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Table 1. Original 2007 sampling design and actual sites surveyed for *Acropora* corals, stony coral species richness, *Coralliophila* snails, and urchins in the Florida Keys National Marine Sanctuary and Biscayne National Park by habitat type, regional sector, and protection level. Available sites reflect the number of 200 m x 200 m sites as determined from FDEP (1998) habitat mapping data. Asterisked sites (**) are Sanctuary Preservation Areas (SPA), Ecological Reserves (ER), or Research Only Areas (RO).

Habitat type/region/protection	No. sites planned	No. sites sampled	% of Effort	No. sites available	% Available
Mid-channel patch reef (MPR)					
Biscayne National Park					
Reference sites		12	5.11		
Upper Florida Keys					
Reference sites	4	4	1.70	787	8.61
Middle Florida Keys					
Reference sites	4	4	1.70	326	3.57
Hen and Chickens SPA**	2	2	0.85	10	0.11
Cheeca Rocks SPA**	2	2	0.85	11	0.12
Lower Florida Keys					
Reference sites	8	8	3.40	1068	11.69
Western Sambo ER**	4	4	1.70	35	0.38
MPR Habitat Total	24	36	15.32	2,237	24.49
Offshore patch reef (OPR)					
Biscayne National Park					
Reference sites		7	2.98		
Upper Florida Keys					
Reference sites	12	15	6.38	723	7.91
Carysfort/S. Carysfort SPA**		4	1.70		
Middle Florida Keys					
Reference sites	4	4	1.70	55	0.60
Coffins Patch SPA**		2	0.85		
Lower Florida Keys					
Reference sites	5	6	2.55	152	1.66
Looe Key RO**	2	2	0.85	13	0.14
Western Sambo ER**	2	2	0.85	55	0.60
OPR Habitat Total	25	42	17.87	998	10.92
Hard-bottom/rubble/sand matrix					
Upper Florida Keys					
Reference sites		3	1.28		
Carysfort/S. Carysfort SPA**		1	0.43		
Hard-bottom Matrix Total		4	1.70		
Low-relief hard-bottom (< 6 m)					
Biscayne National Park					
Reference sites		2	0.85		
Upper Florida Keys					
Reference sites	6	4	1.70	497	5.44
Carysfort/S. Carysfort SPA**	2	1	0.43	22	0.24
Molasses Reef SPA**	1			4	0.04
Middle Florida Keys					
Reference sites	4	6	2.55	230	2.52
Conch Reef SPA**	1	2	0.85	5	0.05
Davis Reef SPA**	1	2	0.85	3	0.03
Alligator Reef SPA**		2	0.85		
Coffins Patch SPA**	2	2	0.85	17	0.19
Lower Florida Keys					
Reference sites	4	4		64	0.70
LRHB (< 6 m) Habitat Total	21	25	10.64	842	9.22

Habitat type/region/protection	No. sites planned	No. sites sampled	% of Effort	No. sites available	% Available
Inner line spur and groove (IRT)					
Upper Florida Keys					
Reference sites	4	4	1.70	68	0.74
Dry Rocks SPA**	2	2	0.85	5	0.05
Grecian Rocks SPA**	2	2	0.85	14	0.15
IRT Habitat Total	8	8	3.40	87	0.95
High-relief spur and groove (HSG)					
Biscayne National Park					
Reference sites		7	2.98		
Upper Florida Keys					
Reference sites	8	7	2.98	33	0.36
Carysfort/S. Carysfort SPA**	2	4	1.70	35	0.38
Elbow Reef SPA**	2	2	0.85	15	0.16
French Reef SPA**	2	2	0.85	13	0.14
Molasses Reef SPA**	2	2	0.85	18	0.20
Middle Florida Keys					
Reference sites	2	2	0.85	2	0.02
Davis Reef SPA**	1			1	0.01
Alligator Reef SPA**	2			11	0.12
Sombrero Reef SPA**	2	2	0.85	7	0.08
Lower Florida Keys					
Reference	11	11	4.68	44	0.48
Looe Key SPA**	2	2	0.85	15	0.16
Eastern Sambo RO**	2	2	0.85	6	0.07
Western Sambo ER**	2	2	0.85	14	0.15
Eastern Dry Rocks SPA**	2	2	0.85	8	0.09
Rock Key SPA**	2	2	0.85	6	0.07
Sand Key SPA**	1	2	0.85	7	0.08
HSG Habitat Total	45	51	21.70	235	2.57
Low-relief hard-bottom (> 6 m)					
Upper Florida Keys					
Reference sites	4	4	1.70	515	5.64
Carysfort/S. Carysfort SPA**	2	2	0.85	44	0.48
Middle Florida Keys					
Reference sites	4	4	1.70	704	7.71
Conch Reef SPA**		2	0.85		
Davis Reef SPA**	1			3	0.03
Coffins Patch SPA**	1			4	0.04
Lower Florida Keys					
Reference	4	3	1.28	667	7.30
Eastern Sambo RO**	1			4	0.04
Western Sambo ER**	2			14	0.15
Sand Key SPA**	1			5	0.05
LHB (> 6 m) Habitat Total	20	15	6.38	1,960	21.45
Patchy hard-bottom (> 6 m)					
Upper Florida Keys					
Reference sites	4	4	1.70	314	3.44
Middle Florida Keys					
Reference sites	4	4	1.70	486	5.32
Lower Florida Keys					
Reference	4	7	2.98	156	1.71
Eastern Sambo RO**		2	0.85		
Western Sambo ER**		2	0.85		
Sand Key SPA**		2	0.85		
PHB (> 6 m) Habitat Total	12	21	8.94	956	10.46
Low-relief spur and groove (> 6 m)					

Habitat type/region/protection	No. sites planned	No. sites sampled	% of Effort	No. sites available	% Available
Upper Florida Keys					
Reference sites	4	4	1.70	366	4.01
Carysfort/S. Carysfort SPA**	2	2	0.85	54	0.59
Middle Florida Keys					
Reference sites	6	6	2.55	726	7.95
Conch Reef SPA**	1	2	0.85	10	0.11
Conch Reef RO**	2	2	0.85	5	0.05
Davis Reef SPA**		2	0.85		
Tennessee Reef RO**	2	2	0.85	13	0.14
Sombbrero Reef SPA**	1	2	0.85	14	0.15
Lower Florida Keys					
Reference sites	4	5	2.13	604	6.61
Eastern Sambo RO**	1	2	0.85	4	0.04
Western Sambo ER**	1	2	0.85	5	0.05
Sand Key SPA**	1	2	0.85	20	0.22
LSG (> 6 m) Habitat Total	25	33	14.04	1,821	19.93
Sampling Design Total	180	235	100.00	9,136	100.00

Table 2. Chronological list of survey locations for *Acropora* corals, stony coral species richness, *Coralliophila* snails, and urchins in the Florida Keys National Marine Sanctuary and Biscayne National Park during June-August 2007. Asterisked sites (**) are Sanctuary Preservation Areas (SPA), Ecological Reserves (ER), or Research Only Areas (RO).

