

Channel Islands National Park's Kelp Forest Monitoring Program

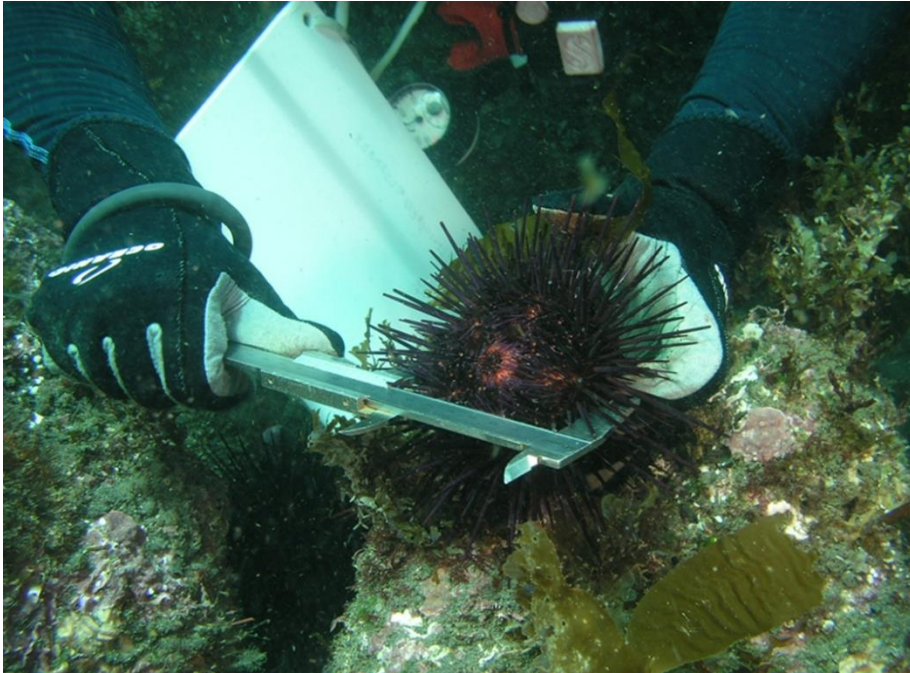
Protocol reference guide for

NATURAL HABITAT SIZE FREQUENCY DISTRIBUTIONS

Abstract

Natural habitat size frequency distributions (NHSF) aim to quantify the size frequency distribution for a set list of invertebrates. These measurements can be used to calculate biomass, detect differences between islands or MPA status, and can potentially detect recruitment events. This protocol can be done while conducting band transects or it can be treated as its own protocol. This protocol aims to capture the size distribution by trying not to pick and choose individuals and instead measure every individual in each area before moving on to a new area.

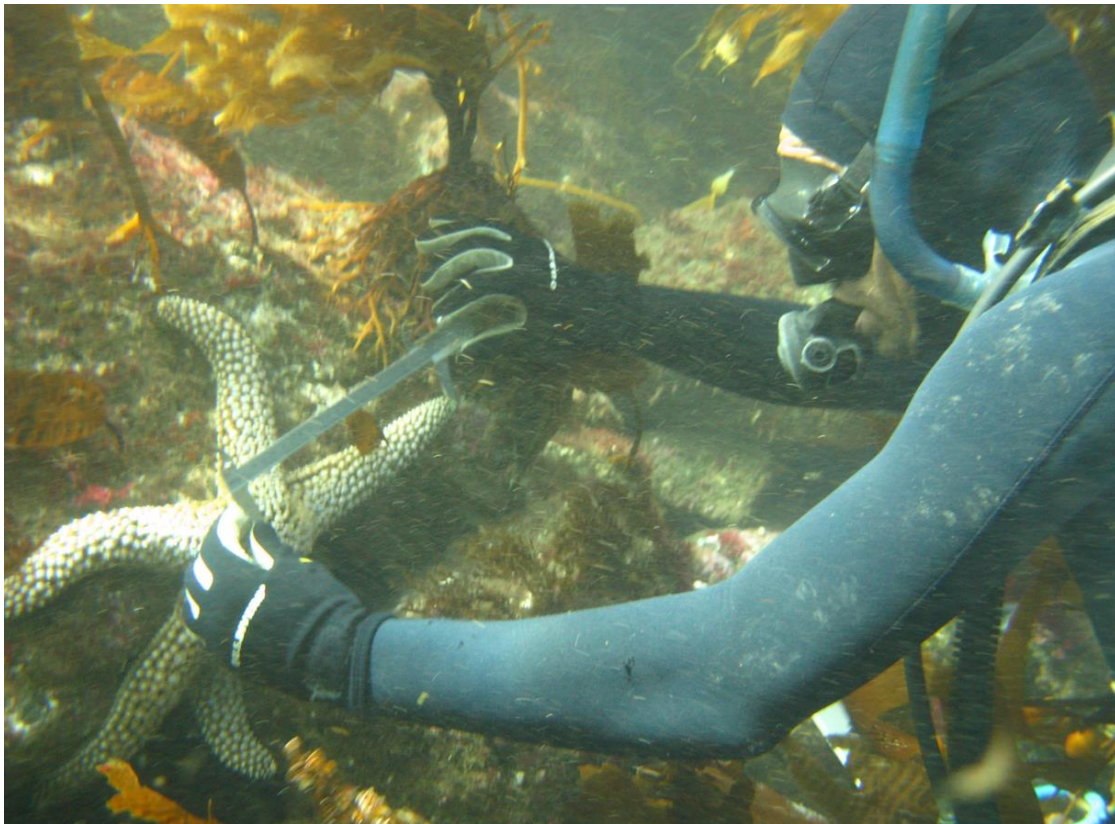
Each species has a different target number to measure. For urchins, that number is 200 of each species. When possible, remove the urchin for sizing and inspect underneath of them for juveniles. Also keep an eye out for black spot and wasting diseases and note each one and at what size. Urchins are often collected and measured on the surface at sites that are urchin barrens.



