ROCKY SHORE QUADRAT STUDIES: PRIMARY QUADRAT FORM — Khoyatan Marine Laboratory

Station: 12 /97 yr.; Transect Letter: B ; Height 1.0 meters;

Circle (1+: Bedrock; 25+cm) Boulder; Cobble; Pebble; Gravel; Shell; Sand; Muddy-sand; Mud
6-25cm 4mm-6cm 2-4mm

Quadrat size WITHIN strings: 50x50cm=1/4 square meter; Abundance 1,2, Few=3-10, Common=10+

"Species"	[cover] No. intersects	[abundance] 1,2,F,C	"Species"	[cover] No. intersects	[abundance 1,2,F,C
SUBSTRATE	✓		**LIMPETS**		
rock	✓✓✓✓✓✓		ribbed limpet		
shell			shield limpet		F
sand			mask limpet		
mud			plate limpet		
SEAWEED CRUSTS			tiny limpet		
green crust			**SNAILS**		
brown crust	✓✓✓✓✓✓✓✓✓✓✓✓✓✓✓✓✓✓✓✓	C	checked winkle		
black crust			spiral winkle		
pink crust			frilled whelk		
FILAMENTS			banded whelk		
Brown beard			dire whelk		
green filament			leafyhornmouth		
sausage links			**SEA SLUGS**		
red sea hair			yellow seaslug		
LEAFY			brown seaslug		
sea lettuce			**BIVALVES**		
green ribbon			blue mussel		
purple tissue			rectangle clam		
shiny blade			**CRUSTACEANS**		
			commonbarnacle	✓✓✓✓✓✓✓✓	C
tancauliflower			brown barnacle		
yellow sacs			thatchbarnacle		
blacknob blade			pill bug		
black brush			seaweed isopod		
rock weed	✓✓✓✓✓	F	hermit crab		
japanese weed			purple crab		L
acid kelp			drab crab		
RR strap			**SEA URCHINS**		
SPONGES			green urchin		
yellow sponge			**SEA STARS**		
purple sponge			purp-brwn star		
ANEMONES			mottled star		
green anemone			6 armed star		
white/tan anem			leather star		
red-green anem			blood star		
WORMS			sunflower star		
pale ribbonworm			**SEA SQUIRTS**		
mussel worm			red sea squirt		
whitetube worm			**OTHER**		
CHITONS	? Rhodoglossum or		GIGARTINA HKE	✓	F
mossy chiton	REG.		RED MAT	✓ Polysiphonia	F
lined chiton					

ROCKY SHORE QUADRAT STUDIES: PRIMARY QUADRAT FORM — Khoyatan Marine Laboratory

Corrected Sand

Station: 12 198 yr.; Transect Letter: B.; Height 1.0 meters;

Circle 1+: Bedrock; Boulder; Cobble; Pebble; Gravel; Shell; Sand; Muddy-sand; Mud
~~25+cm~~ 6-25cm 4mm-6cm 2-4mm

Quadrat size WITHIN strings: 50x50cm=1/4 square meter; Abundance 1,2, Few=3-10, Common=10+

"Species"	[cover] No. intersects	[abundance] 1,2,F,C	"Species"	[cover] No. intersects	[abundance] 1,2,F,C
SUBSTRATE	✓		**LIMPETS**		
rock	✓✓✓✓✓✓✓✓✓✓		ribbed limpet		
shell			shield limpet		C juv.
sand			mask limpet		
mud			plate limpet		
SEAWEED CRUSTS			tiny limpet		
green crust			**SNAILS**		
brown crust	✓✓✓✓✓✓✓✓✓✓✓✓✓✓✓✓	C	checked winkle		1
black crust			spiral winkle		
pink crust			frilled whelk		
FILAMENTS			banded whelk		
Brown beard			dire whelk		
green filament			leafyhornmouth		
sausage links			**SEA SLUGS**		
red sea hair			yellow seaslug		
LEAFY			brown seaslug		
sea lettuce		F	**BIVALVES**		
green ribbon			blue mussel		F juv.
purple tissue			rectangle clam		
shiny blade			**CRUSTACEANS**		
			commonbarnacle	✓✓	F
tancauliflower		F	brown barnacle		
yellow sacs			thatchbarnacle		
blacknob blade			pill bug		
black brush			seaweed isopod		
rock weed			hermit crab		
japanese weed			purple crab		3
acid kelp			drab crab		
RR strap			**SEA URCHINS**		
SPONGES			green urchin		
yellow sponge			**SEA STARS**		
purple sponge			purp-brwn star		
ANEMONES			mottled star		
green anemone			6 armed star		
white/tan anem			leather star		
red-green anem			blood star		
WORMS			sunflower star		
pale ribbonworm			**SEA SQUIRTS**		
~~mussel worm~~			red sea squirt		
whitetube worm		1	**OTHER**		
CHITONS			Caulocanthus	✓	F
mossy chiton			Gelidium	✓✓	F
lined chiton			Mastocarpus	✓	F
			Cladophora		1

ROCKY SHORE QUADRAT STUDIES: PRIMARY QUADRAT FORM — **Khoyatan Marine Laboratory**

Station: 12 / 199 yr.; Transect Letter: B ; Height 1.0 meters;

