

Intra-Service Section 7 Biological Evaluation Form
Region 3

Originating Person: Steve Lewis

Date Submitted: 7/12/10

Telephone Number: 612-713-5473

- I. **Service Program and Geographic Area or Station Name:** Division of Migratory Birds, Regional Office.
- II. **Location:** Double-crested Cormorant (DCCO) damage management will be conducted at selected sites within the state of Michigan, as listed in the attached table. Only DCCO management activities that will be done on land have the potential to affect Federally-listed threatened and endangered species. Some DCCOs will be shot over open water, but this will have no impact on Federally-listed threatened or endangered species in Michigan because these species do not use open water areas and open-water shooting will occur at least 500 feet offshore from any land-based threatened and endangered species.

Double-crested Cormorants use islands and nearshore areas of inland waters and the Great Lakes as well as State, Federal, and private aquaculture facilities. Breeding habitat consists of ponds and lakes (natural and artificial), slow-moving rivers, lagoons, open coastlines, and small rocky or sandy islands if available. Breeding typically occurs between March and July. Nests are built in trees, on structures, on the ground, and sometimes in emergent marsh vegetation. Nesting trees and structures are usually standing in or near water, on islands, in swamps, or on tree-lined lakes. Roosts and resting places are often on exposed sites such as rocks or sandbars, pilings, wrecks, high-tension wires, or trees near favored fishing sites. During migration, DCCOs can be found in any of the areas listed above.

III. **Species/Critical Habitat:**

A. Listed species and/or critical habitat within the action area:

Piping Plover	(<i>Charadrius melodus</i>) [Endangered (E)]
Piping Plover critical habitat	
Houghton's goldenrod	(<i>Solidago houghtonii</i>) [Threatened (T)]
Dwarf lake iris	(<i>Iris lacustris</i>) []
Pitcher's thistle	(<i>Cirsium pitcheri</i>) []

B. Proposed species and/or proposed critical habitat within the action area:

None

C. Candidate species within the action area:

Eastern massasauga rattlesnake (*Sistrurus catenatus catenatus*)

IV. Project Description:

The proposed action is the management of DCCO damage through a combination of non-lethal and lethal techniques as described in Alternative 4 (Adaptive Integrated Cormorant Damage Management with Limited Annual Take) of the 2010 Environmental Assessment (EA) on Double-crested Cormorant Damage Management in Michigan. Under this alternative, an integrated wildlife damage management (IWDM) approach, will be used to reduce damage by and conflicts with DCCOs in Michigan under authority granted by the Public Resource Depredation Order (PRDO) and Migratory Bird Permits (MBPs; includes depredation permits and scientific collecting permits). The PRDO authorizes State fish and wildlife agencies, Federally-recognized Tribes, and the USDA Animal and Plant Health Inspection Service Wildlife Services (WS) program to take, without a permit, DCCOs found committing or about to commit, and to prevent, depredations on the public resources of fish (including hatchery stock at Federal, State, and Tribal facilities), wildlife, plants, and their habitats. Under regulatory authority of the PRDO and MBPs, cormorant damage management will be conducted to reduce DCCO damage to and conflicts with public resources, aquaculture, property, and human health and safety. The IWDM strategy will encompass the use and recommendation of practical and effective methods of preventing or reducing damage while minimizing harmful effects of damage management measures on humans, target and non-target species, and the environment.

The lead (WS) and cooperating (U.S. Fish and Wildlife Service [USFWS] and National Park Service) agencies in the EA can provide technical assistance or direct operational damage management, including nonlethal and lethal management methods by applying the WS Decision Model (Slate et al. 1992). When appropriate, physical exclusion, habitat modification, nest destruction, or harassment will be recommended and used to reduce damage. In other situations, birds will be removed through use of shooting, egg oiling/addling/destruction, or euthanasia following live capture. In determining the damage management strategy to be used, preference will be given to practical and effective nonlethal methods. However, nonlethal methods may not always be applied as a first response to each damage problem. The most appropriate response could often be a combination of nonlethal and lethal methods, or there could be instances where the application of lethal methods alone would be the most appropriate strategy. A detailed description of the methods which could be used is provided in the USFWS Final Environmental Impact Statement on Cormorant Management in the United States (USFWS 2003).

The primary strength of this alternative and the IWDM approach is that it allows access to the full range of cormorant damage management techniques when developing site-specific management plans. However, under this alternative, an agency could decide to only use a subset of the possible methods for the management of DCCO damage at a specific site. It would be possible to use only nonlethal techniques at specific sites. Selection of this alternative also does not

obligate any agency to implement the Michigan Department of Natural Resources and Environment's management objectives (outlined in Section 1.5.8 of the EA) at all sites under their jurisdiction. For example, USFWS staff could choose to restrict their actions under this alternative to responding to and discouraging DCCO activity at vegetated National Wildlife Refuge islands but not conduct cormorant damage management at other large colony sites.

