Supplemental Information for the American Oystercatcher

Biological Status Review Report

The following pages contain peer reviews received from selected peer reviewers, comments received during the public comment period, and the draft report that was reviewed before the final report was completed

March 31, 2011

Table of Contents

Peer Review #1 from Dr. Ted Simmons

From: Ted Simons [mailto:tsimons@ncsu.edu]
Sent: Friday, January 21, 2011 5:41 PM
To: Brush, Janell
Subject: RE: American oystercatcher Draft BSR Report

Janell,

Sorry this is late. I inserted a few minor comments in the attached report. I thought the report provided a thorough presentation of current knowledge about breeding American Oystercatchers in Florida and I concur with your recommendation for state threatened status. The trend data collected by Ann Hodgson makes a good case for greater protection for these birds and the need for additional research and monitoring to understand the status and trends of current populations. I suggested that you add a few comments about the importance of state habitats for wintering migrants, unless this process is focused strictly on resident species. Thanks for the opportunity to review this report.

Sincerely,

Ted
Ted Simons
Professor
USGS Cooperative Research Unit
Department of Biology
Box 7617 NCSU
Raleigh, NC 27695

Biological Status Review
for the American Oystercatcher
(*Haematopus palliatus)*

EXECUTIVE SUMMARY

The Florida Fish and Wildlife Conservation Commission (FWC) directed staff to evaluate all species listed as Threatened or Species of Special Concern as of September 1, 2010. Public information on the status of the American oystercatcher was sought from September 17 to November 1, 2010. The three-member biological review group met on November 3 – 4, 2010. Group members were Janell M. Brush (FWC lead), Elizabeth A. Forys (Professor of Environmental Science and Biology at Eckerd College), and Gary L. Sprandel (Geoprocessing Specialist, Kentucky Department of Fish and Wildlife Resources). In accordance with rule 68A-27.0012 Florida Administrative Code (F.A.C.), the Biological Review Group (BRG) was charged with evaluating the biological status of the American oystercatcher using criteria included in definitions in 68A-27.001(3) and following the protocols in the *Guidelines for Application of the IUCN Red List Criteria at Regional Levels (Version 3.0)* and *Guidelines for Using the IUCN Red List Categories and Criteria (Version 8.1)*. Please visit http://myfwc.com/WILDLIFEHABITATS/imperiledSpp_listingprocess.htm to view the listing process rule and the criteria found in the definitions.

The Biological Review Group concluded from the biological assessment that the American oystercatcher met criteria for listing and recommend listing the species as State Threatened.

This work was supported by a Conserve Wildlife Tag grant from the Wildlife Foundation of Florida.

BIOLOGICAL INFORMATION

Life History References – Brown et al. 2001; FWC 2003; Nol and Humphrey 1994; Rodgers et al. 1996; Schulte et al. 2010.

Taxonomic Classification – Oystercatchers are members of the family Haematopidae. There are eleven recognized species of oystercatcher, although the taxonomy remains somewhat controversial (Nol and Humphrey 1994). Two subspecies of the American oystercatcher (*Haematopus palliatus*) are recognized in North America: *H. p. palliatus*, along the eastern and Gulf of Mexico coasts, and the west coast race of *H. p. frazari*. Florida has a resident breeding population of American oystercatchers (*H. p. palliates*) as well as one of the largest wintering populations (Schulte et al. 2010).

Population Status and Trend - A statewide survey conducted during the nesting season in 2001 documented a total of 1,014 individuals, including 391 pairs, and breeding was confirmed for 213 pairs (Douglass and Clayton 2004). The majority of the population (>90%) is concentrated on the Gulf coast of the state, with Hillsborough Bay estimated to support 15 - 20% of Florida's breeding population (Hodgson et al. 2008). Cox et al. (1994) identified three "population centers" for American oystercatchers along the Gulf coast, and a sparse but

continuous distribution along the Atlantic coastline. This statewide analysis concluded that the habitat base required for long-term stability of American oystercatchers in Florida was insufficient (Cox et al. 1994).

Comment [TS1]: I do not have access to this report but you might consider providing some information to support these conclusions.

Geographic Range and Distribution – The American oystercatcher is one of the few birds that feed primarily on marine bivalves, and therefore reside in coastal areas that support intertidal shellfish beds. Occupied habitats include undeveloped barrier beaches, sandbars, sand spits at inlets, shell rakes, salt marsh islands, and oyster reefs. Their breeding range extends from the northeast Atlantic coast to the Gulf coast of Florida, as well as the Caribbean and Central America (Nol and Humphrey 1994).

Comment [TS2]: You might mention that mark-resight studies conducted by members of the AMOY working group over the past decade have documented the importance of coastal areas from Tampa to Cedar Key as providing important wintering habitat for birds that breed as far north as Massachusetts. Shiloh Schulte can provide details on distribution and source of wintering birds.

Quantitative Analyses - There has not been a population viability analysis carried out on the Florida population of American oystercatchers.

BIOLOGICAL STATUS ASSESSMENT

Threats – The major threats to American oystercatchers identified by Schulte et al. (2010) in the Conservation Action Plan for the American Oystercatcher for the Atlantic and Gulf Coast of the U.S. include low population size in the region (~11,000 individuals), widespread habitat loss, and increased pressure during the non-breeding and breeding season (increased recreational disturbance, increases in nest predators, potential contamination of food sources, and alteration of habitat due to coastal engineering projects). Hunter et al. (2006) identified the American oystercatcher as a vulnerable species which will continue to decline without conservation measures to protect nesting habitat however possible, and listed the North American population as "High Concern" on the list of High Priority Shorebird Species/Populations. Oystercatcher productivity can be impacted by disturbance from recreational boaters and fishermen, adverse weather conditions, pressure wakes from large ships and boats, and predation. Entanglement in fishing gear and exposure of adults or breeding areas to oil spills are also concerns, as is the threat of global climate change and sea level rise.

Statewide Population Assessment –Findings from the BRG are included in Biological Status Review Information Tables.

LISTING RECOMMENDATION

Staff recommends that the American oystercatcher be listed as a Threatened species because the species met criteria for listing as described in 68A-27.001(3).

SUMMARY OF THE INDEPENDENT REVIEW

To be added later.

Peer Review #2 from Dr. Ann Hodgson

Attached is my review copy of the American Oystercatcher Final Draft BSR. I concur with the completeness and accuracy of the biological information and data analyses in the BSR, and the (2) reasonableness and justifiability of the assumptions, interpretations, and conclusions. I concur with the recommendation to list American Oystercatcher in Florida as a threatened species, primarily because of low population size, habitat loss, and nesting failure due to human disturbance. Several additional factors limit nesting success as well. Thank you for the opportunity to participate in this review and please contact me at 813 220-1666 with any questions.

Best, Ann

Ann B. Hodgson, PhD
Professional Wetland Scientist #1109
Certified Wildlife Biologist®
Resource Designs, Inc.
Natural Resource Research & Planning
2217 Castlebar Road
Brooksville, FL 34601

Biological Status Review Information
Findings

Species/taxon: American Oystercatcher (*Haematopus palliatus*)
Date: November 4, 2010
Assessors: Janell Brush, Gary Sprandel, Elizabeth Forys

Generation length: 10 years (Nol & Humphrey 1994)

Criterion/Listing Measure	Data/Information	Data Type*	Criterion Met?	References
*Data Types - observed (O), estimated (E), inferred (I), suspected (S), or projected (P). Criterion met - yes (Y) or no (N).				
(A) Population Size Reduction, ANY of				
(a)1. An observed, estimated, inferred or suspected population size reduction of at least 50% over the last 10 years or 3 generations, whichever is longer, where the causes of the reduction are clearly reversible and understood and ceased[1]	Data do not support	Estimated	NO	Douglass and Clayton 2004; Hodgson et al. 2008; A. Hodgson, personal communication
(a)2. An observed, estimated, inferred or suspected population size reduction of at least 30% over the last 10 years or 3 generations, whichever is longer, where the reduction or its causes may not have ceased or may not be understood or may not be reversible[1]	Data do not support	Estimated	NO	Douglass and Clayton 2004; Hodgson et al. 2008; A. Hodgson, personal communication
(a)3. A population size reduction of at least 30% projected or suspected to be met within the next 10 years or 3 generations, whichever is longer (up to a maximum of 100 years) [1]	Data do not support	Estimated	NO	Douglass and Clayton 2004; Hodgson et al. 2008; A. Hodgson, personal communication
(a)4. An observed, estimated, inferred, projected or suspected population size reduction of at least 30% over any 10 year or 3 generation period, whichever is longer (up to a maximum of 100 years in the future), where the time period must include both the past and the future, and where the reduction or its causes may not have ceased or may not be understood or may not be reversible.[1]	Data do not support	Estimated	NO	Douglass and Clayton 2004; Hodgson et al. 2008; A. Hodgson, personal communication
[1] based on (and specifying) any of the following: (a) direct observation; (b) an index of abundance appropriate to the taxon; (c) a decline in area of occupancy, extent of occurrence and/or quality of habitat; (d) actual or potential levels of exploitation; (e) the effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites.				
(B) Geographic Range, EITHER				

(b)1. Extent of occurrence < 20,000 km² (7,722 mi²) OR	Linear miles of coastline = 2,276 miles x 1 mile width (beach range) = 2,276 sq miles. Generous overestimate which includes unsuitable habitat.	Estimated	YES	Fernald and Purdum 1992.
(b)2. Area of occupancy < 2,000 km² (772 mi²)	From CWCI, combining total beach/surf zone and coastal strand habitats = 73.7 sq miles. Actual area of occupancy is less and rooftop nesting is negligible; this represents potential occupancy. If total estimated area is doubled to account for spoil islands it still meets criterion.	Estimated	YES	FWC 2005
AND at least 2 of the following:				
a. Severely fragmented or exist in ≤ 10 locations	Breeding sites exist in approximately 7 locations susceptible to hurricanes, storm surge, oil spills, erosion and other adverse events.	Observed/ Estimated	YES	Burney 2009
b. Continuing decline, observed, inferred or projected in any of the following: (i) extent of occurrence; (ii) area of occupancy; (iii) area, extent, and/or quality of habitat; (iv) number of locations or subpopulations; (v) number of mature individuals	Declines suspected in Florida and reported rangewide. (iii - iv) several known nesting sites (e.g., Citrus County power plant spoil islands and western Cross Florida Barge Canal islands, Clearwater Harbor Marker 10, Phillippe Creek spoil island) have eroded in the past 5-10 years, resulting in the loss of territories. The pairs that occupied these territories were displaced and since they were not banded it is not known if they moved to other sites. About 6 pairs were pressured out of the Apollo Beach residential lots as they were developed in the last 10 years. Even where a few pairs clung to their historical territories, the increase in human disturbance and loose pets – dogs and wandering cats – caused these pairs to fail. At some sites, habitat quality is diminishing (e.g., scarp formation on Alafia Bank Sunken Island is limiting usable habitat [restoration project in progress to re-gain beach expanse], wake over-wash from cargo/cruise ships at the west side of Tampa Port Authority 2D).	Suspected	NO	Douglass and Clayton 2004; Hodgson et al. 2008; Brush 2010; Shulte et al. 2010; A. Hodgson personal communication
c. Extreme fluctuations in any of the following: (i) extent of occurrence; (ii) area of occupancy; (iii) number of locations or subpopulations; (iv) number of mature individuals	No data to support.	Estimated	NO	Douglass and Clayton 2004; Hodgson et al. 2008; A. Hodgson personal communication
(C) Population Size and Trend				
Population size estimate to number fewer than 10,000 mature individuals AND EITHER	Population estimated fewer than 500 breeding adults.	Estimated	YES	Douglass and Clayton 2004; Forys 2010; Brush 2010.

