

TABLE 1
MONMOUTH COUNTY
ANNUAL BEACH VOLUME CHANGES
SPRING 2007 - SPRING 2008 & FALL 2007 - FALL 2008
Survey

PROFILE SITE LOCATION	34 - 36 S2007-S2008	35 - 37 F2007 - F2008
	(volume expressed as cubic yards per foot)	
187: Cliffwood Beach Park	-1.44	-1.52
186: Union Beach	0.47	-0.81
185: Port Monmouth, Spy House Museum	-11.85	-13.96
285: Gateway National R. A., Gunnison Beach	-5.92	16.43
284: Gateway National R. A., Parking Lot E	1.73	20.11
184: Highland Beach, Gateway Entrance	8.76	-9.89
183: Highland Beach, Via Ripa St.	-17.58	-11.53
282: Sea Bright, Shrewsbury Way	0.77	14.90
182: Sea Bright, North of Route 520	-4.74	-21.69
181: Sea Bright, Municipal Beach	4.30	-26.21
180: Sea Bright, Sunset Court	-26.32	-40.05
179: Monmouth Beach, Cottage Rd.	-70.20	-57.87
178: Monmouth Beach, Beach Club	-0.86	-16.42
177: Long Branch, 404 Ocean Ave.	-3.38	-1.95
176: Long Branch, Seven Presidents Park	-5.57	-12.41
175: Long Branch, North Broadway Ave.	-10.75	-14.22
174: Long Branch, Morris Ave.	-0.31	-10.83
173: Long Branch, West End Ave.	-7.06	-3.32
172: Long Branch	** NO LONGER ACTIVE **	
171: Elberon, Pullman Ave.	-5.09	-7.01
170: Deal, Roosevelt Ave.	-6.46	7.31
169: Deal, Darlington Ave.	-2.02	12.41
168: Allenhurst, Corlies Ave.	22.95	8.12
267: Asbury Park, 7th Ave.	-7.79	4.22
167: Asbury Park, 3rd Ave.	-5.91	-10.12
166: Ocean grove, Ocean Pathway	-8.51	-9.81
165: Bradley Beach, McCabe Ave.	8.98	-5.25
164: Avon-By-The-Sea, Sylvania Ave.	-1.01	22.62
163: Belmar, 5th Ave.	6.65	7.44
162: Belmar, 18th Ave.	0.78	1.70
161: Spring Lake, Brighton Ave.	8.61	8.25
160: Spring Lake, Salem Ave.	7.29	-21.84
159: Sea Girt, New York Ave.	-0.96	-8.75
158: Sea Girt, Trenton Ave.	24.27	-2.38
157: Manasquan, Riddle Way	8.30	11.13
256: Manasquan, Pompano Ave.	-13.28	-15.32

Table 1. Beach volume changes for Monmouth County, spring and fall year-to-year comparisons.

TABLE 2
MONMOUTH COUNTY
ANNUAL SHORELINE CHANGES
SPRING 2007 - SPRING 2008 & FALL 2007 - FALL 2008
Survey

PROFILE SITE LOCATION	34 - 36	35 - 37
	S2007-S2008	F2007 - F2008
	(shoreline change expressed in feet)	
187: Cliffwood Beach Park	7.5	-5.2
186: Union Beach	-0.4	-3.0
185: Port Monmouth, Spy House Museum	-2.0	-3.5
285: Gateway National R. A., Gunnison Beach	-54.2	-42.7
284: Gateway National R. A., Parking Lot E	-29.3	21.3
184: Highland Beach, Gateway Entrance	-17.0	-8.7
183: Highland Beach, Via Ripa St.	-27.2	6.9
282: Sea Bright, Shrewsbury Way	42.8	33.7
182: Sea Bright, North of Route 520	4.5	-66.3
181: Sea Bright, Municipal Beach	4.9	-50.2
180: Sea Bright, Sunset Court	-5.6	-52.6
179: Monmouth Beach, Cottage Rd.	-54.9	-19.2
178: Monmouth Beach, Beach Club	-8.8	-21.7
177: Long Branch, 404 Ocean Ave.	-3.8	-21.8
176: Long Branch, Seven Presidents Park	-18.4	-52.1
175: Long Branch, North Broadway Ave.	-20.1	-11.7
174: Long Branch, Morris Ave.	9.2	-38.7
173: Long Branch, West End Ave.	3.3	5.8
172: Long Branch	** NO LONGER ACTIVE **	
171: Elberon, Pullman Ave.	9.4	-27.2
170: Deal, Roosevelt Ave.	2.1	5.1
169: Deal, Darlington Ave.	3.1	-5.0
168: Allenhurst, Corlies Ave.	2.1	-24.6
267: Asbury Park, 7th Ave.	13.0	-5.9
167: Asbury Park, 3rd Ave.	14.3	-36.3
166: Ocean grove, Ocean Pathway	3.8	-27.9
165: Bradley Beach, McCabe Ave.	10.2	-34.7
164: Avon-By-The-Sea, Sylvania Ave.	-21.1	6.1
163: Belmar, 5th Ave.	3.0	12.6
162: Belmar, 18th Ave.	4.3	2.6
161: Spring Lake, Brighton Ave.	10.6	-12.9
160: Spring Lake, Salem Ave.	-3.8	-49.0
159: Sea Girt, New York Ave.	-4.5	-17.0
158: Sea Girt, Trenton Ave.	21.8	4.2
157: Manasquan, Riddle Way	9.0	15.7
256: Manasquan, Pompano Ave.	-12.5	-18.4

Table 2. Shoreline changes for Monmouth County, spring and fall year-to-year comparisons.

