

Appendix B: Fish Population Attributes

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Appendix B-1. Percent of area of demersal fish species by subpopulation on the southern California Shelf and upper slope at depths of 2-484 m, July-October 2008

Species*	Percent of Area								
	Region			Shelf Zone					
	N	C	S	B&H	IS	MS	OS	US	SCB
<i>Microstomus pacificus</i>	72	47	80	-	-	55	100	91	66
<i>Lyopsetta exilis</i>	67	43	40	-	-	12	100	91	53
<i>Citharichthys sordidus</i>	39	43	55	-	29	91	100	9	44
<i>Parophrys vetulus</i>	35	51	47	-	45	64	70	24	43
<i>Pleuronichthys verticalis</i>	20	56	43	23	68	82	17	-	36
<i>Icelinus quadriseriatus</i>	23	37	40	8	29	91	-	-	31
<i>Porichthys notatus</i>	31	18	47	-	13	70	61	6	30
<i>Sebastes saxicola</i>	24	22	47	-	-	48	87	15	29
<i>Merluccius productus</i>	24	35	28	-	-	3	35	55	29
<i>Zalembeus rosaceus</i>	25	19	45	-	16	67	61	-	27
<i>Symphurus atricaudus</i>	16	39	32	50	42	67	4	-	27
<i>Zaniolepis frenata</i>	32	19	23	-	-	36	96	15	26
<i>Glyptocephalus zachirus</i>	24	27	28	-	-	-	43	48	26
<i>Xeneretmus latifrons</i>	27	19	30	-	-	9	87	33	25
<i>Citharichthys stigmatias</i>	17	39	19	23	94	33	-	-	25
<i>Zaniolepis latipinnis</i>	17	22	37	-	3	70	26	-	23
<i>Synodus lucioceps</i>	17	25	33	23	55	48	-	-	23
<i>Lycodes pacificus</i>	38	15	5	-	-	9	61	33	23
<i>Hippoglossina stomata</i>	11	32	31	-	10	64	26	-	22
<i>Citharichthys xanthostigma</i>	6	27	45	-	23	61	4	-	22
<i>Sebastolobus alascanus</i>	15	26	25	-	-	-	-	45	21
<i>Lycodes cortezianus</i>	15	21	30	-	-	-	13	42	20
<i>Chitonotus pugetensis</i>	2	37	32	-	26	55	-	-	20
<i>Sebastes diploproa</i>	23	26	3	-	-	-	22	39	20
<i>Odontopyxis trispinosa</i>	20	15	12	-	16	48	-	-	17
<i>Sebastes aurora</i>	24	13	-	-	-	-	-	33	15
<i>Careproctus melanurus</i>	24	9	-	-	-	-	-	30	14
<i>Sebastes eos</i>	15	12	13	-	-	12	52	12	14
<i>Sebastes semicinctus</i>	10	9	22	-	-	27	52	-	13
<i>Facciolella equatorialis</i>	-	21	25	-	-	-	-	27	12
<i>Scorpaena guttata</i>	5	15	24	-	19	30	4	-	12
<i>Chilara taylori</i>	11	9	18	-	-	21	52	3	12
<i>Lyconema barbatum</i>	14	13	8	-	-	-	13	24	12
<i>Raja inornata</i>	5	20	14	16	6	33	9	-	12
<i>Sebastes elongatus</i>	13	4	20	-	-	15	65	3	11
<i>Parmaturus xaniurus</i>	21	-	6	-	-	-	-	24	11
<i>Xystreureys liolepis</i>	4	21	7	8	35	15	-	-	10
<i>Lycodes diapterus</i>	18	4	-	-	-	-	-	21	10
<i>Nezumia stelgidolepis</i>	18	4	-	-	-	-	-	21	10
<i>Stenobranchius leucopsarus</i>	12	13	-	-	-	-	-	21	10
<i>Raja rhina</i>	10	4	14	-	-	-	9	18	9