Cormorant conflict management activities will be conducted in the State, when requested and funded, on private, public or tribal property, after receiving permission from the landowner/land manager. All management activities will comply with appropriate Federal, State, and local laws. The USFWS will be responsible for ensuring compliance with the PRDO and MBPs and that the long-term sustainability of regional DCCO populations is not threatened. Except as noted above for land management agencies, selection of the preferred alternative by any of the agencies involved with the EA will not restrict the management options available to the other agencies. However, it should be noted that if a landowner/manager does not grant permission for access to a Great Lakes island, DCCOs may still be shot if they are more than 500 yards offshore from the island.

Under this alternative, an IWDM approach will be used to reduce damage by and conflicts with DCCOs in Michigan. The adaptive management program described in Sections 1.5.8 and 3.1 of the EA will be implemented. Up to 50% of the local breeding population could be removed per year at sites targeted for cormorant damage management under the PRDO for the protection of public resources until the management objectives for the site have been reached. The maximum number of DCCOs that can be taken per year under the PRDO will be limited to 19,000 birds. Local breeding populations consisting of only 1 breeding colony will not be reduced below 100 breeding pairs. Local breeding populations consisting of more than one colony will not be reduced below 200 pairs. In instances where the local breeding population is comprised of one colony, lower management objectives may be implemented if DCCO presence jeopardizes vegetation or ecological value (e.g., threatened or endangered plants, or vegetation used by threatened or endangered species or species of conservation concern). These instances would be rare and would only be implemented after consultation with the Michigan Interagency Cormorant Coordination Group. Additionally, for the protection of nontarget colonial waterbirds, all action agencies agree to consult with the USFWS prior to conducting cormorant damage management at "priority sites for waterbird conservation" as identified in Wires and Cuthbert (2001).

Under this alternative, up to 500 additional birds could be taken annually under Scientific Collecting Permits, and 500 birds per year could be taken under Depredation Permits.

There will be regular monitoring of the results and impacts of cormorant damage management efforts in Michigan and review of new information from the literature. Management methods and objectives will be adjusted as needed based on available information. This process will include review of the EA to determine if it adequately

addresses current conditions and plans. The EA will be supplemented or replaced as needed in accordance with WS, USFWS, and National Park Service National Environmental Policy Act implementation procedures.

Carcasses of DCCOs killed during cormorant damage management will be disposed of in accordance with applicable Federal, State and local regulations and applicable permits. Disposal methods could include burial at landfills, incineration, composting or donation for research projects.

Literature Cited

Slate, D.A., R. Owens, G. Connolly, and G. Simmons. 1992. Decision making for wildlife damage management. Transactions of the North American Wildlife Natural Resource Conference 57: 51-62.

USFWS (United States Department of the Interior, Fish and Wildlife Service). 2003. Final Environmental Impact Statement: Double-crested Cormorant Management. U.S. Dept. of the Interior, USFWS, Div. of Migratory Bird Management, 4401 N. Fairfax Drive MS 634, Arlington, VA 22203. <http://migratorybirds.fws.gov/issues/cormorant/cormorant.html>.

Wires, L.R. and Cuthbert, F.J. 2001. Prioritization of waterbird colony sites for conservation in the U.S. Great Lakes. Final Report to USFWS. Available at: <http://www.waterbirds.umn.edu/F2-CWBPrior.pdf>.

V. Determination of Effects:

A. Description of Effects:

Under the PRDO, there are several conditions that will reduce the likelihood of adverse effects on listed species. Responsible agencies must abide by these conditions to undertake activities under the PRDO: (1) a requirement to use non-toxic shot only, when shooting DCCOs, thus lessening the likelihood of lead poisoning of non-target wildlife; (2) a requirement to report to the USFWS any incidental take of listed species; (3) a provision allowing the USFWS to suspend the privilege of agencies to take action under the PRDO; and (4) specific provisions for Piping Plover protection (see below) in the PRDO regulations (50 CFR 21.48 (d) (8)).

Additionally, Sections 3.6.2 and 4.1.2 of the EA present Standard Operating Procedures and conservation measures from USFWS (2003) that agencies managing cormorant damage will abide by to minimize the likelihood of adversely impacting Federally-listed threatened or endangered species.

