

*April- 2001*

**ECONOMIC ANALYSIS OF  
CRITICAL HABITAT DESIGNATION  
FOR THE PIPING PLOVER:  
GREAT LAKES BREEDING HABITAT**

**Final Addendum**

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April 2001

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## INTRODUCTION

1. In July 2000, the U.S. Fish and Wildlife Service (the Service) published a proposed rule to designate critical habitat for the Great Lakes breeding population of piping plover (*Charadrius melodius*) under the Endangered Species Act of 1973, as amended (the Act). Because the Act also calls for an economic analysis of the critical habitat designation, the Service released a *Draft Economic Analysis of Critical Habitat Designation for the Great Lakes Breeding Population of Piping Plover* (hereafter *DEA*) for public review and comment in September 2000.<sup>1</sup>
2. After considering the public comments on the proposed rule, the Service made revisions to the critical habitat designation for the Great Lakes breeding population of piping plover (hereafter "piping plover"). This Addendum addresses the implications of these revisions for the conclusions in the *DEA*, and presents revised estimates of economic impacts where appropriate. Public comments specific to the *DEA* were also considered in preparing this Addendum. In addition, certain topics addressed in the analysis were revisited and additional data were gathered.
3. In summary, the revised estimates for the *DEA* presented here result from:
  - C Changes to the area of the critical habitat designation,
  - C Public comments on the *DEA* itself; and
  - C Additional research conducted after publication of the *DEA*.

## IMPLICATIONS AND REVISED ESTIMATES FOR THE DRAFT ECONOMIC ANALYSIS

4. The following sections describe the implications of changes in the revised critical habitat designation, public comments, and additional research on the analysis presented in the *DEA*. ***Section numbers presented in the headers of this addendum refer to the section numbers of the DEA.***

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<sup>1</sup> Copies of the *Draft Economic Analysis of Critical Habitat Designation for the Great Lakes Breeding Population of Piping Plover* are available on the Internet at [http://midwest.fws.gov/eco\\_serv/endangrd/birds/pipl\\_ch.html](http://midwest.fws.gov/eco_serv/endangrd/birds/pipl_ch.html) or by writing to the U.S. Fish and Wildlife Service, Bishop Henry Whipple Federal Building, 1 Federal Drive, Fort Snelling, MN 55111.

## **Revisions to Critical Habitat Units, Section 1**

5. The Service is designating 325 km (201 miles) of Great Lakes shoreline as critical habitat for the piping plover. The length of shoreline has been adjusted from 305 km (189 miles) in the proposed designation. The change in length is due to changes in methods of accounting that result in a more accurate measurement of the areas included. In addition, the amount of inland acreage has been significantly reduced: the proposed designation included lands that fall within 1 km (3,280 feet) of the Great Lakes normal high water line, while the revised rule includes only lands that fall 500 meters (1,640 feet) from the normal high water line. Finally, some parcels of land have been removed from the designation.
  
6. The changes include:
  - C The removal of the Pensaukee Harbor and Peshtigo Point units, Wisconsin (WI-5, WI-6)
  - C The removal of Erie Pier/Harding Island, Minnesota
  - C The removal of most lands belonging to the Bad River Band of Lake Superior Chippewa Indians in the Long Island-Chequamegon Point unit (WI-2), leaving 4 kilometers of shoreline
  - C The removal of lands owned by the Northern Indiana Public Service Company (NIPSCO) in Indiana (IN-1)
  - C The exclusion of lands between Public Beach #11 and the Erie Channel at Presque Isle State Park/Gull Point Natural Area (PA-1)

## **Baseline Statutory and Regulatory Requirements**

### **Listing of the Species under the Act**

7. The piping plover has been listed as endangered since December 1985. Under the listing, Federal agencies must consult with the Service regarding any actions they fund, authorize, or carry out that could potentially jeopardize the continued existence of the listed or proposed species. The listing of the piping plover as endangered is the most significant aspect of the baseline protection, as it makes illegal the "take" of a listed species, which is defined by the Act to mean to harass, harm, pursue, hunt, shoot, kill, trap, wound, capture, or collect, or attempt to engage in such conduct. As Michigan has the majority of designated critical habitat areas that are considered to be occupied by the piping plover, the listing of the bird as an endangered species has had the largest effect in this state.

8. ***Listing Effects in Michigan.*** In Michigan, the listing of the piping plover led the Service to create a map in 1997 that identified sensitive areas of piping plover habitat. All of the areas being proposed as critical habitat in Michigan fall within the boundaries identified in this map.<sup>2</sup> The Service distributed this map to the U.S. Army Corps of Engineers (ACOE) in 1997, along with a letter stating that the map should be used "to determine whether proposed projects occur in the areas where requisite Section 7 consultation with this office pursuant to the Endangered Species Act would be required."<sup>3</sup> The map was also distributed to the Michigan Department of Environmental Quality (MDEQ), as well as to local townships that fell within the boundaries of sensitive habitat areas.
9. In addition, the Service in Michigan created a "Piping Plover Protection Plan" (PPPP) in 1997, which is a document that encourages landowners to limit activities on their property that could result in "take" of the piping plover.<sup>4</sup> After a landowner has signed the PPPP, the document remains as part of the deed to the property, and must be signed by future landowners.
10. Since 1997, the map created by the Service has been widely used in Michigan to identify sensitive piping plover habitat. When a project that requires an ACOE permit falls within the mapped area, ACOE initiates contact with the Service. After contact, the Service recommends actions that range from asking for the applicant's signature on the PPPP to

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<sup>2</sup> Personal communication with Biologist, U.S. Fish and Wildlife Service, East Lansing Field Office, MI, February 23, 2001.

<sup>3</sup> Written communication between the U.S. Fish and Wildlife Service, East Lansing Field Office, MI, and the Regulatory Branch of the U.S. Army Corps of Engineers, Detroit, MI, May 15, 1997.

<sup>4</sup> Provisions contained within the PPPP include:

- C Preserve existing natural habitat for nesting piping plovers on the property. This includes refraining from disturbing the existing beach/dune environment by altering the sand, gravel, rocks, water, or plants.
- C Abstain from home construction or repair work between April 15 and June 1, and if a nesting pair occurs within 600 feet of the property, construction or repair work can not begin until August 15.
- C Abstain from the construction of permanent structures or towering structures on the beach or waterfront of the property.
- C Keep trash and garbage in animal proof containers.
- C Abstain from operating off-road vehicles on the beach during nesting season.
- C Visitors, renters, and lessees shall be advised of and conform to these aforementioned covenants. The landowner shall not be liable for violations by visitors, renters, or lessees that have been advised prior to the violation.

initiating formal consultation with ACOE. Since 1997, the ACOE has engaged in a few formal and a large number of informal consultations with the Service in mapped areas, both on public and private projects.<sup>5</sup> The Service has recommended project modifications that range from signing the PPPP (most common) to increased setback of the permanent structure (rare).<sup>6</sup> In 1999 to 2000, four PPPPs were signed as part of an ACOE permit.<sup>7</sup> Because the ACOE already consults with the Service on areas that are being designated as critical habitat in Michigan under the listing of the species, the number of incremental consultations with ACOE in Michigan that will result from the designation of critical habitat is likely to be small (see section "Impacts of Critical Habitat Designation on Land Use" below).

11. Several local townships have also agreed to send all applicants for a local permit within sensitive piping plover areas to the Service for "clearance." These townships include Leelanau Township, Grand Marais Township, and Alger Community, among others. Such permit clearance usually results in a written response from the Service, and a recommendation for a PPPP if deemed necessary.<sup>8</sup> In 1999 to 2000, three landowners signed PPPPs as part of a local permitting process, while approximately five private landowners declined to sign.<sup>9</sup> Because critical habitat only affects projects that involve Federal action, these efforts on the part of local agencies represent administrative effort above and beyond the scope of critical habitat. Thus, the local permitting process will not be affected by the designation of critical habitat for the piping plover.
12. In summary, several mechanisms for piping plover management are already in place in Michigan. Thus, few additional consultations should result from the designation of critical habitat for the piping plover in Michigan because of the preexisting consultation activities

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<sup>5</sup> Personal communication with Engineer, Regulatory Office, U.S. Army Corps of Engineers, Detroit District, MI, March 8, 2001.

<sup>6</sup> Personal communication with Engineer, Regulatory Office, U.S. Army Corps of Engineers, Detroit District, MI, March 8, 2001.

<sup>7</sup> Fax transmission from Biologist, U.S. Fish and Wildlife Service, East Lansing Field Office, MI. February 23, 2001.

<sup>8</sup> Written communication with Biologist, U.S. Fish and Wildlife Service, East Lansing, MI, March 8, 2001.

<sup>9</sup> Fax transmission from Biologist, U.S. Fish and Wildlife Service, East Lansing Field Office, MI. February 23, 2001.

conducted on the part of permitting agencies in the areas included as critical habitat.<sup>10</sup> The Service has rarely conducted consultations on the piping plover in states other than Michigan. Thus, incremental effects of critical habitat designation are most likely in states other than Michigan (see section "Impacts of Critical Habitat Designation on Land Use" below).

### **The Coastal Zone Management Act**

13. The Coastal Zone Management Act of 1972 (CZMA) delegates authority to the states to manage their coastal areas in a manner which achieves "wise use of the land and water resources of the coastal zone, giving full consideration to ecological, cultural, historic, and esthetic values as well as the needs for compatible economic development."<sup>11</sup> After a state establishes a federally-approved Coastal Management Plan, the state has jurisdiction over all activities that occur in its coastal areas. Besides granting authority to the states, the CZMA provides Federal funds to states for shoreline management activities (Sections 305 and 306). By encouraging state management of the shoreline, the CZMA opens the door for states to establish protections of their shoreline areas, and thus is an important part of the baseline regulations in areas designated as critical habitat for the piping plover.
14. States outline different levels of protection in their coastal management plans. For example, Michigan has used the CZMA authority to enact the Michigan Natural Resource and Environmental Protection Act (1994 PA 451), a statute that significantly restricts development of shoreline area, as discussed below.