**TABLE 3
MONMOUTH COUNTY
SEASONAL BEACH VOLUME CHANGES**

PROFILE SITE LOCATION	Survey	34-35 S07-F07	35-36 F07-S08	36-37 S08-F08	34-37 S07-F08
		(volume expressed as cubic yards per foot of beachfront)			
187: Cliffwood Beach Park		-1.29	-0.08	-1.38	-2.77
186: Union Beach		-0.35	1.10	-1.61	-1.31
185: Port Monmouth, Spy House Museum		0.55	-12.37	-1.56	-13.54
285: Gateway National R. A., Gunnison Beach		-0.35	-5.34	22.15	16.05
284: Gateway National R. A., Parking Lot E		-0.28	2.16	18.04	19.78
184: Highland Beach, Gateway Entrance		0.95	7.48	-17.17	-9.11
183: Highland Beach, Via Ripa St.		-4.44	-13.07	1.44	-16.12
282: Sea Bright, Shrewsbury Way		-4.51	5.31	9.50	10.12
182: Sea Bright, North of Route 520		-1.10	-3.74	-17.94	-22.72
181: Sea Bright, Municipal Beach		0.96	3.01	-28.25	-25.05
180: Sea Bright, Sunset Court		-2.07	-22.92	-17.32	-42.13
179: Monmouth Beach, Cottage Rd.		-40.46	-30.33	-28.52	-98.66
178: Monmouth Beach, Beach Club		17.12	-18.16	1.46	0.55
177: Long Branch, 404 Ocean Ave.		-4.66	1.73	-4.15	-7.19
176: Long Branch, Seven Presidents Park		-5.37	0.00	-12.57	-17.86
175: Long Branch, North Broadway Ave.		-2.33	-8.52	-5.73	-16.61
174: Long Branch, Morris Ave.		-1.03	0.92	-11.89	-11.96
173: Long Branch, West End Ave.		-8.22	0.43	-2.47	-12.53
172: Long Branch			** NO LONGER ACTIVE **		
171: Elberon, Pullman Ave.		3.34	-8.43	1.59	-3.29
170: Deal, Roosevelt Ave.		-4.13	-3.18	11.78	3.17
169: Deal, Darlington Ave.		-7.64	5.02	8.18	4.78
168: Allenhurst, Corlies Ave.		31.02	-9.05	17.16	40.11
267: Asbury Park, 7th Ave.		-10.30	2.05	2.63	-5.04
167: Asbury Park, 3rd Ave.		2.26	-6.98	-3.17	-8.57
166: Ocean grove, Ocean Pathway		5.25	-14.17	4.38	-3.33
165: Bradley Beach, McCabe Ave.		-3.46	12.41	-17.61	-8.82
164: Avon-By-The-Sea, Sylvania Ave.		-20.35	19.36	3.02	1.95
163: Belmar, 5th Ave.		0.24	6.28	0.19	7.38
162: Belmar, 18th Ave.		7.78	-5.71	7.64	8.82
161: Spring Lake, Brighton Ave.		6.29	2.87	5.35	15.03
160: Spring Lake, Salem Ave.		21.20	-14.11	-7.85	-0.76
159: Sea Girt, New York Ave.		-5.74	4.72	-12.49	-13.71
158: Sea Girt, Trenton Ave.		34.56	-10.23	7.27	32.41
157: Manasquan, Riddle Way		-10.15	18.83	-7.46	0.84
256: Manasquan, Pompano Ave.		-15.33	1.50	-14.01	-30.54

Table 3. Seasonal beach volume changes and the 18-month volume comparison for Monmouth County.

TABLE 4
MONMOUTH COUNTY
SEASONAL SHORELINE CHANGES

PROFILE SITE LOCATION	Survey	34-35 S07-F07	35-36 F07-S08	36-37 S08-F08	34-37 S07-F08
		(shoreline change expressed in feet)			
187: Cliffwood Beach Park		10.1	-2.5	-2.6	4.9
186: Union Beach		1.2	-1.7	-1.4	-1.8
185: Port Monmouth, Spy House Museum		3.0	-5.0	1.5	-0.5
285: Gateway National R. A., Gunnison Beach		-11.4	-42.8	0.1	-54.1
284: Gateway National R. A., Parking Lot E		-2.8	-26.5	47.8	18.5
184: Highland Beach, Gateway Entrance		22.0	-39.0	30.3	13.3
183: Highland Beach, Via Ripa St.		-12.5	-14.7	21.7	-5.6
282: Sea Bright, Shrewsbury Way		29.5	13.3	20.4	63.2
182: Sea Bright, North of Route 520		-3.5	8.0	-74.3	-69.8
181: Sea Bright, Municipal Beach		6.6	-1.8	-48.4	-43.5
180: Sea Bright, Sunset Court		42.4	-48.0	-4.6	-10.2
179: Monmouth Beach, Cottage Rd.		-7.5	-47.5	28.2	-26.7
178: Monmouth Beach, Beach Club		26.9	-35.7	14.0	5.2
177: Long Branch, 404 Ocean Ave.		22.1	-25.9	4.1	0.3
176: Long Branch, Seven Presidents Park		38.5	-20.2	-31.9	-13.6
175: Long Branch, North Broadway Ave.		22.2	-42.3	30.6	10.5
174: Long Branch, Morris Ave.		6.5	2.7	-41.5	-32.2
173: Long Branch, West End Ave.		-6.0	9.3	-3.5	-0.2
172: Long Branch		** NO LONGER ACTIVE **			
171: Elberon, Pullman Ave.		28.6	-19.2	-8.0	1.4
170: Deal, Roosevelt Ave.		1.6	0.4	4.7	6.7
169: Deal, Darlington Ave.		17.1	-14.0	9.1	12.2
168: Allenhurst, Corlies Ave.		36.0	-33.9	9.3	11.3
267: Asbury Park, 7th Ave.		5.5	7.5	-13.5	-0.4
167: Asbury Park, 3rd Ave.		34.8	-20.5	-15.8	-1.5
166: Ocean grove, Ocean Pathway		38.2	-34.4	6.5	10.2
165: Bradley Beach, McCabe Ave.		28.5	-18.3	-16.4	-6.2
164: Avon-By-The-Sea, Sylvania Ave.		-1.5	-19.6	25.7	4.6
163: Belmar, 5th Ave.		11.8	-8.8	21.4	24.3
162: Belmar, 18th Ave.		27.5	-23.3	25.9	30.2
161: Spring Lake, Brighton Ave.		41.5	-30.9	18.0	28.6
160: Spring Lake, Salem Ave.		42.7	-46.5	-2.5	-6.3
159: Sea Girt, New York Ave.		12.8	-17.3	0.3	-4.2
158: Sea Girt, Trenton Ave.		35.9	-14.2	18.3	40.1
157: Manasquan, Riddle Way		-4.9	13.9	1.8	10.8
256: Manasquan, Pompano Ave.		11.3	-23.8	5.4	-7.1

Table 4. Seasonal shoreline changes and for the 18-month interval for Monmouth County

TABLE 5
OCEAN COUNTY
ANNUAL BEACH VOLUME CHANGES
SPRING 2007 - SPRING 2008 & FALL 2007 - FALL 2008

Survey

PROFILE SITE LOCATION	34 - 36	35 - 37
	S2007-S2008	F2007 - F2008
	(volume expressed as cubic yards per foot)	
156: Point Pleasant, Water St.	11.25	22.19
155: Point Pleasant, Maryland Ave.	4.19	15.00
154: Bay Head, Johnson Ave.	-1.27	0.90
153: Mantoloking, 1117 Ocean Ave.	-9.57	-4.68
152: Brick Townhsip, Public Beach	-1.26	-3.54
151: Normandy Beach, 1st Ave	15.70	-0.48
150: Lavallette, White Ave.	10.78	19.39
149: Ortlely Beach, 8th Ave.	-1.35	-6.99
148: Seaside Park, 4th Ave.	7.26	15.04
347: Berkeley Township, 6th Ave.	7.24	-9.73
247: Island Beach State Park, North	17.64	-0.94
246: Island Beach State Park, Middle	-3.30	11.74
146: Island Beach State Park, South	-6.73	14.86
245: Barnegat Light, 10th St.	47.93	62.54
145: Barnegat Light, 26th St.	26.11	18.40
144: Loveladies, La Baia St.	27.82	-4.94
143: Harvey Cedars, 73rd St.	10.72	8.19
142: Harvey Cedars, Tranquility Drive	2.97	6.36
241: Surf City, 20th St.	-14.08	-11.56
141: Ship Bottom, 8th St.	-6.27	10.10
140: Long BeachTownship, 32nd St.	17.49	0.65
139: Long Beach Township, 81st St.	-13.15	12.74
138: Long Beach Township, Old Whaling Rd.	-23.40	2.03
137: Beach Haven, Taylor Ave.	-54.77	-20.08
136: Beach Haven, Dolphin Ave.	-1.86	0.90
135: Long Beach Township, Webster Ave.	19.77	4.24
234: Long Beach Township, Border w/ Refuge	-27.25	1.00

Table 5. Beach volume changes for Ocean County, spring and fall year-to-year comparisons.

