1.0 mi) to include emerging oysters shoals and sand bars and extends south 0.21 km (0.13 mi) of St. Vincent Point. The unit includes the southeastern tip of St. Vincent Island extending north 1.4 km (0.90 mi) and south and west 2.1 km (1.3 mi). The western tip of Little St. George Island 0.80 km (0.50 mi) from West Pass is included (state owned lands). All sections of this unit include land from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur.

Unit FL–9: East St. George Island. 1433 ha (3540 ac) in Franklin County. The majority of the unit is within St. George State Park. This unit begins 5.3 km (3.3 mi) east of the bridge and extends to East Pass. Shell Point, Rattlesnake Cove, Goose Island, East Cove, Gap Point, and Marsh Island are included. This unit includes land from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur on the Gulf of Mexico, East Pass and St. George Sound.

Unit FL–10: Yent Bayou. 153 ha (378 ac) in Franklin County. The majority of the unit is State owned. This unit is adjacent to the area known as Royal Bluff. It includes the St. George Sound shoreline between 5.9 km (3.7 mi) and 9.5 km (5.9mi) east of SR 65. It includes from MLLW to where densely vegetated habitat or developed structures such as SR 65, not used by the piping plover, begin and where the constituent elements no longer occur.

Unit FL–11: Carabelle Beach. 56 ha (139 ac) in Franklin County. The area within this unit is privately owned. This unit is the peninsula created by Boggy Jordan Bayou. It includes St. George Sound shoreline (south of US 98) 1.6 km (1.0 mi) southwest along US 98 from the Carrabelle River Bridge and extends 1.9 km (1.2 mi) east along the St. George Sound shoreline. It includes from MLLW to where densely vegetated habitat or developed structures such as US 98, not used by the piping plover, begin and where the constituent elements no longer occur.

Unit FL–12: Lanark Reef. 260 ha (643 ac) in Franklin County. The entire unit is State owned. This unit includes the entire island and emerging sandbars to MLLW.

Unit FL–13: Phipps Preserve. 42 ha (104 ac) in Franklin County. This unit includes all of Phipps Preserve (owned by The Nature Conservancy) and any emerging sandbars from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur.

Unit FL–14: Hagens Cove. 486 ha (1200 ac) in Taylor County. The majority of the unit is within Big Bend Wildlife Management Area. This unit includes all of Hagens Cove and extends from MLLW on north side of Sponge Point to MLLW on south side of Piney Point. The eastern boundary of this unit ends (0.20 mi) west of SR 361. It includes from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur.

Unit FL–15: Anclote Key and North Anclote Bar. 146 ha (360 ac) in Pasco and Pinellas Counties. The majority of the unit is within Anclote Key State Preserve. This unit includes all of North Anclote Bar to the MLLW and the north, south and western sides of Anclote Key from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur.

Unit FL–16: Three Rooker Bar Island. 76 ha (188 ac) in Pinellas County. The majority of the unit is within Pinellas County Aquatic Preserve. This unit includes all the islands and emerging sandbars of this complex to MLLW.

Unit FL–17: North Honeymoon Island. 45 ha (112 ac) in Pinellas County. The majority of the unit is within Honeymoon Island State Recreation Area. This unit includes from Pelican Cove north to the far northern tip of Honeymoon Island. It includes the western shoreline from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur or the MLLW on the eastern shoreline.

Unit FL–18: South Honeymoon Island. 28 ha (70 ac) in Pinellas County.The majority of the unit is private land. This unit includes the southern end (southern-most 0.32 km (0.20 mi) on western side) of Honeymoon Island and encompasses the far southeastern tip and includes any emerging islands or sandbars to Hurricane Pass. It includes from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur.

Unit FL–19: Caladesi Island. 120 ha (296 ac) in Pinellas County.The majority of the unit is within Caladesi Island State Park. This unit extends from Hurricane Pass to Dunedin Pass on the Gulf of Mexico side. It includes from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur.

Unit FL–20: Shell Key and Mullet Key. 190 ha (470 ac) in Pinellas County. The majority of the unit is within Fort Desoto Park. This unit includes the Shell Key island complex. It also includes the northwest portion of Mullet Key including the western shorelines from Bunces Pass extending south, stopping 1.4 km (.86 mi) north of Ft. Desoto County Park pier. It includes from MLLW to where densely vegetated habitat or developed structures, not used by the piping plover, begin and where the constituent elements no longer occur.

Unit FL–21: Egmont Key. 153 ha (377 ac) Hillsborough County. The majority of the unit is within Egmont Key

National Wildlife Refuge. This unit includes the entire island to MLLW.

Unit FL–22: Cayo Costa. 175 ha (432 ac) in Lee County. The majority of the unit, including its northern and southern boundaries, is within Cayo Costa State Park, and nearly all of the remaining area is in the Cayo Costa Florida Conservation and Recreation Lands (CARL) acquisition project. This unit begins at the northern limit of sandy beaches at the northern end of the island, extends through Murdock Point, which at present has a sandbar and lagoon system, and ends at the former entrance to Murdock Bayou. It includes land from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur.

Unit FL–23: North Captiva Island. 36 ha (88 ac) in Lee County.The unit is within the Cayo Costa CARL land purchase project. This unit includes the western shoreline extending from 0.80 km (0.50 mi) south of Captiva Pass to approximately Foster Bay. It includes land from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur.

Unit FL–24: Captiva Island and Sanibel Island in Lee County. Excluded. The proposed rule included this unit, but it was deleted for lack of evidence of regular use by piping plovers.

Unit FL–25: Bunche Beach. 187 ha (461 ac) in Lee County. This unit is mostly within a CARL Estero Bay acquisition project. Bunche Beach (also spelled Bunch) lies along San Carlos Bay, on the mainland between Sanibel Island and Estero Island (Fort Myers Beach), extending east from the Sanibel Causeway past the end of John Morris Road to a canal serving a residential subdivision. The unit also includes the western tip of Estero Island (Bodwitch Point, also spelled Bowditch Point), including Bowditch Regional Park, operated by Lee County and, on the southwest side of the island facing the Gulf, the beach south nearly to the northwesterly intersection of Estero Boulevard and Carlos Circle. It includes land from MLLW to where densely vegetated habitat or developed structures, not used by the piping plover, begin and where the constituent elements no longer occur or, along the developed portion of Estero Island.

Unit FL–26: Estero Island. 86 ha (211 ac) in Lee County. The majority of the unit is privately owned. The unit consists of approximately the southern third of the island's Gulf-facing shoreline starting near Avenida Pescadora to near Redfish Road. The unit excludes south-facing shoreline at the south end of the island that faces Big Carlos Pass rather than the Gulf. It includes land from MLLW to where densely vegetated habitat (including grass or lawns) or developed structures, not used by the piping plover, begin and where the constituent elements no longer occur.

Unit FL–27: Marco Island. 245 ha (606 ac) in Collier County. Most of the unit is at the Tigertail Beach County Park. The unit's northern border is on the north side of Big Marco Pass, including Coconut Island and all emerging sand bars. On the south side of Big Marco Pass, the boundary starts at the north boundary of Tigertail Beach County Park and extends to just south of the fourth condominium tower south of the County Park. The placement of the southern boundary assures that the unit includes all of Sand Dollar Island, the changeable sandbar off Tigertail Beach. The western boundary includes all the sand bars in Big Marco Pass but excludes Hideaway Beach. It includes land from MLLW to where densely vegetated habitat (including grass or lawns) or developed structures, not used by the piping plover, begin and where the constituent elements no longer occur.

Unit FL–28: Marquesas Keys. 2,937 ha (7,256 ac) in Monroe County. The unit comprises the roughly circular atoll that encloses Mooney Harbor, including Gull Keys and Mooney Harbor Key. The entire unit is within Key West National Wildlife Refuge. It includes land from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur.

Unit FL–29: Boca Grande/Woman/Ballast Keys. 56 ha (138 ac) in Monroe County. These Keys are east of the Marquesas Keys and west of Key West. Boca Grande and Woman Keys are within Key West National Wildlife Refuge. Ballast Key is privately owned. This unit consists only of sandy beaches and flats between the MLLW and to where densely vegetated habitat or developed structures, not used by the piping plover, begin and where the constituent elements no longer occur.

Unit FL–30: Bahia Honda/Ohio Keys. 372 ha (918 ac) in Monroe County. This unit comprises Bahia Honda Key (including a small island off its southwest shore), which is almost entirely owned by Bahia Honda State Park, plus Ohio Key, which is privately owned. It includes land from MLLW to where densely vegetated habitat (including grass or lawns) or developed structures, not used by the piping plover, begin and where the constituent elements no longer occur.

Unit FL–31: Lower Matecumbe Key. 19 ha (48 ac) in Monroe County. Part of the unit is at Anne's Beach park, an Islamorada village park. The remaining parts are at Sunset Drive (Lower Matecumbe Beach) and at Costa Bravo Drive (Port Antiqua Homeowners Beach) on the Florida Bay side of the island. It includes land from MLLW to where densely vegetated habitat (including grass or lawns) or developed structures, not used by the piping plover, begin and where the constituent elements no longer occur.

Unit FL–32: Sandy Key/Carl Ross Key. 67 ha (165 ac) in Monroe County. This unit consists of two adjoining islands in Florida Bay, roughly south of Flamingo in Everglades National Park. The entire area is owned and managed by the National Park Service. It includes land from MLLW to where densely vegetated habitat (including grass or lawns) or developed structures, not used by the piping plover, begin and where the constituent elements no longer occur.

Unit FL–33: St. Lucie Inlet. 114 ha (282 ac) in Martin County. The unit includes a small area south of the jetty on the north shore of St. Lucie Inlet, from the jetty west 0.42 km (0.26 mi). While the two sides of the inlet are privately owned, the great majority of the unit is on public land in the Saint Lucie Inlet State Preserve, administered by Jonathan Dickinson State Park. It begins on the sandy shoreline south of Saint Lucie Inlet and extends along the Atlantic Ocean shoreline 2.6 km (1.6 mi). It includes land from MLLW to where densely vegetated habitat (including grass or lawns) or developed structures, not used by the piping plover, begin and where the constituent elements no longer occur. The unit does not include sandbars within the inlet.

Unit FL–34: Ponce de Leon Inlet. 68 ha (168 ac) in Volusia County. The majority of the unit is within Smyrna Dunes Park and Lighthouse Point Park. This unit includes shoreline extending from the jetty north of Ponce de Leon Inlet west to the Halifax River and Inlet junction. It includes shoreline south of Ponce de Leon Inlet from the inlet and Halifax River junction, extending east and south along the Atlantic Ocean shoreline 1.2 km (.70 mi). It includes land from MLLW to where densely vegetated habitat (including grass or lawns) or developed structures, not used by the piping plover, begin and where the constituent elements no longer occur.

Unit FL–35: Nassau Sound-Huguenot. 950 ha (2347 ac) in Duval County. The majority of the unit is within Big Talbot Island State Park, Little Talbot Island

State Park, and the Timucuan Ecological and Historical Preserve. This unit includes all emergent shoals and shoreline east of Nassau River bridge and extends to the inlet of the St. John's River. Amelia Island and the northern 2.7 km (1.7 mi) shoreline along Talbot Island are not included. It includes land from MLLW to where densely vegetated habitat (including grass or lawns) or developed structures, not used by the piping plover, begin and where the constituent elements no longer occur.

Unit FL–36: Tiger Islands. 53 ha (130 ac) in Nassau County. This unit is privately owned. This unit extends from the mouth of Tiger Creek and runs north along Tiger Island 0.8 km (0.5 mi) and south along Little Tiger Island 1.4 km (0.9 mi). It includes land from MLLW to where densely vegetated habitat (including grass or lawns) or developed structures, not used by the piping plover, begin and where the constituent elements no longer occur. Emerging sandbars to MLLW are also included.

*Alabama (Maps Were Digitized Using 1992 DOQQs)*

Unit AL–1: Isle Aux Herbes. 227 ha (561 ac) in Mobile County. This unit includes the entire Isle Aux Herbes island where primary constituent elements occur to MLLW and is State-owned.

Unit AL–2: Dauphin, Little Dauphin, and Pelican Islands. 880 ha (2,174 ac) in Mobile County. This unit includes all of Dauphin Island where primary constituent elements occur from St. Stephens Street approximately 17.6 km (10.9 mi) west to the western tip of the island to MLLW and all of Little Dauphin and Pelican Islands to MLLW. The area is mostly privately owned but includes State and Federal lands.

Unit AL–3: Fort Morgan. 67 ha (166 ac) in Baldwin County. This area includes Mobile Bay and Gulf of Mexico shorelines within Bon Secour National Wildlife Refuge, Fort Morgan Unit. This unit extends from the west side of the pier on the northwest point of the peninsula, following the shoreline approximately 2.8 km (1.74 mi) southwest around the tip of the peninsula, then east to the terminus of the beach access road and is bounded on the seaward side by MLLW and on the landward side to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur. The area is State-owned but is leased by the Federal Government.

*Mississippi (Maps Were Digitized Using 1992 and 1997 DOQQs)*

Unit MS–1: Lakeshore through Bay St. Louis. 41 ha (101 ac) in Hancock County. This unit extends from the north side of Bryan Bayou outlet and includes the shore of the Mississippi Sound following the shoreline northeast approximately 15.0 km (9.3 mi) and ending at the southeast side of the Bay Waveland Yacht Club. The landward boundary of this unit follows the Gulf side of South and North Beach Boulevard and the seaward boundary is MLLW. The shoreline of this unit is privately owned.

Unit MS–2: Henderson Point. 34 ha (84 ac) in Harrison County. This unit extends from 0.2 km (0.12 mi) west of the intersection of 3rd Avenue and Front Street and includes the shore of the Mississippi Sound following the shoreline northeast approximately 4.4 km (2.7 mi) to the west side of Pass Christian Harbor. The landward boundary of this unit follows the Gulf side of U.S. Highway 90 and the seaward boundary is MLLW. The shoreline of this unit is privately owned.

Unit MS–3: Pass Christian. 77 ha (190 ac) in Harrison County. This unit extends from the east side of Pass Christian Harbor and includes the shore of the Mississippi Sound following the shoreline northeast approximately 10.5 km (6.5 mi) to the west side of Long Beach Pier and Harbor. The landward boundary of this unit follows the Gulf side of U.S. Highway 90 and the seaward boundary is MLLW and the seaward boundary is MLLW. The shoreline of this unit is privately owned.

Unit MS–4: Long Beach. 38 ha (94 ac) in Harrison County. This unit extends from the east side of Long Beach Pier and Harbor and includes the shore of the Mississippi Sound following the shoreline northeast approximately 4.4 km (2.7 mi) to the west side of Gulfport Harbor. The landward boundary of this unit follows the Gulf side of U.S. Highway 90 and the seaward boundary is MLLW. The shoreline of this unit is privately owned.

Unit MS–5: Gulfport. 39 ha (96 ac) in Harrison County. This unit extends from the east side of Gulfport Harbor and includes the shore of the Mississippi Sound following the shoreline northeast approximately 4.8 km (3.0 mi) to the west side of the groin at the southern terminus of Courthouse Road, Mississippi City, MS. The landward boundary of this unit follows the Gulf side of U.S. Highway 90 and the seaward boundary is MLLW. The shoreline of this unit is privately owned.

Unit MS–6: Mississippi City. 62 ha (153 ac) in Harrison County. This unit extends from the east side of the groin at the southern terminus of Courthouse Road, Mississippi City, MS, and includes the shore of the Mississippi Sound following the shoreline northeast approximately 7.9 km (4.9 mi) to the west side of President Casino. The landward boundary of this unit follows the Gulf side of U.S. Highway 90 and the seaward boundary is MLLW. The shoreline of this unit is privately owned.

Unit MS–7: Beauvoir in Harrison County. Excluded. The proposed rule included this unit, but it was deleted for lack of evidence of regular use by piping plovers.

Unit MS–8: Biloxi West in Harrison County. Excluded. The proposed rule included this unit, but it was deleted for lack of evidence of regular use by piping plovers.

Unit MS–9: Biloxi East in Harrison County. Excluded. The proposed rule included this unit, but it was deleted for lack of evidence of regular use by piping plovers.

Unit MS–10: Ocean Springs West. 11 ha (27 ac) in Jackson County. This unit extends from U.S. 90 and includes the shore of Biloxi Bay following the shoreline southeast approximately 1.9 km (1.2 mi) to the Ocean Springs Harbor inlet. The landward boundary of this unit follows the Bay side of Front Beach Drive and the seaward boundary is MLLW. The shoreline of this unit is privately owned.

Unit MS–11: Ocean Springs East. 7 ha (17 ac) in Jackson County. This unit extends from the east side of Weeks Bayou and includes the shore of Biloxi Bay following the shoreline southeast approximately 1.8 km (1.1 mi) to Halstead Bayou. The landward boundary of this unit follows the Bay side of East Beach Drive and the seaward boundary is MLLW. The shoreline of this unit is privately owned.

Unit MS–12: Deer Island. 194 ha (479 ac) in Harrison County. This unit includes all of Deer Island, where primary constituent elements occur to the MLWW . Deer Island is privately owned.

Unit MS–13: Round Island. 27 ha (67 ac) in Jackson County. This unit includes all of Round Island to the MLWW and is privately owned

Unit MS–14: Mississippi Barrier Islands. 3,168 ha (7,828 ac) in Harrison and Jackson Counties. This unit includes all of Cat, East and West Ship, Horn, Spoil, and Petit Bois Islands

where primary constituent elements occur to MLLW. Cat Island is privately owned, and the remaining islands are part of the Gulf Islands National Seashore.

Unit MS–15: North and South Rigolets. 159 ha (393 ac) in Jackson County, MS, and 12 ha (30 ac) in Mobile County, AL. This unit extends from the southwestern tip of South Rigolets Island and includes the shore of Point Aux Chenes Bay, the Mississippi Sound, and Grand Bay following the shoreline east around the western tip, then north to the south side of South Rigolets Bayou; then from the north side of South Rigolets Bayou (the southeastern corner of North Rigolets Island) north to the northeastern most point of North Rigolets Island. This shoreline is bounded on the seaward side by MLLW and on the landward side to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur. Approximately 4.4 km (2.7 mi) are in Mississippi and 2.9 km (1.8 mi) are in Alabama. Almost half the Mississippi shoreline length is in the Grand Bay National Wildlife Refuge.

*Louisiana (Maps Were Digitized Using 1998 DOQQs)*

Unit LA–1: Texas/Louisiana border to Cheniere au Tigre. 2,650 ha (6,548 ac) in Cameron and Vermilion Parishes. This unit extends from the east side of Sabine Pass (Texas/Louisiana border) and includes the shore of the Gulf of Mexico from the MLLW following the shoreline east 25.7 km (16.0 mi) to the west end of Constance Beach [approximately 2 km (1.2 mi) east of the intersection of Parish Road 528 and the beach]; it extends from the east end of the town of Holly Beach [0.25 km (0.16 mi) east of the intersection of Baritarick Boulevard and the beach] following the shoreline approximately 97 km (60.3 mi) east to the eastern boundary line of Rockefeller Wildlife Refuge [3.4 km (2.1 mi) east of Rollover Bayou]; and it extends from the east side of Freshwater Bayou Canal following the shoreline east for approximately 15 km (9.3 mi) to 1.3 km (0.81 mi) east of where the boundary of Paul J. Rainey Wildlife Sanctuary (National Audubon Society) meets the shoreline. All three sections of this unit include the land from the seaward boundary of MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur. The shoreline in this unit is both state and privately owned.

Unit LA–2: Atchafalaya River Delta. 921 ha (2,276 ac) in St. Mary Parish, LA. This unit is located in the eastern portion of the State-owned Atchafalaya Delta Wildlife Management Area (WMA) and includes all exposed land and islands where primary constituent elements occur east and southeast of the main navigation channel of the Atchafalaya River to the MLLW. The islands located south and southeast of the deltaic splay, Donna, T-Pat, and Skimmer Islands and the un-named bird island, are also included in this unit. This unit includes the entire islands where primary constituent elements occur to the MLLW.

Unit LA–3: Point Au Fer Island. 195 ha (482 ac) in Terrebonne Parish. This unit includes the entire small island at the northwest tip of Point Au Fer Island to MLLW, then extends from the northwest tip of Point Au Fer Island following the shoreline southeast approximately 7.7 km (4.8 mi) to the point where the un-named oil and gas canal extending southeast from Locust Bayou meets the shoreline [0.8 km (0.5 mi) southeast from Locust Bayou]. This shoreline is bounded on the seaward side by MLLW and on the landward side to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur. This entire unit is privately owned.

Unit LA–4: Isles Dernieres. 795 ha (1,964 ac) in Terrebonne Parish. This unit includes the State-owned Isles Dernieres chain, including Raccoon, Whiskey, Trinity and East Islands. This unit includes the entire islands where primary constituent elements occur to the MLLW.

Unit LA–5: Timbalier Island to East Grand Terre Island. 2,321 ha (5,735 ac) in Terrebonne, Lafourche, Jefferson, and Plaquemines Parishes. This unit includes: all of Timbalier Island where primary constituent elements occur to the MLLW, all of Belle Pass West [the ''peninsula'' extending north/northwest approximately 4.8 km (3.0 mi) from the west side of Belle Pass] where primary constituent elements occur to MLLW; the Gulf shoreline extending approximately 11 km (6.8 mi) east from the east side of Belle Pass bounded on the seaward side by MLLW and on the landward side to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur; all of Elmers Island peninsula where primary constituent elements occur to MLLW and the Gulf shoreline from Elmers Island to approximately 0.9 km (0.56 mi) west of Bayou Thunder Von Tranc bounded on the seaward side by MLLW and on the landward side to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur; the Gulf shoreline of Grand Isle from the Gulf side of the hurricane protection levee to MLLW; and all of East Grand Terre Island where primary constituent elements occur to the MLLW.

Unit LA–6: Mississippi River Delta. 105 ha (259 ac) in Plaquemines Parish, LA. This unit is part of the State-owned Pass a Loutre Wildlife Management Area and includes un-named sand (spoil) islands off South Pass of the Mississippi River near Port Eads. The entire islands to MLLW are included in this unit.

Unit LA–7: Breton Islands and Chandeleur Island Chain. 3,116 ha (7,700 ac) in Plaquemines and St. Bernard Parishes, LA. This unit includes Breton, Grand Gosier, and Curlew Islands and the Chandeleur Island chain. Those islands are part of the Breton National Wildlife Refuge or are state owned. The entire islands where primary constituent elements occur to MLLW are included in this unit.

*Texas (Maps Were Digitized Using 1995 and 1996 DOQQs and National Oceanic and Atmospheric Administration's (NOAA) Medium Resolution Digital Vector Shoreline)*

Unit TX–1: South Bay and Boca Chica. 2,920 ha (7,217 ac) in Cameron County. The boundaries of the unit are: starting at the Loma Ochoa, following the Brownsville Ship Channel to the northeast out into the Gulf of Mexico to MLLW, then south along a line describing MLLW to the mouth of the Rio Grande, proceeding up the Rio Grande to Loma de Las Vacas, then from that point along a straight line north to Loma Ochoa. The unit does not include densely vegetated habitat within those boundaries. It includes wind tidal flats that are infrequently inundated by seasonal winds, and includes the tidal flats area known as South Bay. Beaches within the unit reach from the mouth of the Rio Grande northward to Brazos Santiago Pass, south of South Padre Island. The southern and western boundaries follow the change in habitat from wind tidal flat, preferred by the piping plover, to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur. The upland areas extend to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur and include areas used for roosting by the piping plover. Portions of this unit are owned and managed by the Lower Rio Grande Valley National Wildlife

Refuge, the South Bay Coastal Preserve, Boca Chica State Park, and private citizens.

Unit TX–2: Queen Isabella Causeway. 2 ha (6 ac) in Cameron County. The area extends along the Laguna Madre west of the city of South Padre Island. The southern boundary is the Queen Isabella State Fishing Pier, and the northern boundary is at the shoreline due west of the end of Sunny Isles Street. The Queen Isabella causeway bisects this shore but is not included within critical habitat. The eastern boundary is the where developed areas and/or dense vegetation begins, and the western boundary is MLLW. This unit contains lands known as wind tidal flats that are infrequently inundated by seasonal winds.

Unit TX–3: Padre Island. 10,924 ha (26,983 ac) in Cameron, Willacy, Kenedy, and Kleberg Counties. This unit consists of four subunits:

(1) The southern boundary of this subunit is at Andy Bowie County Park in South Padre Island, and the northern boundary is the south boundary of PAIS. The eastern boundary is MLLW in the Gulf of Mexico, and the western boundary is MLLW in the Laguna Madre. Areas of dense vegetation are not included in critical habitat. This subunit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

(2) The boundaries of this subunit extend from Rincon de la Soledad to the southeast point of Mesquite Rincon, continue from that point west to the Laguna Madre shoreline at its intersection with the King Ranch boundary, and from that point to Rincon de la Soledad. This subunit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

(3) This subunit is within the Laguna Madre and extends from the western boundary of PAIS to the Gulf Intercoastal Waterway. Its northern boundary is a line extending westward from the northwest corner of PAIS, and its southern boundary is a line extending westward from the southern boundary of PAIS. This subunit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

(4) This subunit extends along the gulf shore of Padre Island from the northern boundary of PIAS at the shore, north to the Nueces-Kleberg county line. The inland boundary is where dense vegetation begins, and the seaward boundary is MLLW. This subunit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

Portions of this unit are owned and managed by TGLO, and private citizens with a significant portion being owned and managed by The Nature Conservancy on South Padre Island.

Unit TX–4: Lower Laguna Madre Mainland. 4,980 ha (12,307 ac) in Cameron and Willacy Counties. The southern boundary is an east-west line at the northern tip of Barclay Island, and the southern boundary is an east-west line 0.9 km (0.5 mi) south of the boundary of the City of Port Mansfield; the western boundary is the line where dense vegetation begins, and the eastern boundary is the Gulf Intercoastal Waterway. The unit includes bayside flats that are exposed during low tide regimes and wind tidal flats that are infrequently inundated by seasonal winds. Portions of this unit are within the Laguna Atascosa National Wildlife Refuge, are TGLO-owned, or are privately owned. Beaches and interior wetlands may or may not be used each year because of varying water levels, storm events, or changes in beach characteristics and tidal regime. Water stages vary in this area with meteorological conditions. The upland areas extend to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur and include upland areas used for roosting by the piping plover.

Unit TX–5: Upper Laguna Madre. 436 ha (1,076 ac) in Kleberg County. The southern boundary is the northern boundary of PAIS, and the northern boundary is the Kleberg/Nueces County line. The eastern boundary is the line where dense vegetation begins, and the western boundary is MLLW. This unit includes a series of small flats along the bayside of Padre Island in the Upper Laguna Madre. It includes wind tidal flats and sparsely-vegtated upland areas used for roosting by the piping plover. These boundaries receive heavy use by large numbers of shorebirds, including piping plovers. The upland areas extend to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur, and include upland areas used for roosting by the piping plover.

Unit TX–6: Mollie Beattie Coastal Habitat. 241 ha (596 ac) in Nueces County. This unit will be described as two subunits:

(1) Subunit is bounded on the north by Beach Access Road 3, on the east by the inland boundary of critical habitat Unit TX–7, on the south by Zahn road, and on the west by Zahn Road.

(2) The subunit is bounded on the north by Corpus Christi Pass, on the east by US 361, on the south by the north side of Packery Channel, and on the west by the Gulf Intercoastal Watersay.

Some of the uplands are privately owned and the remaining are owned and managed by the TGLO. This unit includes two hurricane washover passes known as Newport and Corpus Christi Passes, and wind tidal flats that are infrequently inundated by seasonal winds. The upland areas extend to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur and include upland areas used for roosting by the piping plover.

Unit TX–7: Newport Pass/Corpus Christi Pass Beach. 42 ha (104 ac) in Nueces County. This unit is along a stretch of Gulf beach 8.5 km (5.3 mi) long. It is bounded on the north by Fish Pass, on the east by MLLW, on the south by St. Bartholomew Avenue, and on the west by a line marking the beginning of dense vegetation. Portions of the unit are managed by the Texas Parks and Wildlife Department as part of Mustang Island State Park. This unit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

Unit TX–8: Mustang Island Beach. 97 ha (239 ac) in Nueces County. This is a stretch of Gulf beach extending from Fish Pass to the Horace Caldwell Pier on Holiday Beach within the City of Port Aransas, TX. The landward boundary is beginning of dense vegetation, and the gulf-ward boundary is MLLW. This unit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

Unit TX–9: Fish Pass Lagoons. 130 ha (323 ac) in Nueces County. This unit encompasses flats facing Corpus Christi Bay that extend 1.0 km (0.6 mi) on either side of Fish Pass. The inland boundary is the line indicating beginning of dense vegetation, and the bayside boundary is MLLW. It includes interior lagoons and wind tidal flats that are infrequently inundated by seasonal winds. This unit includes upland areas used for roosting by the piping plover.

Unit TX–10: Shamrock Island and Adjacent Mustang Island Flats. 87 ha (216 ac) in Nueces County. This unit encompasses Shamrock Island, an unnamed small sand flat to the north of Wilson's Cut, and a lagoon complex that extends 3.5 km (2.2 mi) to the southwest of Wilson's Cut. Critical habitat includes land to the line marking the beginning of dense vegetation down to MLLW. This unit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

Unit TX–11: Blind Oso. 2 ha (5 ac) in Nueces County. This unit is the flats of the Blind Oso, part of Oso Bay, from

Hans and Pat Suter Wildlife Refuge (owned and managed by the City of Corpus Christi) northeast to Corpus Christi Bay and then southeast along the edge of Texas A&M University—Corpus Christi. The landward boundaries extend to where densely vegetated habitat, not used by the piping plover, begins, and extends out from the landward boundaries to MLLW. This unit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

Unit TX–12: Adjacent to Naval Air Station-Corpus Christi. 2 ha (6 ac) in Nueces County. This unit is along the shore of Oso Bay on flats bordered by Naval Air Station-Corpus Christi and Texas Spur 3 to a point 2.5 km (1.5 mi) south of the bridge between Ward Island and the Naval Air Station. The landward boundary is the line where dense vegetation begins, and the boundary in the Bay is MLLW. This unit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

Unit TX–13: Sunset Lake. 176 ha (435 ac) in San Patricio County. This unit is triangle shaped, with State Highway 181 as the northwest boundary, and the limits of the City of Portland as the northeast boundary. The shore on Corpus Christi Bay is the third side of the triangle, with the actual boundary being MLLW off this shore. This unit is a large basin with a series of tidal ponds, sand spits and wind tidal flats. This unit is owned and managed by the City of Portland within a system of city parks. Some of the described area falls within the jurisdiction of the TGLO. It includes two city park units referred to as Indian Point and Sunset Lake. Much of the unit is a recent acquisition by the city, and management considerations for the park include the area's importance as a site for wintering and resident shorebirds. This unit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

Unit TX–14: East Flats. 194 ha (481 ac) in Nueces County. This unit is bordered on the north by dredge placement areas bordering the Corpus Christi Ship Channel, on the west by MLLW in Corpus Christi Bay, on the east by the limits of the City of Port Aransas, and on the south by an east-west line at the sourthern-most point of Pelone Island. It is also bisected by a navigation channel, which is not included in the critical habitat. A portion of this unit at the west end falls within State-owned (TGLO) intertidal lands. The remainder of the unit is privately owned. The upland areas extend to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur, including upland areas used for roosting by the piping plover. This unit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

Unit TX–15: North Pass. 447 ha (1,106 ac) in Aransas County. The unit is bounded on north by North Pass, on the northwest by the line indicating MLLW, on the southwest by the northeast side of Lydia Ann Island, on the south by a line running due east from the northeast side of Lydia Ann Island, and on the southeast by the landward boundary of Unit. This unit is a remnant of a hurricane washover on the privately owned San Jose Island. The upland areas extend to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur, including upland areas used for roosting by the piping plover. This unit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

Unit TX–16: San Jose Beach. 187 ha (463 ac) in Aransas County. This unit occupies a 33 km (20 mi) stretch of beach from the North Jetty of Aransas Pass at the south, to the confluence of Vinson Slough and Cedar Bayou at the north end of San Jose Island. The inland boundary is the line indicating the beginning of densely vegetated habitat, and the gulf-ward boundary is MLLW. This unit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

Unit TX–17: Allyn's Bight. 5 ha (14 ac) in Aransas County. This unit includes shoreline of San Jose Island on Aransas Bay from Allyn's Bight to Blind Pass, the channel between San Jose Island and Mud Island. The inland boundary is where the line of dense vegetation begins, and the bay-ward boundary is MLLW. This unit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

Unit TX–18: Cedar Bayou/Vinson Slough. 3,051 ha (7,539 ac) in Aransas County. Beginning at the confluence of Vinson Slough and Cedar Bayou, this unit's boundary follows the shore of Spalding Cove to Long Reef, then continues along a line extending (2.5 mi) southwest of Long Reef to the shore of San Jose Island, then along the shore of the island to the landward boundary of Unit TX–16. The unit boundaries extend landward to the line indicating the beginning of dense vegetation. This unit is a remnant of a hurricane washover area, and includes the highly dynamic area of Cedar Bayou, the pass that separates San Jose Island and Matagorda Island. This area includes a small section of Matagorda Island National Wildlife Refuge with much of the remaining areas occurring on the privately owned island of San Jose. The upland areas extend to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur and include upland areas used for roosting by the piping plover. This unit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

Unit TX–19: Matagorda Island Beach. 395 ha (976 ac) in Calhoun County. This stretch of beach along the Gulf of Mexico on Matagorda Island extends a distance of 60 km (36 mi) from Cedar Bayou on the southwest (where it abuts TX–18), to Pass Cavallo on the northeast. The inland boundary is the line indicating the beginning of dense vegetation, and the gulf-ward boundary is MLLW. This unit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds. The unit falls entirely within the boundary of the Matagorda Island National Wildlife Refuge.

Unit TX–20: Ayers Point. 397 ha (982 ac) in Calhoun County. This unit is an unnamed lake on Matagorda Island between Shell Reef Bayou and Big Brundrett Lake, with San Antonio Bay to the north. The unit boundary extends landward from the lake to the line where dense vegetation begins and where the constituent elements no longer occur and includes upland areas used for roosting by the piping plover. This unit includes marsh and flats at Ayers Point on Matagorda Island National Wildlife Refuge. This unit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

Unit TX–21: Panther Point to Pringle Lake. 863 ha (2,133 ac) in Calhoun County. This unit represents a narrow band of bayside habitats on Matagorda Island from Panther Point to the northeast end of Pringle Lake. The landward boundary is the line indicating where dense vegetation begins, and the bayward boundary is MLLW. The unit is entirely within Matagorda Island National Wildlife Refuge. This unit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

Unit TX–22: Decros Point. 450 ha (1,114 ac) at the Matagorda/Calhoun County line. This unit includes about 7.0 km (4.3 mi) of beach habitat around the island at the western tip of Matagorda Peninsula between the

natural opening to Matagorda Bay and the Matagorda Ship Channel. The upland boundary is the line where dense vegetation begins, and the seaward boundary is MLLW. The adjacent upland is privately owned. This unit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

Unit TX–23: West Matagorda Peninsula Beach. 311 ha (769 ac) of shoreline in Matagorda County. This unit extends 40 km (24 mi) along the Gulf of Mexico from the jetties at the Matagorda Ship Channel to the old Colorado River channel. The inland boundary is the line indicating where dense vegetation begins, and the gulfside boundary is MLLW. This unit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

Unit TX–24: West Matagorda Bay/ Western Peninsula Flats. 756 ha (1,868 ac) in Matagorda County. This unit extends along the bayside of Matagorda Peninsula from 7.5 southwest of Greens Bayou to 2.5 km (1.6 mi) northwest of Greens Bayou. The landward boundary is the line indicating the beginning of dense vegetation, and the bayside boundary is MLLW. This unit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

Unit TX–25: West Matagorda Bay/ Eastern Peninsula Flats. 232 ha (575 ac) in Matagorda County. This unit follows the bayside of Matagorda Peninsula from Maverick Slough southwest for 5 km (3 mi). The unit begins at Maverick Slough to the northeast and extends 5 km (3 mi) to the southwest, enclosing a series of flats along Matagorda Bay. The upland areas extend to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur and include upland areas used for roosting by the piping plover. This unit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

Unit TX–26: Colorado River Diversion Delta. 5 ha (13 ac) in Matagorda County. This unit consists follows the shore of the extreme eastern northeast corner of West Matagorda Bay from Culver Cut to Dog Island Reef. The southeastern tidally emergent portion of Dog Island Reef is included within the unit. The landward boundary is the line indicating the beginning of dense vegetation, and the bayside boundary is MLLW. The upland areas includes upland areas used for roosting by the piping plover. This unit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

Unit TX–27: East Matagorda Bay/ Matagorda Peninsula Beach West. 295 (728 ac) of shoreline in Matagorda County. This unit extends along Gulf beach on the Matagorda Peninsula from the mouth of the Colorado River northeast along the peninsula 23 km (14 mi) to a point on the beach opposite Eidelbach Flats. The landward boundary is the line indicating the beginning of dense vegetation, and the gulfside boundary is MLLW. This unit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

Unit TX–28: East Matagorda Bay/ Matagorda Peninsula Beach East. 129 ha (321 ac) in Matagorda County. This unit extends along the Gulf beach on the northeast end of Matagorda Peninsula from a point 0.8 km (0.5mi) southwest of FM 457 southwest 10 km (6 mi.) to the southwest side of Brown Cedar Cut. This unit abuts with Unit TX–29 to the north. The landward boundary is the line indicating the beginning of dense vegetation, and the gulfside boundary is MLLW. This unit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

Unit TX–29: Brown Cedar Cut. 119 ha (294 ac) in Matagorda County. This unit extends 2 km (1.2 m.) both southwest and northeast of the main channel of Brown Cedar Cut along the bayside of Matagorda Peninsula in East Matagorda Bay, and abuts unit TX–28 to the southeast. The landward boundary is the line indicating the beginning of dense vegetation, and the bayside boundary is MLLW. The eastern boundary of TX–29 follows the change in habitat from mud flats preferred by the piping plover, to slightly vegetated dune system adjacent to TX–28. This unit includes upland areas used for roosting by the piping plover. This unit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

Unit TX–30: Northeast Corner East Matagorda Bay. 120 ha (297 ac) in Matagorda County. This is a unit bounded on the north by the Gulf Intercoastal Waterway, on the east by the northeast limit of Matagorda bay up the line where dense vegetation begins, on the south by the boundary of Unit TX–28, and on the west by MLLW. It is a system of flats associated with tidal channels. This unit includes upland areas used for roosting by the piping plover and lands known as wind tidal flats that are infrequently inundated by seasonal winds.

Unit TX–31: San Bernard NWR Beach. 166 ha (410 ac) in Matagorda and Brazoria Counties. This is a unit composed of Gulf beach, 8.0 km (5.0 mi), and extends from the mouth of the San Bernard River to a point along the beach 14.0 km (8.7 mi) to the southwest. The landward boundary is the line indicating the beginning of dense vegetation, and the gulfside boundary is MLLW. This unit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

Unit TX–32: Gulf Beach Between Brazos and San Bernard Rivers. 108 ha (269 ac) of shoreline in Brazoria County. This unit is a segment of Gulf beach between the Brazos River and the San Bernard River. This unit borders an area known as Wolf Island. The landward boundary is the line indicating the beginning of dense vegetation, and the gulfside boundary is MLLW. This unit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

Unit TX–33: Bryan Beach and Adjacent Beach. 157 ha (388 ac) in Brazoria County. The boundaries enclose a length of Gulf beach between the mouth of the Brazos River and FM 1495. The landward boundary is the line indicating the beginning of dense vegetation, and the gulfside boundary is MLLW. A portion of this area is owned and managed by the Texas Parks and Wildlife Department. This unit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

Unit TX–34: San Luis Pass. 110 ha (272 ac) near the Brazoria/Galveston County line. This unit extends along the Gulf side of Galveston Island from San Luis Pass to the cite of the former town of Red Fish Cove (USGS 1:24,000 map, San Luis Pass, Texas; 1963, photorevision 1974). The landward boundary is the line indicating the beginning of dense vegetation, and the gulfside boundary is MLLW. Approximately 57 percent of the unit includes flats in the floodtide delta that are State-owned and managed by the TGLO. This unit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

Unit TX–35: Big Reef. 47 ha (117 ac) in Galveston County. This unit consists of beach and sand flats on the north, west, and east shore of Big Reef, down to MLLW. South Jetty is not included. The area is currently managed by the City of Galveston. This unit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

Unit TX–36: Bolivar Flats. 160 ha (395 ac) in Galveston County. This unit extends from the jetties on the southwest end of the Bolivar Peninsula

to a point on the Gulf beach 1 km (0.6 mi) north of Beacon Bayou. It includes 5.0 km (3 mi) of Gulf shoreline. The landward boundary is the line indicating the beginning of dense vegetation, and the gulfside boundary is MLLW. The area is leased from TGLO by Houston Audubon Society and managed for its important avian resources. The upland areas are used for roosting by the piping plover. This unit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

Unit TX–37: Rollover Pass. 6 ha (16 ac) in Galveston County. This unit consists of Rollover Bay on the bayside of Bolivar Peninsula. The landward boundary is the line indicating the beginning of dense vegetation, and the bayside boundary is MLLW. It includes flats on State-owned land managed by the TGLO. This unit captures the intertidal complex of the bay, and is bounded by the towns of Gilchrist to the east and the Gulf beach of the Bolivar Peninsula to the south. This unit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

*Effects of Critical Habitat Designation*

Section 7(a)(2) of the Act requires Federal agencies, including the Service, to ensure that actions they fund, authorize, or carry out do not destroy or adversely modify critical habitat to the extent that the action appreciably diminishes the value of the critical habitat for the survival and recovery of the species. For wintering piping plovers, we will conduct our destruction and adverse modification analyses over the entire critical habitat designation and on a unit basis, where appropriate. A consultation focuses on the entire critical habitat area designated unless the critical habitat rule identifies another basis for analysis, such as discrete units and/or groups of units necessary for different life-cycle phases, units representing distinctive habitat characteristics or gene pools, or units fulfilling essential geographic distribution requirements. In the case of the piping plover, we cannot always currently identify the breeding population origin of birds on the winter range. As we continue to collect information on banded birds, future additional information may allow us to analyze jeopardy and adverse modification on the basis of the identified population origin and individual units or groups of units. That is, some designated critical habitat units may fulfill essential geographic distribution requirements for the endangered Great Lakes breeding population of piping plover and therefore the adverse modification analysis may be appropriate at the unit or groups of units level. To be considered ''destruction or adverse modification,'' a modification of critical habitat must be of such magnitude that the effect appreciably reduces the value of the critical habitat for the survival and recovery of the listed species. Individuals, organizations, States, local governments, and other non-Federal entities are affected by the designation of critical habitat only if their actions occur on Federal lands, require a Federal permit, license, or other authorization, or involve Federal funding.

