

**Sundar, Danielle**

CAHA #1740

**From:** Fox, Lori  
**Sent:** Tuesday, October 13, 2009 5:55 PM  
**To:** Sundar, Danielle  
**Cc:** Wetmore, Doug  
**Subject:** FW: Corrected AMOY table from Weekly RM report  
**Attachments:** Table 16-CWB-corrected.091509.doc; pic32023.jpg

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

**Categories:** Projects/ CAHA

For CAHA admin record

Lori Fox  
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-----Original Message-----

**From:** Sandra\_Hamilton@nps.gov [mailto:Sandra\_Hamilton@nps.gov]  
**Sent:** Tuesday, October 13, 2009 9:43 AM  
**To:** Wetmore, Doug; Fox, Lori  
**Subject:** Fw: Corrected AMOY table from Weekly RM report

see below

Sandy Hamilton  
 Environmental Protection Specialist  
 National Park Service - Environmental Quality Division Academy Place P.O. Box 25287 Denver CO 80225

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----- Forwarded by Sandra Hamilton/DENVER/NPS on 10/13/2009 09:42 AM -----

Britta

Muiznieks/CAHA/NPS  
S

10/13/2009 08:23  
AM

Sandra Hamilton/DENVER/NPS@NPS,  
Mike Murray/CAHA/NPS@NPS

To

cc

Thayer Broili/CAHA/NPS@NPS, Doug  
McGee/CAHA/NPS@NPS

Subject

Corrected AMOY table from Weekly RM  
report

The table Mike provided is not from the last weekly report. We made corrections on the Final Weekly RM report that covered August 27 - September, 2009. Total chicks hatched, chicks lost and fledged chicks now add up.

American Oystercatchers (AMOY):

Location	Breed ing Pairs	Total Nests to Date	Activ e Nests	Nests Hatch ed	Nests Lost	Total Chick s Hatch ed	Unfle dged Chick s	Chick s Lost	Fledg ed Chick s
Green Island	2	2	0	1	1	3	0	0	3
Bodie District	4	4	0	1	3	2	0	1	1
Bodie/Hatter as District	4	6	0	5	1	8	0	6	2
Hatteras District	9	13	0	6	7	13	0	6	7
Ocracoke District	4	6	0	2	4	5	0	5	0
CAHA TOTALS	23	31	0	15	16	31	0	18	13

Britta Muiznieks  
Wildlife Biologist  
Cape Hatteras National Seashore

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----- Forwarded by Britta Muiznieks/CAHA/NPS on 10/13/2009 10:16 AM -----

Thayer  
Broili/CAHA/NPS

10/09/2009 01:47  
PM

To  
Britta Muiznieks/CAHA/NPS@NPS, Doug  
McGee/CAHA/NPS@NPS

cc

Subject

Fw: CWB data

FYI

Thayer Broili  
Chief of Resource Management  
Cape Hatteras National Seashore  
Phone 252-473-2111 ext.137  
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----- Forwarded by Thayer Broili/CAHA/NPS on 10/09/2009 01:46 PM -----

Mike  
Murray/CAHA/NPS

10/09/2009 01:13  
PM

To  
Sandra Hamilton/DENVER/NPS@NPS

cc

Thayer Broili/CAHA/NPS@NPS

Subject

CWB data

Sandy,

I have not seen final 2009 data for CWB. At this point, I would say it will be provided publicly in the annual reports to the Court by January 31, 2010, so you should only use CWB data through 2008 in the DEIS. See message from Britta below for revised, "best available" data for 2008.

2009 totals for PIPL and AMOY are as follows (from Weekly RM Reports) are "public" and can be used in the DEIS:

July 23- July 29, 2009 RM Weekly Summary

PIPL Breeding Summary:

Total Nests to Date	Total Pairs to Date	Active Nests	Total Nests Hatched	Total Nests Lost	Total Eggs Hatched	Unfledged Chicks	Lost Chicks	Fledged Chicks
9*	9	0	6	3	19	0	13	6

\*Based on location and timing, resource staff determined that Nest 6 was a continuation of the clutch from Nest 3.

