



**Camp Lejeune
Coastal Wetland Mitigation Site**



EEP Project Closeout Summary

Project ID and Status		Project Settings & Class.		Project Timeline	
Name	Camp Lejeune	Basin	White Oak	Construction Completed	1999
EEP ID #	13	Physiographic Region	Coastal Plain	As-Built Survey	1999
County	Onslow	Ecoregion	Coastal Marsh	Repair & Replanting	2002
Type	Coastal Marsh Restoration	USGS Hydro Unit	0303001	Monitoring Year-1 (Restart)	2002
Status	Monitoring Complete	NCDWQ Subbasin	03-05-02	Monitoring Year 2	2003
				Monitoring Year 3	2004
		Designer	NCDOT	Monitoring Year 4	2005
		Monitoring	Axiom	Monitoring Year 5	2006

The U.S. Marine Corps Mitigation Site on Camp Lejeune is located in Onslow County on the Intracoastal Waterway southeast of Onslow Beach. The site was designed as a 3.5 acre coastal salt marsh (0.56 a shrub, 2.93 marsh, 0.7 acre *Juncus roemerianus* and 2.23 acres *Spartina alterniflora*) as mitigation for the US 17 Jacksonville Bypass. (TIP Project U-2107A,B,BA,C & D)

EEP proposes to close-out the site at full credit. According to the monitoring data, the site is functioning as a coastal marsh per the approved mitigation plan and permit requirements.

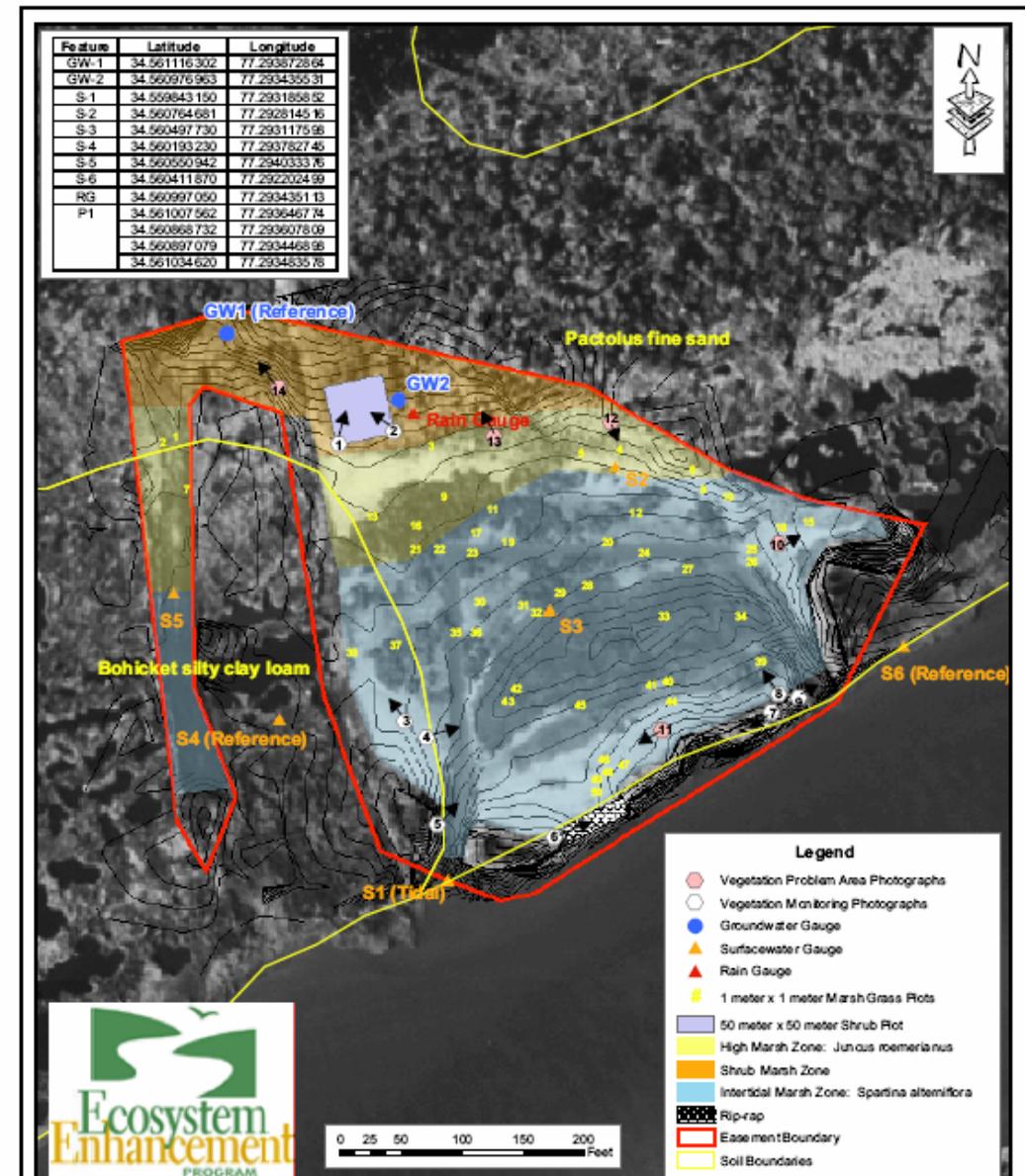
The site was originally constructed in 1999 and regraded in 2002. The regrading and replanting was completed under the guidance of the Division of Coastal Management and coordinated with all the appropriate federal and state regulatory agencies. *Phragmites* treatment was also completed in accordance with agency requests. The monitoring was then restarted and year 5 was completed in 2006. A summary of stem counts is on page 3. A complete summary of the all the monitoring years is contained in the 2006 Monitoring Report on the EEP website.