Site #	Date	Site location	Latitude (N)	Longitude (W)	Habitat type
61	6/23/2007	Turtle Reef	25°17.997'	80°12.894'	Inner line reef tract
15	6/23/2007	North of Carysfort Reef SPA	25°15.387'	80°12.651'	Offshore patch reef
16	6/23/2007	North of Carysfort Reef SPA	25°15.414'	80°12.172'	Offshore patch reef
14	6/23/2007	North of Carysfort Reef SPA	25°14.875'	80°12.645'	Offshore patch reef
38	6/23/2007	West of Carysfort Reef SPA	25°14.040'	80°13.995'	Hard-bottom/rubble/sand matrix
37	6/23/2007	West of Carysfort Reef SPA	25°13.355'	80°13.474'	Offshore patch reef
47	6/23/2007	Carysfort/S. Carysfort SPA**	25°13.496'	80°12.968'	Offshore patch reef
52	6/24/2007	Carysfort/S. Carysfort SPA**	25°12.927'	80°12.509'	Low-relief spur and groove
53	6/24/2007	Carysfort/S. Carysfort SPA**	25°12.918'	80°12.664'	Low-relief hard-bottom (> 6 m)
40	6/24/2007	Carysfort/S. Carysfort SPA**	25°13.670'	80°12.781'	Hard-bottom/rubble/sand matrix
26	6/24/2007	Carysfort/S. Carysfort SPA**	25°13.565'	80°12.503'	High-relief spur and groove
25	6/24/2007	Carysfort/S. Carysfort SPA**	25°13.258'	80°12.750'	High-relief spur and groove
345	6/24/2007	Carysfort/S. Carysfort SPA**	25°13.265'	80°12.835'	Offshore patch reef
46	6/24/2007	Carysfort/S. Carysfort SPA**	25°13.016'	80°13.014'	Offshore patch reef
39	6/24/2007	Carysfort/S. Carysfort SPA**	25°12.275'	80°13.738'	Offshore patch reef
240	6/25/2007	Carysfort/S. Carysfort SPA**	25°12.627'	80°12.865'	Low-relief hard-bottom (> 6 m)
241	6/25/2007	Carysfort/S. Carysfort SPA**	25°12.912'	80°12.759'	Low-relief spur and groove
218	6/25/2007	Carysfort/S. Carysfort SPA**	25°12.599'	80°13.223'	High-relief spur and groove
217	6/25/2007	Carysfort/S. Carysfort SPA**	25°12.569'	80°13.172'	High-relief spur and groove
24	6/25/2007	Near Maitland Grounding Site	25°11.953'	80°13.538'	High-relief spur and groove
36	6/25/2007	West of SW Carysfort SPA	25°12.381'	80°13.990'	Hard-bottom/rubble/sand matrix
50	6/26/2007	Offshore of Dry Rocks SPA	25°06.881'	80°16.966'	Low-relief spur and groove
51	6/26/2007	Offshore of Dry Rocks SPA	25°07.193'	80°16.843'	Low-relief spur and groove
45	6/26/2007	Offshore of Dry Rocks SPA	25°07.756'	80°16.190'	Low-relief hard-bottom (> 6 m)
27	6/26/2007	Elbow Reef SPA**	25°08.395'	80°15.595'	High-relief spur and groove
28	6/26/2007	Elbow Reef SPA**	25°08.562'	80°15.499'	High-relief spur and groove
54	6/26/2007	Inshore of Watson's Reef	25°10.247'	80°15.072'	Reef terrace
55	6/26/2007	Inshore of Watson's Reef	25°10.692'	80°14.858'	Offshore patch reef?
4	6/27/2007	Basin Hill Shoals	25°12.886'	80°16.790'	Mid-channel patch reef
346	6/27/2007	Carysfort/S. Carysfort SPA**	25°14.129'	80°12.778'	Low-relief hard-bottom (< 6 m)
35	6/27/2007	West of Carysfort Reef SPA	25°12.285'	80°14.663'	Low-relief hard-bottom (< 6 m)
34	6/27/2007	West of Carysfort Reef SPA	25°12.179'	80°14.269'	Low-relief hard-bottom (< 6 m)
13	6/27/2007	Inshore of Watson's Reef	25°10.983'	80°15.604'	Offshore patch reef
33	6/27/2007	Inshore of Watson's Reef	25°10.896'	80°15.522'	Low-relief hard-bottom (< 6 m)
62	6/28/2007	Dry Rocks SPA**	25°07.436'	80°17.851'	Inner line reef tract
63	6/28/2007	Dry Rocks SPA**	25°07.370'	80°17.904'	Inner line reef tract
57	6/28/2007	Inshore of Watson's Reef	25°11.260'	80°13.892'	Low-relief hard-bottom (> 6 m)
56	6/28/2007	Inshore of Watson's Reef	25°11.099'	80°14.538'	Patchy hard-bottom (> 6 m)
347	6/28/2007	Inshore of Watson's Reef	25°09.601'	80°15.824'	Offshore patch reef
12	6/28/2007	Inshore of Watson's Reef	25°09.572'	80°15.952'	Offshore patch reef
60	6/28/2007	Inshore of Elbow Reef SPA	25°09.361'	80°17.284'	Inner line reef tract
59	6/28/2007	Inshore of Elbow Reef SPA	25°09.046'	80°17.513'	Inner line reef tract
64	6/29/2007	Grecian Rocks SPA**	25°06.572'	80°18.385'	Inner line reef tract
65	6/29/2007	Grecian Rocks SPA**	25°06.770'	80°18.239'	Inner line reef tract
11	6/29/2007	NW of Dry Rocks SPA	25°07.730'	80°18.213'	Hard-bottom/rubble/sand matrix
58	6/29/2007	Horseshoe Reef	25°08.405'	80°17.662'	Inner line reef tract
2	6/29/2007	Near Cannon Patch Reef	25°06.518'	80°20.497'	Mid-channel patch reef
3	6/29/2007	Near Cannon Patch Reef	25°06.206'	80°20.638'	Mid-channel patch reef
9	6/29/2007	White Banks	25°03.546'	80°21.450'	Offshore patch reef
177	7/14/2007	NE of Satan Shoal	24°26.834'	81°58.272'	Low-relief hard-bottom (> 6 m)
115	7/14/2007	North of Satan Shoal	24°28.861'	81°57.420'	Mid-channel patch reef
116	7/14/2007	North of Satan Shoal	24°28.579'	81°57.223'	Mid-channel patch reef
162	7/14/2007	West of Western Dry Rocks	24°27.128'	81°55.290'	Patchy hard-bottom (> 6 m)