(c)1. An estimated continuing decline of at least 10% in 10 years or 3 generations, whichever is longer (up to a maximum of 100 years in the future) OR	Cannot determine from current data.	Estimated	NO	Douglass and Clayton 2004; Hodgson et al. 2008; A. Hodgson personal communication
(c)2. A continuing decline, observed, projected, or inferred in numbers of mature individuals AND at least one of the following:	A continued decline is projected based on current known statewide productivity rates and assumption of 85% annual survival rate of breeding adults. Note there was one BSG member dissenting from this conclusion.	Suspected/ Projected	YES	Nol and Humphrey 1994; Forys 2010
a. Population structure in the form of EITHER	Population estimated fewer than 500 breeding adults.	Estimated	YES	Douglass and Clayton 2004; Forys 2010; Brush 2010.
(i) No subpopulation estimated to contain more than 1000 mature individuals; OR				
(ii) All mature individuals are in one subpopulation		Observed	YES	Douglass and Clayton 2004
b. Extreme fluctuations in number of mature individuals	No data to support. The FWC 2001 survey found 150 pairs (net 148, since FWC had 2 pairs in Lee County south of Audubon's latitudinal boundary), Audubon's Florida Coastal Islands Sanctuaries found 136 pairs (decline -9.33%) in the similar survey area in 2010, not including a few (approx. 7) rooftop nesting pairs in Pinellas and Hillsborough County.	Estimated / Observed	NO	Douglass and Clayton 2004; Forys 2010; Brush 2010, Hodgson et al. in prep.
(D) Population Very Small or Restricted, EITHER				
(d)1. Population estimated to number fewer than 1,000 mature individuals; OR	Population estimated fewer than 500 breeding adults.	Estimated	YES	Douglass and Clayton 2004; Forys 2010; Brush 2010.
(d)2. Population with a very restricted area of occupancy (typically less than 20 km^2 [8 mi^2]) or number of locations (typically 5 or fewer) such that it is prone to the effects of human activities or stochastic events within a short time period in an uncertain future	From FWC 2005, combining total beach/surf zone and coastal strand habitats = 73.7 sq miles. Actual area of occupancy is less; this represents potential occupancy. If total estimated area is doubled to account for spoil islands it still meets criterion.	Estimated	NO	FWC 2005
(E) Quantitative Analyses				
e1. Showing the probability of extinction in the wild is at least 10% within 100 years	None conducted due to lack of sufficient data.		NO	Schulte et al. 2010

Initial Finding (Meets at least one of the criteria OR Does not meet any of the criteria)	Reason (which criteria are met)

Yes, meets the criteria	C2a(i,ii); D1 Concur
Is species/taxon endemic to Florida? (Y/N)	NO
If Yes, your initial finding is your final finding. Copy the initial finding and reason to the final finding space below. If No, complete the regional assessment sheet and copy the final finding from that sheet to the space below.	
Final Finding (Meets at least one of the criteria OR Does not meet any of the criteria)	Reason (which criteria are met)
Yes, meets the criteria	C2a(i,ii); D1

Peer Review #3 from Raya Pruner

From: raya.pruner@gmail.com on behalf of Raya Pruner
To: Imperiled
Subject: Re: Deadline reminder for peer reviews of BSR reports
Date: Sunday, January 16, 2011 11:52:42 AM
Attachments: Pruner BSR SNPL Review.docx
Pruner BSR AMOY Review.docx

Elsa,

Final copies of independent reviews!!!!!!!!!!!!!!!
Sorry to keep sending edits. But, I wanted to ensure these were as complete as possible and I thought of a few more comments that I wanted to add. Also, sorry for the tardiness on the American Oystercatcher review. As I mention previously, I had assumed these 2 reviews were due on the same day. The 18th of January is when the Snowy plover review is due. I do hope you accept both of these reviews!

Cheers!!!
Raya

Based on review panel's findings and on the best available data, it is apparent that the evidence indicates American Oystercatchers meet the status of *Threatened* by FWC guidelines and *Vulnerable* under IUCN regional guidelines by meeting three requirements under both guidelines: 1) small geographic range, 2) low population size and trend, and 3) population very small or restricted. See below for an independent review of the available data on American Oystercatchers as it pertains to the listing guidelines.

A) Population Size Reduction: Data does not support. Agree with review panel.

B) Geographic Range: Meets Requirements (see below)

B1) Geographic range, the extent of occurrence is <20,000km^2 (7,722mi^2): Because American Oystercatchers are restricted to coastal habitats for foraging and breeding (Nol and Humphrey 1994), Fernald and Purdum (1992) estimated the Oystercatchers range to be 2,276mi^2. Findings of the review panel are in accordance with available data and interpretations are straight forward based on the availability of coastal habitat along both the Atlantic and Gulf coasts, including unsuitable habitat.

OR

B2) Geographic range, area of 0ccupancy <2,000km^2: American Oystercatchers are restricted to the beach/surf zone and coastal strand habitats, as defined by the Florida's Wildlife Legacy Initiative (FWLI) (FWC 2005). Based on FWLI the combined about of these 2 habitat types along Florida's coast line is approximately 73.7 mi^2. However, this value represents all potential

habitat in the state. The actual area of occupancy is much less. I concur with the findings of the review panel. In addition, similar results can be obtained by matching nesting locations from Burney 2009 and beach miles by county from DEP 1993 (DP FL Shoreline Length) with occurrence of nesting, the estimated area of occurrence is in agreement with that listed by the review panel.

AND at least 2 of the following:

B2a) Geographic range, severely fragmented or exist in <10 locations: Based on data from the state-wide beach nesting bird database, Burney (2009) identified 7 disjunct aggregations of nesting. Douglass (2004) observed similar aggregations, documenting 6 such aggregations. Findings of the review panel are in agreement with the available data. Based on mapped nesting distribution (Burney 2009), the nesting aggregations are apparent by areas of continuous nesting separated by coastal habitat with lack of nesting.

B2b) Continuing decline, observed, inferred, or projected: Review panel found this area to not fit the data stating only suspected declines in Florida (Douglass and Clayton 2004, Hodgson et al. 2008, Brush 2010, Shulte et al. 2008). However, it is my interpretation that that data does support this in estimation of decline in quality of habitat due to increased recreational pressures (American Bird Conservancy 2007 Threatened Habitats) and in the observed/inferred/projected number of mature individuals through productivity data that are below the rates required for stability (e.g., Douglass and Clayton 2004, Zimmerman 2009, Brush 2010, Pruner 2010). For example, Pruner (2010) documented a 0.0% productivity rates for American Oystercatcher breeding at coastal state parks in the panhandle during the past 5 years. These low rates are due to both incompatible recreation pressures and continued depredation of nests by coyotes. These rates are far below those required for stability. As a result, Pruner (2010) projects the number of mature individuals in the panhandle to decline based on the presented productivity rates. Similarly, Forys (2010) ran simulations on the population of mature indviduals for American Oystercatchers (values obtained from Nols and Humphries 1994) and concluded that current ground and rooftop productivities are not sufficient to produce a stable population . In fact, she stated a required fledge rates of 1 per breeding pair for obtained population stability. Although productivty rates are variable from year to year and site to site, this level of productivity was not observed in any of the available literature.

B2c) Extreme fluctuations: no data to support.

C) <u>Population Size and Structure:</u> Meets Requirements

Population size estimate to number < 10,000 mature individuals: population estimated to be < 500 breeding adults. The most comprehensive state-wide assessment documented 391 breeding pairs (782 individuals) (Douglass and Clayton 2004). However, Douglass and Clayton (2004) only confirmed breeding for 213 pairs (426 individuals). Based on these estimates, the breeding population is likely between 426-782 mature breeding individuals. I concur with the conclusions of the review panel based on the available data.

AND EITHER

C1) estimated continuing decline of at least 10%: Review panel could not determine from current data. Because of data gaps and the long-lived nature of the American Oystercatcher, I agree that available data does not support this trend.

C2) A continuing decline in number of mature individuals: see B2b above. There is ample data on American Oystercatcher current productivity rates, and continuous decline in mature individuals is projected. I concur and agree with the interpretation of the review panel.
AND AT LEAST 1 OF THE FOLLOWING
C2ai) No subpopulation estimated to contain more than 1000 mature individuals: Because there is movement during at least 1 part of the year between breeding locations, the American Oystercatcher breeding population in Florida is part of one subpopulation. Therefore, based on the range of estimates documented by Douglass and Clayton (2004) of 426-782 mature breeding individuals American Oystercatchers in Florida, the findings of the review panel are in agreement with the available data. I concur with these findings.

EITHER

C2aii) all mature individuals are in one subpopulation: Douglass and Clayton (2004) reported the Florida American Oystercatcher population to be part of 1 subpopulation, with movement between regions during at least 1 part of the year. Due this movement of individuals, all mature individuals are within 1 breeding subpopulation. I concur with the interpretation of the review panel based on the available data.

OR

C2b) Extreme fluctuations in number of mature individuals: based on the available data fluctuations have not been observed, likely due the long lived nature of American Oystercatchers. I concur with the findings of the review panel. 'No data to support'.

D) <u>Populations very small or restricted:</u> Meets requirements

D1) Population estimated to fewer than 1,000 mature individuals: Based on the range of estimates documented by Douglass and Clayton (2004) of 426-782 mature breeding individuals American Oystercatchers in Florida, the findings of the review panel are in agreement with the available data. I concur with these findings.

OR

D2) Population with very restricted area of occurrence (< 20km^2): Based on findings under B2, American Oystercatchers are restricted to an area <2000km, but > than 20km. For example, the nesting occurrence at only one breeding location, the panhandle for example, is greater than this value. Therefore, I am in agreement with the findings of the review panel.

E) <u>Quantitative Analysis</u>: Insufficient data on American Oystercatchers to do quantitative modeling.

Letters and emails received during the solicitation of information from the public period of September 17, 2010 through November 1, 2010

From: HODGSON, Ann
To: Imperiled
Cc: WRAITHMELL, Julie; Elizabeth Forys; Brush, Janell; Douglass, Nancy
Subject: Comparison of AMOY nesting 2001-2010 on the FL gulf coast.xls
Date: Friday, October 29, 2010 4:10:30 PM
Attachments: County Populations 2010.jpg
County Populations 2001.jpg
Comparison of AMOY nesting 2001-2010 on the FL gulf coast.xls

Attached is a summary of American Oystercatcher nesting effort on the Florida gulf coast in 2001 (FWC surveys, refer to Douglass and Clayton 2004) and 2010 (survey conducted by Audubon of Florida Florida Coastal Islands Sanctuaries (funded by NFWF Keystone Initiative), plus data included by permission from FWC (Janell Brush) nesting records at Cedar Key, and Florida Shorebird Alliance records reported on the FSA website). The FSA website reported 8 rooftop nesting records, of which 1 appears to be repeated, so probably 7 pairs attempted to nest. Rooftop nesters are not included in the 2010 worksheet summary. Adjusting the totals to include the 2010 rooftop nesters (assuming 7 pairs), and excluding Charlotte (2) and Lee (1) counties data, which were not included in the 2001 survey, the regional American Oystercatcher population has declined approximately 29 pairs or 19.3% since 2001. The decline can be attributed to several factors including habitat loss (several of the dredged spoil material islands submerged in the past 10 years), sites that became unsuitable for various reasons (habitat modification, disturbance, predators, etc.), human disturbance (recreational boating and fishing, or commercial fishing), overwash from ship wakes, others. We have included 2 maps showing the distribution of American Oystercatcher nesting in 2001 (FWC gis files used by permission) and 2010 (Audubon of Florida Florida Coastal Islands Sanctuaries gis files).