Species*	Percent of Area								
	Region			Shelf Zone					
	N	C	S	B&H	IS	MS	OS	US	SCB
<i>Sebastes rosenblatti</i>	4	10	17	-	-	12	26	6	9
<i>Eptatretus stoutii</i>	18	-	-	-	-	-	-	18	8
<i>Physiculus rastrelliger</i>	-	17	12	-	-	-	-	18	8
<i>Sebastes dallii</i>	6	3	20	-	6	24	-	-	8
<i>Plectobranthus evides</i>	12	4	3	-	-	3	13	12	8
<i>Bathyagonus pentacanthus</i>	3	13	6	-	-	-	-	15	7
<i>Sebastolobus altivelis</i>	9	9	-	-	-	-	-	15	7
<i>Porichthys myriaster</i>	-	14	9	44	16	12	-	-	7
<i>Engraulis mordax</i>	13	1	2	23	-	6	4	9	6
<i>Paralichthys californicus</i>	1	12	9	66	35	-	-	-	6
<i>Lepidogobius lepidus</i>	4	3	16	8	-	21	-	-	6
<i>Pleuronichthys ritteri</i>	2	13	5	13	32	3	-	-	6
<i>Sebastes jordani</i>	13	-	-	-	-	3	9	9	6
<i>Ophiodon elongatus</i>	12	-	-	-	-	18	4	-	6
<i>Lycodapus mandibularis</i>	12	-	-	-	-	-	-	12	5
<i>Sebastes chlorostictus</i>	5	-	14	-	-	12	22	-	5
<i>Cymatogaster aggregata</i>	10	1	2	23	26	3	-	-	5
<i>Sebastes melanostomus</i>	6	4	2	-	-	-	4	9	4
<i>Genyonemus lineatus</i>	3	4	4	39	10	6	-	-	4
<i>Xeneretmus triacanthus</i>	2	3	7	-	-	6	22	-	4
<i>Leptocottus armatus</i>	2	2	9	-	23	-	-	-	4
<i>Sebastes hopkinsi</i>	4	3	4	-	-	12	-	-	4
<i>Phanerodon furcatus</i>	8	0	0	8	16	3	-	-	4
<i>Sebastes miniatus</i>	5	3	-	-	10	6	-	-	3
<i>Hydrolagus colliei</i>	6	1	-	-	-	-	22	3	3
<i>Syngnathus exilis</i>	4	2	2	-	19	-	-	-	3
<i>Anoplopoma fimbria</i>	6	-	-	-	-	-	-	6	3
<i>Leuroglossus stilbius</i>	3	4	-	-	-	-	-	6	3
<i>Sebastes rubrivinctus</i>	-	3	7	-	-	6	9	-	3
<i>Rhinogobiops nicholsii</i>	1	3	4	8	3	6	-	-	2
<i>Icelinus tenuis</i>	3	3	-	-	-	6	4	-	2
<i>Hypsurus caryi</i>	4	-	-	-	13	-	-	-	2
<i>Eopsetta jordani</i>	4	-	-	-	-	-	22	-	2
<i>Rathbunella hypoplecta</i>	-	-	8	-	-	6	-	-	2
<i>Argyropelecus sladeni</i>	1	4	-	-	-	-	4	3	2
<i>Paralabrax nebulifer</i>	-	4	2	65	6	-	-	-	2
<i>Pleuronichthys guttulatus</i>	1	2	3	9	10	-	-	-	2
<i>Platyrrhinoidis triseriata</i>	1	2	2	-	10	-	-	-	2
<i>Sebastes caurinus</i>	3	-	-	-	10	-	-	-	2
<i>Pleuronichthys decurrens</i>	1	-	4	-	3	3	-	-	1
<i>Sardinops sagax</i>	3	-	-	-	3	3	-	-	1
<i>Argyropelecus affinis</i>	-	4	-	-	-	-	-	3	1
<i>Argyropelecus lychnus</i>	-	-	6	-	-	-	-	3	1
<i>Ceratoscopelus townsendi</i>	-	4	-	-	-	-	-	3	1
<i>Eptatretus deani</i>	3	-	-	-	-	-	-	3	1
<i>Icelinus burchami</i>	-	4	-	-	-	-	-	3	1
<i>Icelinus oculatus</i>	-	4	-	-	-	-	-	3	1