Section 7(a) of the Act 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 designated or proposed. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR part 402. Section 7(a)(2) requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of such a 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 consultation with us. Through this consultation, we would advise the agencies whether the permitted actions would likely jeopardize the continued existence of the species or adversely modify critical habitat.

When we issue a biological opinion concluding that a project is likely to result in the destruction or adverse modification of critical habitat, we also provide reasonable and prudent alternatives to the project, if any are identifiable. Reasonable and prudent alternatives are defined at 50 CFR 402.02 as alternative actions identified during consultation that can be implemented in a manner consistent with the intended purpose of the action, that are consistent with the scope of the Federal agency's legal authority and jurisdiction, that are economically and technologically feasible, and that the Service believes would avoid the likelihood of jeopardizing the continued existence of listed species or the destruction or adverse modification of critical habitat. Reasonable and prudent alternatives can vary from slight project modifications to extensive redesign or relocation of the project. Costs associated with implementing a reasonable and prudent alternative are similarly variable.

Regulations at 50 CFR 402.16 require Federal agencies to reinitiate consultation on previously reviewed actions in instances where critical habitat is subsequently designated and the Federal agency has retained discretionary involvement or control over the action or such discretionary involvement or control is authorized by law. Consequently, some Federal agencies may request reinitiation of consultation with us on actions for which formal consultation has been completed, if those actions may affect designated critical habitat.

Activities on private or State lands requiring a permit from a Federal agency, such as a permit from the U.S. Army Corps of Engineers (COE) under section 404 of the Clean Water Act or a section 10(a)(1)(B) permit from the Service, or some other Federal action, including funding (e.g., from the Federal Highway Administration (FHA), Environmental Protection Agency (EPA), or Federal Emergency Management Agency (FEMA)), will also be subject to the section 7 consultation process. Federal actions not affecting listed species or critical habitat, and actions on non-Federal lands that are not federally funded, authorized, or permitted do not require section 7 consultation.

Critical habitat does not include existing developed sites consisting of buildings, marinas, paved areas, boat ramps, exposed oil and gas pipelines and similar structures. Since existing developed sites, such as those described above, do not contain the primary constituent elements, they are not included in the definition of critical habitat for the piping plover.

Section 4(b)(8) of the Act requires us to briefly evaluate and describe in any proposed or final regulation that designates critical habitat those activities involving a Federal action that may destroy or adversely modify such habitat, or that may be affected by such designation. Activities that may destroy or adversely modify critical habitat include those that alter the primary constituent elements to an extent that the value of critical habitat for both the survival and recovery of the wintering piping plover is appreciably reduced. We note that such activities would also likely jeopardize the continued existence of the species, and that any reasonable and prudent alternatives to remove jeopardy would be similar to those removing adverse modification. Thus, critical habitat designation is unlikely to appreciably affect the outcomes of section 7 consultations. However, we note that some Federal agencies may initiate consultation more

often than before because critical habitat has increased their awareness of the species.

Federal activities that have undergone previous section 7 consultation on the effects of the action on wintering piping plover habitat are listed below. The action agencies involved in these consultations have included the COE, U.S. Coast Guard, and other Department of Defense agencies, National Park Service, FHA, Minerals Management Service, Bureau of Land Management, and Federal Energy Regulatory Commission.

(1) Dredging and dredge spoil placement;

(2) Seismic exploration;

(3) Construction and installation of facilities, pipelines, and roads associated with oil and gas development;

(4) Oil and other hazardous material spills and cleanup;

(5) Construction of dwellings, roads, marinas, and other structures, and associated activities including staging of equipment and materials;

(6) Beach nourishment, cleaning, and stabilization (e.g., construction and maintenance of jetties and groins, planting of vegetation, and placement of dune fences);

(7) Certain types and levels of recreational activities, such as vehicular activity that impact the substrate, resulting in reduced prey or disturbance to the species;

(8) Stormwater and wastewater discharge from communities;

(9) Sale, exchange, or lease of Federal land that contains suitable habitat and that may result in the habitat being altered or degraded;

(10) Marsh and coastal restoration, particularly restoration of barrier islands and other barrier shorelines;

(11) Military missions; and

(12) Bridge or culvert construction, reconstruction, and stabilization.

With this designation of critical habitat for wintering piping plovers, we notify the COE, other permitting agencies, and the public that Clean Water Act section 404 nationwide permits and other authorizations for activities within these designated critical habitat areas must comply with section 7 consultation requirements for critical habitat. For each section 7 consultation, we already review the direct and indirect effects of the proposed projects on piping plovers, and will continue to do so for the designated critical habitat.

Activities that may destroy or adversely modify critical habitat are those that alter the primary constituent elements (defined above) to an extent that the value of critical habitat for both the survival and recovery of the piping plover is appreciably reduced. These activities may destroy or adversely modify critical habitat by:

(1) Significantly and detrimentally altering the hydrology of tidal flats;

(2) Significantly and detrimentally altering inputs of sediment and nutrients necessary for the maintenance of geomorphic and biologic processes that insure appropriately configured and productive systems;

(3) Introducing significant amounts of emergent vegetation (either through actions such as marsh restoration on naturally unvegetated sites, or through changes in hydrology such as severe rutting or changes in storm or wastewater discharges);

(4) Significantly and detrimentally altering the topography of a site (such alteration may affect the hydrology of an area or may render an area unsuitable for roosting);

(5) Reducing the value of a site by significantly disturbing plovers from activities such as foraging and roosting (including levels of human presence significantly greater than those currently experienced);

(6) Significantly and detrimentally altering water quality, that may lead to decreased diversity or productivity of prey organisms or may have direct detrimental effects on piping plovers (as in the case of an oil spill); and

(7) Impeding natural processes that create and maintain washover passes and sparsely vegetated intertidal feeding habitats.

Requests for copies of the regulations on listed wildlife and inquiries about prohibitions and permits may be addressed to the U.S. Fish and Wildlife Service, P.O. Box 1306, Albuquerque, New Mexico 87103–1306 for Texas, and to the U.S. Fish and Wildlife Service, 1875 Century Boulevard, Suite 200, Atlanta, Georgia 30345 for all other States. If you have questions regarding whether specific activities will constitute adverse modification of critical habitat, the following Fish and Wildlife Service personnel may be contacted:

Alabama: Darren LeBlanc (334/441–5181)

Florida: Northwest FL: Patty Kelly (850/769–0552, extension 228), North FL: Candace Martino (904/232–2580, extension 129), South FL: Dave Martin (561/562–3909 extension 230)

Georgia: Robert Brooks (912/265–9336, extension 25)

Louisiana: Debbie Fuller (337/291–3124)

Mississippi: Linda LaClaire (601/321–1126)

North Carolina: David Rabon (919/856–4520 extension 16)

South Carolina: Paula Sisson (843/727–4707, extension 18)

Texas: Loretta Pressly (361/994–9005, extension 228)

**Summary of Changes From the Proposed Rule**

For the proposed rule, shoreline was mapped at variable scales (zoom factors) and with less detail. For the final rule, all shoreline was mapped at 1:5000 or larger (greater zoom) scale. In addition to the standardized mapping scale, the shoreline was mapped more precisely. This change in mapping technique and detail resulted in an increase in reported total mapped shoreline kilometers and miles for some States. This also resulted in increases in reported mapped shoreline distances by ownership for some States.

In the proposed rule, a single buffer distance was set for all units in all States. For the final rule, this methodology was not used (see ''Methods'' section).

We have excluded Padre Island National Seashore from the proposed critical habitat designation, based upon a determination under section 4(b)(2) of the Act that the benefits of excluding the Seashore outweigh the benefits of its inclusion. Please refer to the ''Exclusions Under 4(b)(2) of the Act'' section of this rule for further explanation of this analysis.

*Unit-Specific Changes*

Below are descriptions of unit-specific changes. The changes stated below do not include those attributed to our more fine-scale mapping from the proposed rule. Based on the verbal unit descriptions provided in the proposed rule, we feel that the public had ample opportunity to comment on the unit areas below as we have finalized them in this rule.

*North Carolina*

NC–3 Clam Shoals

For the proposed rule, the Digital Orthophoto Quarter Quad (DOQQ) image for this unit was not available, so we estimated its location using a NC Atlas and Gazetteer. For the final rule we used a 1:100K Digital Raster Graphic (DRG) image. The correct version is located slightly outside of the bounds of the proposed map. This unit is entirely State-owned and its inclusion is supported by State biologists. This unit consists of small uninhabited islands that are relatively inaccessible by humans and used primarily by birds.

NC–5 Ocracoke Island

We removed the eastern 3.7 km (2.3 mi) of this unit when information was received orally during the comment period from Service biologists familiar with the area. Their observations and knowledge attest that piping plovers concentrate within one mile of the Ocracoke Inlet.

*Georgia*

GA–14 Sea/St. Simon's Island

We reduced this unit by approximately 360 m (1,200 ft) on the northern shoreline to exclude an existing seawall and groin.

*Florida*

FL–4 Marifarms

We deleted this unit based upon a lack of evidence of regular use by piping plovers.

FL–7 Cape San Blas

We removed 1 mile of shoreline due to specific site data provided by Eglin Air Force Base that documents no use of the western (mile markers 2.1–3.0) shoreline by piping plovers, yet consistent use on their remaining 2 miles of shoreline between 1 mile markers 0.0 and 2.0.

FL–12 Lanark Reef

Due to a mapping error, we inadvertently omitted the constituent elements on the eastern end of Lanark Reef. This unit extends outside of the area designated in the proposed rule by 0.45 km (0.28 mi) to capture emerging sandbars adjacent to Lanark Reef. This unit is entirely State-owned, and its inclusion is supported by State biologists. This unit consists of small uninhabited islands that are relatively inaccessible by humans and used primarily by birds.

FL–24 Captiva Island and Sanibel Island

We deleted this unit based on lack of evidence of regular use by piping plovers.

FL–26 Estero Island

We reduced this unit by 2.0 km (1.25 mi) after a meeting during the open comment period with State biologists who confirmed that piping plovers use the areas from the lagoon east to the inlet and not further to the west. We removed the area west of the lagoon located on Estero Island based on a lack of use by piping plovers.

FL–27 Marco Island

This area was reduced significantly. We received sufficient information during the comment period to document and confirm consistent piping plover use of Tigertail Beach County Park and Sand Dollar Island and its associated sand bars within Big Marco Pass. No data were supplied that documented the use of Hideaway beach or the private beach south of Tigertail Beach County Park. Thus these areas were removed from the designation based on a lack of use by piping plovers.

FL–35 Nassau Sound-Huguenot

Third Bird Island and the shoreline of Big Talbot Island were inadvertently omitted in the proposed rule map of FL–35. Data received prior to the proposed rule documented consistent use at these sites. The unit description in the proposed rule appropriately described this unit to include these areas.

FL–36 Tiger Islands

This unit was reduced by 2.6 km (1.6 mi) after we received data during the comment period that better defined the location used by piping plovers.

*Alabama*

Unit AL–2: Dauphin, Little Dauphin, and Pelican Islands

We removed the eastern end of Dauphin Island, from St. Stephens Street to the eastern tip, due to lack of evidence of consistent use of this portion of the island by piping plovers.

*Mississippi*

Unit MS–7: Beauvoir

We deleted this unit based on a lack of evidence of regular use by piping plovers.

Unit MS–8: Biloxi West

We deleted this unit based on a lack of evidence of regular use by piping plovers.

Unit MS–9: Biloxi East

We deleted this unit based on a lack of evidence of regular use by piping plovers.

*Louisiana*

Unit LA–1: Texas/Louisiana border to Cheniere au Tigre

We excluded three areas along the shoreline in the proposed unit based on a lack of evidence of regular use by piping plovers. Those areas included the shoreline between the west side of Constance Beach to the east side of Holly Beach, the shoreline from the eastern boundary of the Rockefeller Wildlife Refuge to the Freshwater Bayou Canal, and the shoreline from the west border of the Paul J. Rainey Wildlife Sanctuary east to the Vermilion parish line.

Unit LA–2: Atchafalaya River Delta

We excluded the Wax Lake Outlet Deltas lobe and the western portion of the Atchafalaya River Delta based on a lack of evidence of use by piping plovers.

Unit LA–3: Point Au Fer Island

We excluded the shoreline from the point where the un-named oil and gas canal extending southeast from Locust Bayou meets the shoreline to the western side of East Bay Junop based on a lack of evidence of use by piping plovers.

Unit LA–5: Timbalier Island to East Grand Terre Island

The shoreline of East Timbalier Island, the shoreline from Bay Champagne to the west side of Elmers Island, the area between the hurricane protection levee and the bayside shoreline of Grand Isle, and the shoreline of Grand Terre Island were excluded due to lack of evidence of use by piping plovers.

Unit LA–6: Mississippi River Delta

We reduced this unit by 261,247 ha (645,280 ac) after the Service and the Louisiana Department of Wildlife and Fisheries surveyed for piping plovers in this area during December 2000. Piping plovers were located only on the sand islands off the South Pass of the Mississippi River during that survey effort. Plovers were documented using the same islands during the February 2001 International Piping Plover Survey. Thus, this unit consists only of those islands.

**Economic Analysis**

Section 4(b)(2) of the Act requires that we designate critical habitat on the basis of the best scientific and commercial information available and that we consider the economic and other relevant impacts of designating a particular area as critical habitat. The economic impacts to be considered in a critical habitat designation are the incremental effects of the designation over and above the economic impacts attributable to listing of the species.

We may exclude areas from critical habitat upon a determination that the benefits of such exclusions outweigh the benefits of specifying those areas as critical habitat; however, we cannot exclude areas from critical habitat when the exclusion will result in the extinction of the species. We utilized the economic analysis, and took into consideration all comments and information submitted during the public hearings and comment period, to determine whether areas should be

excluded from the final critical habitat designation.

An analysis of the economic effects of the proposed wintering plover critical habitat designation was prepared (Industrial Economics, Incorporated, 2001) and made available for public review (65 FR 52691; August 30, 2000). The economic analysis reflected the assumption that some additional impacts may be experienced as a result of critical habitat designation. The analysis uses a sampling of case studies provided by commenters as well as interviews with stakeholders with projects that had the requisite Federal nexus for our analysis. Estimates of the cost of an individual consultation were developed from a review and analysis of historical section 7 files from a number of Service field offices around the country. These files addressed consultations conducted for both listings and critical habitat designations. Cost figures were based on an average level of effort for consultations of low, medium, or high complexity, multiplied by the appropriate labor rates for staff from the Service and other Federal agencies. Thus, the cost estimates included the potential impact from all expected future consultations in the area proposed to be designated as critical habitat.

Economic effects caused by listing the wintering population of the piping plover as a federally protected threatened species, and by other statutes, are the baseline against which we evaluated the effects of the critical habitat designation. The final analysis, which reviewed and incorporated public comments, concluded that there would be some impacts as discussed below in the ''Exclusions Under 4(b)(2) of the Act'' section of the rule, but that they would not be significant beyond those already imposed by listing the wintering plover population as a threatened species.

The economic analysis revealed six activities that may be affected by the designation of wintering critical habitat for the piping plover because they occur within or near critical habitat areas. These activities are: (1) housing and commercial shoreline development; (2) dredging and disposal of dredged materials; (3) beach nourishment; (4) oil and gas exploration, (5) recreational visitation of shoreline, and (6) waterway operations. Additionally highway construction and disaster relief were also identified as activities that could be potentially affected due to the designation of some units.

Economic effects of critical habitat designation are only those effects that result from the designation. Since the listing of the wintering population of the piping plover as threatened in 1985, we have consulted on the above mentioned activities at one time or another. While the economic analysis considered the effect that critical habitat designation could have on these activities, any costs associated with these activities within critical habitat would most likely occur as a result of the listing, due to the occupied status of critical habitat. However, the analysis recognizes that, even in cases where consultations would be expected in the absence of critical habitat, there are scenarios that could involve additional consultation costs. For example, (1) some consultations that have already been ''completed'' may need to be reinitiated to address critical habitat if the project is not completed; and (2) consultations taking place after critical habitat designation may take longer because critical habitat issues will need to be addressed.

*Exclusions Under 4(b)(2) of the Act*

A draft analysis of the economic effects of the proposed wintering piping plover critical habitat designation was prepared and made available for public review (August 30, 2000; 65 FR 52691). We concluded in the final analysis, that included review and incorporation of public comments, that no significant economic impacts are expected from critical habitat designation above and beyond those already imposed by the listing of wintering piping plovers. A copy of the final economic analysis is included in our administrative record and may be obtained by contacting the Corpus Christi Ecological Services Field Office (see **ADDRESSES** section).

Subsection 4(b)(2) of the Act allows us to exclude areas from critical habitat designation where the benefits of exclusion outweigh the benefits of designation, provided the exclusion will not result in the extinction of the species. For the following reasons, we believe that in most instances the benefits of excluding Habitat Conservation Plans (HCPs) from critical habitat designations will outweigh the benefits of including them.

(1) Benefits of Inclusion

The benefits of including HCP lands in critical habitat are normally small. The principal benefit of any designated critical habitat is that Federal activities in such habitat that may affect it require consultation under section 7 of the Act. Such consultation would ensure that adequate protection is provided to avoid adverse modification of critical habitat. Where HCPs are in place, our experience indicates that this benefit is small or non-existent. Currently approved and permitted HCPs are already designed to ensure the long-term survival of covered species within the plan area. Where we have an approved HCP, lands that we ordinarily would define as critical habitat for the covered species will normally be protected in reserves and other conservation lands by the terms of the HCP and its implementation agreements. The HCP and implementation agreements include management measures and protections for conservation lands that are crafted to protect, restore, and enhance their value as habitat for covered species.

In addition, a section 10(a)(1)(B) permit issued by us as a result of an HCP application must itself undergo consultation. While this consultation may not look specifically at the issue of adverse modification of critical habitat, it will look at the very similar concept of jeopardy to the listed species in the plan area. Since HCPs, particularly large regional HCPs, address land use within the plan boundaries, habitat issues within the plan boundaries will have been thoroughly addressed in the HCP and the consultation on the HCP. Our experience is also that, under most circumstances, consultations under the jeopardy standard will reach the same result as consultations under the adverse modification standard. Implementing regulations (50 CFR Part 402) define ''jeopardize the continued existence of'' and ''destruction or adverse modification of'' in very similar terms. Jeopardize the continued existence of means to engage in an action ''that reasonably would be expected * * * to reduce appreciably the likelihood of both the survival and recovery of a listed species.'' Destruction or adverse modification means an ''alteration that appreciably diminishes the value of critical habitat for both the survival and recovery of a listed species.'' Common to both definitions is an appreciable detrimental effect on both survival and recovery of a listed species, in the case of critical habitat by reducing the value of the habitat so designated. Thus, actions satisfying the standard for adverse modification are nearly always found to also jeopardize the species concerned, and the existence of a critical habitat designation does not materially affect the outcome of consultation. Additional measures to protect the habitat from adverse modification are not likely to be required.

The development and implementation of HCPs provide other important conservation benefits, including the development of biological information

to guide conservation efforts and assist in species recovery and the creation of innovative solutions to conserve species while allowing for development. The educational benefits of critical habitat, including informing the public of areas that are important for the long-term survival and conservation of the species, are essentially the same as those that would occur from the public notice and comment procedures required to establish an HCP, as well as the public participation that occurs in the development of many regional HCPs. For these reasons, then, we believe that designation of critical habitat has little benefit in areas covered by HCPs.

(2) Benefits of Exclusion

The benefits of excluding HCPs from being designated as critical habitat may be more significant. During two public comment periods on our critical habitat policy, we received several comments about the additional regulatory and economic burden that may result from critical habitat designation. These include the need for additional consultation with us and the need for additional surveys and information gathering to complete these consultations. HCP applicants have also stated that they are concerned that third parties may challenge HCPs on the basis that they result in adverse modification or destruction of critical habitat, should critical habitat be designated within the HCP boundaries.

The benefits of excluding HCPs include relieving landowners, communities, and counties of any additional minor regulatory review that might be imposed by critical habitat. Many HCPs, particularly large regional HCPs, take many years to develop and, upon completion, become regional conservation plans that are consistent with the conservation of covered species. Many of these regional plans benefit many species, both listed and unlisted. Imposing an additional regulatory review after HCP completion may jeopardize conservation efforts and partnerships in many areas and could be viewed as a disincentive to those developing HCPs. Excluding HCPs provides us with an opportunity to streamline regulatory compliance and confirms regulatory assurances for HCP participants.

A related benefit of excluding HCPs is that it would encourage the continued development of partnerships with HCP participants, including States, local governments, conservation organizations, and private landowners, that together can implement conservation actions we would be unable to accomplish alone. By excluding areas covered by HCPs from critical habitat designation, we preserve these partnerships, and, we believe, set the stage for more effective conservation actions in the future.

In general, we believe the benefits of critical habitat designation to be small in areas covered by approved HCPs. We also believe that the benefits of excluding HCPs from designation are significant. Weighing the small benefits of inclusion against the benefits of exclusion, including the benefits of relieving property owners of an additional layer of approvals and regulation, together with the encouragement of conservation partnerships, would generally result in HCPs being excluded from critical habitat designation under section 4(b)(2) of the Act.

Not all HCPs are alike with regard to species coverage and design. Within this general analytical framework, we need to individually evaluate completed and legally operative HCPs in the range of wintering piping plovers to determine whether the benefits of excluding these particular areas outweigh the benefits of including them.

In the event that future HCPs covering the wintering piping plover are developed within the boundaries of designated critical habitat, we will work with applicants to ensure that the HCPs provide for protection and management of habitat areas essential for the conservation of the piping plover by either directing development and habitat modification to nonessential areas or appropriately modifying activities within essential habitat areas so that such activities will not adversely modify the primary constituent elements. The HCP development process provides an opportunity for more intensive data collection and analysis regarding the use of particular habitat areas by the piping plover. The process also enables us to conduct detailed evaluations of the importance of such lands to the long-term survival of the species.

We will provide technical assistance and work closely with applicants throughout the development of future HCPs to identify lands essential for the long-term conservation of the piping plover and appropriate management for those lands. The take minimization and mitigation measures provided under these HCPs are expected to protect the essential habitat lands designated as critical habitat in this rule. If an HCP that addresses the piping plover as a covered species is ultimately approved, we will reassess the critical habitat boundaries in light of the HCP. We will seek to undertake this review when the HCP is approved, but funding constraints may influence the timing of such a review.

During the comment period for the proposed designation of critical habitat for the piping plover, BNP Petroleum Corporation submitted a detailed economic analysis, prepared by Milton L. Holloway, Ph.D., Resource Economics, Inc., Austin, Texas. Their analysis concluded that the designation will cause significant economic impacts because of large unoccupied areas being included in the designation, resulting in additional consultations with the Service and delays in proposed projects causing economic effects. They note as an example of such delays, oil and gas operators within critical habitat and the Plan of Operations permit process coordinated by the National Park Service, Padre Island National Seashore. The activities identified as being affected include (1) the exploration, development and production of oil and gas reserves, (2) recreational use of coastal areas, (3) real-estate development projects for residential and commercial use, and (4) transportation of commodities on the Gulf Intracoastal Waterway. They conclude that all landowners having potential habitat (upon initiation of a project) will need to go through the section 7 consultation process with the Service, thus, incurring additional costs to determine if plover habitat is present. Due to the uncertainty of the outcome of such consultations, they conclude that all property will be devalued as a result of the designation. They cite the citizen suit provisions of section 11 of the Act as a means by which property owners may be the target of potential violations of the Act, by opponents asserting that any activity in the area will lead to ''take'' of the species. They state that this potential for litigation will also result in the devaluation of property.

In the final Economic Analysis prepared for the Service by Industrial Economics, Inc., Cambridge, Massachusetts, there is recognition that the designation of critical habitat for the piping plover may result in additional section 7 consultation costs because future consultations would need to address critical habitat issues, in addition to the effects on the species, and would therefore require more time. Additionally, in the analysis and noted in this rule, we acknowledge that some Federal agencies may initiate consultation more often than before, because critical habitat has increased their awareness of the species. Even though consideration of critical habitat is not likely to impose further project modifications beyond those required by

the listing of the plover, project proponents may nonetheless incur costs above and beyond those attributable to the listing of the plover as a threatened species. These costs might include the value of time spent in conducting section 7 consultations beyond those associated with the listing, and/or delays in implementing oil and gas activities.

The Padre Island National Seashore (Seashore) has in place a General Management Plan/Development Concept Plan (USDI 1983) and a Final Oil and Gas Management Plan/ Environmental Impact Statement (USDI 2000), collectively referred to as the Plans. These Plans provide as general management direction that ''[n]atural process will be allowed to shape the barrier island with as little interference as possible.'' We feel that achieving these results will provide for the perpetuation of the primary constituent elements of the plover, since the piping plovers habitat is dependent upon natural processes that shape the coastal environment. Thus, we feel that the National Park Service has in place Plans that provide for adequate management and conservation of the piping plover on lands within the Seashore.

The operating standards in the Oil and Gas Management Plan/ Environmental Impact Statement for the Seashore include:

> All proposed Plans of Operation will be evaluated for potential impacts to special-status species. If the evaluation indicates a ''may affect'' situation (includes both beneficial and adverse impacts) on a federally-listed or proposed species, and the adverse impacts cannot be eliminated, consultation or conference with the U.S. Fish and Wildlife Service (FWS) and/or National Marine Fisheries Service must be conducted.

Because Plans of Operation will be evaluated whether or not the activities occur within critical habitat, and piping plovers are present on the Seashore, we find that including the Seashore in critical habitat would provide no additional benefit to the species. In addition, we do not feel that a designation of critical habitat would result in any benefits from an increased awareness of the species presence on the part of Federal agencies and possibly an increased number of consultations. This is due to the fact that the Seashore has Plans in place requiring consultation with the Service when any activities that may affect a federally listed species are proposed within the boundaries of the Seashore.

We also find that exclusion of the Seashore from critical habitat would avoid the additional costs that may result from time delays in addressing critical habitat issues, in addition to the effects on the species. These costs might include the value of time spent in conducting section 7 consultations beyond those associated with the listing, and/or delays in implementing oil and gas activities.

Thus, based on the BNP Petroleum Economic Analysis and the one prepared for the Service, we find that the benefits of excluding the Padre Island National Seashore outweigh the benefits of its inclusion.

If you have questions regarding whether specific activities will constitute adverse modification of critical habitat, or requests for copies of the regulations on listed wildlife and inquiries about prohibitions and permits, contact the U.S. Fish and Wildlife Service (see contact information under the ''Effects of Critical Habitat Designation'' section of this final rule).

## American Indian Tribal Rights, Federal—Tribal Trust Responsibilities, and the Endangered Species Act

In accordance with the President's memorandum of April 29, 1994, ''Government-to-Government Relations with Native American Tribal Government'' (59 FR 22951), Executive Order 13175, and the Department of the Interior's requirement at 512 DM 2, we readily acknowledge our responsibility to communicate meaningfully with recognized Federal Tribes on a Government-to-Government basis. No tribal lands were proposed for designation as critical habitat, and no effects on tribal trust resources are anticipated from this designation.

## Required Determinations

### *Regulatory Planning and Review*

Under E.O. 12866 (58 FR 51735, October 4, 1993), we must determine whether this proposed regulatory action is ''significant'' and therefore subject to Office of Management and Budget (OMB) review and the requirements of the E.O. The E.O. defines ''significant regulatory action'' as one that is likely to result in a rule that may:

(1) Have an annual effect on the economy of $100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities;

(2) Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;

(3) Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or

(4) Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in E.O. 12866.

(a) While this rule is not expected to have an annual effect on the economy of $100 million or more, OMB has determined that this final rule is a ''significant regulatory action'' under E.O. 12866 because it may raise novel legal or policy issues.

Under the Act, critical habitat may not be adversely modified by a Federal agency action; the Act does not impose any restrictions through critical habitat designation on non-Federal persons unless they are conducting activities funded or otherwise sponsored, authorized, or permitted by a Federal agency. Section 7 requires Federal agencies to ensure that they do not jeopardize the continued existence of the species in addition to avoiding adversely modifying critical habitat. In some instances, the designation of critical habitat could result in an increase in section 7 consultations concerning Federal actions that may adversely modify critical habitat, and that may, in some instances, affect third party actions that rely on or are related to the Federal action subject to the consultation (i.e., Federal nexus). However, we do not believe this effect will result from this rulemaking because we are only designating areas that are currently occupied by the wintering population of the piping plover and, based upon our experience with the plover and its needs, we believe that any Federal action or authorized action that could potentially cause adverse modification of designated critical habitat would also be considered as ''jeopardy'' under the Act, that would result in a section 7 consultation regardless of critical habitat designation.

(b) This rule will not create inconsistencies with other agencies' actions. As discussed above, Federal agencies have been required to ensure that their actions do not jeopardize the continued existence of plover since the listing in 1985. The prohibition against adverse modification of critical habitat is not expected to impose any substantial additional restrictions to those that currently exist. Because of the potential for impacts on other Federal agencies activities, we will continue to review this action for any inconsistencies with other Federal agencies actions.

(c) This rule will not materially affect entitlements, grants, user fees, loan programs, or the rights and obligations of their recipients. Federal agencies are

currently required to ensure that their activities do not jeopardize the continued existence of the species, and as discussed above, we do not anticipate that the adverse modification prohibition (resulting from critical habitat designation) will have any significant incremental effects.

(d) OMB has determined that his rule may raise novel legal or policy issues and, as a result, this rule has undergone OMB review.

| Categories of activities | Activities potentially affected by species listing only [1] | Additional activities potentially affected by critical habitat designation [2] |
|---|---|---|
| Federal activities potentially affected [3]. | Activities such as removing or destroying piping plover wintering habitat, whether by mechanical, chemical, or other means (e.g., construction, road building, dredging and other navigation projects, boat launch and marina construction or maintenance, beach nourishment, erosion control); recreational activities that significantly deter the use of suitable habitat areas by piping plovers or alter habitat through associated maintenance activities; sale, exchange, or lease of Federal land that contains suitable habitat that may result in the habitat being destroyed or appreciably degraded. | None. |
| Private and other non-federal activities potentially affected [4]. | Activities such as removing or destroying piping plover habitat, whether by mechanical, chemical, or other means (e.g., construction, road building, dredging and other navigation projects, boat launch and marina construction or maintenance, beach nourishment, erosion control) and appreciably decreasing habitat value or quality (e.g., increased vehicular activity on sensitive habitats, increased predators, reduced water quality, modified hydrology) that require a Federal action (permit, authorization, or funding). | None. |

[1] This column represents the activities potentially affected by listing the piping plover as a threatened species (December 11, 1985; 50 FR 50720) under the Endangered Species Act.
[2] This column represents the effects on activities resulting from critical habitat designation beyond the effects attributable to the listing of the species.
[3] Activities initiated by a Federal agency.
[4] Activities initiated by a private or other non-Federal entity that may need Federal authorization or funding.

*Regulatory Flexibility Act (5 U.S.C. 601 et seq.)*

Under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*, as amended by the Small Business Regulatory Enforcement Fairness Act (SBREFA) of 1996) an agency must prepare and make available for public comment a regulatory flexibility analysis that describes the effect of the rule on small entities (i.e., small businesses, small organizations, and small government jurisdictions).

However, no regulatory flexibility analysis is required if the head of an agency certifies the rule will not have a significant economic impact on a substantial number of small entities.

SBREFA amended the Regulatory Flexibility Act to require Federal agencies to provide a statement of the factual basis for certifying that a rule will not have a significant economic impact on a substantial number of small entities. In the economic analysis, we determined that designation of critical habitat will not have a significant economic effect on a substantial number of small entities. Although small entities may carry out activities within designated critical habitat, many of these activities lack a Federal nexus and therefore their impacts on critical habitat do not need to be considered. For those actions requiring Federal funding or authority, we believe that the incremental impacts attributable to this rule are not significant for reasons explained above and in the revised economic analysis. Therefore, we are certifying that the designation of critical habitat for the wintering population of the piping plover will not have a significant economic impact on a substantial number of small entities.

*Small Business Regulatory Enforcement Fairness Act (5 U.S.C. 804(2))*

Our economic analysis demonstrated that designation of critical habitat will not cause (a) any effect on the economy of $100 million or more, (b) any increases in costs or prices for consumers; individual industries; Federal, State, or local government agencies; or geographic regions, or (c) any significant adverse effects on competition, employment, investment, productivity, innovation, or the ability of U.S.-based enterprises to compete with foreign-based enterprises.

*Unfunded Mandates Reform Act (2 U.S.C. 1501 et seq.)*

In accordance with the Unfunded Mandates Reform Act (2 U.S.C. 1501 *et seq.*):

a. This rule will not ''significantly or uniquely'' affect small governments. A Small Government Agency Plan is not required. Small governments will be affected only to the extent that any programs involving Federal funds, permits, or other authorized activities must ensure that their actions will not adversely affect the critical habitat.

b. This rule will not produce a Federal mandate on State, local, or tribal governments or the private sector of $100 million or greater in any year, *i.e.,* it is not a ''significant regulatory action'' under the Unfunded Mandates Reform Act. The designation of critical habitat imposes no obligations on State or local governments.

*Takings*

In accordance with Executive Order 12630, this rule does not have significant takings implications, and a takings implication assessment is not required. This final rule will not ''take'' private property. The designation of critical habitat affects only Federal agency actions. Federal actions on private lands could be affected by critical habitat designation. However, we expect no regulatory effect from this designation since all designated areas are considered occupied by the species and would be reviewed under both the jeopardy and adverse modification standards under section 7 of the Act.

The rule will not increase or decrease the current restrictions on private property concerning taking of the piping plover as defined in section 9 of the Act and its implementing regulations (50 CFR 17.31). Additionally, critical habitat designation does not preclude development of habitat conservation plans and issuance of incidental take permits. Landowners in areas that are

included in the designated critical habitat will continue to have opportunity to utilize their property in ways consistent with the survival of the piping plover.

*Federalism*

In accordance with Executive Order 13132, the rule does not have significant Federalism effects. A Federalism assessment is not required. In keeping with Department of the Interior policy, the Service requested information from and coordinated development of this critical habitat proposal with appropriate State resource agencies in North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, and Texas. We will continue to coordinate any future designation of critical habitat for wintering piping plovers with the appropriate State agencies. The designation of critical habitat for the piping plover is not expected to result in any additional restrictions to those currently in place and, therefore, no incremental impact on State and local governments and their activities are expected. The designation may have some benefit to these governments in that the areas essential to the conservation of the species are more clearly defined, and the primary constituent elements of the habitat necessary to the survival of the species are specifically identified. While making this definition and identification does not alter where and what federally sponsored activities may occur, doing so may assist these local governments in long-range planning (rather than waiting for case-by-case section 7 consultations to occur).

*Civil Justice Reform*

In accordance with Executive Order 12988, the Department of the Interior's Office of the Solicitor determined that this rule does not unduly burden the judicial system and meets the requirements of sections 3(a) and 3(b)(2) of the Order. We made every effort to ensure that this final determination contains no drafting errors, provides clear standards, simplifies procedures, reduces burden, and is clearly written such that litigation risk is minimized.

*Energy Supply, Distribution or Use (Executive Order 13211)*

In accordance with Executive Order 13211, ''Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use,'' the Service asserts that this rule is not likely to have a significant adverse effect on the supply, distribution or use of energy. While this rule is not expected to have an annual effect on the economy or $100 million or more, OMB has determined that this final rule is a ''significant regulatory action'' under Executive Order 12866 because it may raise novel legal or policy issues. This rulemaking designates critical habitat for the piping plover and such designation does not impact the Nation's energy resources. This rulemaking does not designate any areas that have been identified as having oil or gas reserves, whether in production or otherwise identified for future use.

*Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.)*

This rule does not contain any information collection requirements for which Office of Management and Budget approval under the Paperwork Reduction Act is required.

*National Environmental Policy Act*

We have determined that we do not need to prepare an Environmental Assessment or an Environmental Impact Statement as defined by the National Environmental Policy Act of 1969 in connection with regulations adopted pursuant to section 4(a) of the Act. We published a notice outlining our reasons for this determination in the **Federal Register** on October 25, 1983 (48 FR 49244).

**References Cited**

A complete list of all references cited in this final rule are available upon request from the Corpus Christi Ecological Services Field Office (see **ADDRESSES** section).

**Author**

The primary authors of this final rule include Ecological Services staff from both the Service's Southwestern and Southeastern Regional and Field Offices.

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

Endangered and threatened species, Exports, Imports, Reporting and recordkeeping requirements, Transportation.

**Regulation Promulgation**

Accordingly, we amend part 17, subchapter B of chapter I, title 50 of the Code of Federal Regulations 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.

2. In § 17.11(h) revise the entry for ''Plover, piping'' under ''BIRDS'' to read as follows:

**§ 17.11 Endangered and threatened wildlife.**

* * * * *

(h) * * *

| Species | | Historic range | Vertebrate population where endangered or threatened | Status | When listed | Critical habitat | Special rules |
|---|---|---|---|---|---|---|---|
| Common name | Scientific name | | | | | | |
| * | * | * | * | * | * | | * |
| BIRDS | | | | | | | |
| * | * | * | * | * | * | | * |
| Plover, piping | *Charadrius melodus* | U.S.A. (Great Lakes, northern Great Plains, Atlantic and Gulf coasts, PR, VI), Canada, Mexico, Bahamas, West Indies. | Great Lakes, watershed in States of IL, IN, MI, NM, NY, OH, PA, and WI and Canada (Ont.). | E | 211 | 17.95(b) | NA. |
| Do | do | do | Entire, except those areas where listed as endangered above. | T | 211 | 17.95(b) | NA. |

| Species | | Historic range | Vertebrate population where endangered or threatened | Status | When listed | Critical habitat | Special rules |
|---|---|---|---|---|---|---|---|
| Common name | Scientific name | | | | | | |
| * | * | * | * | * | * | | * |

3. Amend § 17.95(b) by adding critical habitat for the piping plover (*Charadrius melodus*) in the same alphabetical order as this species occurs in § 17.11(h), to read as follows:

**§ 17.95 Critical habitat-fish and wildlife.**

* * * * *

(b) *Birds*.

* * * * *

**Piping Plover (*Charadrius melodus*) Wintering Habitat**

1. The primary constituent elements essential for the conservation of wintering piping plovers are those habitat components that support foraging, roosting, and sheltering and the physical features necessary for maintaining the natural processes that support these habitat components. The primary constituent elements include intertidal beaches and flats (between annual low tide and annual high tide) and associated dune systems and flats above annual high tide. Important components of intertidal flats include sand and/or mud flats with no or very sparse emergent vegetation. In some cases, these flats may be covered or partially covered by a mat of blue-green algae. Adjacent non-or sparsely vegetated sand, mud, or algal flats above high tide are also important, especially for roosting piping plovers, and are primary constituent elements of piping plover wintering habitat. Such sites may have debris, detritus (decaying organic matter), or micro-topographic relief (less than 50 cm above substrate surface) offering refuge from high winds and cold weather. Important components of the beach/dune ecosystem include surf-cast algae, sparsely vegetated backbeach and salterns (beach area above mean high tide seaward of the permanent dune line, or in cases where no dunes exist, seaward of a delineating feature such as a vegetation line, structure, or road), spits, and washover areas. Washover areas are broad, unvegetated zones, with little or no topographic relief, that are formed and maintained by the action of hurricanes, storm surge, or other extreme wave action.

2. Critical habitat does not include existing developed sites consisting of buildings, marinas, paved areas, boat ramps, exposed oil and gas pipelines and similar structures. Only those areas containing these primary constituent elements within the designated boundaries are considered critical habitat.