Site #	Date	Site location	Latitude (N)	Longitude (W)	Habitat type
127	7/14/2007	West of Sand Key SPA	24°27.626'	81°54.195'	Offshore patch reef
169	7/14/2007	Sand Key SPA**	24°27.229'	81°52.895'	Patchy hard-bottom (> 6 m)
335	7/14/2007	Sand Key SPA**	24°27.075'	81°52.852'	Patchy hard-bottom (> 6 m)
117	7/14/2007	NW of Sand Key SPA	24°28.659'	81°53.728'	Mid-channel patch reef
325	7/15/2007	Sand Key SPA**	24°27.171'	81°52.521'	High-relief spur and groove
157	7/15/2007	Sand Key SPA**	24°27.134'	81°52.665'	High-relief spur and groove
155	7/15/2007	Rock Key SPA**	24°27.274'	81°51.451'	High-relief spur and groove
156	7/15/2007	Rock Key SPA**	24°27.361'	81°51.327'	High-relief spur and groove
153	7/15/2007	Eastern Dry Rocks SPA**	24°27.557'	81°50.693'	High-relief spur and groove
154	7/15/2007	Eastern Dry Rocks SPA**	24°27.631'	81°50.522'	High-relief spur and groove
136	7/15/2007	East of Eastern Dry Rocks	24°27.849'	81°50.291'	High-relief spur and groove
163	7/16/2007	West of Western Sambo ER	24°28.760'	81°45.687'	Patchy hard-bottom (> 6 m)
168	7/16/2007	Western Sambo ER**	24°29.381'	81°43.495'	Offshore patch reef
167	7/16/2007	Western Sambo ER**	24°28.875'	81°43.484'	Patchy hard-bottom (> 6 m)
176	7/16/2007	Western Sambo ER**	24°28.672'	81°43.337'	Low-relief spur and groove
341	7/16/2007	Western Sambo ER**	24°28.694'	81°43.101'	Low-relief spur and groove
151	7/16/2007	Western Sambo ER**	24°28.935'	81°42.364'	High-relief spur and groove
152	7/16/2007	Western Sambo ER**	24°28.975'	81°42.203'	High-relief spur and groove
334	7/16/2007	Western Sambo ER**	24°29.132'	81°41.866'	Patchy hard-bottom (> 6 m)
123	7/17/2007	Western Sambo ER**	24°30.324'	81°43.247'	Mid-channel patch reef
125	7/17/2007	Western Sambo ER**	24°30.411'	81°42.539'	Mid-channel patch reef
124	7/17/2007	Western Sambo ER**	24°30.350'	81°42.380'	Mid-channel patch reef
135	7/17/2007	Western Sambo ER**	24°29.984'	81°41.926'	Offshore patch reef
126	7/17/2007	Western Sambo ER**	24°30.866'	81°41.723'	Mid-channel patch reef
118	7/17/2007	East of Western Sambo ER	24°31.467'	81°40.626'	Mid-channel patch reef
170	7/18/2007	Middle Sambo Reef	24°29.204'	81°40.642'	Low-relief spur and groove
309	7/18/2007	Middle Sambo Reef	24°29.302'	81°40.546'	High-relief spur and groove
348	7/18/2007	Middle Sambo Reef	24°29.377'	81°40.327'	High-relief spur and groove
171	7/18/2007	Middle Sambo Reef	24°29.329'	81°40.175'	Low-relief spur and groove
175	7/18/2007	Eastern Sambo RO**	24°29.443'	81°39.801'	Low-relief spur and groove
340	7/18/2007	Eastern Sambo RO**	24°29.543'	81°39.445'	Low-relief spur and groove
150	7/18/2007	Eastern Sambo RO**	24°29.560'	81°39.658'	High-relief spur and groove
149	7/18/2007	Eastern Sambo RO**	24°29.509'	81°39.787'	High-relief spur and groove
332	7/19/2007	Eastern Sambo RO**	24°29.509'	81°39.976'	Patchy hard-bottom (> 6 m)
166	7/19/2007	Eastern Sambo RO**	24°29.698'	81°39.516'	Patchy hard-bottom (> 6 m)
172	7/19/2007	East of Eastern Sambo Reef	24°29.624'	81°39.068'	Low-relief spur and groove
137	7/19/2007	East of Eastern Sambo Reef	24°29.746'	81°38.944'	High-relief spur and groove
138	7/19/2007	East of Eastern Sambo Reef	24°29.755'	81°38.858'	High-relief spur and groove
158	7/19/2007	East of No Name Reef	24°29.945'	81°38.848'	Low-relief hard-bottom (< 6 m)
164	7/19/2007	West of Pelican Shoal	24°30.069'	81°38.306'	Patchy hard-bottom (> 6 m)
128	7/19/2007	NE of Eastern Sambo	24°30.155'	81°39.389'	Offshore patch reef
178	7/20/2007	West of Pelican Shoal	24°29.981'	81°38.232'	Patchy hard-bottom (> 6 m)
139	7/20/2007	Pelican Shoal	24°30.192'	81°37.358'	High-relief spur and groove
159	7/20/2007	North of Pelican Shoal	24°30.308'	81°37.233'	Low-relief hard-bottom (< 6 m)
160	7/20/2007	North of Pelican Shoal	24°30.693'	81°37.312'	Patchy hard-bottom (> 6 m)
165	7/20/2007	North of Maryland Shoal	24°30.840'	81°35.658'	Offshore patch reef
129	7/20/2007	North of Maryland Shoal	24°31.070'	81°36.557'	Offshore patch reef
119	7/20/2007	North of Pelican Shoal	24°31.923'	81°37.551'	Mid-channel patch reef
140	7/21/2007	Maryland Shoal	24°30.738'	81°33.837'	Low-relief hard-bottom (< 6 m)
173	7/21/2007	Maryland Shoal	24°30.922'	81°33.493'	Low-relief hard-bottom (> 6 m)
130	7/21/2007	Maryland Shoal	24°31.396'	81°33.686'	Offshore patch reef
141	7/21/2007	Maryland Shoal	24°31.279'	81°34.690'	High-relief spur and groove
143	7/21/2007	Maryland Shoal	24°31.249'	81°34.856'	High-relief spur and groove
144	7/21/2007	Maryland Shoal	24°31.383'	81°34.704'	High-relief spur and groove
121	7/22/2007	North of Maryland Shoal	24°32.562'	81°34.326'	Mid-channel patch reef
120	7/22/2007	North of Maryland Shoal	24°32.317'	81°34.560'	Mid-channel patch reef
161	7/28/2007	West of American Shoal	24°31.052'	81°32.644'	Low-relief hard-bottom (< 6 m)
179	7/28/2007	West of American Shoal	24°31.539'	81°32.329'	Patchy hard-bottom (> 6 m)
145	7/28/2007	American Shoal	24°31.345'	81°31.476'	High-relief spur and groove
146	7/28/2007	American Shoal	24°31.344'	81°31.239'	High-relief spur and groove

Site #	Date	Site location	Latitude (N)	Longitude (W)	Habitat type
142	7/28/2007	American Shoal	24°31.243	81°31.354	Low-relief spur and groove
147	7/28/2007	Looe Key SPA**	24°32.711	81°24.622	High-relief spur and groove
148	7/28/2007	Looe Key SPA**	24°32.770	81°24.276	High-relief spur and groove
339	7/29/2007	Looe Key SPA**	24°32.468	81°23.950	Low-relief spur and groove
174	7/29/2007	Looe Key SPA**	24°32.788	81°23.903	Low-relief spur and groove
131	7/29/2007	North of Looe Key SPA	24°33.705	81°24.325'	Offshore patch reef
132	7/29/2007	Looe Key RO**	24°34.051	81°23.251'	Offshore patch reef
133	7/29/2007	Looe Key RO**	24°34.088	81°23.100'	Offshore patch reef
122	7/29/2007	North of Big Pine Shoal	24°36.119	81°19.120'	Mid-channel patch reef
337	7/29/2007	South of Bahia Honda Key	24°34.636	81°16.677'	Low-relief spur and groove
338	7/29/2007	South of Bahia Honda Key	24°35.524	81°15.524'	Patchy hard-bottom (> 6 m)
180	7/29/2007	South of Bahia Honda Key	24°35.406	81°14.499'	Low-relief hard-bottom (> 6 m)
111	7/30/2007	West of Sombrero Key	24°37.234	81°08.135'	Low-relief hard-bottom (> 6 m)
84	7/30/2007	Sombrero Key SPA**	24°37.560	81°06.711'	High-relief spur and groove
83	7/30/2007	Sombrero Key SPA**	24°37.470	81°06.542'	High-relief spur and groove
110	7/30/2007	Sombrero Key SPA**	24°37.520	81°06.373'	Low-relief spur and groove
287	7/30/2007	Sombrero Key SPA**	24°37.415	81°06.628'	Low-relief spur and groove
78	7/30/2007	Delta Shoal	24°37.928	81°05.408'	High-relief spur and groove
79	7/30/2007	Delta Shoal	24°37.943	81°05.317'	High-relief spur and groove
99	7/31/2007	East of Delta Shoal	24°38.274	81°04.211'	Low-relief spur and groove
98	7/31/2007	Coffins Patch SPA**	24°40.898	80°58.376'	Offshore patch reef
277	7/31/2007	Coffins Patch SPA**	24°40.892	80°58.316'	Offshore patch reef
91	7/31/2007	Coffins Patch SPA**	24°41.109	80°57.864'	Low-relief hard-bottom (< 6 m)
92	7/31/2007	Coffins Patch SPA**	24°41.212	80°57.834'	Low-relief hard-bottom (< 6 m)
85	7/31/2007	East of Coffins Patch SPA	24°41.743	80°56.131'	Low-relief hard-bottom (< 6 m)
66	7/31/2007	East Turtle Shoal	24°42.957	80°56.903'	Mid-channel patch reef
254	7/31/2007	East Turtle Shoal	24°42.613	80°56.933'	Mid-channel patch reef
93	8/1/2007	South of Duck Key	24°42.147	80°54.250'	Patchy hard-bottom (> 6 m)
94	8/1/2007	South of Duck Key	24°42.365	80°53.428'	Patchy hard-bottom (> 6 m)
100	8/1/2007	South of Conch Key	24°42.998	80°50.446'	Low-relief spur and groove
349	8/1/2007	South of Conch Key	24°43.449	80°49.700'	Low-relief spur and groove
350	8/1/2007	Tennessee Light	24°44.765	80°46.905'	Low-relief hard-bottom (< 6 m)
113	8/1/2007	NE of Tennessee Light	24°45.286	80°46.260'	Low-relief spur and groove
108	8/1/2007	Tennessee Reef RO**	24°45.770	80°45.339'	Low-relief spur and groove
109	8/1/2007	Tennessee Reef RO**	24°45.877	80°45.264'	Low-relief spur and groove
114	8/2/2007	South of Lower Matecumbe	24°47.703	80°41.647'	Patchy hard-bottom (> 6 m)
101	8/2/2007	South of Lower Matecumbe	24°47.891	80°41.411'	Low-relief hard-bottom (> 6 m)
102	8/2/2007	South of Lower Matecumbe	24°48.033	80°41.112'	Low-relief spur and groove
351	8/2/2007	South of Indian Key	24°48.942	80°40.146'	Low-relief hard-bottom (> 6 m)
81	8/2/2007	Alligator Reef SPA**	24°50.752	80°37.423'	Low-relief hard-bottom (< 6 m)
82	8/2/2007	Alligator Reef SPA**	24°50.829	80°37.313'	Low-relief hard-bottom (< 6 m)
103	8/2/2007	NE of Alligator Light	24°51.649	80°35.690'	Low-relief hard-bottom (< 6 m)
104	8/2/2007	NE of Alligator Light	24°52.197	80°34.786'	Low-relief hard-bottom (> 6 m)
96	8/2/2007	South of Windley Key	24°52.439	80°35.131'	Patchy hard-bottom (> 6 m)
86	8/2/2007	South of Windley Key	24°53.449	80°34.921'	Low-relief hard-bottom (< 6 m)
72	8/3/2007	Cheeca Rocks SPA**	24°54.239	80°36.986'	Mid-channel patch reef
73	8/3/2007	Cheeca Rocks SPA**	24°54.263	80°37.076'	Mid-channel patch reef
68	8/3/2007	East of Cheeca Rocks SPA	24°54.230	80°36.607'	Mid-channel patch reef
70	8/3/2007	Hen and Chickens SPA**	24°56.025	80°33.062'	Mid-channel patch reef
71	8/3/2007	Hen and Chickens SPA**	24°56.068	80°32.922'	Mid-channel patch reef
69	8/3/2007	Tavernier Rocks	24°56.580	80°33.235'	Mid-channel patch reef
75	8/3/2007	Inshore of Conch Reef SPA	24°57.268	80°30.274'	Offshore patch reef
74	8/3/2007	Inshore of Conch Reef SPA	24°57.252	80°29.768'	Offshore patch reef
80	8/4/2007	Davis Reef SPA**	24°55.232	80°30.356'	Low-relief spur and groove
276	8/4/2007	Davis Reef SPA**	24°55.360	80°30.217'	Low-relief spur and groove
97	8/4/2007	Davis Reef SPA**	24°55.418	80°30.294'	Low-relief hard-bottom (< 6 m)
90	8/4/2007	Davis Reef SPA**	24°55.351	80°30.350'	Low-relief hard-bottom (< 6 m)
352	8/4/2007	Little Conch Reef	24°56.448	80°28.643'	Low-relief hard-bottom (< 6 m)
76	8/4/2007	Inshore of Conch Reef SPA	24°57.497	80°29.410'	Offshore patch reef
77	8/4/2007	Inshore of Conch Reef SPA	24°57.647	80°29.304'	Offshore patch reef