Species*	Percent of Area								
	Region			Shelf Zone					
	N	C	S	B&H	IS	MS	OS	US	SCB
<i>Lestidiops ringens</i>	-	4	-	-	-	-	-	3	1
<i>Lycodapus fierasfer</i>	3	-	-	-	-	-	-	3	1
<i>Sebastes crameri</i>	-	4	-	-	-	-	-	3	1
<i>Sebastes simulator</i>	-	4	-	-	-	-	-	3	1
<i>Xeneretmus leiops</i>	-	4	-	-	-	-	-	3	1
<i>Sebastes levis</i>	2	1	-	-	-	3	4	-	1
<i>Heterostichus rostratus</i>	-	2	3	7	6	-	-	-	1
<i>Icelinus cavifrons</i>	2	-	-	-	6	-	-	-	1
<i>Rhacochilus toxotes</i>	2	-	-	-	6	-	-	-	1
<i>Scorpaenichthys marmoratus</i>	1	-	2	-	6	-	-	-	1
<i>Sebastes atrovirens</i>	2	-	-	-	6	-	-	-	1
<i>Seriphus politus</i>	-	3	-	39	3	-	-	-	1
<i>Enophrys taurina</i>	2	-	-	-	-	3	-	-	1
<i>Peprilus simillimus</i>	2	-	-	-	-	3	-	-	1
<i>Sebastes rosaceus</i>	-	3	-	-	-	3	-	-	1
<i>Sebastes rufus</i>	2	-	-	-	-	3	-	-	1
<i>Sebastes umbrosus</i>	-	-	4	-	-	3	-	-	1
<i>Squalus acanthias</i>	2	-	-	-	-	3	-	-	1
<i>Torpedo californica</i>	2	-	-	-	-	3	-	-	1
<i>Rhinobatos productus</i>	-	0	3	13	3	-	-	-	1
<i>Agonopsis sterletus</i>	1	-	-	-	3	-	-	-	1
<i>Artedius notospilotus</i>	1	-	-	-	3	-	-	-	1
<i>Gibbonsia metzi</i>	1	-	-	-	3	-	-	-	1
<i>Hexagrammos decagrammus</i>	1	-	-	-	3	-	-	-	1
<i>Oxylebius pictus</i>	1	-	-	-	3	-	-	-	1
<i>Paralabrax maculatofasciatus</i>	-	-	2	40	-	-	-	-	0
<i>Bathyraja interrupta</i>	-	-	2	-	-	-	4	-	0
<i>Citharichthys fragilis</i>	-	-	2	-	-	-	4	-	0
<i>Mustelus henlei</i>	-	1	-	-	-	-	4	-	0
<i>Sebastes goodei</i>	1	-	-	-	-	-	4	-	0
<i>Urobatis halleri</i>	-	0	1	38	-	-	-	-	0
<i>Umbrina roncador</i>	-	-	1	32	-	-	-	-	0
<i>Anchoa delicatissima</i>	-	0	1	31	-	-	-	-	0
<i>Cheilotrema saturnum</i>	-	-	1	23	-	-	-	-	0
<i>Myliobatis californica</i>	-	-	1	16	-	-	-	-	0
<i>Hippocampus ingens</i>	-	-	1	14	-	-	-	-	0
<i>Roncador stearnsii</i>	-	-	0	9	0	-	-	-	0
<i>Ilypnus gilberti</i>	-	-	0	9	-	-	-	-	0
<i>Syngnathus leptorhynchus</i>	-	-	0	9	-	-	-	-	0
<i>Paralabrax clathratus</i>	-	-	0	7	-	-	-	-	0
<i>Gymnura marmorata</i>	-	-	0	5	-	-	-	-	0
<i>Gibbonsia elegans</i>	-	-	0	0	-	-	-	-	0
<i>Embiotoca jacksoni</i>	-	-	0	-	0	-	-	-	0
<i>Rimicola muscarum</i>	-	-	0	-	0	-	-	-	0
<i>Xenistius californiensis</i>	-	-	0	-	0	-	-	-	0

*See Appendix E for common names of fish species

Species*	Percent of Area								
	Region			Shelf Zone					
	N	C	S	B&H	IS	MS	OS	US	SCB

N = Northern; C = Central; S = Southern; B&H = Bays and harbors; IS = Inner shelf; MS = Middle shelf;

OS = Outer shelf; SCB = Southern California Bight

0 = Present in less than 0.5% of area

Appendix B-2. Abundance (number of individuals) of demersal fish species by subpopulation on the southern California Shelf and upper slope at depths of 2-484 m, July-October 2008