TABLE 6
OCEAN COUNTY
ANNUAL SHORELINE CHANGES
SPRING 2007 - SPRING 2008 & FALL 2007 - FALL 2008

Survey

PROFILE SITE LOCATION	34 - 36	35 - 37
	S2007-S2008	F2007 - F2008
	(shoreline change expressed in feet)	
156: Point Pleasant, Water St.	9.1	13.7
155: Point Pleasant, Maryland Ave.	-12.5	9.1
154: Bay Head, Johnson Ave.	17.8	-0.1
153: Mantoloking, 1117 Ocean Ave.	-22.4	-48.8
152: Brick Township, Public Beach	6.4	-13.4
151: Normandy Beach, 1st Ave	5.1	-16.6
150: Lavallette, White Ave.	15.2	-8.9
149: Ortleigh Beach, 8th Ave.	8.9	-27.2
148: Seaside Park, 4th Ave.	19.7	18.8
347: Berkeley Township, 6th Ave.	7.5	-5.8
247: Island Beach State Park, North	-7.7	-19.6
246: Island Beach State Park, Middle	19.4	2.1
146: Island Beach State Park, South	27.3	-7.7
245: Barnegat Light, 10th St.	16.5	44.6
145: Barnegat Light, 26th St.	33.0	-3.1
144: Loveladies, La Baia St.	41.3	-5.7
143: Harvey Cedars, 73rd St.	10.6	-0.1
142: Harvey Cedars, Tranquility Drive	-8.2	-16.0
241: Surf City, 20th St.	-14.8	-31.3
141: Ship Bottom, 8th St.	20.9	12.1
140: Long Beach Township, 32nd St.	35.8	-19.9
139: Long Beach Township, 81st St.	-0.1	7.8
138: Long Beach Township, Old Whaling Rd.	-31.9	-3.1
137: Beach Haven, Taylor Ave.	-41.9	-13.7
136: Beach Haven, Dolphin Ave.	-5.2	-18.4
135: Long Beach Township, Webster Ave.	36.1	-23.3
234: Long Beach Township, Border w/ Refuge	-51.0	-20.6

Table 6. Shoreline changes for Ocean County, spring and fall year-to-year comparisons.

**TABLE 7
OCEAN COUNTY
SEASONAL BEACH VOLUME CHANGES**

PROFILE SITE LOCATION	Survey	34-35	35-36	36-37	34-37
		S07-F07	F07-S08	S08-F08	S07-F08
		(volume expressed as cubic yards per foot of beachfront)			
156: Point Pleasant, Water St.		22.96	-11.24	33.42	43.45
155: Point Pleasant, Maryland Ave.		3.83	0.26	14.50	18.79
154: Bay Head, Johnson Ave.		13.01	-14.22	14.96	14.11
153: Mantoloking, 1117 Ocean Ave.		-4.83	-4.74	0.22	-9.38
152: Brick Township, Public Beach		-4.69	3.47	-7.29	-8.27
151: Normandy Beach, 1st Ave		6.83	8.10	-8.72	4.87
150: Lavallette, White Ave.		-1.42	12.13	7.32	17.19
149: Ortley Beach, 8th Ave.		-3.90	2.65	-10.11	-10.64
148: Seaside Park, 4th Ave.		10.55	-3.70	18.34	25.59
347: Berkeley Township, 6th Ave.		8.95	-1.77	-7.88	-0.50
247: Island Beach State Park, North		20.73	-3.17	2.03	20.02
246: Island Beach State Park, Middle		-5.83	0.33	13.68	5.55
146: Island Beach State Park, South		-4.09	-3.56	18.56	11.74
245: Barnegat Light, 10th St.		23.94	23.77	38.10	86.63
145: Barnegat Light, 26th St.		19.66	6.26	12.20	38.10
144: Loveladies, La Baia St.		10.85	15.53	-20.33	7.12
143: Harvey Cedars, 73rd St.		13.45	-1.82	10.50	21.47
142: Harvey Cedars, Tranquility Drive		-4.12	6.94	-0.51	2.42
241: Surf City, 20th St.		-16.37	1.79	-13.12	-26.95
141: Ship Bottom, 8th St.		-26.35	20.23	-10.25	-17.56
140: Long Beach Township, 32nd St.		22.70	-3.67	4.66	22.11
139: Long Beach Township, 81st St.		-19.38	6.28	5.73	-5.83
138: Long Beach Township, Old Whaling Rd.		-12.03	-12.01	14.02	-9.21
137: Beach Haven, Taylor Ave.		-25.68	-29.09	9.21	-45.22
136: Beach Haven, Dolphin Ave.		5.44	-8.30	9.12	7.18
135: Long Beach Township, Webster Ave.		11.38	8.36	-4.07	15.69
234: Long Beach Township, Border w/ Refuge		-3.91	-23.41	24.47	-2.78

Table 7. Seasonal beach volume changes and the 18-month volume comparison for Ocean County.

**TABLE 8
OCEAN COUNTY
SEASONAL SHORELINE CHANGES**

PROFILE SITE LOCATION	Survey	34-35 S07-F07	35-36 F07-S08	36-37 S08-F08	34-37 S07-F08
			(shoreline change expressed in feet)		
156: Point Pleasant, Water St.		27.3	-18.2	31.9	41.0
155: Point Pleasant, Maryland Ave.		9.3	-21.8	30.9	18.4
154: Bay Head, Johnson Ave.		36.3	-18.5	18.4	36.2
153: Mantoloking, 1117 Ocean Ave.		28.7	-51.1	2.3	-20.1
152: Brick Township, Public Beach		43.2	-36.8	23.4	29.8
151: Normandy Beach, 1st Ave		40.3	-35.1	18.5	23.6
150: Lavallette, White Ave.		31.8	-16.6	7.7	22.9
149: Ortley Beach, 8th Ave.		43.3	-34.5	7.3	16.2
148: Seaside Park, 4th Ave.		27.4	-7.7	26.4	46.2
347: Berkeley Township, 6th Ave.		16.0	-8.6	2.8	10.2
247: Island Beach State Park, North		20.9	-28.6	9.0	1.3
246: Island Beach State Park, Middle		23.1	-3.7	5.8	25.2
146: Island Beach State Park, South		38.5	-11.1	3.4	30.8
245: Barnegat Light, 10th St.		23.7	-7.3	51.9	68.3
145: Barnegat Light, 26th St.		37.5	-4.6	1.6	34.5
144: Loveladies, La Baia St.		37.1	4.1	-9.8	31.5
143: Harvey Cedars, 73rd St.		20.3	-9.7	9.6	20.3
142: Harvey Cedars, Tranquility Drive		-0.2	-8.0	-8.0	-16.3
241: Surf City, 20th St.		-7.8	-7.0	-24.3	-39.1
141: Ship Bottom, 8th St.		-0.4	21.4	-9.3	11.6
140: Long Beach Township, 32nd St.		19.0	16.8	-36.6	-0.9
139: Long Beach Township, 81st St.		9.4	-9.4	17.3	17.2
138: Long Beach Township, Old Whaling Rd.		-4.8	-27.1	24.0	-7.9
137: Beach Haven, Taylor Ave.		-8.0	-34.0	20.3	-21.6
136: Beach Haven, Dolphin Ave.		14.2	-19.4	1.0	-4.3
135: Long Beach Township, Webster Ave.		34.2	1.9	-25.2	10.9
234: Long Beach Township, Border w/ Refuge		25.7	-76.6	56.1	5.1

Table 8. Seasonal shoreline changes and for the 18-month interval for Ocean County.