Site Map with Directions



 Aecom Environmental, Inc. 2126 Rowland Pond Drive Willow Spring, NC 27592 (919) 215-1603 (919) 341-3839 fax	SITE LOCATION CAMP LEJEUNE: USMC MITIGATION SITE EEP Project Number .00013 2006 Annual Monitoring Year 5 of 5 Onslow County, North Carolina		CLF Date: January 2007 Project: 06-021	FIGURE 1
---	--	--	--	--------------------

Air Photo with Monitoring Plan



 Aecom Environmental, Inc. 2126 Rowland Pond Drive Willow Spring, NC 27592 (919) 215-1603 (919) 341-3839 fax	MONITORING PLAN CAMP LEJEUNE: USMC MITIGATION SITE EEP Project Number .00013 2006 Annual Monitoring Year 5 of 5 Onslow County, North Carolina		CLF Date: January 2007 Project: 06-021	FIGURE 2
---	--	--	--	--------------------

Stem Counts for Shrub and Marsh Grass Areas for Monitoring Year 5- 2006

Stem counts were made in November 2006. Note that previous years counts were made between August and October

Plot #	Year	Wax Myrtle	False Willow	Marsh Elder	2006 Total Planted Stems in Plot	2001 Total Planted in Plot	2006 Density (Planted Shrubs Stems/Acre)
1	Year 5 (2006)	24	17	1	42	51	737

Plot	Scale Factor	% Cover	<i>Juncus roemerianus</i> Present	<i>Spartina alterniflora</i> Present	Frequency	Notes
1	4	70		X	1	<i>Aster, Phragmites, Distichlis</i>
2	4	70				<i>Juncus effuses, Distichlis, Salicornia, Triglochin, Phragmites,</i>
3	5	95	X		1	<i>Baccharis, Solidago, Chenopodium</i>
4	5	100	X		1	<i>Distichlis</i>
5	5	95		X	1	
6	4	66	X	X	2	<i>Distichlis, Aster tenuifolius</i>
7	5	90	X		1	<i>Distichlis, Aster tenuifolius</i>
8	5	75	X	X	2	<i>Distichlis</i>
9	4	70		X	1	<i>Salicornia</i>
10	5	75	X	X	2	<i>Distichlis, Aster tenuifolius</i>
11	5	90		X	1	
12	4	50		X	1	
13	5	80		X	1	<i>Salicornia</i>
14	5	82				<i>Distichlis, Aster tenuifolius, Borrchia</i>
15	5	76		X	1	<i>Distichlis, Aster tenuifolius, Salicornia</i>
16	5	80		X	1	
17	5	90		X	1	
18	2	21		X	1	<i>Salicornia, 79% bare ground</i>
19	5	80		X	1	
20	5	80		X	1	
21	5	90		X	1	