Species*	Region			Shelf Zone					
	N	C	S	B&H	IS	MS	OS	US	SCB
<i>Citharichthys sordidus</i>	1,830	1,267	1,309	-	244	2,294	1,865	3	4,406
<i>Lyopsetta exilis</i>	1,361	1,352	1,191	-	-	20	1,864	2,020	3,904
<i>Citharichthys stigmaeus</i>	998	1,248	413	54	2,321	284	-	-	2,659
<i>Icelinus quadriseriatus</i>	340	1,104	545	8	189	1,792	-	-	1,989
<i>Microstomus pacificus</i>	622	324	241	-	-	125	273	789	1,187
<i>Genyonemus lineatus</i>	3	1,152	29	1,142	39	3	-	-	1,184
<i>Sebastes semicinctus</i>	103	806	245	-	-	1,005	149	-	1,154
<i>Sebastes saxicola</i>	431	216	449	-	-	267	737	92	1,096
<i>Parophrys vetulus</i>	786	221	69	-	163	660	210	43	1,076
<i>Zalemnius rosaceus</i>	579	123	275	-	139	744	94	-	977
<i>Zaniolepis frenata</i>	261	124	282	-	-	106	530	31	667
<i>Zaniolepis latipinnis</i>	295	164	167	-	1	575	50	-	626
<i>Engraulis mordax</i>	90	488	18	502	-	86	4	4	596
<i>Lycodes pacificus</i>	394	49	37	-	-	8	356	116	480
<i>Porichthys notatus</i>	241	48	134	-	5	229	185	4	423
<i>Sebastes diploproa</i>	115	182	86	-	-	-	109	274	383
<i>Seriphus politus</i>	-	335	46	380	1	-	-	-	381
<i>Chitonotus pugetensis</i>	2	187	156	-	59	286	-	-	345
<i>Citharichthys xanthostigma</i>	9	84	230	-	21	297	5	-	323
<i>Symphurus atricaudus</i>	135	144	34	44	63	205	1	-	313
<i>Pleuronichthys verticalis</i>	66	184	47	6	143	130	18	-	297
<i>Xeneretmus latifrons</i>	139	44	77	-	-	6	167	87	260
<i>Sebastolobus alascanus</i>	29	99	98	-	-	-	-	226	226
<i>Cymatogaster aggregata</i>	83	128	5	132	79	5	-	-	216
<i>Glyptocephalus zachirus</i>	50	107	44	-	-	-	42	159	201
<i>Synodus lucioceps</i>	44	88	40	16	98	58	-	-	172
<i>Sebastes jordani</i>	151	-	-	-	-	1	2	148	151
<i>Lycinema barbatum</i>	116	9	3	-	-	-	4	124	128
<i>Merluccius productus</i>	35	75	15	-	-	1	12	112	125
<i>Anchoa delicatissima</i>	-	10	114	124	-	-	-	-	124
<i>Paralabrax nebulifer</i>	-	8	112	118	2	-	-	-	120
<i>Umbrina roncador</i>	-	-	104	104	-	-	-	-	104
<i>Phanerodon furcatus</i>	33	12	46	26	64	1	-	-	91
<i>Sebastes dallii</i>	19	4	66	-	2	87	-	-	89
<i>Paralichthys californicus</i>	1	40	46	58	29	-	-	-	87
<i>Sebastes elongatus</i>	30	9	44	-	-	11	69	3	83
<i>Physiculus rastrelliger</i>	-	72	7	-	-	-	-	79	79
<i>Urobatis halleri</i>	-	2	76	78	-	-	-	-	78
<i>Hippoglossina stomata</i>	9	35	31	-	6	54	15	-	75
<i>Odontopyxis trispinosa</i>	57	14	4	-	23	52	-	-	75
<i>Lycodes cortezianus</i>	15	26	33	-	-	-	10	64	74
<i>Facciolella equatorialis</i>	-	53	17	-	-	-	-	70	70
<i>Paralabrax maculatofasciatus</i>	-	-	64	64	-	-	-	-	64
<i>Lepidogobius lepidus</i>	9	6	48	4	-	59	-	-	63
<i>Lycodapus mandibularis</i>	47	-	-	-	-	-	-	47	47

Species*	Region			Shelf Zone					
	N	C	S	B&H	IS	MS	OS	US	SCB
<i>Sebastes aurora</i>	35	10	-	-	-	-	-	45	45
<i>Porichthys myriaster</i>	-	38	6	30	8	6	-	-	44
<i>Chilara taylori</i>	25	5	14	-	-	11	31	2	44
<i>Cheilotrema saturnum</i>	-	-	42	42	-	-	-	-	42
<i>Sebastes eos</i>	15	7	19	-	-	8	25	8	41
<i>Pleuronichthys ritteri</i>	5	22	12	12	26	1	-	-	39
<i>Nezumia stelgidolepis</i>	25	13	-	-	-	-	-	38	38
<i>Ophiodon elongatus</i>	36	-	-	-	-	35	1	-	36
<i>Sebastes melanostomus</i>	4	14	18	-	-	-	18	18	36
<i>Lycodes diapterus</i>	29	6	-	-	-	-	-	35	35
<i>Xystreurus liolepis</i>	3	27	4	2	20	12	-	-	34
<i>Sebastes miniatus</i>	32	1	-	-	25	8	-	-	33
<i>Sebastes chlorostictus</i>	24	-	8	-	-	19	13	-	32
<i>Sebastolobus altivelis</i>	20	11	-	-	-	-	-	31	31
<i>Parmaturus xaniurus</i>	28	-	3	-	-	-	-	31	31
<i>Scorpaena guttata</i>	4	10	14	-	6	21	1	-	28
<i>Sebastes rosenblatti</i>	3	11	10	-	-	6	14	4	24
<i>Sebastes hopkinsi</i>	2	17	5	-	-	24	-	-	24
<i>Sebastes caurinus</i>	23	-	-	-	23	-	-	-	23
<i>Heterostichus rostratus</i>	-	4	19	16	7	-	-	-	23
<i>Bathyagonus pentacanthus</i>	9	8	6	-	-	-	-	23	23
<i>Embiotoca jacksoni</i>	-	-	22	20	2	-	-	-	22
<i>Enophrys taurina</i>	21	-	-	-	-	21	-	-	21
<i>Raja inornata</i>	3	14	4	6	2	11	2	-	21
<i>Stenobranchius leucopsarus</i>	17	4	-	-	-	-	-	21	21
<i>Roncador stearnsii</i>	-	-	20	16	4	-	-	-	20
<i>Hypsurus caryi</i>	17	-	-	-	17	-	-	-	17
<i>Xeneretmus leiops</i>	-	16	-	-	-	-	-	16	16
<i>Leptocottus armatus</i>	5	4	6	-	15	-	-	-	15
<i>Careproctus melanurus</i>	12	2	-	-	-	-	-	14	14
<i>Plectobranchnus evides</i>	5	1	7	-	-	1	8	4	13
<i>Syngnathus exilis</i>	11	1	1	-	13	-	-	-	13
<i>Xeneretmus triacanthus</i>	7	1	3	-	-	2	9	-	11
<i>Raja rhina</i>	7	1	3	-	-	-	2	9	11
<i>Icelinus burchami</i>	-	9	-	-	-	-	-	9	9
<i>Rhinogobiops nicholsii</i>	1	7	1	6	1	2	-	-	9
<i>Sebastes rubrivinctus</i>	-	1	8	-	-	6	3	-	9
<i>Rhacochilus toxotes</i>	8	-	-	-	8	-	-	-	8
<i>Myliobatis californica</i>	-	-	8	8	-	-	-	-	8
<i>Pleuronichthys guttulatus</i>	1	2	5	4	4	-	-	-	8
<i>Rhinobatos productus</i>	-	2	6	4	4	-	-	-	8
<i>Leuroglossus stilbius</i>	4	4	-	-	-	-	-	8	8
<i>Eptatretus stoutii</i>	7	-	-	-	-	-	-	7	7
<i>Hydrolagus colliei</i>	6	1	-	-	-	-	6	1	7
<i>Eopsetta jordani</i>	6	-	-	-	-	-	6	-	6
<i>Hippocampus ingens</i>	-	-	6	6	-	-	-	-	6
<i>Argyropelecus lychnus</i>	-	-	5	-	-	-	-	5	5
<i>Sebastes atrovirens</i>	4	-	-	-	4	-	-	-	4