Section 3.6.2 of the EA contains a stipulation that WS will consult with the USFWS East Lansing Ecological Services Field Office if WS decides, in the future, to work in an area not listed in the EA. The purpose would be to determine if Federally-listed species are found where the new DCCO management is planned. WS will comply

with all provisions in the PRDO and USFWS Environmental Impact Statement of DCCO management (USFWS 2003) for the protection of Federally-listed threatened and endangered species.

Piping Plover (*Charadrius melodus*) [E]: The Piping Plover is listed as endangered in Michigan and critical habitat for it has been designated. Great Lakes Piping Plovers nest on sandy beaches, sandflats, dredge islands, and drained floodplains. They are generally solitary nesters but may nest with terns. While the preferred nesting habitat of DCCOs and Piping Plovers is different, they may be found in close enough proximity that activities authorized by the preferred alternative in the EA could lead to harassment (i.e., incidental take) of Piping Plovers.

Conservation Measures to protect the Piping Plover are listed in the EA (Sections 3.6.2 and 4.1.2) and include: (1) All personnel conducting DCCO damage management will be trained in the identification of Piping Plovers and will check DCCO management areas prior to and during management for the presence of Piping Plovers; (2) discharge/use of firearms to kill or harass DCCOs or use of other harassment methods are allowed only if the control activities will occur more than 1,000 feet from active Piping Plover nests and migrating plovers; (3) other DCCO control activities, such as egg oiling/destruction, cervical dislocation, CO₂ asphyxiation, or nest destruction, are allowed only if these activities occur more than 500 feet from active Piping Plover nests or colonies and migrating plovers; and (4) to ensure adequate protection of Piping Plovers, any agency or its agents who plan to implement DCCO control activities that may affect areas designated as Piping Plover critical habitat in the Great Lakes region must contact the USFWS prior to implementing control activities.

Piping Plover Critical Habitat: Piping Plover critical habitat was designated in the Great Lakes in 2001. The shoreline areas identified as Piping Plover critical habitat contain the required habitat characteristics needed by nesting Piping Plover and also have a history of plover use. Several areas of critical habitat are in close proximity to the proposed action.

Personnel will abide by all postings regarding entry into Piping Plover nesting areas. Personnel may enter non-posted Piping Plover critical habitat areas at their discretion and will use caution not to physically disturb plover habitat. Driving of trucks or other vehicles onto the beach in designated critical habitat areas will not occur. There will be no physical modification of Piping Plover critical habitat.

Houghton's goldenrod (*Solidago houghtonii*) [T]: This plant is mostly limited to shoreline habitats on the northern shores of Lakes Michigan and Huron. It is found in sparsely vegetated, moist, sandy, interdunal depressions; rocky and cobbly shores; beach flats and calcareous beach sands; and seasonably wet alvar, occasionally in association with Pitcher's thistle and dwarf lake iris.

Houghton's goldenrod may be present at or near DCCO control sites. Personnel walking through these sites could accidentally trample plants. We expect this effect to

be discountable (unlikely to occur) as DCCO control personnel will familiarize themselves with the appearance and biology of the Houghton's goldenrod and avoid trampling or otherwise impacting them. Before going into a new site to conduct work, agencies will consult with the USFWS regarding the occurrence of Houghton's goldenrod such that plants can be avoided.

DCCOs may negatively affect the numbers and distribution of this species; thus, reducing DCCO numbers may benefit Houghton's goldenrod.

Dwarf lake iris (*Iris lacustris*) [T]: This plant is found almost exclusively on the northern shores of Lakes Michigan, Huron and Superior, most often in young, well-drained soils ranging from sands to gravels to sandy clay loam and organic-enriched sands.

Dwarf lake iris may be present at or near DCCO control sites. Personnel walking through these sites could accidentally trample plants. We expect this effect to be discountable (unlikely to occur) as DCCO control personnel will familiarize themselves with the appearance and biology of dwarf lake iris. The species will be avoided during field work such that trampling will not occur. Before going into a new site to conduct work, agencies will consult with the USFWS regarding the occurrence of dwarf lake iris such that plants can be avoided.

DCCOs may negatively affect the numbers and distribution of this species; thus, reducing DCCO numbers may benefit dwarf lake iris.

Pitcher's thistle (*Cirsium pitcheri*) [T]: This plant is found in a narrow band along the margins of Lakes Michigan, Huron, and Superior, with 90% of sites occurring in Michigan and some sites occurring in Indiana and Wisconsin. The species is a regional endemic restricted to dune habitats in the western Great Lakes region and appears to establish itself only in very open, sandy soil.

