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

2010 Report

Seabeach amaranth plant on soundside shoreline of Cape Lookout Bight. NPS Photo 2010

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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 three 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 late July 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

Park Staff counted 34 Seabeach Amaranth plants in 2010 (Table 1). The annual survey began on August 4thth and continued through September 6^{11h}. A total of 56 miles were surveyed. A total of 45 survey hours were exhausted looking for the plants. The first plants were recorded on August 7th and the last plant was discovered on August 26t^{h}. No plants were found on sites/parts of beach open to Off-Road Vehicles (ORVs). Shackleford Banks (SB) produced 28 plants. All of the nine miles from Beaufort Inlet to Barden Inlet were surveyed by foot and ATV during 3.5 survey hours. Six plants were discovered on South Core Banks (SCB) at Power Squadron Spit. All of the 24 miles from Barden Inlet to Ophelia Inlet of SCB were surveyed by foot or ATV during 28 survey hours. No plants were found on North Core Banks (NCB) from Ophelia Inlet to Ocracoke Inlet during 13.5 survey hours of the 23 miles of island. Surveys were conducted both by foot and ATV on NCB.

Table 1. 2010 Annual Seabeach Amaranth Survey Results.

Date	Island	Mile	Latitude	Longitude	Plant #s
8/7/2010	SCB	47.17	34.62931	-76.55455	3
8/7/2010	SCB	47.16	34.62899	-76.55467	2
8/11/2010	SB	48.08	34.64100	-76.54325	3
8/11/2010	SB	48.11	34.64138	-76.54352	8
8/11/2010	SB	48.12	34.64152	-76.54364	2
8/11/2010	SB	48.18	34.64229	-76.54422	1
8/11/2010	SB	48.22	34.64272	-76.54463	6
8/11/2010	SB	48.24	34.64297	-76.54482	7
8/11/2010	SB	49.6	34.65593	-76.56469	1
8/26/2010	SCB	47.14	34.626778	-76.55059	1
				Total	34

Discussion

The 2010 annual count was one of the lowest on record (Table 2.). A minor swell event in late July may have buried or washed out plants on Shackleford Banks. Low numbers of plants were clustered around Barden Inlet. Twenty eight plants were located on the east end of Shackleford Banks. Only six plants were found on SCB at Power Squadron Spit. No plants have been recorded on NCB since 2005 and no large numbers since 1998 (Table 2). NCB appears to be the least productive island for Seabeach Amaranth. Although no plants were found before the intensive annual survey in late July, monitoring for seedlings should continue to start June 1. This is easily incorporated into bird monitoring efforts. Figure 1. illustrates the geographic distribution of Seabeach Amaranth in 2010. Some webworm predation was observed in 2010.

Table 2. Annual Counts of Seabeach Amaranth, 1993-2010.

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

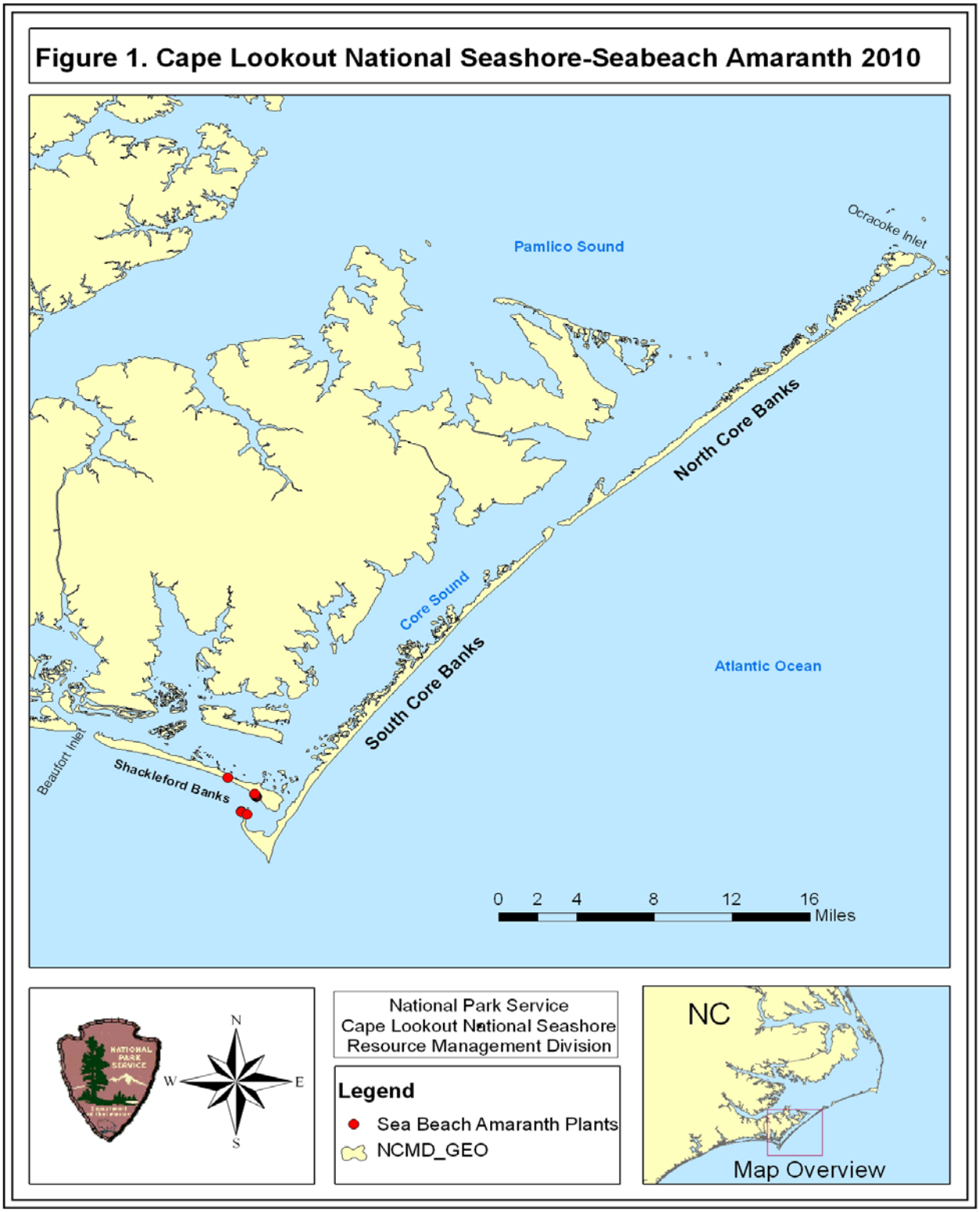
Figure 1. Cape Lookout National Seashore-Seabeach Amaranth 2010
Pamlico Sound
Ocracoke Inlet
North Core Banks
Core Sound
South Core Banks
Atlantic Ocean
Beaufort Inlet
Shackleford Banks
0 2 4 8 12 16
Miles
N
W
E
S
National Park Service
Cape Lookout National Seashore
Resource Management Division
Legend
Sea Beach Amaranth Plants
NCMD_GEO
NC
Map Overview