Species*	Region			Shelf Zone					
	N	C	S	B&H	IS	MS	OS	US	SCB
<i>Rhacochilus vacca</i>	-	-	4	4	-	-	-	-	4
<i>Pleuronichthys decurrens</i>	3	-	1	-	3	1	-	-	4
<i>Ilypnus gilberti</i>	-	-	4	4	-	-	-	-	4
<i>Paralabrax clathratus</i>	-	-	4	4	-	-	-	-	4
<i>Anchoa compressa</i>	-	-	4	4	-	-	-	-	4
<i>Rathbunella hypoplecta</i>	-	-	4	-	-	4	-	-	4
<i>Icelinus cavifrons</i>	3	-	-	-	3	-	-	-	3
<i>Sardinops sagax</i>	3	-	-	-	1	2	-	-	3
<i>Icelinus tenuis</i>	2	1	-	-	-	2	1	-	3
<i>Sebastes umbrosus</i>	-	-	3	-	-	3	-	-	3
<i>Anoplopoma fimbria</i>	3	-	-	-	-	-	-	3	3
<i>Platyrrhinoidis triseriata</i>	1	1	1	-	3	-	-	-	3
<i>Syngnathus leptorhynchus</i>	-	-	2	2	-	-	-	-	2
<i>Sebastes levis</i>	1	1	-	-	-	1	1	-	2
<i>Xenistius californiensis</i>	-	-	2	-	2	-	-	-	2
<i>Argyropelecus sladeni</i>	1	1	-	-	-	-	1	1	2
<i>Argyropelecus affinis</i>	-	2	-	-	-	-	-	2	2
<i>Rimicola muscarum</i>	-	-	2	-	2	-	-	-	2
<i>Citharichthys fragilis</i>	-	-	2	-	-	-	2	-	2
<i>Gibbonsia elegans</i>	-	-	2	2	-	-	-	-	2
<i>Gymnura marmorata</i>	-	-	2	2	-	-	-	-	2
<i>Scorpaenichthys marmoratus</i>	1	-	1	-	2	-	-	-	2
<i>Eptatretus deani</i>	2	-	-	-	-	-	-	2	2
<i>Lestidiops ringens</i>	-	1	-	-	-	-	-	1	1
<i>Oxylebius pictus</i>	1	-	-	-	1	-	-	-	1
<i>Mustelus henlei</i>	-	1	-	-	-	-	1	-	1
<i>Sebastes rufus</i>	1	-	-	-	-	1	-	-	1
<i>Sebastes simulator</i>	-	1	-	-	-	-	-	1	1
<i>Agonopsis sterletus</i>	1	-	-	-	1	-	-	-	1
<i>Artedius notospilotus</i>	1	-	-	-	1	-	-	-	1
<i>Sebastes rosaceus</i>	-	1	-	-	-	1	-	-	1
<i>Bathyraja interrupta</i>	-	-	1	-	-	-	1	-	1
<i>Gibbonsia metzi</i>	1	-	-	-	1	-	-	-	1
<i>Ceratospopelus townsendi</i>	-	1	-	-	-	-	-	1	1
<i>Lycodapus fierasfer</i>	1	-	-	-	-	-	-	1	1
<i>Squalus acanthias</i>	1	-	-	-	-	1	-	-	1
<i>Icelinus oculatus</i>	-	1	-	-	-	-	-	1	1
<i>Sebastes crameri</i>	-	1	-	-	-	-	-	1	1
<i>Hexagrammos decagrammus</i>	1	-	-	-	1	-	-	-	1
<i>Torpedo californica</i>	1	-	-	-	-	1	-	-	1
<i>Sebastes goodei</i>	1	-	-	-	-	-	1	-	1
<i>Peprilus simillimus</i>	1	-	-	-	-	1	-	-	1
Total	10,023	10,930	7,421	3,054	3,901	9,663	6,918	4,838	28,374