### **Michigan Natural Resource and Environmental Protection Act**

15. The Michigan Natural Resource and Environmental Protection Act (hereafter "NREPA") contains three parts that establish regulations and permitting procedures for development on shorelands: Part 323, Shoreland Protection and Management; Part 325, Great Lakes Submerged Land; and Part 353, Sand Dunes Management. The statute is administered by the Great Lakes Shoreland Department in the Land and Water Management Division of the MDEQ. A "Joint Permit Application" allows property owners to complete one permit application that encompasses all necessary permits for development. This permit is initially reviewed by the MDEQ, and is forwarded to the Army Corps of Engineers if applicable.

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<sup>10</sup> Personal communication with Biologist, U.S. Fish and Wildlife Service, East Lansing Field Office, MI, February 23, 2001.

<sup>11</sup> Coastal Zone Management Act, 16 USC 1451 et seq.

16. The **Shoreland Protection and Management** section of NREPA creates three categories of shoreland where development is restricted: Environmental Areas, High Risk Erosion Areas, and Flood Risk Areas.
17. On lands designated as an Environmental Area (EA), MDEQ can restrict development activities up to 1,000 feet from the mean high water mark. If the EA boundary encompasses an entire parcel, a 12,000 square foot structure zone is identified where construction is permitted. Approximately 275 miles of Michigan's Great Lakes shorelands are designated as EAs.<sup>12</sup> In piping plover critical habitat areas, the presence of an EA could mean that nearly one third of the critical habitat area is not developable under NREPA.
18. A High Risk Erosion Area (HREA) is characterized by recession in the zone of active erosion at a rate greater than 1 foot per year. The law requires a setback of any new permanent structure to a distance such that the structure is protected from the risk of erosion for 30 to 60 years (dependent upon the size, number of units and type of construction) plus an additional 15 feet to account for storm events.<sup>13</sup> Approximately 300 miles of Michigan shoreline are classified as HREAs, in which 7,500 individual property owners are affected by setback requirements. Therefore, areas classified as HREAs that are included as part of the critical habitat designation for the piping plover already contain undevelopable areas that stretch 100 feet or more from shore.
19. Flood Risk Areas (FRAs) are lands within the 100-year floodplain. All permanent structures in these areas must be elevated to prevent property damage. In addition, local regulations further inhibit development in some of the 51 communities that are designated as FRAs. Baseline protections afforded by FRAs vary by community.
20. The **Great Lakes Submerged Land** section of the NREPA recognizes that the bottomlands of the Great Lakes are held in trust by the State of Michigan for the use and enjoyment of its citizens, according to the Public Trust Doctrine. The State has an obligation to protect the natural resources and to maintain the public's rights of fishing, navigation, and commerce on public trust lands.

"Michigan courts have determined that private uses of the bottomlands and waters, including the riparian rights of waterfront property owners, are subject to the public trust. In other words, if a proposed private use would adversely impact the public trust, the State of Michigan's regulatory authority

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<sup>12</sup> [Http://www.deq.state.mi.us/lwm/grt\\_lakes/shore.html](http://www.deq.state.mi.us/lwm/grt_lakes/shore.html), March 8, 2001.

<sup>13</sup> Personal communication with Staff, Michigan Department of Environmental Quality, Land and Water Management Division, Permitting Office, February 21, 2001.

requires that the proposal be modified or denied altogether in order to minimize those impacts."<sup>14</sup>

21. Therefore, state permits are required for any activities that alter Great Lakes' bottomlands such as dredging, the construction of marinas or docks, and any shoreline protection activity. These permits are primarily for isolated or not traditionally navigable waterways. Permitting for such bottomlands building on navigable waters is usually managed by ACOE.<sup>15</sup>
22. The **Sand Dunes Protection and Management** section of the NREPA creates the authority to designate lands as "Critical Dune Area" (CDA). CDAs represent unique, irreplaceable, and fragile resources that provide significant value to the State of Michigan. The statute gives authority to local governments to protect and manage their critical dunes. The State prohibits development in dune areas where a one foot rise in elevation occurs in less than three feet of horizontal plane. The State also requires a setback of 100 feet from the crest of the first landward ridge that is not a foredune, unless the applicant can document that any permanent structure will not destabilize or have any other adverse impact on the dune.<sup>16</sup> Therefore, areas classified as CDAs which are included as part of the critical habitat designation for the piping plover may already contain undevelopable areas.

### **Local Zoning Regulations**

23. The three sections of NREPA allow local governments to enact more stringent zoning and development regulations than those required by the State. The Emmett and Leelanau planning boards were contacted to gain a sense of local zoning laws.<sup>17</sup> Emmett County requires a minimum setback on all shorelands of 60 feet from the documented high water mark, but does not have additional requirements for high erosion areas or critical dunes areas.<sup>18</sup> Leelanau County requires a minimum setback on all shorelands of 40 feet from the ordinary high water mark, but does not have additional requirements for high erosion areas

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<sup>14</sup> [Http://www.deq.state.mi.us/lwm/grt\\_lakes/submerge.html](http://www.deq.state.mi.us/lwm/grt_lakes/submerge.html), March 8, 2001.

<sup>15</sup> Personal communication with Biologist, U.S. Fish and Wildlife Service, East Lansing Field Office, MI, March 16, 2001.

<sup>16</sup> [Http://www.deq.state.mi.us/lwm/rrs/part353.html](http://www.deq.state.mi.us/lwm/rrs/part353.html), March 8, 2001.

<sup>17</sup> Emmett and Leelanau Counties were chosen because private landowners in these counties submitted comments to the Service.

<sup>18</sup> Personal communication with Civil Employee, Emmett County, February 21, 2001 and March 5, 2001.

or critical dunes areas. However, the Zoning Commissioner of Leelanau County indicated that multi-lot development would require negotiations with the committee which, when granting a permit, could impose regulations such as conservation easements and setback requirements.<sup>19</sup>

## **Socioeconomic Profile of the Critical Habitat Areas, Section 2**

24. Several public commenters in Michigan reported concerns about potential lost tourism revenue as a result of critical habitat designation for the piping plover. Michigan's annual payroll for the arts, entertainment, and recreation industries (classified together) ranked eighth in the U.S. in 1998.<sup>20</sup> In 1996, the counties with lands included in the critical habitat designation received 24.1 percent of the market share of pleasure trips taken to Michigan. Contributions to market share varied: of the 17 Michigan counties with land in critical habitat, Mackinac County received the largest percent of tourist market share (5.3 percent), while Lake and Luce Counties received 0.2 percent each, and Schoolcraft received 0.1 percent.<sup>21</sup> Other areas within the critical habitat designation that have potential conflict between tourism and critical habitat include:

- C Sleeping Dunes National Seashore, which received 1.3 million visitors in 1999
- C Presque Isle State Park/Gull Point Natural Area, which received over 2 million visitors in 1999 [verify]
- C Indiana Dunes State Park, which received 1.7 million visitors in 1999

25. It is important to note that the Michigan county tourism statistics apply to all tourist activities that occur within the county, and are not limited to the beaches where critical habitat areas are located. In addition, in many cases, critical habitat areas make up a small fraction of the shoreline area in a particular county. For example, only two kilometers of shoreline in Iosco County are being designated as critical habitat, and only 4.1 kilometers in Alger County. Thus, most of the tourism expenditures in these counties are not associated

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<sup>19</sup> Personal communication with Zoning Commissioner, Leelanau County, February 21, 2001 and March 5, 2001.

<sup>20</sup> Bureau of the Census, County Business Patterns, 1998. [Http://tier2.census.gov/cgi-win/cbp\\_naics/compare.exe](http://tier2.census.gov/cgi-win/cbp_naics/compare.exe), March 15, 2001.

<sup>21</sup> Sum of market share for counties within critical habitat areas. Statistics from "County Tourism Profiles" for Michigan Counties, Travel Tourism and Recreation Resource Center, Michigan State University, 1998.

with critical habitat areas. In some areas, current occupation of areas by piping plovers precludes much incremental effect of critical habitat designation. For example, while Emmett County has nearly 20 kilometers in critical habitat, nearly all of the areas included are occupied by piping plovers, and thus are likely to be more affected by the listing of the species than critical habitat designation. Nonetheless, because tourism contributes significantly to the economy of several areas included in the critical habitat designation for the piping plover, potential effects of the designation on tourism are addressed in greater detail in the costs section of this addendum.

#### **Impacts of Critical Habitat Designation on Land Use: Federal, Tribal, State, Local, and Private Lands, Section 4**

##### **Impacts of Critical Habitat Designation on Federal Lands**

26. The areas proposed for designation as critical habitat for the piping plover include property held by the National Park Service, the U.S. Forest Service, and the U.S. Coast Guard (as well as a few acres owned by the ACOE). Overall, Federal landholdings account for 21 percent of the lands proposed as critical habitat. Most of these lands are owned by the National Park Service. As stated in the *DEA*, several Federal facilities included in the designation are currently occupied by the piping plover; therefore, any future consultations would be attributable to the listing of the species. Further, several of the units are already part of an ongoing habitat protection program involving fencing of occupied or prime habitat, reducing the likelihood that the designation of critical habitat would introduce new consultations or changes in land management strategy.
27. The *DEA* estimates economic impacts at Sleeping Bear Dunes National Lakeshore, Apostle Island National Lakeshore, Indiana Dunes National Lakeshore, and Hiawatha National Forest. The *DEA* did not address potential economic impacts at Manistee National Forest, Whitefish Point National Wildlife Refuge, Point Betsie and Gull Point Natural Area. These are detailed below.
28. *Manistee National Forest* is primarily used for recreation. Human impacts range from minimal at the Nordhouse Dunes Wilderness Area to heavy summer visitation at the Lake Michigan Recreation Area. In 1986, the U.S. Forest Service (USFS) reviewed the forest management plan for Manistee, and included an assessment of impacts on the piping plover. Although the Forest has not been recently occupied by piping plovers, the USFS is currently conducting a programmatic consultation with the Service regarding management of piping plover and other species, including the Indiana bat and the Pitcher's thistle, at Manistee National Forest. Because the Forest has a history of piping plover management as well as an ongoing consultation with the Service under the listing of the species, it is unlikely that Forest land management practices will be affected by the designation of critical habitat

for the piping plover. Underscoring this conclusion, staff at Manistee National Forest state that there are no planned construction activities in critical habitat other than maintenance of existing trails.<sup>22</sup>

29. **Whitefish Point National Wildlife Refuge** is primarily visited for use of the Whitefish Point Bird Observatory, which allows individuals to observe bird activity on the beach. In addition, there is some inadvertent trespassing onto the refuge by visitors from the Great Lakes Shipwreck Museum and the Whitefish Point Light Station. The Service anticipates performing an internal programmatic consultation to re-evaluate their land management practices for the piping plover after critical habitat is designated.<sup>23</sup>
30. **Point Betsie** is not currently occupied by plovers. Almost all of the lands are owned by the Nature Conservancy (TNC) who, according to TNC staff, have no intention of developing lands within critical habitat. In addition, public access to the nature preserve is restricted in order to conserve the lands for wildlife. Therefore, the potential for a consultation regarding the TNC lands is low. The Coast Guard maintains the Point Betsie Lighthouse and adjacent housing for employees.<sup>24</sup> Currently, there are no definitive plans for expansion of these facilities. The Service states that there is a low potential for future consultations at Point Betsie.<sup>25</sup>
31. **Gull Point Natural Area.** Gull Point Natural Area is a 237-acre preserve on the eastern terminus of Presque Isle State Park, which has been set aside by the State of Pennsylvania to protect the unique plant and animal communities there. No impacts of critical habitat are anticipated, as this area is managed for piping plovers as part of a bird sanctuary. (*see Impacts of Critical Habitat Designation on State Land; Presque Isle/Gull Point for more information*).