FWC survey	FCIS survey		
County	2001	2010	DIFF 2010-2001
Charlotte		2	2
Citrus	33	21	-12
Hernando	3	3	0
Pasco	0	1	1
Hillsborough	77	66	-11
Levy	5	7	2
Lee		1	1
Manatee	1	1	0
Pinellas	26	13	-13
Sarasota	5	2	-3
Total Pairs	150	117	33

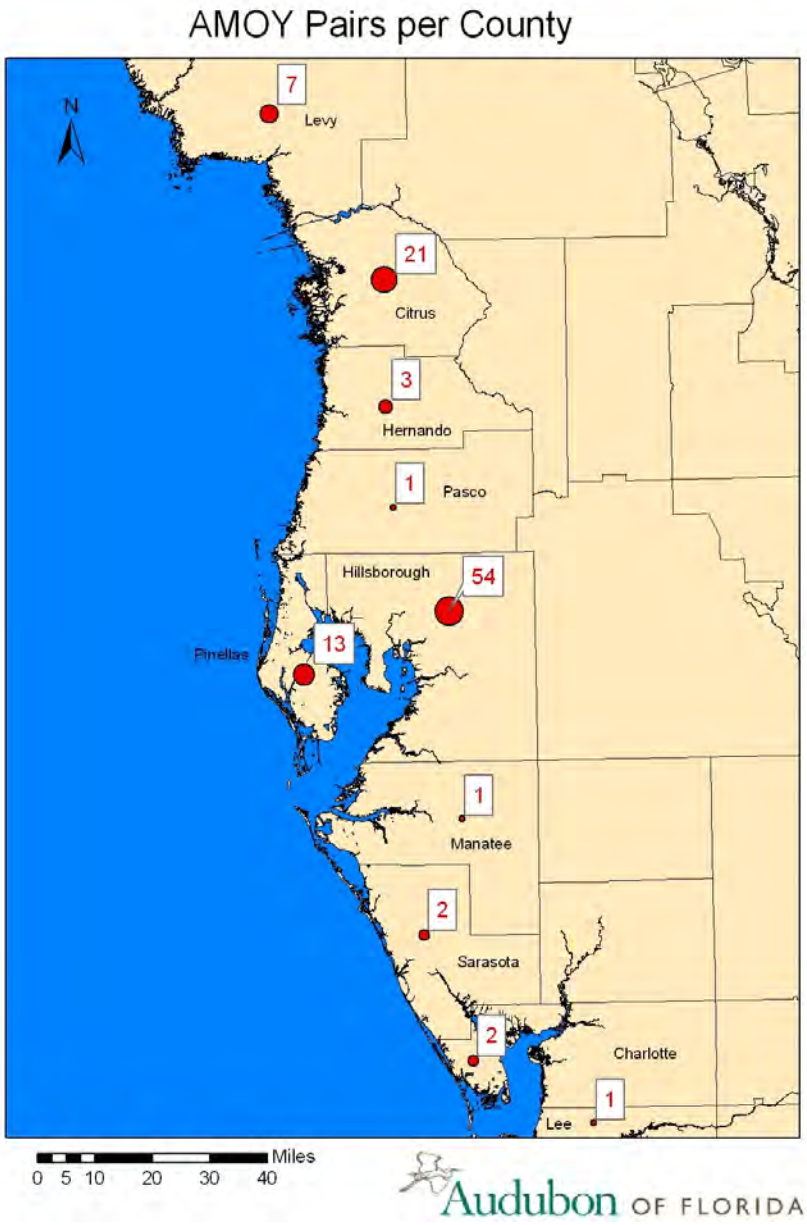
Supplemental Information for the American Oystercatcher

Please call me with any questions.

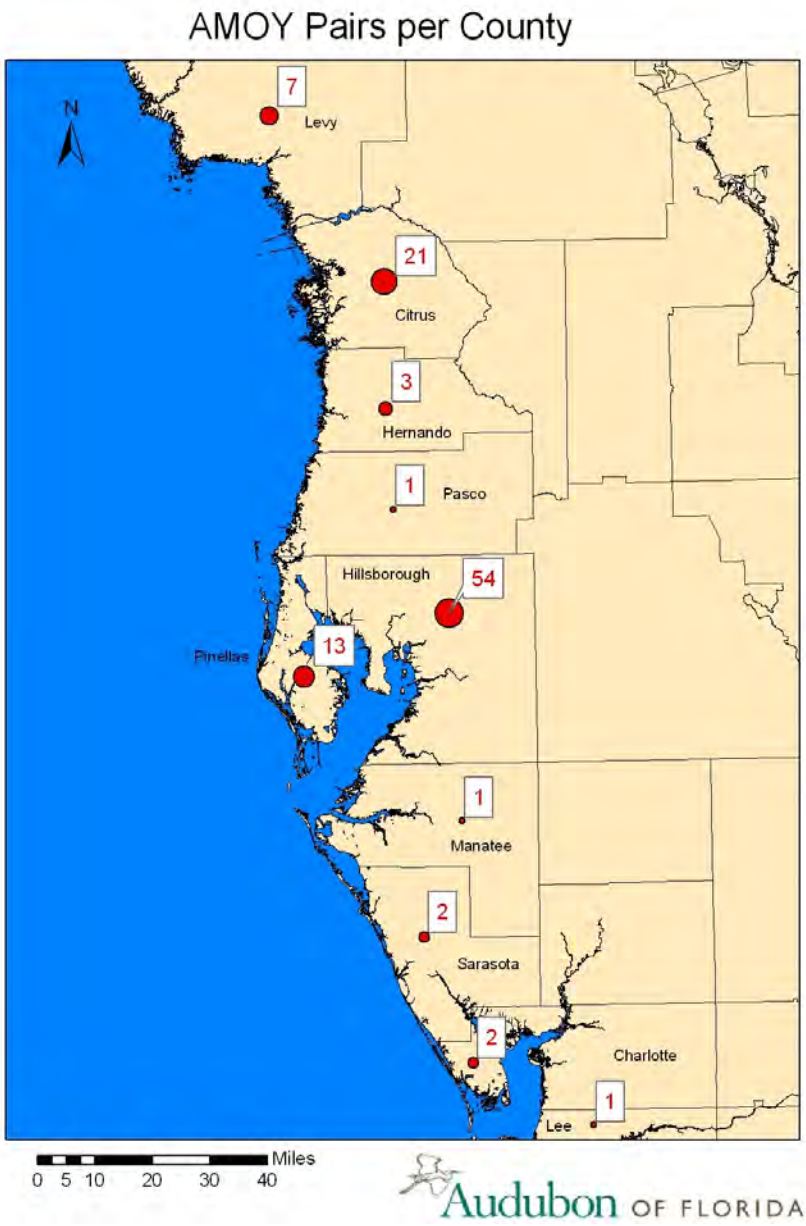
best, Ann

Ann B. Hodgson, Ph. D., P.W. S.
Gulf Coast Ecosystem Science Coordinator
Audubon of Florida
Florida Coastal Islands Sanctuaries Program
410 Ware Blvd., STE 702
Tampa, FL 33619

Supplemental Information for the American Oystercatcher



Supplemental Information for the American Oystercatcher



Supplemental Information for the American Oystercatcher

Comparison by County 2001-2010

	FWC survey	**FCIS survey**					
County	**2001**	**2010**	**DIFF 2010-2001**	**Notes**	**Criteria**		
Charlotte		2	2	FWC did not report Charlotte Co. in 2001			
Citrus	33	21	-12	Citrus Co. spoil islands - western islands subsiding.	habitat loss		
Hernando	3	3	0				
Pasco	0	1	1		no suitable nesting habitat on Pasco Co. coast		
Hillsborough	77	66	-11	Fishhook Spoil Island/TECO jetty not surveyed 2010; added estimated 6-10 pairs; Apollo Beach territories have winked out due to development and free-ranging domestic cats.	habitat loss (territories in Apollo Beach residential lots; erosion on Fishhook Island and other sites; overwash from boat wakes causes poor recruitment for pairs facing shipping channels; erosion on shorelines; predators (raccoons, domestic cats); human disturbance.		
Levy	5	7	2				
Lee		1	1	FWC did not report Lee Co. in 2001			
Manatee	1	1	0				
Pinellas	26	13	-13	Several sites winked out; approx. 7 rooftop attempts.	habitat loss (islands submerged); sites became unsuitable.		
Sarasota	5	2	-3	Sites became unsuitable; submerged.	habitat loss		
Total Pairs	**150**	**117**	**33**	Added 10 pairs to Hills. Bay total			
	FWC survey conducted in 2001; refer to Douglass and Clayton 2004.						
	FCIS survey conducted in 2010 (also includes FWC Cedar Keys and FSA data); Audubon data - Audubon of Florida Florida Coastal Islands Sanctuaries; unpublished data in prep.						
	FCIS contact: Dr. Ann B. Hodgson, Florida Coastal Islands Sanctuaries, 813 623-6826						