TABLE 9
ATLANTIC COUNTY
ANNUAL BEACH VOLUME CHANGES
SPRING 2007 - SPRING 2008 & FALL 2007 - FALL 2008

Survey

PROFILE SITE LOCATION	34 - 36	35 - 37
	S2007-S2008	F2007 - F2008
	(volume expressed as cubic yards per foot)	
134: Brigantine, Green Acres	-8.01	-12.85
133: Brigantine, 4th Street North	-12.58	-9.96
132: Brigantine, 15th Street South	14.23	-13.31
131: Brigantine, 43rd Street South	30.89	46.86
130: Atlantic City, North Carolina Ave.	-29.93	-12.34
129: Atlantic City, Raleigh Ave.	-13.87	0.97
128: Ventnor City, Dorset Ave.	-12.54	-38.38
127: Margate City, Benson Ave.	-0.74	-4.39
126: Longport, 17th St.	15.97	17.09

TABLE 10
ATLANTIC COUNTY
ANNUAL SHORELINE CHANGES
SPRING 2007 - SPRING 2008 & FALL 2007 - FALL 2008

Survey

PROFILE SITE LOCATION	34 - 36	35 - 37
	S2007-S2008	F2007 - F2008
	(shoreline change expressed in feet)	
134: Brigantine, Green Acres	1.9	-10.9
133: Brigantine, 4th Street North	-34.6	-31.7
132: Brigantine, 15th Street South	8.9	-37.1
131: Brigantine, 43rd Street South	26.9	26.0
130: Atlantic City, North Carolina Ave.	-23.6	-33.8
129: Atlantic City, Raleigh Ave.	-21.3	-80.0
128: Ventnor City, Dorset Ave.	-48.2	-79.1
127: Margate City, Benson Ave.	-46.3	-18.5
126: Longport, 17th St.	9.7	4.3

Table 9. Beach volume changes for Atlantic County, spring and fall year-to-year comparisons.

Table 10. Shoreline changes for Atlantic County, spring and fall year-to-year comparisons.

**TABLE 11
ATLANTIC COUNTY
SEASONAL BEACH VOLUME CHANGES**

PROFILE SITE LOCATION	Survey	34-35	35-36	36-37	34-37
		S07-F07	F07-S08	S08-F08	S07-F08
		(volume expressed as cubic yards per foot of beachfront)			
134: Brigantine, Green Acres		10.52	-19.10	6.08	-2.78
133: Brigantine, 4th Street North		-3.43	-9.96	-0.72	-12.70
132: Brigantine, 15th Street South		-3.30	17.72	-31.73	-17.40
131: Brigantine, 43rd Street South		13.59	16.77	28.85	62.47
130: Atlantic City, North Carolina Ave.		-23.89	-6.05	-5.94	-35.71
129: Atlantic City, Raleigh Ave.		7.86	-21.62	22.44	8.50
128: Ventnor City, Dorset Ave.		21.77	-34.06	-4.28	-16.76
127: Margate City, Benson Ave.		13.50	-13.59	10.03	9.07
126: Longport, 17th St.		12.45	3.72	13.26	29.41

**TABLE 12
ATLANTIC COUNTY
SEASONAL SHORELINE CHANGES**

PROFILE SITE LOCATION	Survey	34-35	35-36	36-37	34-37
		S07-F07	F07-S08	S08-F08	S07-F08
		(shoreline change expressed in feet)			
134: Brigantine, Green Acres		31.0	-29.1	18.2	20.1
133: Brigantine, 4th Street North		-39.0	4.5	-36.2	-70.7
132: Brigantine, 15th Street South		2.5	6.4	-43.5	-34.6
131: Brigantine, 43rd Street South		34.5	-7.7	33.7	60.6
130: Atlantic City, North Carolina Ave.		-4.0	-19.6	-14.2	-37.8
129: Atlantic City, Raleigh Ave.		62.5	-83.8	3.8	-17.6
128: Ventnor City, Dorset Ave.		41.7	-89.9	10.8	-37.4
127: Margate City, Benson Ave.		-3.9	-42.4	23.9	-22.3
126: Longport, 17th St.		7.5	2.2	2.0	11.7

**Table 11. Seasonal beach volume changes and the 18-month volume comparison for Atlantic County.
Table 12. Seasonal shoreline changes and for the 18-month interval for Atlantic County.**

TABLE 13
CAPE MAY COUNTY
ANNUAL BEACH VOLUME CHANGES
SPRING 2007 - SPRING 2008 & FALL 2007 - FALL 2008

PROFILE SITE LOCATION	Survey	
	34 - 36 S2007-S2008	35 - 37 F2007 - F2008
	(volume expressed as cubic yards per foot)	
225: Ocean City, Gardens Rd.	44.03	19.42
125: Ocean City, 6th St.	109.90	98.47
124: Ocean City, 20th St.	4.71	-8.63
223: Ocean City, 34th St.	14.73	-14.53
122: Ocean City, 56th St.	-11.75	3.85
121: Strathmere, Williams Rd.	-47.58	-52.22
120: Sea Isle City, 1st St.	22.47	-6.42
119: Sea Isle City, 25th St.	-14.94	-17.07
118: Sea Isle City, 57th St.	-1.96	26.36
117: Sea Isle City, 80th St.	6.01	-6.72
216: Avalon, 9th St.	-48.84	13.60
116: Avalon, 23rd St.	11.74	3.07
115: Avalon, 35th St.	-0.48	0.80
114: Avalon, 70th St.	12.57	22.22
113: Stone Harbor, 90th St.	-5.59	-15.93
212: Stone Harbor, 121st St.	-26.67	-33.64
112: Stone Harbor, South Pointe	** NO LONGER ACTIVE **	
111: North Wildwood, 15th Ave.	-9.92	-3.17
110: Wildwood, Cresse Ave.	20.95	-9.30
109: Lower Township, Raleigh Ave.	20.19	10.60
208: Lower Township, U.S.C.G. Base	-13.13	12.53
108: Cape May, Beach Club	-3.52	5.59
107: Cape May, Baltimore Ave.	-8.65	-7.68
206: Cape May, Broadway Ave.	19.16	-7.72
105: Cape May, Nature Conservancy	-28.39	-32.20
104: Cape May Point, Lake Dr.	-8.06	18.12
103: Higbee Beach State Park	0.74	-3.99
102: North Cape May, Whittier	-7.06	5.29
101: Villas, Pacific Ave.	3.55	0.96
100: Reeds Beach, Beach Ave.	0.85	23.33

Table 13. Beach volume changes for Cape May County, spring and fall year-to-year comparisons.