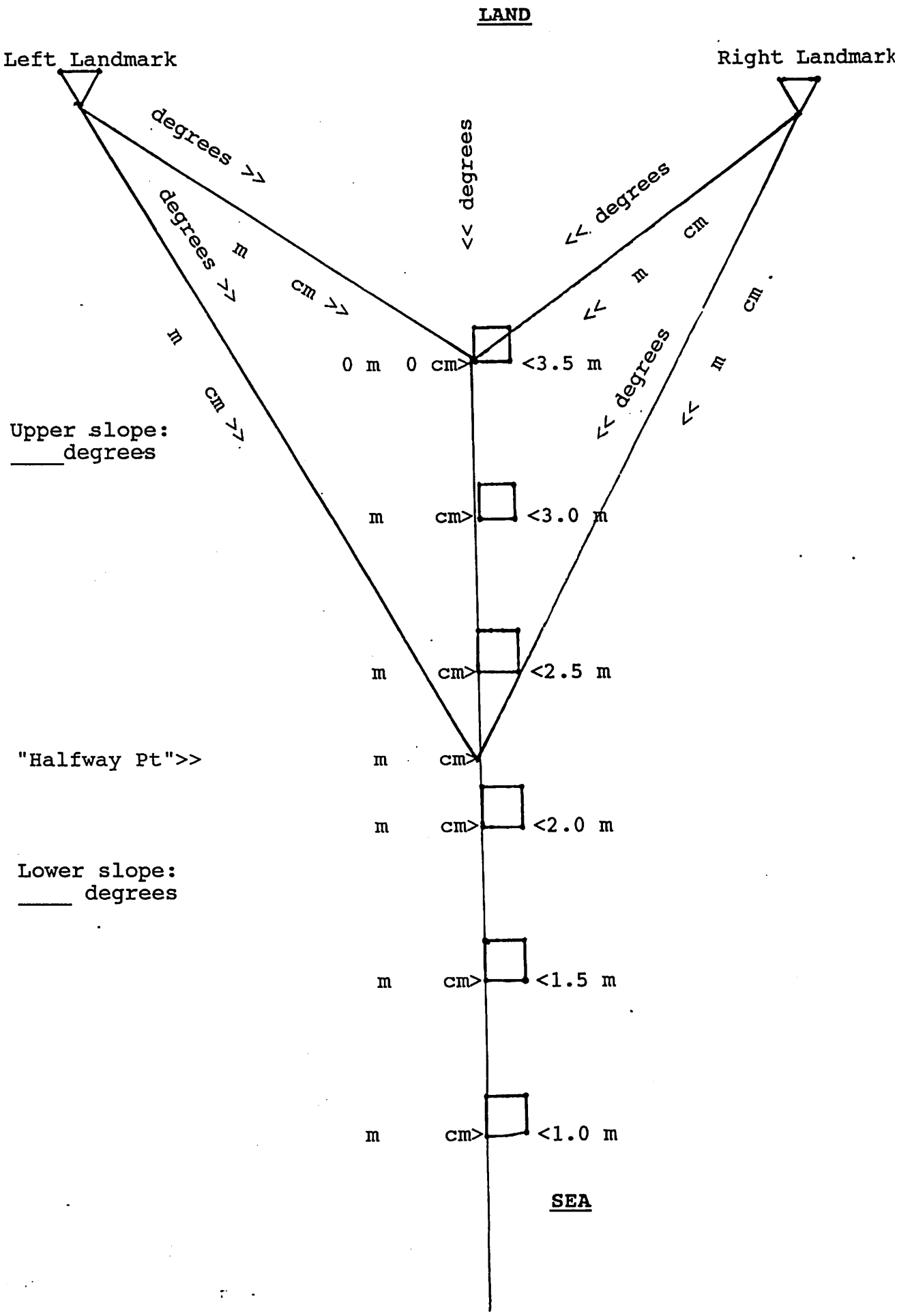
Circle 1+: Bedrock (25+cm); Boulder (6-25cm); Cobble (4mm-6cm); Pebble (2-4mm); Gravel; Shell; Sand; Muddy-sand; Mud

Quadrat size WITHIN strings: 50x50cm=1/4 square meter; Abundance 1,2, Few=3-10, Common=10+

"Species"	[cover] No. intersects	[abundance] 1,2,F,C	"Species"	[cover] No. intersects	[abundance] 1,2,F,C
SUBSTRATE	✓		**LIMPETS**		
rock	✓✓✓✓✓✓✓✓✓✓✓✓		ribbed limpet		
shell			shield limpet		C
sand			mask limpet		
mud			plate limpet		F
SEAWEED CRUSTS			tiny limpet		
green crust			**SNAILS**		
brown crust	✓✓✓✓✓✓✓✓✓✓✓✓✓✓✓✓	C	checked winkle		F
black crust			spiral winkle		
pink crust			frilled whelk		
FILAMENTS			banded whelk		
Brown beard			dire whelk		
green filament			leafyhornmouth		
sausage links			**SEA SLUGS**		
red sea hair			yellow seaslug		
LEAFY			brown seaslug		
sea lettuce	✓	F	**BIVALVES**		
green ribbon		F	blue mussel		
purple tissue			rectangle clam		
shiny blade			**CRUSTACEANS**		
			commonbarnacle	✓✓✓	C juv.
tancauliflower		F	brown barnacle		
yellow sacs			thatchbarnacle		
blacknob blade			pill bug		
black brush			seaweed isopod		
rock weed			hermit crab		
japanese weed			purple crab		
acid kelp			drab crab		III
RR strap			**SEA URCHINS**		
SPONGES			green urchin		
yellow sponge			**SEA STARS**		
purple sponge			purp-brwn star		
ANEMONES			mottled star		
green anemone			6 armed star		
white/tan anem			leather star		
red-green anem			blood star		
WORMS			sunflower star		
pale ribbonworm			**SEA SQUIRTS**		
mussel worm			red sea squirt		
whitetube worm			**OTHER**		
CHITONS			gillidium	✓	F
mossy chiton			Lizartina	✓✓	F
lined chiton			Unidentified red		F
			spongomorpha		F (1 or 2)

as per 03 '99

STATION ____/9___year; TRANSECT _____. Khoyatan



ROCKY SHORE QUADRAT STUDIES:PRIMARY QUADRAT FORM **Khoyatan Marine Laboratory**

Station: 12 18 00 yr.; Transect Letter: B; Height 1.0 meters;