August 20 - August 26, 2009 RM Weekly Report  
American Oystercatchers (AMOY):

The remaining chick has fledged and the closure is slated for removal on 9/2/09.

Location	Breeding Pairs	Total Nests to Date	Active Nests	Nests Hatched	Nests Lost	Total Chicks Hatched	Unfledged Chicks	Chicks Lost	Fledged Chicks
Green Island	2	2	0	1	1	3	0	0	3
Bodie District	4	4	0	1	3	2	0	2	1
Bodie/Hatteras District	4	6	0	5	1	8	0	5	2
Hatteras District	9	13	0	6	7	13	0	6	7
Ocracoke District	4	6	0	2	4	5	0	5	0
CAHA TOTALS	23	31	0	15	16	31	0	18	13

Mike Murray  
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----- Forwarded by Mike Murray/CAHA/NPS on 10/09/2009 01:03 PM -----

Britta  
Muiznieks/CAHA/NP  
S

09/15/2009 10:56  
AM

Mike Murray/CAHA/NPS@NPS

cherry\_green@nps.gov, Darrell  
Echols/CAHA/NPS@NPS, Sandra  
Hamilton/DENVER/NPS@NPS,  
Sherri\_Fields@nps.gov, Thayer  
Broili/CAHA/NPS@NPS, Timothy  
Pinion/Atlanta/NPS@NPS

To

cc

Subject

Re: Possible DFCs for AMOY, CWB and  
SBA-revised Table 16(Document link:  
Mike Murray (Archive))

All-

We finally tracked down why our numbers for the 2007 CWBs were so different than the totals we had in our database. In 2007 we were no longer using Sidney Maddock to get out to Green Island and hadn't established an agreement with the Coast Guard to bring us out to Green Island to conduct surveys on a regular basis. We knew Sue was going to be visiting some of her offshore islands and asked her to conduct a nest survey for us if she had time. She made it out there on June 1, 2007. I have now added her totals to the 2007 database and updated Table 16 that Mike had attached to his email below. Hopefully this is the last change that will have to be made to these totals!

(See attached file: Table 16-CWB-corrected.091509.doc)

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Mike  
Murray/CAHA/NPS



09/15/2009 09:51  
AM

Timothy Pinion/Atlanta/NPS@NPS

To

cc

cherry\_green@nps.gov,  
Sherri\_Fields@nps.gov, Thayer  
Broili/CAHA/NPS@NPS, Darrell  
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Hamilton/DENVER/NPS@NPS

Subject

Possible DFCs for AMOY, CWB and SBA  
(Document link: Britta Muiznieks)

Tim,

Here are some ideas for Desired Future Conditions for AMOY, CWB and Seabeach Amaranth (SBA). In general, we think these DFCs could/should have fewer "variables" than the DFCs for PIPL and sea turtles. We would appreciate your help in drafting these.

American oystercatchers (AMOY):

References: CAHA AMOY data that Britta perviously sent you (pasted below).

American Oystercatcher Research and Monitoring in NC, 2008 Annual Report, Simons and Schulte (follow link):

[http://www.ncsu.edu/project/simonslab/AMOY/References/2008\\_NC\\_AMOY\\_Report.pdf](http://www.ncsu.edu/project/simonslab/AMOY/References/2008_NC_AMOY_Report.pdf)

CAHA AMOY data

(Embedded image moved to file: pic32023.jpg)