Nesting by County 2001 FWC

INDIVIDUAL	ACTIVITY	COUNTOFIND	SITE_NAME	COUNTY	COASTALREG	ACTIVITY_1	BREEDING	MANMADE_HA	HABITAT	DECIMALLAT	DECIMALLON
pair	NE	1	Barge canal spoil islands; 4th, 3rd, 2nd from west	Citrus	Big Bend	NE	1	1	dredge spoil	28.965983	-82.809533
pair	NE	1	Barge canal spoil islands; 4th, 3rd, 2nd from west	Citrus	Big Bend	NE	1	1	dredge spoil	28.966017	-82.809333
pair	NY	1	Fla. Power plant spoil islands; 3rd, 4th from west	Citrus	Big Bend	NY	1	1	dredge spoil	28.940950	-82.789700
pair	NY	1	Power Plant Spoil Islands 1	Citrus	Big Bend	NY	1	1	dredge spoil	28.939833	-82.793367
pair	NY	1	Power Plant Spoil Islands10	Citrus	Big Bend	NY	1	1	dredge spoil	28.971333	-82.792500
pair	NY	1	Power Plant Spoil Islands11	Citrus	Big Bend	NY	1	1	dredge spoil	28.971333	-82.792500
pair	NY	1	Power Plant Spoil Islands14	Citrus	Big Bend	NY	1	1	dredge spoil	28.974883	-82.785833
pair	NY	1	Power Plant Spoil Islands15	Citrus	Big Bend	NY	1	1	dredge spoil	28.974883	-82.785833
pair	NY	1	Power Plant Spoil Islands16	Citrus	Big Bend	NY	1	1	dredge spoil	28.974883	-82.785833
pair	NY	1	Power Plant Spoil Islands2	Citrus	Big Bend	NY	1	1	dredge spoil	28.939833	-82.793367
pair	NY	1	Power Plant Spoil Islands20	Citrus	Big Bend	NY	1	1	dredge spoil	28.974883	-82.785833
pair	NY	1	Power Plant Spoil Islands22	Citrus	Big Bend	NY	1	1	dredge spoil	28.974883	-82.785833
pair	NY	1	Power Plant Spoil Islands23	Citrus	Big Bend	NY	1	1	dredge spoil	28.974883	-82.785833
pair	NY	1	Power Plant Spoil Islands8	Citrus	Big Bend	NY	1	1	dredge spoil	28.967917	-82.802333
pair	NY	1	Power Plant Spoil Islands9	Citrus	Big Bend	NY	1	1	dredge spoil	28.967917	-82.802333
pair	ON	1	Barge canal spoil islands; 4th, 3rd, 2nd from west	Citrus	Big Bend	ON	1	1	dredge spoil	28.966000	-82.809433
pair	ON	1	Barge canal spoil islands; 4th, 3rd, 2nd from west	Citrus	Big Bend	ON	1	1	dredge spoil	28.966033	-82.809233
pair	ON	1	Barge canal spoil islands; 9th from west	Citrus	Big Bend	ON	1	1	dredge spoil	28.978750	-82.791617
pair	ON	1	Barge canal spoil islands; 9th from west	Citrus	Big Bend	ON	1	1	dredge spoil	28.978833	-82.774800
pair	ON	1	Fla. Power plant spoil islands; 2nd from west	Citrus	Big Bend	ON	1	1	dredge spoil	28.939683	-82.794000
pair	ON	1	Fla. Power plant spoil islands; 2nd from west	Citrus	Big Bend	ON	1	1	dredge spoil	28.939733	-82.793850
pair	ON	1	Fla. Power plant spoil islands; 2nd from west	Citrus	Big Bend	ON	1	1	dredge spoil	28.939783	-82.793700
pair	ON	1	Fla. Power plant spoil islands; 3rd, 4th from west	Citrus	Big Bend	ON	1	1	dredge spoil	28.940583	-82.790067
pair	ON	1	Fla. Power plant spoil islands; 3rd, 4th from west	Citrus	Big Bend	ON	1	1	dredge spoil	28.940767	-82.789883
pair	ON	1	Power Plant Spoil Islands19	Citrus	Big Bend	ON	1	1	dredge spoil	28.974883	-82.785833
pair	ON	1	Power Plant Spoil Islands21	Citrus	Big Bend	ON	1	1	dredge spoil	28.974883	-82.785833
pair	ON	1	Power Plant Spoil Islands24	Citrus	Big Bend	ON	1	1	dredge spoil	28.974883	-82.785833
pair	ON	1	Power Plant Spoil Islands3	Citrus	Big Bend	ON	1	1	dredge spoil	28.941133	-82.789667
pair	ON	1	Power Plant Spoil Islands6	Citrus	Big Bend	ON	1	1	dredge spoil	28.978333	-82.769667
pair	ON	1	Power Plant Spoil Islands7	Citrus	Big Bend	ON	1	1	dredge spoil	28.965917	-82.809667
pair	ON, 13	1	Barge canal spoil islands; 5th from west	Citrus	Big Bend	ON, 13	1	1	dredge spoil	28.967950	-82.802217
pair	ON, 13	1	Barge canal spoil islands; 5th from west	Citrus	Big Bend	ON, 13	1	1	dredge spoil	28.967967	-82.802167
pair	ON, 13	1	Barge canal spoil islands; 5th from west	Citrus	Big Bend	ON, 13	1	1	dredge spoil	28.967983	-82.802117
	County Total:	**33**									
probable pair	ON	1	Hernando Beach spoil islands; NE of Marker 21	Hernando	Big Bend	ON	1	1	dredge spoil	28.509850	-82.693517

probable pair	ON	1	Hernando Beach spoil islands; NE of Marker 23	Hernando	Big Bend	ON	1	1	dredge spoil	28.508817	-82.692133
probable pair	ON	1	Hernando Beach spoil islands; NE of Marker 33	Hernando	Big Bend	ON	1	1	dredge spoil	28.504483	-82.687633
	County Total:	**3**									
pair	C	1	Alafia Banks7	Hillsborough	Southwest	C	1	1	dredge spoil	27.847917	-82.406167
pair	C	1	Island 2D-1	Hillsborough	Southwest	C	1	1	dredge spoil	27.863717	-82.432433
pair	C	1	Symphony Beach, S. Appollo Beach area	Hillsborough	Southwest	C	1	1	dredge spoil	27.771150	-82.430983
pair	NE	1	Bch. N. of Big Bend Power Plant channel	Hillsborough	Southwest	NE	1	1	dredge spoil	27.794000	-82.414950
pair	NE	1	Beach on W. side of inlet to power plant	Hillsborough	Southwest	NE	1	1	dredge spoil	27.804367	-82.415850
pair	NE	1	Big Bend Harbor Spoils	Hillsborough	Southwest	NE	1	1	dredge spoil	27.801833	-82.414767
pair	NE	1	Big Bend Loading Docks 1	Hillsborough	Southwest	NE	1	1	dredge spoil	27.795933	-82.415167
pair	NE	1	Fish Hook Point spoil	Hillsborough	Southwest	NE	1	1	dredge spoil	27.803267	-82.416183
pair	NY	1	Alafia Banks	Hillsborough	Southwest	NY	1	1	dredge spoil	27.844117	-82.415600
pair	NY	1	Alafia Banks	Hillsborough	Southwest	NY	1	1	dredge spoil	27.847633	-82.418133
pair	NY	1	Alafia Banks	Hillsborough	Southwest	NY	1	1	dredge spoil	27.848200	-82.414933
pair	NY	1	Alafia Banks	Hillsborough	Southwest	NY	1	1	dredge spoil	27.850317	-82.406767
pair	NY	1	Georgetown Apt. Dredge Spoil, south beach	Hillsborough	Southwest	NY	1	1	dredge spoil	27.898233	-82.535417
pair	NY	1	Howard Franklin Causeway-SE	Hillsborough	Southwest	NY	1	1	causeway	27.941967	-82.543617
pair	NY	1	Island 2D	Hillsborough	Southwest	NY	1	1	dredge spoil	27.863333	-82.437333
pair	NY	1	Island 2D	Hillsborough	Southwest	NY	1	1	dredge spoil	27.864167	-82.434833
pair	NY	1	Island 2D	Hillsborough	Southwest	NY	1	1	dredge spoil	27.870000	-82.429167
pair	NY	1	Island 2D	Hillsborough	Southwest	NY	1	1	dredge spoil	27.870000	-82.428333
pair	NY	1	Passage Key	Hillsborough	Southwest	NY	1	0	barrier island	27.580483	-82.763067
pair	ON	1	Alafia Banks	Hillsborough	Southwest	ON	1	1	dredge spoil	27.843900	-82.418800
pair	ON	1	Alafia Banks	Hillsborough	Southwest	ON	1	1	dredge spoil	27.843967	-82.419750
pair	ON	1	Alafia Banks	Hillsborough	Southwest	ON	1	1	dredge spoil	27.844617	-82.421150
pair	ON	1	Alafia Banks	Hillsborough	Southwest	ON	1	1	dredge spoil	27.847483	-82.416183
pair	ON	1	Alafia Banks	Hillsborough	Southwest	ON	1	1	dredge spoil	27.847517	-82.416050
pair	ON	1	Alafia Banks	Hillsborough	Southwest	ON	1	1	dredge spoil	27.848450	-82.415850
pair	ON	1	Alafia Banks4	Hillsborough	Southwest	ON	1	1	dredge spoil	27.845000	-82.421533
pair	ON	1	Alafia Banks6	Hillsborough	Southwest	ON	1	1	dredge spoil	27.847167	-82.409900
pair	ON	1	Big Bend Harbor - S. side of channel	Hillsborough	Southwest	ON	1	1	dredge spoil	27.796567	-82.416317
pair	ON	1	Big Bend Loading Docks 2	Hillsborough	Southwest	ON	1	1	dredge spoil	27.795833	-82.415167
pair	ON	1	Big Bend Loading Docks 3	Hillsborough	Southwest	ON	1	1	dredge spoil	27.799483	-82.412483
pair	ON	1	Big Bend Loading Docks 4	Hillsborough	Southwest	ON	1	1	dredge spoil	27.799333	-82.412483
pair	ON	1	Fantasy Island	Hillsborough	Southwest	ON	1	1	dredge spoil	27.850000	-82.425833
pair	ON	1	Fish Hook Point spoil	Hillsborough	Southwest	ON	1	1	dredge spoil	27.802617	-82.415833
pair	ON	1	Fish Hook Point spoil	Hillsborough	Southwest	ON	1	1	dredge spoil	27.803467	-82.416317
pair	ON	1	Fish Hook Point spoil	Hillsborough	Southwest	ON	1	1	dredge spoil	27.803767	-82.416350

pair	ON	1	Fish Hook Point spoil	Hillsborough	Southwest	ON	1	1	dredge spoil	27.804267	-82.416400
pair	ON	1	Island 2D	Hillsborough	Southwest	ON	1	1	dredge spoil	27.863933	-82.435800
pair	ON	1	Island 2D	Hillsborough	Southwest	ON	1	1	dredge spoil	27.865833	-82.437333
pair	ON	1	Island 2D	Hillsborough	Southwest	ON	1	1	dredge spoil	27.868333	-82.437333
pair	ON	1	Island 2D	Hillsborough	Southwest	ON	1	1	dredge spoil	27.870000	-82.437333
pair	ON	1	Island 2D	Hillsborough	Southwest	ON	1	1	dredge spoil	27.871467	-82.437367
pair	ON	1	Island 2D	Hillsborough	Southwest	ON	1	1	dredge spoil	27.878533	-82.436933
pair	ON	1	Island 2D	Hillsborough	Southwest	ON	1	1	dredge spoil	27.879800	-82.436417
pair	ON	1	Island 2D	Hillsborough	Southwest	ON	1	1	dredge spoil	27.880317	-82.436317
pair	ON	1	Island 2D	Hillsborough	Southwest	ON	1	1	dredge spoil	27.881650	-82.436250
pair	ON	1	Island 2D	Hillsborough	Southwest	ON	1	1	dredge spoil	27.881950	-82.436183
pair	ON	1	Island 2D	Hillsborough	Southwest	ON	1	1	dredge spoil	27.883517	-82.436017
pair	ON	1	Island 2D	Hillsborough	Southwest	ON	1	1	dredge spoil	27.883633	-82.435867
pair	ON	1	Island 2D	Hillsborough	Southwest	ON	1	1	dredge spoil	27.884333	-82.426666
pair	ON	1	Island 2D	Hillsborough	Southwest	ON	1	1	dredge spoil	27.884583	-82.432733
pair	ON	1	Island 2D	Hillsborough	Southwest	ON	1	1	dredge spoil	27.884617	-82.429467
pair	ON	1	Island 2D	Hillsborough	Southwest	ON	1	1	dredge spoil	27.884667	-82.433667
pair	ON	1	Island 2D	Hillsborough	Southwest	ON	1	1	dredge spoil	27.884667	-82.431667
pair	ON	1	Island 2D	Hillsborough	Southwest	ON	1	1	dredge spoil	27.884667	-82.430000
pair	ON	1	Island 2D	Hillsborough	Southwest	ON	1	1	dredge spoil	27.884833	-82.432733
pair	ON	1	Island 2D-2	Hillsborough	Southwest	ON	1	1	dredge spoil	27.863567	-82.430867
pair	ON	1	Island 2D-3	Hillsborough	Southwest	ON	1	1	dredge spoil	27.863567	-82.430033
pair	ON	1	Island 3D	Hillsborough	Southwest	ON	1	1	dredge spoil	27.827150	-82.431617
pair	ON	1	Island 3D	Hillsborough	Southwest	ON	1	1	dredge spoil	27.830333	-82.431300
pair	ON	1	Island 3D	Hillsborough	Southwest	ON	1	1	dredge spoil	27.830867	-82.431317
pair	ON	1	Island 3D	Hillsborough	Southwest	ON	1	1	dredge spoil	27.834950	-82.441483
pair	ON	1	Island 3D	Hillsborough	Southwest	ON	1	1	dredge spoil	27.835433	-82.430833
pair	ON	1	Island 3D	Hillsborough	Southwest	ON	1	1	dredge spoil	27.837783	-82.430433
pair	ON	1	Island 3D	Hillsborough	Southwest	ON	1	1	dredge spoil	27.838133	-82.430583
pair	ON	1	Island 3D	Hillsborough	Southwest	ON	1	1	dredge spoil	27.839767	-82.438083
pair	ON	1	Island 3D-1	Hillsborough	Southwest	ON	1	1	dredge spoil	27.822333	-82.434233
pair	ON	1	Island 3D-10	Hillsborough	Southwest	ON	1	1	dredge spoil	27.831300	-82.441483
pair	ON	1	Island 3D-4	Hillsborough	Southwest	ON	1	1	dredge spoil	27.825367	-82.442283
pair	ON	1	Island 3D-5	Hillsborough	Southwest	ON	1	1	dredge spoil	27.825783	-82.442283
pair	ON	1	Island 3D-8	Hillsborough	Southwest	ON	1	1	dredge spoil	27.828233	-82.442033
pair	ON	1	Passage Key	Hillsborough	Southwest	ON	1	0	barrier island	27.579183	-82.761817
pair	ON	1	W. of Big Bend Power Plant	Hillsborough	Southwest	ON	1	1	dredge spoil	27.793767	-82.415750
probable pair	NY	1	Big Bend Harbor - spoil S. of rip rap	Hillsborough	Southwest	NY	1	1	dredge spoil	27.797450	-82.417083
probable pair	ON	1	Island 3D-2	Hillsborough	Southwest	ON	1	1	dredge spoil	27.822533	-82.436050