N = Northern; C = Central; S = Southern; B&H = Bays and harbors; IS = Inner shelf; MS = Middle shelf; OS = Outer shelf; SCB = Southern California Bight; "-" = Not present in subpopulation; See Appendix E for common names of fish species

Appendix B-3. Biomass (kg) of demersal fish species by subpopulation on the southern California shelf at depths of 2-484 m, July-October 2008

Species*	Region			Shelf Zone					
	N	C	S	B&H	IS	MS	OS	US	SCB
<i>Citharichthys sordidus</i>	97.6	37.4	42.1	-	4.2	43.8	128.8	0.2	177.0
<i>Microstomus pacificus</i>	67.4	31.2	16.1	-	-	3.1	11.7	99.8	114.6
<i>Lyopsetta exilis</i>	35.2	36.3	26.6	-	-	0.4	35.0	62.6	98.0
<i>Parophrys vetulus</i>	37.5	19.7	6.4	-	5.3	32.6	16.3	9.5	63.7
<i>Genyonemus lineatus</i>	0.3	58.0	4.2	58.5	3.6	0.4	-	-	62.5
<i>Sebastes semicinctus</i>	2.5	32.4	8.2	-	-	38.4	4.6	-	43.1
<i>Sebastes saxicola</i>	9.9	6.8	10.4	-	-	3.7	19.5	4.0	27.2
<i>Pleuronichthys verticalis</i>	4.5	17.7	2.9	0.2	11.1	12.0	1.8	-	25.1
<i>Citharichthys stigmaeus</i>	7.3	10.9	5.8	0.2	21.7	2.1	-	-	24.0
<i>Merluccius productus</i>	7.7	11.6	4.2	-	-	0.0	0.8	22.7	23.5
<i>Urobatis halleri</i>	-	1.2	22.0	23.2	-	-	-	-	23.2
<i>Paralichthys californicus</i>	0.6	12.0	9.0	9.4	12.2	-	-	-	21.6
<i>Raja rhina</i>	12.9	1.4	7.1	-	-	-	0.4	21.0	21.4
<i>Glyptocephalus zachirus</i>	1.2	14.2	5.6	-	-	-	1.1	20.0	21.1
<i>Sebastes alascanus</i>	3.9	8.0	6.2	-	-	-	-	18.0	18.0
<i>Paralabrax maculatofasciatus</i>	-	-	16.0	16.0	-	-	-	-	16.0
<i>Lycodes pacificus</i>	10.8	2.5	0.9	-	-	0.2	7.0	6.9	14.1
<i>Sebastes diploproa</i>	2.6	10.8	0.8	-	-	-	0.8	13.3	14.1
<i>Zaniolepis frenata</i>	5.6	2.0	5.3	-	-	1.3	11.0	0.6	12.8
<i>Zalembius rosaceus</i>	6.9	1.6	3.9	-	0.8	9.3	2.3	-	12.4
<i>Citharichthys xanthostigma</i>	0.2	3.3	8.6	-	1.1	10.8	0.3	-	12.2
<i>Umbrina roncadore</i>	-	-	12.0	12.0	-	-	-	-	12.0
<i>Zaniolepis latipinnis</i>	7.0	2.1	2.5	-	0.1	10.1	1.4	-	11.6
<i>Porichthys notatus</i>	8.0	1.2	2.0	-	0.0	3.2	7.7	0.2	11.2
<i>Seriphus politus</i>	-	9.3	0.4	9.7	0.0	-	-	-	9.7
<i>Cheilotrema saturnum</i>	-	-	8.2	8.2	-	-	-	-	8.2
<i>Sebastes jordani</i>	7.8	-	-	-	-	0.0	0.0	7.8	7.8
<i>Paralabrax nebulifer</i>	-	1.1	6.6	7.2	0.5	-	-	-	7.7
<i>Sebastes aurora</i>	6.9	0.6	-	-	-	-	-	7.5	7.5
<i>Scorpaena guttata</i>	2.3	2.5	2.8	-	1.9	5.0	0.6	-	7.5
<i>Icelinus quadriseriatus</i>	1.4	4.0	2.0	0.0	0.6	6.8	-	-	7.4
<i>Anoplopoma fimbria</i>	6.6	-	-	-	-	-	-	6.6	6.6
<i>Phanerodon furcatus</i>	0.4	0.7	5.2	1.7	4.6	0.0	-	-	6.3
<i>Synodus lucioceps</i>	1.6	2.9	0.7	0.5	2.4	2.2	-	-	5.1
<i>Lycodes corteziensis</i>	0.2	2.7	2.3	-	-	-	0.2	4.9	5.1
<i>Raja inornata</i>	1.0	2.6	1.5	1.5	1.2	2.0	0.3	-	5.0
<i>Myliobatis californica</i>	-	-	5.0	5.0	-	-	-	-	5.0
<i>Xystreurys liolepis</i>	0.2	4.2	0.6	0.4	3.0	1.6	-	-	5.0
<i>Roncadore stearnsii</i>	-	-	4.8	3.0	1.8	-	-	-	4.8
<i>Hippoglossina stomata</i>	0.5	1.9	2.3	-	0.7	2.6	1.5	-	4.8
<i>Symphurus atricaudus</i>	1.4	2.1	0.6	0.5	0.6	2.9	0.1	-	4.1
<i>Sebastes melanostomus</i>	2.8	1.1	0.1	-	-	-	0.1	3.9	4.0
<i>Squalus acanthias</i>	4.0	-	-	-	-	4.0	-	-	4.0
<i>Pleuronichthys ritteri</i>	0.0	2.4	1.5	1.6	2.1	0.2	-	-	3.9
<i>Rhinobatos productus</i>	-	3.2	0.5	3.4	0.3	-	-	-	3.7
<i>Sebastes elongatus</i>	0.4	0.3	2.9	-	-	0.1	3.5	0.0	3.6