3. Below, we describe each unit in terms of its location, size, and ownership. These textual unit descriptions are the definitive source for determining the critical habitat boundaries. All distances and areas provided here are approximated. General location maps by State are provided at the end of each State's unit descriptions and are provided for general guidance purposes only, and not as a definitive source for determining critical habitat boundaries.

*North Carolina* (Maps were digitized using 1993 DOQQs, except NC–3 (1993 DRG)

Unit NC–1: Oregon Inlet. 404 ha (997 ac) in Dare County

This unit extends from the southern portion of Bodie Island to the northern portion of Pea Island. It includes all land south of the Oregon Inlet Marina and Fishing Center to 0.50 km (0.31 mile) south of the junction of Highway 12 and SR 1257. This unit includes lands from MLLW on the Pamlico Sound across (and including all land) to MLLW on Atlantic Ocean shoreline. Any emergent sandbars south and west of Oregon Inlet are included.

Unit NC–2: Cape Hatteras Point. 465 ha (1149 ac) in Dare County

The majority of the unit is within Cape Hatteras National Seashore. This unit extends south from the Cape Hatteras Lighthouse to the point of Cape Hatteras and then extends west 6.4 km (4.0 mi) along Hatteras Cove shoreline. The unit includes lands from the MLLW on the Atlantic Ocean and stops landward where densely vegetated habitat, not used by the piping plover, begins and where constituent elements no longer occur.

Unit NC–3: Clam Shoals. 28 ha (70 ac) in Dare County

The entire unit is owned by the State. This unit includes several islands in Pamlico Sound known as Bird Islands. This unit includes lands on all islands to the MLLW.

Unit NC–4: Hatteras Inlet. 516 ha (1273 ac) in Dare and Hyde Counties

The majority of the unit is surrounded by Cape Hatteras National Seashore, but is privately owned. This unit extends west from the end of Highway 12 on the western portion of Hatteras Island to 1.25 km (0.78 mi) southwest of the ferry terminal at the end of Highway 12 on Ocracoke Island. It includes all lands where constituent elements occur from MLLW on the Atlantic Ocean across to MLLW on Pamlico Sound. All emergent sandbars within Hatteras Inlet between Hatteras Island and Ocracoke Island are also included.

Unit NC–5: Ocracoke Island. 80 ha (197 ac) in Hyde County

The majority of this unit is within Cape Hatteras National Seashore. It includes the western portion of Ocracoke Island beginning 3.5 km (2.2 mi) west of the junction of Highway 12 and the local road (no name) extending west to Ocracoke Inlet. It includes all land from MLLW on the Atlantic Ocean across to MLLW on Pamlico Sound. All emergent sandbars within Ocracoke Inlet are also included.

Unit NC–6: Portsmouth Island-Cape Lookout. 3187 ha (7873 ac) in Carteret County

The entire unit is within Cape Lookout National Seashore. This unit includes all land to MLLW on Atlantic Ocean to MLLW on Pamlico Sound, from Ocracoke Inlet extending west to the western end of Pilontary Islands. This unit includes the islands of Casey, Sheep, Evergreen, Portsmouth, Whalebone, Kathryne Jane, and Merkle Hammock. This unit also extends west from the eastern side of Old Drum Inlet to 1.6 km (1.0 mi) west of New Drum Inlet and includes all lands from MLLW on Atlantic Ocean to MLLW on Core Sound.

Unit NC–7: South Core Banks. 552 ha (1364 ac) in Carteret County

The entire unit is within Cape Lookout National Seashore. This unit extends south from Cape Lookout Lighthouse, along Cape Lookout, to Cape Point and northwest to the northwestern peninsula. All lands from MLLW on the Atlantic Ocean, Onslow Bay, and Lookout Bight up to where densely vegetated habitat, not used by

the piping plover, begins and the constituent elements no longer occur are included.

Unit NC–8: Shackleford Banks. 716 ha (1769 ac) in Carteret County

The entire unit is within Cape Lookout National Seashore. This unit is in two parts: (1) The eastern end of Shackleford Banks from MLLW of Barden Inlet extending west 2.4 km (1.5 mi), including Diamond City Hills, Great Marsh Island, and Blinds Hammock; and, (2) The western end of Shackleford Banks from MLLW extending east 3.2 km (2.0 mi) from Beaufort Inlet. The unit includes all land from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur and any emergent sandbars within Beaufort Inlet. This unit is bordered by Onslow Bay, Shackleford Slue, and Back Sound.

Unit NC–9: Rachel Carson. 445 ha (1100 ac) in Carteret County

The entire unit is within the Rachel Carson National Estuarine Research Reserve. This unit includes islands south of Beaufort including Horse Island, Carrot Island, and Lennox Point. This unit includes entire islands to MLLW.

Unit NC–10: Bogue Inlet. 143 ha (354 ac) in Carteret and Onslow Counties

The majority of the unit is privately owned, with the remainder falling within Hammocks Beach State Park. This unit includes contiguous land south, west, and north of Bogue Court to MLLW line of Bogue Inlet on the western end of Bogue Banks. It includes the sandy shoals north and adjacent to Bogue Banks and the land on Atlantic Ocean side to MLLW. This unit also extends 1.3 km (0.8 mi) west from MLLW of Bogue Inlet on the eastern portion of Bear Island.

Unit NC–11: Topsail. 451 ha (1114 ac) in Pender County and Hanover County

The entire area is privately owned. This unit extends southwest from 1.0 km (0.65 mi) northeast of MLLW of New Topsail Inlet on Topsail Island to 0.53 km (0.33 mi) southwest of MLLW of Rich Inlet on Figure Eight Island. It includes both Rich Inlet and New Topsail Inlet and the former Old Topsail Inlet. All land, including emergent sandbars, from MLLW on Atlantic Ocean and sound side to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur. In Topsail Sound, the unit stops as the entrance to tidal creeks become narrow and channelized.

Unit NC–12: Figure Eight Island. 134 ha (331 ac) in New Hanover County

The majority of the unit is privately owned. This unit extends south from the western end of Beach Road on Figure Eight Island to the northern end of Highway 74 on Wrightsville Beach. The unit includes Mason Inlet and the sand and mudflats northwest of the inlet from MLLW on Atlantic Ocean to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur.

Unit NC–13: Masonboro. 61 ha (150 ac) in New Hanover County

The entire unit is within the North Carolina National Estuarine Research Reserve. This unit extends 1.1 km (0.70 mi) south from the MLLW of Masonboro Inlet on Masonboro Island. This unit includes all lands along the Atlantic Ocean, Masonboro Inlet, and Masonboro Sound from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur.

Unit NC–14: Carolina Beach Inlet. 374 ha (924 ac) in New Hanover County

The majority of the unit is within Myrtle Grove Sound on Masonboro Island and is owned by the North Carolina National Estuarine Research Reserve. It extends 1.80 km (1.12 mi) west along the south shoreline of Wolf Island from the mouth of the Altamaja sound. This unit extends south from 3.2 km (2.0 mi) north of MLLW at Carolina Beach Inlet on Masonboro Island to 1.1 km (0.70 mi) south of MLLW at Carolina Beach Inlet on Carolina Beach. It includes land from MLLW on Atlantic Ocean across and including lands to MLLW on the western side of Masonboro Island, excluding existing dredge spoil piles. Emergent sand bars within Carolina Beach Inlet are also included.

Unit NC–15: Ft. Fisher. 790 ha (1951 ac) in New Hanover and Brunswick Counties

This unit is within Ft. Fisher State Recreation Area and Zeke's Island Estuarine Reserve. This unit extends south from Ft. Fisher Islands (from the rocks), south of the ferry terminal, to approximately 0.8 km (0.5 mi) south of MLLW at Corn Cake Inlet on Smith Island. It includes all land (including Zeke's Island) from MLLW on Atlantic Ocean across to MLLW on the eastern side of the Cape Fear River.

Unit NC–16: Lockwood Folly Inlet. 36 ha (90 ac) in Brunswick County

The entire unit is on Oak Island (formerly known as the Town of Long Beach) and is privately owned. This unit extends from the end of West Beach Drive, west to MLLW at Lockwood Folly Inlet, including emergent sandbars south and adjacent to the island. This unit is includes land from MLLW on Atlantic Ocean across to MLLW adjacent to the Eastern Channel and the Intracoastal Waterway.

Unit NC–17: Shallotte Inlet. 120 ha (296 ac) in Brunswick County

The entire unit is privately owned. This unit begins just west of Skimmer Court on the western end of Holden Beach. It includes land south of SR 1116, to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur to the MLLW along the Atlantic Ocean. It includes the contiguous shoreline from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur along the Atlantic Ocean, Shallotte Inlet, and Intracoastal Waterway stopping north of Skimmer Court Road. The unnamed island and emergent sandbars to MLLW within Shallotte Inlet are also included.

Unit NC–18: Mad Inlet. 112 ha (278 ac) in Brunswick County

The entire unit is privately owned. This unit extends west 1.2 km (0.75 mi) from the end of Main Street (SR 1177) on western Sunset Beach to the eastern portion of Bird Island and includes the marsh areas north of western Sunset Beach shoreline. The shoreline area begins at MLLW on the Atlantic Ocean and continues landward to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur.

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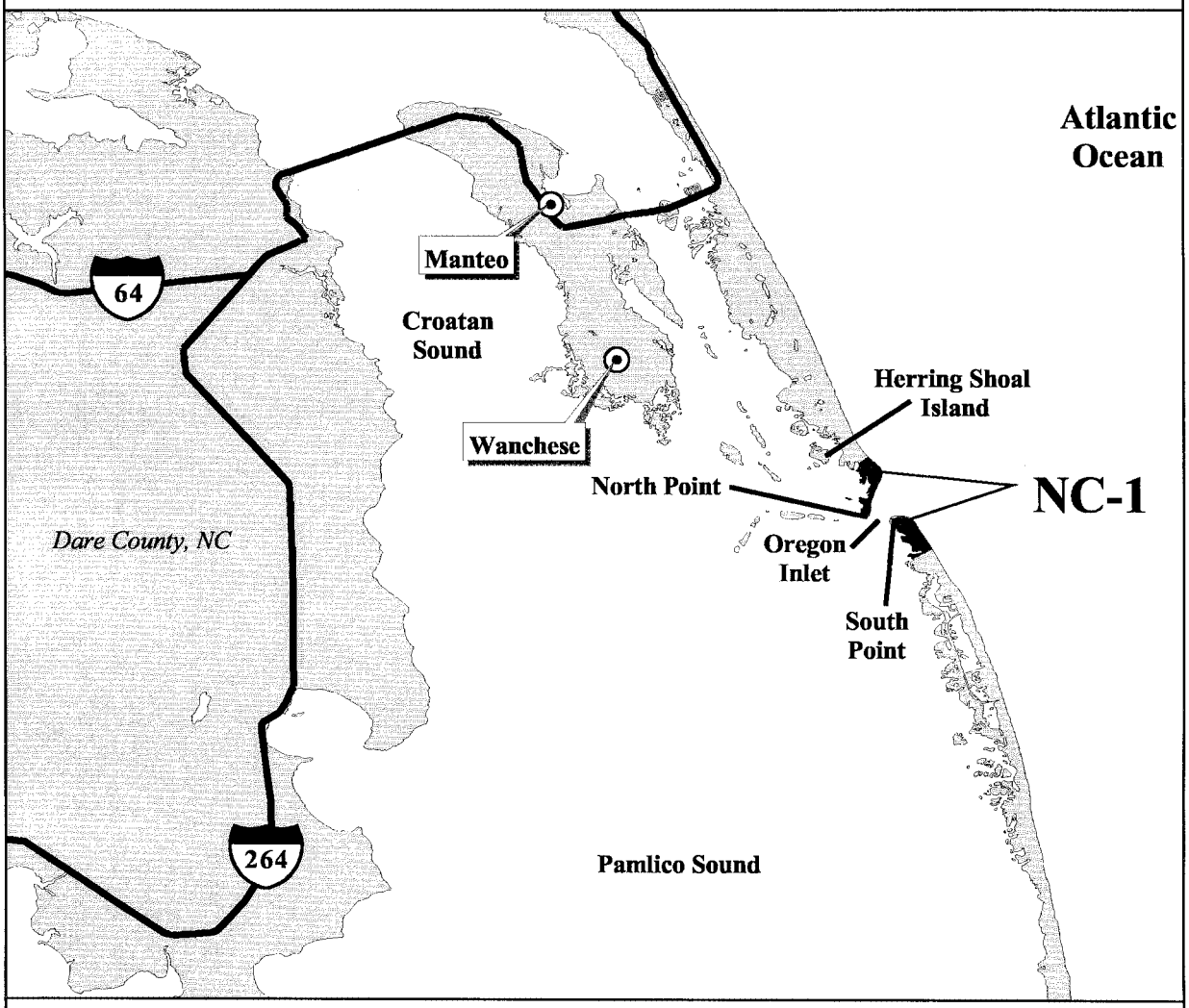
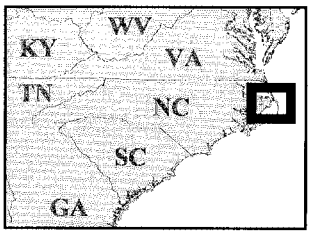
# General locations of the designated critical habitat for the Wintering Piping Plover.




**General Area**




**Distance: Miles**

0 4 8

N

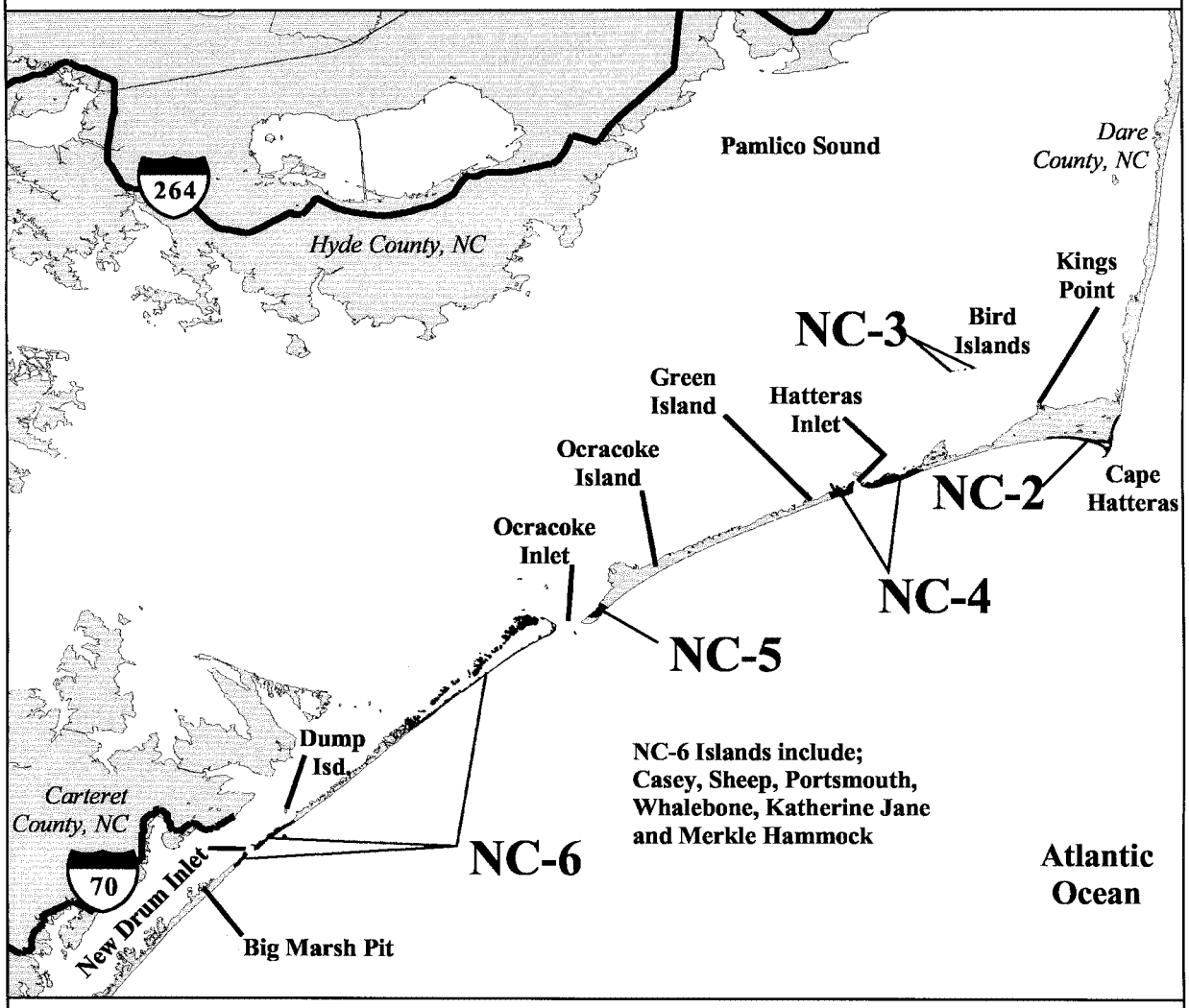
**Legend**

- City / Town
- Major Road / Highway
- Land
- Critical Habitat

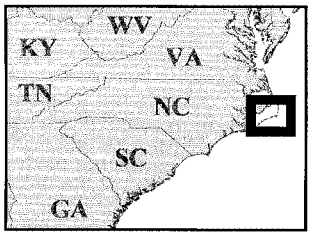
**Use Constraints:** This map is intended to be used as a guide to identify the general areas where Wintering Piping Plover critical habitat has been designated. Included within the designation of critical habitat are all land areas to the mean lower low water. Refer to the narrative unit descriptions as the precise legal definition of critical habitat.

# North Carolina Unit: 1

# General locations of the designated critical habitat for the Wintering Piping Plover.




## General Area




## Distance: Miles

0 9 18

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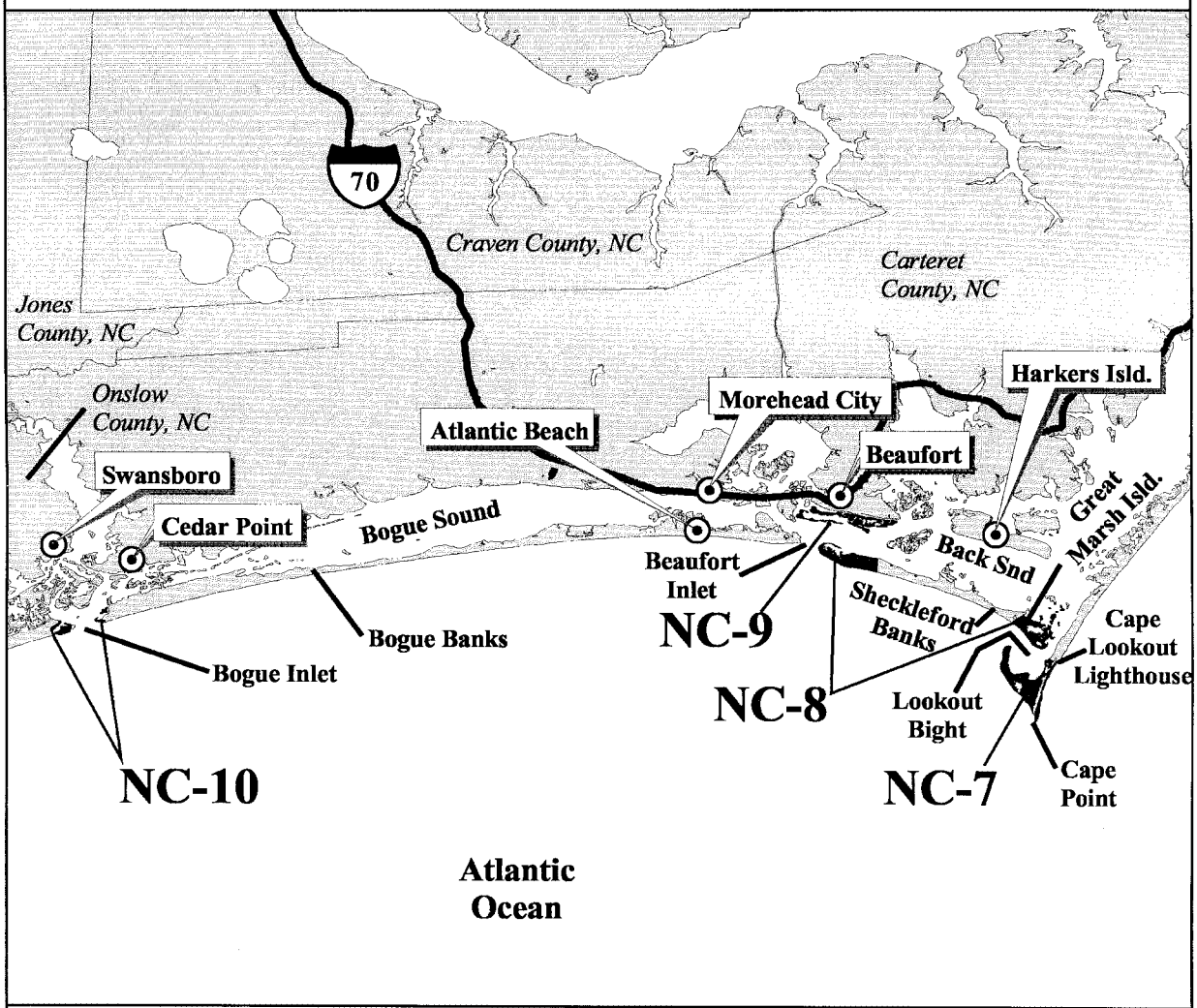
## Legend

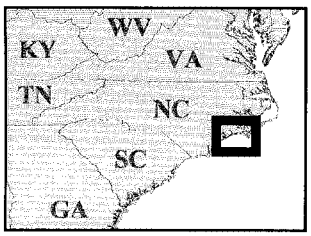
- City / Town
- Major Road / Highway
- Land
- Critical Habitat

**Use Constraints:** This map is intended to be used as a guide to identify the general areas where Wintering Piping Plover critical habitat has been designated. Included within the designation of critical habitat are all land areas to the mean lower low water. Refer to the narrative unit descriptions as the precise legal definition of critical habitat.

# North Carolina Units: 2, 3, 4, 5 & 6

# General locations of the designated critical habitat for the Wintering Piping Plover.




**Distance: Miles**

0 6 12

N

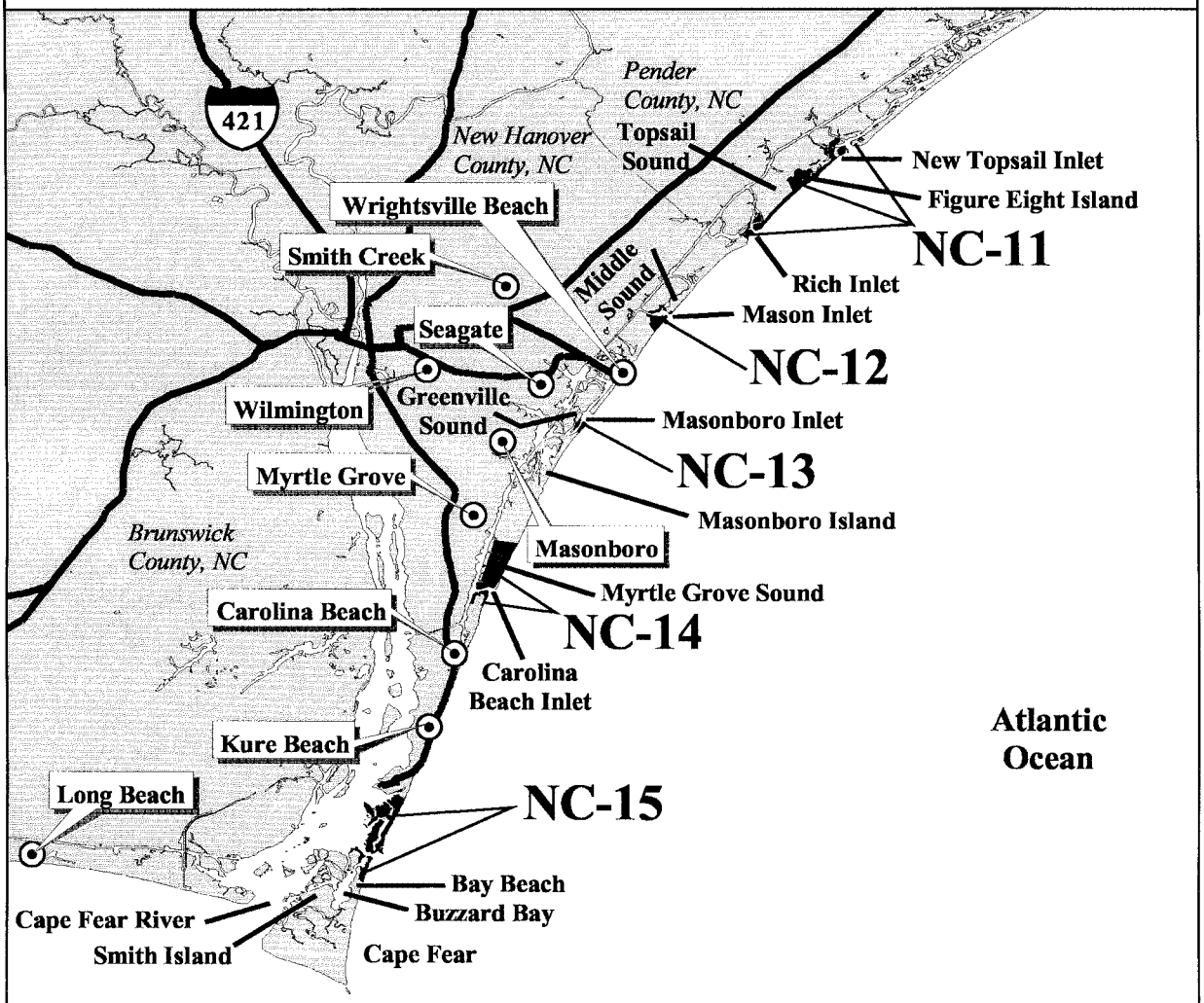
**Legend**

- City / Town
- Major Road / Highway
- Land
- Critical Habitat

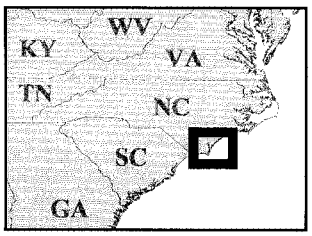
**Use Constraints:** This map is intended to be used as a guide to identify the general areas where Wintering Piping Plover critical habitat has been designated. Included within the designation of critical habitat are all land areas to the mean lower low water. Refer to the narrative unit descriptions as the precise legal definition of critical habitat.

# North Carolina Units: 7, 8, 9 and 10

# General locations of the designated critical habitat for the Wintering Piping Plover.




## General Area




## Distance: Miles

0 6 12

## Legend

- City / Town
- Major Road / Highway
- Land
- Critical Habitat

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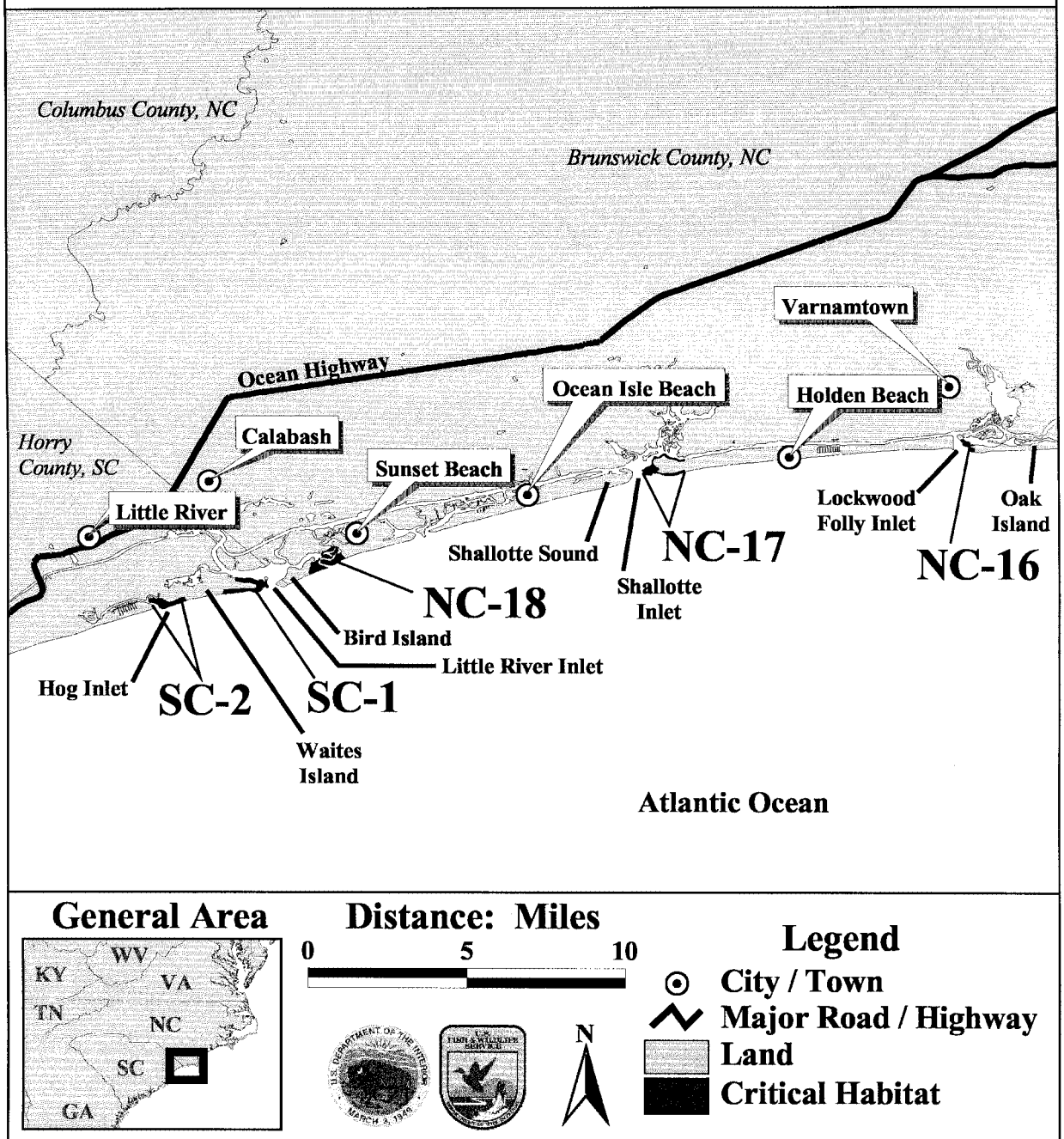
**Use Constraints:** This map is intended to be used as a guide to identify the general areas where Wintering Piping Plover critical habitat has been designated. Included within the designation of critical habitat are all land areas to the mean lower low water. Refer to the narrative unit descriptions as the precise legal definition of critical habitat.

# North Carolina Units: 11 to 15

# General locations of the designated critical habitat for the Wintering Piping Plover.




**Use Constraints:** This map is intended to be used as a guide to identify the general areas where Wintering Piping Plover critical habitat has been designated. Included within the designation of critical habitat are all land areas to the mean lower low water. Refer to the narrative unit descriptions as the precise legal definition of critical habitat.

# NC Units: 16 to 18, SC Units: 1 & 2

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*South Carolina* (Maps were digitized using 1994 DOQQs)

Unit SC–1: Waites Island-North. 75 ha (186 ac) in Horry County

This unit includes the northern tip of Waites Island from the MLLW at Little River Inlet and runs west along the Atlantic Ocean shoreline 2.0 km (1.25 mi) and includes land from the MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur. The unit continues north and west of Little River Inlet stopping at Sheephead Creek, including land from MLLW to dense vegetation line. The majority of the unit is privately owned.

Unit SC–2: Waites Island-South. 58 ha (142 ac) in Horry County

This unit includes the southern tip of Waites Island from the MLLW at Hog Inlet and runs east along the Atlantic Ocean shoreline 0.80 km (0.50 mi) and includes MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur. It continues north and west of the Hog Inlet, stopping at the first major tributary. Critical habitat includes from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur. Emerging sandbars within Hog Inlet and adjacent to the tip if eastern Cherry Grove Beach are also included from MLLW to where densely vegetated habitat or developed structures, not used by the piping plover, begins and where the constituent elements no longer occur. The majority of this unit is privately owned.

Unit SC–3: Murrells Inlet/Huntington Beach. 135 ha (334 ac) in Georgetown County

The majority of the unit is within Huntington Beach State Park. This unit extends from the southern tip of Garden City Beach, just south of the groins (a rigid structure or structures built out from a shore to protect the shore from erosion or to trap sand) north of Murrells Inlet from MLLW to where densely vegetated habitat or developed structures, not used by the piping plover, begins and where the constituent elements no longer occur stopping perpendicular with the southern end of Inlet Point Drive. It includes from MLLW south of Murrells Inlet to the northern edge of North Litchfield Beach approximately 4.5 km (3.0 mi). The unit includes the MLLW from the Atlantic Ocean up to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur. The lagoon at the north end of Huntington Beach State Park is also included.

Unit SC–4: Litchfield. 11 ha (28 ac) in Georgetown County

This unit includes the southern tip of Litchfield Beach beginning 0.50 km (0.30 mi) north of Midway Inlet and stopping at the MLLW at Midway Inlet. It includes from the MLLW on the Atlantic Ocean shoreline across and including land to the MLLW on the back bayside. This unit is mostly privately owned.

Unit SC–5: North Inlet. 99 ha (245 ac) in Georgetown County

The majority of the unit is within Tom Yawley Wildlife Center Heritage Preserve. This unit extends from MLLW to 1.0 km (.62 mi) north of North Inlet on Debidue Beach. It includes shoreline on the Atlantic Ocean from MLLW to the MLLW on the western side of the peninsula. This unit also includes from the MLLW south of North Inlet 1.6 km (1.0 mi). It includes the shoreline on the Atlantic Ocean from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur. It includes shoreline running south and west of the inlet from the MLLW stopping at the MLLW at the first large tributary (no name).

Unit SC–6: North Santee Bay Inlet. 305 ha (753 ac) in Georgetown County

The majority of the unit is within the Tom Yawley Wildlife Center Heritage Preserve and the Santee-Delta Wildlife Management Area. This unit is at the North Santee Bay inlet and includes lands of South Island, Santee Point, Cedar Island, and all of North Santee Sandbar. This unit includes from MLLW at North Santee Bay Inlet running north along the Atlantic Ocean side of South Island 7.2 km (4.5 mi), stopping 0.60 km (0.4 mi) north of an unnamed inlet. It includes areas from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur. This unit includes the eastern side of Cedar Island adjacent to the North Santee Bay Inlet from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur. All of North Santee Sandbar to MLLW is included.

Unit SC–7: Cape Romain. 315 ha (777 ac) in Charleston County

The majority of the unit is within Cape Romain National Wildlife Refuge. This unit includes the MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur on the southern and southeastern most 1.9 km (1.2 mi) portion of Cape Island, the southernmost portion of Lighthouse Island from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur, all of Lighthouse Island South to MLLW, and the southern side of the far eastern tip of Raccoon Key from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur.

Unit SC–8: Bull Island. 134 ha (332 ac) in Charleston County

The majority of the unit is within Cape Romain National Wildlife Refuge and land owned by the South Carolina Department of Natural Resources. This unit includes from Schooner Creek on north and south of the river to north of Price's Inlet on the southern portion of Bull Island along the Atlantic Ocean 1.6 km (1.0 mi) and south of Price's Inlet on the northeast tip of Capers Island Heritage Preserve 1.4 km (.86 mi) along the Atlantic Ocean. All areas begin at MLLW and extend to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur.

Unit SC–9: Stono Inlet. 495 ha (1223 ac) in Charleston County

Most of this unit is privately owned. It includes the eastern end of Kiawah Island (approximately 4.0 km (2.5 mi)) from MLLW on Atlantic Ocean running north to MLLW on first large tributary connecting east of Bass Creek running northeast into Stono River. It includes MLLW up to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur along Stono Inlet and River. All of Bird Key-Stono Heritage Preserve and all of Skimmer Flats to MLLW are included. The Golf course and densely vegetated areas are not included.

Unit SC–10: Seabrook Island. 117 ha (290 ac) in Charleston County

This unit runs from just 0.16 km (0.10 mi) north of Captain Sams Inlet to the southwest approximately 3.4 km (2.1 mi) along the Atlantic Ocean shoreline. It includes land areas from the MLLW on the Atlantic Ocean to where densely

vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur. Most of this unit is privately owned.

Unit SC–11: Deveaux Bank. 130 ha (322 ac) in Charleston County

The entire unit is within Deveaux Bank Heritage Preserve. This unit includes all of Deveaux Island to the MLLW and is State-owned.

Unit SC–12: Otter Island. 68 ha (169 ac) in Colleton County

The majority of the unit is within St. Helena Sound Heritage Preserve. This unit includes the southern portion of Otter Island to the eastern mouth of Otter Creek. It includes the MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur. The entire unit is State-owned.

Unit SC–13: Harbor Island. 50 ha (122 ac) in Beaufort County

The majority of the unit is State-owned. This unit extends from the northeastern tip of Harbor Island and includes all of Harbor Spit. It begins at the shoreline east of Cedar Reef Drive running south, stopping at the mouth of Johnson Creek. It includes the MLLW on the Atlantic Ocean and St. Helena Sound to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur. All of Harber Spit to MLLW is included.

Unit SC–14: Caper's Island. 238 ha (589 ac) in Beaufort County

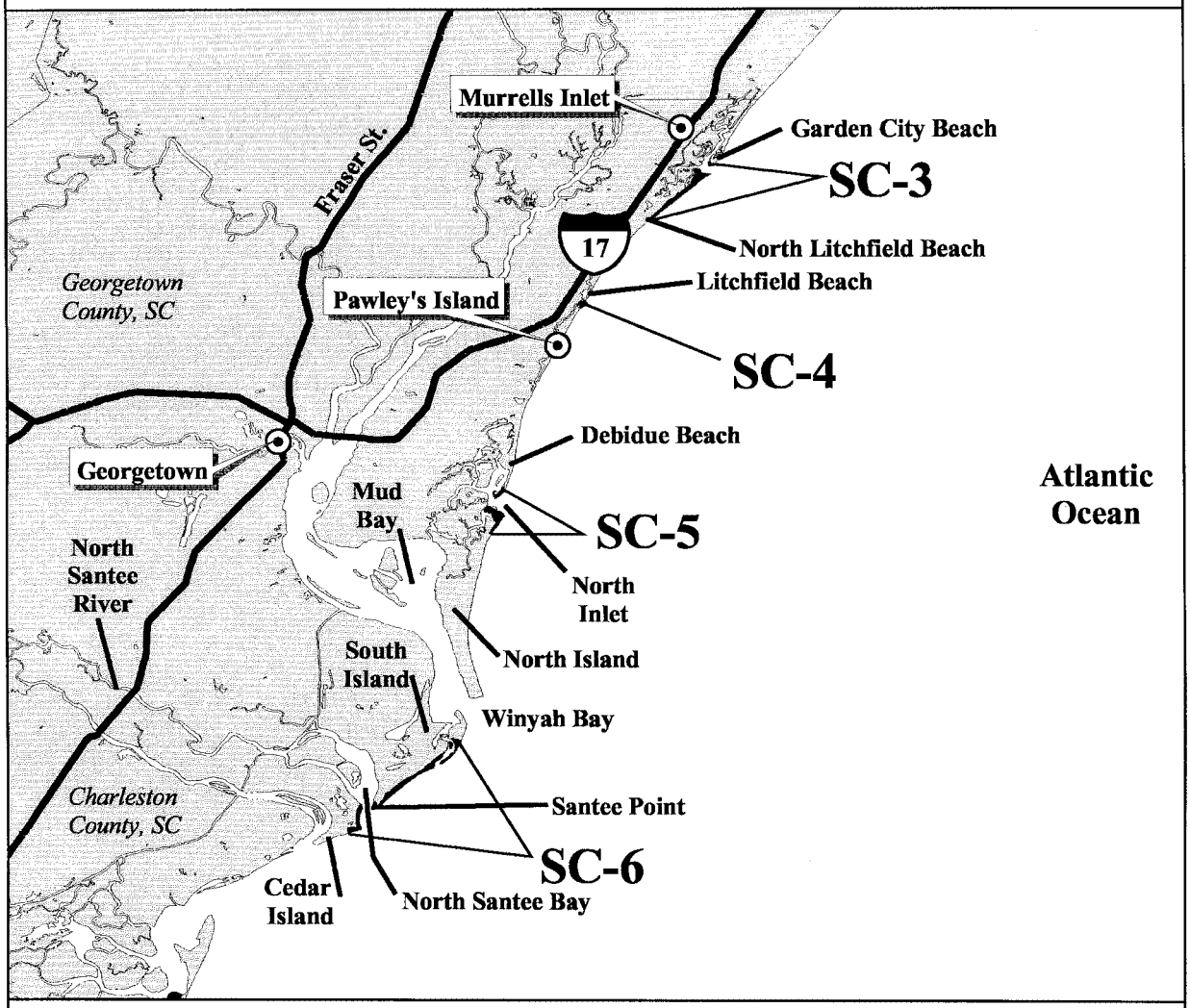
Most of this unit is privately owned. This unit includes the southern-most 4.5 km (2.8 mi) along the Atlantic Coast shoreline of Little Caper's Island beginning at MLLW on south side of the inlet (un-named). It includes the MLLW on the Atlantic Ocean shoreline to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur.