probable pair	ON	1	Island 3D-3	Hillsborough	Southwest	ON	1	1	dredge spoil	27.822533	-82.436717
probable pair	ON	1	Island 3D-6	Hillsborough	Southwest	ON	1	1	dredge spoil	27.827033	-82.441767
probable pair	ON	1	Island 3D-7	Hillsborough	Southwest	ON	1	1	dredge spoil	27.827450	-82.441767
	County Total:	**77**									
probable pair	ON	1	Derrick Key	Levy	Big Bend	ON	1	0	barrier island	29.189167	-83.087450
probable pair	ON	1	Derrick Key	Levy	Big Bend	ON	1	0	barrier island	29.189267	-83.087450
probable pair	ON	1	Derrick Key	Levy	Big Bend	ON	1	0	barrier island	29.189367	-83.087450
probable pair	ON	1	Derrick Key	Levy	Big Bend	ON	1	0	barrier island	29.189467	-83.087450
probable pair	ON	1	Derrick Key	Levy	Big Bend	ON	1	0	barrier island	29.189567	-83.087450
	County Total:	**5**									
pair	ON	1	Port Manatee spoil, SW side	Manatee	Southwest	ON	1	1	dredge spoil	27.635250	-82.576483
	County Total:	**1**									
pair	NE	1	3 Rooker Bar	Pinellas	Southwest	NE	1	0	barrier island	28.119333	-82.841433
pair	NE	1	Clearwater Harbor, spoil W. of R8	Pinellas	Southwest	NE	1	1	dredge spoil	28.020300	-82.802167
pair	NE	1	Dunedin Pass	Pinellas	Southwest	NE	1	0	barrier island	28.019467	-82.826883
pair	NE	1	Ft. Desoto west beach	Pinellas	Southwest	NE	1	0	barrier island	27.639100	-82.743033
pair	NE	1	Marker 6, S. of Clrwt. Pass	Pinellas	Southwest	NE	1	1	dredge spoil	27.935000	-82.828333
pair	NE	1	Skyway Cswy, first span S. of Maximo Pt.	Pinellas	Southwest	NE	1	1	causeway	27.694017	-82.679167
pair	NE	1	Spoil W. of G11, Boca Ciega Bay	Pinellas	Southwest	NE	1	1	dredge spoil	27.743283	-82.729533
pair	NY	1	Albert Whitted Airport N. end rip rap	Pinellas	Southwest	NY	1	1	dredge spoil	27.768450	-82.623333
pair	NY	1	Clearwater Hbr., spoil G3, btwn. Clrwt. & Bellair	Pinellas	Southwest	NY	1	1	dredge spoil	27.928733	-82.829833
pair	NY	1	Dog Leg Key	Pinellas	Southwest	NY	1	1	dredge spoil	27.801667	-82.763333
pair	NY	1	Dog Leg Key, Long Bayou, Boca Ciega	Pinellas	Southwest	NY	1	1	dredge spoil	27.802400	-82.761183
pair	NY	1	Shell Key, inside east of NW elbow	Pinellas	Southwest	NY	1	0	barrier island	27.673433	-82.739850
pair	NY	1	Skyway Cswy W. of "Exit 28." sign	Pinellas	Southwest	NY	1	1	causeway	27.669733	-82.678683
pair	NY	1	St. Pete-Clrwtr Internat. Airport	Pinellas	Southwest	NY	1	1	dredge spoil	27.922150	-82.688350
pair	ON	1	3 Rooker Bar - bayside4	Pinellas	Southwest	ON	1	0	barrier island	28.118683	-82.840500
pair	ON	1	3 Rooker Bar - bayside5	Pinellas	Southwest	ON	1	0	barrier island	28.116000	-82.841050
pair	ON	1	Albert Whitted Airport sea wall, S. end	Pinellas	Southwest	ON	1	1	dredge spoil	27.762500	-82.623783

pair	ON	1	Clearwater Harbor, spoil W. of G9	Pinellas	Southwest	ON	1	1	dredge spoil	28.027617	-82.801450
pair	ON	1	Clearwater Hbr., spoil G7, btwn. Clrwt. & Bellair	Pinellas	Southwest	ON	1	1	dredge spoil	27.942900	-82.823417
pair	ON	1	Ft. Desoto west beach	Pinellas	Southwest	ON	1	0	barrier island	27.637750	-82.742700
pair	ON	1	Island I-25, N. of Clrwt. Pass	Pinellas	Southwest	ON	1	1	dredge spoil	27.966400	-82.815383
pair	ON	1	Marker 10, S. of Clrwt. Pass	Pinellas	Southwest	ON	1	1	dredge spoil	27.948333	-82.820000
pair	ON	1	Shell Key NW end	Pinellas	Southwest	ON	1	0	barrier island	27.671033	-82.744717
pair	ON	1	St. Pete-Clrwtr Internat. Airport	Pinellas	Southwest	ON	1	1	dredge spoil	27.926850	-82.690333
pair	ON	1	Weedon Island Power Plant	Pinellas	Southwest	ON	1	1	dredge spoil	27.861567	-82.597717
probable pair	ON	1	Shell Key NW tip	Pinellas	Southwest	ON	1	0	barrier island	27.676233	-82.740817
	County Total:	**26**									
pair	C	1	NE Blackburn Pt. Bridge-B	Sarasota	Southwest	C	1	1	dredge spoil	27.184117	-82.492633
pair	C, 02	1	Phillipi Creek	Sarasota	Southwest	C, 02	1	0	shell bar	27.271483	-82.537483
pair	NE	1	Siesta Key Marker 48B	Sarasota	Southwest	NE	1	1	dredge spoil	27.226200	-82.506683
pair	NY	1	NE Blackburn Pt. Bridge-A	Sarasota	Southwest	NY	1	1	dredge spoil	27.184117	-82.492633
pair	NY	1	Roberts Bay	Sarasota	Southwest	NY	1	1	dredge spoil	27.289500	-82.542650
	County Total:	**5**									
	Total Pairs:	**150**	FWC 2001 data								

Nesting by County 2010 FCIS

FCIS AMOY Nesting Locations and Substrate Type

Id	Record Type	BBA Code	Adults	YOY	Subadults	Total	Date	County	Place Name	Lat	Lon	Substrate	Observer	Comments
34	Pair	NY	2	2	0	4	5/14/2010	Charlotte	White Pelican Island	26.790354	-82.246126	Dredge Spoil	MCS	
121	Pair	P	2	0	0	4	5/28/2010	Charlotte	White Pelican Island	26.790371	-82.246464	Dredge Spoil	AFP	
		County Total	**2**											
1	Nest	ON	2	0	0	2	6/8/2010	Citrus	Cross Florida Barge Canal Spoil	28.964168	-82.821561	Dredge Spoil	MCS	
3	Nest	ON	2	0	0	2	6/8/2010	Citrus	Cross Florida Barge Canal Spoil	28.965626	-82.819164	Dredge Spoil	MCS	
4	Nest	ON	2	0	0	2	6/8/2010	Citrus	Cross Florida Barge Canal Spoil	28.965565	-82.818248	Dredge Spoil	MCS	
14	Nest	ON	2	0	0	2	6/8/2010	Citrus	Cross Florida Barge Canal Spoil	28.969326	-82.807725	Dredge Spoil	MCS	
16	Nest	ON	2	0	0	2	6/8/2010	Citrus	Cross Florida Barge Canal Spoil	28.970351	-82.804047	Dredge Spoil	MCS	
19	Nest	ON	2	0	0	2	6/8/2010	Citrus	Cross Florida Barge Canal Spoil	28.972924	-82.796207	Dredge Spoil	MCS	
2	Pair	P	2	0	0	2	6/8/2010	Citrus	Cross Florida Barge Canal Spoil	28.965104	-82.820446	Dredge Spoil	MCS	
5	Pair	P	2	0	0	2	6/8/2010	Citrus	Cross Florida Barge Canal Spoil	28.966695	-82.815872	Dredge Spoil	MCS	
6	Pair	P	2	0	0	2	6/8/2010	Citrus	Cross Florida Barge Canal Spoil	28.966278	-82.815140	Dredge Spoil	MCS	
7	Pair	P	2	0	0	2	6/8/2010	Citrus	Cross Florida Barge Canal Spoil	28.967215	-82.814929	Dredge Spoil	MCS	
8	Pair	P	2	0	0	2	6/8/2010	Citrus	Cross Florida Barge Canal Spoil	28.967294	-82.813890	Dredge Spoil	MCS	
11	Pair	P	2	0	0	2	6/8/2010	Citrus	Cross Florida Barge Canal Spoil	28.967531	-82.811437	Dredge Spoil	MCS	
12	Pair	P	2	0	0	2	6/8/2010	Citrus	Cross Florida Barge Canal Spoil	28.967953	-82.809297	Dredge Spoil	MCS	
18	Pair	P	2	0	0	2	6/8/2010	Citrus	Cross Florida Barge Canal Spoil	28.971718	-82.799184	Dredge Spoil	MCS	
20	Pair	P	2	0	0	2	6/8/2010	Citrus	Cross Florida Barge Canal Spoil	28.975662	-82.787084	Dredge Spoil	MCS	
23	Pair	P	2	0	0	2	6/8/2010	Citrus	Cross Florida Barge Canal Spoil	28.982588	-82.763054	Dredge Spoil	MCS	
9	Pair	NY	2	1	0	3	6/8/2010	Citrus	Cross Florida Barge Canal Spoil	28.967727	-	Dredge Spoil	MCS	