Site #	Date	Site location	Latitude (N)	Longitude (W)	Habitat type
88	8/11/2007	Little Conch Reef	24°56.633	80°28.351'	Low-relief hard-bottom (< 6 m)
107	8/11/2007	Conch Reef RO**	24°57.162	80°27.152'	Low-relief spur and groove
106	8/11/2007	Conch Reef RO**	24°57.042	80°27.269'	Low-relief spur and groove
105	8/11/2007	Conch Reef SPA**	24°56.853	80°27.508'	Low-relief hard-bottom (> 6 m)
282	8/11/2007	Conch Reef SPA**	24°57.354	80°27.323'	Low-relief spur and groove
269	8/11/2007	Conch Reef SPA**	24°57.321	80°27.466'	Low-relief hard-bottom (< 6 m)
89	8/11/2007	Conch Reef SPA**	24°57.126	80°27.568'	Low-relief hard-bottom (< 6 m)
353	8/11/2007	Conch Reef SPA**	24°57.066	80°27.487'	Low-relief hard-bottom (> 6 m)
354	8/11/2007	Conch Reef SPA**	24°57.331	80°27.271'	Low-relief spur and groove
355	8/11/2007	NE of Conch Reef	24°57.484	80°27.146'	Low-relief spur and groove
17	8/12/2007	Little Pickles Reef	24°58.598	80°25.633'	Low-relief hard-bottom (< 6 m)
48	8/12/2007	Little Pickles Reef	24°58.257	80°25.845'	Low-relief spur and groove
49	8/12/2007	Little Pickles Reef	24°58.329	80°25.672'	Low-relief spur and groove
18	8/12/2007	Pickles Reef	24°59.314	80°24.844'	High-relief spur and groove
19	8/12/2007	Pickles Reef	24°59.553	80°24.527'	High-relief spur and groove
20	8/12/2007	Pickles Reef	24°59.390	80°24.781'	High-relief spur and groove
5	8/12/2007	Inshore of Pickles Reef	24°59.162	80°26.964'	Offshore patch reef
1	8/12/2007	Inshore of Molasses Reef	25°01.109	80°26.336'	Mid-channel patch reef
31	8/13/2007	Molasses Reef SPA**	25°00.511	80°22.618'	High-relief spur and groove
32	8/13/2007	Molasses Reef SPA	25°00.563	80°22.505	High-relief spur and groove
356	8/13/2007	Sand Island	25°01.095	80°22.092	High-relief spur and groove
357	8/13/2007	Sand Island	25°01.164	80°22.008	High-relief spur and groove
8	8/13/2007	Inshore of French Reef	25°02.568	80°22.721	Offshore patch reef
7	8/13/2007	Inshore of Molasses Reef	25°00.810	80°24.369	Offshore patch reef
6	8/13/2007	Inshore of Molasses Reef	25°00.627	80°24.656	Offshore patch reef
21	8/14/2007	SW of French Reef SPA	25°01.802	80°21.302	Low-relief hard-bottom (> 6 m)
22	8/14/2007	SW of French Reef SPA	25°01.825	80°21.187	Low-relief hard-bottom (> 6 m)
23	8/14/2007	SW of French Reef SPA	25°01.938	80°21.105	High-relief spur and groove
29	8/14/2007	French Reef SPA	25°02.019	80°20.951	High-relief spur and groove
30	8/14/2007	French Reef SPA	25°02.119	80°20.870	High-relief spur and groove
42	8/14/2007	Dixie Shoal	25°03.845	80°19.764	Patchy hard-bottom (> 6 m)
43	8/14/2007	Dixie Shoal	25°04.435	80°19.299	Patchy hard-bottom (> 6 m)
44	8/14/2007	Dixie Shoal	25°05.527	80°19.529	Patchy hard-bottom (< 6 m)
358	8/15/2007	Inshore of Watson's Reef	25°10.379	80°15.044	Reef terrace
454	8/15/2007	Northwest of Whistle Buoy	25°19.969	80°09.903	Offshore patch reef
406	8/15/2007	Offshore of Broad Creek	25°20.505	80°11.128	Mid-channel patch reef
408	8/15/2007	Offshore of Broad Creek	25°21.062	80°11.412	Mid-channel patch reef
456	8/15/2007	Inshore of Pacific Reef	25°21.487	80°09.403	Offshore patch reef
458	8/15/2007	Inshore of Pacific Reef	25°21.901	80°09.452	Offshore patch reef
410	8/16/2007	Inshore of Pacific Reef	25°21.833	80°10.090	Mid-channel patch reef
413	8/16/2007	Inshore of Pacific Reef	25°22.668	80°10.762	Mid-channel patch reef
464	8/16/2007	Pacific Reef	25°22.334	80°08.374	High-relief spur and groove
459	8/16/2007	NW of Pacific Reef	25°23.076	80°08.922	Offshore patch reef
469	8/16/2007	South of Ajax Reef	25°23.489	80°08.065	Low-relief hard-bottom (< 6 m)
465	8/16/2007	Ajax Reef	25°23.998	80°07.860	High-relief spur and groove
466	8/16/2007	Ajax Reef	25°24.267	80°07.835	High-relief spur and groove
419	8/16/2007	Inshore of Ajax Reef	25°24.414	80°10.063	Mid-channel patch reef
421	8/17/2007	Margot Fish Shoal	25°25.252	80°09.305	Mid-channel patch reef
467	8/17/2007	Long Reef	25°25.321	80°07.554	High-relief spur and groove
427	8/17/2007	Margot Fish Shoal	25°26.750	80°09.317	Mid-channel patch reef
460	8/17/2007	NW of Long Reef	25°27.299	80°07.630	Offshore patch reef
461	8/17/2007	NW of Long Reef	25°27.500	80°08.056	Offshore patch reef
437	8/17/2007	South of Legare Anchorage	25°27.607	80°08.742	Mid-channel patch reef
438	8/17/2007	South of Bache Shoal	25°28.344	80°08.880	Mid-channel patch reef
440	8/17/2007	South of Bache Shoal	25°28.502	80°08.634	Mid-channel patch reef
475	8/18/2007	Fowey Rocks	25°35.495	80°06.325	Low-relief hard-bottom (< 6 m)
474	8/18/2007	Brewster Reef	25°33.978	80°06.206	High-relief spur and groove
472	8/18/2007	Star Reef	25°32.247	80°06.217	High-relief spur and groove
471	8/18/2007	Northwest of Triumph Reef	25°30.393	80°07.262	Offshore patch reef
445	8/18/2007	Northern Legare Anchorage	25°30.490	80°07.915	Mid-channel patch reef