Unit SC–15: Hilton Head. 43 ha (106 ac) in Beaufort County

The majority of this unit is State-owned. This unit includes the northeastern tip (Atlantic Ocean side) of Hilton Head Island and all of Joiner Bank. It begins at the shoreline east of northern Planters Row and ends at the shoreline east of Donax Road. It includes the MLLW of Port Royal Sound and the Atlantic Ocean to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur. All of Joiner Bank to MLLW is included.

BILLING CODE 4310–55–P

# General locations of the designated critical habitat for the Wintering Piping Plover.

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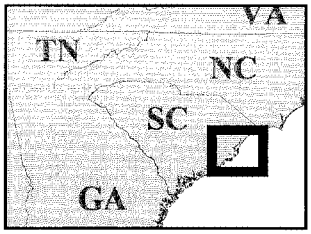



**Distance: Miles**

0 6 12

N

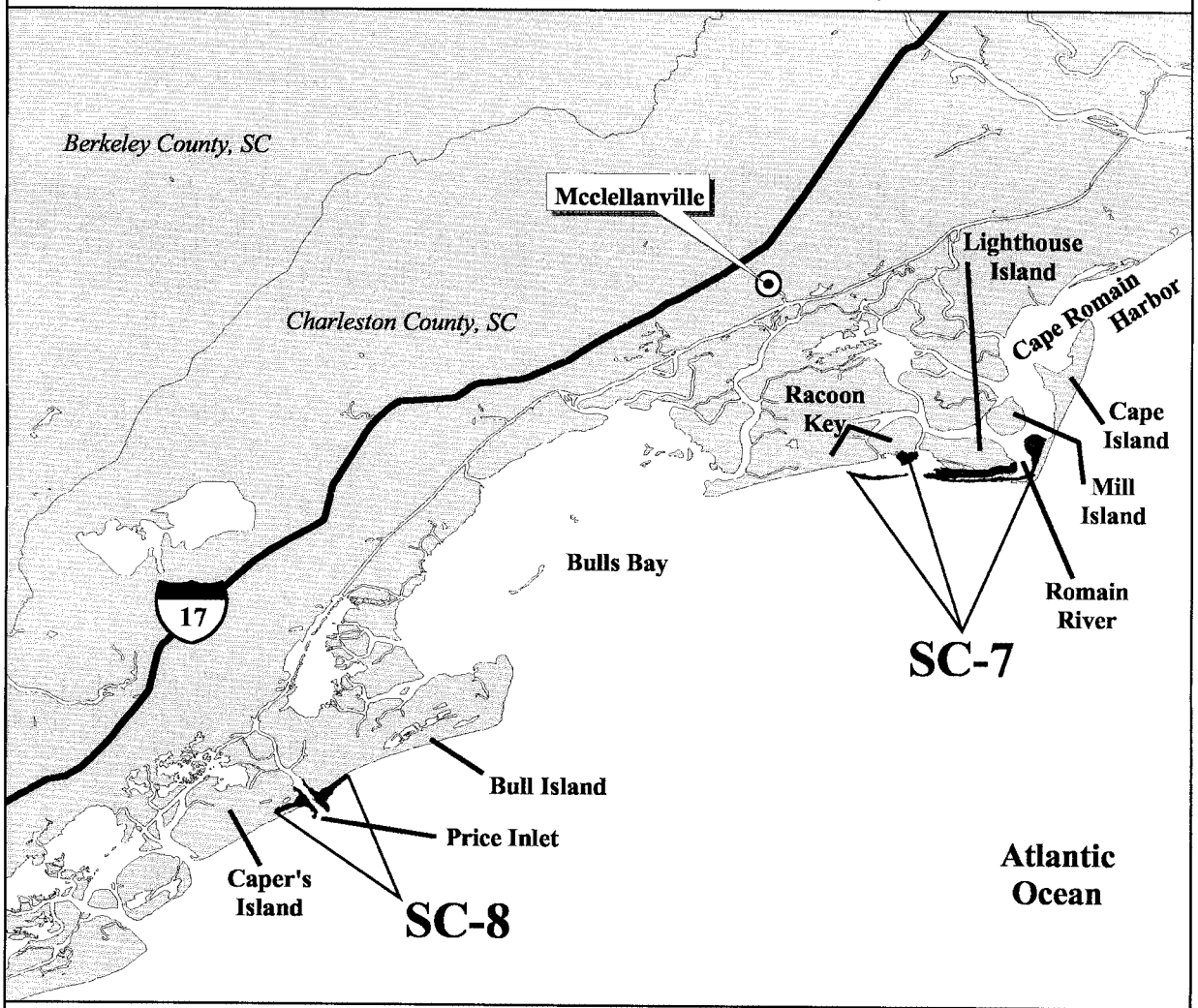
**Legend**

- City / Town
- Major Road / Highway
- Land
- Critical Habitat

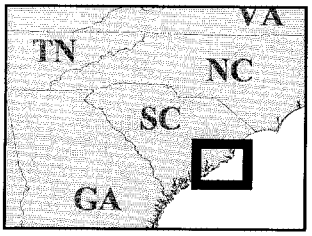
**Use Constraints:** This map is intended to be used as a guide to identify the general areas where Wintering Piping Plover critical habitat has been designated. Included within the designation of critical habitat are all land areas to the mean lower low water. Refer to the narrative unit descriptions as the precise legal definition of critical habitat.

# South Carolina Units: 3, 4, 5 and 6

# General locations of the designated critical habitat for the Wintering Piping Plover.




**General Area**




**Distance: Miles**

0 4 8

N

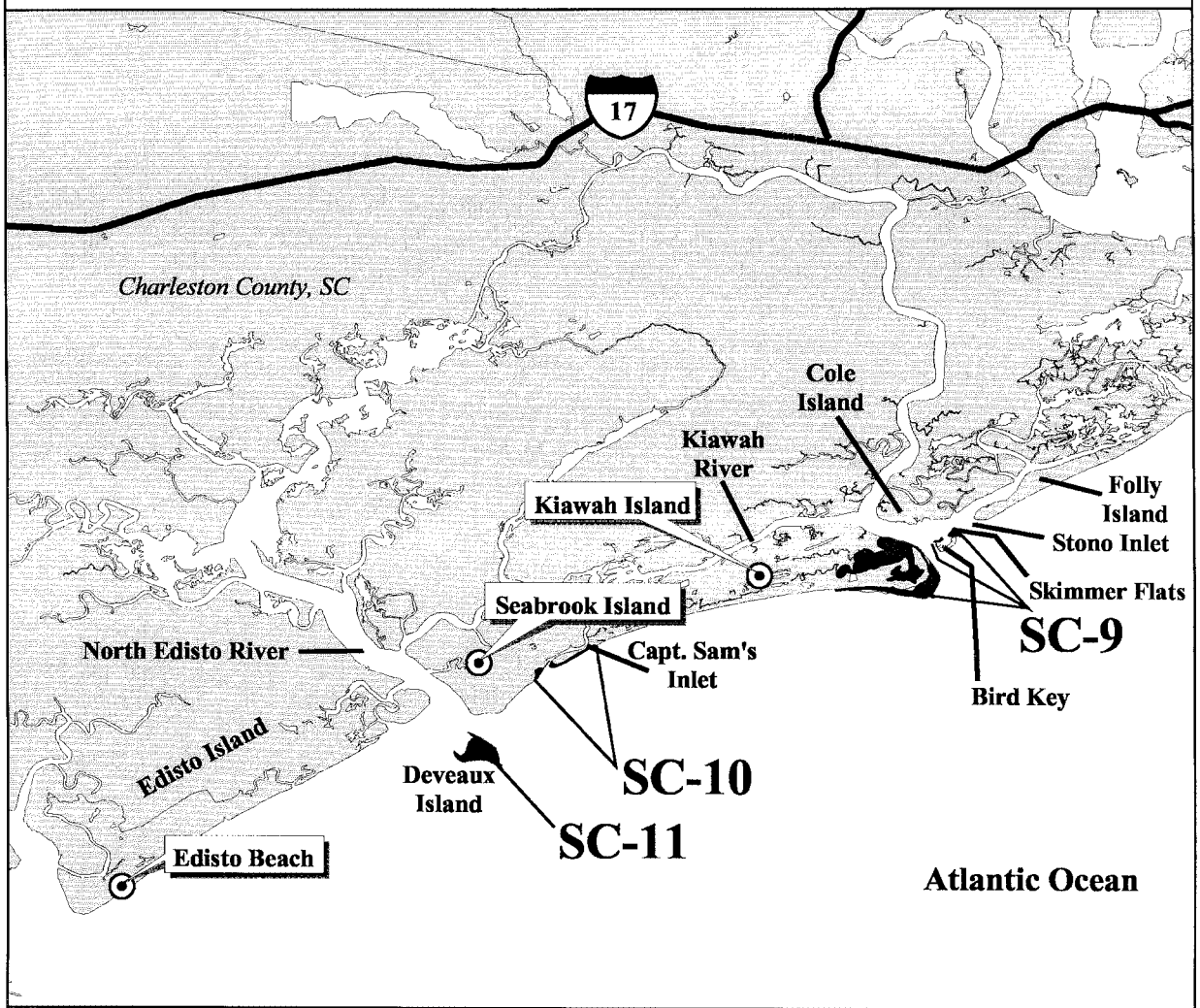
**Legend**

- City / Town
- Major Road / Highway
- Land
- Critical Habitat

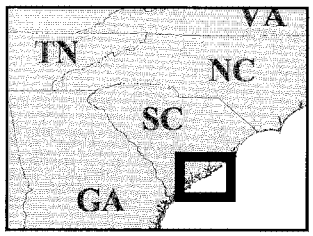
**Use Constraints:** This map is intended to be used as a guide to identify the general areas where Wintering Piping Plover critical habitat has been designated. Included within the designation of critical habitat are all land areas to the mean lower low water. Refer to the narrative unit descriptions as the precise legal definition of critical habitat.

# South Carolina Units: 7 and 8

# General locations of the designated critical habitat for the Wintering Piping Plover.




**General Area**




**Distance: Miles**

0 4 8

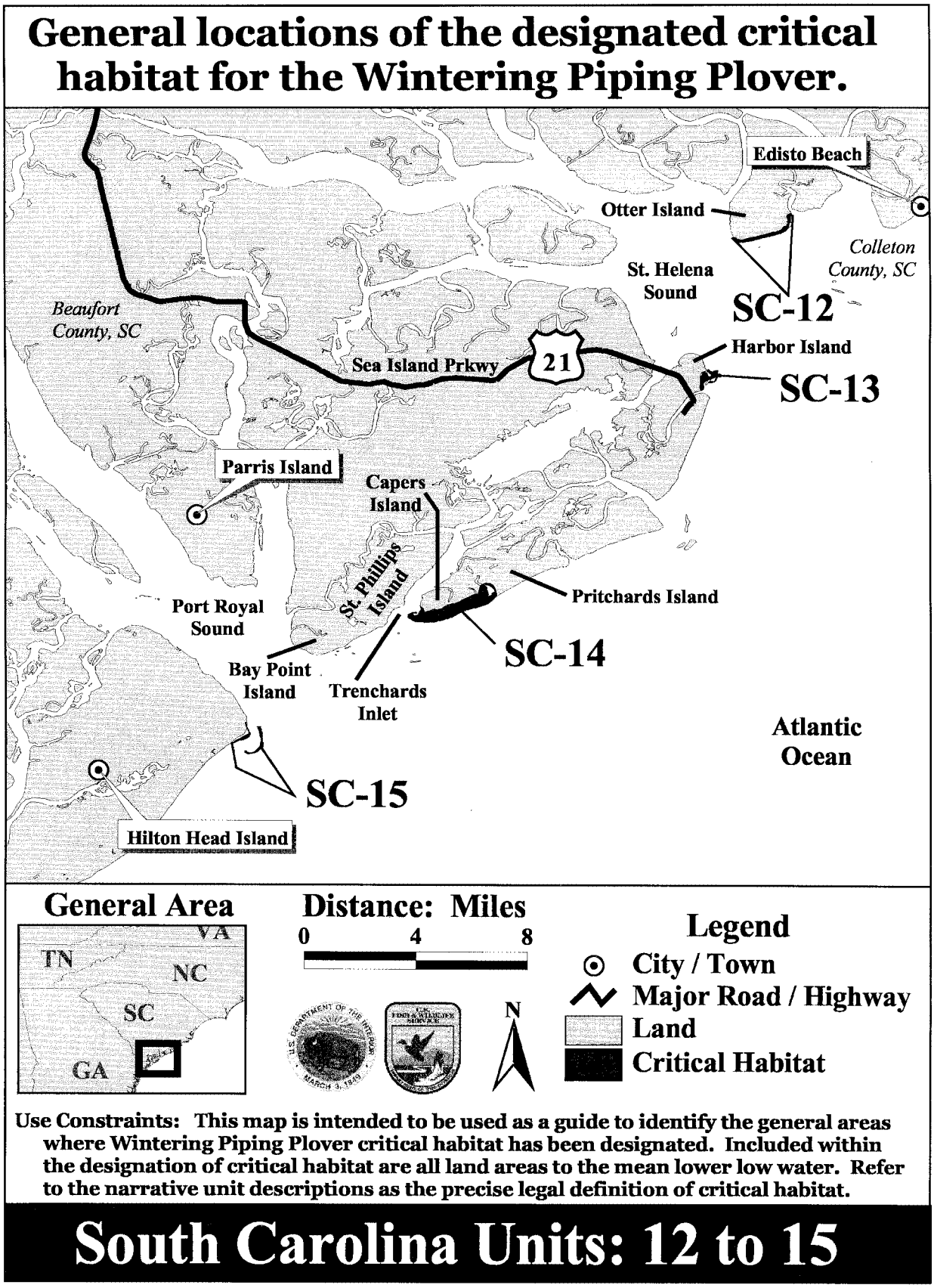
**Legend**

- City / Town
- Major Road / Highway
- Land
- Critical Habitat

N

**Use Constraints:** This map is intended to be used as a guide to identify the general areas where Wintering Piping Plover critical habitat has been designated. Included within the designation of critical habitat are all land areas to the mean lower low water. Refer to the narrative unit descriptions as the precise legal definition of critical habitat.

# South Carolina Units: 9, 10 and 11




BILLING CODE 4310–55–C

*Georgia* (Maps were digitized using 1993–94 DOQQs)

Unit GA–1: Tybee Island. 37 ha (91 ac) in Chatham County

The majority of the unit is privately owned. This unit extends along the northern tip of Tybee Island starting from 0.8 km (0.5 mi) northeast from the intersection of Crab Creek and Highway 80 to 0.7 km (0.41 mi) northeast from the intersection of Highway 80 and Horse Pen Creek. The unit includes MLLW on Savannah River and Atlantic Ocean to where densely vegetated habitat or developed structures, not used by the piping plover, begin and where the constituent elements no longer occur.

Unit GA–2: Little Tybee Island. 719 ha (1776 ac) in Chatham County

The majority of the unit is within Little Tybee Island State Heritage Preserve. This unit extends just south of the first inlet to Wassaw Sound along the Atlantic Ocean coastline, extending north along the sound 1.7 km (1.1 mi). It includes habitat from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur.

Unit GA–3: North Wassaw Island. 108 ha (267 ac) in Chatham County

The entire unit is within Wassaw National Wildlife Refuge. This unit includes the north-east tip of Wassaw Sound, 1.6 km (1.0 mi) along the inlet side and extending south along the Atlantic Ocean shoreline for 1.6 km (1.0 mi). It includes land from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur.

Unit GA–4: South Wassaw Island. 61 ha (151 ac) in Chatham County

The entire unit is within Wassaw National Wildlife Refuge. This unit extends from the last southern 1.6 km (1.0 mi.) on Atlantic Ocean side, around the southern tip of Wassaw Island, up to mouth of Odingsell River. It includes land from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur.

Unit GA–5: Ossabaw Island. 434 ha (1072 ac) in Chatham County

The entire unit is within Ossabaw Island State Heritage Preserve. This unit includes the northeastern tip from the mouth of the Bradley River east and 12 km (7.5 mi) south along the Atlantic Ocean shoreline to a point 0.4 km (0.25 mi) past the south-center inlet. It includes land from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur.

Unit GA–6: St. Catherine's Island Bar. 54 ha (135 ac) in Liberty County

The entire unit is State owned and located east-northeast of St. Catherine's Island. This unit includes the entire St. Catherine's Island Bar to MLLW.

Unit GA–7: McQueen's Inlet. 215 ha (532 ac) in Liberty County

The majority of the unit is private land along the eastern-central coastline on St. Catherine's Island. This unit extends from McQueen's Inlet north approximately 3.5 km (2.2 mi) and south approximately 1.8 km (1.1 mi). It includes land from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur.

Unit GA–8: St. Catherine's Island. 60 ha (147 ac) in Liberty County

The majority of the unit is private land on the southern tip of St. Catherine's Island. This unit starts 1.2 km (0.75 mi) north of Sapelo Sound (along Atlantic Ocean shoreline) and stops inland at Brunsen Creek. It includes land from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur.

Unit GA–9: Blackbeard Island. 129 ha (319 ac) in McIntosh County

The entire unit is within the Blackbeard Island National Wildlife Refuge. This unit includes the northeastern portion of the island beginning just east of the mouth of the confluence of McCloy Creek and Blackbeard Creek and continuing east and running south along the Atlantic Ocean shoreline for 1.4 km (.90 mi). It includes land from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur.

Unit GA–10: Sapelo Island. 85 ha (210 ac) in McIntosh County

The entire unit is State-owned and within Sapelo Island. The unit extends south of Cabretta Tip approximately 0.2 km (0.13 mi) and north of Cabretta Tip 1.6 km (1.0 mi). It includes land from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur.

Unit GA–11: Wolf Island. 238 ha (590 ac) in McIntosh County

The majority of the unit is within Wolf Island National Wildlife Refuge and private lands just north of the Refuge. This unit includes the southeastern tip of Queen's island adjacent to the Doboy Sound and includes the eastern shoreline of Wolf Island. It includes land from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur.

Unit GA–12: Egg Island Bar. 61 ha (151 ac) in McIntosh County

This unit is State owned and includes all of Egg Island Bar to the MLLW.

Unit GA–13: Little St. Simon's Island. 609 ha (1505 ac) in Glynn County

The majority of the unit is private land on Little St. Simon's Island. This unit includes the entire eastern coastline along Little St. Simon's Island. It begins 1.1 km (.70 mi) west of the northeast tip of Little St. Simon's Island and runs east and then south along the Atlantic Ocean shoreline stopping at the minor tributary (no name) on the southeast tip of Little St. Simon's Island north of Hampton Creek. It includes land from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur. All of Pelican Spit to MLLW is included when this sand bar is emergent.

Unit GA–14: Sea/St. Simon's Island. 191 ha (471 ac) in Glynn County

The majority of the unit is private land on the south tip of Sea Island and on the east beach of St. Simons Island. This unit extends north of Gould's Inlet (Sea Island) 2.5 km (1.54 mi) starting just south of the groin and extends south of Gould's Inlet (St. Simons Island) 1.6 km (1.0 mi). It includes land from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur.

Unit GA–15: Jekyll Island. 49 ha (121 ac) in Glynn County

The majority of the unit is within State lands on Jekyll Island. This unit includes the southern region of Jekyll Island beginning at the mouth of Beach Creek, running towards the tip of Jekyll Island and includes the shoreline running north along the Atlantic Ocean shoreline 1.9 km (1.20 mi) from the southern tip of Jekyll Island. It includes land from MLLW to where densely vegetated habitat, not used by the piping

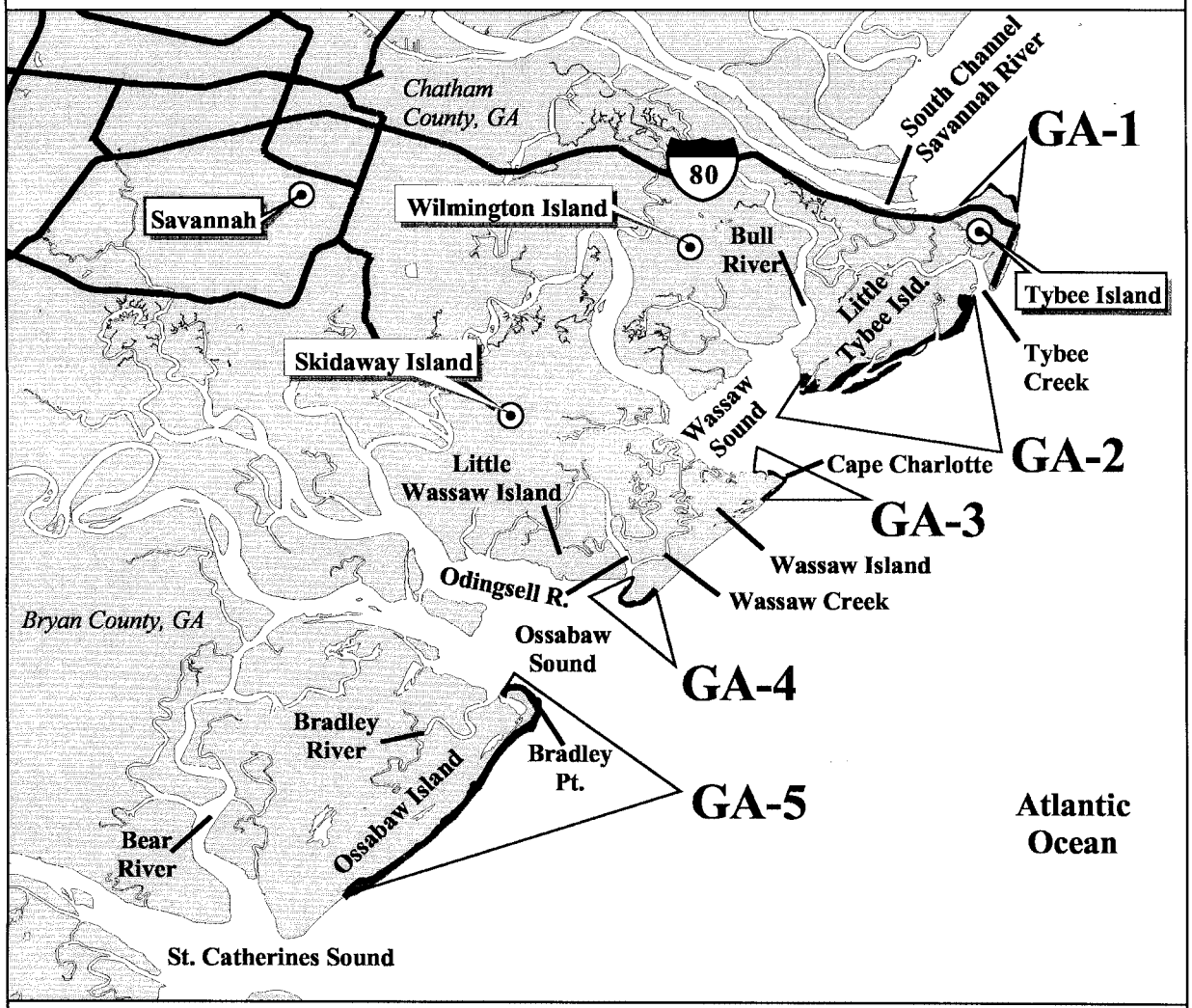
plover, begins and where the constituent elements no longer occur.

Unit GA–16: Cumberland Island. 1454 ha (3591 ac) in Camden County

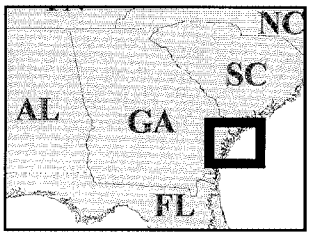
The majority of the unit is along Cumberland Island Wilderness Area and Cumberland Island National Seashore. This unit includes the majority of the eastern Atlantic Ocean shoreline of Cumberland Island. It begins .50 km (.31 mi) north of the inlet at Long Point, continues south along the Atlantic Ocean shoreline stopping 1.8 km (1.1 mi) west of the southern tip of Cumberland Island National Seashore. It includes land from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur.

BILLING CODE 4310–55–P

# General locations of the designated critical habitat for the Wintering Piping Plover.




## General Area




## Distance: Miles

0 4 8

N

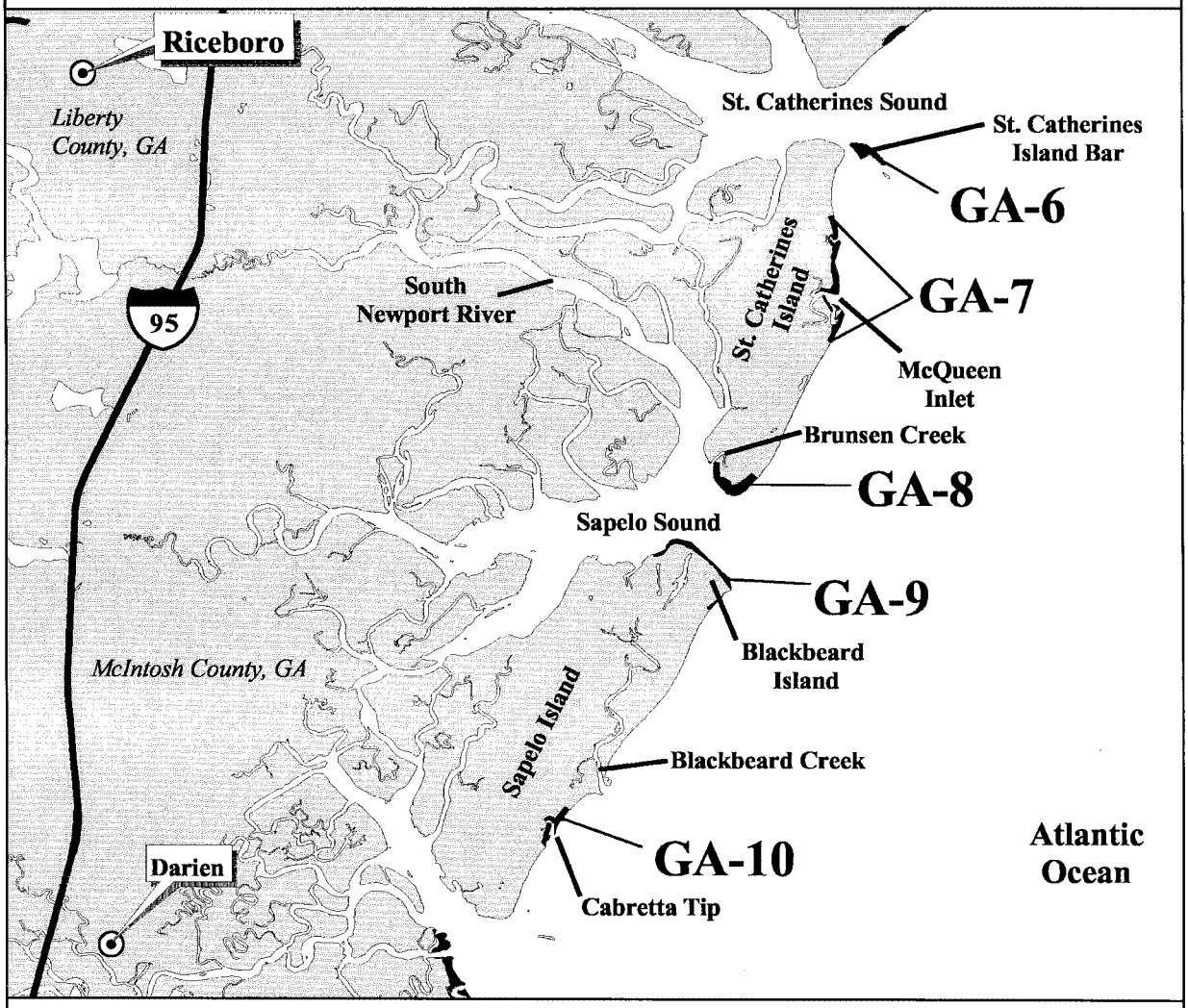
## Legend

- City / Town
- Major Road / Highway
- Land
- Critical Habitat

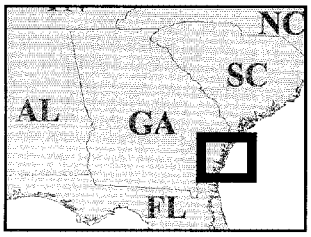
**Use Constraints:** This map is intended to be used as a guide to identify the general areas where Wintering Piping Plover critical habitat has been designated. Included within the designation of critical habitat are all land areas to the mean lower low water. Refer to the narrative unit descriptions as the precise legal definition of critical habitat.

# Georgia Units: 1, 2, 3, 4 and 5

# General locations of the designated critical habitat for the Wintering Piping Plover.




**General Area**




**Distance: Miles**

0 4 8

**Legend**

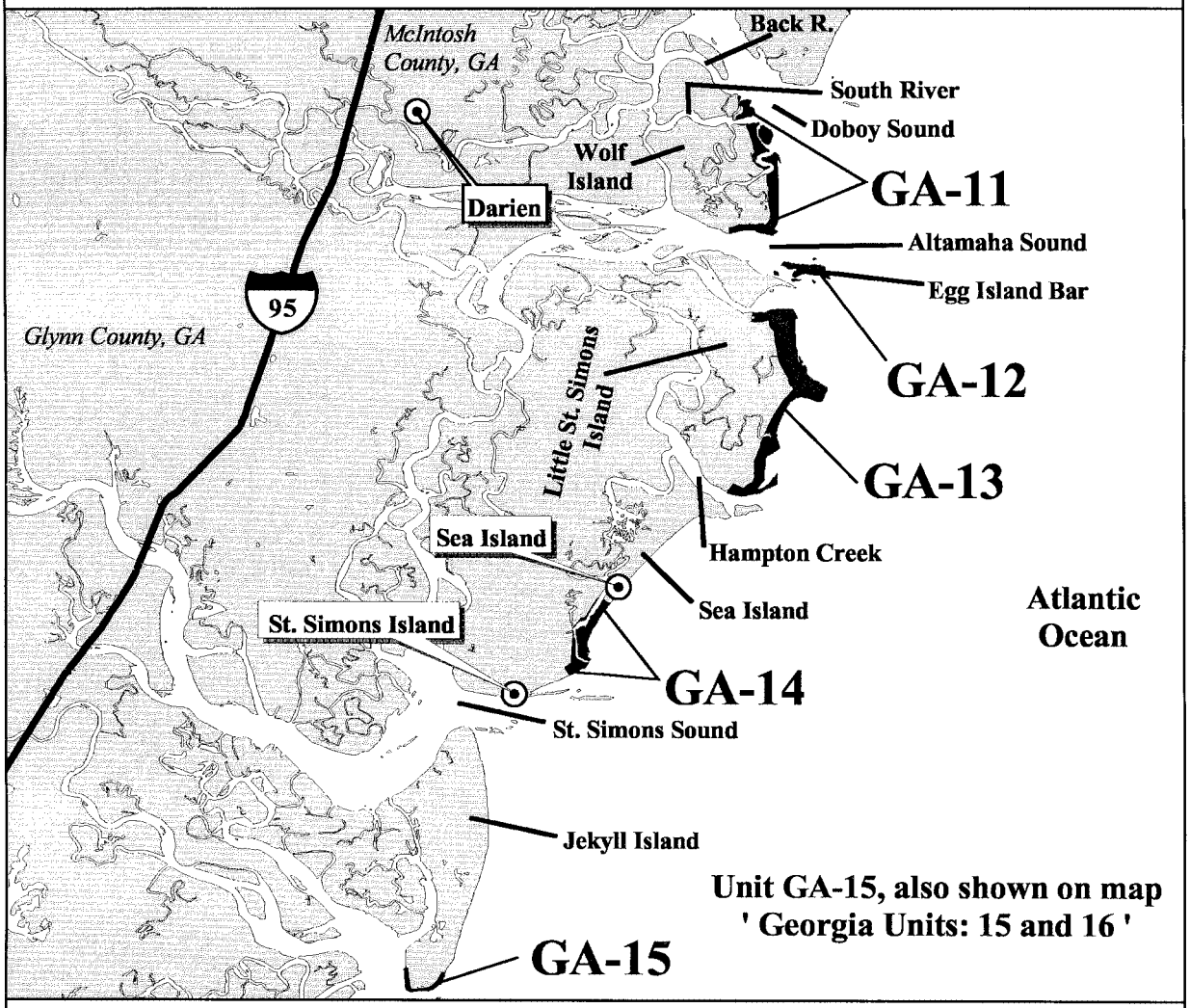
- City / Town
- Major Road / Highway
- Land
- Critical Habitat

N

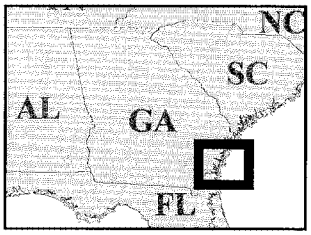
**Use Constraints:** This map is intended to be used as a guide to identify the general areas where Wintering Piping Plover critical habitat has been designated. Included within the designation of critical habitat are all land areas to the mean lower low water. Refer to the narrative unit descriptions as the precise legal definition of critical habitat.

# Georgia Units: 6, 7, 8, 9 and 10

# General locations of the designated critical habitat for the Wintering Piping Plover.




**General Area**




**Distance: Miles**

0 4 8

N

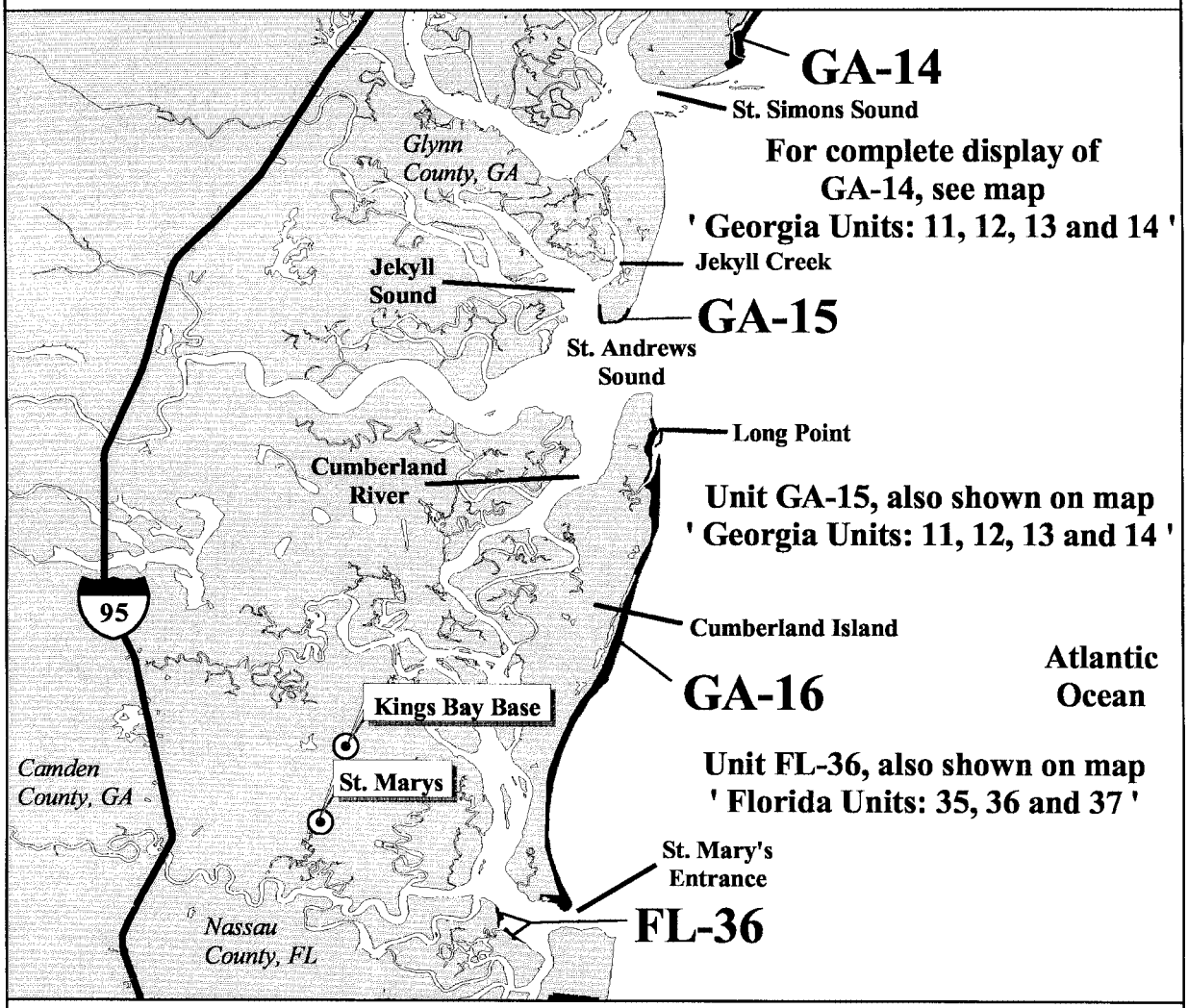
**Legend**

- City / Town
- Major Road / Highway
- Land
- Critical Habitat

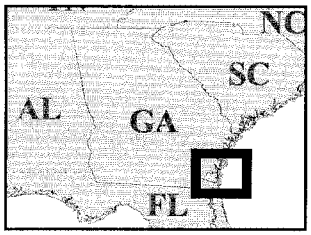
**Use Constraints:** This map is intended to be used as a guide to identify the general areas where Wintering Piping Plover critical habitat has been designated. Included within the designation of critical habitat are all land areas to the mean lower low water. Refer to the narrative unit descriptions as the precise legal definition of critical habitat.

# Georgia Units: 11, 12, 13 and 14

# General locations of the designated critical habitat for the Wintering Piping Plover.




## General Area




## Distance: Miles

0 5 10

## Legend

- City / Town
- Major Road / Highway
- Land
- Critical Habitat

N

**Use Constraints:** This map is intended to be used as a guide to identify the general areas where Wintering Piping Plover critical habitat has been designated. Included within the designation of critical habitat are all land areas to the mean lower low water. Refer to the narrative unit descriptions as the precise legal definition of critical habitat.

# Georgia Units: 15 and 16

BILLING CODE 4310–55–C

*Florida* (Maps were digitized using 1994–95 DOQQs)

Unit FL–1: Big Lagoon. 8 ha (19 ac) in Escambia County

The majority of the unit is within Big Lagoon State Recreation Area. This unit includes the peninsula and emerging sand and mudflats between 0.33 km (0.21 mi) west of the lookout tower along the shoreline and 0.24 km (0.15 mi) east of the lookout tower along the shoreline. Land along the shoreline from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur. All emerging sandbars to MLLW are included.

Unit FL–2: Big Sabine. 182 ha (450 ac) in Escambia County

The majority of the unit is owned by the University of West Florida. This unit includes areas adjacent to Santa Rosa Sound of Big Sabine Point and adjacent embayment between 8.0 km (5.0 mi) and 11.6 (7.2 mi) east of the Bob Sike's Bridge. It begins 0.10 km (.06 mi) north of SR 399 to MLLW on the Santa Rosa Sound.

Unit FL–3: Navarre Beach. 48 ha (118 ac) in Escambia and Santa Rosa Counties

The majority of the unit is owned by Eglin Air Force Base and Santa Rosa Island Authority. This unit includes lands on Santa Rosa Island Sound side, between 0.09 and 0.76 mi east of the eastern end of SR 399 to MLLW on Santa Rosa Sound side.

Unit FL–5: Shell/Crooked Islands. 1789 ha (4419 ac) in Bay County

The majority of the unit is within Tyndall Air Force Base and St. Andrews State Recreation Area. This unit includes all of Shell Island, Crooked Island West, and Crooked Island East from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur.

Unit FL–6: Upper St. Joe Peninsula. 182 ha (449 ac) in Gulf County

The majority of the unit is within St. Joseph State Park. This unit includes the northern portion of the peninsula from the tip to 8.0 km (5.0 mi) south along the Gulf of Mexico from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur.

Unit FL–7: Cape San Blas. 158 ha (390 ac) in Gulf County

The entire unit is within Eglin Air Force Base. This unit includes the area known as the Cape between the eastern boundary of Eglin and mile marker 2.1, including the peninsula and all emerging sandbars. It includes land from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur.

Unit FL–8: St. Vincent Island. 146 ha (361 ac) in Franklin County

The majority of the unit is within St. Vincent National Wildlife Refuge. This unit includes the western tip of St. Vincent Island that is adjacent to Indian Pass (0.80 km (0.50 mi) east of tip along Indian Pass, and 1.9 km (1.2 mi) from tip southeast along Gulf of Mexico). The unit also includes St. Vincent Point from the inlet at Sheepshead Bayou east 1.6 km (1.0 mi) to include emerging oysters shoals and sand bars and extends south 0.21 km (0.13 mi) of St. Vincent Point. The unit includes the southeastern tip of St. Vincent Island extending north 1.4 km (0.90 mi) and south and west 2.1 km (1.3 mi). The western tip of Little St. George Island 0.80 km (0.50 mi) from West Pass is included (state owned lands). All sections of this unit include land from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur.