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<sup>22</sup> Personal communication with two Biologists, Manistee National Forest, February 22 and 23, 2001.

<sup>23</sup> Personal communication with Biologist, Whitefish Point National Wildlife Refuge, February 26, 2001.

<sup>24</sup> Personal Communication with Biologist at the Michigan Chapter of The Nature Conservancy, March 27, 2001.

<sup>25</sup> Personal communication with Biologist, U.S. Fish and Wildlife Service, East Lansing Field Office, March 16, 2001.

### **Impacts of Critical Habitat Designation on Tribal Lands**

32. The *DEA* states that the proposed designation of critical habitat includes approximately 5 kilometers of shoreline that belongs to the Bad River Band of the Lake Superior Tribe of Chippewa Indians. After discussions with the Natural Resources Department of the Tribe (NRD), the Service has reduced the amount of tribal lands included by approximately half. The NRD states that the tribal lands that remain in the designation have already been set aside by the Tribe as a wildlife conservation area as part of their Integrated Resources Management Plan. The Tribe plans no future activities in this area, and predicts that no future consultations will be required with the Service as a result of critical habitat designation for the piping plover. The Service, who consulted with the Tribe in revising the boundaries of this unit, also predicts that future consultations are unlikely.<sup>26</sup>

### **Impacts of Critical Habitat Designation on State Lands**

33. State agencies own or manage more than 43 percent of the shoreline areas included in the final critical habitat designation, which includes state parks and forests, as well as numerous natural and wildlife areas. The *DEA* estimates potential economic impacts of critical habitat designation at approximately half of the state owned parcels: Wilderness State Park, Petosky State Park, Ludington State Park, Cheboygan State Park, Hoeft State Park, Thompson's Harbor State Park, Point Beach State Forest, Deer Creek Marsh, and Southwick Beach State Park. The economic impacts of critical habitat designation at facilities that were not contacted during the development of the *DEA*, or for which additional information was provided in public comments, are detailed below.

#### **Michigan**

34. As mentioned above, the listing of the piping plover as endangered under the Act has had a significant effect in Michigan. In addition to consultations with the Service on projects that involve the ACOE, many state park managers attend annual, state-run meetings to discuss the status of the plover in state parks. In addition, using Federal funding provided through section 6 of the Act, a state university conducts annual monitoring studies of plover activity in state parks. Given this strong baseline management scenario, state park land management is unlikely to be affected by the designation of critical habitat for the piping plover. Details for individual parks are provided below.

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<sup>26</sup> Personal communication with Biologist, U.S. Fish and Wildlife Service, Regional Office, Fort Snelling, MN, February 22, 2001.

35. ***Fisherman's Island State Park*** is popular for hiking, camping, hunting, fishing, and snowmobiling; however, facilities are primitive. In the 2000 season, the park had 366,500 visitors. Although piping plovers have not nested at this park in several years, park managers attend annual, state-run meetings on the species, and monitor for piping plovers regularly. This park has no master plan, and has no plans for development of any kind, primarily due to budget constraints. Because any activities at Fisherman's Island would already have been subject to consultation with the Service under the listing of the piping plover, incremental consultations are unlikely. In addition, no Federal nexus activities occur or are planned for the park, further reducing the likelihood of future consultations.
36. ***Muskallonge Lake State Park*** accommodates both day and overnight use, but shoreline activities are limited to walking and sunbathing. There are no boating facilities at this park. There are no anticipated construction or maintenance activities within critical habitat, and the park does not receive any Federal funding, nor has it applied for a Federal permit.<sup>27</sup> As this park is included in Michigan's piping plover sensitive habitat map area, activities at the park would have been subject to consultation absent critical habitat. Thus, no incremental consultations are expected at this park.
37. ***Beaver Island State Wildlife Research Area*** was originally purchased with Pittman/Robertson funds,<sup>28</sup> and is presently managed as part of the Gaylord Forest Management Unit of Mackinaw State Forest. According to Beaver Island staff, recreational activities and some timber harvesting occur on the island. Recreational uses include sunbathing, walking and bike riding. The island's management plan for timber harvesting considers piping plover habitat. Beaver Island staff also attend the annual piping plover meetings held by the State.<sup>29</sup> Because Beaver Island already manages for piping plover, it is likely that Beaver Island would have initiated consultation with the Service if any adverse impacts on piping plovers were anticipated. However, no Federal nexus activities are currently conducted at Beaver Island. Thus, future consultations with the Service are unlikely. Nonetheless, any future consultations would have been conducted under the listing, and thus are not attributable to the designation of critical habitat.

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<sup>27</sup> Personal communication with Director, Parks Department, Michigan Department Natural Resources, March 20, 2001.

<sup>28</sup> Pittman-Robertson funds are provided through the Federal Aid in Wildlife Restoration Act, which began functioning in 1938, and are derived from Federal excise tax on sporting arms, ammunition, archery equipment, and handguns.

<sup>29</sup> Personal communication with Biologist, Mackinaw State Forest, March 2, 2001.

38. **Leelanau State Park** last had a nesting pair of piping plovers in 1999, and is therefore considered occupied. According to the park manager, the park is intended for low impact human use only during the day. The park hires a seasonal employee to scout for piping plovers and, if present, fences off the area surrounding the nest and erects signs to increase public awareness. The park participates in the annual spring meeting held by the Michigan Department of Natural Resource where the status of the piping plover and new management information is disseminated. As the park is considered to be occupied by piping plover and is managed to minimize effects on the species, the potential for future consultations incremental to the designation of critical habitat is low. In addition, the park receives no Federal funding, and has no plans for construction activities within critical habitat, further reducing the likelihood of future consultations.<sup>30</sup>
39. **Muskegon State Park** has not been occupied by the piping plovers since the 1950s. The state park has no existing monitoring or management plan for piping plovers. According to park managers, a consultation with the Service may result during planned major improvements to campground facilities within the critical habitat areas. In addition, Muskegon State Park contains a Harbor of Refuge that is dredged every ten years. This dredging requires an ACOE permit which may require a future consultation with Service. Because this area is already considered to be sensitive piping plover habitat by the ACOE, any future consultations would have occurred under the listing of the species, and would not be incremental to the designation of critical habitat.<sup>31</sup>
40. **Lake Superior State Forest** has not been occupied by the piping plovers since the early 1980s. The state forest performs annual surveys for the piping plover and, if found, would place fencing around the nesting area. Biologists at the forest confirm that the lands designated as critical habitat are undeveloped and have little human activity. The forest receives little, if any, direct Federal funding, though it may have received Pittman/Robertson funds in the past. The state forest has not consulted with the Service in the past and does not foresee future consultation, as managers do not intend to perform any development activities which would require Federal permits.<sup>32</sup> In addition, because any activities at Lake Superior would already have been subject to consultation with the Service under the listing of the piping plover, incremental consultations are unlikely.
41. **Tawas Point State Park** has a two mile stretch of sandy beach that is used for swimming, boating, and fishing. In addition, the park has a Nature Trail that is primarily

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<sup>30</sup> Personal communication with Park Manager, Leelanau State Park, February 23, 2001.

<sup>31</sup> Personal communication with Park Manager, Muskegon State Park, February 21, 2001.

<sup>32</sup> Personal communication with Biologist, Lake Superior State Forest, February 22, 2001.

used for hiking and birdwatching. In 1999 and 2000, piping plovers resided on the beach at the end of the Nature Trail. The park fenced off this area for two months, and organized a volunteer "plover patrol" to watch over the area. The park is considering plans to build a handicap access road to the beach in the swimming area, which may require a Federal permit from the ACOE.<sup>33</sup> However, given that piping plovers already occupy this park yearly, any future consultations that are likely to occur here would have already occurred in the absence of critical habitat designation. Thus, no additional future consultations are predicted as a result of critical habitat designation for the piping plover.

### **Pennsylvania**

42. Piping plovers have not recently nested in Pennsylvania and the Service has not conducted consultations on the species in the past. Thus, future consultations on piping plover in unoccupied areas in Pennsylvania will be considered to be incremental to the designation of critical habitat.
43. ***Presque Isle State Park/Gull Point Natural Area.*** Presque Isle State Park is a 3,200 acre sandy peninsula located in Erie, Pennsylvania, that receives approximately four million visitors annually. Gull Point Natural Area is a 237-acre preserve on the eastern terminus of the park, which has been set aside by the State to protect the unique plant and animal communities. These parks have not been occupied by a nesting pair of piping plovers since the 1950s, but piping plovers have been observed in the park as recently as 1997, most likely as a stopover during their northward migration into Michigan.
44. A biologist noted that Presque Isle State Park is currently working on a management plan for the piping plover. This plan will include protocol for, among other things, enclosures for nesting and beach nourishment activities. Each year, it is necessary for Presque Isle to undergo an extensive beach nourishment involving aerial photographs of the state park and the redistribution of between 29,799 and 140,451 tons of sand.<sup>34</sup> These activities are necessary for the preservation of piping plover habitat and other beaches, which receive significant human visitation. All beach nourishment activities are jointly funded by the Pennsylvania Department of Conservation and Natural Resources as well as the ACOE.<sup>35</sup>

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<sup>33</sup> Personal communication with Staff, Tawas Point State Park, MI, February 21, 2001.