Site #	Date	Site location	Latitude (N)	Longitude (W)	Habitat type
470	8/18/2007	Triumph Reef	25°29.594	80°06.538	High-relief spur and groove
441	8/18/2007	Bache Shoal	25°28.931	80°09.014	Mid-channel patch reef

Table 3. Survey locations for *Acropora* corals, stony coral species richness, *Coralliophila* snails, and urchins in the Florida Keys National Marine Sanctuary and Biscayne National Park during June-August 2007. Sites are arranged from northeast to southwest within each habitat type. Asterisked sites (**) are Sanctuary Preservation Areas (SPA), Ecological Reserves (ER), or Research Only Areas (RO). Mean \pm 1 SE depth and max. vertical relief are based upon surveys of four 15-m x 1-m transects surveyed per site.

Site number/site location	Latitude (N)	Longitude (W)	Mean depth (m)	Max. vertical relief (cm)
<i>Mid-channel patch reefs</i>				
Biscayne National Park				
445 - Northern Legare Anchorage	25°30.490'	80°07.915'	8.1 \pm 0.1	103 \pm 8
441 - Bache Shoal	25°28.931'	80°09.014'	3.7 \pm 0.0	79 \pm 6
440 - South of Bache Shoal	25°28.502'	80°08.634'	3.8 \pm 0.3	112 \pm 14
438 - South of Bache Shoal	25°28.344'	80°08.880'	4.9 \pm 0.2	113 \pm 3
437 - South of Legare Anchorage	25°27.607'	80°08.742'	5.4 \pm 0.2	118 \pm 18
427 - Margot Fish Shoal	25°26.750'	80°09.317'	4.8 \pm 0.2	110 \pm 19
421 - Margot Fish Shoal	25°25.252'	80°09.305'	2.9 \pm 0.2	47 \pm 5
419 - Inshore of Ajax Reef	25°24.414'	80°10.063'	4.4 \pm 0.1	84 \pm 13
413 - Inshore of Pacific Reef	25°22.668'	80°10.762'	3.9 \pm 0.1	46 \pm 14
410 - Inshore of Pacific Reef	25°21.833'	80°10.090'	4.7 \pm 0.2	72 \pm 19
408 - Offshore of Broad Creek	25°21.062'	80°11.412'	3.0 \pm 0.2	67 \pm 10
406 - Offshore of Broad Creek	25°20.505'	80°11.128'	5.5 \pm 0.0	79 \pm 15
Biscayne National Park Total (12)			4.6 \pm 0.4	86 \pm 7
Upper Florida Keys NMS				
4 - Basin Hill Shoals	25°12.886'	80°16.790'	1.8 \pm 0.1	90 \pm 11
2 - Near Cannon Patch Reef	25°06.518'	80°20.497'	2.5 \pm 0.1	38 \pm 5
3 - Near Cannon Patch Reef	25°06.206'	80°20.638'	1.8 \pm 0.0	45 \pm 8
1 - Inshore of Molasses Reef	25°01.109'	80°26.336'	3.0 \pm 0.2	65 \pm 10
Upper Florida Keys Total (4)			2.3 \pm 0.3	59 \pm 12
Middle Florida Keys NMS				
69 - Tavernier Rocks	24°56.580'	81°33.235'	3.9 \pm 0.1	206 \pm 19
71 - Hen and Chickens SPA**	24°56.068'	81°32.922'	4.5 \pm 0.3	183 \pm 27
70 - Hen and Chickens SPA**	24°56.025'	81°33.062'	4.3 \pm 0.0	208 \pm 23
68 - East of Cheeca Rocks SPA	24°54.230'	81°36.607'	4.0 \pm 0.1	171 \pm 9
72 - Cheeca Rocks SPA**	24°54.239'	81°36.986'	3.4 \pm 0.2	133 \pm 9
73 - Cheeca Rocks SPA**	24°54.263'	81°37.076'	4.0 \pm 0.1	84 \pm 4
66 - East Turtle Shoal	24°42.957'	81°56.903'	6.5 \pm 0.1	58 \pm 3
254 - East Turtle Shoal	24°42.613'	81°56.933'	5.5 \pm 0.3	106 \pm 10
Middle Florida Keys Total (8)			4.5 \pm 0.4	143 \pm 20
Lower Florida Keys NMS				
122 - North of Big Pine Shoal	24°36.119'	81°19.120'	8.5 \pm 0.0	29 \pm 5
121 - North of Maryland Shoal	24°32.562'	81°34.326'	6.6 \pm 0.3	62 \pm 12
120 - North of Maryland Shoal	24°32.317'	81°34.560'	6.1 \pm 0.1	61 \pm 10
119 - North of Pelican Shoal	24°31.923'	81°37.551'	5.4 \pm 0.3	72 \pm 18
118 - East of Western Sambo ER	24°31.467'	81°40.626'	5.3 \pm 0.1	57 \pm 11
126 - Western Sambo ER**	24°30.866'	81°41.723'	6.5 \pm 0.3	65 \pm 10
125 - Western Sambo ER**	24°30.411'	81°42.539'	6.4 \pm 0.0	49 \pm 12
124 - Western Sambo ER**	24°30.350'	81°42.380'	6.5 \pm 0.2	49 \pm 10
123 - Western Sambo ER**	24°30.324'	81°43.247'	5.3 \pm 0.1	32 \pm 5
117 - NW of Sand Key SPA	24°28.659'	81°53.728'	5.4 \pm 0.0	59 \pm 11
116 - North of Satan Shoal	24°28.579'	81°57.223'	6.0 \pm 0.2	40 \pm 7
115 - North of Satan Shoal	24°28.861'	81°57.420'	5.7 \pm 0.2	59 \pm 10
Lower Florida Keys Total (12)			6.1 \pm 0.3	53 \pm 4
Mid-channel Patch Reef Total (36)			4.8 \pm 0.3	85 \pm 8
<i>Offshore patch reefs</i>				
Biscayne National Park				
471 - Northwest of Triumph Reef	25°30.393'	80°07.262'	4.3 \pm 0.0	55 \pm 9
461 - NW of Long Reef	25°27.500'	80°08.056'	5.0 \pm 0.1	74 \pm 8