Circle 1+: Bedrock; Boulder; Cobble; Pebble; Gravel; Shell; Sand; Muddy-sand; Mud
25+cm 6-25cm 4mm-6cm 2-4mm

Quadrat size WITHIN strings:50x50cm=1/4 square meter; Abundance 1,2, Few=3-10, Common=10+

"Species"	[cover] No. intersects	[abundance] 1,2,F,C	"Species"	[cover] No. intersects	[abundance 1,2,F,C
SUBSTRATE	✓		**LIMPETS**		
rock	✓✓✓✓✓		ribbed limpet		
shell			shield limpet		COM
sand			mask limpet		
mud			plate limpet		
SEAWEED CRUSTS			tiny limpet		
green crust			**SNAILS**		
brown crust	✓✓✓✓✓✓✓✓✓✓✓✓✓	COM	checked winkle		FEW
black crust			spiral winkle		
pink crust			frilled whelk		
FILAMENTS			banded whelk		
Brown beard			dire whelk		
green filament			leafyhornmouth		
sausage links			**SEA SLUGS**		
red sea hair			yellow seaslug		
LEAFY			brown seaslug		
sea lettuce	✓	FEW	**BIVALVES**		
green ribbon			blue mussel		
purple tissue			rectangle clam		
shiny blade			**CRUSTACEANS**		
			commonbarnacle	✓✓✓✓✓✓✓✓✓✓✓	COM
tancauliflower			brown barnacle		
yellow sacs			thatchbarnacle		
blacknob blade			pill bug		
black brush			seaweed isopod		
rock weed	✓✓✓✓✓	FEW	hermit crab		
japanese weed			purple crab		
acid kelp			drab crab		
RR strap			**SEA URCHINS**		
SPONGES			green urchin		
yellow sponge			**SEA STARS**		
purple sponge			purp-brwn star		2
ANEMONES			mottled star		
green anemone			6 armed star		
white/tan anem			leather star		
red-green anem			blood star		
WORMS			sunflower star		
pale ribbonworm			**SEA SQUIRTS**		
mussel worm			red sea squirt		
whitetube worm			**OTHER**		
CHITONS			CALOCANTHUS	✓✓	FEW
mossy chiton					
lined chiton					

ROCKY SHORE QUADRAT STUDIES: PRIMARY QUADRAT FORM — Khoyatan Marine Laboratory

Station: 12 01/15 yr.; Transect Letter: B ; Height 1.0 meters;

Circle 1+: Bedrock; Boulder; Cobble; Pebble; Gravel; Shell; Sand; Muddy-sand; Mud
25+cm 6-25cm 4mm-6cm 2-4mm

Quadrat size WITHIN strings: 50x50cm=1/4 square meter; Abundance 1,2, Few=3-10, Common=10+

"Species"	[cover] No. intersects	[abundance] 1,2,F,C	"Species"	[cover] No. intersects	[abundance] 1,2,F,C
SUBSTRATE	✓		**LIMPETS**		
rock	✓		ribbed limpet		
shell			shield limpet	J	COM
sand			mask limpet		
mud			plate limpet		
SEAWEED CRUSTS			tiny limpet		
green crust			**SNAILS**		
brown crust	✓✓✓✓✓✓✓✓✓✓✓✓✓	COM	checked winkle		FEW
black crust			spiral winkle		
pink crust			frilled whelk		
FILAMENTS			banded whelk		
Brown beard			dire whelk		
green filament			leafyhornmouth		
sausage links			**SEA SLUGS**		
red sea hair			yellow seaslug		
LEAFY			brown seaslug		
sea lettuce			**BIVALVES**		
green ribbon	✓✓✓✓✓✓✓✓✓✓✓✓✓	COM	blue mussel		
purple tissue			rectangle clam		
shiny blade			**CRUSTACEANS**		
			commonbarnacle	✓✓✓✓✓✓✓✓✓✓✓✓✓	COM
tancauliflower			brown barnacle		
yellow sacs			thatchbarnacle		
blacknob blade			pill bug		
black brush			seaweed isopod		
rock weed	✓✓✓✓✓	FEW	hermit crab		
japanese weed			purple crab		
acid kelp			drab crab		
RR strap			**SEA URCHINS**		
SPONGES			green urchin		
yellow sponge			**SEA STARS**		
purple sponge			purp-brwn star		
ANEMONES			mottled star		
green anemone			6 armed star		
white/tan anem			leather star		
red-green anem			blood star		
WORMS			sunflower star		
pale ribbonworm			**SEA SQUIRTS**		
mussel worm			red sea squirt		
whitetube worm			**OTHER**		
CHITONS			KELP CRAB		ONE
mossy chiton			CALOCANTHUS		FEW
lined chiton					