<sup>34</sup> The annual quantity of sand redistributed values comes from a comment received by the Service on November 20, 2000 from the Army Corps of Engineers Buffalo District.

<sup>35</sup> A comment received by the Service on November 16, 2000 from the Army Corps of Engineers Buffalo District corrected two errors included in the *DEA*. "The Corps of Engineers does

A section 7 consultation with the Service is likely to occur regarding the new beach nourishment protocol. This consultation may result in alterations in the timing of the beach nourishment, such that nourishment on critical habitat will occur as early as possible in the spring to minimize human disturbance of the beach when piping plovers could be present. Besides the change in the timing, beach nourishment activities will likely continue as before such that there will be no discernible change in the quality or landscape of the state park. Although remote, there does exist a small potential for other consultations between the ACOE and the Service regarding ongoing changes in island geography. Besides ACOE funding, there are few if any Federal nexuses within Presque Isle State Park, making the potential for other section 7 consultations unlikely.<sup>36</sup>

### **Wisconsin**

45. Piping plovers recently nested in only one site in Wisconsin (Long Island/Chequamegon Point in 1998 and 1999). The Service has not conducted formal consultations on the species in the past, although discussions about the species have been included in consultations on other listed species in the State. Thus, future consultations on piping plover in unoccupied areas in Wisconsin will be considered to be incremental to the designation of critical habitat.
46. ***Peshtigo Harbor State Wildlife Area*** is being removed from the designation in response to public comments and discussions with biologists, and therefore should not be impacted by critical habitat designation for the piping plover.
47. ***Point Beach State Forest*** receives 300,000 visitors per year, but the area designated as critical habitat has few visitors. The area designated as critical habitat is primarily used for hiking and occasional other day uses. The park has no construction plans for this area, and does not conduct beach nourishment activities. Possible future activity may include

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not issue permits for the breakwaters or the beach nourishment. In actuality, the Federal Government is more directly connected with the construction and maintenance of the project. The Corps of Engineers constructed the breakwaters in 1989-1992 in cooperation with the Commonwealth of Pennsylvania. The Federal Government contributed 50 percent of the total construction costs and the State contributed 50 percent. The annual beach nourishment program costs are also shared 50 percent Federal/50 percent state."

<sup>36</sup> Personal communication with Engineer, U.S. Army Corps of Engineers Buffalo District, March 1, 2001. Personal communication with biologist at the Presque Isle State Park, February 28, 2001. Personal communication with Biologist, U.S. Fish and Wildlife Service, Pennsylvania Field Office, March 1, 2001.

some management for invasive plant species, but no Federal nexus appears to exist for this activity, as it would be state-funded.<sup>37</sup> Because there are no foreseeable Federal nexus activities planned, it is unlikely that future incremental consultations will result from designation of this area as critical habitat for the piping plover.

### **Minnesota**

48. Piping plovers have not recently nested in Minnesota and the Service has not conducted consultations on the species in the past. Thus, future consultations on piping plover in unoccupied areas in Minnesota will be considered to be incremental to the designation of critical habitat.
49. ***Erie Pier and Harding Island Wildlife Management Area*** are being removed from the designation of critical habitat in response to public comment, and thus the designation of critical habitat for piping plover should have no effect on this area.
50. ***Interstate Island Wildlife Management Area*** is seven-acre island that was created from dredge materials in the 1930s and presently serves as a state-managed nesting habitat for common terns and ring-billed gulls.<sup>38</sup> Service staff indicate that the State of Minnesota periodically clears the island of vegetation, but that no Federal agencies are involved. No future construction activities are planned that will require Federal permits. Service staff estimate that there is a very low potential for future consultations at this park.<sup>39</sup>

### **Illinois**

51. Piping plovers have not recently nested in Illinois and the Service has not conducted consultations on the species in the past. Thus, future consultations on piping plover in unoccupied areas in Illinois will be considered to be incremental to the designation of critical habitat.

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<sup>37</sup> Personal communication with Property Manager, Point Beach State Park, WI, March 2, 2001.

<sup>38</sup> [Http://www.dnr.state.mn.us/fish\\_and\\_wildlife/nongame/land\\_html/landwebpg.html#13](http://www.dnr.state.mn.us/fish_and_wildlife/nongame/land_html/landwebpg.html#13), March 10, 2001.

<sup>39</sup> Personal communication with Biologist, U.S. Fish and Wildlife Service, Bloomington Field Office, MN, February 28, 2001.

52. ***Illinois State Beach and Nature Preserve*** was addressed in a public comment from the Illinois Department of Natural Resources, which stated that this area is protected under the Illinois Natural Areas Preservation Act (525 ILCS 30) as a dedicated nature preserve.<sup>40</sup> Under this designation, all planned activities must be approved by a nine-member appointed Natural Areas Commission. Thus, activities at this park are primarily limited to non-consumptive recreation.<sup>41</sup>
53. This state beach conducts annual and emergency beach nourishment activities which the Service considers to be essential to the maintenance of the beach habitat for the piping plovers.<sup>42</sup> In addition, the ACOE also may perform periodic dredging activity in park streams if they become blocked by sand. The Service anticipates that there is likely to be a formal programmatic consultation with the ACOE on their dredging activities in this area after critical habitat is designated for the piping plover, and possibly additional annual informal consultations to maintain their relationship with ACOE.<sup>43</sup>

### **Indiana**

54. Piping plovers have not recently nested in Indiana and the Service has not conducted consultations on the species in the past. Thus, future consultations on piping plover in unoccupied areas in Indiana will be considered to be incremental to the designation of critical habitat.
55. ***Indiana Dunes State Park*** has a large expanse of beach property and several hiking trails. The park performs regular trail maintenance, but has no plans for future construction activities. The Service states that little Federal activity occurs at the park, other than past receipt of funding through Land and Water Conservation Funds. No beach nourishment activities occur at the park. No past consultations have occurred at the park. The Service states that, because no plans exist for future development and there is little Federal nexus activity at this park, additional consultations for piping plover are unlikely.<sup>44</sup>

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<sup>40</sup> Public comment from the Illinois Department of Natural Resources, November 14, 2000.

<sup>41</sup> Personal communication with Staff, Illinois Natural Preserves Commission, February 21, 2001.

<sup>42</sup> Personal communication with Biologist, U.S. Fish and Wildlife Service, Barrington Field Office, IL, February 21, 2001.

<sup>43</sup> Personal communication with Biologist, U.S. Fish and Wildlife Service, Barrington Field Office, IL, February 21, 2001.

<sup>44</sup> Personal communication with U.S. Fish and Wildlife Service, Northern Indiana Sub-Office, February 22, 2001.

## Ohio

56. Piping plovers have not recently nested in Ohio and the Service has not conducted consultations on the species in the past. Thus, future consultations on piping plover in unoccupied areas in Ohio will be considered to be incremental to the designation of critical habitat.
57. *Headland Dunes State Nature Preserve* receives many visitors in summer months as they walk onto it from the contiguous state beach. As an Ohio State Nature Preserve that was dedicated to protect the dune community, no development is allowed. The Service predicts that critical habitat will likely prompt a future consultation at this preserve regarding routine dredging by the ACOE in a rivermouth that borders the preserve.<sup>45</sup> Staff at the Ohio Department of Natural Resources state that no other activities are planned at the park that should trigger consultation with the Service.<sup>46</sup>
58. *Sheldon's Marsh State Nature Preserve* is visited by as many as 300 bird species a year, and attracts many bird watchers.<sup>47</sup> There are marked trails where visitors may go, as well as a paved roadway. The preserve has applied for ACOE permits to fix breakwalls off the beach to prevent erosion and to undertake sand nourishment.<sup>48</sup> Designation of critical habitat in this preserve is likely to cause a consultation with the ACOE on its activities in this area. This consultation will be incremental to the designation of critical habitat for piping plover, as the preserve is considered unoccupied and has no history of consultations with the Service.

## New York

59. Piping plovers have not recently nested in New York and the Service has not conducted consultations on the species in the past. Thus, future consultations on piping

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<sup>45</sup> Personal communication with U.S. Fish and Wildlife Service, Renoldsburg Field Office, OH, February 21, 2001.

<sup>46</sup> Personal communication with Staff, Ohio Division of Natural Areas and Preserves, Department of Natural Resources, February 26, 2001.

<sup>47</sup> A description of the preserve is available at: [http://www.dnr.state.oh.us/odnr/natural\\_areas/headlands.html](http://www.dnr.state.oh.us/odnr/natural_areas/headlands.html), March 10, 2001.

<sup>48</sup> Personal communication with Staff, Ohio Division of Natural Areas and Preserves, Department of Natural Resources, February 26, 2001.

plover in unoccupied areas in New York will be considered to be incremental to the designation of critical habitat.

60. ***Deer Creek Marsh, Black Pond, and Lakeview Wildlife Management Areas*** are mainly used for nature appreciation and birding, with some fishing and occasional hunting activities. Development is limited under regulations that establish these areas as New York State Wildlife Management Areas (WMAs), and areas of significant fish and wildlife habitat. As WMAs, protection of habitat is the priority of the New York Department of Environmental Conservation (NYDEC). Small structures such as bird observation towers, boat launches, and dune walkways have been built, but no definitive plans exist for new ones. These WMAs receive Pittman-Robertson funds, which have been used for projects such as putting up snow fences to prevent erosion.<sup>49</sup>
61. The NYDEC Division of Fish, Wildlife and Marine Resources submitted a public comment stating concerns that the designation may disrupt maintenance activities such as emergency beach nourishment that may be necessary to maintain piping plover habitat.<sup>50</sup> The Service anticipates reviewing the management plans for these areas when they come up for renewal, which would result in approximately three informal consultations.<sup>51</sup>
62. ***Southwick Beach State Park*** is heavily used during summer months for swimming and sunbathing (as stated in the *DEA*). The *DEA* also finds that this park receives Federal Land and Water conservation funds, and that the park plans to apply for a permit from the ACOE to put in a water intake pipe at their facility. The Service states that there is a high potential for consultation on the water intake pipe project, and that the likely project modification, if one were required, would be to adjust the location of the pipe to avoid optimal nesting areas. The Service anticipates reviewing the management plan for this park when it comes up for renewal, which should result in one informal consultation. No other consultations are anticipated.<sup>52</sup>

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<sup>49</sup> Personal communication with Staff, New York Department of Environmental Conservation, Division of Fish, Wildlife and Marine Resources, February 23, 2001 and March 2, 2001.