Unit FL–9: East St. George Island. 1433 ha (3540 ac) in Franklin County

The majority of the unit is within St. George State Park. This unit begins 5.3 km (3.3 mi) east of the bridge and extends to East Pass. Shell Point, Rattlesnake Cove, Goose Island, East Cove, Gap Point, and Marsh Island are included. This unit includes land from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur on the Gulf of Mexico, East Pass and St. George Sound.

Unit FL–10: Yent Bayou. 153 ha (378 ac) in Franklin County

The majority of the unit is State owned. This unit is adjacent to the area known as Royal Bluff. It includes the St. George Sound shoreline between 5.9 km (3.7 mi) and 9.5 km (5.9mi) east of SR 65. It includes from MLLW to where densely vegetated habitat or developed structures such as SR 65, not used by the piping plover, begin and where the constituent elements no longer occur.

Unit FL–11: Carabelle Beach. 56 ha (139 ac) in Franklin County

The area within this unit is privately owned. This unit is the peninsula created by Boggy Jordan Bayou. It includes St. George Sound shoreline (south of US 98) 1.6 km (1.0 mi) southwest along US 98 from the Carrabelle River Bridge and extends 1.9 km (1.2 mi) east along the St. George Sound shoreline. It includes from MLLW to where densely vegetated habitat or developed structures such as US 98, not used by the piping plover, begin and where the constituent elements no longer occur.

Unit FL–12: Lanark Reef. 260 ha (643 ac) in Franklin County

The entire unit is State owned. This unit includes the entire island and emerging sandbars to MLLW.

Unit FL–13: Phipps Preserve. 42 ha (104 ac) in Franklin County

This unit includes all of Phipps Preserve (owned by The Nature Conservancy) and any emerging sandbars from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur.

Unit FL–14: Hagens Cove. 486 ha (1200 ac) in Taylor County

The majority of the unit is within Big Bend Wildlife Management Area. This unit includes all of Hagens Cove and extends from MLLW on north side of Sponge Point to MLLW on south side of Piney Point. The eastern boundary of this unit ends (0.20 mi) west of SR 361. It includes from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur.

Unit FL–15: Anclote Key and North Anclote Bar. 146 ha (360 ac) in Pasco and Pinellas Counties

The majority of the unit is within Anclote Key State Preserve. This unit includes all of North Anclote Bar to the MLLW and the north, south and western sides of Anclote Key from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur.

Unit FL–16: Three Rooker Bar Island. 76 ha (188 ac) in Pinellas County

The majority of the unit is within Pinellas County Aquatic Preserve. This unit includes all the islands and emerging sandbars of this complex to MLLW.

Unit FL–17: North Honeymoon Island. 45 ha (112 ac) in Pinellas County

The majority of the unit is within Honeymoon Island State Recreation Area. This unit includes from Pelican Cove north to the far northern tip of Honeymoon Island. It includes the western shoreline from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur or the MLLW on the eastern shoreline.

Unit FL–18: South Honeymoon Island. 28 ha (70 ac) in Pinellas County

The majority of the unit is private land. This unit includes the southern end (southern-most 0.32 km (0.20 mi) on western side) of Honeymoon Island and encompasses the far southeastern tip and includes any emerging islands or sandbars to Hurricane Pass. It includes from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur.

Unit FL–19: Caladesi Island. 120 ha (296 ac) in Pinellas County

The majority of the unit is within Caladesi Island State Park. This unit extends from Hurricane Pass to Dunedin Pass on the Gulf of Mexico side. It includes from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur.

Unit FL–20: Shell Key and Mullet Key. 190 ha (470 ac) in Pinellas County

The majority of the unit is within Fort Desoto Park. This unit includes the Shell Key island complex. It also includes the northwest portion of Mullet Key including the western shorelines from Bunces Pass extending south, stopping 1.4 km (.86 mi) north of Ft. Desoto County Park pier. It includes from MLLW to where densely vegetated habitat or developed structures, not used by the piping plover, begin and where the constituent elements no longer occur.

Unit FL–21: Egmont Key. 153 ha (377 ac) Hillsborough County

The majority of the unit is within Egmont Key National Wildlife Refuge. This unit includes the entire island to MLLW.

Unit FL–22: Cayo Costa. 175 ha (432 ac) in Lee County

The majority of the unit, including its northern and southern boundaries, is within Cayo Costa State Park, and nearly all of the remaining area is in the Cayo Costa Florida Conservation and Recreation Lands (CARL) acquisition project. This unit begins at the northern limit of sandy beaches at the northern end of the island, extends through Murdock Point, which at present has a sandbar and lagoon system, and ends at the former entrance to Murdock Bayou. It includes land from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur.

Unit FL–23: North Captiva Island. 36 ha (88 ac) in Lee County

The unit is within the Cayo Costa CARL land purchase project. This unit includes the western shoreline extending from 0.80 km (0.50 mi) south of Captiva Pass to approximately Foster Bay. It includes land from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur.

Unit FL–25: Bunche Beach. 187 ha (461 ac) in Lee County

This unit is mostly within a CARL Estero Bay acquisition project. Bunche Beach (also spelled Bunch) lies along San Carlos Bay, on the mainland between Sanibel Island and Estero Island (Fort Myers Beach), extending east from the Sanibel Causeway past the end of John Morris Road to a canal serving a residential subdivision. The unit also includes the western tip of Estero Island (Bodwitch Point, also spelled Bowditch Point), including Bowditch Regional Park, operated by Lee County and, on the southwest side of the island facing the Gulf, the beach south nearly to the northwesterly intersection of Estero Boulevard and Carlos Circle. It includes land from MLLW to where densely vegetated habitat or developed structures, not used by the piping plover, begin and where the constituent elements no longer occur or, along the developed portion of Estero Island.

Unit FL–26: Estero Island. 86 ha (211 ac) in Lee County

The majority of the unit is privately owned. The unit consists of approximately the southern third of the island's Gulf-facing shoreline starting near Avenida Pescadora to near Redfish Road. The unit excludes south-facing shoreline at the south end of the island that faces Big Carlos Pass rather than the Gulf. It includes land from MLLW to where densely vegetated habitat (including grass or lawns) or developed structures, not used by the piping plover, begin and where the constituent elements no longer occur.

Unit FL–27: Marco Island. 245 ha (606 ac) in Collier County

Most of the unit is at the Tigertail Beach County Park. The unit's northern border is on the north side of Big Marco Pass, including Coconut Island and all emerging sand bars. On the south side of Big Marco Pass, the boundary starts at the north boundary of Tigertail Beach County Park and extends to just south of the fourth condominium tower south of the County Park. The placement of the southern boundary assures that the unit includes all of Sand Dollar Island, the changeable sandbar off Tigertail Beach. The western boundary includes all the sand bars in Big Marco Pass but excludes Hideaway Beach. It includes land from MLLW to where densely vegetated habitat (including grass or lawns) or developed structures, not used by the piping plover, begin and where the constituent elements no longer occur.

Unit FL–28: Marquesas Keys. 2937 ha (7256 ac) in Monroe County

The unit comprises the roughly circular atoll that encloses Mooney Harbor, including Gull Keys and Mooney Harbor Key. The entire unit is within Key West National Wildlife Refuge. It includes land from MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur.

Unit FL–29: Boca Grande/Woman/Ballast Keys. 56 ha (138 ac) in Monroe County

These Keys are east of the Marquesas Keys and west of Key West. Boca Grande and Woman Keys are within Key West National Wildlife Refuge. Ballast Key is privately owned. This unit consists only of sandy beaches and flats between the MLLW and to where densely vegetated habitat or developed structures, not used by the piping plover, begin and where the constituent elements no longer occur.

Unit FL–30: Bahia Honda/Ohio Keys. 372 ha (918 ac) in Monroe County

This unit comprises Bahia Honda Key (including a small island off its southwest shore), which is almost entirely owned by Bahia Honda State Park, plus Ohio Key, which is privately owned. It includes land from MLLW to where densely vegetated habitat (including grass or lawns) or developed structures, not used by the piping plover, begin and where the constituent elements no longer occur.

Unit FL–31: Lower Matecumbe Key. 19 ha (48 ac) in Monroe County

Part of the unit is at Anne's Beach park, an Islamorada village park. The remaining parts are at Sunset Drive (Lower Matecumbe Beach) and at Costa Bravo Drive (Port Antiqua Homeowners Beach) on the Florida Bay side of the island. It includes land from MLLW to where densely vegetated habitat (including grass or lawns) or developed structures, not used by the piping plover, begin and where the constituent elements no longer occur.

Unit FL–32: Sandy Key/Carl Ross Key. 67 ha (165 ac) in Monroe County

This unit consists of two adjoining islands in Florida Bay, roughly south of Flamingo in Everglades National Park. The entire area is owned and managed by the National Park Service. It includes land from MLLW to where densely vegetated habitat (including grass or lawns) or developed structures, not used by the piping plover, begin and where the constituent elements no longer occur.

Unit FL–33: St. Lucie Inlet. 114 ha (282 ac) in Martin County

The unit includes a small area south of the jetty on the north shore of St. Lucie Inlet, from the jetty west 0.42 km (0.26 mi). While the two sides of the inlet are privately owned, the great majority of the unit is on public land in the Saint Lucie Inlet State Preserve, administered by Jonathan Dickinson State Park. It begins on the sandy shoreline south of Saint Lucie Inlet and extends along the Atlantic Ocean shoreline 2.6 km (1.6 mi). It includes land from MLLW to where densely vegetated habitat (including grass or lawns) or developed structures, not used by the piping plover, begin and where the constituent elements no longer occur. The unit does not include sandbars within the inlet.

Unit FL–34: Ponce de Leon Inlet. 68 ha (168 ac) in Volusia County

The majority of the unit is within Smyrna Dunes Park and Lighthouse Point Park. This unit includes shoreline extending from the jetty north of Ponce de Leon Inlet west to the Halifax River and Inlet junction. It includes shoreline south of Ponce de Leon Inlet from the inlet and Halifax River junction, extending east and south along the Atlantic Ocean shoreline 1.2 km (.70 mi). It includes land from MLLW to where densely vegetated habitat (including grass or lawns) or developed structures, not used by the piping plover, begin and where the constituent elements no longer occur.

Unit FL–35: Nassau Sound-Huguenot. 950 ha (2347 ac) in Duval County

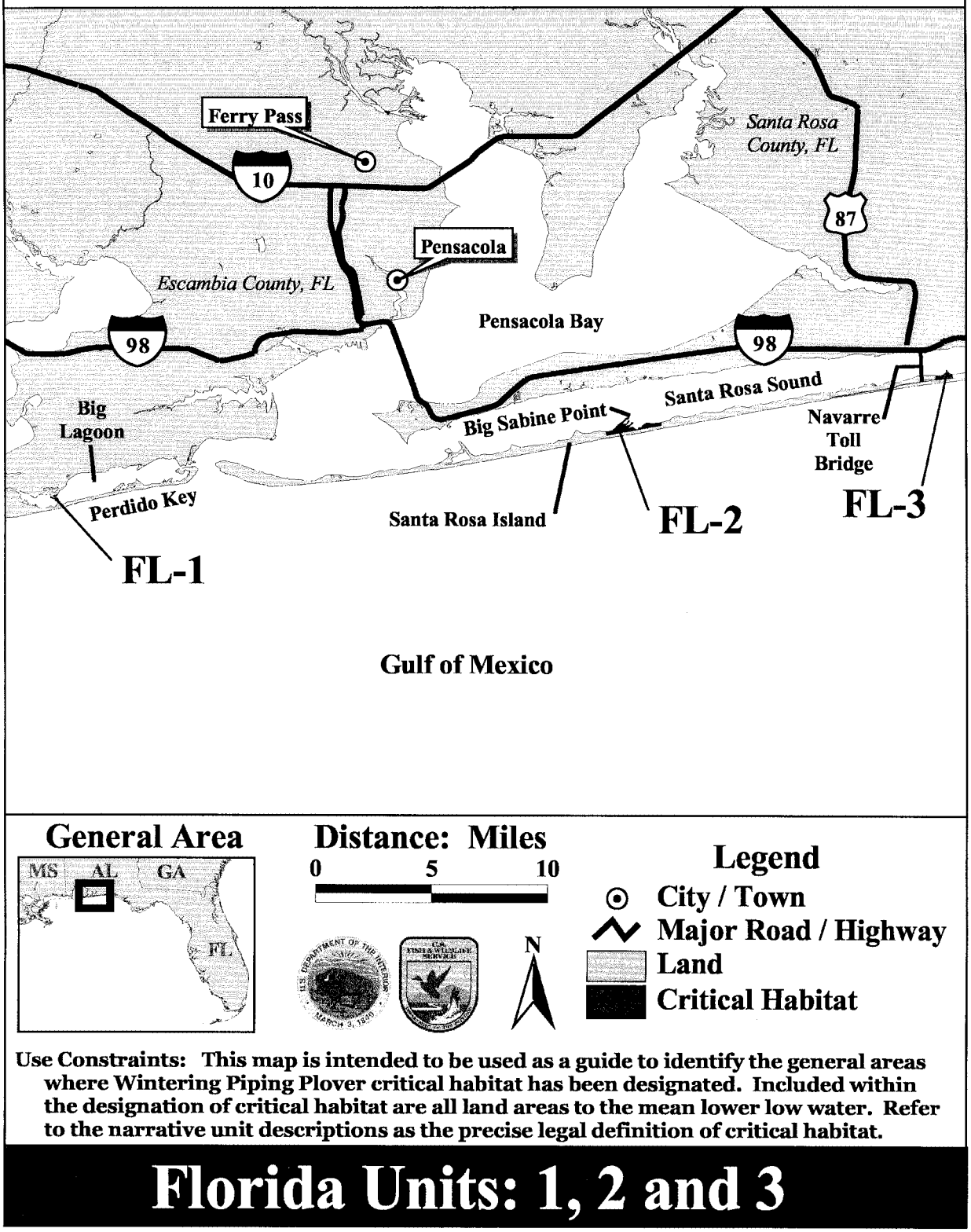
The majority of the unit is within Big Talbot Island State Park, Little Talbot Island State Park, and the Timucuan Ecological and Historical Preserve. This unit includes all emergent shoals and shoreline east of Nassau River bridge and extends to the inlet of the St. John's River. Amelia Island and the northern 2.7 km (1.7 mi) shoreline along Talbot Island are not included. It includes land from MLLW to where densely vegetated habitat (including grass or lawns) or developed structures, not used by the piping plover, begin and where the constituent elements no longer occur.

Unit FL–36: Tiger Islands. 53 ha (130 ac) in Nassau County

This unit is privately owned. This unit extends from the mouth of Tiger Creek and runs north along Tiger Island 0.8 km (0.5 mi) and south along Little Tiger Island 1.4 km (0.9 mi). It includes land from MLLW to where densely vegetated habitat (including grass or lawns) or developed structures, not used by the piping plover, begin and where the constituent elements no longer occur. Emerging sandbars to MLLW are also included.

BILLING CODE 4310–55–P

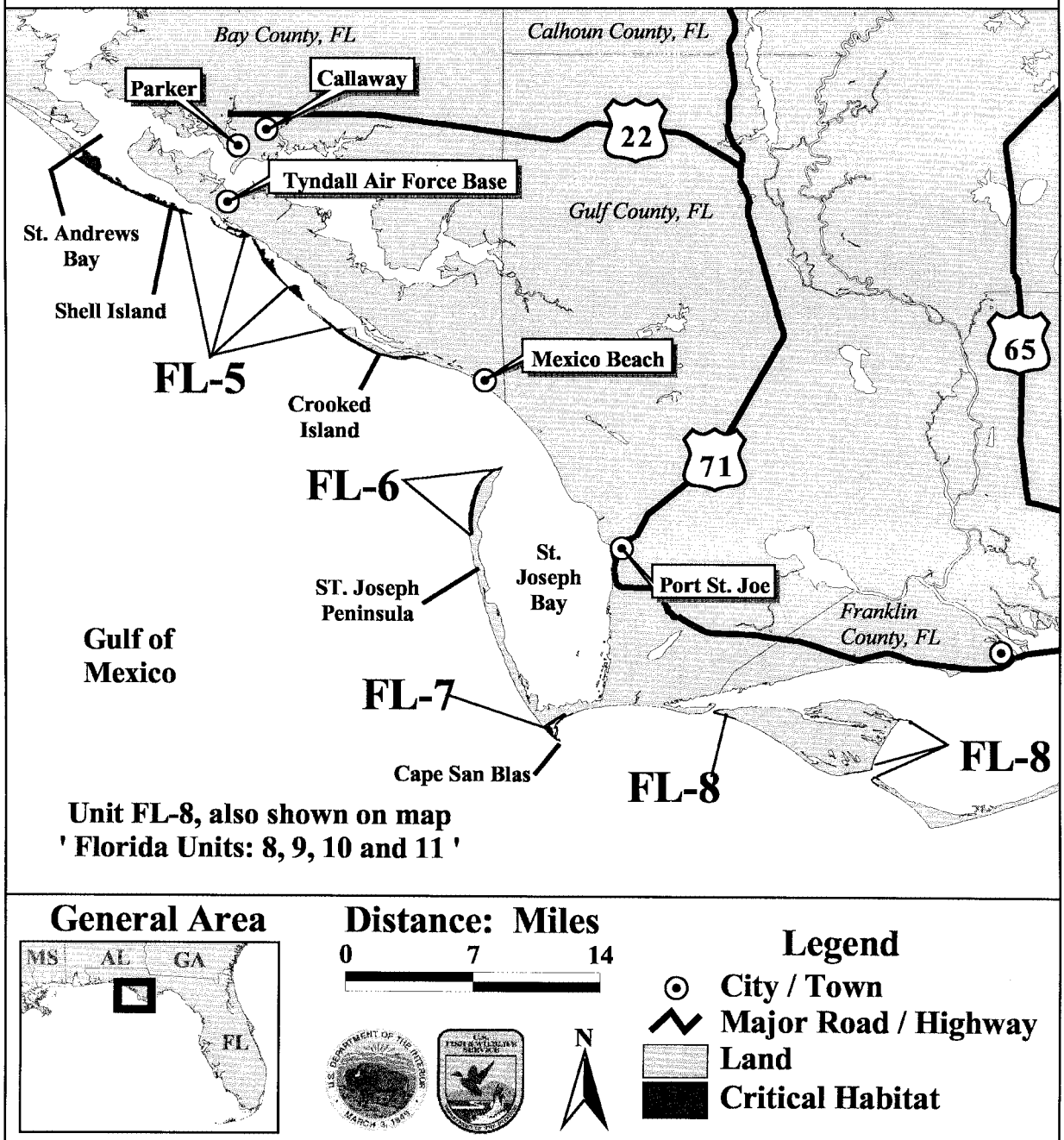
# General locations of the designated critical habitat for the Wintering Piping Plover.




**Use Constraints:** This map is intended to be used as a guide to identify the general areas where Wintering Piping Plover critical habitat has been designated. Included within the designation of critical habitat are all land areas to the mean lower low water. Refer to the narrative unit descriptions as the precise legal definition of critical habitat.

# Florida Units: 1, 2 and 3

# General locations of the designated critical habitat for the Wintering Piping Plover.

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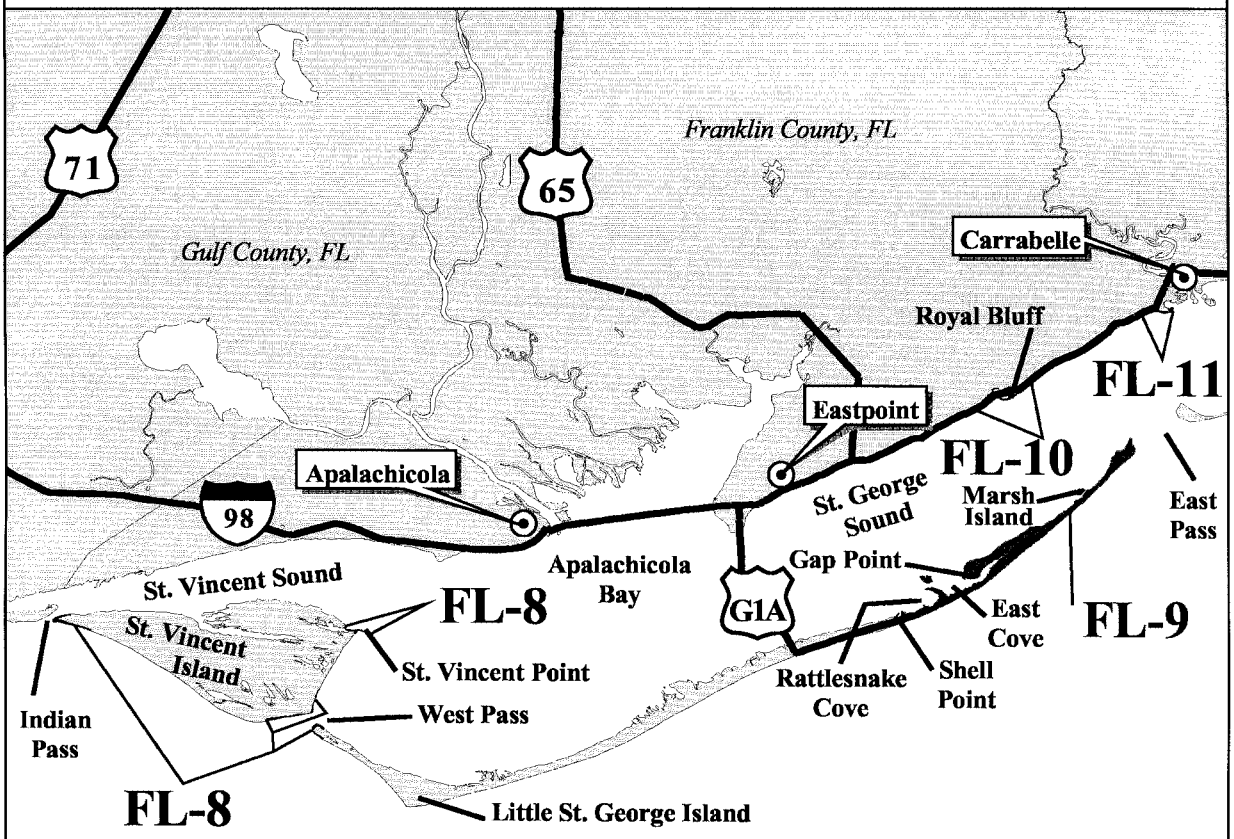
# Florida Units: 5, 6 and 7

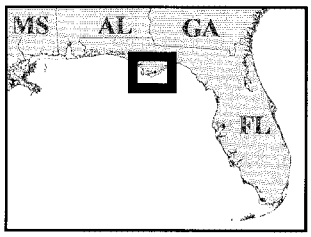
# General locations of the designated critical habitat for the Wintering Piping Plover.




Unit FL-8, also shown on map ' Florida Units: 5, 6 and 7 '

Gulf of Mexico

## General Area




## Distance: Miles

0 5 10

N

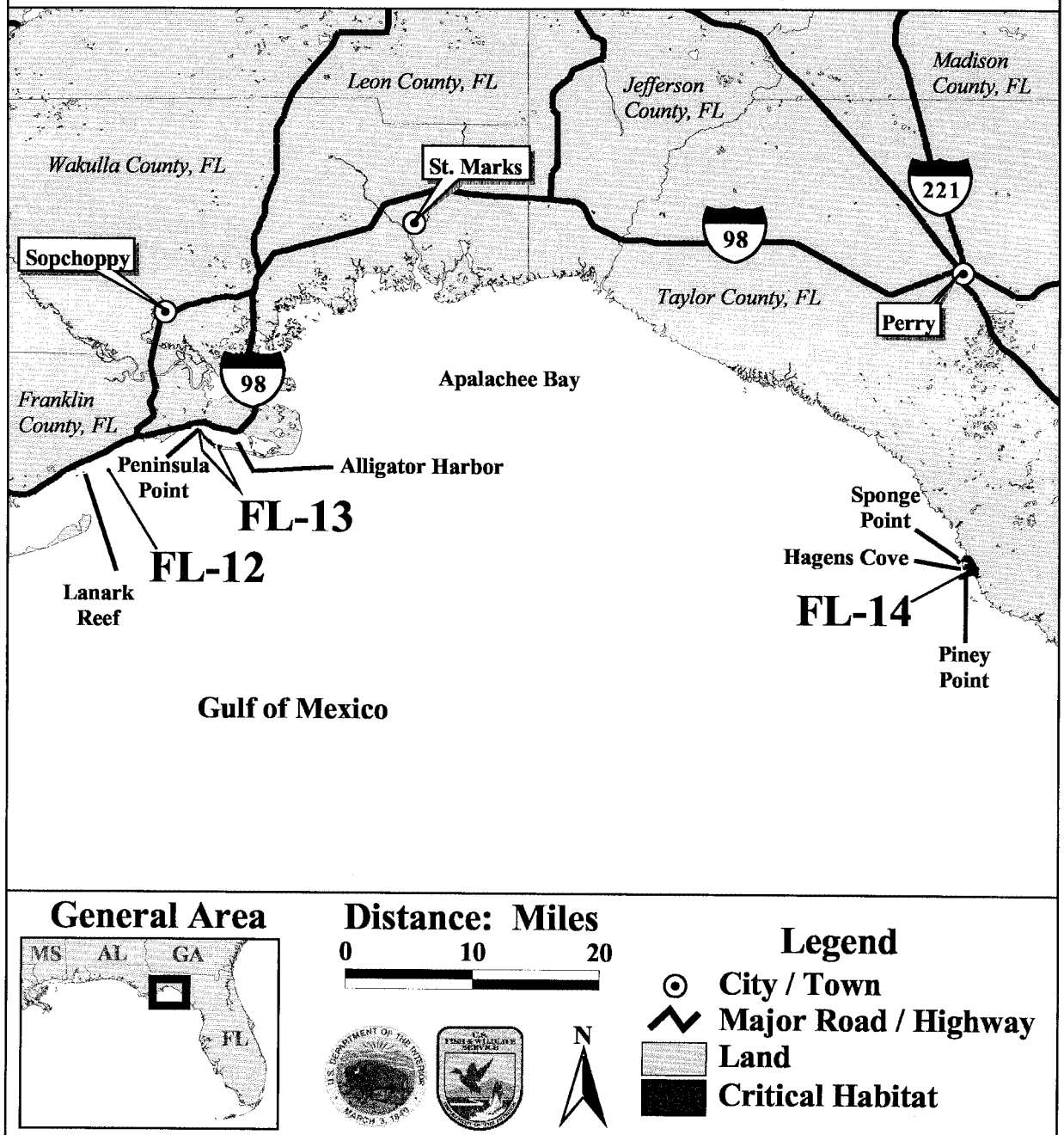
## Legend

- City / Town
- Major Road / Highway
- Land
- Critical Habitat

**Use Constraints:** This map is intended to be used as a guide to identify the general areas where Wintering Piping Plover critical habitat has been designated. Included within the designation of critical habitat are all land areas to the mean lower low water. Refer to the narrative unit descriptions as the precise legal definition of critical habitat.

# Florida Units: 8, 9, 10 and 11

# General locations of the designated critical habitat for the Wintering Piping Plover.









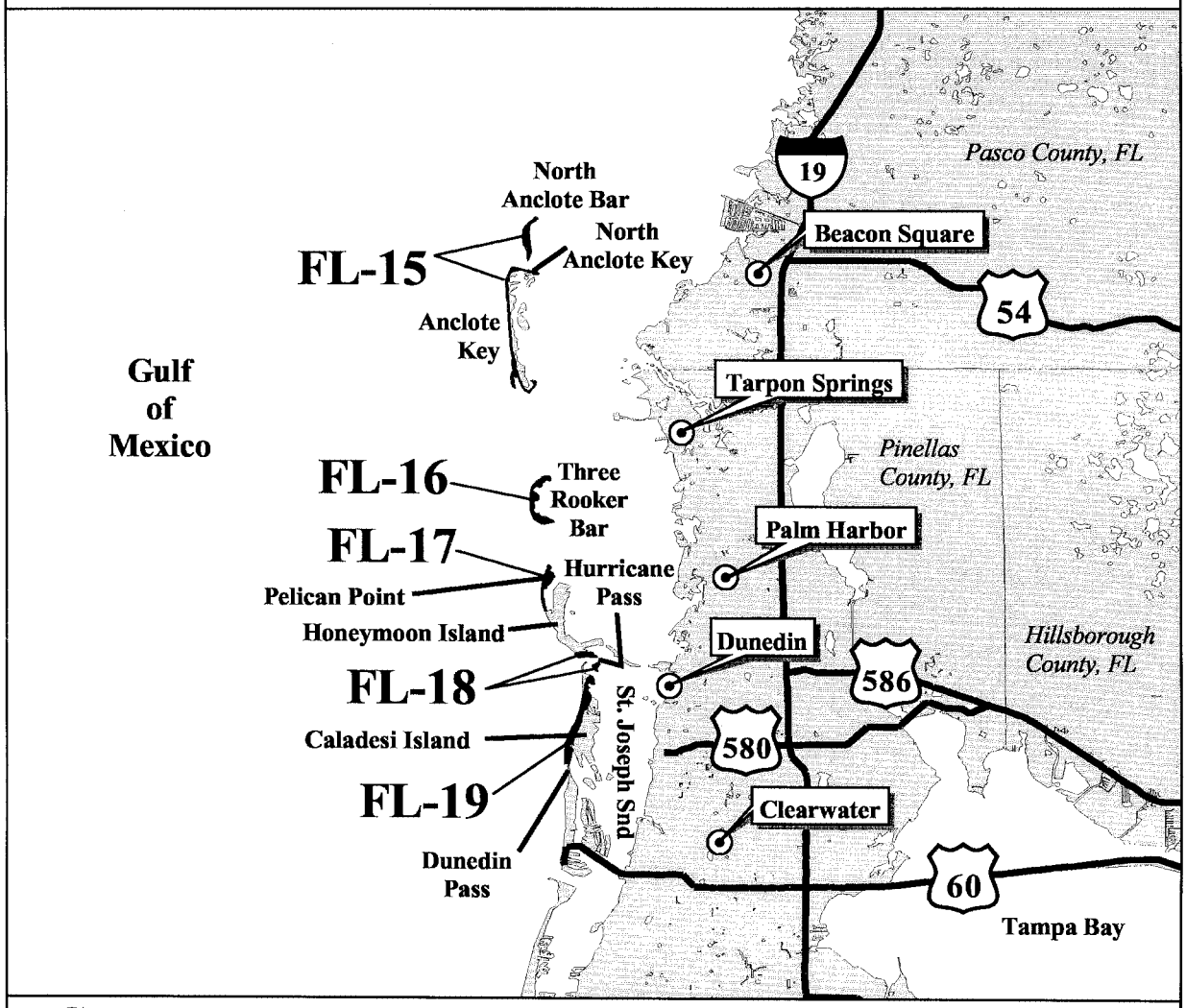

**Legend**

- City / Town
- Major Road / Highway
- Land
- Critical Habitat

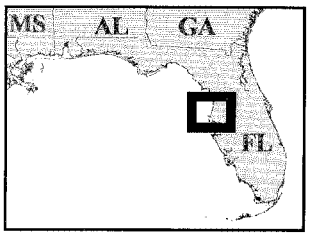
**Use Constraints:** This map is intended to be used as a guide to identify the general areas where Wintering Piping Plover critical habitat has been designated. Included within the designation of critical habitat are all land areas to the mean lower low water. Refer to the narrative unit descriptions as the precise legal definition of critical habitat.

# Florida Units: 12, 13 and 14

# General locations of the designated critical habitat for the Wintering Piping Plover.




**General Area**




**Distance: Miles**

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N

**Legend**

- City / Town
- Major Road / Highway
- Land
- Critical Habitat

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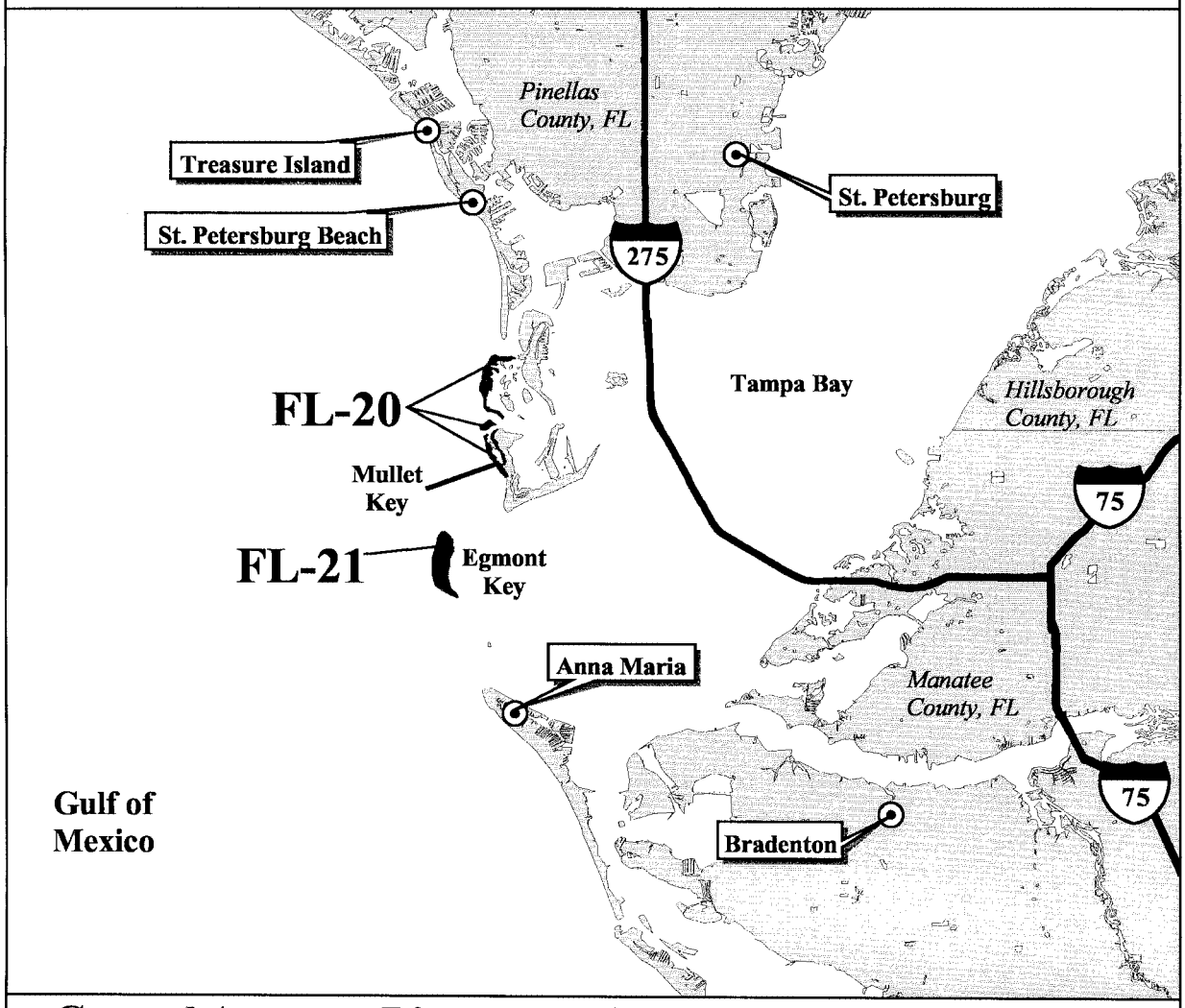
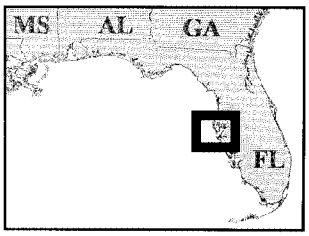
# Florida Units: 15, 16, 17, 18 and 19

# General locations of the designated critical habitat for the Wintering Piping Plover.




**General Area**




**Distance: Miles**

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N

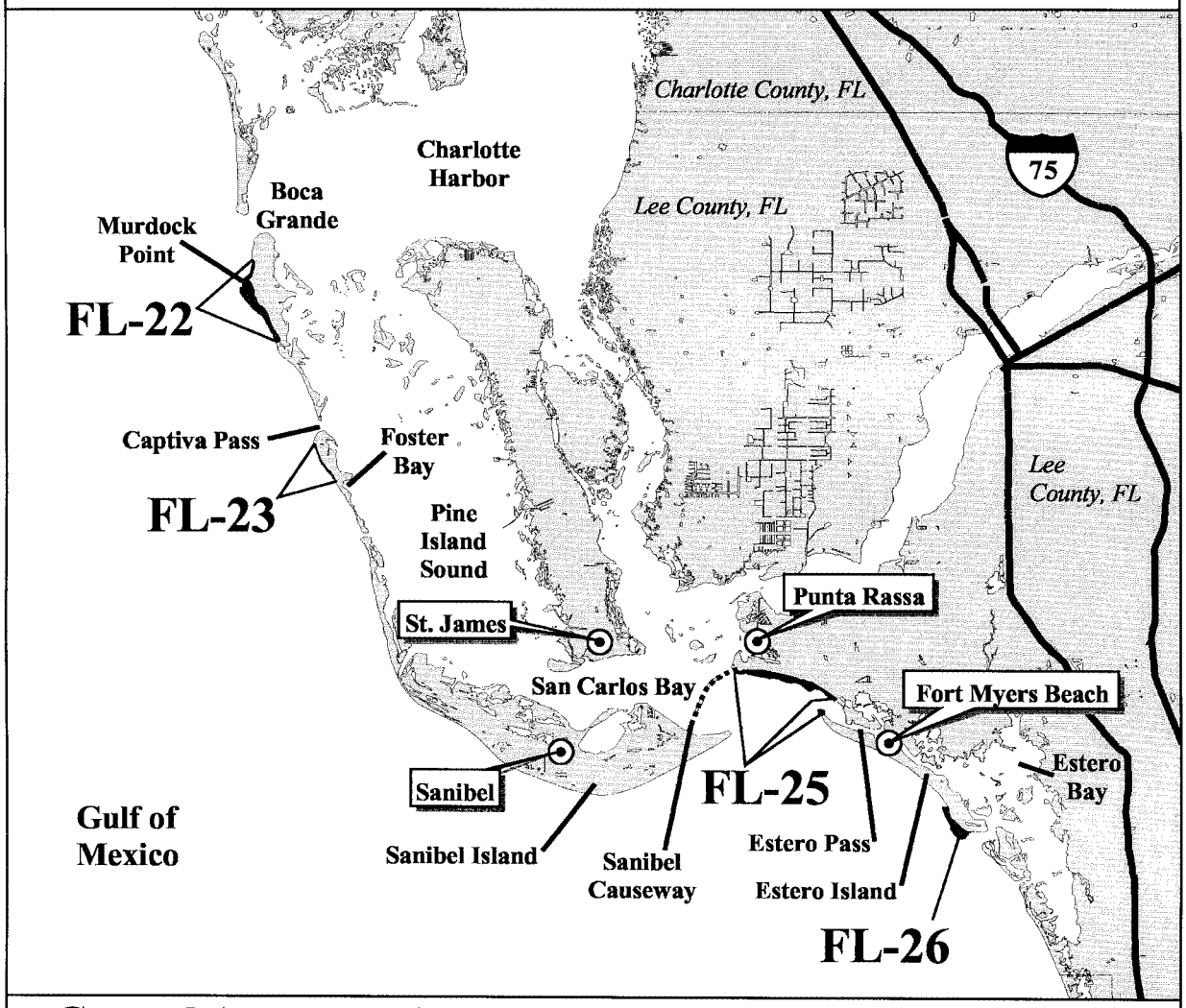
**Legend**

- City / Town
- Major Road / Highway
- Land
- Critical Habitat

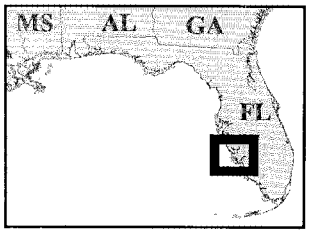
**Use Constraints:** This map is intended to be used as a guide to identify the general areas where Wintering Piping Plover critical habitat has been designated. Included within the designation of critical habitat are all land areas to the mean lower low water. Refer to the narrative unit descriptions as the precise legal definition of critical habitat.

