

From: [Britta Muiznieks](#)
To: [Mike Murray](#); [Thayer Broili](#)
Subject: NCWRC black skimmer data (and brief look at least tern data)
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Attachments: [2007 CWB Info for CAHA.pdf](#)

I randomly chose to look at the black skimmer data for the years for which we have the best data (1999, 2001, 2004, 2007). These are the years that NCWRC conducts their regular surveys. It looks like the information for the other years is incomplete and therefore not comparable. I tried to see if there were any obvious trends in the data. It was interesting to note that black skimmers don't appear to nest consistently in the same locations (at least in the 4 years for which we have comparable data). During these particular years, skimmers nested in a total of 34 locations.

Only in 2 locations (New Dump Island and Rich Inlet) did skimmers consistently nest during all 4 years of data collection.

Only at 3 locations (Clam Shoal, Ocracoke Inlet, Oregon Inlet Shoal) did skimmers nest during 3 of the 4 years.

At 6 locations skimmers only nested for 2 of the 4 years.

At 23 locations skimmers only nested 1 of the 4 years.

From looking at the data it appears that the colonies move around a lot. In over 2/3 of the nesting locations, skimmers only nested 1 time. Erwin (1977) found that when reproductive success is high, this species often returns to the same location to nest, opting for alternate sites when reproduction has been poor. (Erwin, R.M. 1977. Black skimmer breeding ecology and behavior. Auk 94:709-717). The information that NCWRC is only nest numbers and to my knowledge no information is available on productivity.

Without requesting additional information from Sue Cameron, I cannot determine which of these beaches are open to ORVs. Many of the locations where skimmers nested are islands or shoals so ORVs can not be blamed for their disappearance from the islands. For the majority of them there is no correlation between ORVs and colony disappearance.

Looking specifically at the Park's skimmer data for Ocracoke Inlet:

1999-298 nests
2001-193 nests
2004-247 nests
2007- 0 nests

I would find it a difficult stretch to say that the loss of colony at Ocracoke Inlet was due to ORV use. Many factors, including storm events and predators, may be responsible for the disappearance of the colony at Ocracoke Inlet.

I randomly chose to look at the skimmer data. The same could be done for least terns whose nest numbers appear to be increasing in the state. I don't think people would draw a similar correlation of increased visitor use=an increase in least terns. I haven't spent time on the least tern data but we have seen increases in numbers at some locations (even with ORV access) and declines at other locations.

Ramp 34
1999-10 nests
2004 18 nests
2007-24 nests

Hatteras Site 7 (South of Ramp 27)
1999-6 nests
2001-10 nests
2004-2 nests
2007-63 nests

Overall, from the data provided by NCWRC, since 1999 the number of LETE nests at the Park have slightly declined. In 1999, 323 nests were counted and in 2007 ~275 nests were counted.



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I hope this helps. Let me know if you think it is worth my time to take a closer at the fluctuations in the other species as well.

Britta

Britta Muiznieks
Wildlife Biologist
Cape Hatteras National Seashore

252-995-3740-**Office**
252-475-8348-**Cell**
252-995-6998-**FAX**

Seashore CWB Productivity

| District/CWB # | Location | Estimates/Species | Nest counts | Fledgling estimates |
|------------------|---------------------------|---------------------------|-----------------|-----------------------------|
| *Green Island | West side | LETE, GBTE, BLSK | Unknown | ? - Storm. |
| Bodie Island 1 | End of Spit | COTE | >1 | 0 - Storm. No re-nest |
| Bodie Island 2 | Above Bait Pond | >50/LETE | > 45 (profile) | 0 - Fox predation |
| Bodie/Hatteras 1 | N Ramp 30 | >30/LETE | >12 (profile) | >3 |
| Bodie/Hatteras 2 | S Ramp 27 | >120/LETE | 63 (nests) | >23 |
| Bodie/Hatteras 3 | N Ramp 27 | >40/LETE | 43 (nests) | >24 |
| Hatteras 1 | Cape Point | >12/LETE >6/COTE | 14, 2 (nests) | >1, 1 |
| Hatteras 2 | Salt Pond to Ramp 45 | >20/LETE | 12 (nests) | >2 |
| Hatteras 3 | SW Ramp 45 | >70/LETE >4 COTE | >27 | >22 |
| Hatteras 4 | N Ramp 34 | >80/LETE | >29 (profile) | >28 |
| Hatteras 5 | Hatteras Inlet | >6/LETE | 1 (nests) | 0 Several attempts |
| Ocracoke 1 | S South Point (1 re-nest) | >12/LETE >10/COTE 12/BLSK | 5, 1, 6 (nests) | 0 Storm, 0 mink predation |
| Ocracoke 2 | South Point Flats (south) | >10/LETE | 4 (nests) | 0 mink predation |
| Ocracoke 3 | South Point (W dunelets) | >6/LETE | 3 (nests) | 0 mink predation |
| Ocracoke 4 | South Point Flats (north) | >10/LETE | 5 (nests) | 0 mink predation |
| Totals | N/A | >466/LETE | >275 | >104/LETE, 1/COTE |

466

* Reported by Sue Cameron. Survey by staff was not possible.