<sup>50</sup> Public comment, New York Department of Environmental Conservation, Division of Fish, Wildlife and Marine Resources, September 5, 2000.

<sup>51</sup> Personal communication with Biologist, U.S. Fish and Wildlife Service, New York Field Office, February 21, 2001.

<sup>52</sup> Personal communication with Biologist, U.S. Fish and Wildlife Service, New York Field Office, February 21, 2001.

## Impacts of Critical Habitat Designation on Municipal Lands

### Michigan

63. The critical habitat designation for the piping plover contains 6.9 km of municipal lands in Michigan. The Service received three comments regarding Harbors of Refuge and the Crisp Point Lighthouse. According to a member of the Crisp Point Lighthouse Historical Society, there are some plans for expansion of the facilities outside of the existing footprint. While activities at the Lighthouse will require state permits, it is unlikely that a Federal nexus will exist because Federal permits should not be required.
64. However, the Great Lakes Historical Society is planning to apply for Federal grant funding. In a public comment, the Society expressed concerns that the designation of critical habitat will inhibit their ability to procure Federal grants for maintenance projects. The Service states that the acquisition of Federal funds should not be affected by the designation of critical habitat for the piping plover, as additional regulatory burden is not an appropriate reason for rejecting grant applications.<sup>53</sup> The receipt of Federal funds would constitute a Federal nexus that may trigger section 7 consultation with the Service. However, because the primary constituent elements for the piping plover are not likely to be present on maintenance projects, future consultation is unlikely.
65. A public comment was received regarding the dredging at Grand Marais, which hopes to restore its Harbor of Refuge. The comment notes that U.S. Congressman Bart Stupak was attempting to procure \$32.8 million to dredge the harbor. Any dredging activities are under the jurisdiction of the ACOE in an area that is already considered occupied by the piping plover. Although future consultations with the Service are likely regarding placement of dredge spoils, these can be attributed to the listing of the species under the Act. Therefore, the act of dredging the silted harbor should not affect the habitat of the piping plover and is expected to proceed if the funding becomes available.

### Wisconsin

66. Most of the municipal lands in Wisconsin being designated as piping plover critical habitat are owned by the City of Superior at Wisconsin Point (Unit WI-1). The City of

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<sup>53</sup> Personal communication with Biologist, U.S. Fish and Wildlife Service, East Lansing Field Office, MI, March 16, 2001. Also see the Proposed Determination of Critical Habitat for the Great Lakes Breeding Population of the Piping Plover (65 FR 41812).

Superior submitted a public comment that explains that Wisconsin Point has been named as a "Watchable Wildlife Area" by the Wisconsin Department of Natural Resources, and is popular for bird watching, hiking, beach use, and duck hunting. Local ordinances "strictly" prohibit commercial, residential, or industrial development on Wisconsin Point. In addition, removal of sand, use of off-road vehicles, and destruction of natural features are prohibited, among other activities.<sup>54</sup>

67. The public comment expresses concerns that the designation of critical habitat on Wisconsin Point will complicate the process of acquiring Federal permits and Federal funding of future activities. For example, staff at the Mayor's Office report that permits may be required from the ACOE to prevent erosion on the point. Service staff anticipate that these activities are unlikely to require formal consultation as they may not significantly affect piping plover habitat. A technical assistance call or a possible informal consultation with the ACOE is most likely on these efforts.<sup>55</sup>
68. Staff at the Mayor's Office also report that a multi-use trail is likely to be built on the point, part of which may pass through critical habitat area.<sup>56</sup> This project will be funded by Federal transportation funds. In addition, Federal transportation funds are used for maintenance of the existing road on the point. The Service anticipates recommending that the trail be rerouted to avoid prime nesting areas if the proposed trail significantly affects critical habitat. The Service states that this action would likely be resolved in an informal consultation.<sup>57</sup>

### **Illinois**

69. The municipal lands in Illinois consist of Zion Municipal Park and Waukegan Municipal Beach. Similar to Illinois State Beach, these areas conduct annual and emergency beach nourishment activities that the Service considers to be essential to the maintenance of

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<sup>54</sup> Public comment from the City of Superior, Mayor's Office, August 25, 2000.

<sup>55</sup> Personal communication with Biologist, U.S. Fish and Wildlife Service, Green Bay Field Office, WI, March 9, 2001.

<sup>56</sup> Personal communication with Engineer, City of Superior, WI, February 28, 2001; Personal communication with City Parks and Recreation Director, City of Superior, WI, February 28, 2001.

<sup>57</sup> Personal communication with Biologist, U.S. Fish and Wildlife Service, Green Bay Field Office, WI, March 9, 2001.

beach habitat for the piping plovers.<sup>58</sup> The Service anticipates that there is likely to be a formal programmatic consultation with the ACOE on their dredging activities in this area after critical habitat is designated for the piping plover, and possibly additional annual informal consultations to maintain their relationship with ACOE.<sup>59</sup>

### **Impacts of Critical Habitat Designation on Private Lands**

70. The areas proposed for designation as critical habitat for the piping plover include 96 km of privately held property, accounting for approximately 30 percent of the designation. The *DEA* found that most of the private lands included in the proposal are undeveloped or are small-lot residential lands used primarily for second homes. This type of development may require a Federal wetlands permit (e.g., a Clean Water Act section 404 permit), which would create a Federal nexus and potential for consultation with the Service. However, the private lands are not distributed equally across states:

- C Michigan contains 66 kilometers of private lands that are facing significant development pressure
- C New York has numerous small lots that could be developed
- C Illinois private lands are owned by a single power plant
- C Wisconsin and Ohio have small parcels of private land that face little development pressure

71. The impact of critical habitat designation for the piping plover on these areas is discussed below.

#### **Michigan**

72. Michigan private lands within the final critical habitat designation for the piping plover are chiefly used for small lot residential developments for primary and secondary homes. As stated in the Baseline Regulations section of this Addendum, the listing of the piping plover as endangered under the Act has had a significant effect in Michigan. The Service created a map of sensitive piping plover habitat areas, which was distributed to

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<sup>58</sup> Personal communication with Biologist, U.S. Fish and Wildlife Service, Barrington Field Office, IL, February 21, 2001.

<sup>59</sup> Personal communication with Biologist, U.S. Fish and Wildlife Service, Barrington Field Office, IL, February 21, 2001.

ACOE, state agencies, and local communities. This map has resulted in a significant number of consultations with the Service since 1997. In addition, the state shorelands protection act, NREPA, imposes numerous limitations on private development in Michigan. Because several regulations already limit activities on private lands that are being designated as piping plover critical habitat in Michigan, few additional consultations are expected. Development scenarios before and after critical habitat are detailed below.

***The "Without Critical Habitat" Scenario***

73. Even before critical habitat is designated for the piping plover, a landowner of Michigan Great Lakes shoreline property who wishes to enlarge the footprint of an existing structure or to build additional structures must obtain permits to do so. A NREPA Joint Permit Application would have to be submitted to the MDEQ, who would determine whether High Risk Erosion Areas, Flood Plain Areas, Environmental Areas, Critical Dune Areas, or submerged land areas would be affected by the proposal. If so, the state would make a determination as to whether the project requires modifications. In addition, the MDEQ would forward the application to any appropriate Federal permitting agencies. Most commonly, the Federal permitting agency is the ACOE, who becomes involved if Section 404 wetland permits for traditionally navigable waterways are required. The ACOE may require modifications to permit requests to limit effects on wetlands.
74. In addition to NREPA and wetland permitting requirements, the Service may make recommendations for project modifications when development proposals occur on sensitive piping plover habitat (as defined in the 1997 map distributed by the Service). The ACOE contacts the Service when a proposed development falls within the mapped sensitive habitat areas, and consults with the Service when appropriate. Examples of project modifications requested by the Service include: (1) a landowner building a garage adjacent to his home was asked by the Service to sign a PPPP; and (2) a landowner building a boardwalk from a house onto the beach was asked by the Service not to build railings on the boardwalk. In addition, MDEQ and some local agencies have forwarded information on proposals in piping plover sensitive habitat to the Service. In these cases, the Service usually requests that the homeowner signs a PPPP. For multi-lot developments, the Service has been more adamant about requesting HCPs rather than compliance with the simpler PPPP. For example, the Magic Carpet Woods development has an HCP for the development of 13 residential properties in woods adjacent to the shore near Emmet County's critical habitat areas.

***The "With Critical Habitat" Scenario***

75. The designation of critical habitat for the piping plover affects only those activities with Federal involvement, such as those which require Federal permits or receive Federal funding. The National Oceanic and Atmospheric Administration (NOAA) provides funding to the Michigan Department of Environmental Quality (MDEQ) to conduct various

permitting and funding activities for coastal developments in Michigan,<sup>60</sup> thus creating a Federal nexus for these activities. However, NOAA does not oversee detailed state permitting activities or redistribution of these funds and has yet to request consultation with regard to the annual disbursement of Federal funds to the State. Thus, based on this past history, the Service believes designation of critical habitat for the piping plover will not likely result in additional consultations associated with this program in the foreseeable future.<sup>61</sup>

76. In addition, the State of Michigan has assumed the Clean Water Act section 404 permitting program for inland waters in the State of Michigan. The Environmental Protection Agency (EPA) retains Federal oversight of this program and can object to issuance of a wetland permit for specified activities. Any applicant wishing to proceed with wetland modifications must then seek authorization from the Army Corps of Engineers (ACOE) if they cannot resolve EPA concerns. Nationally, EPA maintains that their review of activities conducted on private land under state-assumed 404 programs does not constitute a Federal action and so would not require consultation. In addition, they have not, nor does the Service understand that they intend to consult on the Michigan program. Thus, the Service finds that consultations with EPA due to piping plover critical habitat designation remain unlikely.<sup>62</sup>
77. ACOE section 404 permits require consultation with the Service if they may affect listed species or critical habitat. However, since the ACOE-Detroit District has already been working with the Service in a proactive attempt to protect areas occupied by or potentially occupied by piping plover, the designation of critical habitat for the piping plover will not likely result in increased consultations with the Service on private lands where ACOE permits are required.
78. Because all lands that are being designated as critical habitat for the piping plover fall within mapped sensitive piping plover areas, and many pre-existing development limitations exist as part of NREPA requirements, critical habitat should have little incremental effect on development activities in Michigan.