TABLE 14
CAPE MAY COUNTY
ANNUAL SHORELINE CHANGES
SPRING 2007 - SPRING 2008 & FALL 2007 - FALL 2008

Survey

PROFILE SITE LOCATION	34 - 36	35 - 37
	S2007-S2008	F2007 - F2008
	(shoreline change expressed in feet)	
225: Ocean City, Gardens Rd.	171.2	-26.1
125: Ocean City, 6th St.	238.2	97.4
124: Ocean City, 20th St.	-17.2	-24.3
223: Ocean City, 34th St.	-17.7	-11.5
122: Ocean City, 56th St.	-16.7	-29.4
121: Strathmere, Williams Rd.	-77.2	163.9
120: Sea Isle City, 1st St.	-7.1	-49.3
119: Sea Isle City, 25th St.	-65.8	-37.9
118: Sea Isle City, 57th St.	-19.3	58.5
117: Sea Isle City, 80th St.	-14.1	5.5
216: Avalon, 9th St.	-8.1	100.7
116: Avalon, 23rd St.	-20.0	14.4
115: Avalon, 35th St.	24.4	-2.6
114: Avalon, 70th St.	-12.0	19.5
113: Stone Harbor, 90th St.	-35.0	-11.2
212: Stone Harbor, 121st St.	-79.2	-48.3
112: Stone Harbor, South Pointe	** NO LONGER ACTIVE **	
111: North Wildwood, 15th Ave.	12.1	-36.3
110: Wildwood, Cresse Ave.	40.3	8.9
109: Lower Township, Raleigh Ave.	-0.6	4.9
208: Lower Township, U.S.C.G. Base	-16.0	-14.1
108: Cape May, Beach Club	-12.4	-3.5
107: Cape May, Baltimore Ave.	-23.9	-3.9
206: Cape May, Broadway Ave.	17.8	-1.8
105: Cape May, Nature Conservancy	-22.0	-34.6
104: Cape May Point, Lake Dr.	-20.1	22.1
103: Higbee Beach State Park	8.4	-8.6
102: North Cape May, Whhittier	1.9	14.6
101: Villas, Pacific Ave.	-0.9	-2.3
100: Reeds Beach, Beach Ave.	2.1	49.3

Table 14. Shoreline changes for Cape May County, spring and fall year-to-year comparisons.

TABLE 15
CAPE MAY COUNTY
SEASONAL BEACH VOLUME CHANGES

PROFILE SITE LOCATION	Survey	34-35	35-36	36-37	34-37
		S07-F07	F07-S08	S08-F08	S07-F08
		(volume expressed as cubic yards per foot of beachfront)			
225: Ocean City, Gardens Rd.		-4.25	48.32	-33.33	15.39
125: Ocean City, 6th St.		-10.18	119.99	-21.56	88.13
124: Ocean City, 20th St.		6.60	-2.64	-5.70	-2.23
223: Ocean City, 34th St.		21.85	-8.51	-7.35	6.73
122: Ocean City, 56th St.		-3.83	-8.24	10.73	-0.56
121: Strathmere, Williams Rd.		41.55	-86.92	31.34	-13.69
120: Sea Isle City, 1st St.		15.89	5.37	-11.56	10.53
119: Sea Isle City, 25th St.		6.39	-21.87	5.04	-9.49
118: Sea Isle City, 57th St.		15.66	-17.57	43.80	41.89
117: Sea Isle City, 80th St.		-0.01	5.65	-12.40	-6.64
216: Avalon, 9th St.		-9.92	-34.51	48.81	-0.78
116: Avalon, 23rd St.		-1.70	13.42	-10.23	1.43
115: Avalon, 35th St.		9.32	-10.22	11.22	10.51
114: Avalon, 70th St.		4.90	7.36	14.85	26.98
113: Stone Harbor, 90th St.		14.11	-19.92	4.19	-1.55
212: Stone Harbor, 121st St.		2.77	-29.89	-4.01	-31.18
112: Stone Harbor, South Pointe		** NO LONGER ACTIVE **			
111: North Wildwood, 15th Ave.		0.89	-10.83	7.15	-2.37
110: Wildwood, Cresse Ave.		32.79	-15.59	10.19	21.11
109: Lower Township, Raleigh Ave.		11.51	-1.58	12.60	32.75
208: Lower Township, U.S.C.G. Base		-7.52	-7.14	19.15	4.79
108: Cape May, Beach Club		-3.12	-0.67	5.80	2.48
107: Cape May, Baltimore Ave.		2.32	-10.75	3.18	-5.65
206: Cape May, Broadway Ave.		7.99	10.74	-18.20	0.04
105: Cape May, Nature Conservancy		14.78	-40.74	8.04	-17.44
104: Cape May Point, Lake Dr.		-26.81	17.43	2.28	-5.50
103: Higbee Beach State Park		6.26	-5.64	1.51	2.31
102: North Cape May, Whittier Ave.		-8.52	1.18	4.36	-2.99
101: Villas, Pacific Ave.		1.68	1.81	-1.06	2.46
100: Reeds Beach, Beach Ave.		0.66	0.16	22.99	24.09

Table 15. Seasonal beach volume changes and the 18-month volume comparison for Cape May County.