Some animals are best measured in place. This includes abalone, limpets, scallops, gorgonians, kelp, and urchins when confined to crevice habitat. Stars and other species are often measured in place as well.



Stars are measured from their center to the tip of their longest arm.



Kelp stipes are counted 1 m from the seafloor. For most people this is roughly eye level when positioned on their knees. This job is often assigned to the buddy team doing 5-meter quadrats.



Hydrocoral and gorgonians are measure with a meter stick, half meter stick, or with the edge of a slate. The widest point of the animal is recorded.



Once finished, be sure to have someone record your data topside. Include notes on where you measured with meter numbers and which sides of the transect. This helps narrow down sections that still need to be searched



Keep like species in columns on the data sheet. Write neatly, clearly, and small enough to fit the data.

N.H.

Natural Habitat Size Frequency Distributions

Version 2.0

DATE: 7/27/17

LOCATION: SM Wyckoff ledge

OBSERVER: David Kuhnner

SPECIES CODE: 5002, 9002, 9000, 9008, 9010, 11002, 9009, 11001

MEASUREMENT: mm

METHOD: band

Tethya aurantia 8002 (A)
 Halotis rufescens 9002 (X)
 Halotis corrugata 9003 (T)
 Halotis fulgens 9004 (Z)
 Kelletia kelletii 9006 (K)
 Megastrea undosa 9007 (U)
 Astraea gibberosa 9008 (G)
 Megathura crenulata 9009 (L)

Crassodoma giganteum 9940 (H)
 Tegula regina 9014 (R)
 Patiria miniata 11001 (M)
 Pisaster giganteus 11002 (P)
 Pycnopodia helianthoides 11003 (S)
 Lytechinus anamesus 11004 (W)
 Strongylocentrotus franciscanus 11005 (F)
 Strongylocentrotus purpuratus 11006 (tick)

26
 41
 4
 1

1	46 M	AA	91	K	136	181
2	47 M	A	92	KK	137	182X
3	48		93	K	138	183XX
4	49 M		94	KK	139	184
5	50	HHH	95	KK	140	185X
6	51	HHH	96	KK	141	186XXX
7	52 MM	H	97	K	142	187X
8	53 MM		98	H	KKK	143
9	54	AA	99	K	144	189XX
10	55 M		100	KK	145	190X
11	56	HHHH	101	K	146	191
12	57	HA	102	K	147	192
13	58		103	KKK	148	193XX
14	59 M		104	KKK	149	194
15	60 M		105	K	150	195
16	61		106	KK	151	196X
17	62 MM	H	107	K	152	197X
18	63 MM	HH	108	K	P	153
19	64 M		109	K	154	199X
20	65 MM		110	K	155	200XXX
21	66 M	H	111	K	156	201X
22	67 M		112	K	157	202X
23	68		113	K	158	203XX
24	69 M	AA	114	K	159	204XXX
25	70 MMM		115	K	160	205X
26	71		116	K	161	206X
27	72 M	AA	117	K	162	207XX
28	73 MM		118	K	163X	208XX
29	74		119	K	164	209
30 MM	75 MM		120	KK	165	210X
31	76 M		121	K	166	211X
32	77		122X		167	212
33	78		123		168	213
34	79 MMM		124		169	214
35	80 M	A	125	KKKK	P	170XX
36 M	81		126		171X	216
37	82 M		127		172X	217
38	83 M		128X		173X	218
39	84		129		174	219
40	85		130		175	220
41	86		131		176	221
42	87		132		177X	222
43	88		133		178X	223
44 M	89		134		179	224
45	90		135	KKK	P	180X

COMMENTS: CNS HONE

100-40 meters

Tethya @ 132 mm

confirmed

233 X

233X

KFM