# Florida Units: 20 and 21

# General locations of the designated critical habitat for the Wintering Piping Plover.




## General Area




## Distance: Miles

0 5 10

N

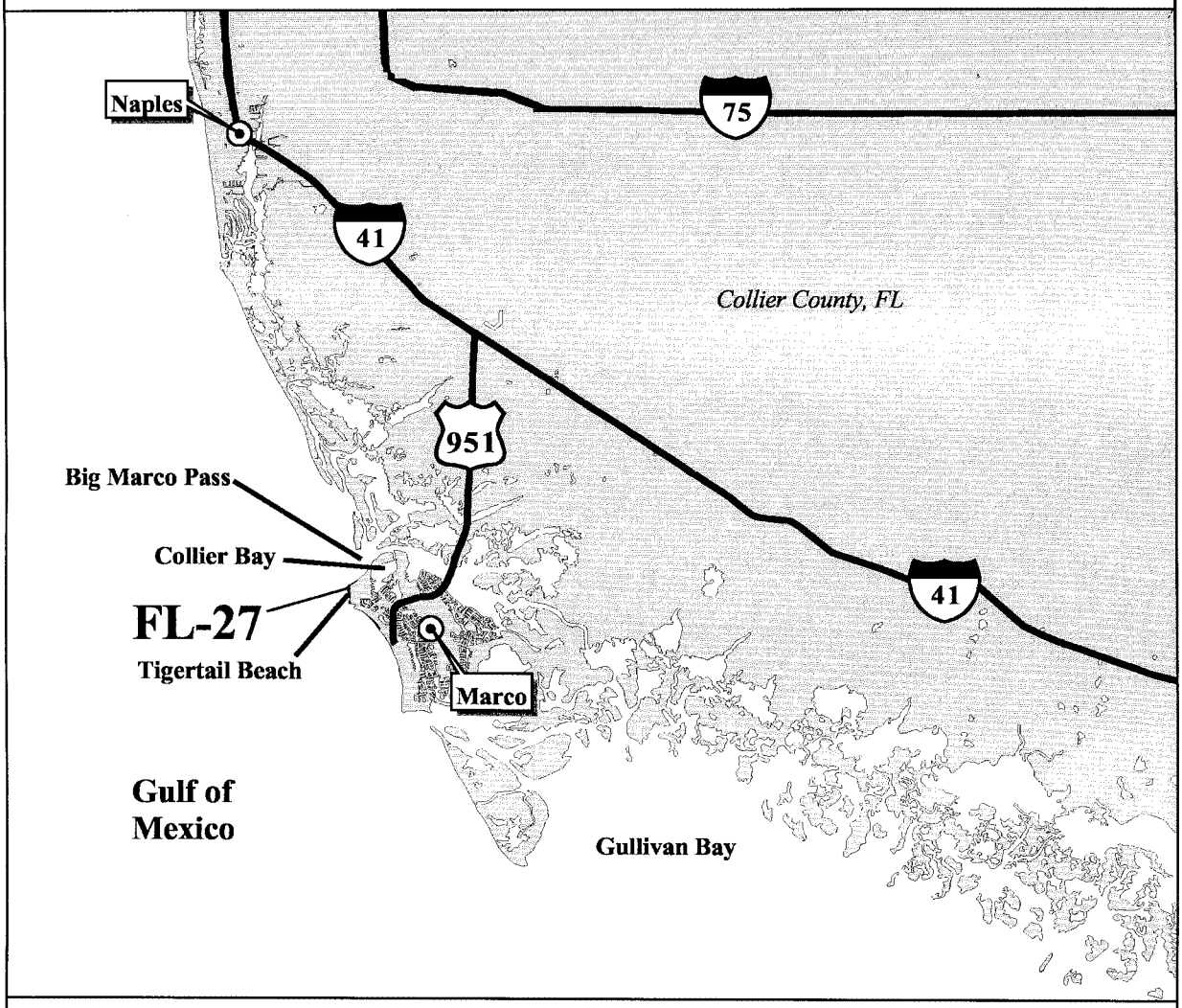
## Legend

- City / Town
- Major Road / Highway
- Land
- Critical Habitat

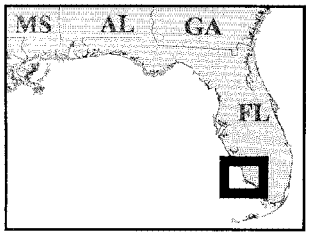
**Use Constraints:** This map is intended to be used as a guide to identify the general areas where Wintering Piping Plover critical habitat has been designated. Included within the designation of critical habitat are all land areas to the mean lower low water. Refer to the narrative unit descriptions as the precise legal definition of critical habitat.

# Florida Units: 22, 23, 25 and 26

# General locations of the designated critical habitat for the Wintering Piping Plover.




## General Area




## Distance: Miles

0 4 8

N

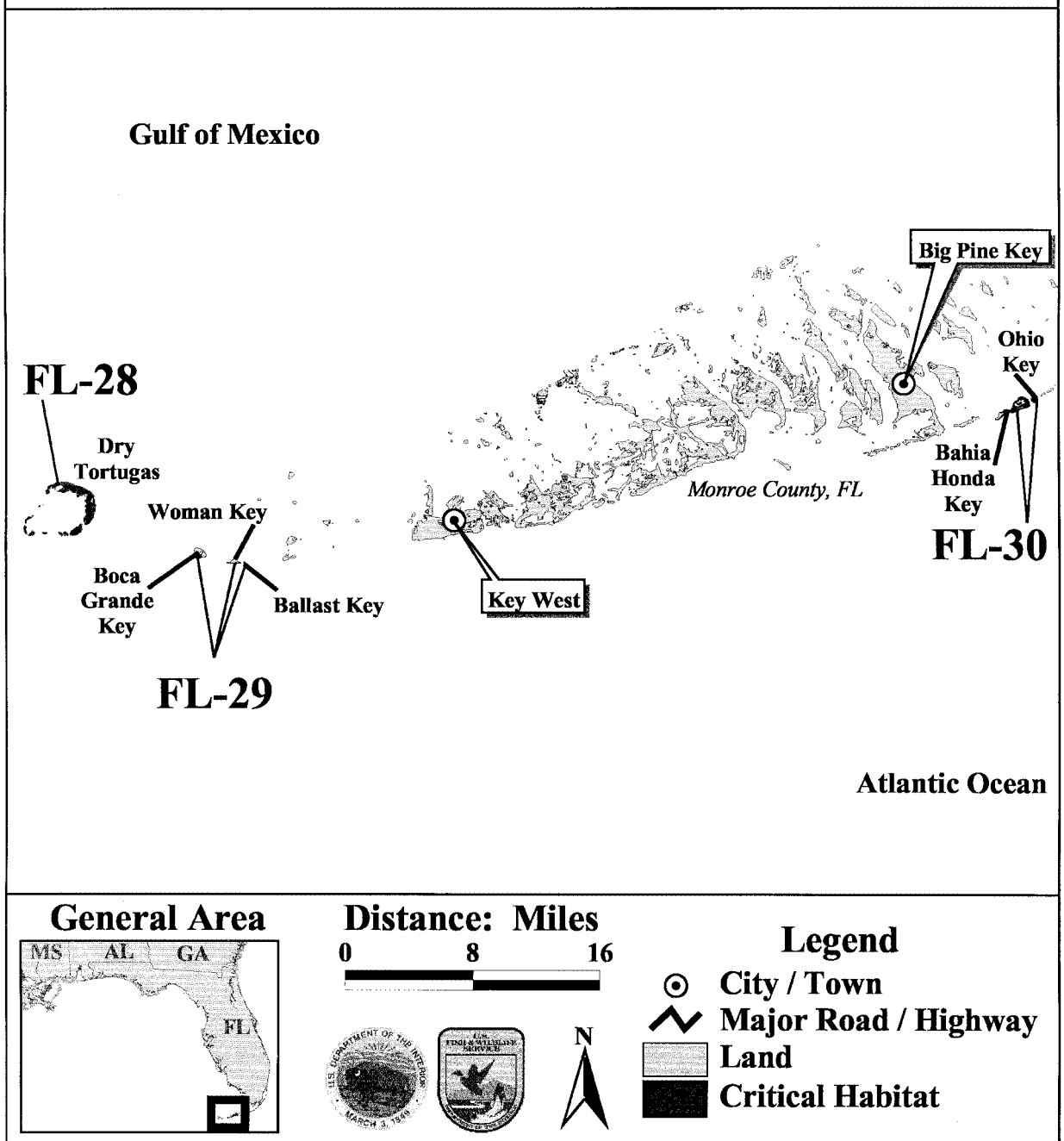
## Legend

- City / Town
- Major Road / Highway
- Land
- Critical Habitat

**Use Constraints:** This map is intended to be used as a guide to identify the general areas where Wintering Piping Plover critical habitat has been designated. Included within the designation of critical habitat are all land areas to the mean lower low water. Refer to the narrative unit descriptions as the precise legal definition of critical habitat.

# Florida Unit: 27

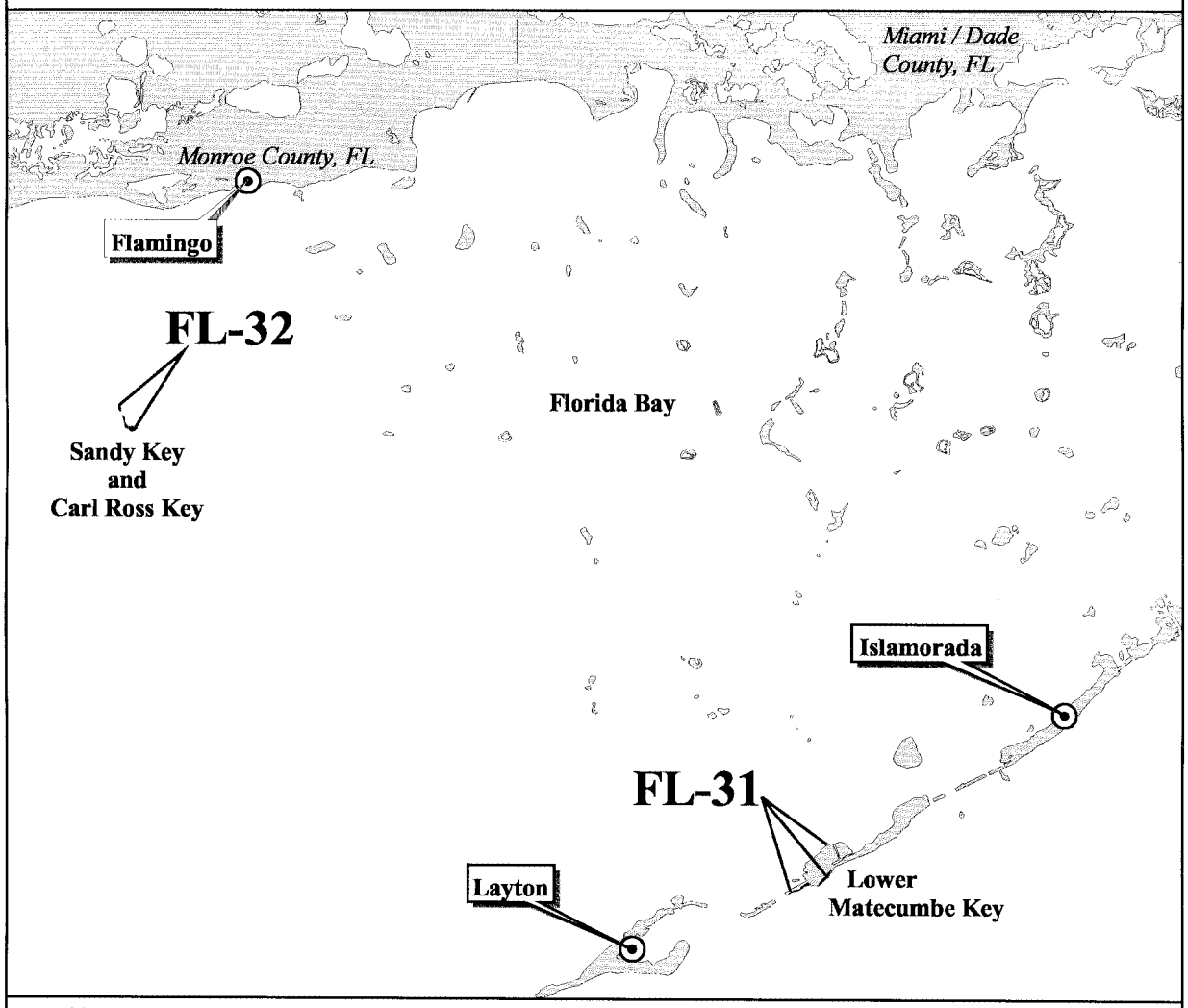
# General locations of the designated critical habitat for the Wintering Piping Plover.



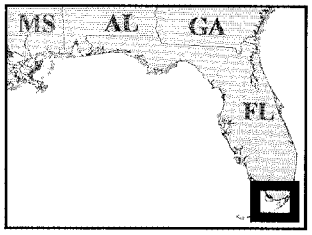

**Use Constraints:** This map is intended to be used as a guide to identify the general areas where Wintering Piping Plover critical habitat has been designated. Included within the designation of critical habitat are all land areas to the mean lower low water. Refer to the narrative unit descriptions as the precise legal definition of critical habitat.

# Florida Units: 28, 29 and 30

# General locations of the designated critical habitat for the Wintering Piping Plover.




**General Area**




**Distance: Miles**

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N

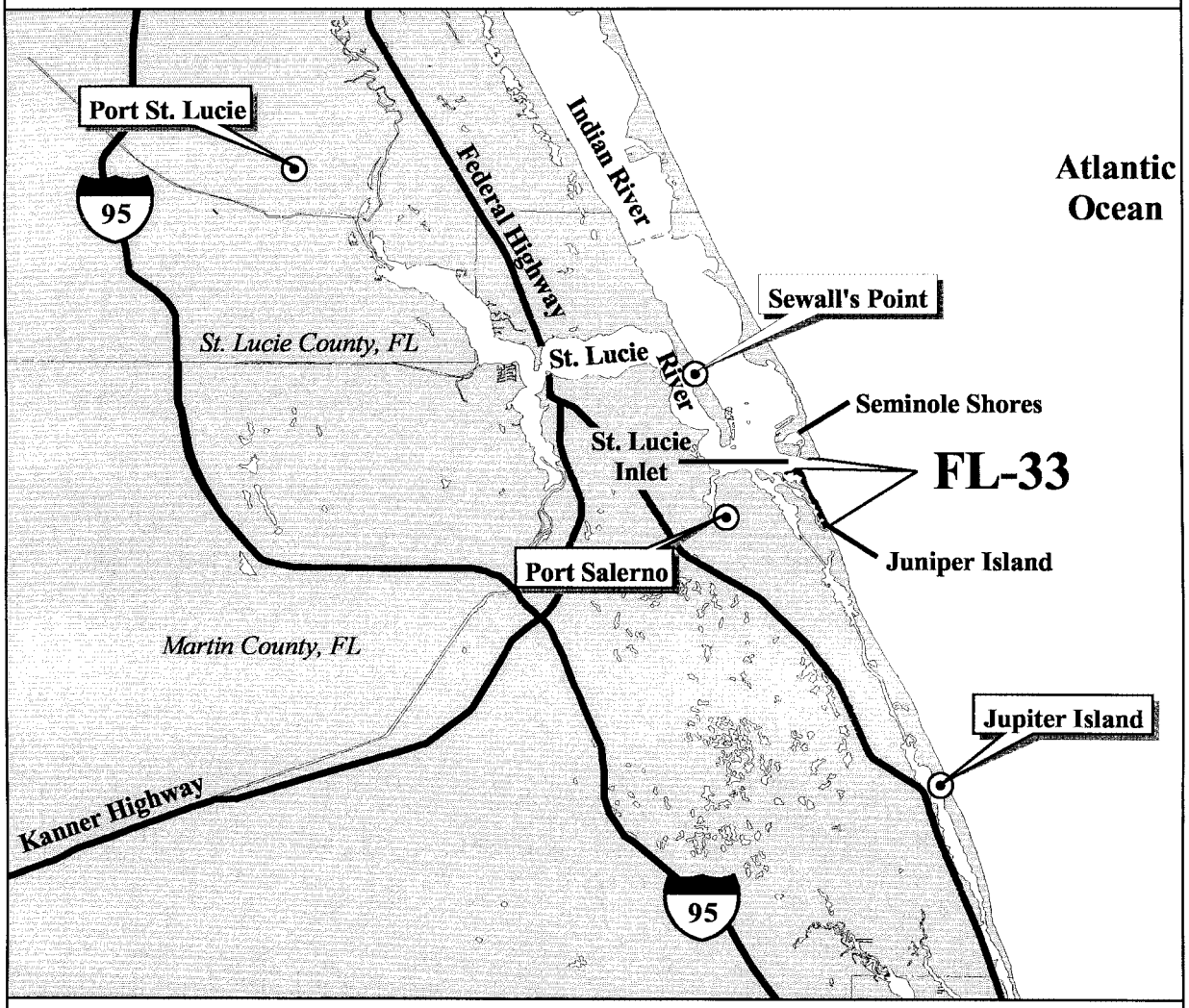
**Legend**

- City / Town
- Major Road / Highway
- Land
- Critical Habitat

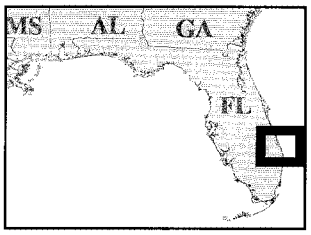
**Use Constraints:** This map is intended to be used as a guide to identify the general areas where Wintering Piping Plover critical habitat has been designated. Included within the designation of critical habitat are all land areas to the mean lower low water. Refer to the narrative unit descriptions as the precise legal definition of critical habitat.

# Florida Units: 31 and 32

# General locations of the designated critical habitat for the Wintering Piping Plover.




## General Area




## Distance: Miles

0 4 8

N

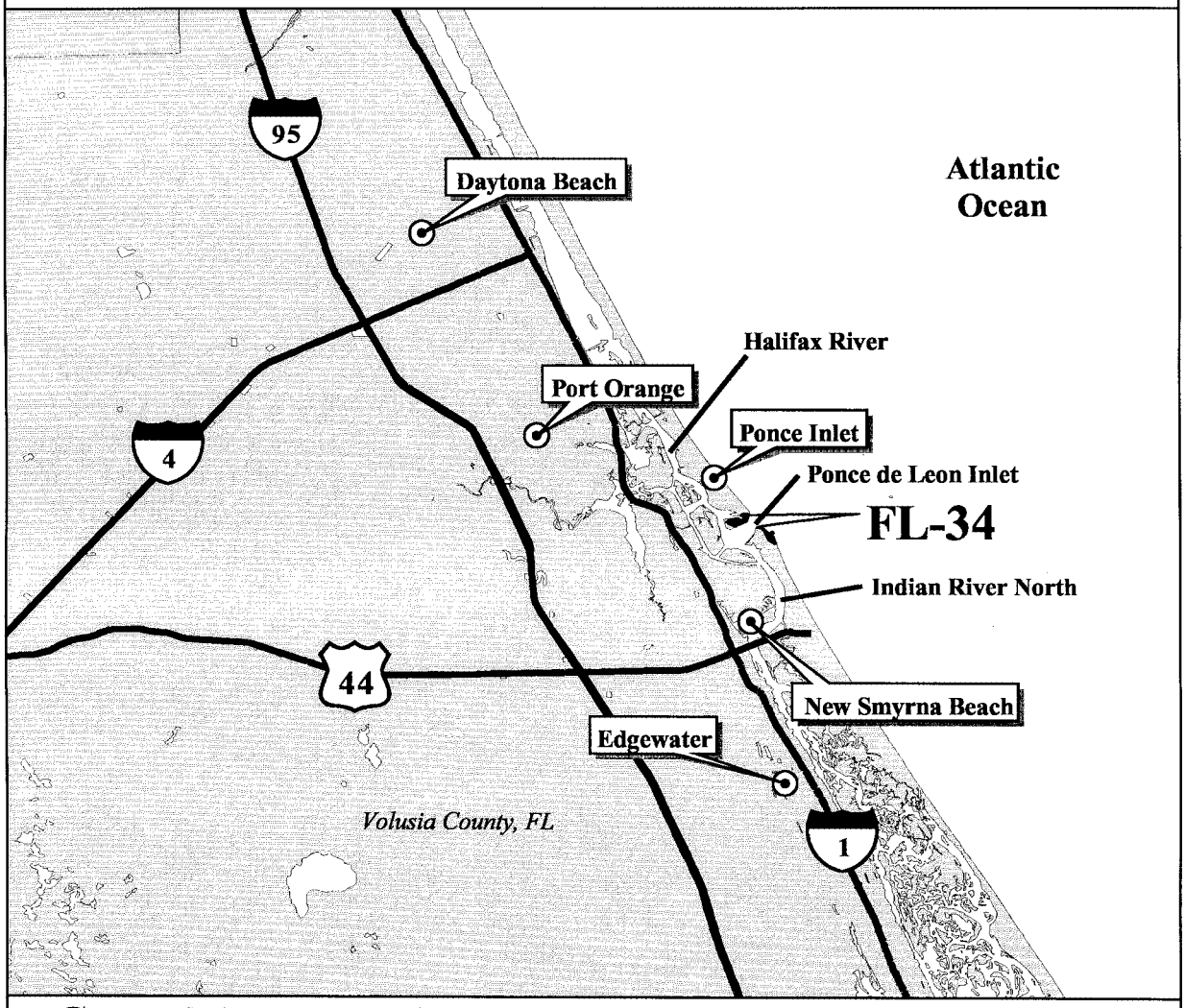
## Legend

- City / Town
- Major Road / Highway
- Land
- Critical Habitat

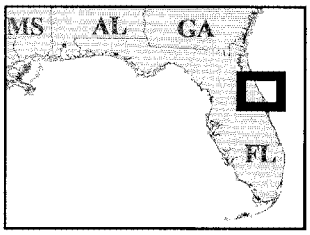
**Use Constraints:** This map is intended to be used as a guide to identify the general areas where Wintering Piping Plover critical habitat has been designated. Included within the designation of critical habitat are all land areas to the mean lower low water. Refer to the narrative unit descriptions as the precise legal definition of critical habitat.

# Florida Unit: 33

# General locations of the designated critical habitat for the Wintering Piping Plover.




**General Area**




**Distance: Miles**

0 4 8

**Legend**

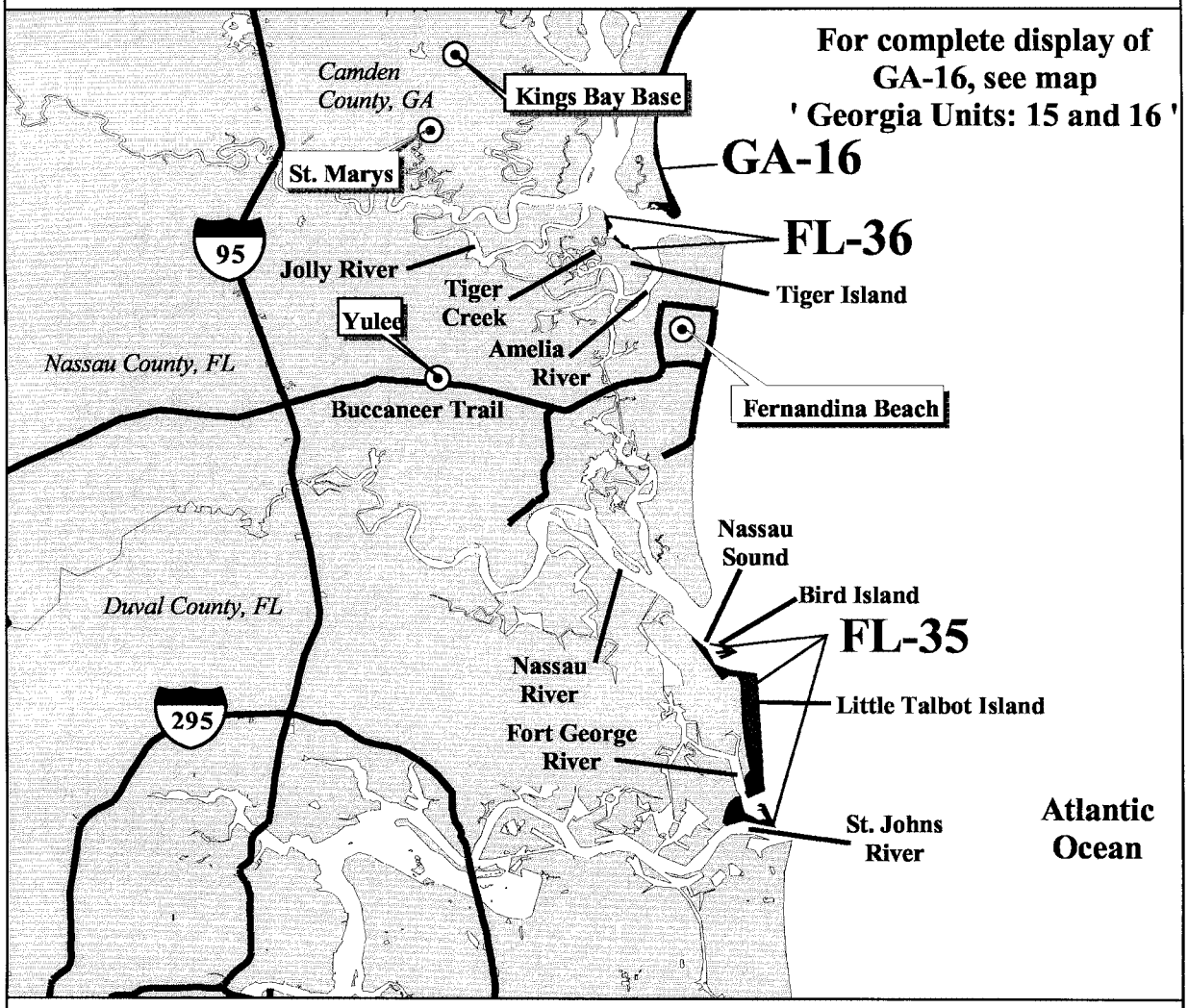
- City / Town
- Major Road / Highway
- Land
- Critical Habitat

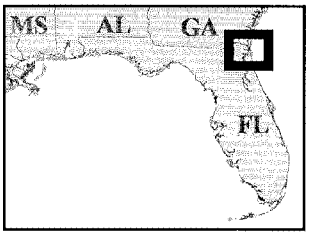
N

**Use Constraints:** This map is intended to be used as a guide to identify the general areas where Wintering Piping Plover critical habitat has been designated. Included within the designation of critical habitat are all land areas to the mean lower low water. Refer to the narrative unit descriptions as the precise legal definition of critical habitat.

# Florida Unit: 34

# General locations of the designated critical habitat for the Wintering Piping Plover.




**Distance: Miles**

0 5 10

**Legend**

- City / Town
- Major Road / Highway
- Land
- Critical Habitat

N

**Use Constraints:** This map is intended to be used as a guide to identify the general areas where Wintering Piping Plover critical habitat has been designated. Included within the designation of critical habitat are all land areas to the mean lower low water. Refer to the narrative unit descriptions as the precise legal definition of critical habitat.

# Florida Units: 35 and 36

*Alabama* (Maps were digitized using 1992 DOQQs)

Unit AL–1: Isle Aux Herbes. 227 ha (561 ac) in Mobile County

This unit includes the entire Isle Aux Herbes island where primary constituent elements occur to MLLW and is State-owned.

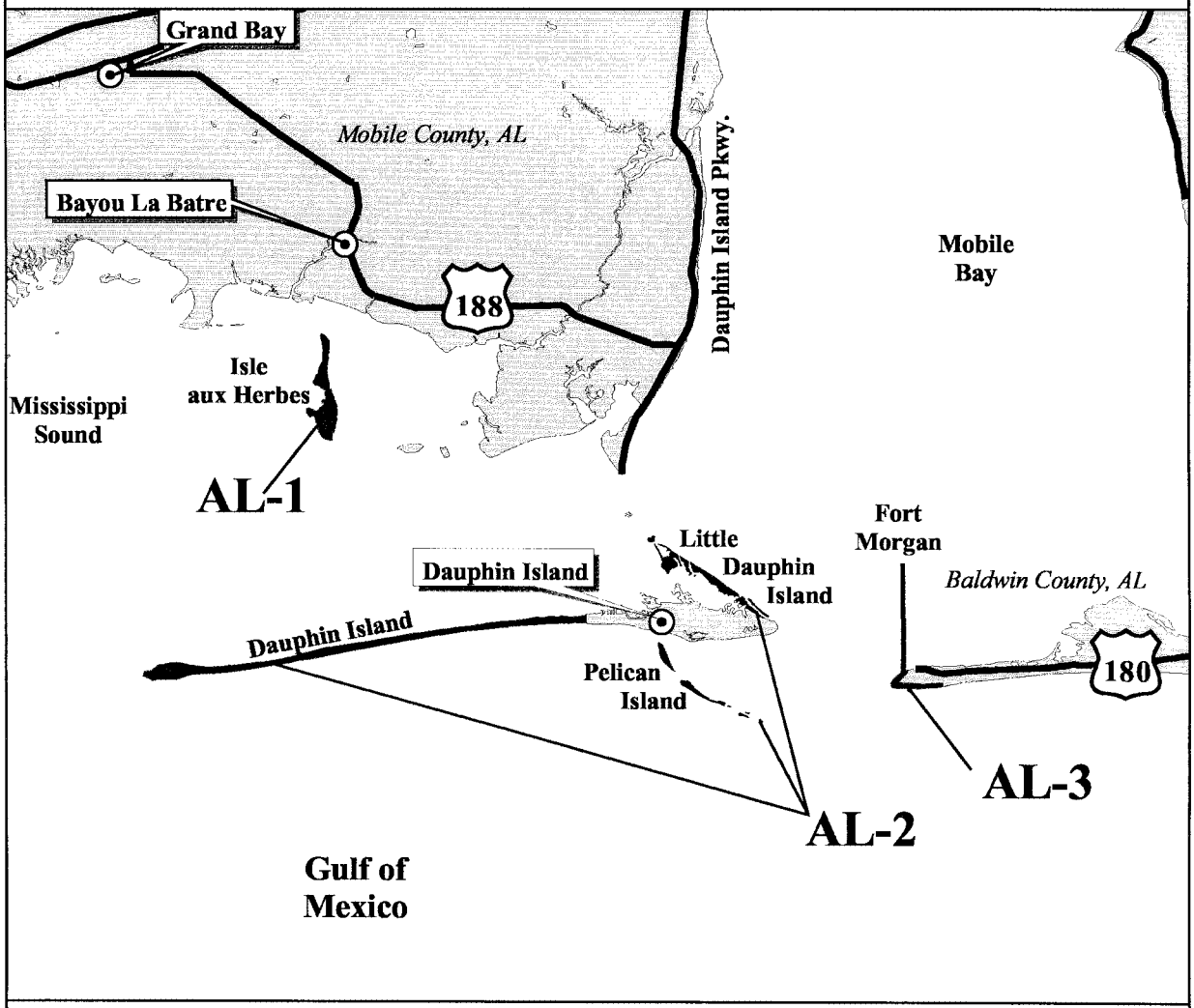
Unit AL–2: Dauphin, Little Dauphin, and Pelican Islands. 880 ha (2,174 ac) in Mobile County

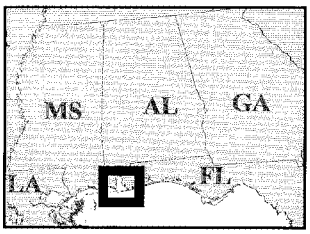
This unit includes all of Dauphin Island where primary constituent elements occur from St. Stephens Street approximately 17.6 km (10.9 mi) west to the western tip of the island to MLLW and all of Little Dauphin and Pelican Islands to MLLW. The area is mostly privately owned but includes State and Federal lands.

Unit AL–3: Fort Morgan. 67 ha (166 ac) in Baldwin County

This area includes Mobile Bay and Gulf of Mexico shorelines within Bon Secour National Wildlife Refuge, Fort Morgan Unit. This unit extends from the west side of the pier on the northwest point of the peninsula, following the shoreline approximately 2.8 km (1.74 mi) southwest around the tip of the peninsula, then east to the terminus of the beach access road and is bounded on the seaward side by MLLW and on the landward side to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur. The area is State-owned but is leased by the Federal Government.

# General locations of the designated critical habitat for the Wintering Piping Plover.




**Distance: Miles**

0 6 12

**Legend**

- City / Town
- Major Road / Highway
- Land
- Critical Habitat

N

**Use Constraints:** This map is intended to be used as a guide to identify the general areas where Wintering Piping Plover critical habitat has been designated. Included within the designation of critical habitat are all land areas to the mean lower low water. Refer to the narrative unit descriptions as the precise legal definition of critical habitat.

# Alabama Units: 1, 2 and 3

BILLING CODE 4310–55–C

*Mississippi* (Maps were digitized using 1992 and 1997 DOQQs)

Unit MS–1: Lakeshore through Bay St. Louis. 41 ha (101 ac) in Hancock County

This unit extends from the north side of Bryan Bayou outlet and includes the shore of the Mississippi Sound following the shoreline northeast approximately 15.0 km (9.3 mi) and ending at the southeast side of the Bay Waveland Yacht Club. The landward boundary of this unit follows the Gulf side of South and North Beach Boulevard and the seaward boundary is MLLW. The shoreline of this unit is privately owned.

Unit MS–2: Henderson Point. 34 ha (84 ac) in Harrison County

This unit extends from 0.2 km (0.12 mi) west of the intersection of 3rd Avenue and Front Street and includes the shore of the Mississippi Sound following the shoreline northeast approximately 4.4 km (2.7 mi) to the west side of Pass Christian Harbor. The landward boundary of this unit follows the Gulf side of U.S. Highway 90 and the seaward boundary is MLLW. The shoreline of this unit is privately owned.

Unit MS–3: Pass Christian. 77 ha (190 ac) in Harrison County

This unit extends from the east side of Pass Christian Harbor and includes the shore of the Mississippi Sound following the shoreline northeast approximately 10.5 km (6.5 mi) to the west side of Long Beach Pier and Harbor. The landward boundary of this unit follows the Gulf side of U.S. Highway 90 and the seaward boundary is MLLW. The shoreline of this unit is privately owned.

Unit MS–4: Long Beach. 38 ha (94 ac) in Harrison County

This unit extends from the east side of Long Beach Pier and Harbor and includes the shore of the Mississippi Sound following the shoreline northeast approximately 4.4 km (2.7 mi) to the west side of Gulfport Harbor. The landward boundary of this unit follows the Gulf side of U.S. Highway 90 and the seaward boundary is MLLW. The shoreline of this unit is privately owned.

Unit MS–5: Gulfport. 39 ha (96 ac) in Harrison County

This unit extends from the east side of Gulfport Harbor and includes the shore of the Mississippi Sound following the shoreline northeast approximately 4.8 km (3.0 mi) to the west side of the groin at the southern terminus of Courthouse Road, Mississippi City, MS. The landward boundary of this unit follows the Gulf side of U.S. Highway 90 and the seaward boundary is MLLW. The shoreline of this unit is privately owned.

Unit MS–6: Mississippi City. 62 ha (153 ac) in Harrison County

This unit extends from the east side of the groin at the southern terminus of Courthouse Road, Mississippi City, MS, and includes the shore of the Mississippi Sound following the shoreline northeast approximately 7.9 km (4.9 mi) to the west side of President Casino. The landward boundary of this unit follows the Gulf side of U.S. Highway 90 and the seaward boundary is MLLW. The shoreline of this unit is privately owned.

Unit MS–10: Ocean Springs West. 11 ha (27 ac) in Jackson County

This unit extends from U.S. 90 and includes the shore of Biloxi Bay following the shoreline southeast approximately 1.9 km (1.2 mi) to the Ocean Springs Harbor inlet. The landward boundary of this unit follows the Bay side of Front Beach Drive and the seaward boundary is MLLW. The shoreline of this unit is privately owned.

Unit MS–11: Ocean Springs East. 7 ha (17 ac) in Jackson County

This unit extends from the east side of Weeks Bayou and includes the shore of Biloxi Bay following the shoreline southeast approximately 1.8 km (1.1 mi) to Halstead Bayou. The landward boundary of this unit follows the Bay side of East Beach Drive and the seaward boundary is MLLW. The shoreline of this unit is privately owned.

Unit MS–12: Deer Island. 194 ha (479 ac) in Harrison County

This unit includes all of Deer Island, where primary constituent elements occur to the MLWW. Deer Island is privately owned.

Unit MS–13: Round Island. 27 ha (67 ac) in Jackson County

This unit includes all of Round Island to the MLWW and is privately owned

Unit MS–14: Mississippi Barrier Islands. 3,168 ha (7,828 ac) in Harrison and Jackson Counties.

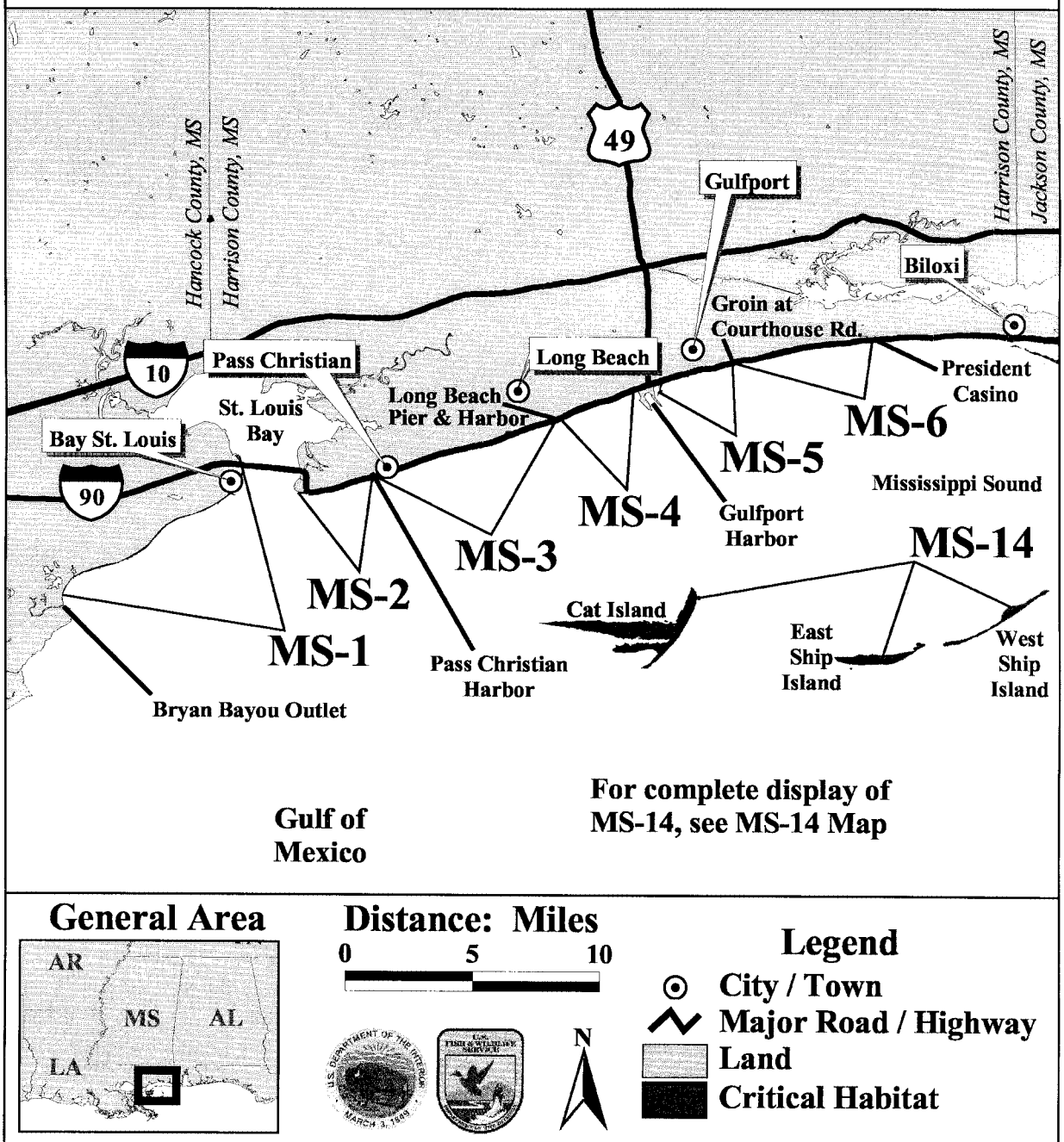
This unit includes all of Cat, East and West Ship, Horn, Spoil, and Petit Bois Islands where primary constituent elements occur to MLLW. Cat Island is privately owned, and the remaining islands are part of the Gulf Islands National Seashore.

Unit MS–15: North and South Rigolets. 159 ha (393 ac) in Jackson County, MS, and 12 ha (30 ac) in Mobile County, AL

This unit extends from the southwestern tip of South Rigolets Island and includes the shore of Point Aux Chenes Bay, the Mississippi Sound, and Grand Bay following the shoreline east around the western tip, then north to the south side of South Rigolets Bayou; then from the north side of South Rigolets Bayou (the southeastern corner of North Rigolets Island) north to the northeastern most point of North Rigolets Island. This shoreline is bounded on the seaward side by MLLW and on the landward side to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur. Approximately 4.4 km (2.7 mi) are in Mississippi and 2.9 km (1.8 mi) are in Alabama. Almost half the Mississippi shoreline length is in the Grand Bay National Wildlife Refuge.