Pitcher's thistle may be present at or near DCCO control sites. Personnel walking through these sites could accidentally trample plants. We expect this effect to be discountable (unlikely to occur) as DCCO control personnel will familiarize themselves with the appearance and biology of Pitcher's thistle. The species will be avoided during field work such that trampling will not occur. Before going into a new site to conduct work, agencies will consult with the USFWS regarding the occurrence of Pitcher's thistle such that plants can be avoided.

DCCOs may negatively affect the numbers and distribution of this species; thus, reducing DCCO numbers may benefit Pitcher's thistle.

Eastern massasauga rattlesnake (*Sistrurus catenatus catenatus*) [Candidate]: This species has a widespread distribution in lower Michigan, primarily on mainland sites. It may be present in a very few island locations, such as Bois Blanc Island, Mackinac County, and in Saginaw Bay. Thus, locations of massasaugas would overlap with DCCOs in only rare instances. Massasaugas live in or adjacent to wet

areas, including wet prairies, marshes, and low areas along rivers and lakes. In many areas, massasaugas also use adjacent uplands during part of the year. They often hibernate in crayfish burrows but they may also be found under logs and tree roots or in small mammal burrows. Unlike other rattlesnakes, massasaugas hibernate alone.

DCCO control actions would not be likely to impact massasaugas, nor would any change in DCCO population levels be likely to impact them.

B. Determination:

Determination

No Effect: This determination is appropriate when the proposed project will not directly or indirectly affect (either negatively nor beneficially) individuals of listed/proposed/candidate species or designated/proposed critical habitat of such species. No concurrence from ESFO required.

No species/critical habitat

May Affect but Not Likely to Adversely Affect: This determination is appropriate when the proposed project is likely to cause insignificant, discountable, or wholly beneficial effects to individuals and designated critical habitat. Concurrence from ESFO required.

_____ X _____

- Piping Plover (Charadrius melodus) [Endangered (E)]
- Piping plover critical habitat
- Houghton's goldenrod (Solidago houghtonii) [Threatened (T)]
- Dwarf lake iris (Iris lacustris) [T]
- Pitcher's thistle (Cirsium pitcheri) [T]

May Affect and Likely to Adversely Affect: This determination is appropriate when the proposed project is likely to adversely impact individuals of listed species or designated critical habitat of such species. Concurrence from ESFO required.

No species/critical habitat

Not Likely to Jeopardize candidate or proposed species/critical habitat: This determination is appropriate when the proposed project is not expected to jeopardize the continued existence of a species proposed for listing or a candidate species, or adversely modify an area proposed for designation as critical habitat. Concurrence from ESFO required.

_____ X _____

Eastern massasauga rattlesnake (Sistrurus catenatus catenatus)

Likely to Jeopardize candidate or proposed species/critical habitat: This determination is appropriate when the proposed project is

reasonably expected to jeopardize the continued existence of a species proposed for listing or a candidate species, or adversely modify an area proposed for designation as critical habitat.
Concurrence from ESFO required.

No species/critical habitat

Signature Jane West Date 7/13/2010
[Supervisor at originating station]

Reviewing Ecological Services Office Evaluation (check all that apply):

A. Concurrence Nonconcurrence
Explanation for nonconcurrence:

B. Formal consultation required
List species or critical habitat unit

C. Conference required
List species or critical habitat unit

Name of Reviewing ES Office East Lansing

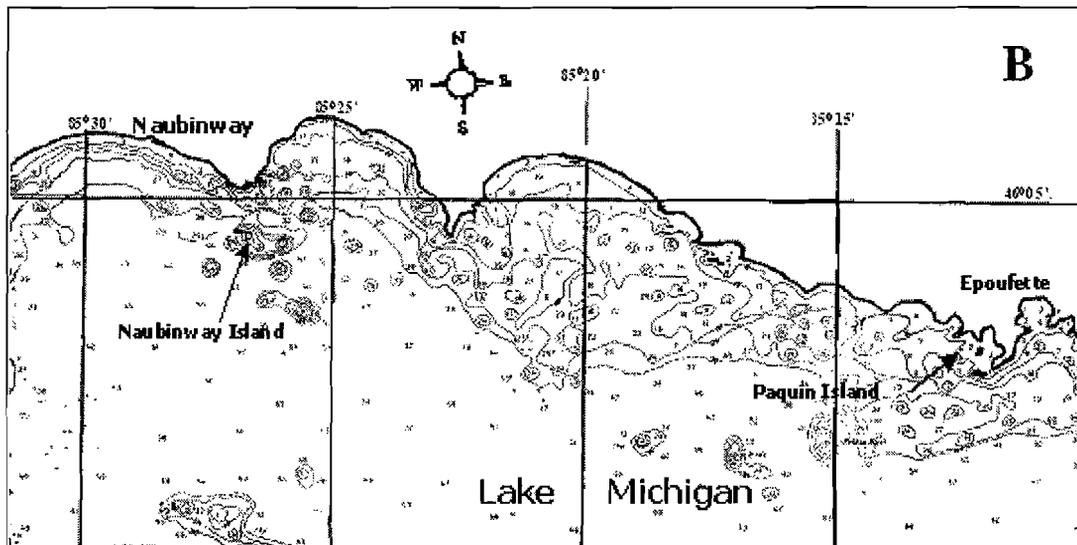
Signature J. K. [Signature] Date July 30, 2010