ROCKY SHORE QUADRAT STUDIES: PRIMARY QUADRAT FORM

Khoyatan Marine Laboratory

Station: 62 18 02 Yr.; Transect Letter: B; Height 1.0 meters;

Circle 1+: Bedrock; Boulder; Cobble; Pebble; Gravel; Shell; Sand; Muddy-sand; Mud
25+cm 6-25cm 4mm-6cm 2-4mm

Quadrat size WITHIN strings: 50x50cm=1/4 square meter; Abundance 1,2, Few=3-10, Common=10+

"Species"	[cover] No. intersects	[abundance] 1,2,F,C	"Species"	[cover] No. intersects	[abundance] 1,2,F,C
SUBSTRATE	✓		**LIMPETS**		
rock	IIII		ribbed limpet		
shell			shield limpet	I	A
sand			mask limpet		
mud			plate limpet		
SEAWEED CRUSTS			tiny limpet		
green crust			**SNAILS**		
brown crust	IIIIIIIIIIIIII	A	checked winkle		20
black crust			spiral winkle		
pink crust			frilled whelk		
FILAMENTS			banded whelk		
Brown beard			dire whelk		
green filament			leafyhornmouth		
sausage links			**SEA SLUGS**		
red sea hair			yellow seaslug		
LEAFY			brown seaslug		
sea lettuce			**BIVALVES**		
green ribbon			blue mussel		
purple tissue			rectangle clam		
shiny blade			**CRUSTACEANS**		
			commonbarnacle	IIIIIIIIII	A
tancauliflower			brown barnacle		
yellow sacs			thatchbarnacle		
blacknob blade			pill bug		
black brush			seaweed isopod		
rock weed	IIIIIIIIIIIII	A	hermit crab		
japanese weed			purple crab		
acid kelp			drab crab		
RR strap			**SEA URCHINS**		
SPONGES			green urchin		
yellow sponge			**SEA STARS**		
purple sponge			purp-brwn star		
ANEMONES			mottled star		
green anemone			6 armed star		
white/tan anem			leather star		
red-green anem			blood star		
WORMS			sunflower star		
pale ribbonworm			**SEA SQUIRTS**		
mussel worm			red sea squirt		
whitetube worm			**OTHER**		
CHITONS			MASTOCARPUS	IIII	20
mossy chiton					
lined chiton					

Georgia Strait Alliance Quadrat Studies

Primary Quadrat Form

12 SiteCode: CC1 Date (Y/M/D): 10/08/03 Repetition: _ Quadrat Height: 1.0 m Quadrat# _

Circle 1: Bedrock; Boulder (dinner plate +); Cobble (> apple); Pebble (> pea); Sand (sugar grain); Mud; Shell

Est. total: After doing intersects, count/estimate every species in quadrat from 1 to 20; if 21+ put an "A"

"Species"		# intersects	Est. total
Substrate			
rock (bigger than pea sized)		✓✓✓✓	
shell (incl dead molluscs, barnacles)			
sand (sugar grain to pea size)			
mud			
Sponges	14		
bread crumb	Halichondria sp		
Anemones	11 + 5 hydroids + 4 misc		
aggregate green	Anthopleura elegantissima		
lined	Haliplanella		
Free Range Worms	7 ribbon + others		
polyclad flatworm gr	Kaburakia+		
primitive ribbon	Tubulanus polymorphus		
clam worm gr	Nereis+		
scale worm gr	Arctonoe+		
Tube Worms	14		
calcareous tube	Serpula vermicularis		
spiral tube	Spirobis sp		
Bryozoans	8		
encrusting gr	Schizoporella+		
kelp lace	Membranipora sp		
Bivalves	7+		
pacific blue mussel	Mytilus edulis		
Pacific oyster	Crassostrea gigas		
Chitons	14		
mossy	Mopalia mucosa		
lined gr	Tonicella lineata+		
Nudibranchs & SeaSlugs	25		
~~barnacle~~	Onchidoris bilamellata		
Limpets	9		
shield/mask/plate gr	Tectura sp, Lepeta		
ribbed	Lottia digitalis		
Snails	10		
checkered periwinkle	Littorina scutulata		
sitka periwinkle	Littorina sitkana		
dogwinkle gr	Nucella sp		
Barnacles	4		
acorn barnacle	Balanus glandula	✓✓✓✓✓✓	A
brown barnacle	Chthamalus dalli		
thatched barnacle	Semibalanus cariosus		
Crabs & Hermits	21 & 4		
hermit crabs	Pagurus sp		
purple shore crab	Hemigrapsus nudus		
hairy shore crab	Hemigrapsus oregonensis		