Species*	Region			Shelf Zone					
	N	C	S	B&H	IS	MS	OS	US	SCB
<i>Lycodes diapterus</i>	2.9	0.3	-	-	-	-	-	3.2	3.2
<i>Porichthys myriaster</i>	-	1.3	1.8	1.0	1.5	0.7	-	-	3.1
<i>Chitonotus pugetensis</i>	0.0	1.5	1.3	-	0.7	2.1	-	-	2.8
<i>Eopsetta jordani</i>	2.7	-	-	-	-	-	2.7	-	2.7
<i>Embiotoca jacksoni</i>	-	-	2.4	2.4	0.0	-	-	-	2.4
<i>Cymatogaster aggregata</i>	0.8	1.5	0.0	1.5	0.7	0.1	-	-	2.3
<i>Sebastes dallii</i>	0.5	0.1	1.6	-	0.0	2.2	-	-	2.2
<i>Xeneretmus latifrons</i>	1.2	0.4	0.6	-	-	0.0	1.2	1.0	2.2
<i>Parmaturus xaniurus</i>	1.9	-	0.2	-	-	-	-	2.1	2.1
<i>Hydrolagus colliei</i>	2.0	0.1	-	-	-	-	1.6	0.5	2.1
<i>Sebastolobus altivelis</i>	1.2	0.8	-	-	-	-	-	2.0	2.0
<i>Nezumia stelgidolepis</i>	0.9	0.8	-	-	-	-	-	1.7	1.7
<i>Physiculus rastrelliger</i>	-	1.5	0.1	-	-	-	-	1.6	1.6
<i>Engraulis mordax</i>	0.9	0.6	0.0	0.6	-	0.9	0.0	0.0	1.5
<i>Sebastes eos</i>	0.1	0.4	0.8	-	-	0.0	1.0	0.3	1.4
<i>Sebastes hopkinsi</i>	0.0	0.8	0.4	-	-	1.2	-	-	1.2
<i>Pleuronichthys guttulatus</i>	0.0	0.4	0.7	0.6	0.5	-	-	-	1.1
<i>Lycinema barbatum</i>	1.0	0.0	0.0	-	-	-	0.0	1.0	1.0
<i>Sebastes rosenblatti</i>	0.0	0.5	0.4	-	-	0.1	0.7	0.1	0.9
<i>Eptatretus stoutii</i>	0.8	-	-	-	-	-	-	0.8	0.8
<i>Platyrrhinoidis triseriata</i>	0.4	0.2	0.2	-	0.8	-	-	-	0.8
<i>Ophiodon elongatus</i>	0.7	-	-	-	-	0.7	0.0	-	0.7
<i>Leptocottus armatus</i>	0.1	0.1	0.4	-	0.6	-	-	-	0.6
<i>Facciolella equatorialis</i>	-	0.5	0.1	-	-	-	-	0.6	0.6
<i>Enophrys taurina</i>	0.6	-	-	-	-	0.6	-	-	0.6
<i>Chilara taylori</i>	0.5	0.0	0.1	-	-	0.1	0.5	0.0	0.6
<i>Sebastes chlorostictus</i>	0.4	-	0.2	-	-	0.5	0.1	-	0.6
<i>Mustelus henlei</i>	-	0.4	-	-	-	-	0.4	-	0.4
<i>Gymnura marmorata</i>	-	-	0.4	0.4	-	-	-	-	0.4
<i>Sebastes rubrivinctus</i>	-	0.0	0.3	-	-	0.2	0.1	-	0.3
<i>Sebastes miniatus</i>	0.2	0.1	-	-	0.2	0.1	-	-	0.3
<i>Xeneretmus leiops</i>	-	0.3	-	-	-	-	-	0.3	0.3
<i>Careproctus melanurus</i>	0.2	0.1	-	-	-	-	-	0.3	0.3
<i>Eptatretus deani</i>	0.3	-	-	-	-	-	-	0.3	0.3
<i>Lycodapus mandibularis</i>	0.2	-	-	-	-	-	-	0.2	0.2
<i>Lepidogobius lepidus</i>	0.1	0.0	0.1	0.0	-	0.2	-	-	0.2
<i>Bathyagonus pentacanthus</i>	0.2	0.0	0.0	-	-	-	-	0.2	0.2
<i>Hypsurus caryi</i>	0.2	-	-	-	0.2	-	-	-	0.2
<i>Heterostichus rostratus</i>	-	0.0	0.2	0.2	0.0	-	-	-	0.2
<i>Sebastes simulator</i>	-	0.2	-	-	-	-	-	0.2	0.2
<i>Sebastes caurinus</i>	0.2	-	-	-	0.2	-	-	-	0.2
<i>Citharichthys fragilis</i>	-	-	0.2	-	-	-	0.2	-	0.2
<i>Sardinops sagax</i>	0.1	-	-	-	0.0	0.1	-	-	0.1
<i>Torpedo californica</i>	0.1	-	-	-	-	0.1	-	-	0.1
<i>Argyropelecus lychnus</i>	-	-	0.1	-	-	-	-	0.1	0.1
<i>Scorpaenichthys marmoratus</i>	0.1	-	0.0	-	0.1	-	-	-	0.1
<i>Rhacochilus toxotes</i>	0.1	-	-	-	0.1	-	-	-	0.1
<i>Bathyraja interrupta</i>	-	-	0.0	-	-	-	0.0	-	0.0
<i>Argyropelecus affinis</i>	-	0.0	-	-	-	-	-	0.0	0.0
<i>Argyropelecus sladeni</i>	0.0	0.0	-	-	-	-	0.0	0.0	0.0