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<sup>60</sup>This is done in accordance with the Michigan Coastal Management Program, which derives its authority from the CZMA.

<sup>61</sup> Written communication with Biologist, U.S. Fish and Wildlife Service, East Lansing Field Office, April 17, 2001.

<sup>62</sup> Personal communication with Biologist, U.S. Fish and Wildlife Service, East Lansing Field Office, February 23, 2001.

### ***Other Effects***

79. The designation of critical habitat may give the Service more persuasive power in their requests for private landowners who are building in critical habitat to sign a PPPP, even absent a Federal nexus. In addition, the release of maps of critical habitat areas to the public may result in more requests to the Service for technical assistance in determining whether proposed developments will affect piping plover habitat. One local zoning commission indicated that it may be more likely to require increased setbacks or conservation easements on proposed developments after the designation of critical habitat for the piping plover.<sup>63</sup> However, the Service will not have authority to require such changes in behavior. In addition, such locally-imposed project requirements on multi-lot developments have also occurred prior to the designation of critical habitat, and thus any indirect incremental effects of new requirements imposed by local commissions as a result of critical habitat are difficult to document and predict.

### **New York**

80. The *DEA* states that private lands within the critical habitat designation are primarily undeveloped or small-lot residential lands. In New York, the habitat area occurs on very narrow beaches that are often less than thirty meters wide. One area is owned by the Nature Conservancy, which already manages the lands by preventing off-road vehicle traffic and encouraging the leashing of pets.<sup>64</sup> Most remaining areas are developed with small cottages. A small area of narrow beach is undeveloped. The Service states that development on these lands is likely to include simple structures, such as docks, if development occurs in the future. Such development would likely require a permit from the ACOE, and thus may lead to a consultation with the Service. The Service predicts that there is a moderate potential for consultation in this area.<sup>65</sup>

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<sup>63</sup> Personal communication with Zoning Commissioner, Leelanau County, February 21, 2001 and March 5, 2001.

<sup>64</sup> Personal communication with Staff, The Nature Conservancy, Pulaski Office, NY, March 29, 2001.

<sup>65</sup> Personal communication with Biologist, U.S. Fish and Wildlife Service, New York Field Office, February 21, 2001.

### **Illinois**

81. Private lands which have been proposed as critical habitat for the piping plover in Illinois are owned by Commonwealth Edison Company (ComEd), which maintains a power plant there. The Service received a public comment from ComEd that expressed concerns about effects of critical habitat designation on routine dredging activities that they perform for their outflow pipes at their facility. This area is unoccupied by the plover, and has no history of consultation with the Service. The Service states that they anticipate having a programmatic consultation with the ACOE regarding dredging activities performed on this property and the adjoining state park lands (as mentioned above).<sup>66</sup> Thus, this consultation represents an effect of critical habitat designation for the piping plover.

### **Wisconsin**

82. Private lands in Wisconsin include 0.4 km of shoreline and occur on Interstate Island Wildlife Management Area. It is presently managed as a bird sanctuary. This land is deeded to a utility company, but has never been developed, nor have development plans been proposed. Based on the remoteness of this island, its present dominant use as a bird sanctuary, and its lack of any proposed activity plans, the Service does not anticipate any future consultations on this land.<sup>67</sup>

### **Ohio**

83. Private lands in Ohio are comprised of a few inshore lots, included in the critical habitat areas because they fall within 500 meters of the shoreline.<sup>68</sup> The Service predicts that very few of these lots contain the necessary primary constituent elements. Some technical assistance calls are expected from private landowners inquiring about the status of their land and the requirements of critical habitat.<sup>69</sup>

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<sup>66</sup> Personal communication with Biologist, U.S. Fish and Wildlife Service, Barrington Field Office, IL, February 21, 2001.

<sup>67</sup> Personal communication with Biologist, U.S. Fish and Wildlife Service, Regional Office, Fort Snelling, MN, February 22, 2001.

<sup>68</sup> Shoreline property in owned by the State of Ohio.

<sup>69</sup> Personal communication with Biologist, U.S. Fish and Wildlife Service, Renoldsburg Field Office, OH, March 16, 2001.

84. **Property Value Effects (All states)**

The Service received comments from property owners who were concerned that the designation of critical habitat will lead to a reduction in the value of their property. The property owners express concerns that potential buyers will be wary of purchasing lands that have increased Federal regulations placed upon them, due to the designation. The addendum finds that the designation of critical habitat will not cause a reduction in the long-term value of the property above and beyond a reduction due to the listing of the species, although a temporary diminution of the value of the property is probable. Over time, public awareness is likely to increase that critical habitat should not result in additional development modifications. Thus, the impact of designation of critical habitat on property markets can be expected to decrease over time to the level of impacts associated with the listing of the species.

**Impacts on Beach Visitation**

85. Several public commenters inquired as to the effect of critical habitat designation on beach visitation to the Great Lakes area. Such visitation occurs on Federal, state, municipal, and private beaches in the Great Lakes area. However, incremental effects of critical habitat in these areas are limited to activities that involve a Federal action.

86. As a result of the listing of the piping plover, some state parks in the Great Lakes region, such as Tawas State Park, have closed beaches for piping plovers in the past. Because these measures were undertaken prior to the designation of critical habitat, any effects would be attributable to the listing of the species, and not to the designation of critical habitat. While the Service does not anticipate issuing requirements for beach closures as a result of the designation of critical habitat, it recognizes that voluntary temporary closures may occur on state park lands in Michigan between April and June.<sup>70</sup> Such temporary closures would not result in total denial of access to park areas, but would likely restrict access to prime nesting areas. However, managers of state parks in Michigan have not indicated that they will initiate voluntarily closing beaches.

87. A 1998 study of the effects of recovery efforts for the Atlantic population of piping plover found that regional economic effects of recovery efforts for the piping plover depend on five factors: 1) the extent of limitations imposed by the facility; 2) the availability of substitutes within the local economic region; 3) the popularity of the beach environment; 4) the size and growth of the local economy; and 5) local businesses' ability to adapt to changes in demand. The study found that regional effects of recovery efforts varied from negligible to economically significant, but that the most important controlling factor was the extent of

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<sup>70</sup> Personal communication with Biologist, U.S. Fish and Wildlife Service, East Lansing Field Office, MI, March 16, 2001.

limitations imposed. Limitations observed in the study varied from restricting access to dune areas and bayside flats to total beach closures. In three of four case studies of areas that restricted but did not prohibit access to beach habitats, no discernable reduction in beach visitation was observed.<sup>71</sup>

88. Because any future beach closures on state park land in Michigan would be primarily voluntary, temporary, and partial, the Service anticipates that they will have little effect on beach visitation. This assertion is supported by evidence from the 1998 study of Atlantic populations, which suggests that total beach visitation may be unaffected even if restrictions do occur on select beaches.

### **Summary of Impacts of Critical Habitat Designation on Land Use: Federal, Tribal, State, Local, and Private Lands**

89. In general, while critical habitat designation for the piping plover may lead to a number of incremental consultations on the part of the Service, project modifications that will be required as a result of the designation are expected to be minimal.

C **Federal lands:** One internal consultation by the Service is anticipated regarding the management of Whitefish Point NWR for the piping plover.

C **Tribal lands:** Because critical habitat areas on tribal lands have been developed in conjunction with the Tribe and fall on tribal conservation lands, no incremental consultations with the Service are anticipated.

C **State lands:** Several incremental consultations with the Service and ACOE are anticipated on state lands. Consultations are anticipated on beach nourishment and erosion prevention activities in Pennsylvania and New York; dredging in Michigan, Illinois, and Ohio; and maintenance and construction in Michigan, Indiana, and New York. Possible project modification costs include changing in the timing of beach nourishment activities, and possible alterations to small construction activities.

C **Municipal lands:** Wisconsin, Illinois, and Michigan all contain municipal lands that feature activities that may require incremental section 7 consultations with the Service. Several consultations on proposed construction activities are anticipated in Wisconsin. In Illinois, one consultation is anticipated as part of a programmatic

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<sup>71</sup> Unsworth et al. "An Economic Analysis of piping plover recovery activities on the Atlantic Coast." Prepared for the U.S. Fish and Wildlife Service, Division of Economics, Arlington, VA, 1998.

consultation with the ACOE on dredging and beach nourishment activities. Michigan has a strong regulatory baseline and history of consultations on activities on municipal lands in these areas. Thus, most future activities that have a Federal nexus on municipal lands in Michigan can be attributed to the listing of the piping plover under the Act, and will not be incremental to the designation of critical habitat.

- C **Private lands:** A number of incremental consultations are anticipated on private lands in the critical habitat areas. In Michigan, most of the private lands are either currently developed or slated for the development of primary or secondary small lot residential homes. As a result of Michigan's strong regulatory baseline, the designation of critical habitat should result in few incremental consultations, but likely will induce a number of technical assistance calls. In Ohio and New York, private residential development activities on private lands are likely to result in consultations and technical assistance calls. One consultation on dredging activities is anticipated on ComEd land in Illinois as a result of critical habitat designation, but no project modifications are expected. Private lands in Wisconsin fall on 0.4 kilometers of shoreline on an island bird sanctuary. No consultations are anticipated as a result of critical habitat designation in Wisconsin.

## **ECONOMIC COSTS OF CRITICAL HABITAT DESIGNATION**

90. Due to limited availability of time and economic data, the *DEA* did not provide quantitative estimates of economic impact. In order to provide more rigorous analysis, this section describes the estimated economic costs that will result from critical habitat designation for the piping plover over the next ten years. These incremental costs fall into two categories: (1) costs of incremental section 7 consultations and technical assistance calls (hereafter, "TAs") provided by the Service; and (2) costs associated with the modifications of proposed projects.

