Cape Lookout National Seashore Seabeach Amaranth
(*Amaranthus pumilus*)

2014 Report

The North End of South Core Banks After an Overwash and Erosion Event in 2014. NPS Photo 2014

NATIONAL PARK SERVICE
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Introduction

Seabeach Amaranth is a federal and North Carolina listed threatened species. Regular monitoring of this annual plant species began at Cape Lookout in 1993. The plant is a pioneer species and is typically found in suitable habitat of overwash fans, sand flats, and low dunes of little to no competing vegetation. The south facing beaches of Shackleford Banks and from the Cape Point to Power Squadron Spit typically grow the majority of plants in the Seashore. While the higher erosion rated east facing beaches of the Core Banks produce fewer plants. Cape Lookout National Seashore extends 56 miles from Beaufort Inlet to Ocracoke Inlet and is presently comprised of four islands.

Methods

Starting June 1st monitoring of habitat both inside and outside bird closures took place 1-2 days per week. Historical south facing beach habitats in particular were surveyed for small seedlings. Our annual survey began in early August to look for the larger plants during the peak of the growing season. Again we concentrated on the historical habitat, but also covered the majority of the seashore. Surveys were conducted on foot with single or multiple observers walking through appropriate sand flats, high beaches, and low dunes. Some longer stretches of the Core Banks and Shackleford Banks were surveyed by ATV at a slow pace to examine the high beach and foredunes. The survey date, beach miles, number of plants, GPS locations of plants, and survey hours were recorded on data sheets.

Results

Seabeach Amaranth plants were absent from the seashore in 2014 (Table 1). The annual survey began on August 7th and continued through September 5th. A total of 56 miles were surveyed. A total of 42.75 survey hours were exhausted looking for the plants. No plants were found on sites/parts of beach open to Off-Road Vehicles (ORVs). No plants were discovered on Shackleford Banks (SB). All of the nine miles from Beaufort Inlet to Barden Inlet were surveyed by foot and ATV during 6.5 survey hours. No plants were discovered on South Core Banks (SCB). All of the 24 miles from Barden Inlet to Ophelia Inlet of SCB were surveyed by foot or ATV during 19 survey hours. No plants were found on North Core Banks (NCB) from Ophelia Inlet to Ocracoke Inlet during 17.25 survey hours of the 23 miles of island, including the middle core bank section. Surveys were conducted both by foot and ATV on NCB.