Management location	Latitude	longitude
Gull Island (Lake Michigan)	45 42'08.78"N	85 50'18.95"W
Trout Island (Lake Michigan)	45 46'21.90"N	85 41'24.92"W
Whisky Island (Lake Michigan)	45 48'41.97"N	85 36'34.79"W
Pismire Island (Lake Michigan)	45 46'06.40"N	85 26'41.63"W
Hat Island (Lake Michigan)	45 48'58.93"N	85 17'59.68"W
Snake Island (Big Bay de Noc)	45 44'17.25"N	86 39'29.13"W
Fishermans Island (Little Bay de Noc)	45 37'47.95"N	87 09'52.61"W
Green Island (Lake Huron)	45 50'08.50"N	84 44'51.20"W
Saint Martins Shoal (Lake Huron)	45 56'46.33"N	84 33'53.67"W
Winegrad Island (Lake Huron)	45 57'46.38"N	84 31'57.79"W
Goose Island (Lake Huron)	45 55'19.54"N	84 25'49.35"W
Crow Island (Lake Huron)	45 58'04.62"N	84 14'23.13"W
L. Saddlebag Island (Lake Huron)	45 57'29.09"N	84 03'07.84"W
Ludington Breakwall (Lake Michigan)	43 57'02.67"N	86 28'03.83"W
Naubinway Island (Lake Michigan)	46 04'31.08"N	85 26'42.20"W
Paquin Island (Lake Michigan)	46 03'11.22"N	85 13'36.42"W
Gem Island (St Marys River)	46 25'52.43"N	84 10'45.50"W
Rock Island (St Marys River)	46 23'10.52"N	84 08'43.76"W
Tahquamenon Island (Lake Superior)	46 31'54.14"N	84 56'56.22"W
Bellow Island (Grand Traverse Bay)	45 05'58.92"N	85 34'00.02"W
Ile aux Galets (Lake Michigan)	45 40'30.01"N	85 10'14.96"W
Scarecrow Island (Thunder Bay)	44 54'42.11"N	83 19'42.79"W
South Manitou Island (Lake Michigan)	45 00'33.24"N	86 08'46.33"W
Little Charity Island (Saginaw Bay)	44 00'10.14"N	83 27'58.41"W
Grand Lake	45 17'46.98"N	83 29'42.23"W
Long Lake	45 12'29.40"N	83 28'36.72"W
Maxton Bay (Drummond Island)	46 02'13.26"N	83 40'43.47"W
Brevoort Lake	45 59'49.06"N	84 55'17.65"W
Manistique Lake	46 14'25.49"N	85 47'09.80"W
South Manistique Lake	46 10'02.03"N	85 46'16.66"W
Indian Lake	45 58'57.54"N	86 19'59.93"W
Thunder Bay River (Alpena)	45 04'30.78"N	83 28'44.14"W
Au Sable River (Oscoda)	44 25'51.02"N	83 21'31.55"W
Huron River (Flat Rock)	42 06'06.44"N	83 18'03.29"W
Ford River (Ford River)	45 40'37.35"N	87 08'31.24"W
Gull Island (Thunder Bay)	45 03'21.38"N	83 13'53.01"W
Grass Island (Thunder Bay)	45 02'08.47"N	83 26'20.15"W
Bird Island (Thunder Bay)	44 53'23.75"N	83 19'29.81"W
Gull Island (Bays de Noc)	45 30'33.24"N	86 43'09.15"W
L Gull Island (Bays de Noc)	45 30'00.33"N	86 42'57.25"W
Gravelly Island (Bays de Noc)	45 31'15.25"N	86 43'26.45"W

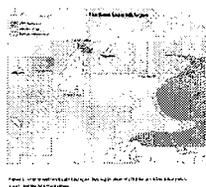
Map showing location of Gem Island



Map Showing location of Paquin Island



Map showing location of Ile aux Galets



Small, illegible text caption below the map.