### **Number of Consultations and Technical Assistance Calls**

91. Addendum Exhibit 1 presents the number of anticipated incremental consultations over the next ten years that will result from the designation of critical habitat for the piping plover. The exhibit lists formal and informal consultation estimates, as well as TA estimates associated with Federal, tribal, state, municipal and private lands. Estimates of the number of incremental consultations attributable to the designation of critical habitat for the piping plover and the increase in the numbers of TAs that the Service will provide are based on an analysis of information provided by numerous Federal, tribal, state, municipal, and private landholders within the designated critical habitat areas. Landowners identified present and reasonably foreseeable activities on their properties. This information was analyzed in combination with baseline regulation effects and consultation histories to identify areas

where incremental consultations appear likely. The Service supplemented this information with professional opinions on the likelihood that these activities will necessitate incremental technical assistance and consultations.

92. This analysis estimates that, in the next ten years, critical habitat designation for the piping plover will result in the following actions:

- C 146 occasions on which the Service offers technical assistance to a private party;
- C 19 informal consultations; and
- C 23 formal consultations.

<b>Addendum Exhibit 1</b>			
<b>ESTIMATED TOTAL NUMBER OF CONSULTATIONS AND TAs OVER THE NEXT TEN YEARS ATTRIBUTABLE TO THE DESIGNATION OF CRITICAL HABITAT FOR THE PIPING PLOVER</b>			
<b>Land Owner</b>	<b>Formal Consultation</b>	<b>Informal Consultation</b>	<b>Technical Assistance</b>
<b>Federal</b>	1	0	0
<b>Tribal</b>	0	0	0
<b>State</b>	7	17	0
<b>Municipal</b>	2	2	10
<b>Private</b>	13	0	136
<b>Total</b>	23	19	146

Sources: Personal communications with landowners, as well as Service representatives in MI, MN, NY, OH, IL, IN, PA and WI.

93. The estimated number of incremental consultations presented here is suggestive. The actual number of incremental consultations, which may be lower or higher than these estimates, depends on future economic activity within the areas of critical habitat, as well as on individual decisions made by Federal, tribal, state, municipal, and private landowners. In addition, the analytic approach used to derive the estimated number of consultations cannot account for unknown or unforeseen activities and projects. Therefore, the estimates presented here represent reasonable approximations and not firm predictions.

### Costs of Consultations and Technical Assistance Calls

94. Per unit costs associated with formal consultations, informal consultations, and TAs are presented in Addendum Exhibit 2. The estimated cost of a formal consultation ranges from \$7,000 to \$12,000 for a Federal agency applicant and \$10,000 to \$16,000 for consultations that involve other applicants, while the cost of an informal consultation ranges from \$2,300 to \$7,200 for a Federal agency and \$4,000 to \$10,000 for an informal consultation that involves other applicants. The cost analysis for a TA suggests a range between \$76 and \$260 per conversation.<sup>72</sup>

<b>Addendum Exhibit 2</b>			
<b>PER UNIT COSTS OF CONSULTATIONS AND TAs</b>			
<b>Action</b>	<b>Involved Agencies</b>	<b>Low Estimate</b>	<b>High Estimate</b>
Formal Consultation	Federal only	\$7,000	\$12,000
	Federal and non-Federal	\$10,000	\$16,000
Informal Consultation	Federal only	\$2,300	\$7,200
	Federal and non-Federal	\$4,000	\$10,000
Technical Assistance Call	Federal and non-Federal (only)	\$76	\$260

Note: Low and high estimates primarily reflect variations in staff wages and time involvement by staff.

95. Estimates of the costs of individual consultations were developed through an analysis of Service files on past section 7 consultations. Cost estimates take into consideration the level of effort of the Service, the Action agency, and the applicant during both formal and informal consultations, as well as the varying complexity of consultations. Costs associated with these consultations include the administrative costs associated with conducting the consultation, such as the cost of time spent in meetings, preparing letters, and the development of a biological opinion.
96. Technical assistance costs represent the estimated economic costs of informational conversations between landowners or managers and the Service regarding the designation of critical habitat for piping plover. Most likely, such conversations will occur between municipal or private property owners and the Service regarding lands designated as critical habitat or lands adjacent to critical habitat. Costs associated with these phone calls include the opportunity cost of time spent in conversation, as well as staff costs.<sup>73</sup>

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<sup>72</sup> Informational conversations also have educational benefits to the landowner or manager and to the Service.

<sup>73</sup> Opportunity cost is the cost of an action as determined by the value of opportunities foregone.

97. Addendum Exhibit 3 presents the estimated total costs by landowner associated with additional consultations and technical assistance that may occur as a result of the designation of critical habitat for the piping plover. These costs were calculated by multiplying the number of expected incremental consultations or TAs by the per unit cost of these actions. Based on this analysis, the ten-year incremental cost of consultations and technical assistance attributable to critical habitat designation for the piping plover will range from \$314,200 to \$592,000, most of which will be borne by the Service and action agencies.

<b>Addendum Exhibit 3</b>					
<b>ESTIMATED COSTS OF INCREMENTAL CONSULTATIONS OVER THE NEXT TEN YEARS ATTRIBUTABLE TO THE DESIGNATION OF CRITICAL HABITAT FOR THE PIPING PLOVER</b>					
<b>Landowner</b>	<b>Range</b>	<b>Formal Consultation</b>	<b>Informal Consultation</b>	<b>Technical Assistance</b>	<b>Total Costs</b>
<b>Federal</b>	<i>Low</i>	\$ 7,000	\$ 0	\$ 0	<b>\$ 7,000</b>
	<i>High</i>	\$12,000	\$ 0	\$ 0	<b>\$12,000</b>
<b>Tribal</b>	<i>Low</i>	\$ 0	\$ 0	\$ 0	<b>\$ 0</b>
	<i>High</i>	\$ 0	\$ 0	\$ 0	<b>\$ 0</b>
<b>State</b>	<i>Low</i>	\$ 70,000	\$ 68,000	\$ 0	<b>\$ 138,000</b>
	<i>High</i>	\$112,000	\$ 170,000	\$ 0	<b>\$ 282,000</b>
<b>Municipal</b>	<i>Low</i>	\$ 20,000	\$ 8,000	\$ 800	<b>\$ 28,800</b>
	<i>High</i>	\$ 32,000	\$ 20,000	\$ 2600	<b>\$ 54,600</b>
<b>Private</b>	<i>Low</i>	\$ 130,000	\$ 0	\$ 10,400	<b>\$ 140,400</b>
	<i>High</i>	\$ 208,000	\$ 0	\$ 35,400	<b>\$ 243,400</b>
<b>Total Costs (By consultation type)</b>	<i>Low</i>	<b>\$ 227,000</b>	<b>\$ 76,000</b>	<b>\$ 11,200</b>	<b>\$ 314,200</b>
	<i>High</i>	<b>\$ 364,000</b>	<b>\$ 190,000</b>	<b>\$ 38,000</b>	<b>\$ 592,000</b>

Sources: Office of Personnel Management, Federal Government Schedule Rates 1999, and internal IEC analysis.

### **Costs of Project Modifications**

98. Project modifications required by the Service due to the designation of critical habitat for the piping plover will vary on a project-by-project basis, based in part on the activity, size, and scope of the proposed Federal action. A list of project modifications that could be associated with projects in designated critical habitat areas for the piping plover is presented below:

- C Beach nourishment activities/Erosion prevention.** On several lands in Pennsylvania, Illinois, Wisconsin, and Ohio, maintenance of beach habitat for human use may result in consultations with the Service in areas being designated as piping plover critical habitat. For example, routine beach nourishment activities that are permitted by the ACOE are conducted at Illinois Beach State Park and Presque Isle State Park. Wisconsin Point and Sheldon Marsh conduct periodic erosion prevention activities. The Service states that because piping plovers rely primarily on beach environments for nesting, activities such as beach nourishment or other erosion prevention activities that serve to maintain the beach environment are not likely to be considered detrimental to the survival of piping plovers, and thus, few project modifications are anticipated. Nonetheless, possible modification that the Service may request is that, when possible, nourishment activities are performed outside peak nesting season in some areas. The ACOE reports that such changes in the timing of beach nourishment activities should result in minimal additional costs to the ACOE.<sup>74</sup>
- C Routine dredging activities.** The Service anticipates consulting with the ACOE on routine dredging activities that occur within piping plover critical habitat, particularly in Ohio and Illinois. Dredging activities in these areas primarily serve to clear pipes of sediment and to maintain a rivermouth shipping channel. In Illinois, dredging activities also clear sand from blocked streams that threaten to flood beach areas, and thus are necessary to maintain critical habitat. The Service states that one possible project modification may be to request that the ACOE do simple biological surveys prior to commencing dredging activities. Biological survey costs are estimated to range from \$750 to \$1,000 per day per surveyor.<sup>75</sup> Surveys of land parcels (10 to 100 acres) generally include one to two person-days of surveys and one person-day to write up the findings in a report. The total cost of a such an evaluation ranges from \$1,500 to \$3,000.
- C Private residential development.** As stated above, project modifications associated with private residential development activity in Michigan are likely to result from the listing of the piping plover rather than critical habitat designation. In New York, private residential development may take the form of small private docks (less than 1,200 square feet) on the lagoon side of barrier island areas. While few lots remain undeveloped, the Service states

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<sup>74</sup> Personal communication with Engineer, U.S. Army Corps of Engineers Buffalo District, March 26, 2001.

<sup>75</sup> Personal communications with Dames and Moore; Inc., Dudek & Associates; Inc., Environ Associates; and Jones & Stokes, September 7-8, 2000.

that it is possible that a few more docks may be proposed in the future. The Service estimates that approximately ten docks could be affected by critical habitat designation. The Service reports that project modifications may include relocating the docks within the parcel to avoid prime nesting habitat, but does not foresee requesting that the structures not be built.<sup>76</sup> Relocation of a dock within a parcel is unlikely to add significant construction costs to a landowner, as the undeveloped lagoonal area is shallow, and at relatively constant depth. Recreational use of docks should also be unaffected by relocation within a parcel due to the relatively constant depth of the lagoonal area where docks may be built, and the small parcel size of undeveloped lots. Thus, critical habitat designation in New York should have minimal impacts to dock construction on private land in New York.