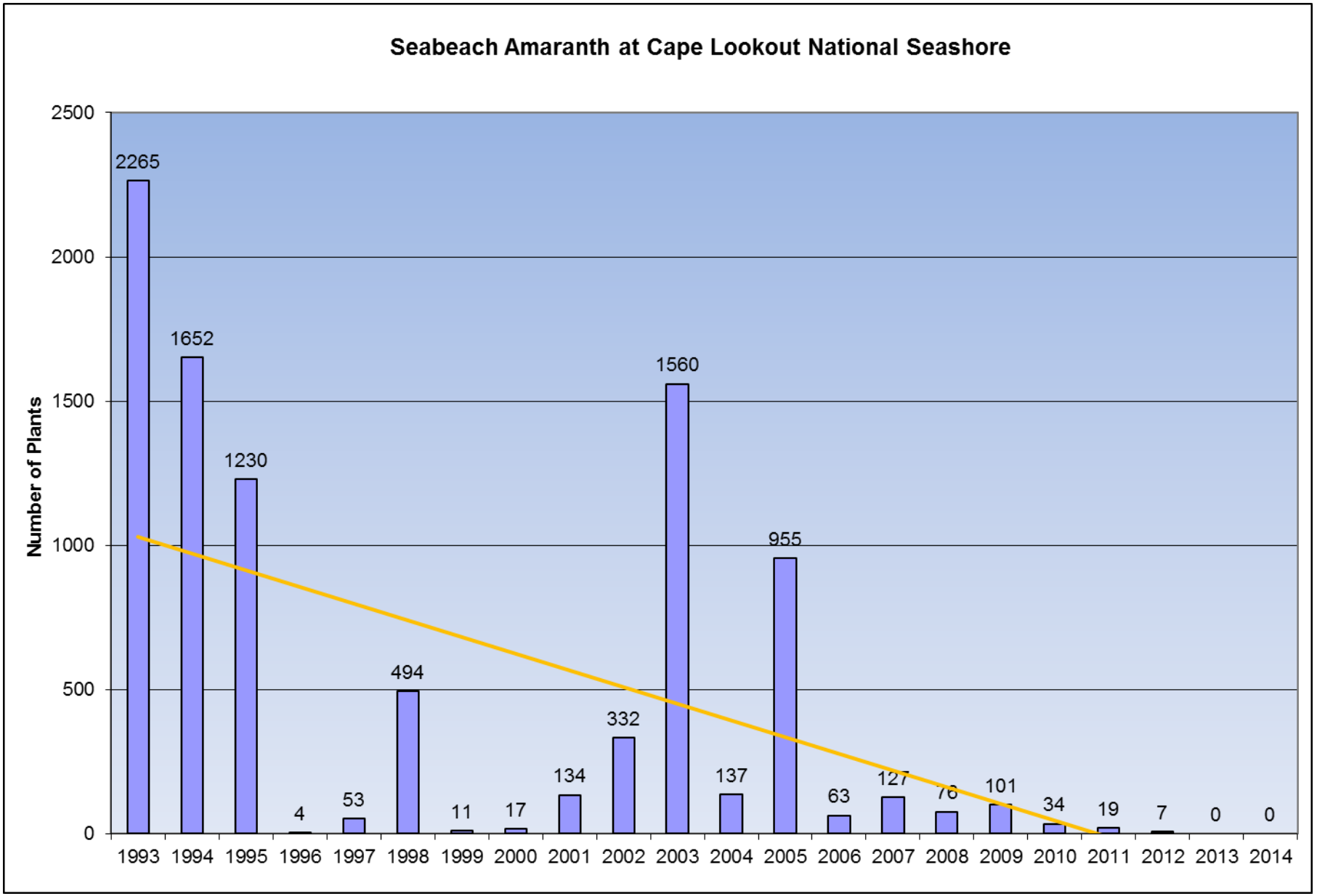
Discussion

The 2014 annual survey resulted in the second year in a row that no plants were recorded in the seashore since counts began in 1993 (Table 1.). Recent strongholds for the plant on south facing beaches such as Cape Point, Power Squadron Spit, and Shackleford Banks didn't have plants this year. Erosion and Hurricane Arthur overwash in July did impact these habitats in 2014. There have been low plant years in the past. Particularly the 1996 count with four plants and the 2012 count with seven plants. While other islands have had zero plant counts, this is the second year that no plants have been found on Shackleford Banks. No plants have been recorded on NCB since 2005 and no large numbers since 1998 (Table 1). NCB appears to be the least productive island for Seabeach Amaranth. Although the population of this annual seed producing plant can vary widely from year to year it has been declining since 1993 (Figure 1.). Although no plants were found before the intensive annual survey in early August, monitoring for seedlings should continue to start June 1. This is easily incorporated into bird monitoring efforts. Figure 2 illustrates the geographic distribution of Seabeach Amaranth in 2014.

Table 1. Annual Counts of Seabeach Amaranth, 1993-2014.

Year	North Core Banks	South Core Banks	Shackleford Banks	Total
1993	82	1208	975	2265
1994	63	641	948	1652
1995	30	45	1155	1230
1996	1	0	3	4
1997	2	0	51	53
1998	121	4	369	494
1999	2	0	9	11
2000	0	4	13	17
2001	8	43	126	177
2002	2	69	261	332
2003	1	205	1354	1560
2004	1	78	58	137
2005	0	284	671	955
2006	0	33	30	63
2007	0	2	125	127
2008	0	0	76	76
2009	0	1	100	101
2010	0	6	28	34
2011	0	1	18	19
2012	0	0	7	7
2013	0	0	0	0
2014	0	0	0	0

Figure 1. Seabeach Amaranth plant counts results from 1993 to 2014 with a simple linear regression line.