"Species"		# intersects	Est. total
Misc Crustaceans	6		
beach hopper gr	Traskorchestia+		
seaweed isopod gr	Idotea sp		
ocean pill bug gr	Gnorimosphaeroma+		
shrimplike gr	var tiny amphipods		
red velvet mite	Neumolgus littoralis		
Sea Stars	16		
ochre star	Pisaster ochraceus		
Colonial Tunicates	10		
sea pork	Aplidium californicum		
lined compound gr	Botryllus+		
Solitary Tunicates	10		
broadbase squirt	Cnemidocarpa finmarkiensis		
wrinkled squirt	Pyura haustor		
Crusts	3		
algal crust	Ralfsia+	✓✓✓✓✓✓	A
calcified rock crust	Pseudolithophyllum+		
Blades	17		
eel grass	Zostera marina		
sea lettuce gr.	Ulva+	✓✓	20
green string lettuce	Enteromorpha sp		
rock weed gr.	Fucus+	✓✓✓✓✓✓	A
purple laver	Porphyra sp		
turkish washcloth gr.	Mastocarpus+		F
tangle incl sugar kelp	Laminaria sp		
cauliflower gr.	Leathesia+		
Filaments & Fuzzes	17		
green tuft	Cladophora sp		
green rope/filament gr.	Acrosiphonia+		18.
fuzzy gr.	Antithamnionella+		
	Caulacanthus		F
sea moss	Endocladia muricata		F
spaghetti gr.	Gracilaria+		
Branched	8		
dead man's fingers	Halosaccion glandiforme		
Japanese weed	Sargassum muticum		
string acid hair	Desmarestia sp		
bleach weed	Prionitis sp		
coral seaweed gr.	Corallina+		
bushy red gr.	Ceramium		
	Gelidium		
	Neorhodomela+		
Mat			

Georgia Strait Alliance Quadrat Studies — **Primary** Quadrat Form

SiteCode: CC1 Date (Y/M/D): 04/06/17 Repetition: ___ Quadrat Height: 1.0 m Quadrat# ___

Circle 1: Bedrock; Boulder (dinner plate +); Cobble (> apple); Pebble (> pea); Sand (sugar grain); Mud; Shell

Est. total: After doing intersects, count/estimate every species in quadrat from 1 to 20; if 21+ put an "A"

"Species"	# Intersects	Est. total
Substrate		
rock (bigger than pea sized)	✓	
shell (incl dead molluscs, barnacles)		
sand (sugar grain to pea size)		
mud		
Sponges 14		
bread crumb Halichondria sp		
Anemones 11 + 5 hydroids + 4 misc		
aggregate green Anthopleura elegantissima		
lined Haliplanella		
Free Range Worms 7 ribbon + others		
polyclad flatworm gr Kaburakia+		
primitive ribbon Tubulanus polymorphus		
clam worm gr Nereis+		
scale worm gr Arctonoe+		
Tube Worms 14		
calcareous tube Serpula vermicularis		
spiral tube Spirobis sp		
Bryozoans 8		
encrusting gr Schizoporella+		
kelp lace Membranipora sp		
Bivalves 7+		
pacific blue mussel Mytilus edulis		
Pacific oyster Crassostrea gigas		
Chitons 14		
mossy Mopalia mucosa		
lined gr Tonicella lineata+		
Nudibranchs & SeaSlugs 25		
barnacle Onchidoris bilamellata		
Limpets 9		
shield/mask/plate gr Tectura sp. Lottia		A
ribbed Lottia digitalis		
Snails 10		
checkered periwinkle Littorina scutulata		F
sitka periwinkle Littorina sitkana		
dogwinkle gr Nucella sp		
Barnacles 4		
acorn barnacle Balanus glandula	✓	A
brown barnacle Chthamalus dalli		
thatched barnacle Semibalanus cariosus		
Crabs & Hermits 21 & 4		
hermit crabs Pagurus sp		
purple shore crab Hemigrapsus nudus		
hairy shore crab Hemigrapsus oregonensis		

"Species"	# intersects	Est. total
Misc Crustaceans 6		
beach hopper gr Traskorchestia+		
seaweed isopod gr Idotea sp		
ocean pill bug gr Gnorimosphaeroma+		
shrimplike gr var tiny amphipods		
red velvet mite Neumolgus littoralis		
Sea Stars 16		
ochre star Pisaster ochraceus		
Colonial Tunicates 10		
sea pork Aplidium californicum		
lined compound gr Botryllus+		
Solitary Tunicates 10		
broadbase squirt Cnemidocarpa finmarkiensis		
wrinkled squirt Pyura haustor		
Crusts 3		
algal crust Ralfsia+	✓	A
calcified rock crust Pseudolithophyllum+		
Blades 17		
eel grass Zostera marina		
sea lettuce gr. Ulva+	✓	
green string lettuce Enteromorpha sp		
rock weed gr. Fucus+	✓	A
purple laver Porphyra sp		
turkish washcloth gr. Mastocarpus+	✓	F
tangle incl sugar kelp Laminaria sp		
cauliflower gr. Leathesia+		
Filaments & Fuzzes 17		
green tuft Cladophora sp		
green rope/filament gr. Acrosiphonia+		
fuzzy gr. Antithamnionella+		
Caulacanthus	✓	F
sea moss Endocladia muricata		
spaghetti gr. Gracilaria+		
Branched 8		
dead man's fingers Halosaccion glandiforme		
Japanese weed Sargassum muticum		
string acid hair Desmarestia sp		
bleach weed Prionitis sp		
coral seaweed gr. Corallina+		
bushy red gr. Ceramium		
Gelidium		
Neorhodomela+		
Mat		

Georgia Strait Alliance Quadrat Studies — **Cortes Island Foreshore Monitoring Primary Quadrat Form**

Site name: Coulter Island **Date (Y/M/D):** 06/06/27 **Quadrat Height (m):** 1.0m.