											82.813048		
10	Pair	NY	2	1	0	3	6/8/2010	Citrus	Cross Florida Barge Canal Spoil	28.968273	-82.811635	Dredge Spoil	MCS
15	Pair	NY	2	1	0	3	6/8/2010	Citrus	Cross Florida Barge Canal Spoil	28.968353	-82.807158	Dredge Spoil	MCS
17	Pair	NY	2	1	0	3	6/8/2010	Citrus	Cross Florida Barge Canal Spoil	28.969820	-82.803701	Dredge Spoil	MCS
13	Pair	NY	2	2	0	4	6/8/2010	Citrus	Cross Florida Barge Canal Spoil	28.969427	-82.809206	Dredge Spoil	MCS
		County Total	**21**										
25	Nest	ON	2	0	0	2	6/1/2010	Hernando	Hernando Beach Spoil	28.508503	-82.691931	Dredge Spoil	MCS
24	Pair	P	2	0	0	2	6/1/2010	Hernando	Hernando Beach Spoil	28.509333	-82.692855	Dredge Spoil	MCS
26	Pair	P	2	0	0	2	6/1/2010	Hernando	Hernando Beach Spoil	28.505303	-82.688546	Dredge Spoil	MCS
		County Total	**3**										
63	Nest	ON	2	0	0	2	5/4/2010	Hillsborough	2D	27.88426	-82.430223	Dredge Spoil	MCS
65	Nest	ON	2	0	0	2	5/4/2010	Hillsborough	2D	27.884377	-82.429288	Dredge Spoil	MCS
76	Nest	ON	2	0	0	2	5/4/2010	Hillsborough	2D	27.863859	-82.434347	Dredge Spoil	MCS
77	Nest	ON	2	0	0	2	5/4/2010	Hillsborough	2D	27.866942	-82.437646	Dredge Spoil	MCS
80	Nest	ON	2	0	0	2	5/4/2010	Hillsborough	2D	27.877454	-82.436612	Dredge Spoil	MCS
81	Nest	ON	2	0	0	2	5/4/2010	Hillsborough	2D	27.878452	-82.436411	Dredge Spoil	MCS
82	Nest	ON	2	0	0	2	5/4/2010	Hillsborough	2D	27.879321	-82.436159	Dredge Spoil	MCS
87	Nest	ON	2	0	0	2	5/4/2010	Hillsborough	2D	27.882844	-82.435825	Dredge Spoil	MCS
89	Nest	ON	2	0	0	2	5/4/2010	Hillsborough	2D	27.884206	-82.435001	Dredge Spoil	MCS
91	Nest	ON	2	0	0	2	5/4/2010	Hillsborough	2D	27.884582	-82.433044	Dredge Spoil	MCS
92	Nest	ON	2	0	0	2	5/4/2010	Hillsborough	2D	27.884524	-82.432391	Dredge Spoil	MCS
93	Nest	ON	2	0	0	2	5/4/2010	Hillsborough	2D	27.884467	-82.431759	Dredge Spoil	MCS

99	Nest	ON	2	0	0	2	4/27/2010	Hillsborough	Alafia Bank	27.844465	-82.420244	Dredge Spoil	MCS
100	Nest	ON	2	0	0	2	4/27/2010	Hillsborough	Alafia Bank	27.84398	-82.419859	Dredge Spoil	MCS
103	Nest	ON	2	0	0	2	4/27/2010	Hillsborough	Alafia Bank	27.846512	-82.415774	Dredge Spoil	MCS
113	Nest	ON	2	0	0	2	5/13/2010	Hillsborough	3D	27.829745	-82.44153	Dredge Spoil	MLR
114	Nest	ON	2	0	0	2	5/13/2010	Hillsborough	3D	27.832017	-82.440806	Dredge Spoil	MLR
56	Pair	P	2	0	0	2	5/20/2010	Hillsborough	Egmont Key NWR	27.579031	-82.760242	Natural Sandbar/Beach	AFP
57	Pair	P	2	0	0	2	5/20/2010	Hillsborough	Egmont Key NWR	27.579031	-82.760242	Natural Sandbar/Beach	AFP
58	Pair	P	2	0	0	2	5/20/2010	Hillsborough	Egmont Key NWR	27.579031	-82.760242	Natural Sandbar/Beach	AFP
59	Pair	P	2	0	0	2	5/20/2010	Hillsborough	Egmont Key NWR	27.579031	-82.760242	Natural Sandbar/Beach	AFP
60	Pair	P	2	0	0	2	5/20/2010	Hillsborough	Egmont Key NWR	27.579031	-82.760242	Natural Sandbar/Beach	AFP
61	Pair	P	2	0	0	2	5/20/2010	Hillsborough	Egmont Key NWR	27.579031	-82.760242	Natural Sandbar/Beach	AFP
62	Pair	P	2	0	0	2	5/20/2010	Hillsborough	Egmont Key NWR	27.579031	-82.760242	Natural Sandbar/Beach	AFP
67	Pair	P	2	0	0	2	5/4/2010	Hillsborough	2D	27.884217	-82.425497	Dredge Spoil	MCS
74	Pair	P	2	0	0	2	5/4/2010	Hillsborough	2D	27.863755	-82.430589	Dredge Spoil	MCS
75	Pair	P	2	0	0	2	5/4/2010	Hillsborough	2D	27.863894	-82.433745	Dredge Spoil	MCS
78	Pair	P	2	0	0	2	5/4/2010	Hillsborough	2D	27.872249	-82.436962	Dredge Spoil	MCS
79	Pair	P	2	0	0	2	5/4/2010	Hillsborough	2D	27.873211	-82.436783	Dredge Spoil	MCS
83	Pair	P	2	0	0	2	5/4/2010	Hillsborough	2D	27.880181	-82.436021	Dredge Spoil	MCS
90	Pair	P	2	0	0	2	5/4/2010	Hillsborough	2D	27.884406	-82.434523	Dredge Spoil	MCS
94	Pair	P	2	0	0	2	4/27/2010	Hillsborough	Alafia Bank	27.84981	-82.406257	Dredge Spoil	MCS
95	Pair	P	2	0	0	2	4/27/2010	Hillsborough	Alafia Bank	27.848346	-82.410007	Dredge Spoil	MCS
96	Pair	P	2	0	0	2	4/27/2010	Hillsborough	Alafia Bank	27.847883	-82.414556	Dredge Spoil	MCS
97	Pair	P	2	0	0	2	4/27/2010	Hillsborough	Alafia Bank	27.847727	-82.416772	Dredge Spoil	MCS

98	Pair	P	2	0	0	2	4/27/2010	Hillsborough	Alafia Bank	27.845717	-82.420339	Dredge Spoil	MCS
101	Pair	P	2	0	0	2	4/27/2010	Hillsborough	Alafia Bank	27.84448	-82.417965	Dredge Spoil	MCS
106	Pair	P	2	0	0	2	5/13/2010	Hillsborough	3D	27.837642	-82.430621	Dredge Spoil	MLR
107	Pair	P	2	0	0	2	5/13/2010	Hillsborough	3D	27.830006	-82.431815	Dredge Spoil	MLR
108	Pair	P	2	0	0	2	5/13/2010	Hillsborough	3D	27.826051	-82.432082	Dredge Spoil	MLR
109	Pair	P	2	0	0	2	5/13/2010	Hillsborough	3D	27.822564	-82.431482	Dredge Spoil	MLR
110	Pair	P	2	0	0	2	5/13/2010	Hillsborough	3D	27.824489	-82.440902	Dredge Spoil	MLR
111	Pair	P	2	0	0	2	5/13/2010	Hillsborough	3D	27.827252	-82.44125	Dredge Spoil	MLR
112	Pair	P	2	0	0	2	5/13/2010	Hillsborough	3D	27.828799	-82.441397	Dredge Spoil	MLR
115	Pair	P	2	0	0	2	5/13/2010	Hillsborough	3D	27.836593	-82.440956	Dredge Spoil	MLR
64	Pair	NY	2	1	0	3	5/4/2010	Hillsborough	2D	27.884332	-82.429652	Dredge Spoil	MCS
71	Pair	NY	2	1	0	3	5/4/2010	Hillsborough	2D	27.868272	-82.429084	Dredge Spoil	MCS
84	Pair	NY	2	1	0	3	5/4/2010	Hillsborough	2D	27.880886	-82.436039	Dredge Spoil	MCS
88	Pair	NY	2	1	0	3	5/4/2010	Hillsborough	2D	27.883659	-82.435531	Dredge Spoil	MCS
104	Pair	NY	2	1	0	3	5/13/2010	Hillsborough	3D	27.839386	-82.437663	Dredge Spoil	MLR
105	Pair	NY	2	1	0	3	5/13/2010	Hillsborough	3D	27.839487	-82.43605	Dredge Spoil	MLR
66	Pair	NY	2	2	0	4	5/4/2010	Hillsborough	2D	27.884153	-82.427712	Dredge Spoil	MCS
68	Pair	NY	2	3	0	5	5/4/2010	Hillsborough	2D	27.883831	-82.424857	Dredge Spoil	MCS
73	Pair	NY	2	3	0	5	5/4/2010	Hillsborough	2D	27.863926	-82.429626	Dredge Spoil	MCS
122	Pair	NY	2	1	0	3	7/7/2010	Hillsborough	Courtney Campbell Causeway	27.971612	-82.581998	Dredge Spoil	MCS
123	Pair	NY	2	0	0	2	7/7/2010	Hillsborough	South of TIA, prob. Hyatt rooftop pair	27.945945	-82.541595	Mud/Silt	MCS
		County Total	**56**										
36	Pair	P	2	0	0	2	5/27/2010	Lee	Burnt Store Spoil Islands	26.760863	-82.065304	Dredge Spoil	MCS

		County Total	**1**										
40	Nest	ON	2	0	0	2	7/8/2010	Levy	Gomez Key	29.147264	-83.071378	Natural Sandbar/Beach	Janelle Brush
41	Nest	ON	2	0	0	2	7/8/2010	Levy	North of Scale Key	29.154453	-83.013939	Natural Sandbar/Beach	Janelle Brush
42	Nest	ON	2	0	0	2	7/8/2010	Levy	Near Public Boat Ramp	29.135992	-83.029975	Other Man-made structure	Janelle Brush
43	Nest	ON	2	0	0	2	7/8/2010	Levy	Corrigans	29.157003	-83.056110	Natural Sandbar/Beach	Janelle Brush
45	Nest	ON	2	0	0	2	7/8/2010	Levy	Inside Cut	29.160694	-83.003500	Natural Sandbar/Beach	Janelle Brush
46	Nest	ON	2	0	0	2	7/8/2010	Levy	Reef	29.128436	-83.071536	Natural Sandbar/Beach	Janelle Brush
44	Nest	ON	2	1	0	3	7/8/2010	Levy	Derrick Key	29.188531	-83.084292	Natural Sandbar/Beach	Janelle Brush
		County Total	**7**										
39	Pair	P	2	0	0	2	5/18/2010	Manatee	Skyway/Joe Bay	27.585325	-82.608555	Dredge Spoil	MCS
		County Total	**1**										
30	Pair	NY	2	2	0	4	5/19/2010	Pasco	North Anclote Bar	28.233029	-82.840733	Natural Sandbar/Beach	MCS
		County Total	**1**										
53	Nest	ON	2	0	0	2	6/11/2010	Pinellas	Dunedin Sand Key West	28.038164	-82.794883	Dredge Spoil	MCS
116	Nest	ON	2	0	0	2	5/14/2010	Pinellas	Fort Desoto Park	27.630167	-82.739167	Natural Sandbar/Beach	Elizabeth Forys
117	Nest	ON	2	0	0	2	5/14/2010	Pinellas	Honeymoon Island State Park	28.0747	-82.83658	Natural Sandbar/Beach	Dan Larremore
119	Nest	ON	2	0	0	2	5/14/2010	Pinellas	Honeymoon Island State Park	28.091383	-82.833683	Natural Sandbar/Beach	Marianne Korosy
47	Pair	P	2	0	0	2	5/20/2010	Pinellas	Three Rooker Bar	28.130212	-82.832506	Natural Sandbar/Beach	AFP
48	Pair	P	2	0	0	2	5/20/2010	Pinellas	Three Rooker Bar	28.130212	-82.832506	Natural Sandbar/Beach	AFP
49	Pair	P	2	0	0	2	5/20/2010	Pinellas	Three Rooker Bar	28.130212	-82.832506	Natural Sandbar/Beach	AFP
50	Pair	P	2	0	0	2	5/20/2010	Pinellas	Three Rooker Bar	28.130212	-82.832506	Natural Sandbar/Beach	AFP