BILLING CODE 4310–55–P

# General locations of the designated critical habitat for the Wintering Piping Plover.




## General Area




## Distance: Miles

0 5 10

N

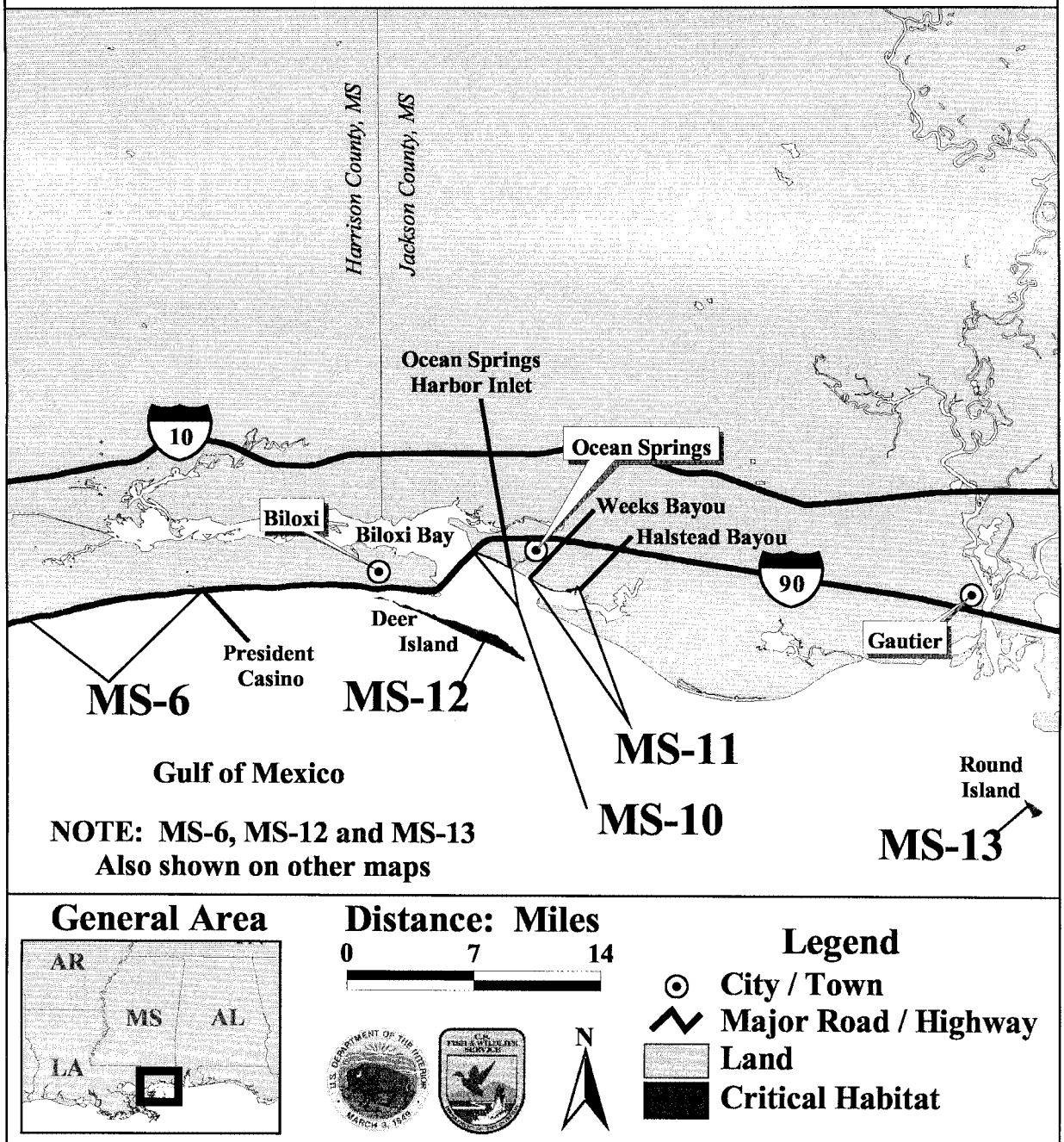
## Legend

- City / Town
- Major Road / Highway
- Land
- Critical Habitat

**Use Constraints:** This map is intended to be used as a guide to identify the general areas where Wintering Piping Plover critical habitat has been designated. Included within the designation of critical habitat are all land areas to the mean lower low water. Refer to the narrative unit descriptions as the precise legal definition of critical habitat.

# Mississippi Units: 1, 2, 3, 4, 5 and 6

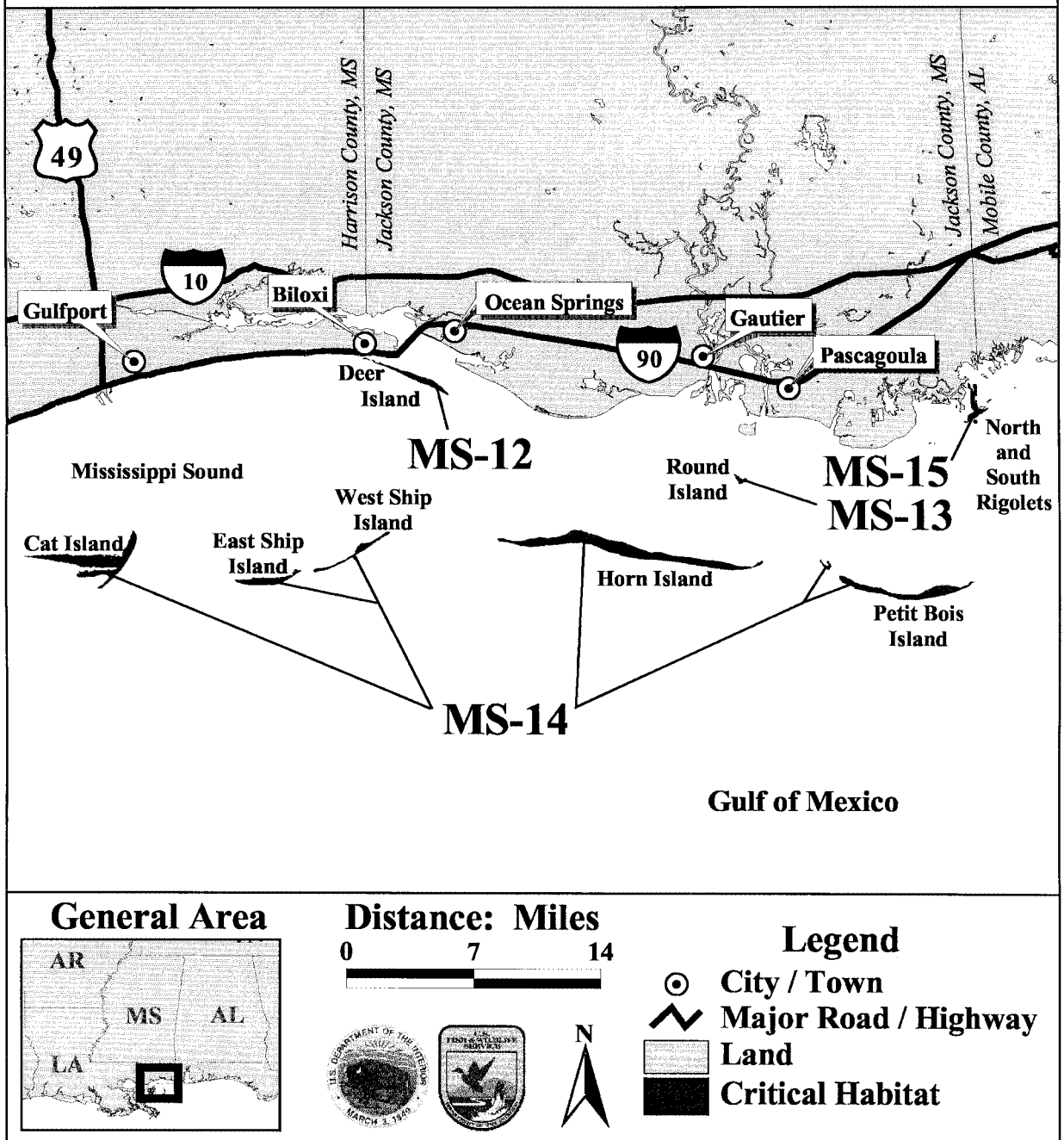
# General locations of the designated critical habitat for the Wintering Piping Plover.




**Use Constraints:** This map is intended to be used as a guide to identify the general areas where Wintering Piping Plover critical habitat has been designated. Included within the designation of critical habitat are all land areas to the mean lower low water. Refer to the narrative unit descriptions as the precise legal definition of critical habitat.

# Mississippi Units: 10 and 11

# General locations of the designated critical habitat for the Wintering Piping Plover.




## General Area




## Distance: Miles

0 7 14

N

## Legend

- City / Town
- Major Road / Highway
- Land
- Critical Habitat

**Use Constraints:** This map is intended to be used as a guide to identify the general areas where Wintering Piping Plover critical habitat has been designated. Included within the designation of critical habitat are all land areas to the mean lower low water. Refer to the narrative unit descriptions as the precise legal definition of critical habitat.

# Mississippi Units: 12, 13, 14 and 15

BILLING CODE 4310–55–C

*Louisiana* (Maps were digitized using 1998 DOQQs)

Unit LA–1: Texas/Louisiana border to Cheniere au Tigre. 2,650 ha (6,548 ac) in Cameron and Vermilion Parishes

This unit extends from the east side of Sabine Pass (Texas/Louisiana border) and includes the shore of the Gulf of Mexico from the MLLW following the shoreline east 25.7 km (16.0 mi) to the west end of Constance Beach [approximately 2 km (1.2 mi) east of the intersection of Parish Road 528 and the beach]; it extends from the east end of the town of Holly Beach [0.25 km (0.16 mi) east of the intersection of Baritarick Boulevard and the beach] following the shoreline approximately 97 km (60.3 mi) east to the eastern boundary line of Rockefeller Wildlife Refuge [3.4 km (2.1 mi) east of Rollover Bayou]; and it extends from the east side of Freshwater Bayou Canal following the shoreline east for approximately 15 km (9.3 mi) to 1.3 km (0.81 mi) east of where the boundary of Paul J. Rainey Wildlife Sanctuary (National Audubon Society) meets the shoreline. All three sections of this unit include the land from the seaward boundary of MLLW to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur. The shoreline in this unit is both state and privately owned.

Unit LA–2: Atchafalaya River Delta. 921 ha (2,276 ac) in St. Mary Parish, LA

This unit is located in the eastern portion of the State-owned Atchafalaya Delta Wildlife Management Area (WMA) and includes all exposed land and islands where primary constituent elements occur east and southeast of the main navigation channel of the Atchafalaya River to the MLLW. The islands located south and southeast of the deltaic splay, Donna, T–Pat, and Skimmer Islands and the un-named bird island, are also included in this unit. This unit includes the entire islands where primary constituent elements occur to the MLLW.

Unit LA–3: Point Au Fer Island. 195 ha (482 ac) in Terrebonne Parish.

This unit includes the entire small island at the northwest tip of Point Au Fer Island to MLLW, then extends from the northwest tip of Point Au Fer Island following the shoreline southeast approximately 7.7 km (4.8 mi) to the point where the un-named oil and gas canal extending southeast from Locust Bayou meets the shoreline [0.8 km (0.5 mi) southeast from Locust Bayou]. This shoreline is bounded on the seaward side by MLLW and on the landward side to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur. This entire unit is privately owned.

Unit LA–4: Isles Dernieres. 795 ha (1,964 ac) in Terrebonne Parish

This unit includes the State-owned Isles Dernieres chain, including Raccoon, Whiskey, Trinity and East Islands. This unit includes the entire islands where primary constituent elements occur to the MLLW.

Unit LA–5: Timbalier Island to East Grand Terre Island. 2,321 ha (5,735 ac) in Terrebonne, Lafourche, Jefferson, and Plaquemines Parishes

This unit includes: all of Timbalier Island where primary constituent elements occur to the MLLW, all of Belle Pass West [the ''peninsula'' extending north/northwest approximately 4.8 km (3.0 mi) from the west side of Belle Pass] where primary constituent elements occur to MLLW; the Gulf shoreline extending approximately 11 km (6.8 mi) east from the east side of Belle Pass bounded on the seaward side by MLLW and on the landward side to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur; all of Elmers Island peninsula where primary constituent elements occur to MLLW and the Gulf shoreline from Elmers Island to approximately 0.9 km (0.56 mi) west of Bayou Thunder Von Tranc bounded on the seaward side by MLLW and on the landward side to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur; the Gulf shoreline of Grand Isle from the Gulf side of the hurricane protection levee to MLLW; and all of East Grand Terre Island where primary constituent elements occur to the MLLW.

Unit LA–6: Mississippi River Delta. 105 ha (259 ac) in Plaquemines Parish, LA

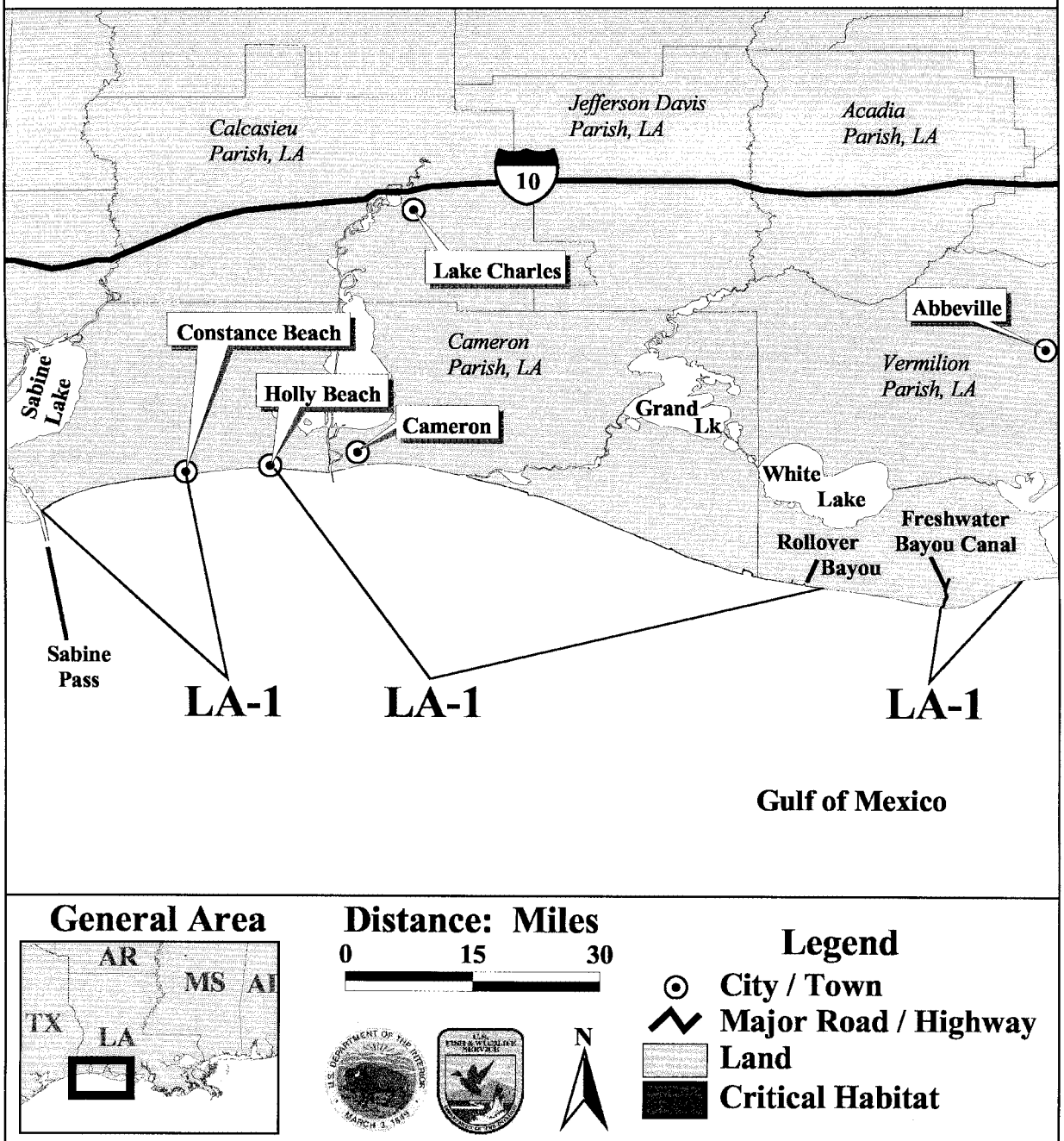
This unit is part of the State-owned Pass a Loutre Wildlife Management Area and includes un-named sand (spoil) islands off South Pass of the Mississippi River near Port Eads. The entire islands to MLLW are included in this unit.

Unit LA–7: Breton Islands and Chandeleur Island Chain. 3,116 ha (7,700 ac) in Plaquemines and St. Bernard Parishes, LA

This unit includes Breton, Grand Gosier, and Curlew Islands and the Chandeleur Island chain. Those islands are part of the Breton National Wildlife Refuge or are state owned. The entire islands where primary constituent elements occur to MLLW are included in this unit.

BILLING CODE 4310–55–P

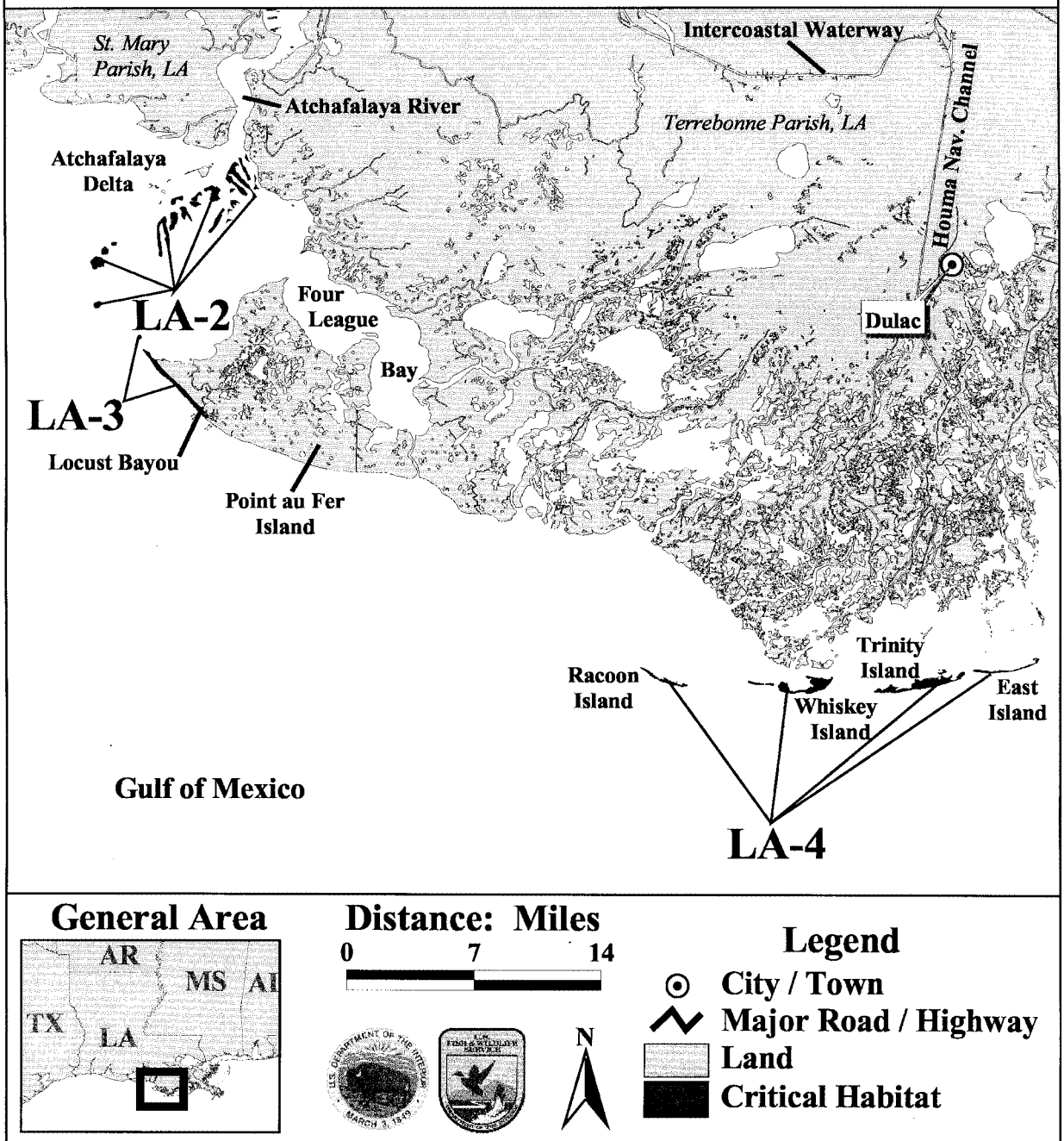
# General locations of the designated critical habitat for the Wintering Piping Plover.




**Use Constraints:** This map is intended to be used as a guide to identify the general areas where Wintering Piping Plover critical habitat has been designated. Included within the designation of critical habitat are all land areas to the mean lower low water. Refer to the narrative unit descriptions as the precise legal definition of critical habitat.

# Louisiana Unit: 1

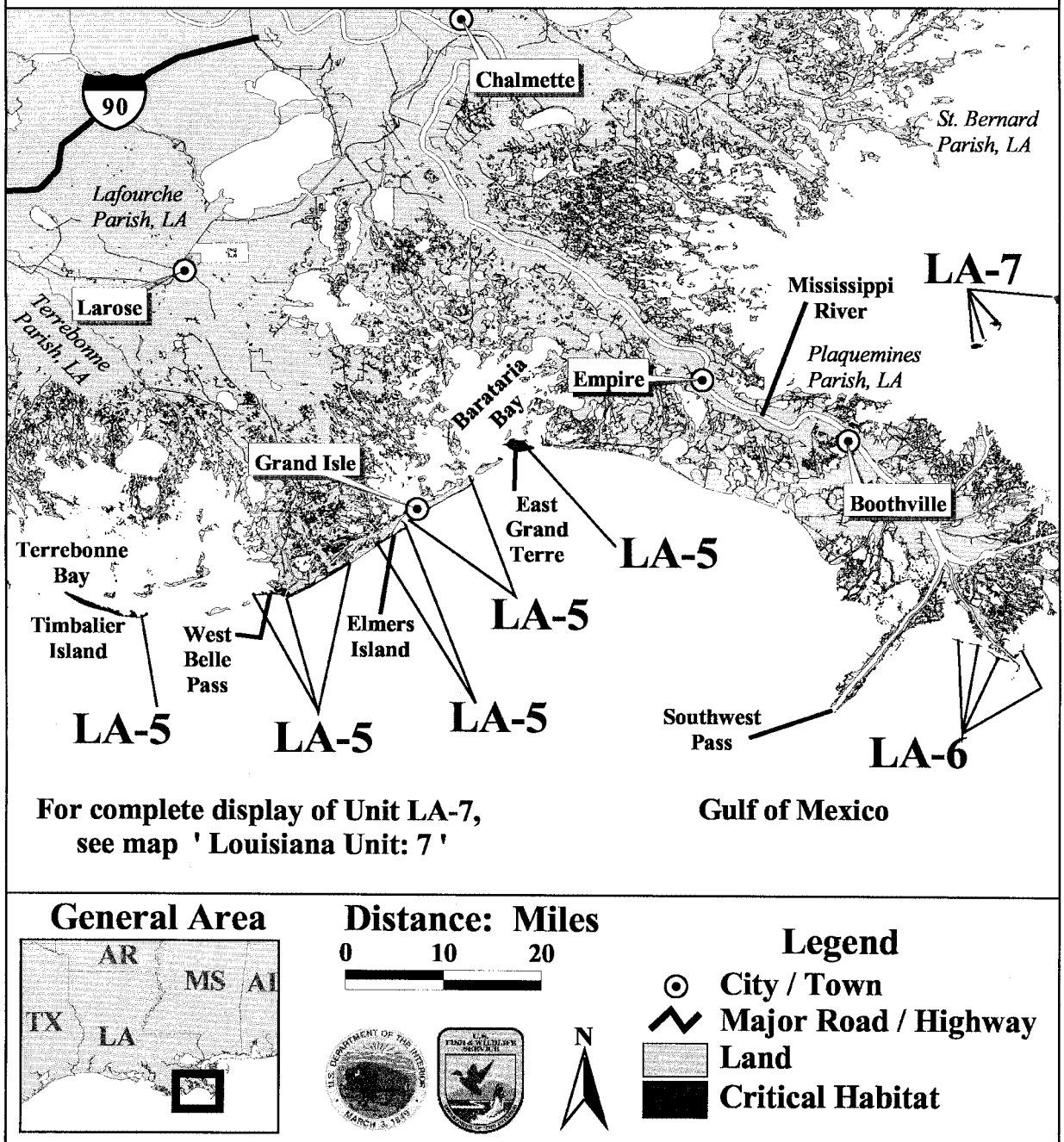
# General locations of the designated critical habitat for the Wintering Piping Plover.




**Use Constraints:** This map is intended to be used as a guide to identify the general areas where Wintering Piping Plover critical habitat has been designated. Included within the designation of critical habitat are all land areas to the mean lower low water. Refer to the narrative unit descriptions as the precise legal definition of critical habitat.

# Louisiana Units: 2, 3, and 4

# General locations of the designated critical habitat for the Wintering Piping Plover.




## General Area




## Distance: Miles

0 10 20

N

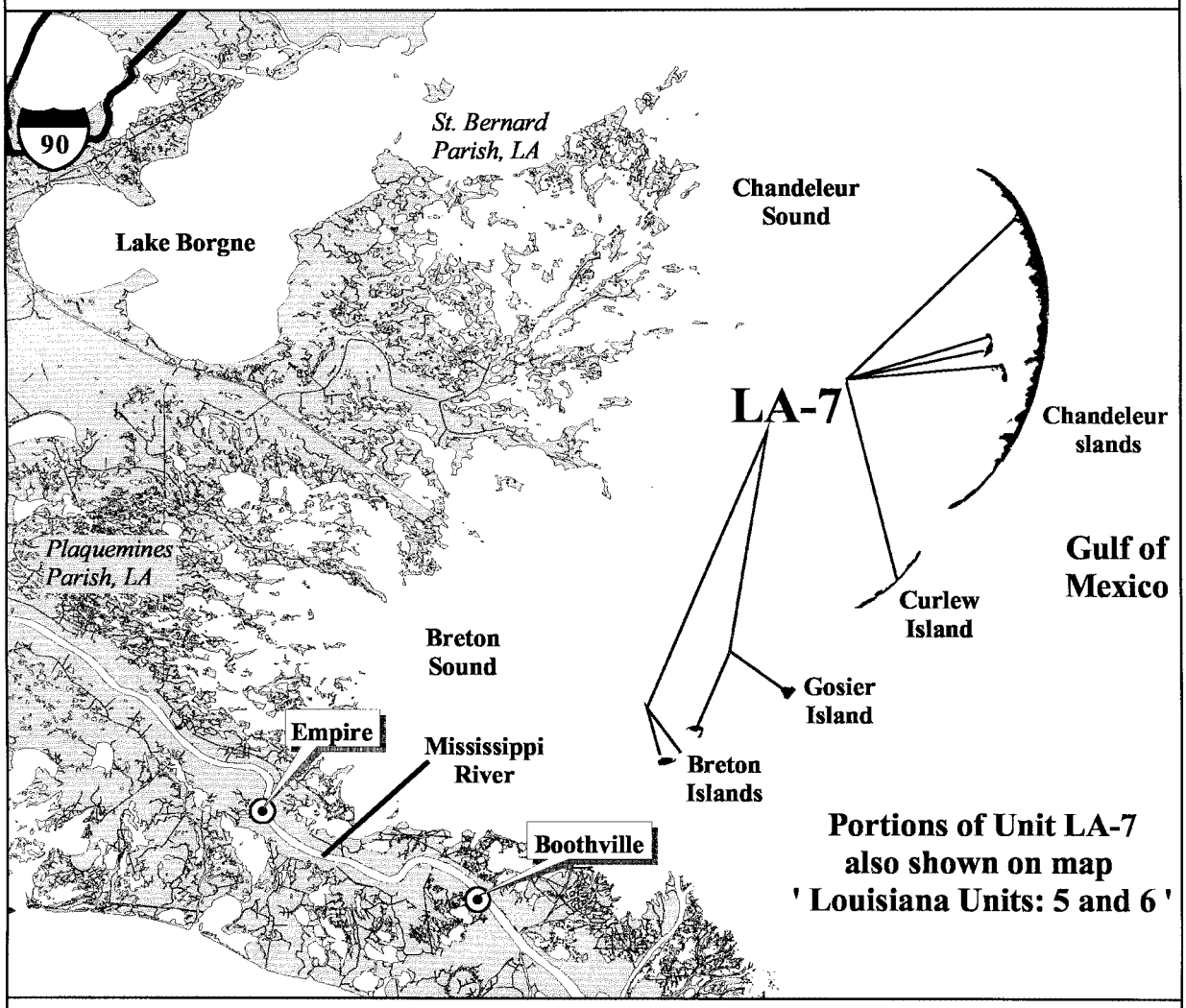
## Legend

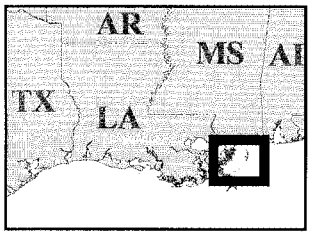
- City / Town
- Major Road / Highway
- Land
- Critical Habitat

**Use Constraints:** This map is intended to be used as a guide to identify the general areas where Wintering Piping Plover critical habitat has been designated. Included within the designation of critical habitat are all land areas to the mean lower low water. Refer to the narrative unit descriptions as the precise legal definition of critical habitat.

# Louisiana Units: 5 and 6

# General locations of the designated critical habitat for the Wintering Piping Plover.




Distance: Miles

0 7 14 M

N

Legend

- City / Town
- Major Road / Highway
- Land
- Critical Habitat

**Use Constraints:** This map is intended to be used as a guide to identify the general areas where Wintering Piping Plover critical habitat has been designated. Included within the designation of critical habitat are all land areas to the mean lower low water. Refer to the narrative unit descriptions as the precise legal definition of critical habitat.

# Louisiana Unit: 7

BILLING CODE 4310–55–C

*Texas* (Maps were digitized using 1995 and 1996 DOQQs and National Oceanic and Atmospheric Administration's (NOAA) Medium Resolution Digital Vector Shoreline)

Unit TX–1: South Bay and Boca Chica. 2,920 ha ( 7,217 ac) in Cameron County

The boundaries of the unit are: starting at the Loma Ochoa, following the Brownsville Ship Channel to the northeast out into the Gulf of Mexico to MLLW, then south along a line describing MLLW to the mouth of the Rio Grande, proceeding up the Rio Grande to Loma de Las Vacas, then from that point along a straight line north to Loma Ochoa. The unit does not include densely vegetated habitat within those boundaries. It includes wind tidal flats that are infrequently inundated by seasonal winds, and includes the tidal flats area known as South Bay. Beaches within the unit reach from the mouth of the Rio Grande northward to Brazos Santiago Pass, south of South Padre Island. The southern and western boundaries follow the change in habitat from wind tidal flat, preferred by the piping plover, to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur. The upland areas extend to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur and include areas used for roosting by the piping plover. Portions of this unit are owned and managed by the Lower Rio Grande Valley National Wildlife Refuge, the South Bay Coastal Preserve, Boca Chica State Park, and private citizens.

Unit TX–2: Queen Isabella Causeway. 2 ha (6 ac) in Cameron County

The area extends along the Laguna Madre west of the city of South Padre Island. The southern boundary is the Queen Isabella State Fishing Pier, and the northern boundary is at the shoreline due west of the end of Sunny Isles Street. The Queen Isabella causeway bisects this shore but is not included within critical habitat. The eastern boundary is where developed areas and/or dense vegetation begins, and the western boundary is MLLW. This unit contains lands known as wind tidal flats that are infrequently inundated by seasonal winds.

Unit TX–3: Padre Island. 10,924 ha (26,983 ac) in Cameron, Willacy, Kenedy, and Kleberg Counties

This unit consists of four subunits:

(1) The southern boundary of this subunit is at Andy Bowie County Park in South Padre Island, and the northern boundary is the south boundary of PAIS. The eastern boundary is MLLW in the Gulf of Mexico, and the western boundary is MLLW in the Laguna Madre. Areas of dense vegetation are not included in critical habitat. This subunit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

(2) The boundaries of this subunit extend from Rincon de la Soledad to the southeast point of Mesquite Rincon, continue from that point west to the Laguna Madre shoreline at its intersection with the King Ranch boundary, and from that point to Rincon de la Soledad. This subunit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

(3) This subunit is within the Laguna Madre and extends from the western boundary of PAIS to the Gulf Intercoastal Waterway. Its northern boundary is a line extending westward from the northwest corner of PAIS, and its southern boundary is a line extending westward from the southern boundary of PAIS. This subunit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

(4) This subunit extends along the gulf shore of Padre Island from the northern boundary of PIAS at the shore, north to the Nueces-Kleberg county line. The inland boundary is where dense vegetation begins, and the seaward boundary is MLLW. This subunit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

Portions of this unit are owned and managed by TGLO, and private citizens with a significant portion being owned and managed by The Nature Conservancy on South Padre Island.

Unit TX–4: Lower Laguna Madre Mainland. 4,980 ha (12,307 ac) in Cameron and Willacy Counties

The southern boundary is an east-west line at the northern tip of Barclay Island, and the southern boundary is an east-west line 0.9 km (0.5 mi) south of the boundary of the City of Port Mansfield; the western boundary is the line where dense vegetation begins, and the eastern boundary is the Gulf Intercoastal Waterway. The unit includes bayside flats that are exposed during low tide regimes and wind tidal flats that are infrequently inundated by seasonal winds. Portions of this unit are within the Laguna Atascosa National Wildlife Refuge, are TGLO-owned, or are privately owned. Beaches and interior wetlands may or may not be used each year because of varying water levels, storm events, or changes in beach characteristics and tidal regime. Water stages vary in this area with meteorological conditions. The upland areas extend to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur and include upland areas used for roosting by the piping plover.

Unit TX–5: Upper Laguna Madre. 436 ha (1,076 ac) in Kleberg County

The southern boundary is the northern boundary of PAIS, and the northern boundary is the Kleberg/Nueces County line. The eastern boundary is the line where dense vegetation begins, and the western boundary is MLLW. This unit includes a series of small flats along the bayside of Padre Island in the Upper Laguna Madre. It includes wind tidal flats and sparsely-vegtated upland areas used for roosting by the piping plover. These boundaries receive heavy use by large numbers of shorebirds, including piping plovers. The upland areas extend to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur, and include upland areas used for roosting by the piping plover.

Unit TX–6: Mollie Beattie Coastal Habitat. 241 ha (596 ac) in Nueces County

This unit will be described as two subunits:

(1) Subunit is bounded on the north by Beach Access Road 3, on the east by the inland boundary of critical habitat Unit TX–7, on the south by Zahn road, and on the west by Zahn Road.

(2) The subunit is bounded on the north by Corpus Christi Pass, on the east by US 361, on the south by the north side of Packery Channel, and on the west by the Gulf Intercoastal Watersay.

Some of the uplands are privately owned and the remaining are owned and managed by the TGLO. This unit includes two hurricane washover passes known as Newport and Corpus Christi Passes, and wind tidal flats that are infrequently inundated by seasonal winds. The upland areas extend to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur and include upland areas used for roosting by the piping plover.

Unit TX–7: Newport Pass/Corpus Christi Pass Beach. 42 ha (104 ac) in Nueces County

This unit is along a stretch of Gulf beach 8.5 km (5.3 mi) long. It is

bounded on the north by Fish Pass, on the east by MLLW, on the south by St. Bartholomew Avenue, and on the west by a line marking the beginning of dense vegetation. Portions of the unit are managed by the Texas Parks and Wildlife Department as part of Mustang Island State Park. This unit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

Unit TX–8: Mustang Island Beach. 97 ha (239 ac) in Nueces County

This is a stretch of Gulf beach extending from Fish Pass to the Horace Caldwell Pier on Holiday Beach within the City of Port Aransas, TX. The landward boundary is beginning of dense vegetation, and the gulf-ward boundary is MLLW. This unit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

Unit TX–9: Fish Pass Lagoons. 130 ha (323 ac) in Nueces County

This unit encompasses flats facing Corpus Christi Bay that extend 1.0 km (0.6 mi) on either side of Fish Pass. The inland boundary is the line indicating beginning of dense vegetation, and the bayside boundary is MLLW. It includes interior lagoons and wind tidal flats that are infrequently inundated by seasonal winds. This unit includes upland areas used for roosting by the piping plover.

Unit TX–10: Shamrock Island and Adjacent Mustang Island Flats. 87 ha (216 ac) in Nueces County

This unit encompasses Shamrock Island, an unnamed small sand flat to the north of Wilson's Cut, and a lagoon complex that extends 3.5 km (2.2 mi) to the southwest of Wilson's Cut. Critical habitat includes land to the line marking the beginning of dense vegetation down to MLLW. This unit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

Unit TX–11: Blind Oso. 2 ha (5 ac) in Nueces County

This unit is the flats of the Blind Oso, part of Oso Bay, from Hans and Pat Suter Wildlife Refuge (owned and managed by the City of Corpus Christi) northeast to Corpus Christi Bay and then southeast along the edge of Texas A&M University—Corpus Christi. The landward boundaries extend to where densely vegetated habitat, not used by the piping plover, begins, and extends out from the landward boundaries to MLLW. This unit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

Unit TX–12: Adjacent to Naval Air Station-Corpus Christi. 2 ha (6 ac) in Nueces County

This unit is along the shore of Oso Bay on flats bordered by Naval Air Station-Corpus Christi and Texas Spur 3 to a point 2.5 km (1.5 mi) south of the bridge between Ward Island and the Naval Air Station. The landward boundary is the line where dense vegetation begins, and the boundary in the Bay is MLLW. This unit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

Unit TX–13: Sunset Lake. 176 ha (435 ac) in San Patricio County

This unit is triangle shaped, with State Highway 181 as the northwest boundary, and the limits of the City of Portland as the northeast boundary. The shore on Corpus Christi Bay is the third side of the triangle, with the actual boundary being MLLW off this shore. This unit is a large basin with a series of tidal ponds, sand spits and wind tidal flats. This unit is owned and managed by the City of Portland within a system of city parks. Some of the described area falls within the jurisdiction of the TGLO. It includes two city park units referred to as Indian Point and Sunset Lake. Much of the unit is a recent acquisition by the city, and management considerations for the park include the area's importance as a site for wintering and resident shorebirds. This unit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

Unit TX–14: East Flats. 194 ha (481 ac) in Nueces County

This unit is bordered on the north by dredge placement areas bordering the Corpus Christi Ship Channel, on the west by MLLW in Corpus Christi Bay, on the east by the limits of the City of Port Aransas, and on the south by an east-west line at the sourthern-most point of Pelone Island. It is also bisected by a navigation channel, which is not included in the critical habitat. A portion of this unit at the west end falls within State-owned (TGLO) intertidal lands. The remainder of the unit is privately owned. The upland areas extend to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur, including upland areas used for roosting by the piping plover. This unit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

Unit TX–15: North Pass. 447 ha (1,106 ac) in Aransas County

The unit is bounded on north by North Pass, on the northwest by the line indicating MLLW, on the southwest by the northeast side of Lydia Ann Island, on the south by a line running due east from the northeast side of Lydia Ann Island, and on the southeast by the landward boundary of Unit. This unit is a remnant of a hurricane washover on the privately owned San Jose Island. The upland areas extend to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur, including upland areas used for roosting by the piping plover. This unit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

Unit TX–16: San Jose Beach. 187 ha (463 ac) in Aransas County

This unit occupies a 33 km (20 mi) stretch of beach from the North Jetty of Aransas Pass at the south, to the confluence of Vinson Slough and Cedar Bayou at the north end of San Jose Island. The inland boundary is the line indicating the beginning of densely vegetated habitat, and the gulf-ward boundary is MLLW. This unit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

Unit TX–17: Allyn's Bight. 5 ha (14 ac) in Aransas County

This unit includes shoreline of San Jose Island on Aransas Bay from Allyn's Bight to Blind Pass, the channel between San Jose Island and Mud Island. The inland boundary is where the line of dense vegetation begins, and the bay-ward boundary is MLLW. This unit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

Unit TX–18: Cedar Bayou/Vinson Slough. 3,051 ha (7,539 ac) in Aransas County

Beginning at the confluence of Vinson Slough and Cedar Bayou, this unit's boundary follows the shore of Spalding Cove to Long Reef, then continues along a line extending (2.5 mi) southwest of Long Reef to the shore of San Jose Island, then along the shore of the island to the landward boundary of Unit TX–16. The unit boundaries extend landward to the line indicating the beginning of dense vegetation. This unit is a remnant of a hurricane washover area, and includes the highly dynamic area of Cedar Bayou, the pass that separates San Jose Island and Matagorda Island. This area includes a small

section of Matagorda Island National Wildlife Refuge with much of the remaining areas occurring on the privately owned island of San Jose. The upland areas extend to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur and include upland areas used for roosting by the piping plover. This unit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

Unit TX–19: Matagorda Island Beach. 395 ha (976 ac) in Calhoun County

This stretch of beach along the Gulf of Mexico on Matagorda Island extends a distance of 60 km (36 mi) from Cedar Bayou on the southwest (where it abuts TX–18), to Pass Cavallo on the northeast. The inland boundary is the line indicating the beginning of dense vegetation, and the gulf-ward boundary is MLLW. This unit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds. The unit falls entirely within the boundary of the Matagorda Island National Wildlife Refuge.

