

Cape Lookout National Seashore Seabeach Amaranth (*Amaranthus pumilus*) 2008 Report

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 routinely 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 five 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 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 127 Seabeach Amaranth plants in 2007 (Table 1). The annual survey began on July 19th and continued through September 7th. A total of 53.5 miles were surveyed. A total of 49.5 survey hours were exhausted looking for the plants. The first plant was recorded on July 27th and the last plant was discovered on August 23rd. No plants were found on sites/parts of beach open to Off-Road Vehicles (ORVs). Shackleford Banks (SB) produced 125 plants. All of the nine miles from Beaufort Inlet to Barden Inlet were surveyed by foot during 7.5 survey hours. Two plants were discovered at the Cape Point area of South Core Banks (SCB). All of the 24 miles from Barden Inlet to Ophelia Inlet of SCB were surveyed by foot or ATV during 16 survey hours. The area between Ophelia Inlet and Old Drum Inlet was partially covered (2 miles) in 3 hours by foot and no plants were found. This included all of Ophelia Island and New Drum Inlet Spit. No plants were found on North Core Banks (NCB) from Old Drum Inlet to Ocracoke Inlet during 23 survey hours of the 18.5 miles of island. Surveys were conducted both by foot and ATV on NCB.

Table 1. 2007 Annual Seabeach Amaranth Survey Results.

Date	Island	Mile	Latitude	Longitude	# plants
7/27/2007	SB	47.8-48.1	34.64097	-76.54311	1
7/27/2007	SB	47.8-48.1	34.64079	-76.54287	1
7/27/2007	SB	47.8-48.1	34.64076	-76.54284	1
7/27/2007	SB	47.8-48.1	34.64067	-76.54282	1
7/27/2007	SB	47.8-48.1	34.64065	-76.54282	6
7/27/2007	SB	47.8-48.1	34.64063	-76.54279	1
7/27/2007	SB	47.8-48.1	34.64061	-76.54272	1
7/27/2007	SB	47.8-48.1	34.64057	-76.54274	23
7/27/2007	SB	47.8-48.1	34.6405	-76.54271	5
7/27/2007	SB	47.8-48.1	34.64047	-76.5426	1
7/27/2007	SB	47.8-48.1	34.64039	-76.54267	2
7/27/2007	SB	47.8-48.1	34.64002	-76.54227	1
7/27/2007	SB	47.8-48.1	34.63952	-76.54184	1
7/27/2007	SB	47.8-48.1	34.63946	-76.54179	2
7/27/2007	SB	47.8-48.1	34.6393	-76.54167	4
7/27/2007	SB	47.8-48.1	34.63926	-76.54169	1
7/27/2007	SB	48.08	34.64117	-76.54324	2
7/27/2007	SB	48.13	34.64143	-76.54344	2
7/27/2007	SB	48.13	34.64155	-76.54356	5
7/27/2007	SB	48.13	34.64158	-76.54361	3
7/27/2007	SB	48.14	34.64165	-76.54362	3
7/27/2007	SB	48.14	34.64176	-76.54373	26
7/27/2007	SB	48.15	34.64198	-76.54394	17
7/27/2007	SB	48.21	34.64344	-76.54529	6
8/3/2007	SB	49.49	34.65449	-76.56185	4
8/3/2007	SB	51.02	34.66442	-76.58671	1
8/3/2007	SB	51.19	34.6655	-76.58954	1
8/10/2007	SB	55.64	34.6875	-76.66426	1
8/10/2007	SB	55.69	34.68807	-76.66487	1
8/10/2007	SB	55.71	34.68916	-76.66427	1
7/30/2007	SCB	44.57	34.59511	-76.53752	1
8/23/2007	SCB	44.64	34.59631	-76.53836	1
Total					127

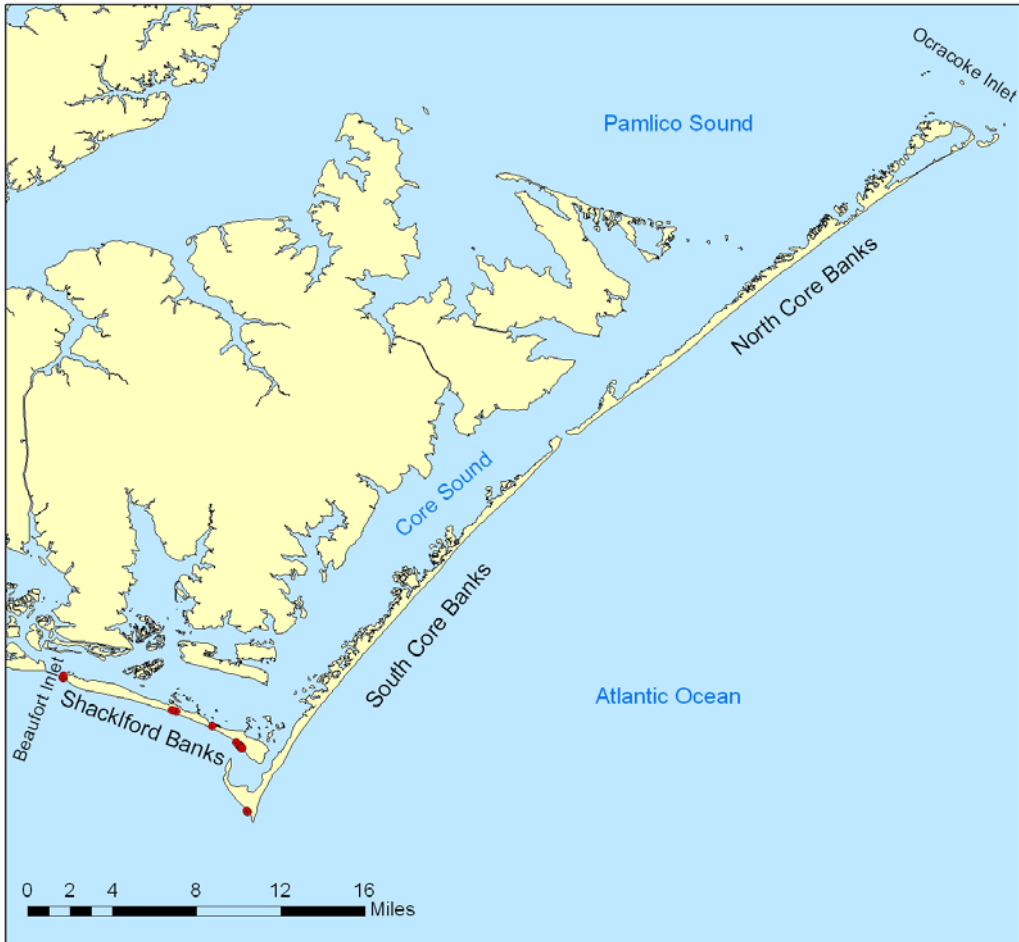
Discussion

The 2007 annual survey was successful in finding plants on south facing beach habitats of SB and SCB. In general since 1993 the majority of the plants were at sites on SB and SCB (Table 2). There was a noticeable decrease of plants from the Cape Point and Power Squadron Spit area on SCB from 2005 to 2007. While on SB plant numbers have been quite variable during the same time period. No plants have been recorded on NCB since 2005 and no large numbers since 1998. 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 2007. Nutria herbivory or webworm predation were not observed in 2007.

Table 2. Annual Counts of Seabeach Amaranth, 1993-2007

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

Figure 1. Cape Lookout National Seashore-Seabeach Amaranth 2007



National Park Service
Cape Lookout National Seashore
Resource Management Division

Legend

- Seabeach Amaranth Plants
- NCMD_GEO



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