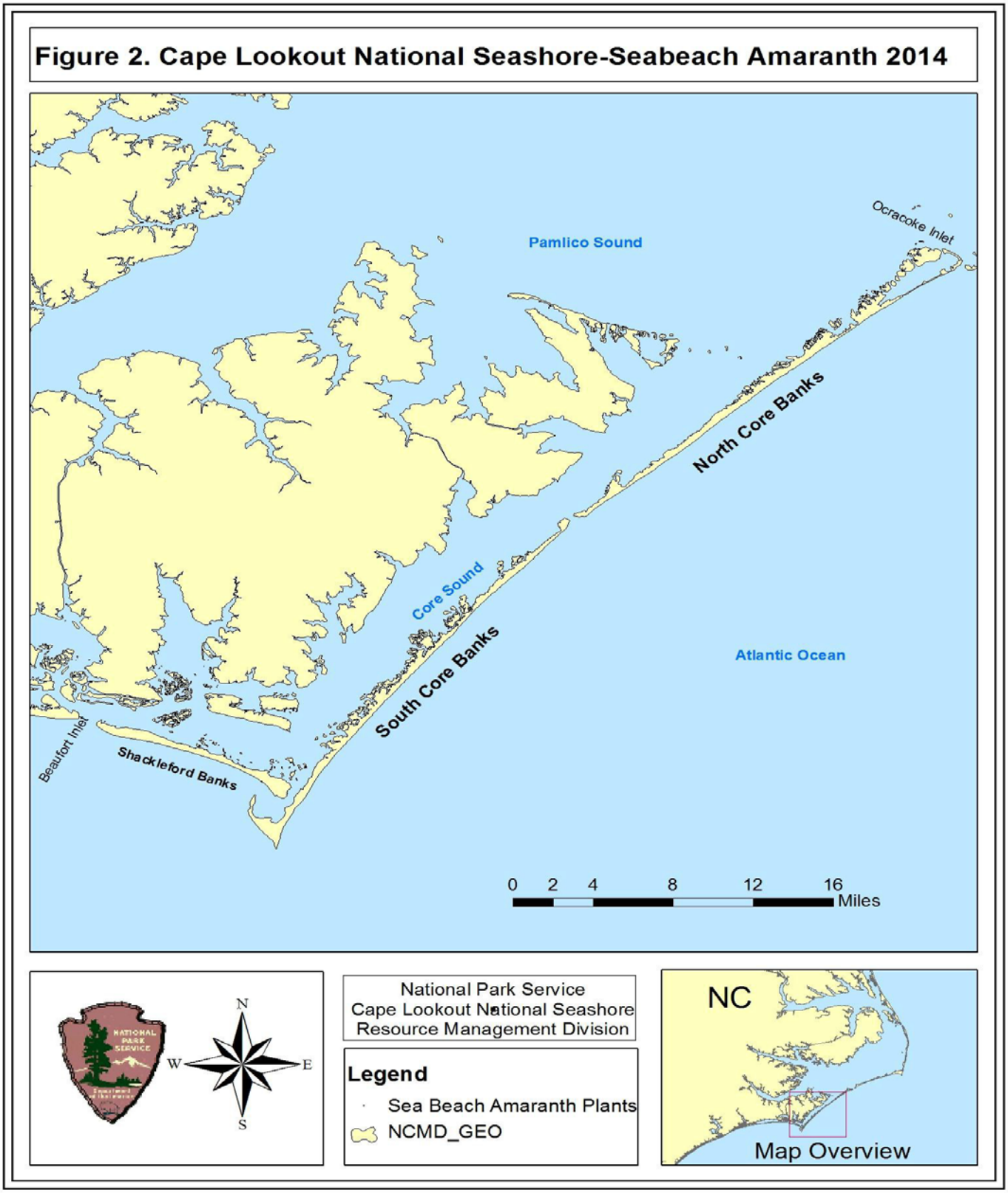


Figure 2. Cape Lookout National Seashore-Seabeach Amaranth 2014
Pamlico Sound
Ocracoke Inlet
North Core Banks
Core Sound
South Core Banks
Atlantic Ocean
Beaufort Inlet
Shackleford Banks
0 2 4 8 12 16
Miles
N
W
E
S
National Park Service
Cape Lookout National Seashore
Resource Management Division
Legend
Sea Beach Amaranth Plants
NCMD_GEO
NC
Map Overview