- C **Water inflow pipe construction.** One state park in New York is applying to construct a water inflow pipe. The Service states that if the pipe were to run through prime nesting habitat, it is possible that a recommendation could include moving the pipe 50-100 feet laterally. The ACOE estimates that such a project modification likely would require a longer pipe, at a cost of approximately \$17 per linear foot, depending on the diameter and type of pipe used as well as labor costs.<sup>77</sup> Thus, a project modification that requires a 50-100 foot lateral movement of a pipe is estimated to result in an increased cost of approximately \$850 to \$1,700.
  
- C **Other construction activities.** The Service expects to consult on several small construction projects, such as road/trail construction and parking lot expansion, due to the designation of critical habitat for the piping plover in Wisconsin and Michigan. Although each project will have to be evaluated on a case by case basis, the Service generally predicts that recommendations may include small adjustments to proposed project footprints. It is also possible that the Service could recommend that trail/road construction that falls in critical habitat be somewhat rerouted to avoid habitat effects (if a Federal nexus is present). On Wisconsin Point, for example, a 5-10 percent increase in length for the planned multi-use trail would cost between \$31,250 and \$62,500 for road construction costs and materials.<sup>78</sup>

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<sup>76</sup> Personal communication with Biologist, U.S. Fish and Wildlife Service, New York Field Office, March 16, 2001.

<sup>77</sup> Personal communication with Engineer, U.S. Army Corps of Engineers, Buffalo District, April 18, 2001.

<sup>78</sup> This is based on an estimated \$625,000 cost to build the trail, at \$52 per square foot, by the Engineer, City of Superior, March 29, 2001.

## **SUMMARY OF COSTS OF DESIGNATING CRITICAL HABITAT: FEDERAL, TRIBAL, STATE, LOCAL, AND PRIVATE LANDS**

99. In general, while critical habitat designation for the piping plover may lead to a number of incremental consultations on the part of the Service, project modifications that will be required as a result of the designation are expected to be minimal. Costs of consultations are estimated to be \$314,200 to \$592,000.

### **Federal Lands**

100. The only projected cost of designating critical habitat on Federal lands is an internal consultation by the Service regarding the management of Whitefish Point NWR for the piping plover. Estimated costs of this consultation is \$7,000 to \$12,000. No project modifications are anticipated by the Service.

### **Tribal Lands**

101. As stated above, the critical habitat areas on tribal lands have been developed in conjunction with the Tribe, and fall on tribal conservation lands. No consultation costs or project modifications are expected to result from the designation of critical habitat for the piping plover on tribal lands.

### **State Lands**

102. Approximately half of the estimated incremental costs of the designation of critical habitat are associated with consultations regarding state lands (\$138,000 to \$282,000). The Federal nexus for these consultations is the application for Federal Clean Water Act and other permits to perform activities on or near the designated lands. These activities include beach nourishment and erosion prevention in Pennsylvania and New York; dredging in Michigan, Illinois, and Ohio; and maintenance and construction in Michigan, Indiana, and New York. Possible project modification costs include changing in the timing of beach nourishment activities, and possible alterations to small construction activities.

### **Municipal Lands**

103. Estimates of consultation costs regarding municipal lands reflect proposed development activities identified in the comments received by the Service from the municipalities. Costs of consultations with municipalities are estimated at between \$28,800

and \$54,600. Wisconsin, Illinois, and Michigan all contain municipal lands that feature activities that may require section 7 consultation. However, in many cases, it is unclear whether a Federal nexus will exist for future activities. Nonetheless, several consultations on proposed construction activities are anticipated in Wisconsin. In Illinois, one consultation is anticipated as part of a programmatic consultation with the ACOE on dredging and beach nourishment activities. Because Michigan has a strong regulatory baseline and history of consultations on activities on municipal lands in these areas, most future activities that have a Federal nexus on municipal lands in Michigan can be attributed to the listing of the piping plover under the Act, and will not be incremental to the designation of critical habitat.

### **Private Lands**

104. The second largest proportion of estimated consultation costs due to the designation of critical habitat for the piping plover are associated with activities on private lands (\$140,000 to \$243,000). In Michigan, most of the private lands are either currently developed or slated for the development of primary or secondary small lot residential homes. Michigan, which contains more than two thirds of the private lands in the critical habitat designation, has a strong regulatory baseline. As a result, the designation should result in few consultations incremental to the designation of critical habitat, but likely will induce a number of technical assistance calls. In Ohio, private residential development activities on private lands are likely to result in consultations and technical assistance calls. Private lands in New York may experience some residential development. The Service in New York has not consulted on piping plover in the past, and hence anticipates several consultations and technical assistance calls to result from the designation of critical habitat. Private lands in Illinois are owned by Commonwealth Edison. One consultation on dredging activities is anticipated on ComEd land in Illinois as a result of critical habitat designation, but no project modifications are expected. Private lands in Wisconsin fall on 0.4 kilometers of shoreline on an island bird sanctuary. No consultations are anticipated as a result of critical habitat designation in Wisconsin.

## REFERENCES

Bureau of the Census, County Business Patterns, 1998. [Http://tier2.census.gov/cgi-win/cbp\\_naics/compare.exe](http://tier2.census.gov/cgi-win/cbp_naics/compare.exe), March 15, 2001.

Coastal Zone Management Act, 16 U.S.C.A. Section 1451 et seq, (1972).

Fax transmission from Biologist, U.S. Fish and Wildlife Service, East Lansing Field Office, MI, February 23, 2001.

Personal communications with Biologist, New York Department of Environmental Conservation, Division of Fish, Wildlife and Marine Resources, March 2, 2001.

Personal communications with Biologist, New York Department of Environmental Conservation, Division of Fish, Wildlife and Marine Resources, February 23, 2001.

Personal communications with Dames and Moore; Inc., Dudek & Associates; Inc., Environ Associates; and Jones & Stokes, September 7-8, 2000.

Personal communication with Staff, Michigan Department of Environmental Quality Land and Water Management Division Permitting Office, February 21, 2001.

Personal communication with Civil Employee, Emmett County, February 21, 2001.

Personal communication with Zoning Commissioner, Leelanau County, February 21, 2001.

Personal communication with Park Manager, Muskegon State Park, February 21, 2001.

Personal communication with Staff, Tawas Point State Park, MI, February 21, 2001.

Personal communication with Staff, Illinois Natural Preserves Commission, February 21, 2001.

Personal communication with Biologist, U.S. Fish and Wildlife Service, Barrington Field Office, IL, February 21, 2001.

Personal communication with Biologist, U.S. Fish and Wildlife Service, Renoldsburg Field Office, OH, February 21, 2001.

Personal communication with Biologist, U.S. Fish and Wildlife Service, New York Field Office, February 21, 2001.

Personal communication with Biologist, U.S. Fish and Wildlife Service, New York Field Office, February 21, 2001.

*April- 2001*

Personal communication with Biologist, U.S. Fish and Wildlife Service, Regional Office, Fort Snelling, MN, February 22, 2001.

Personal communication two Staff Biologists, Manistee National Forest, February 22, 2001.

Personal communication with Forest Biologist, Lake Superior State Forest, February 22, 2001.

Personal communication with U.S. Fish and Wildlife Service, Northern Indiana Sub-Office, IN, February 22, 2001.

Personal communication with Biologist, U.S. Fish and Wildlife Service, East Lansing Field Office, MI, February 23, 2001.

Personal communication two Biologists, Manistee National Forest, February 23, 2001.

Personal communication with Park Manager, Leelanau State Park, February 23, 2001.

Personal communication with Biologist, Whitefish Point National Wildlife Refuge, February 26, 2001.

Personal communication with Staff, Ohio Division of Natural Areas and Preserves, Department of Natural Resources, February 26, 2001.

Personal communication with Biologist at the Presque Isle State Park, February 28, 2001.

Personal communication with Biologist, U.S. Fish and Wildlife Service, Bloomington Field Office, MN, February 28, 2001.

Personal communication with Engineer, City of Superior, WI, February 28, 2001.

Personal communication with City Parks and Recreation Director, City of Superior, WI, February 28, 2001.

Personal communication with Biologist, U.S. Fish and Wildlife Service, Pennsylvania Field Office, March 1, 2001.

Personal communication with Engineer, U.S. Army Corps of Engineers Buffalo District, March 1, 2001.

Personal communication with Biologist, Mackinaw State Forest, March 2, 2001.

Personal communication with Property Manager, Point Beach State Park, WI, March 2, 2001.

Personal communication with Civil Employee, Emmett County, March 5, 2001.

Personal communication with Zoning Commissioner, Leelanau County, March 5, 2001.

Personal communication with Engineer, Regulatory Office, U.S. Army Corps of Engineers, Detroit District, MI, March 8, 2001.

Personal communication with Biologist, U.S. Fish and Wildlife Service, Green Bay Field Office, WI, March 9, 2001.

Personal communication with Biologist, U.S. Fish and Wildlife Service, East Lansing Field Office, MI, March 16, 2001.

Personal communication with Biologist, U.S. Fish and Wildlife Service, Renoldsburg Field Office, OH, March 16, 2001.

Personal communication with Biologist, U.S. Fish and Wildlife Service, New York Field Office, March 16, 2001.

Personal communication with Director, Parks Department, Michigan Department Natural Resources, March 20, 2001.

Personal communication with Engineer, U.S. Army Corps of Engineers Buffalo District, March 26, 2001.

Personal communication with Staff, The Nature Conservancy, Pulaski Office, NY, March 29, 2001.

*Proposed Determination of Critical Habitat for Determination of Critical Habitat for the Great Lakes Breeding Population of the Piping Plover (65 FR 41812).*

Public comment from the New York Department of Environmental Conservation, Division of Fish, Wildlife and Marine Resources, September 5, 2000.

Public comment from the Illinois Department of Natural Resources, November 14, 2000.

Public comment from the City of Superior, Mayor's Office, August 25, 2000.

Unsworth et al. "An Economic Analysis of piping plover recovery activities on the Atlantic Coast." Prepared for the U.S. Fish and Wildlife Service, Division of Economics, Arlington, VA, 1998.

Written communication with Biologist, U.S. Fish and Wildlife Service, East Lansing, MI, March 8, 2001.

*April- 2001*

Written communication between the U.S. Fish and Wildlife Service, East Lansing Field Office, MI, and the Regulatory Branch of the U.S. Army Corps of Engineers, Detroit, MI, May 15, 1997.