Data collection by: Bill Craig & SGM

Circle 1+: Bedrock; Boulder (dinner plate); Cobble (>apple); Pebble (> pea); Sand (sugar grain); Mud; Shell

Est. total: After doing intersects, count/estimate every species in quadrat: Seaweeds: % cover 0-25 / 25-50 / 50-75 / 75-100

Invertebrates: # incl 0-25 / 25-50 / 50-75 / 75-100 / >100

SPECIES	# INTERSECTS	est. total
SUBSTRATE		
rock	II	
shell		
SEAWEED		
Crusts		
algal *(Ralfsia, Hildenbrandia)*	~~IIII~~ ~~IIII~~ IIII	0-25.
Filaments/ Fuzz/ Tuft		
green filament *(Lola, Urospora)*		
red filament *(Polysiphonia)*		
red fuzz *(Caulacanthus)*		0-25.
green rope *(Acrosiphonia)*		
green tuft *(Cladophora)*		
Blade		
sea lettuce *(Ulva)*		
green ribbon *(Enteromorpha)*		
purple laver *(Porphyra)*		
rockweed *(Fucus)*		0-25
turk washcloth *(Mastocarpus)*	II	0-25.
sea cauliflower *(Leathesia)*		
Branched		
black larch *(Neorhodomela)*		
sea bush *(Odonthalia)*		
red branched *(Gelidium)*		
jointed coralline *(Corallina)*		
Mat		
a.		
b.		
c.		
Other		

SPECIES	# INTERSECTS	est. total
INVERTEBRATES		
Anemones		
aggregate green *(Anthopleura)*		
lined *(Haliplanella)*		
Tube Worms		
general grp *(Serpula, Spirorbis)*		1.
Chitons		
general grp *(Mopalia, Tonicella)*		
Limpets		
ribbed limpet *(Lottia digitalis)*		
other limpets *(Lottia, Tectura)*		0-25.
Snails		
check periwinkle *(L. scutulata)*		0-25
sitka periwinkle *(L. sitkana)*		
Nudibranchs		
general grp *(Onchidoris)*		
Bivalves		
pacific blue mussel *(Mytilus)*		
pacific oyster *(Crassostrea)*		
Barnacles		
acorn group *(Balanus)*	~~IIII~~ ~~IIII~~ ~~IIII~~ II	>100
thatched *(Semibalanus)*		
Isopods and Amphipods		
amphipod group		
seaweed isopod *(Idotea)*		
Crabs		
hermit crabs *(Pagurus)*		
shore crab grp *(Hemigrapsus)*		1.
Sea Stars		
ochre star *(Pisaster)*		
Other		

Georgia Strait Alliance Quadrat Studies **Cortes Island Foreshore Monitoring Primary Quadrat Form**

Site name: Coulter Bay **Date (Y/M/D):** 07/08/10 **Quadrat Height (m):** 1.0

Data collection by: Battrage & SLM

Circle 1+: Bedrock; Boulder (dinner plate); Cobble (>apple); Pebble (> pea); Sand (sugar grain); Mud; Shell

Est. total: After doing intersects, count/estimate every species in quadrat: Seaweeds: % cover 0-25 / 25-50 / 50-75 / 75-100

Invertebrates: # ind 1-25 / 25-50 / 50-75 / 75-100 / >100

SPECIES	*# INTERSECTS*	*est. total*	*SPECIES*	*# INTERSECTS*	*est. total*
SUBSTRATE			**INVERTEBRATES**		
rock	𝍸 𝍸 ||		**Anemones**		
shell			aggregate anemone *(Anthopleura)*		
SEAWEED			lined anemone *(Haliplanella)*		
Crusts			**Tube Worms**		
general algal crust group	𝍸 𝍸 |||	0-25	general tube worm group		
Filaments/ Fuzz/ Tuft			**Chitons**		
filamentous green group			general chiton group		
red filamentous group			**Limpets**		
red fuzz *(Caulacanthus)*		0-25	general limpet group		>100
green rope *(Acrosiphonia)*			ribbed limpet *(Lottia digitalis)*		
green tuft *(Cladophora)*			**Snails**		
Blade			checkered periwinkle *(L.scutulata)*		
sea lettuce *(Ulva spp.)*	|	0-25	sitka periwinkle (*L. sitkana)*		
green ribbon *(Ulva intestinalis)*			**Nudibranchs**		
purple laver *(Porphyra)*			barnacle nudibanch *(Onchidoris)*		
rockweed *(Fucus spp.)*	𝍸 𝍸 ||	0-25	**Bivalves**		
turk washcloth *(Mastocarpus)*	||||	0-25	pacific blue mussel *(Mytilus)*		|
sea cauliflower *(Leathesia)*			pacific oyster (*Crassostrea)*		
Branched			**Barnacles**		
black larch *(Neorhodomela)*			acorn barnacle group *(Balanus)*	𝍸 𝍸 ||||	>100
sea brush *(Odonthalia)*			thatched barnacle *(Semibalanus)*		
red branched *(Gelidium)*			**Isopods and Amphipods**		
coralline seaweed *(Corallina)*			general amphipod group		
Mat			seaweed isopod (*Idotea)*		
a.			**Crabs**		
b.			hermit crabs *(Pagurus)*		
c.			shore crab group *(Hemigrapsus)*		
Other			**Sea Stars**		
			ochre star *(Pisaster)*		
			Other		

Georgia Strait Alliance Quadrat Studies **Cortes Island Foreshore Monitoring Primary Quadrat Form**

Site name: Coulter Island **Date (Y/M/D):** 09/08/22 **Quadrat Height (m):** 1.0

Data collection by: Bill Cragg & Judith

Circle 1+: **Bedrock; Boulder (dinner plate); Cobble (>apple); Pebble (> pea); Sand (sugar grain); Mud; Shell**