Background: AMOY are relatively well studied at CAHA and CALO (e.g., the series of research projects by Simons et al) and there is pretty good data in recent years. In general, AMOY have had low productivity throughout NC and the research at CAHA/CALO shows that, among other things, low nest survival and low chick fledge rate are key issues. These are affected by a number of factors, particularly mammalian predation which accounted for 54% of known nest losses and an estimated 74% of all nest losses after unattributed losses were allocated. The number of nesting pairs at CAHA has decreased from a high of 41 prs in 1999 to 23 prs in recent years; however, what we have seen the past few years (2007-2009), which corresponds with increased predator control efforts as well as with interim strategy and consent decree, is a stable number of pairs (though there has been turnover in individuals), a reduction in the number of nests (meaning better nest survival and fewer re-nest attempts), and improved fledge rate (i.e., same number of pairs are more productive, but so far an increase in the number of pairs is "lagging"). Since we have no control over what happens to the pairs when they leave the park for the non-breeding season and have no good idea what may be happening to them, we think that nest survival and fledge rate are the best overarching indicators of progress since these directly relate to things we can manage and will directly affect or relate to other (potential) variables such as number of pairs and depredation rate. In other words, if we want to limit the number of targets for AMOY to just a few, we think nest survival and fledge rate capture the key issues for AMOY better than # of pairs or depredation rate would.

## Suggested AMOY DFCs:

Nest survival rate (i.e., % of nests that hatch): (p. 19 of 2008 AMOY report - of all AMOY nests monitored from 1995 to 2008, an estimated 24.6% survived to hatching). We could have a short-term target of "5 yr avg nest survival is 40% or higher" and a long-term goal of "5-yr avg nest survival is 50% or higher" (Note: We believe the progress targets are realistic and sustainable, based on improved nest survival rates in recent years.)

Chick fledge rate (p. 31 of 2008 AMOY report - data from NC study sites, primarily CALO and CAHA, for 1995-2008 indicated an avg of .309 chicks fledged per nesting pair. We could have short- and long-term targets of "5-yr avg fledge rate of 0.40 or higher" (based on an avg improvement of approx. 3% per year) and a long-term target of "5-yr chick fledge rate of 0.54 or higher" (based on an avg improvement of approx. 3% per year), or something similar. (Note: We believe the progress targets are realistic and sustainable, based on improved fledge rates in recent years.)

CWBs (CAHA focus is on least terns, common terns, gull-billed terns, and black skimmers) : (references attached: 2007 NCWRC CWB Summary; CAHA Table 16 - CWB data)

Background: Peak nest count surveys have generally been documented by the State only every 3 yrs, so there is state-wide historic data but it is unclear whether consistent methods or level of survey effort were utilized.

For the most part, the historic data has been "peak nest counts" and there is little information for the State or for CAHA about the number of breeding pairs, productivity, fledge rates, etc. While having a more sophisticated CWB target for "productivity" (fledge rate, etc.) would be desirable, it would be inherently difficult to measure even if we wanted to. The State has established State-wide goals for CWB species (target for # of nests), including the 4 species of interest at CAHA. See p. 10 of 2007 State report for state-wide goals for nesting CWB by species and p. 11 for historic state-wide totals of CWB nesting by species; ). See CAHA Table 16 (attached) for the historic totals for CAHA of nesting CWB by species. Note: We have had preliminary discussions with NCWRC about standardizing our CWB survey methods in and around CAHA, so both WRC and CAHA can have a coordinated and consistent approach to CWB nest counts in the Outer Banks area as we move forward.

Possible CWB DFC: Compare CAHA's historic data with the State-wide data 4 species of interest for the same years to determine a CAHA "average %" then apply that % to the State-wide goals by species to determine CAHA's % share of the State-wide goal. For example, (numbers used are hypothetical for illustration purposes), if a.) CAHA has historically accounted for 10% of the least tern (LETE) nesting in the state by comparing CAHA totals for LETE to the State-wide total during the year's that the State compiled data; and b.) the state-wide goal for LETE is 2000 nests (Table 1, p. 10); then c.) CAHA's long-term goal would be 200 nests. The short-term goal could be half-way between our most recent 5-yr average (let's say the current 5-yr avg is 100 nests for illustration purposes). For example, if the long-term goal were 200 nests, then the short-term goal could be 150 (i.e., half-way toward the long-term goal). If this approach more or less makes sense, would you be able to do the math for each of the four species to determine possible short-term and long-term targets.