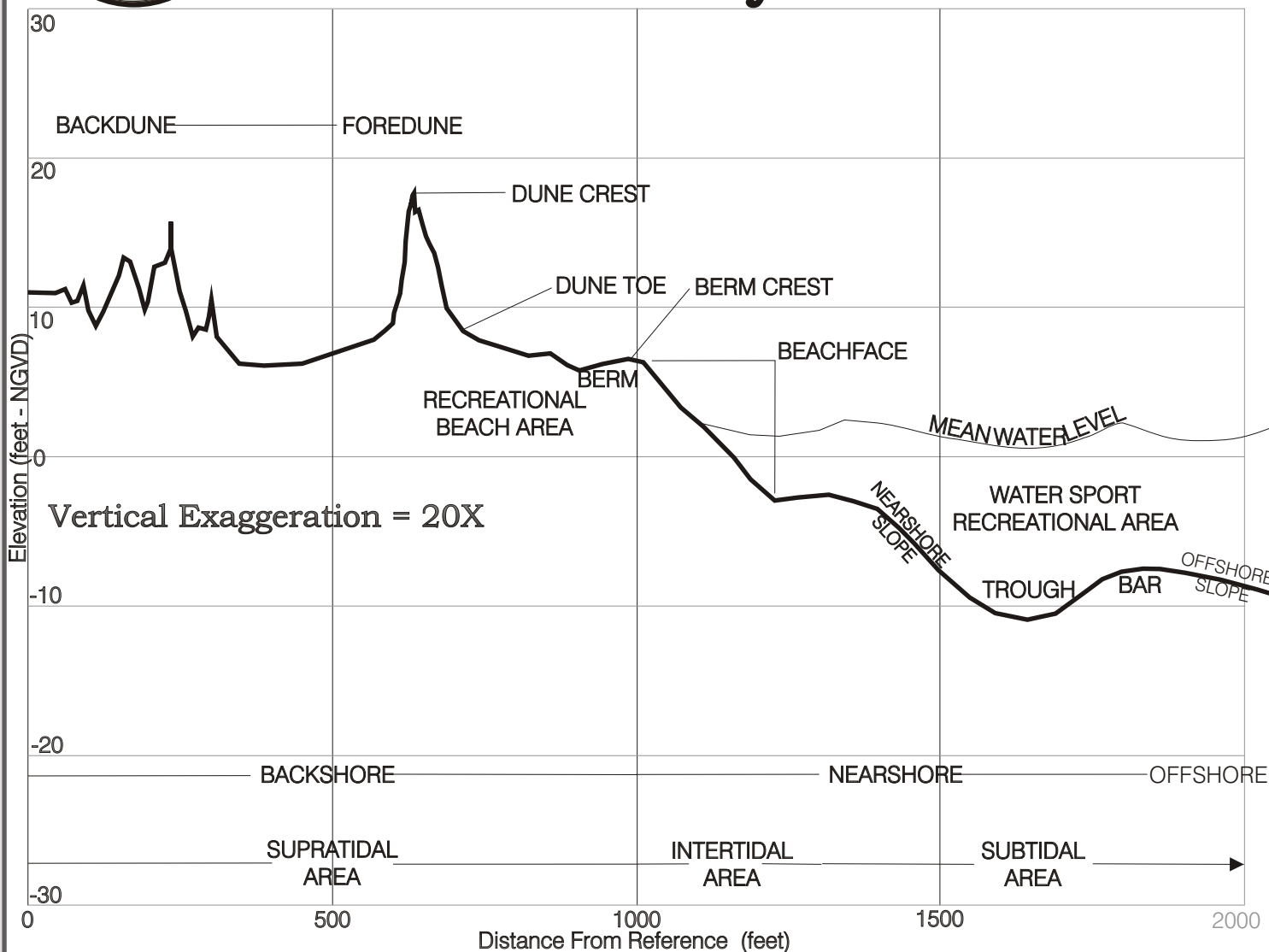
**TABLE 16
CAPE MAY COUNTY
SEASONAL SHORELINE CHANGES**

PROFILE SITE LOCATION	Survey	34-35	35-36	36-37	34-37
		S07-F07	F07-S08	S08-F08	S07-F08
		(shoreline change expressed in feet)			
225: Ocean City, Gardens Rd.		54.0	117.2	-143.3	27.9
125: Ocean City, 6th St.		34.4	203.8	-106.4	131.8
124: Ocean City, 20th St.		40.4	-57.6	33.3	16.1
223: Ocean City, 34th St.		12.5	-30.2	18.7	1.0
122: Ocean City, 56th St.		31.1	-47.8	18.4	1.7
121: Strathmere, Williams Rd.		-4.3	-72.9	236.8	159.6
120: Sea Isle City, 1st St.		5.5	-12.6	-36.7	-43.8
119: Sea Isle City, 25th St..		23.8	-89.5	51.6	-14.2
118: Sea Isle City, 57th St..		28.9	-48.2	106.7	87.4
117: Sea Isle City, 80th St..		5.6	-19.7	25.2	11.1
216: Avalon, 9th St.		15.8	-23.9	124.6	116.5
116: Avalon, 23rd St.		-28.5	8.6	5.8	-14.2
115: Avalon, 35th St.		41.8	-17.4	14.8	39.2
114: Avalon, 70th St.		24.0	-36.0	55.5	43.5
113: Stone Harbor, 90th St.		-5.4	-29.6	18.4	-16.6
212: Stone Harbor, 121st St.		3.9	-83.1	34.8	-44.3
112: Stone Harbor, South Pointe		** NO LONGER ACTIVE **			
111: North Wildwood, 15th Ave.		39.2	-27.0	-9.2	2.9
110: Wildwood, Cresse Ave.		58.3	-18.0	27.0	67.2
109: Lower Township, Raleigh Ave.		14.7	-15.2	20.1	19.5
208: Lower Township, U.S.C.G. Base		4.1	-20.0	5.9	-10.1
108: Cape May, Beach Club		-14.8	2.4	-5.9	-18.3
107: Cape May, Baltimore Ave.		-7.3	-16.6	12.7	-11.1
206: Cape May, Broadway Ave.		18.4	-0.6	-1.2	16.6
105: Cape May, Nature Conservancy		44.6	-66.6	32.1	10.1
104: Cape May Point, Lake Dr.		-29.4	9.4	12.7	-7.3
103: Higbee Beach State Park		14.1	-5.8	-2.8	5.6
102: North Cape May, Whittier Ave.		1.2	0.7	13.9	15.8
101: Villas, Pacific Ave.		5.3	-6.2	3.9	3.0
100: Reeds Beach, Beach Ave.		5.1	-3.0	52.3	54.4

Table 16. Seasonal shoreline changes and for the 18-month interval for Cape May County.



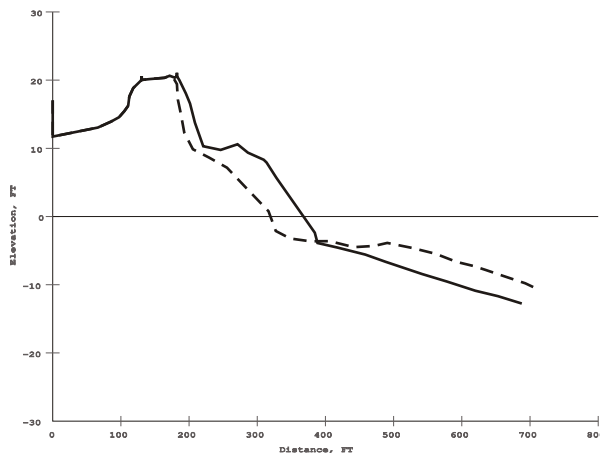
Typical Beach Profiles in New Jersey



Above is a typical beach profile with major features and zones labeled. No beach will show every aspect of this diagram at all times, but it illustrates all important features that appear on the New Jersey shoreline..

Seasonal Variations

The pair of profiles to the left show some of the typical seasonal beach profile changes. The dashed line profile is the result of a winter season, where ocean conditions moved material offshore. The solid line profile is the result of a summer season, where ocean conditions moved sand onshore. The summer profile has a well developed berm and wider beach and dune, while the winter profile has this beach material present in the offshore region of the profile.





Coastal Research Center Glossary of Coastal Terms



Accretion - The addition of material by natural processes.

Aeolian Accretion - The accretion that results from wind driven processes.

Backshore - The area of the beach profile landward of the berm and seaward of upland dunes or bluffs.

Beachface - Also known as foreshore. The area of the beach exposed to regular wave action.

Berm - The nearly horizontal portion of the beach formed at the high water line as waves deposit material. A beach may have no berm or multiple berms.

Bulkhead - A structure that is built to retain or prevent the slumping of land at the influence of water and wave action. Bulkheads are typically made of wood, steel, or aluminum.