51	Pair	P	2	0	0	2	5/25/2010	Pinellas	Marker 26	28.075447	-82.799688	Dredge Spoil	MCS
54	Pair	P	2	0	0	2	6/11/2010	Pinellas	Dunedin Sand Key West	28.03802	-82.793725	Dredge Spoil	MCS
52	Pair	NY	2	1	0	3	6/11/2010	Pinellas	Ozona East	28.073061	-82.783838	Dredge Spoil	MCS
55	Pair	NY	2	1	0	3	6/3/2010	Pinellas	Indian Rocks Beach	27.898934	-82.841154	Shell Bar	AFP
118	Pair	NY	2	3	0	5	5/14/2010	Pinellas	Shell Key	27.67605	-82.737533	Natural Sandbar/Beach	Elizabeth Forys
		County Total	**13**										
33	Pair		2	0	0	2	6/21/2010	Sarasota	Lemon Bay	26.964048	-82.370719	Dredge Spoil	MCS
31	Pair		2	1	0	3	5/26/2010	Sarasota	Roberts Bay	27.292915	-82.544210	Dredge Spoil	MCS
		County Total	**2**										
		Total Pairs:	**107**	includes FCIS field survey and FSA beach-nesting records.									full name=FSA data

Includes 1 (record 123) suspected rooftop nesting pair at the Hyatt, Hillsborough Co. This pair was reported as a rooftop pair in 2001.
does not include 8 records (probably 7 nesting attempts of rooftop nesters reported for Pinellas County in the FSA database.).

FL BBA CODE	Description
NY	nest with young
NE	nest with eggs
ON	occupied nest based on adult behavior
C	courtship or copulation

Copy of the American Oystercatcher BSR draft report that was sent out for peer review

Biological Status Review for the American Oystercatcher (*Haematopus palliatus)*

EXECUTIVE SUMMARY

The Florida Fish and Wildlife Conservation Commission (FWC) directed staff to evaluate all species listed as Threatened or Species of Special Concern as of September 1, 2010. Public information on the status of the American oystercatcher was sought from September 17 to November 1, 2010. The three-member biological review group met on November 3 – 4, 2010. Group members were Janell M. Brush (FWC lead), Elizabeth A. Forys (Professor of Environmental Science and Biology at Eckerd College), and Gary L. Sprandel (Geoprocessing Specialist, Kentucky Department of Fish and Wildlife Resources). In accordance with rule 68A-27.0012 Florida Administrative Code (F.A.C.), the Biological Review Group (BRG) was charged with evaluating the biological status of the American oystercatcher using criteria included in definitions in 68A-27.001(3) and following the protocols in the *Guidelines for Application of the IUCN Red List Criteria at Regional Levels (Version 3.0)* and *Guidelines for Using the IUCN Red List Categories and Criteria (Version 8.1)*. Please visit http://myfwc.com/WILDLIFEHABITATS/imperiledSpp_listingprocess.htm to view the listing process rule and the criteria found in the definitions.

The Biological Review Group concluded from the biological assessment that the American oystercatcher met criteria for listing and recommend listing the species as State Threatened.

This work was supported by a Conserve Wildlife Tag grant from the Wildlife Foundation of Florida.

BIOLOGICAL INFORMATION

Life History References – Brown et al. 2001; FWC 2003; Nol and Humphrey 1994; Rodgers et al. 1996; Schulte et al. 2010.

Taxonomic Classification – Oystercatchers are members of the family Haematopidae. There are eleven recognized species of oystercatcher, although the taxonomy remains somewhat controversial (Nol and Humphrey 1994). Two subspecies of the American oystercatcher (*Haematopus palliatus*) are recognized in North America: *H. p. palliatus*, along the eastern and Gulf of Mexico coasts, and the west coast race of *H. p. frazari*. Florida has a resident breeding population of American oystercatchers (*H. p. palliates*) as well as one of the largest wintering populations (Schulte et al. 2010).

Population Status and Trend - A statewide survey conducted during the nesting season in 2001 documented a total of 1,014 individuals, including 391 pairs, and breeding was confirmed for 213 pairs (Douglass and Clayton 2004). The majority of the population (>90%) is

concentrated on the Gulf coast of the state, with Hillsborough Bay estimated to support 15 - 20% of Florida's breeding population (Hodgson et al. 2008). Cox et al. (1994) identified three "population centers" for American oystercatchers along the Gulf coast, and a sparse but continuous distribution along the Atlantic coastline. This statewide analysis concluded that the habitat base required for long-term stability of American oystercatchers in Florida was insufficient (Cox et al. 1994).

Geographic Range and Distribution – The American oystercatcher is one of the few birds that feed primarily on marine bivalves, and therefore reside in coastal areas that support intertidal shellfish beds. Occupied habitats include undeveloped barrier beaches, sandbars, sand spits at inlets, shell rakes, salt marsh islands, and oyster reefs. Their breeding range extends from the northeast Atlantic coast to the Gulf coast of Florida, as well as the Caribbean and Central America (Nol and Humphrey 1994).

Quantitative Analyses - There has not been a population viability analysis carried out on the Florida population of American oystercatchers.

BIOLOGICAL STATUS ASSESSMENT

Threats – The major threats to American oystercatchers identified by Schulte et al. (2010) in the Conservation Action Plan for the American Oystercatcher for the Atlantic and Gulf Coast of the U.S. include low population size in the region (~11,000 individuals), widespread habitat loss, and increased pressure during the non-breeding and breeding season (increased recreational disturbance, increases in nest predators, potential contamination of food sources, and alteration of habitat due to coastal engineering projects). Hunter et al. (2006) identified the American oystercatcher as a vulnerable species which will continue to decline without conservation measures to protect nesting habitat however possible, and listed the North American population as "High Concern" on the list of High Priority Shorebird Species/Populations. Oystercatcher productivity can be impacted by disturbance from recreational boaters and fishermen, adverse weather conditions, pressure wakes from large ships and boats, and predation. Entanglement in fishing gear and exposure of adults or breeding areas to oil spills are also concerns, as is the threat of global climate change and sea level rise.

Statewide Population Assessment –Findings from the BRG are included in Biological Status Review Information Tables.

LISTING RECOMMENDATION

Staff recommends that the American oystercatcher be listed as a Threatened species because the species met criteria for listing as described in 68A-27.001(3).

SUMMARY OF THE INDEPENDENT REVIEW

To be added later.

LITERATURE CITED

BirdLife International. 2009. *Sterna antillarum*. In: IUCN 2010. IUCN Red List of Threatened Species. Version 2010.4. Available online at http://www.iucnredlist.org/apps/redlist/details/144255/0. Last accessed 11/05/2010.

Brown, S.C., C. Hickey, B. Harrington and R. Gill (Eds.). 2001. The U.S. shorebird conservation plan, 2nd edition. Manomet Center for Conservation Sciences, Manomet, MA.

Brush, J. 2010. American Oystercatcher Monitoring Annual Report. Florida Fish and Wildlife Conservation Commission, Fish and Wildlife Research Institute, Wildlife Research Section, Avian Research Subsection. Tallahassee, FL. 9 pp.

Burney, C. 2009. Florida Beach-nesting Bird Report, 2005-2008. Florida Fish and Wildlife Conservation Commission. Tallahassee, FL. 16 pp.

Cox, J., R. Kautz, M. MacLaughlin, and T. Gilbert. 1994. Closing the gaps in Florida's wildlife habitat conservation system: recommendations to meet minimum conservation goals for declining wildlife species and rare plant and animal communities. Florida Game and Fresh Water Fish Commission. Tallahassee, Florida.

Douglass, N.J. and L.C. Clayton. 2004. Survey of breeding American oystercatcher (*Haematopus palliates*) populations in Florida. Bureau of Wildlife Diversity Conservation Final Report.

Fernald, E.A. and E. Purdham (Eds.). 1992. Atlas of Florida. University Press of Florida. Gainesville, FL. 288 Pp.

Florida Fish and Wildlife Conservation Commission. 2003. Florida's breeding bird atlas: A collaborative study of Florida's birdlife. http://myfwc.com/bba/docs/bba_AMOY.pdf (Accessed 10/06/2010).

Florida Fish and Wildlife Conservation Commission. 2005. Florida's Wildlife Legacy Initiative. Florida's Comprehensive Wildlife Conservation Strategy. Tallahassee, Florida, USA.

Forys, E.A. *Unpublished preliminary report*. 2010. Open-beach nesters on the central Gulf coast of Florida (2002 – 2010).

Hodgson, A. B., A.F. Paul and M.L. Rachal. 2008. American Oystercatcher nesting in Hillsborough Bay, Florida: population trends 1990 – 2007 and management recommendations. Florida Coastal Islands Sanctuaries, Tampa, FL. Sovereign Lands Management Initiatives Program 2006. Tampa Port Authority, Tampa, FL.

Hunter, W.C., W. Golder, S.L. Melvin, and J.A. Wheeler. 2006. Southeast United States regional waterbird conservation plan. U.S. Fish and Wildlife Service, Atlanta, Georgia, USA.

Nol, E. and R.C. Humphrey. 1994. American Oystercatcher (*Haematopus palliatus*), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: http://bna.birds.cornell.edu/bna/species/154

Rodgers, J.A., J.W. Kale II, H.T. Smith (Eds.). 1996. Rare and Endangered Biota of Florida. University Press of Florida, Gainesville, FL. 688 pp.

Schulte, S., S. Brown, D. Reynolds, and the American Oystercatcher Working Group. 2010. A Conservation Action Plan for the American Oystercatcher (*Haematopus palliatus*) for the Atlantic and Gulf Coasts of the United States. Version 2.1. 45 pp.

Biological Status Review Information
Findings

Species/taxon: American Oystercatcher (*Haematopus palliatus*)
Date: November 4, 2010
Assessors: Janell Brush, Gary Sprandel, Elizabeth Forys

Generation length: 10 years (Nol & Humphrey 1994)

Criterion/Listing Measure	Data/Information	Data Type*	Criterion Met?	References
*Data Types - observed (O), estimated (E), inferred (I), suspected (S), or projected (P). Criterion met - yes (Y) or no (N).				
(A) Population Size Reduction, ANY of				
(a)1. An observed, estimated, inferred or suspected population size reduction of at least 50% over the last 10 years or 3 generations, whichever is longer, where the causes of the reduction are clearly reversible and understood and ceased[1]	Data do not support	Estimated	NO	Douglass and Clayton 2004; Hodgson et al. 2008; A. Hodgson, personal communication
(a)2. An observed, estimated, inferred or suspected population size reduction of at least 30% over the last 10 years or 3 generations, whichever is longer, where the reduction or its causes may not have ceased or may not be understood or may not be reversible[1]	Data do not support	Estimated	NO	Douglass and Clayton 2004; Hodgson et al. 2008; A. Hodgson, personal communication
(a)3. A population size reduction of at least 30% projected or suspected to be met within the next 10 years or 3 generations, whichever is longer (up to a maximum of 100 years) [1]	Data do not support	Estimated	NO	Douglass and Clayton 2004; Hodgson et al. 2008; A. Hodgson, personal communication
(a)4. An observed, estimated, inferred, projected or suspected population size reduction of at least 30% over any 10 year or 3 generation period, whichever is longer (up to a maximum of 100 years in the future), where the time period must include both the past and the future, and where the reduction or its causes may not have ceased or may not be understood or may not be reversible.[1]	Data do not support	Estimated	NO	Douglass and Clayton 2004; Hodgson et al. 2008; A. Hodgson, personal communication
[1] based on (and specifying) any of the following: (a) direct observation; (b) an index of abundance appropriate to the taxon; (c) a decline in area of occupancy, extent of occurrence and/or quality of habitat; (d) actual or potential levels of exploitation; (e) the effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites.				
(B) Geographic Range, EITHER				
(b)1. Extent of occurrence < 20,000 km² (7,722 mi²) OR	Linear miles of coastline = 2,276 miles x 1 mile width (beach range) = 2,276 sq miles. Generous overestimate which includes unsuitable habitat.	Estimated	YES	Fernald and Purdum 1992.