Site number/site location	Latitude (N)	Longitude (W)	Mean depth (m)	Max. vertical relief (cm)
460 - NW of Long Reef	25°27.299'	80°07.630'	11.3 ± 0.1	116 ± 11
459 - NW of Pacific Reef	25°23.076'	80°08.922'	7.3 ± 0.0	65 ± 6
458 - Inshore of Pacific Reef	25°21.901'	80°09.452'	3.8 ± 0.1	45 ± 12
456 - Inshore of Pacific Reef	25°21.487'	80°09.403'	10.0 ± 0.0	84 ± 7
454 - Northwest of Whistle Buoy	25°19.969'	80°09.903'	11.2 ± 0.1	63 ± 9
Biscayne National Park Total (7)			7.6 ± 1.2	71 ± 9
Upper Florida Keys NMS				
16 - North of Carysfort Reef SPA	25°15.414'	80°12.172'	10.6 ± 0.2	54 ± 8
15 - North of Carysfort Reef SPA	25°15.387'	80°12.651'	3.6 ± 0.1	161 ± 32
14 - North of Carysfort Reef SPA	25°14.875'	80°12.645'	7.1 ± 0.3	70 ± 7
47 - Carysfort Reef SPA**	25°13.496'	80°12.968'	5.7 ± 0.2	67 ± 13
345 - Carysfort Reef SPA**	25°13.265'	80°12.835'	5.4 ± 0.1	85 ± 17
46 - Carysfort Reef SPA**	25°13.016'	80°13.014'	6.7 ± 0.1	47 ± 8
39 - Carysfort Reef SPA**	25°12.275'	80°13.738'	5.0 ± 0.2	52 ± 3
37 - West of Carysfort Reef SPA	25°13.355'	80°13.474'	3.3 ± 0.1	45 ± 2
13 - Inshore of Watson's Reef	25°10.983'	80°15.604'	5.4 ± 0.8	108 ± 24
55 - Inshore of Watson's Reef	25°10.692'	80°14.858'	11.7 ± 0.1	59 ± 9
358 - Inshore of Watson's Reef	25°10.379'	80°15.044'	13.1 ± 0.4	74 ± 10
54 - Inshore of Watson's Reef	25°10.247'	80°15.072'	13.0 ± 0.1	67 ± 10
347 - Inshore of Watson's Reef	25°09.601'	80°15.824'	8.2 ± 0.4	34 ± 2
12 - Inshore of Watson's Reef	25°09.572'	80°15.952'	9.7 ± 0.1	54 ± 10
9 - White Banks	25°03.546'	80°21.450'	3.7 ± 0.1	62 ± 15
8 - Inshore of French Reef	25°02.568'	80°22.721'	2.5 ± 0.1	41 ± 5
7 - Inshore of Molasses Reef	25°00.810'	80°24.369'	4.2 ± 0.1	59 ± 9
6 - Inshore of Molasses Reef	25°00.627'	80°24.656'	5.5 ± 0.4	97 ± 8
5 - Inshore of Pickles Reef	24°59.162'	80°26.964'	5.7 ± 0.1	79 ± 17
Upper Florida Keys Total (19)			6.8 ± 0.8	69 ± 7
Middle Florida Keys NMS				
77 - Inshore of Conch Reef SPA	24°57.647'	80°29.304'	4.2 ± 0.0	62 ± 11
76 - Inshore of Conch Reef SPA	24°57.497'	80°29.410'	4.5 ± 0.2	76 ± 9
75 - Inshore of Conch Reef SPA	24°57.268'	80°30.274'	4.2 ± 0.1	52 ± 9
74 - Inshore of Conch Reef SPA	24°57.252'	80°29.768'	4.3 ± 0.1	33 ± 4
98 - Coffins Patch SPA**	24°40.898'	80°58.376'	5.9 ± 0.1	53 ± 8
277 - Coffins Patch SPA**	24°40.892'	80°58.316'	6.7 ± 0.0	44 ± 3
Middle Florida Keys Total (6)			5.0 ± 0.4	53 ± 6
Lower Florida Keys NMS				
133 - Looe Key Research Only**	24°34.051'	81°23.251'	6.2 ± 0.2	60 ± 4
132 - Looe Key Research Only**	24°33.705'	81°24.325'	7.1 ± 0.1	80 ± 12
131 - North of Looe Key SPA**	24°31.396'	81°33.686'	6.8 ± 0.0	54 ± 5
130 - Maryland Shoal	24°31.070'	81°36.557'	9.1 ± 0.1	47 ± 7
129 - North of Maryland Shoal	24°30.840'	81°35.658'	7.0 ± 0.4	93 ± 4
165 - North of Maryland Shoal	24°30.155'	81°39.389'	9.3 ± 0.2	55 ± 6
128 - NE of Eastern Sambo RO	24°29.984'	81°41.926'	8.8 ± 0.1	87 ± 12
135 - Western Sambo ER**	24°29.381'	81°43.495'	8.0 ± 0.2	61 ± 8
168 - Western Sambo ER**	24°27.626'	81°54.195'	9.4 ± 0.1	86 ± 7
127 - West of Sand Key SPA	24°34.088'	81°23.100'	11.5 ± 0.4	146 ± 34
Lower Florida Keys Total (10)			8.3 ± 0.5	77 ± 9
Offshore Patch Reef Total (42)			7.0 ± 0.4	69 ± 4
<i>Hard-bottom/rubble/sand matrix</i>				
Upper Florida Keys NMS				
40 - Carysfort Reef SPA**	25°13.670'	80°12.781'	5.4 ± 0.0	45 ± 4
38 - West of Carysfort Reef SPA	25°14.040'	80°13.995'	3.0 ± 0.0	58 ± 11
36 - West of Carysfort Reef SPA	25°12.381'	80°13.990'	5.2 ± 0.1	71 ± 2
11 - NW of Dry Rocks SPA	25°07.730'	80°18.213'	3.6 ± 0.1	27 ± 3
Upper Florida Keys Total (4)			4.3 ± 0.6	50 ± 9
Hard-bottom Matrix Total (4)			4.3 ± 0.6	50 ± 9

Site number/site location	Latitude (N)	Longitude (W)	Mean depth (m)	Max. vertical relief (cm)
<i>Low-relief hard-bottom (< 6 m)</i>				
Biscayne National Park				
475 - Fowey Rocks	25°35.495'	80°06.325'	4.4 ± 0.0	28 ± 4
469 - South of Ajax Reef	25°23.489'	80°08.065'	3.9 ± 0.1	37 ± 7
Biscayne National Park Total (2)			4.2 ± 0.2	33 ± 5
Upper Florida Keys NMS				
346 - Carysfort Reef SPA**	25°14.129'	80°12.778'	6.2 ± 0.1	68 ± 10
35 - West of Carysfort Reef SPA	25°12.285'	80°14.663'	2.8 ± 0.0	36 ± 2
34 - West of Carysfort Reef SPA	25°12.179'	80°14.269'	4.2 ± 0.1	76 ± 17
33 - Inshore of Watson's Reef	25°10.896'	80°15.522'	3.8 ± 0.1	92 ± 53
17 - Little Pickles Reef	24°58.598'	80°25.633'	5.3 ± 0.1	30 ± 4
Upper Florida Keys Total (5)			4.5 ± 0.6	60 ± 12
Middle Florida Keys NMS				
269 - Conch Reef SPA**	24°57.321'	80°27.466'	5.9 ± 0.1	47 ± 12
89 - Conch Reef SPA**	24°57.126'	80°27.568'	5.0 ± 0.1	37 ± 4
88 - Little Conch Reef	24°56.633'	80°28.351'	4.8 ± 0.1	29 ± 4
352 - Little Conch Reef	24°56.448'	80°28.643'	4.4 ± 0.0	20 ± 2
97 - Davis Reef SPA**	24°55.418'	80°30.294'	5.0 ± 0.0	31 ± 5
90 - Davis Reef SPA**	24°55.351'	80°30.350'	6.3 ± 0.1	47 ± 7
86 - South of Windley Key	24°53.449'	80°34.921'	3.9 ± 0.0	27 ± 4
103 - NE of Alligator Light	24°51.649'	80°35.690'	5.4 ± 0.1	22 ± 2
82 - Alligator Reef SPA**	24°50.829'	80°37.313'	4.7 ± 0.1	36 ± 5
81 - Alligator Reef SPA**	24°50.752'	80°37.423'	5.8 ± 0.1	37 ± 6
350 - Tennessee Light	24°44.765'	80°46.905'	5.7 ± 0.1	30 ± 3
85 - East of Coffins Patch SPA	24°41.743'	80°56.131'	5.3 ± 0.1	30 ± 5
92 - Coffins Patch SPA**	24°41.212'	80°57.834'	4.0 ± 0.1	33 ± 4
91 - Coffins Patch SPA**	24°41.109'	80°57.864'	5.6 ± 0.1	26 ± 3
Middle Florida Keys Total (14)			5.1 ± 0.2	32 ± 2
Lower Florida Keys NMS				
161 - West of American Shoal	24°31.052'	81°32.644'	5.3 ± 0.1	29 ± 5
140 - Maryland Shoal	24°30.738'	81°33.837'	5.4 ± 0.0	30 ± 9
159 - North of Pelican Shoal	24°30.308'	81°37.233'	4.8 ± 0.0	20 ± 3
158 - East of No Name Reef	24°29.945'	81°38.848'	4.9 ± 0.1	26 ± 5
Lower Florida Keys Total (4)			5.1 ± 0.1	26 ± 2
Hard-bottom (< 6 m) Total (25)			4.9 ± 0.2	37 ± 3
<i>Inner line reef tract spur & groove</i>				
Upper Florida Keys NMS				
61 - Turtle Reef	25°17.997'	80°12.894'	4.7 ± 0.4	110 ± 29
60 - Inshore of Elbow Reef SPA	25°09.361'	80°17.284'	3.5 ± 0.0	76 ± 13
59 - Inshore of Elbow Reef SPA	25°09.046'	80°17.513'	3.3 ± 0.2	105 ± 51
58 - Horseshoe Reef	25°08.405'	80°17.662'	3.2 ± 0.1	90 ± 9
62 - Dry Rocks SPA**	25°07.436'	80°17.851'	2.2 ± 0.1	71 ± 21
63 - Dry Rocks SPA**	25°07.370'	80°17.904'	2.2 ± 0.2	85 ± 14
65 - Grecian Rocks SPA**	25°06.770'	80°18.239'	2.3 ± 0.2	55 ± 10
64 - Grecian Rocks SPA**	25°06.572'	80°18.385'	1.9 ± 0.1	93 ± 17
Upper Florida Keys Total (8)			2.9 ± 0.3	86 ± 6
Inner Line Spur & Groove Total (8)			2.9 ± 0.3	86 ± 6
<i>High-relief spur & groove</i>				
Biscayne National Park				
474 - Brewster Reef	25°33.978'	80°06.206'	5.2 ± 0.2	103 ± 7
472 - Star Reef	25°32.247'	80°06.217'	4.3 ± 0.0	52 ± 3
470 - Triumph Reef	25°29.594'	80°06.538'	5.4 ± 0.1	54 ± 11
467 - Long Reef	25°25.321'	80°07.554'	3.8 ± 0.1	42 ± 1
466 - Ajax Reef	25°24.267'	80°07.835'	4.0 ± 0.1	57 ± 13
465 - Ajax Reef	25°23.998'	80°07.860'	4.7 ± 0.1	49 ± 2
464 - Pacific Reef	25°22.334'	80°08.374'	4.5 ± 0.1	58 ± 6
Biscayne National Park Total (7)			4.6 ± 0.2	59 ± 8