Est. total: After doing intersects, count/estimate every species in quadrat: Seaweeds: % cover 0-25 / 25-50 / 50-75 / 75-100

Invertebrates: # ind 1-25 / 25-50 / 50-75 / 75-100 / >100

SPECIES	*# INTERSECTS*	*est. total*	*SPECIES*	*# INTERSECTS*	*est. total*
SUBSTRATE			**INVERTEBRATES**		
rock			**Anemones**		
shell			aggregate anemone *(Anthopleura)*		
SEAWEED			lined anemone *(Haliplanella)*		
Crusts			**Tube Worms**		
general algal crust group			general tube worm group		
Filaments/ Fuzz/ Tuft			**Chitons**		
filamentous green group			general chiton group		
red filamentous group			**Limpets**		
red fuzz *(Caulacanthus)*			general limpet group		
green rope *(Acrosiphonia)*			ribbed limpet *(Lottia digitalis)*		
green tuft *(Cladophora)*			**Snails**		
Blade			checkered periwinkle *(L.scutulata)*		
sea lettuce *(Ulva spp.)*			sitka periwinkle *(L. sitkana)*		
green ribbon *(Ulva intestinalis)*			**Nudibranchs**		
purple laver *(Porphyra)*			barnacle nudibanch *(Onchidoris)*		
rockweed *(Fucus spp.)*			**Bivalves**		
turk washcloth *(Mastocarpus)*			pacific blue mussel *(Mytilus)*		
sea cauliflower *(Leathesia)*			pacific oyster *(Crassostrea)*		
Branched			**Barnacles**		
black larch *(Neorhodomela)*			acorn barnacle group *(Balanus)*		
sea brush *(Odonthalia)*			thatched barnacle *(Semibalanus)*		
red branched *(Gelidium)*			**Isopods and Amphipods**		
coralline seaweed *(Corallina)*			general amphipod group		
Mat			seaweed isopod *(Idotea)*		
a.			**Crabs**		
b.			hermit crabs *(Pagurus)*		
c.			shore crab group *(Hemigrapsus)*		
Other			**Sea Stars**		
			ochre star *(Pisaster)*		
			Other		

Georgia Strait Alliance Quadrat Studies — Cortes Island Foreshore Monitoring Primary Quadrat Form

Site name: COULTER ISLAND Date (Y/M/D): 2010/07/11 Quadrat Height (m): 1.0.

Data collection by: SM

Circle 1+: Bedrock; Boulder (dinner plate); Cobble (>apple); Pebble (> pea); Sand (sugar grain); Mud; Shell

Est. total: After doing intersects, count/estimate every species in quadrat: Seaweeds: % cover 0-25 / 25-50 / 50-75 / 75-100

Invertebrates: # ind 1-25 / 25-50 / 50-75 / 75-100 / >100

SPECIES	# INTERSECTS	est. total	SPECIES	# INTERSECTS	est. total	
SUBSTRATE			**INVERTEBRATES**			
rock	𝍸 II		**Anemones**			
shell			aggregate anemone *(Anthopleura)*			
SEAWEED			lined anemone *(Haliplanella)*			
Crusts			**Tube Worms**			
general algal crust group	𝍸 𝍸	0-25	general tube worm group		1	
Filaments/ Fuzz/ Tuft			**Chitons**			
filamentous green group			general chiton group			
red filamentous group			**Limpets**			
red fuzz *(Caulacanthus)*	II	0-25	general limpet group		0-25.	
green rope *(Acrosiphonia)*			ribbed limpet *(Lottia digitalis)*			
green tuft *(Cladophora)*			**Snails**			
Blade			checkered periwinkle *(L.scutulata)*			
sea lettuce *(Ulva spp.)*	I	0-25	sitka periwinkle *(L. sitkana)*			
green ribbon *(Ulva intestinalis)*		0-25	**Nudibranchs**			
purple laver *(Porphyra)*			barnacle nudibanch *(Onchidoris)*			
rockweed *(Fucus spp.)*	𝍸 𝍸 I	0-25	**Bivalves**			
turk washcloth *(Mastocarpus)*	III	0-25.	pacific blue mussel *(Mytilus)*			
sea cauliflower *(Leathesia)*			pacific oyster *(Crassostrea)*			
Branched			**Barnacles**			
black larch *(Neorhodomela)*			acorn barnacle group *(Balanus)*	𝍸 𝍸	≥100	spat & small juv.
sea brush *(Odonthalia)*			thatched barnacle *(Semibalanus)*			
red branched *(Gelidium)*			**Isopods and Amphipods**			
coralline seaweed *(Corallina)*			general amphipod group			
Mat			seaweed isopod *(Idotea)*			
a.			**Crabs**			
b.			hermit crabs *(Pagurus)*			
c.			shore crab group *(Hemigrapsus)*			
Other			**Sea Stars**			
			ochre star *(Pisaster)*			
			Other			

P ✓

1230 start. 1.6 201139

Georgia Strait Alliance Quadrat Studies **Cortes Island Foreshore Monitoring Primary Quadrat Form**

Site name: COULTER Island **Date (Y/M/D):** 2014/06/12 **Quadrat Height (m):** 1.0

Data collection by: SLM

Circle 1+: **Bedrock; Boulder (dinner plate); Cobble (>apple); Pebble (> pea); Sand (sugar grain); Mud; Shell**