Plot	Scale Factor	% Cover	<i>Juncus roemerianus</i> Present	<i>Spartina alterniflora</i> Present	Frequency	Notes
22	5	90		X	1	
23	2	20		X	1	80% open water
24	3	30		X	1	70% open water
25	4	51		X	1	<i>Salicornia</i>
26	4	51		X	1	<i>Salicornia</i>
27	4	70		X	1	<i>Salicornia</i>
28	2	11		X	1	<i>Salicornia, 89% bare ground</i>
29	5	80		X	1	
30	4	65		X	1	
31	4	65		X	1	
32	4	70		X	1	<i>Salicornia</i>
33	5	80		X	1	
34	5	80		X	1	
35	4	50		X	1	
36	4	60		X	1	
37	4	70		X	1	
38	5	80		X	1	<i>Salicornia</i>
39	5	80		X	1	
40	5	80		X	1	
41	4	50		X	1	
42	4	50		X	1	<i>Salicornia</i>
43	4	60		X	1	
44	2	30		X	1	<i>Distichlis, Salicornia, 70% bare ground</i>
45	5	80		X	1	
46	-	-	-	-	-	Data lost: most likely bare ground
47	3	30				<i>Distichlis, Salicornia, 70% bare ground</i>
48	0	-				Bare ground
49	0	-				Bare ground
50	3	35		X	1	<i>Distichlis, Salicornia</i>
49	200	3143	6	41	44	TOTALS
Total Number of Plots Counted					49	
Scale Factor Average					4.08	
Percent Cover Average					64.1	
Ave Scale Factor based on % Cover					4.0	
Percent Frequency of Target Species					89.8	

Note: Two plots, #s 23 and 24 were in open water. Including these counts resulted in lower totals.

Groundwater Gauge Summary for Years 1-5

Table 1. Summary of Groundwater Gauge Results for Years 1 through 5 Camp Lejeune Wetland Restoration (EEP Project Number .00013)					
Groundwater Gauge	Success Criteria Achieved/Max Consecutive Days During Growing Season (Percentage)				
	Year 1 (2002)	Year 2 (2003)	Year 3 (2004)	Year 4 (2005)	Year 5 (2006)
GW1 (Reference)	Not reinstalled at time	Yes/50 days (23.6%)	Yes/85 days (40.1%)	Yes/30 days (14.2%)	No/22 days (10.4%)
GW2	Not reinstalled at time	Yes/113 days (53.3%)	Yes/44 days (20.8%)	Yes/121 days (57.1%)	Yes/76 days (35.8%)
Surfacewater Gauge	Success Criteria Achieved/Percentage of Growing Season Inundated				
	Year 1 (2002)	Year 2 (2003)	Year 3 (2004)	Year 4 (2005)	Year 5 (2006)
S1 (Tidal)	Yes (68%)	Yes	Yes	No Data	Yes (75%)
S2	Yes (50%)	Yes	Yes	Yes	Yes (0%)
S3	Yes (82%)	Yes	Yes	Yes	Yes (6.6%)
S4 (Reference)	Not reinstalled at time	Yes	Yes	Yes	Yes (26.9%)
S5	Not reinstalled at time	Yes	Yes	Yes	Yes (74.5%)
S6 (Reference)	Not reinstalled at time	Yes	Yes	Yes	Yes (13.7%)

Photographs for Monitoring Year 1 (2002) and June 2008



Photo 1



Photo 2



Photo 3



Photographs for Monitoring Year 1 (2002) and June 2008



Photo 4



Photo 5



Photo 6



Photographs for Monitoring Year 1 (2002) and June 2008



Photo 7



Photo 8