Site number/site location	Latitude (N)	Longitude (W)	Mean depth (m)	Max. vertical relief (cm)
Upper Florida Keys NMS				
26 - Carysfort Reef SPA**	25°13.565'	80°12.503'	4.3 ± 0.3	95 ± 16
25 - Carysfort Reef SPA**	25°13.258'	80°12.750'	1.8 ± 0.2	100 ± 19
218 - South Carysfort Reef SPA**	25°12.599'	80°13.223'	1.0 ± 0.2	93 ± 10
217 - South Carysfort Reef SPA**	25°12.569'	80°13.172'	1.8 ± 0.2	74 ± 23
24 - Maitland Grounding Site	25°11.953'	80°13.538'	3.8 ± 0.2	76 ± 13
28 - Elbow Reef SPA**	25°08.562'	80°15.499'	3.7 ± 0.3	72 ± 6
27 - Elbow Reef SPA**	25°08.395'	80°15.595'	4.6 ± 0.1	61 ± 7
30 - French Reef SPA**	25°02.119'	80°20.870'	7.3 ± 0.2	197 ± 33
29 - French Reef SPA**	25°02.019'	80°20.951'	7.5 ± 0.3	209 ± 39
23 - SW of French Reef SPA	25°01.938'	80°21.105'	6.1 ± 0.3	56 ± 14
357 - Sand Island	25°01.164'	80°22.008'	4.8 ± 0.3	93 ± 26
356 - Sand Island	25°01.095'	80°22.092'	4.8 ± 0.3	99 ± 9
32 - Molasses Reef SPA**	25°00.563'	80°22.505'	4.7 ± 0.2	91 ± 7
31 - Molasses Reef SPA**	25°00.511'	80°22.618'	5.3 ± 0.2	140 ± 33
19 - Pickles Reef	24°59.553'	80°24.527'	4.8 ± 0.1	32 ± 9
20 - Pickles Reef	24°59.390'	80°24.781'	3.7 ± 0.2	43 ± 9
18 - Pickles Reef	24°59.314'	80°24.844'	3.8 ± 0.2	43 ± 6
Upper Florida Keys Total (17)			4.3 ± 0.4	92 ± 12
Middle Florida Keys NMS				
79 - Delta Shoal	24°37.943'	81°05.317'	4.8 ± 0.1	75 ± 29
78 - Delta Shoal	24°37.928'	81°05.408'	4.3 ± 0.2	80 ± 20
84 - Sombrero Key SPA**	24°37.560'	81°06.711'	4.9 ± 0.2	167 ± 24
83 - Sombrero Key SPA**	24°37.470'	81°06.542'	5.2 ± 0.2	59 ± 5
Middle Florida Keys Total (4)			4.8 ± 0.2	95 ± 24
Lower Florida Keys NMS				
148 - Looe Key SPA**	24°32.770'	81°24.276'	3.1 ± 0.2	101 ± 20
147 - Looe Key SPA**	24°32.711'	81°24.622'	4.6 ± 0.3	236 ± 30
145 - American Shoal	24°31.345'	81°31.476'	6.3 ± 0.3	33 ± 6
146 - American Shoal	24°31.344'	81°31.239'	6.1 ± 0.1	35 ± 5
144 - Maryland Shoal	24°31.383'	81°34.704'	1.8 ± 0.0	66 ± 10
141 - Maryland Shoal	24°31.279'	81°34.690'	4.5 ± 0.3	75 ± 13
143 - Maryland Shoal	24°31.249'	81°34.856'	5.0 ± 0.1	43 ± 3
139 - Pelican Shoal	24°30.192'	81°37.358'	3.4 ± 0.3	65 ± 16
138 - No Name Reef	24°29.755'	81°38.858'	4.7 ± 0.3	185 ± 30
137 - No Name Reef	24°29.746'	81°38.944'	5.3 ± 0.0	159 ± 10
150 - Eastern Sambo RO**	24°29.560'	81°39.658'	2.8 ± 0.3	81 ± 24
149 - Eastern Sambo RO**	24°29.509'	81°39.787'	2.8 ± 0.1	105 ± 29
348 - Middle Sambo Reef	24°29.377'	81°40.327'	2.8 ± 0.3	55 ± 7
309 - Middle Sambo Reef	24°29.302'	81°40.546'	2.7 ± 0.2	44 ± 2
152 - Western Sambo ER**	24°28.975'	81°42.203'	3.9 ± 0.5	151 ± 29
151 - Western Sambo ER**	24°28.935'	81°42.364'	2.2 ± 0.1	62 ± 4
136 - East of Eastern Dry Rocks SPA	24°27.849'	81°50.291'	4.2 ± 0.2	70 ± 14
154 - Eastern Dry Rocks SPA**	24°27.631'	81°50.522'	3.5 ± 0.3	111 ± 42
153 - Eastern Dry Rocks SPA**	24°27.557'	81°50.693'	2.0 ± 0.2	69 ± 8
156 - Rock Key SPA**	24°27.361'	81°51.327'	4.2 ± 0.1	83 ± 11
155 - Rock Key SPA**	24°27.274'	81°51.451'	2.6 ± 0.1	120 ± 63
325 - Sand Key SPA**	24°27.171'	81°52.521'	2.7 ± 0.3	39 ± 9
157 - Sand Key SPA**	24°27.134'	81°52.665'	3.0 ± 0.3	86 ± 4
Lower Florida Keys Total (23)			3.7 ± 0.3	90 ± 11
High-relief Spur & Groove Total (51)			4.1 ± 0.2	87 ± 7
<i>Low-relief hard-bottom (6-15 m)</i>				
Upper Florida Keys NMS				
53 - Carysfort Reef SPA**	25°12.918'	80°12.664'	8.8 ± 0.3	30 ± 2
240 - Carysfort Reef SPA**	25°12.627'	80°12.865'	7.7 ± 0.3	28 ± 7
57 - Inshore of Watson's Reef	25°11.260'	80°13.892'	7.8 ± 0.2	40 ± 6
45 - Offshore of Dry Rocks SPA	25°07.756'	80°16.190'	11.4 ± 0.1	57 ± 5
22 - SW of French Reef SPA	25°01.825'	80°21.187'	8.5 ± 0.2	34 ± 10