Cross-shore Transport - The transfer of sand perpendicular to the shoreline, or along the profile. A bar migrating onto the beach is an example of cross-shore transport.

Current - The flow of water.

Downdrift - The dominant direction of movement of littoral materials.

Datum - A reference level from which elevations are measured.

Dry Beach - The area of beach between the water and dune toe that is commonly used for recreating. Also referred to as recreational beach.

Dune - Unconsolidated hills or mounds of sand. Dunes are the result of aeolian processes and may have vegetation ranging from sparse to dense. Vegetation greatly stabilizes a dune.

Eddy - A circular current running contrary to the main current.

Erosion - The removal of material by natural processes.

Foredune - The most seaward of the dune ridge along the profile.

Geotube - A geotextile fabric tube filled with sand, typically used to retain material or to dissipate wave energy.

Groin - A shore-perpendicular erosion control structure, usually made of wood or rock. This structure acts to slow the process of littoral transport.

Hurricane - A tropical cyclone in the Northern Hemisphere, with sustained winds over 74 mph.

Jetty - A shore-perpendicular erosion control structure similar to a groin, however it is used to control the movement of an inlet or channel.

Littoral Current - Current that moves parallel to shore, that results from the approach of waves not being perpendicular to the shoreline.

Littoral Drift - Also known as longshore transport. Movement of material in the longshore direction, resulting from the littoral currents.



Coastal Research Center Glossary of Coastal Terms



Longshore Transport - Also known as littoral drift. Movement of material in the longshore direction, resulting from the littoral currents.

NGVD - (the datum of 1929) A common elevation reference developed from a specific model of the Earth's surface.

Onshore - In the direction of the shoreline; landward.

Offshore - In the direction opposite of the shoreline; seaward.
The region of the beach profile seaward of the first bar.

Neap Tide - A tide having significantly reduced variations from mean tide levels. Neap tides occur near quarter moon stages.

Nearshore - Region of beach profile extending from the berm seaward through the offshore.

Northeaster - Dominant type of coastal winter storm event experienced in New Jersey, with winds from the northeast that exceed 30 mph.

Revetment - Cover of stone placed on or along a shoreline to protect a slope or shore structure.

Ridge - A low elevation, near shore parallel continuous mound of sand, pushed onshore by wave action.

Riprap - Line of rocks placed randomly along a slope or structure for protection.

Runnel - A continuous area of lower elevation than, but parallel to and adjacent to, a ridge(s).

Scarp - A near vertical feature created through the erosion of material from the lower portion of a slope or bluff.

Scour - Underwater removal of material through currents and wave action.

Seawall - Structure that separates the land and water.

Shoreline - The narrow area of land in contact with the water. When referring to a profile plot, the point where the profile crosses the line representing the datum.

Spring Tide - Tide with the most extreme variations from mean tide levels. Spring tides occur at new or full moon stages.

Swale - A long, narrow, generally shallow depression between ridges.

Swash - The area of beachface exposed to breaking wave energy as waves come ashore.

Storm Surge - The abnormal rise in local sea level that accompanies a hurricane or other major storm event.

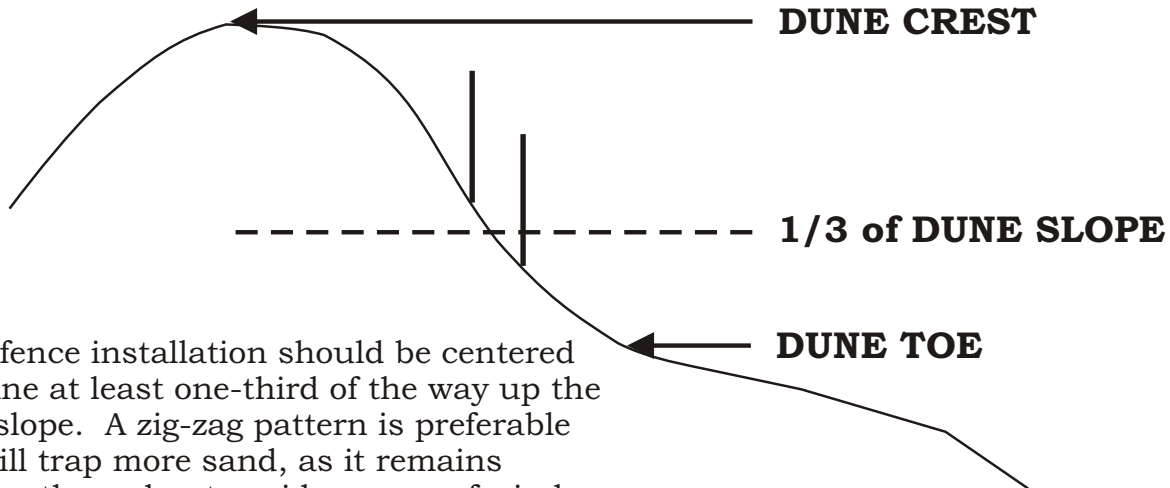
Updrift - In the direction opposite of the dominant movement of littoral materials.

Wrack - Debris deposited on the beach by wave action.

References: A.G.I., U.S.A.C.O.E., N.O.A.A., F.E.M.A., N.J.D.E.P.



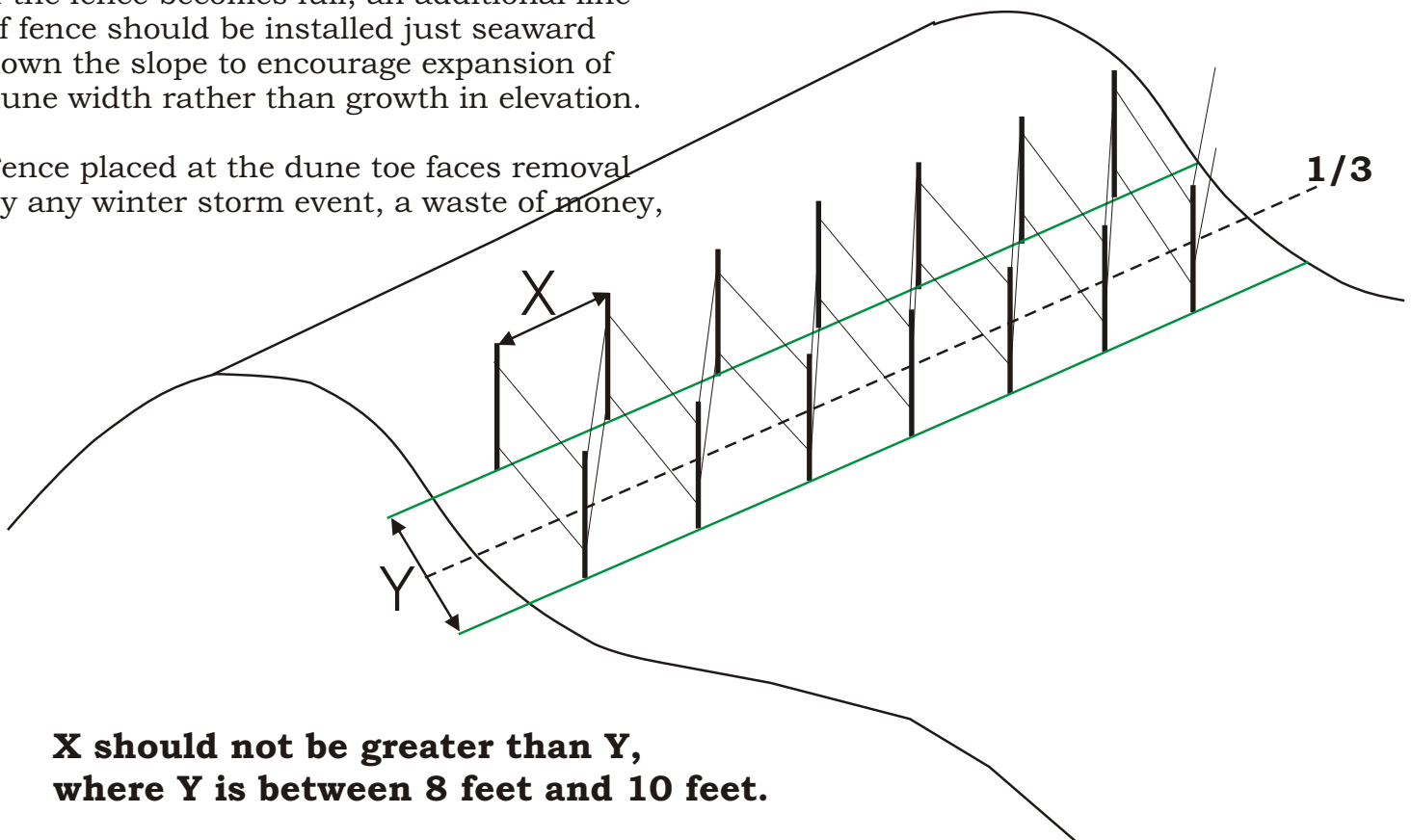
Optimal Dune Fence Placement (Initial Fence Placement)