Est. total: After doing intersects, count/estimate every species in quadrat: Seaweeds: % cover 0-25 / 25-50 / 50-75 / 75-100

Invertebrates: # incl 1-25 / 25-50 / 50-75 / 75-100 / >100

SPECIES	*# INTERSECTS*	*est. total*	*SPECIES*	*# INTERSECTS*	*est. total*
SUBSTRATE			**INVERTEBRATES**		
rock	𝍸 𝍸 I		**Anemones**		
shell			aggregate anemone *(Anthopleura)*		
SEAWEED			lined anemone *(Haliplanella)*		
Crusts	𝍸 𝍸 𝍸	0-25	**Tube Worms**		
general algal crust group			general tube worm group		2
Filaments/ Fuzz/ Tuft			**Chitons**		
filamentous green group			general chiton group		
red filamentous group			**Limpets**		
red fuzz *(Caulacanthus)*	I	0-25	general limpet group		1-25
green rope *(Acrosiphonia)*			ribbed limpet *(Lottia digitalis)*		
green tuft *(Cladophora)*			**Snails**		
Blade			checkered periwinkle *(L.scutulata)*		1-25
sea lettuce *(Ulva spp.)*	𝍸 𝍸 𝍸	0-25	sitka periwinkle *(L. sitkana)*		
green ribbon *(Ulva intestinalis)*			**Nudibranchs**		
purple laver *(Porphyra)*			barnacle nudibanch *(Onchidoris)*		
rockweed *(Fucus spp.)*	I	0-25	**Bivalves**		
turk washcloth *(Mastocarpus)*		0-25	pacific blue mussel *(Mytilus)*		
sea cauliflower *(Leathesia)*			pacific oyster *(Crassostrea)*		
Branched			**Barnacles**		
black larch *(Neorhodomela)*			acorn barnacle group *(Balanus)*	𝍸 𝍸 I	>100.
sea brush *(Odonthalia)*			thatched barnacle *(Semibalanus)*		
red branched *(Gelidium)*			**Isopods and Amphipods**		
coralline seaweed *(Corallina)*			general amphipod group		
Mat			seaweed isopod *(Idotea)*		
a.			**Crabs**		
b.			hermit crabs *(Pagurus)*		
c.			shore crab group *(Hemigrapsus)*		
Other			**Sea Stars**		
			ochre star *(Pisaster)*		
			Other		

1005 dp. Gorge Gout docks
1030 ~ Coulter Island
1045 start
1105 begin first [1.0]
[1.5]
1145 begin [2.0]
[2.5]
1230 begin [3.0]
1255 COMPLETE [3.5]
& pack up.
1310 dp Coulter
1335 arr. Gorge Gout dock

+Note that many of the barnacles are dead.

Georgia Strait Alliance Quadrat Studies — Cortes Island Foreshore Monitoring Primary Quadrat Form

Site name: Coulter Island Date (Y/M/D): 2020/06/04 Quadrat Height (m): 1.0

Data collection by: SLM & DM

Circle 1+: Bedrock; Boulder (dinner plate); Cobble (>apple); Pebble (> pea); Sand (sugar grain); Mud; Shell

Est. total: After doing intersects, count/estimate every species in quadrat: Seaweeds: % cover 0-25 / 25-50 / 50-75 / 75-100

Invertebrates: # Incl 1-25 / 25-50 / 50-75 / 75-100 / >100

SPECIES	# INTERSECTS	est. total
SUBSTRATE		
rock	IIII	
shell		
SEAWEED		
Crusts		
general algal crust group	~~IIII~~ ~~IIII~~ ~~IIII~~	25-50
Filaments/ Fuzz/ Tuft		
filamentous green group		
red filamentous group		
red fuzz *(Caulacanthus)*		
green rope *(Acrosiphonia)*		
green tuft *(Cladophora)*		
Blade		
sea lettuce *(Ulva spp.)*	II	0-25
green ribbon *(Ulva intestinalis)*	~~IIII~~ I	25-50
purple laver *(Porphyra)*		
rockweed *(Fucus spp.)*	~~IIII~~ ~~IIII~~ IIII	0-25
turk washcloth *(Mastocarpus)*	III	0-25
sea cauliflower *(Leathesia)*		
Branched		
black larch *(Neorhodomela)*		
sea brush *(Odonthalia)*		
red branched *(Gelidium)*		
coralline seaweed *(Corallina)*		
Mat		
a.		
b.		
c.		
Other		

SPECIES	# INTERSECTS	est. total	
INVERTEBRATES			
Anemones			
aggregate anemone *(Anthopleura)*			
lined anemone *(Haliplanella)*			
Tube Worms			
general tube worm group		4	
Chitons			
general chiton group			
Limpets			
general limpet group		1-25	
ribbed limpet *(Lottia digitalis)*			
Snails			
checkered periwinkle *(L.scutulata)*			
sitka periwinkle *(L. sitkana)*			
Nudibranchs			
barnacle nudibanch *(Onchidoris)*			
Bivalves			
pacific blue mussel *(Mytilus)*			
pacific oyster *(Crassostrea)*			
Barnacles			
acorn barnacle group *(Balanus)*	III	>100	Juv
thatched barnacle *(Semibalanus)*			
Isopods and Amphipods			
general amphipod group			
seaweed isopod *(Idotea)*			
Crabs			
hermit crabs *(Pagurus)*			
shore crab group *(Hemigrapsus)*			
Sea Stars			
ochre star *(Pisaster)*			
Other			