Site number/site location	Latitude (N)	Longitude (W)	Mean depth (m)	Max. vertical relief (cm)
21 - SW of French Reef SPA	25°01.802'	80°21.302'	8.5 ± 0.1	62 ± 5
Upper Florida Keys Total (6)			8.8 ± 0.6	42 ± 6
Middle Florida Keys NMS				
353 - Conch Reef SPA**	24°57.066'	80°27.487'	10.8 ± 0.2	46 ± 6
105 - Conch Reef SPA**	24°56.853'	80°27.508'	10.5 ± 0.1	47 ± 9
104 - NE of Alligator Light	24°52.197'	80°34.786'	10.5 ± 0.2	10 ± 2
351 - South of Indian Key	24°48.942'	80°40.146'	8.5 ± 0.1	19 ± 6
101 - South of Lower Matecumbe	24°47.891'	80°41.411'	7.8 ± 0.1	40 ± 16
111 - West of Sombrero Key	24°37.234'	81°08.135'	8.3 ± 0.2	39 ± 4
Middle Florida Keys Total (6)			9.4 ± 0.5	33 ± 6
Lower Florida Keys NMS				
180 - South of Bahia Honda Key	24°35.406'	81°14.499'	8.6 ± 0.0	40 ± 9
173 - Maryland Shoal	24°30.922'	81°33.493'	7.4 ± 0.1	27 ± 2
177 - NE of Satan Shoal	24°26.834'	81°58.272'	12.9 ± 0.1	44 ± 4
Lower Florida Keys Total (3)			9.6 ± 1.7	37 ± 5
Hard-bottom (6-15 m) Total (15)			9.2 ± 0.4	37 ± 3
<i>Patchy hard-bottom (6-15 m)</i>				
Upper Florida Keys NMS				
56 - Inshore of Watson's Reef	25°11.099'	80°14.538'	8.0 ± 0.3	52 ± 7
44 - Dixie Shoal	25°05.527'	80°19.529'	4.8 ± 0.1	45 ± 13
43 - Dixie Shoal	25°04.435'	80°19.299'	7.2 ± 0.1	35 ± 6
42 - Dixie Shoal	25°03.845'	80°19.764'	7.1 ± 0.1	34 ± 6
Upper Florida Keys Total (4)			6.8 ± 0.7	41 ± 4
Middle Florida Keys NMS				
96 - South of Windley Key	24°52.439'	80°35.131'	7.6 ± 0.1	35 ± 10
114 - South of Lower Matecumbe	24°47.703'	80°41.647'	8.2 ± 0.0	21 ± 8
94 - South of Duck Key	24°42.365'	80°53.428'	7.1 ± 0.1	47 ± 13
93 - South of Duck Key	24°42.147'	80°54.250'	8.4 ± 0.1	33 ± 9
Middle Florida Keys Total (4)			7.8 ± 0.3	34 ± 5
Lower Florida Keys NMS				
338 - South of Bahia Honda Key	24°35.524'	81°15.524'	9.0 ± 0.1	48 ± 7
179 - West of American Shoal	24°31.539'	81°32.329'	9.8 ± 0.0	57 ± 5
160 - North of Pelican Shoal	24°30.693'	81°37.312'	5.8 ± 0.1	37 ± 4
164 - West of Pelican Shoal	24°30.069'	81°38.306'	7.7 ± 0.1	29 ± 5
178 - West of Pelican Shoal	24°29.981'	81°38.232'	7.5 ± 0.2	47 ± 8
166 - Eastern Sambo RO**	24°29.698'	81°39.516'	5.8 ± 0.3	21 ± 3
332 - Eastern Sambo RO**	24°29.509'	81°39.976'	6.8 ± 0.1	36 ± 4
334 - Western Sambo ER**	24°29.132'	81°41.866'	7.6 ± 0.1	33 ± 6
167 - Western Sambo ER**	24°28.875'	81°43.484'	7.8 ± 0.1	45 ± 7
163 - West of Western Sambo ER	24°28.760'	81°45.687'	10.2 ± 0.1	66 ± 2
335 - Sand Key SPA**	24°27.075'	81°52.852'	9.4 ± 0.3	48 ± 6
169 - Sand Key SPA**	24°27.229'	81°52.895'	7.2 ± 0.1	67 ± 11
162 - West of Western Dry Rocks	24°27.128'	81°55.290'	10.2 ± 0.3	57 ± 15
Lower Florida Keys Total (13)			8.1 ± 0.4	45 ± 4
Patchy Hard-bottom Total (21)			7.8 ± 0.3	43 ± 3
<i>Low-relief spur & groove (6-15 m)</i>				
Upper Florida Keys NMS				
52 - Carysfort Reef SPA**	25°12.927'	80°12.509'	9.4 ± 0.1	24 ± 5
241 - Carysfort Reef SPA**	25°12.912'	80°12.759'	10.8 ± 0.2	61 ± 7
51 - Offshore of Dry Rocks SPA	25°07.193'	80°16.843'	12.5 ± 0.3	47 ± 9
50 - Offshore of Dry Rocks SPA	25°06.881'	80°16.966'	11.1 ± 0.1	41 ± 11
49 - Little Pickles Reef	24°58.329'	80°25.672'	12.8 ± 0.2	50 ± 13
48 - Little Pickles Reef	24°58.257'	80°25.845'	14.0 ± 0.1	48 ± 8
Upper Florida Keys Total (6)			11.8 ± 0.7	45 ± 5
Middle Florida Keys NMS				
355 - NE of Conch Reef	24°57.484'	80°27.146'	15.4 ± 0.1	98 ± 20

Site number/site location	Latitude (N)	Longitude (W)	Mean depth (m)	Max. vertical relief (cm)
282 - Conch Reef SPA**	24°57.354'	80°27.323'	12.8 ± 0.1	36 ± 5
354 - Conch Reef SPA**	24°57.331'	80°27.271'	14.3 ± 0.1	56 ± 7
107 - Conch Reef RO**	24°57.162'	80°27.152'	14.6 ± 0.2	67 ± 12
106 - Conch Reef RO**	24°57.042'	80°27.269'	13.7 ± 0.1	46 ± 8
276 - Davis Reef SPA**	24°55.360'	80°30.217'	10.1 ± 0.1	31 ± 7
80 - Davis Reef SPA**	24°55.232'	80°30.356'	10.1 ± 0.0	20 ± 3
102 - South of Lower Matecumbe	24°48.033'	80°41.112'	11.5 ± 0.0	69 ± 2
109 - Tennessee Reef RO**	24°45.877'	80°45.264'	9.3 ± 0.1	60 ± 8
108 - Tennessee Reef RO**	24°45.770'	80°45.339'	9.8 ± 0.1	84 ± 20
113 - NE of Tennessee Light	24°45.286'	80°46.260'	8.1 ± 0.0	41 ± 8
349 - South of Conch Key	24°43.449'	80°49.700'	11.0 ± 0.0	26 ± 1
100 - South of Conch Key	24°42.998'	80°50.446'	13.4 ± 0.1	41 ± 4
99 - East of Delta Shoal	24°38.274'	81°04.211'	9.0 ± 0.1	19 ± 3
110 - Sombrero Key SPA**	24°37.520'	81°06.373'	11.5 ± 0.1	63 ± 10
287 - Sombrero Key SPA**	24°37.415'	81°06.628'	12.0 ± 0.1	39 ± 5
Middle Florida Keys Total (16)			11.7 ± 0.5	50 ± 6
Lower Florida Keys NMS				
337 - South of Bahia Honda Key	24°34.636'	81°16.677'	11.0 ± 0.1	14 ± 2
174 - Looe Key SPA**	24°32.788'	81°23.903'	10.2 ± 0.3	31 ± 4
339 - Looe Key SPA**	24°32.468'	81°23.950'	10.6 ± 0.2	35 ± 4
142 - American Shoal	24°31.243'	81°31.354'	10.7 ± 0.1	27 ± 4
172 - East of Eastern Sambo RO	24°29.624'	81°39.068'	11.2 ± 0.1	67 ± 8
340 - Eastern Sambo RO**	24°29.543'	81°39.445'	9.5 ± 0.2	45 ± 7
175 - Eastern Sambo RO**	24°29.443'	81°39.801'	9.1 ± 0.0	70 ± 10
171 - Middle Sambo Reef	24°29.329'	81°40.175'	10.5 ± 0.2	76 ± 10
170 - Middle Sambo Reef	24°29.204'	81°40.642'	9.5 ± 0.1	67 ± 23
341 - Western Sambo ER**	24°28.694'	81°43.101'	10.9 ± 0.1	80 ± 18
176 - Western Sambo ER**	24°28.672'	81°43.337'	10.5 ± 0.4	65 ± 8
Lower Florida Keys Total (11)			10.3 ± 0.2	52 ± 7
Low-relief Spur & Groove Total (33)			11.2 ± 0.3	50 ± 4