(b)2. Area of occupancy < 2,000 km² (772 mi²)	From CWCI, combining total beach/surf zone and coastal strand habitats = 73.7 sq miles. Actual area of occupancy is less and rooftop nesting is negligible; this represents potential occupancy. If total estimated area is doubled to account for spoil islands it still meets criterion.	Estimated	YES	FWC 2005
AND at least 2 of the following:				
a. Severely fragmented or exist in ≤ 10 locations	Breeding sites exist in approximately 7 locations susceptible to hurricanes, storm surge, oil spills, erosion and other adverse events.	Observed/ Estimated	YES	Burney 2009
b. Continuing decline, observed, inferred or projected in any of the following: (i) extent of occurrence; (ii) area of occupancy; (iii) area, extent, and/or quality of habitat; (iv) number of locations or subpopulations; (v) number of mature individuals	Declines suspected in Florida and reported rangewide.	Suspected	NO	Douglass and Clayton 2004; Hodgson et al. 2008; Brush 2010; Shulte et al. 2010; A. Hodgson personal communication
c. Extreme fluctuations in any of the following: (i) extent of occurrence; (ii) area of occupancy; (iii) number of locations or subpopulations; (iv) number of mature individuals	No data to support.	Estimated	NO	Douglass and Clayton 2004; Hodgson et al. 2008; A. Hodgson personal communication
(C) Population Size and Trend				
Population size estimate to number fewer than 10,000 mature individuals AND EITHER	Population estimated fewer than 500 breeding adults.	Estimated	YES	Douglass and Clayton 2004; Forys 2010; Brush 2010.
(c)1. An estimated continuing decline of at least 10% in 10 years or 3 generations, whichever is longer (up to a maximum of 100 years in the future) OR	Cannot determine from current data.	Estimated	NO	Douglass and Clayton 2004; Hodgson et al. 2008; A. Hodgson personal communication
(c)2. A continuing decline, observed, projected, or inferred in numbers of mature individuals AND at least one of the following:	A continued decline is projected based on current known statewide productivity rates and assumption of 85% annual survival rate of breeding adults. Note there was one BSG member dissenting from this conclusion.	Suspected/ Projected	YES	Nol and Humphrey 1994; Forys 2010
a. Population structure in the form of EITHER	Population estimated fewer than	Estimated	YES	Douglass and Clayton 2004;

(i) No subpopulation estimated to contain more than 1000 mature individuals; OR	500 breeding adults.			Forys 2010; Brush 2010.
(ii) All mature individuals are in one subpopulation		Observed	YES	Douglass and Clayton 2004
b. Extreme fluctuations in number of mature individuals	No data to support.	Estimated	NO	Douglass and Clayton 2004; Forys 2010; Brush 2010.
(D) Population Very Small or Restricted, EITHER				
(d)1. Population estimated to number fewer than 1,000 mature individuals; OR	Population estimated fewer than 500 breeding adults.	Estimated	YES	Douglass and Clayton 2004; Forys 2010; Brush 2010.
(d)2. Population with a very restricted area of occupancy (typically less than 20 km² [8 mi²]) or number of locations (typically 5 or fewer) such that it is prone to the effects of human activities or stochastic events within a short time period in an uncertain future	From FWC 2005, combining total beach/surf zone and coastal strand habitats = 73.7 sq miles. Actual area of occupancy is less; this represents potential occupancy. If total estimated area is doubled to account for spoil islands it still meets criterion.	Estimated	NO	FWC 2005
(E) Quantitative Analyses				
e1. Showing the probability of extinction in the wild is at least 10% within 100 years	None conducted due to lack of sufficient data.		NO	Schulte et al. 2010

Initial Finding (Meets at least one of the criteria OR Does not meet any of the criteria)	Reason (which criteria are met)
Yes, meets the criteria	C2a(i,ii); D1
Is species/taxon endemic to Florida? (Y/N)	NO

If Yes, your initial finding is your final finding. Copy the initial finding and reason to the final finding space below. If No, complete the regional assessment sheet and copy the final finding from that sheet to the space below.

Final Finding (Meets at least one of the criteria OR Does not meet any of the criteria)	Reason (which criteria are met)
Yes, meets the criteria	C2a(i,ii); D1

1	Biological Status Review Information Regional Assessment Species/taxon:	American Oystercatchers (Haematopus palliatus)
2	Date:	11/3-4/10
3	Assessors:	Janell Brush, Gary Sprandel, Elizabeth Forys
4		
5		
6		
7		
8	Initial finding	Supporting Information
9		
10	2a. Is the species/taxon a non-breeding visitor? (Y/N/DK). If 2a is YES, go to line 18. If 2a is NO or DO NOT KNOW, go to line 11.	NO
11	2b. Does the Florida population experience any significant immigration of propagules capable of reproducing in Florida? (Y/N/DK). If 2b is YES, go to line 12. If 2b is NO or DO NOT KNOW, go to line 17.	NO; large # of birds outside FL are banded and only one band recovery in FL during breeding season
12	2c. Is the immigration expected to decrease? (Y/N/DK). If 2c is YES or DO NOT KNOW, go to line 13. If 2c is NO go to line 16.	
13	2d. Is the Florida population a sink? (Y/N/DK). If 2d is YES, go to line 14. If 2d is NO or DO NOT KNOW, go to line 15.	
14	If 2d is YES - Upgrade from initial finding (more imperiled)	
15	If 2d is NO or DO NOT KNOW - No change from initial finding	
16	If 2c is NO or DO NOT KNOW- Downgrade from initial finding (less imperiled)	
17	If 2b is NO or DO NOT KNOW - No change from initial finding	No change
18	2e. Are the conditions outside Florida deteriorating? (Y/N/DK). If 2e is YES or DO NOT KNOW, go to line 24. If 2e is NO go to line 19.	
19	2f. Are the conditions within Florida deteriorating? (Y/N/DK). If 2f is YES or DO NOT KNOW, go to line 23. If 2f is NO, go to line 20.	
20	2g. Can the breeding population rescue the Florida population should it decline? (Y/N/DK). If 2g is YES, go to line 21. If 2g is NO or DO NOT KNOW, go to line 22.	
21	If 2g is YES - Downgrade from initial finding (less imperiled)	
22	If 2g is NO or DO NOT KNOW - No change from initial finding	
23	If 2f is YES or DO NOT KNOW - No change from initial finding	
24	If 2e is YES or DO NOT KNOW - No change from initial finding	
25		
26	Final finding	NO CHANGE

Appendix 1. Brief biographies of the members of the American oystercatcher Biological Review Group.

Janell M. Brush received her M.S. in Wildlife Ecology and Conservation from the University of Florida. Janell has managed avian research projects in Florida for over 10 years and joined the FWC in 2006. She is the project leader for two State Wildlife Grant funded coastal waterbird projects in Florida. Janell has experience working on research projects involving many different species of shorebirds and seabirds.

Elizabeth A. Forys received a M.S. in Environmental Science/Ecology from the University of Virginia and a Ph.D. in Wildlife Ecology and Conservation from the University of Florida. She is currently a professor at Eckerd College in St. Petersburg, Florida. She has over 30 publications on endangered species theory and management and 8 specifically on shorebirds and seabirds including American oystercatchers, black skimmer, least terns, and snowy plovers in Florida. For the past 10 years Beth has helped coordinate a project that monitors, maps, and protects beach and roof-top nesting birds throughout west-central Florida.

Gary L. Sprandel has a B.S. degree in Computer Science from Colorado State University with coursework in wildlife biology. He has worked as a geoprocessor for the Kentucky Department of Fish and Wildlife Resources since 2005 on a variety of projects including the State Wildlife Action Plan, public hunting area mapping, survey databases, habitat mapping, and species distribution mapping. From 1992-2005 Gary worked for the FWC as a database manager on many projects including data collection and analysis for wintering shorebird surveys, support of breeding shorebird and seabird surveys, and species and site ranking databases. Gary has over a dozen published papers on Florida's bird life.

Appendix 2. Summary of letters and emails received during the solicitation of information from the public period of September 17, 2010 through November 1, 2010.

Email from Ann Hodgson, Gulf Coast Ecosystem Science Coordinator, Audubon of Florida, Florida Coastal Islands Sanctuaries, (ahodgson@audubon.org), 410 S. Ware Boulevard, Suite 702, Tampa, Florida 33619) dated October 29, 2010. Dr. Hodgson provided a copy of the following report:

Hodgson, A. and A. Paul. 2010. Twenty-Five Years after Basis I: An Update on the Current Status and Recent Trends in Bird Colonial Waterbird Populations of Tampa Bay, in: Cooper, S.T. (ed.). 2010. Proceedings, Tampa Bay Area Scientific Information Symposium, BASIS 5: 20-23 October 2009. St. Petersburg, FL. 538 pp.

The average number of American oystercatcher nesting pairs in the Tampa Bay Region from 2000-2009 was 91 (77.42 – 104.58). The population was reported as stable. About 72 pairs nest in Hillsborough Bay and were counted on spoil island shorelines. Approximately 21% of the state's population nests in Tampa Bay. An additional e-mail from Dr. Hodgson (below) describes a regional decline of about 19.3%.

Email from Ann Hodgson, Gulf Coast Ecosystem Science Coordinator, Audubon of Florida, Florida Coastal Islands Sanctuaries, (ahodgson@audubon.org), 410 S. Ware Boulevard, Suite 702, Tampa, Florida 33619) dated October 29, 2010. Dr. Hodgson included two maps of the nesting distribution of AMOY (2001 and 2010) and provided the following information:

The FSA website reported 8 rooftop nesting records, of which 1 appears to be repeated, so probably 7 pairs attempted to nest. Rooftop nesters are not included in the 2010 worksheet summary. Adjusting the totals to include the 2010 rooftop nesters (assuming 7 pairs), and excluding Charlotte (2) and Lee (1) counties data, which were not included in the 2001 survey, the regional American Oystercatcher population has declined approximately 29 pairs or 19.3% since 2001.

The decline can be attributed to several factors including habitat loss (several of the dredged spoil material islands submerged in the past 10 years), sites that became unsuitable for various reasons (habitat modification, disturbance, predators, etc.), human disturbance (recreational boating and fishing, or commercial fishing), overwash from ship wakes, others.

	FWC survey	FCIS survey	
County	2001	2010	DIFF 2010-2001
Charlotte		2	2
Citrus	33	21	-12
Hernando	3	3	0
Pasco	0	1	1
Hillsborough	77	66	-11
Levy	5	7	2
Lee		1	1
Manatee	1	1	0
Pinellas	26	13	-13
Sarasota	5	2	-3
Total Pairs	**150**	**117**	**33**

Appendix 3: Information and Comments Received from Independent Reviewers