Unit TX–20: Ayers Point. 397 ha (982 ac) in Calhoun County

This unit is an unnamed lake on Matagorda Island between Shell Reef Bayou and Big Brundrett Lake, with San Antonio Bay to the north. The unit boundary extends landward from the lake to the line where dense vegetation begins and where the constituent elements no longer occur and includes upland areas used for roosting by the piping plover. This unit includes marsh and flats at Ayers Point on Matagorda Island National Wildlife Refuge. This unit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

Unit TX–21: Panther Point to Pringle Lake. 863 ha (2,133 ac) in Calhoun County

This unit represents a narrow band of bayside habitats on Matagorda Island from Panther Point to the northeast end of Pringle Lake. The landward boundary is the line indicating where dense vegetation begins, and the bayward boundary is MLLW. The unit is entirely within Matagorda Island National Wildlife Refuge. This unit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

Unit TX–22: Decros Point. 450 ha (1,114 ac) at the Matagorda/Calhoun County Line

This unit includes about 7.0 km (4.3 mi) of beach habitat around the island at the western tip of Matagorda Peninsula between the natural opening to Matagorda Bay and the Matagorda Ship Channel. The upland boundary is the line where dense vegetation begins, and the seaward boundary is MLLW. The adjacent upland is privately owned. This unit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

Unit TX–23: West Matagorda Peninsula Beach. 311 ha (769 ac) of Shoreline in Matagorda County

This unit extends 40 km (24 mi) along the Gulf of Mexico from the jetties at the Matagorda Ship Channel to the old Colorado River channel. The inland boundary is the line indicating where dense vegetation begins, and the gulfside boundary is MLLW. This unit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

Unit TX–24: West Matagorda Bay/ Western Peninsula Flats. 756 ha (1,868 ac) in Matagorda County

This unit extends along the bayside of Matagorda Peninsula from 7.5 southwest of Greens Bayou to 2.5 km (1.6 mi) northwest of Greens Bayou. The landward boundary is the line indicating the beginning of dense vegetation, and the bayside boundary is MLLW. This unit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

Unit TX–25: West Matagorda Bay/ Eastern Peninsula Flats. 232 ha (575 ac) in Matagorda County

This unit follows the bayside of Matagorda Peninsula from Maverick Slough southwest for 5 km (3 mi). The unit begins at Maverick Slough to the northeast and extends 5 km (3 mi) to the southwest, enclosing a series of flats along Matagorda Bay. The upland areas extend to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur and include upland areas used for roosting by the piping plover. This unit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

Unit TX–26: Colorado River Diversion Delta. 5 ha (13 ac) in Matagorda County

This unit follows the shore of the extreme eastern northeast corner of West Matagorda Bay from Culver Cut to Dog Island Reef. The southeastern tidally emergent portion of Dog Island Reef is included within the unit. The landward boundary is the line indicating the beginning of dense vegetation, and the bayside boundary is MLLW. The upland areas includes upland areas used for roosting by the piping plover. This unit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

Unit TX–27: East Matagorda Bay/ Matagorda Peninsula Beach West. 295 (728 ac) of shoreline in Matagorda County

This unit extends along Gulf beach on the Matagorda Peninsula from the mouth of the Colorado River northeast along the peninsula 23 km (14 mi) to a point on the beach opposite Eidelbach Flats. The landward boundary is the line indicating the beginning of dense vegetation, and the gulfside boundary is MLLW. This unit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

Unit TX–28: East Matagorda Bay/ Matagorda Peninsula Beach East. 129 ha (321 ac) in Matagorda County

This unit extends along the Gulf beach on the northeast end of Matagorda Peninsula from a point 0.8 km (0.5 mi) southwest of FM 457 southwest 10 km (6 mi.) to the southwest side of Brown Cedar Cut. This unit abuts with Unit TX–29 to the north. The landward boundary is the line indicating the beginning of dense vegetation, and the gulfside boundary is MLLW. This unit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

Unit TX–29: Brown Cedar Cut. 119 ha (294 ac) in Matagorda County

This unit extends 2 km (1.2 mi.) both southwest and northeast of the main channel of Brown Cedar Cut along the bayside of Matagorda Peninsula in East Matagorda Bay, and abuts unit TX–28 to the southeast. The landward boundary is the line indicating the beginning of dense vegetation, and the bayside boundary is MLLW. The eastern boundary of TX–29 follows the change in habitat from mud flats preferred by the piping plover, to slightly vegetated dune system adjacent to TX–28. This unit includes upland areas used for roosting by the piping plover. This unit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

Unit TX–30: Northeast Corner East Matagorda Bay. 120 ha (297 ac) in Matagorda County

This unit is bounded on the north by the Gulf Intercoastal Waterway, on the east by the northeast limit of Matagorda bay up the line where dense vegetation begins, on the south by the boundary of Unit TX–28, and on the west by MLLW. It is a system of flats associated with tidal channels. This unit includes upland areas used for roosting by the piping plover and lands known as wind tidal flats that are infrequently inundated by seasonal winds.

Unit TX–31: San Bernard NWR Beach. 166 ha (410 ac) in Matagorda and Brazoria Counties

This is a unit composed of Gulf beach, 8.0 km (5.0 mi), and extends from the mouth of the San Bernard River to a point along the beach 14.0 km (8.7 mi) to the southwest. The landward boundary is the line indicating the beginning of dense vegetation, and the gulfside boundary is MLLW. This unit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

Unit TX–32: Gulf Beach Between Brazos and San Bernard Rivers. 108 ha (269 ac) of shoreline in Brazoria County

This unit is a segment of Gulf beach between the Brazos River and the San Bernard River. This unit borders an area known as Wolf Island. The landward boundary is the line indicating the beginning of dense vegetation, and the gulfside boundary is MLLW. This unit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

Unit TX–33: Bryan Beach and Adjacent Beach. 157 ha (388 ac) in Brazoria County

The boundaries enclose a length of Gulf beach between the mouth of the Brazos River and FM 1495. The landward boundary is the line indicating the beginning of dense vegetation, and the gulfside boundary is MLLW. A portion of this area is owned and managed by the Texas Parks and Wildlife Department. This unit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

Unit TX–34: San Luis Pass. 110 ha (272 ac) near the Brazoria/Galveston County line

This unit extends along the Gulf side of Galveston Island from San Luis Pass to the site of the former town of Red Fish Cove (USGS 1:24,000 map, San Luis Pass, Texas; 1963, photorevision 1974). The landward boundary is the line indicating the beginning of dense vegetation, and the gulfside boundary is MLLW. Approximately 57 percent of the unit includes flats in the floodtide delta that are State-owned and managed by the TGLO. This unit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

Unit TX–35: Big Reef. 47 ha (117 ac) in Galveston County

This unit consists of beach and sand flats on the north, west, and east shore of Big Reef, down to MLLW. South Jetty is not included. The area is currently managed by the City of Galveston. This unit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

Unit TX–36: Bolivar Flats. 160 ha (395 ac) in Galveston County

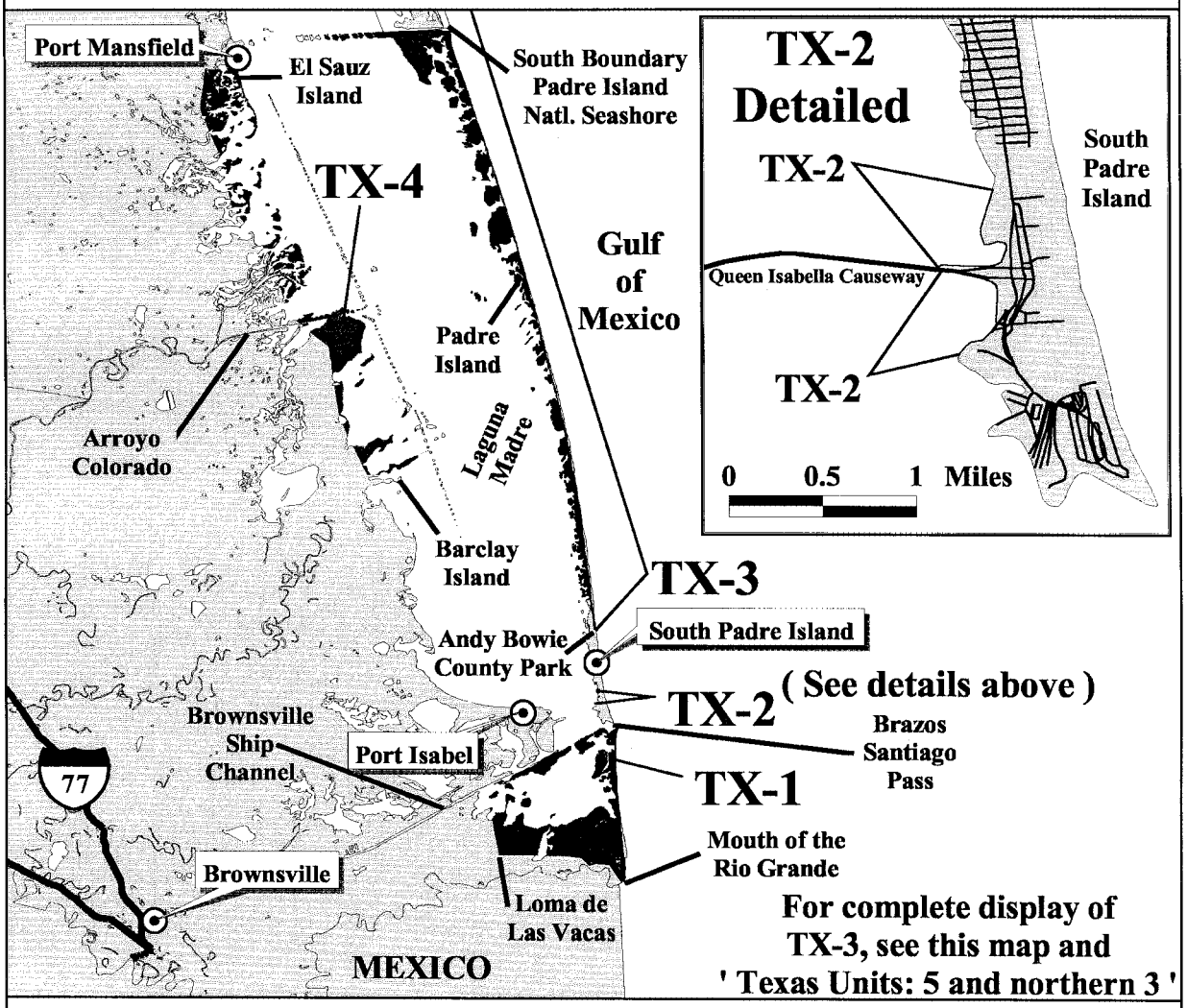
This unit extends from the jetties on the southwest end of the Bolivar Peninsula to a point on the Gulf beach 1 km (0.6 mi) north of Beacon Bayou. It includes 5.0 km (3 mi) of Gulf shoreline. The landward boundary is the line indicating the beginning of dense vegetation, and the gulfside boundary is MLLW. The area is leased from TGLO by Houston Audubon Society and managed for its important avian resources. The upland areas are used for roosting by the piping plover. This unit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

Unit TX–37: Rollover Pass. 6 ha (16 ac) in Galveston County

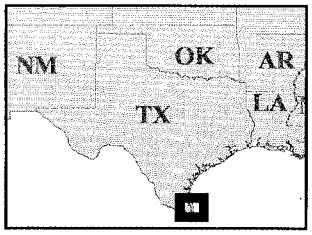
This unit consists of Rollover Bay on the bayside of Bolivar Peninsula. The landward boundary is the line indicating the beginning of dense vegetation, and the bayside boundary is MLLW. It includes flats on State-owned land managed by the TGLO. This unit captures the intertidal complex of the bay, and is bounded by the towns of Gilchrist to the east and the Gulf beach of the Bolivar Peninsula to the south. This unit includes lands known as wind tidal flats that are infrequently inundated by seasonal winds.

BILLING CODE 4310–55–P

# General locations of the designated critical habitat for the Wintering Piping Plover.




## General Area




## Distance: Miles

0 6 12 Miles

## Legend

- City / Town
- Major Road / Highway
- Land
- Critical Habitat

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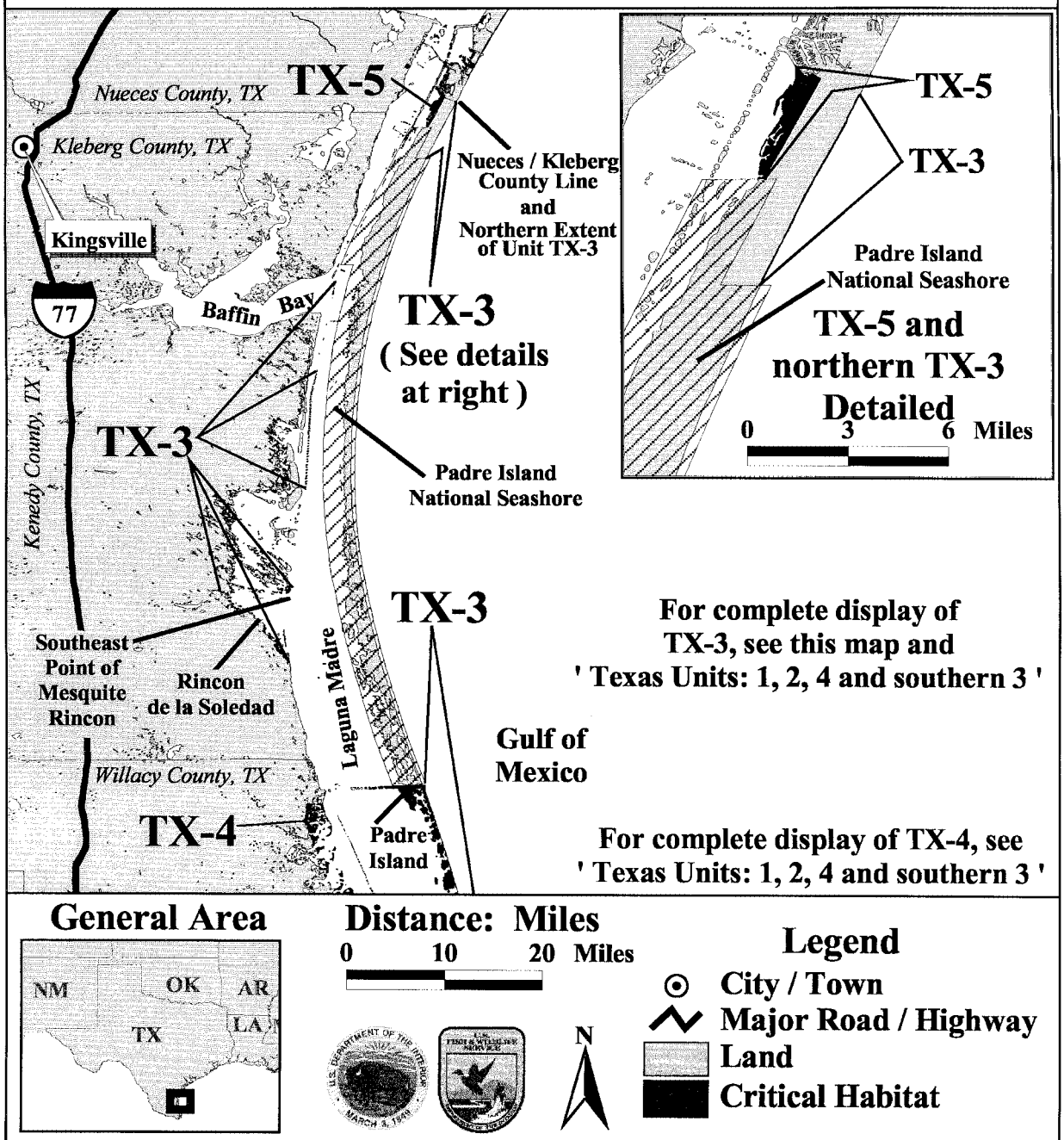
**Use Constraints:** This map is intended to be used as a guide to identify the general areas where Wintering Piping Plover critical habitat has been designated. Included within the designation of critical habitat are all land areas to the mean lower low water. Refer to the narrative unit descriptions as the precise legal definition of critical habitat.

# Texas Units: 1, 2, 4 and southern 3

# General locations of the designated critical habitat for the Wintering Piping Plover.

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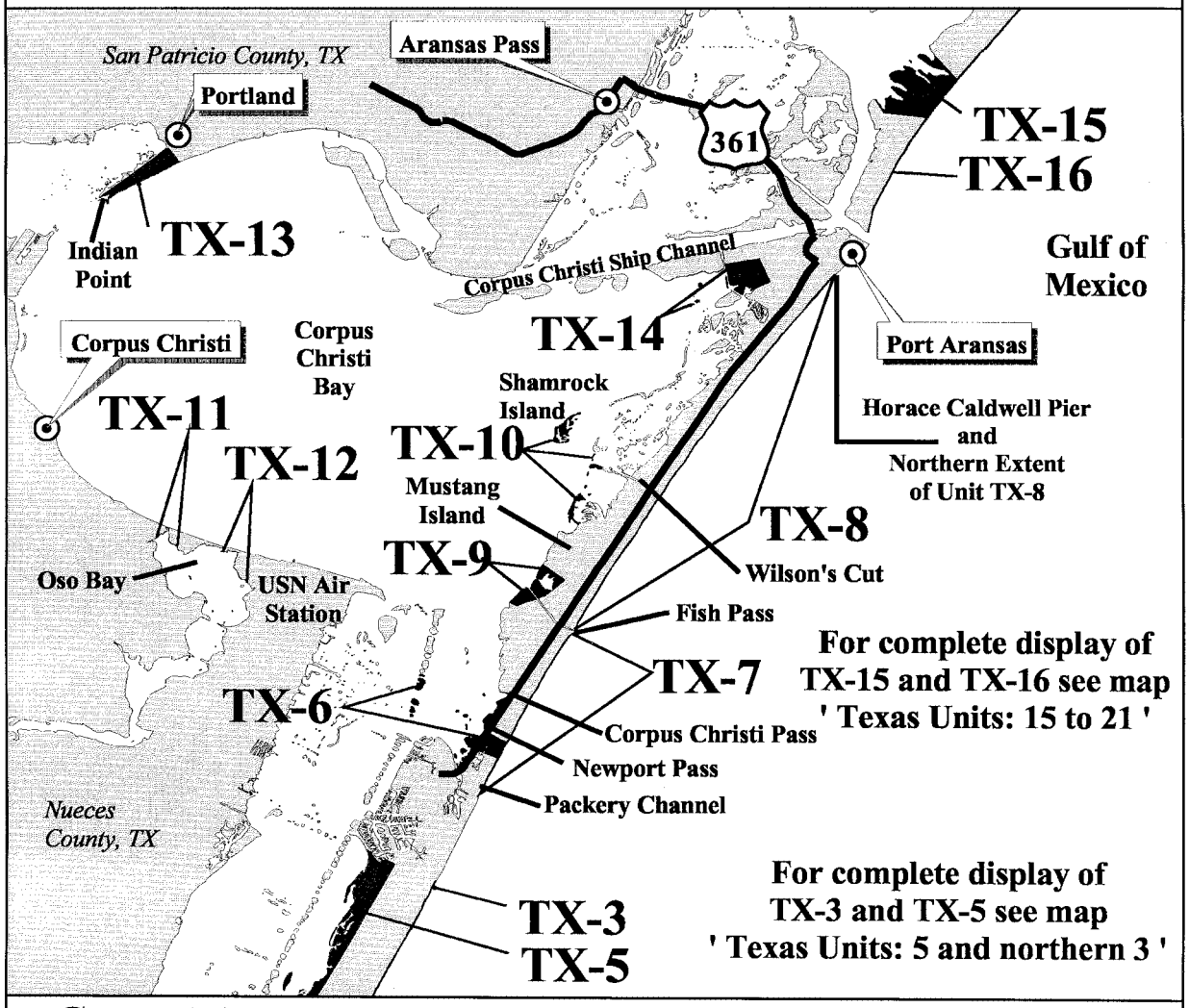
# Texas Units: 5 and northern 3

# General locations of the designated critical habitat for the Wintering Piping Plover.

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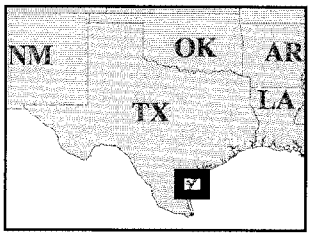


## Distance: Miles

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N

## Legend

- City / Town
- Major Road / Highway
- Land
- Critical Habitat

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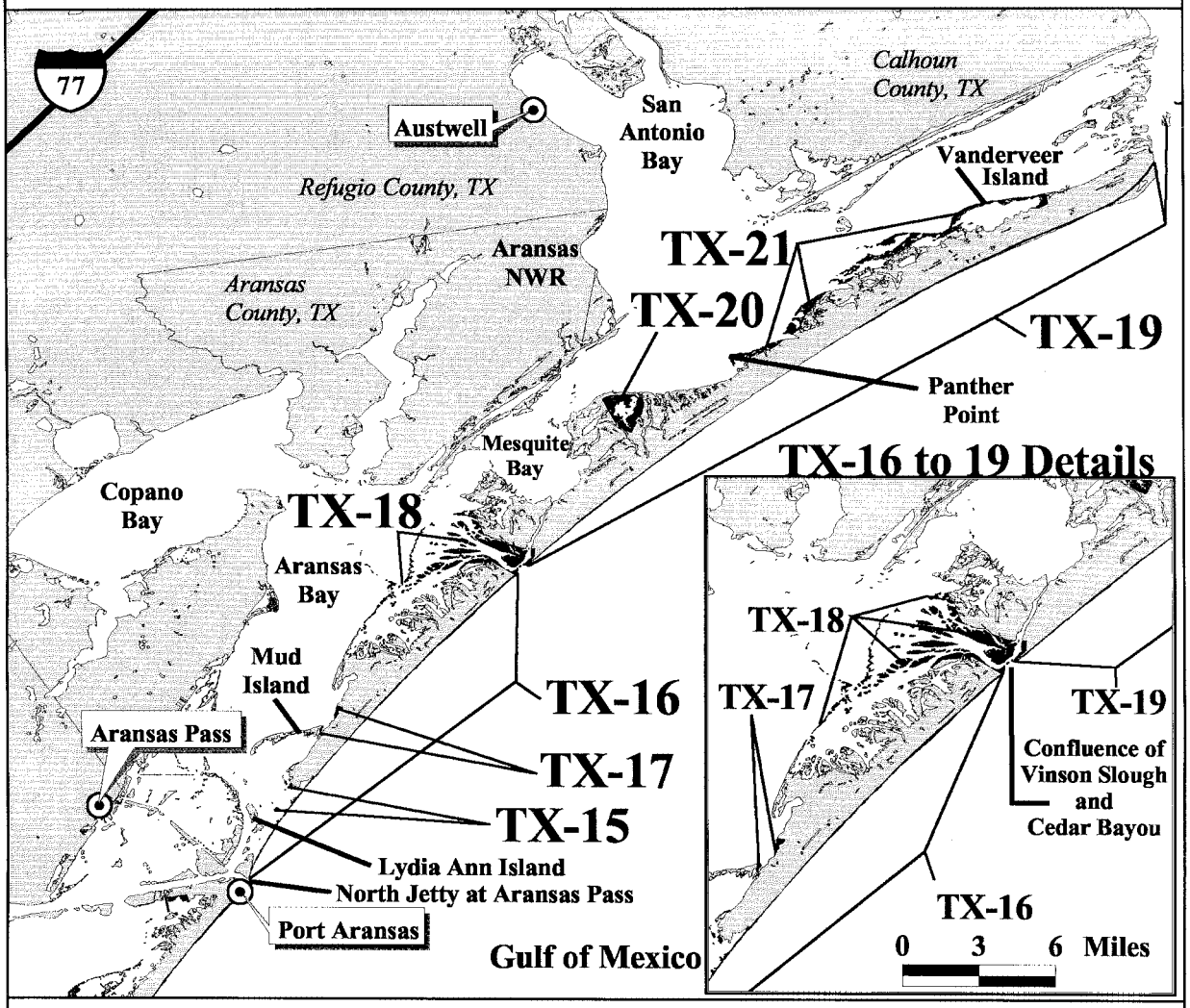
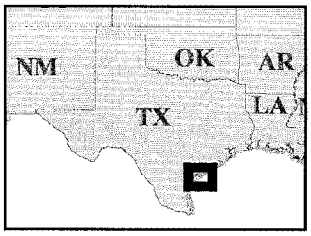
# Texas Units: 6 to 14

# General locations of the designated critical habitat for the Wintering Piping Plover.




## General Area




## Distance: Miles

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## Legend

- City / Town
- Major Road / Highway
- Land
- Critical Habitat

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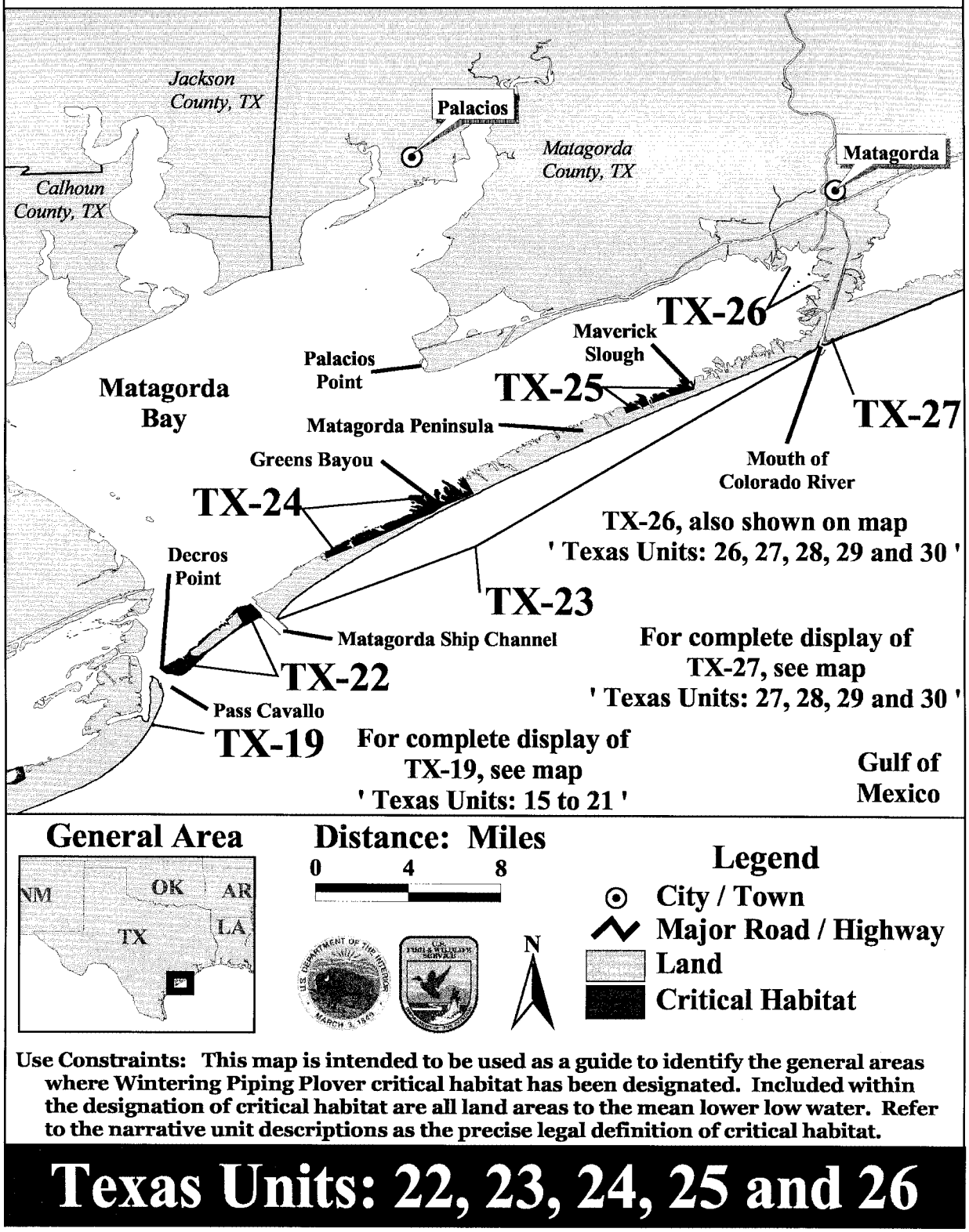
# Texas Units: 15 to 21

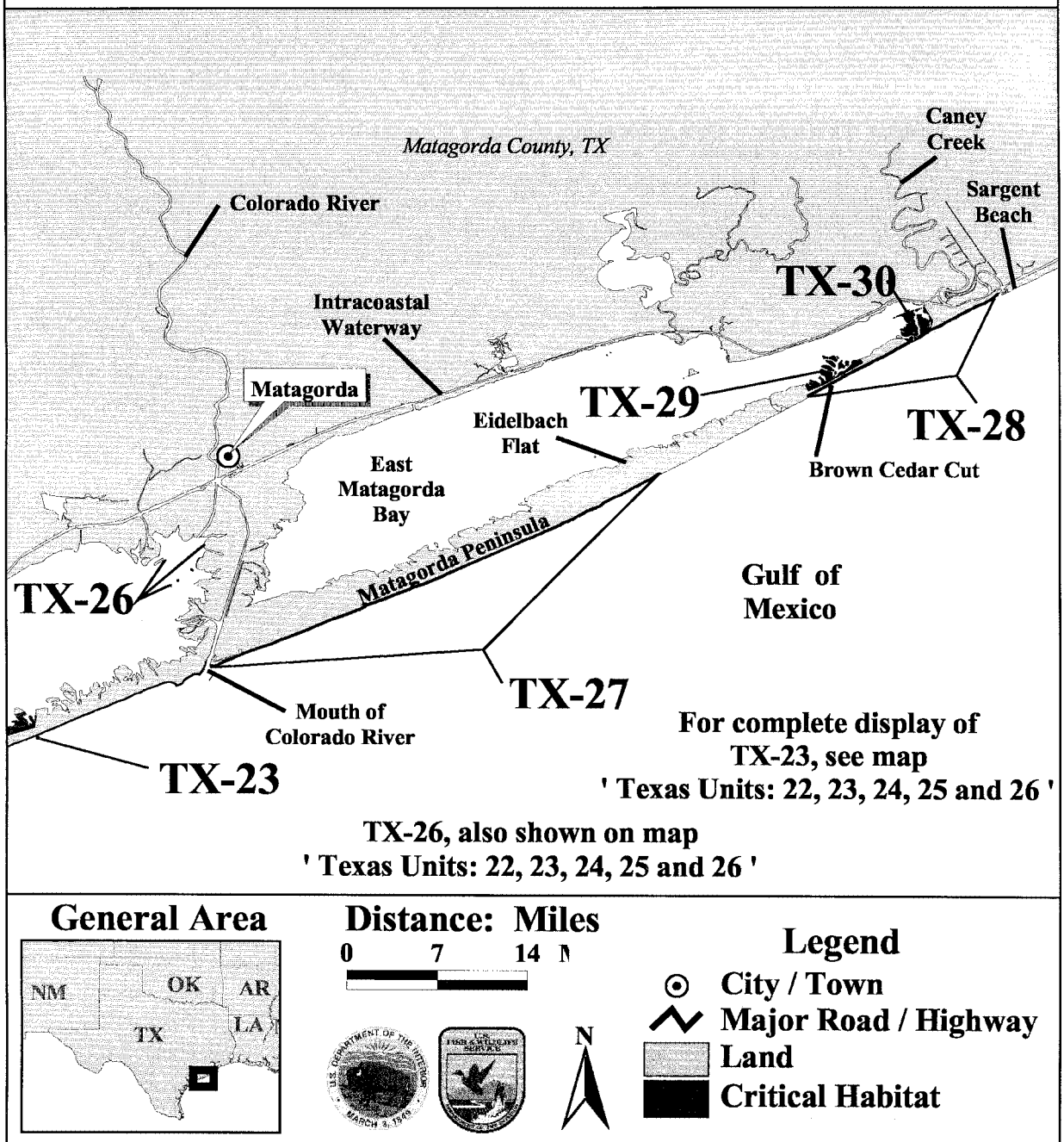
# General locations of the designated critical habitat for the Wintering Piping Plover.




**Use Constraints:** This map is intended to be used as a guide to identify the general areas where Wintering Piping Plover critical habitat has been designated. Included within the designation of critical habitat are all land areas to the mean lower low water. Refer to the narrative unit descriptions as the precise legal definition of critical habitat.

# Texas Units: 22, 23, 24, 25 and 26

# General locations of the designated critical habitat for the Wintering Piping Plover.

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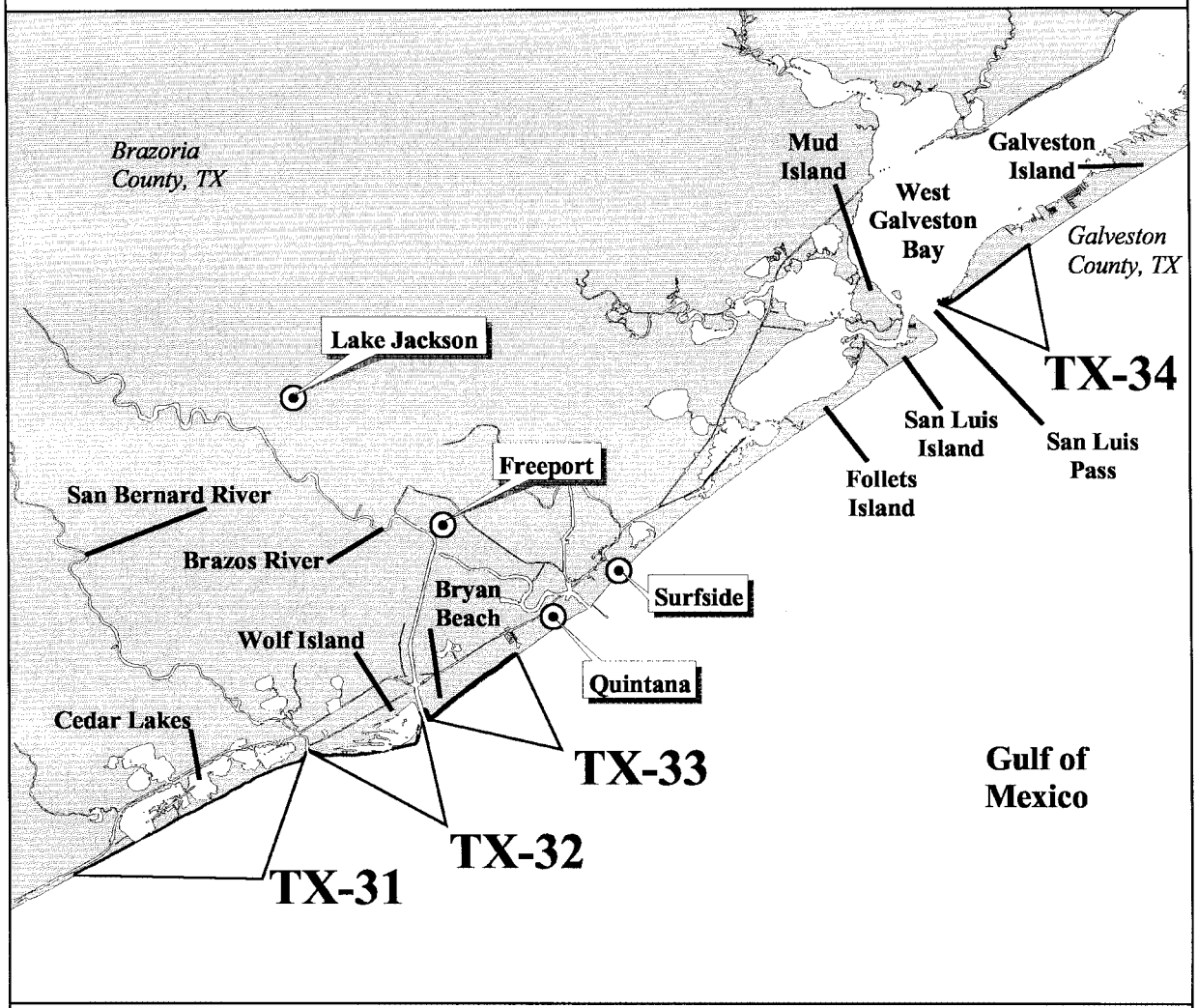
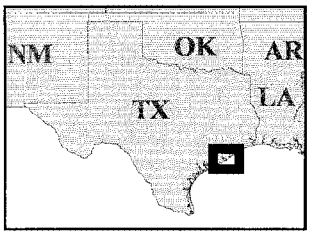
# Texas Units: 26, 27, 28, 29 and 30

# General locations of the designated critical habitat for the Wintering Piping Plover.




**Distance: Miles**

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N

**Legend**

- City / Town
- Major Road / Highway
- Land
- Critical Habitat

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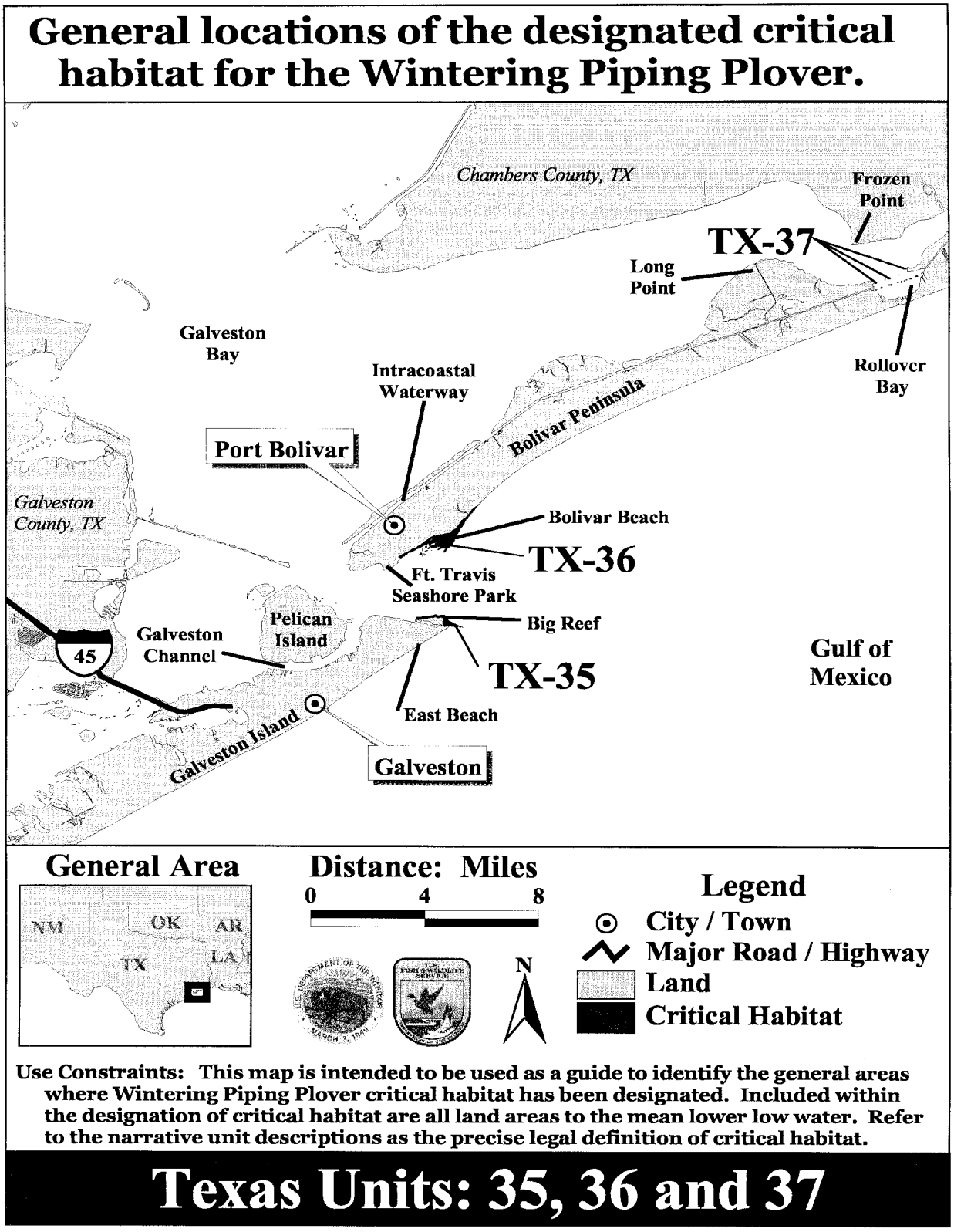
# Texas Units: 31, 32, 33 and 34

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Dated: June 28, 2001.

**Joseph E. Doddridge,**

*Acting Assistant Secretary for Fish and Wildlife and Parks.*

[FR Doc. 01–16905 Filed 7–9–01; 8:45 am]

BILLING CODE 4310–15–C