## Seabeach Amaranth

Background: (from p. 5 of Pete Benjamin's comments to RegNeg)

The recovery criteria identified in the Recovery Plan for Seabeach amaranth (*Amaranthus pumilus*), Rafinesque (1996), state that a "minimum of 75 percent of the sites with suitable habitat be occupied by seabeach amaranth populations for 10 consecutive years." Cape Hatteras National Seashore has at least four seabeach amaranth sites - Bodie Island spit, Cape Point,

Hatteras Inlet spits (Hatteras Island spit and North Ocracoke spit) and Ocracoke Inlet spits (Southern Ocracoke Island spit). Based on the stated recovery criteria, an appropriate goal would be to implement management control to promote and protect the occurrence of seabeach amaranth, at a minimum, at three of the four identified sites.

Note: Since we have not seen any SBA here for several years, basing a DFC on the recovery plan goal as described above likely means that we may need to develop a reintroduction program at the four sites. I don't know what that would entail (e.g., does FWS or other entity maintain a seed stock for such purposes?), but we will talk to FWS about it.

Possible DFC for SBA (adapted from the above): Short-term: Implement an SBA re-introduction plan. Long-term: SBA occurs on the Seashore for 5 consecutive years

Thanks,

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[attachment "WRC 2007 CWB report.pdf" deleted by Britta Muiznieks/CAHA/NPS] [attachment "Table 16-CWB-corrected.091009.doc" deleted by Britta Muiznieks/CAHA/NPS]



Year	# Pairs	#	#	Ave Brood Size	Chicks Fledged		Broods w/		Fledge Rate
					#	%	#	%	
1999	41	14	23	1.6	5	22%	5	36%	0.12
2000	37	16	32	2.0	9	28%	7	44%	0.24
2001	39	22	42	1.9	24	57%	15	68%	0.62
2002	31	10	19	1.9	9	47%	7	70%	0.29
2003	32	18	28	1.6	7	25%	6	33%	0.22
2004	29	23	26	1.1	19	73%	12	52%	0.66
2005	26	18	39	2.2	11	28%	7	39%	0.42
2006	23	19	36	1.9	9	25%	7	37%	0.39
2007	23	15	27	1.8	12	44%	8	53%	0.52
2008	23	13	23	1.9	17	74%	10	77%	0.74
2009	23	15	31	2.07	13	42%	8	53%	0.57
1999-2007 AVG:	31.2	17.2	30.2	1.8	11.7	39%	8.2	48%	0.39
2008 Comparison:	-8.2	-4.2	-7.2	0.1	5.3	35%	1.8	29%	0.35
1999-2008 AVG:	30.4	16.8	29.5	1.8	12.2	42%	8.4	51.1%	0.42
2009 Comparison:	-7.4	-1.8	1.5	0.3	0.8	0%	-0.4	2.3	0.14

0024421

TABLE 16. COLONIAL WATERBIRD NESTS AT CAPE HATTERAS NATIONAL SEASHORE, 1977–2008

Species	1977 <sup>a</sup>	1983 <sup>a</sup>	1988 <sup>a</sup>	1992 <sup>a</sup>	1993 <sup>a</sup>	1995	1997	1998	1999	2000	2001	2004 <sup>c</sup>	2007 <sup>c</sup>	2008 <sup>d</sup>	Avg
Least tern	121	508	450	454	761	342	278	173	355	184	202	212	194	232	319
Common tern	802	763	678	278	422	503	718	715	440	129	573 <sup>b</sup>	376	109	19	458
Gull-billed tern	27	7	26	0	12	58	84	21	103	3	108	31	6	0	35
Black Skimmer	286	296	144	30	226	139	454	366	306	149	193	342	10	4	210
Total	1236	1574	1298	762	1421	1042	1534	1275	1204	465	1076 <sup>b</sup>	1035	319	255	

\*Highlighted number are corrections that will be made to our 2008 CWB report (Appendix A). Numbers are from the survey window peak nest count (May 25-June 7).

0024423