Dune fence installation should be centered on a line at least one-third of the way up the dune slope. A zig-zag pattern is preferable and will trap more sand, as it remains effective throughout a wider range of wind directions. The zig-zag pattern should be implemented as shown below.

If the fence becomes full, an additional line of fence should be installed just seaward down the slope to encourage expansion of dune width rather than growth in elevation.

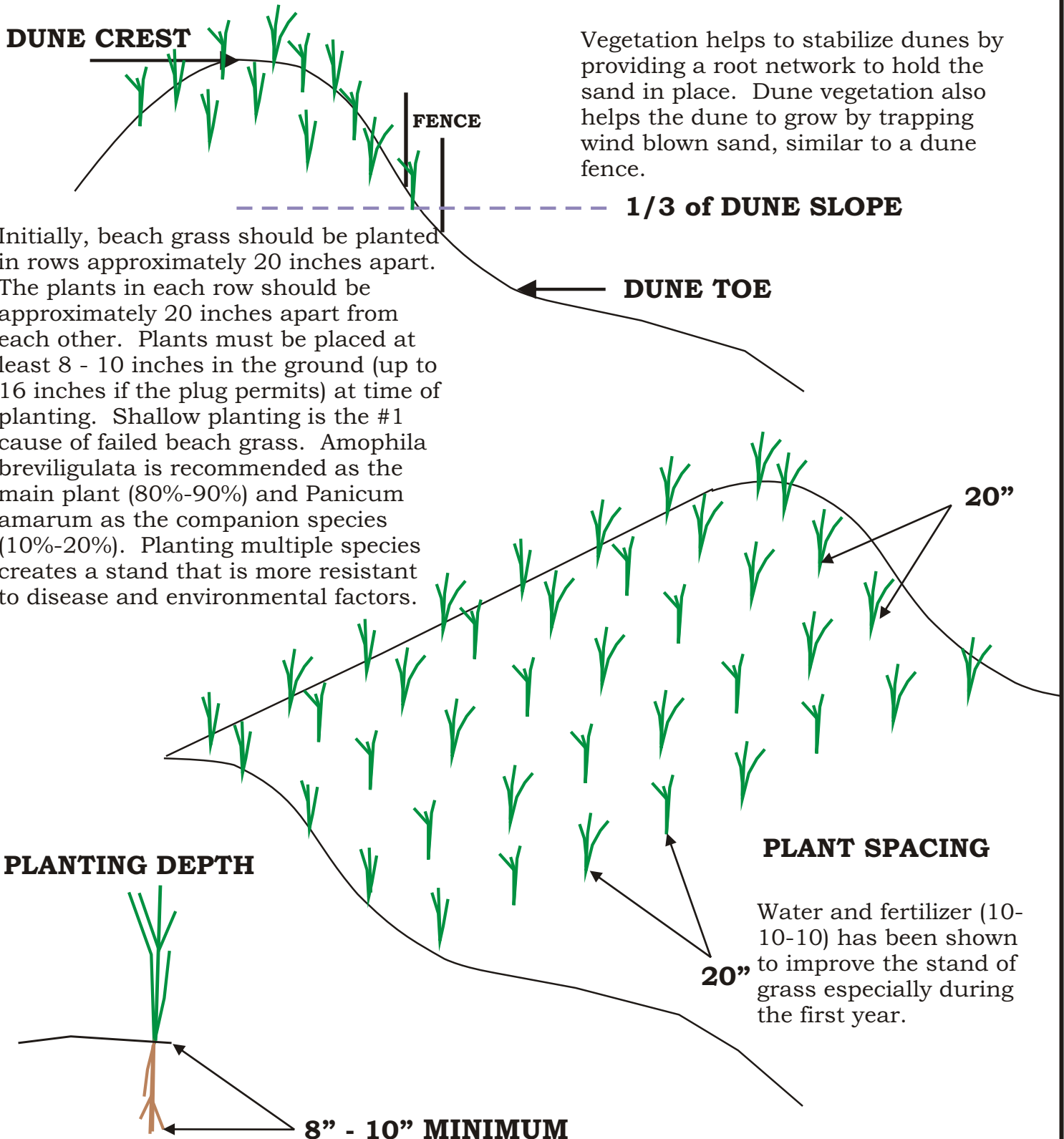
Fence placed at the dune toe faces removal by any winter storm event, a waste of money,



**X should not be greater than Y,
where Y is between 8 feet and 10 feet.**



Optimal Beach Grass Planting (Initial Planting)



Vegetation helps to stabilize dunes by providing a root network to hold the sand in place. Dune vegetation also helps the dune to grow by trapping wind blown sand, similar to a dune fence.

Initially, beach grass should be planted in rows approximately 20 inches apart. The plants in each row should be approximately 20 inches apart from each other. Plants must be placed at least 8 - 10 inches in the ground (up to 16 inches if the plug permits) at time of planting. Shallow planting is the #1 cause of failed beach grass. *Amophila breviligulata* is recommended as the main plant (80%-90%) and *Panicum amarum* as the companion species (10%-20%). Planting multiple species creates a stand that is more resistant to disease and environmental factors.

1/3 of DUNE SLOPE

DUNE TOE

20"

PLANT SPACING

20"

Water and fertilizer (10-10-10) has been shown to improve the stand of grass especially during the first year.

PLANTING DEPTH

8" - 10" MINIMUM

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