Species*	Region			Shelf Zone					
	N	C	S	B&H	IS	MS	OS	US	SCB
<i>Gibbonsia elegans</i>	-	-	0.0	0.0	-	-	-	-	0.0
<i>Gibbonsia metzi</i>	0.0	-	-	-	0.0	-	-	-	0.0
<i>Anchoa delicatissima</i>	-	0.0	0.0	0.0	-	-	-	-	0.0
<i>Anchoa compressa</i>	-	-	0.0	0.0	-	-	-	-	0.0
<i>Ceratoscopelus townsendi</i>	-	0.0	-	-	-	-	-	0.0	0.0
<i>Artedius notospilotus</i>	0.0	-	-	-	0.0	-	-	-	0.0
<i>Sebastes goodei</i>	0.0	-	-	-	-	-	0.0	-	0.0
<i>Pleuronichthys decurrens</i>	0.0	-	0.0	-	0.0	0.0	-	-	0.0
<i>Rathbunella hypoplecta</i>	-	-	0.0	-	-	0.0	-	-	0.0
<i>Rhacochilus vacca</i>	-	-	0.0	0.0	-	-	-	-	0.0
<i>Rhinogobiops nicholsii</i>	0.0	0.0	0.0	0.0	0.0	0.0	-	-	0.0
<i>Rimicola muscarum</i>	-	-	0.0	-	0.0	-	-	-	0.0
<i>Odontopyxis trispinosa</i>	0.0	0.0	0.0	-	0.0	0.0	-	-	0.0
<i>Sebastes crameri</i>	-	0.0	-	-	-	-	-	0.0	0.0
<i>Agonopsis sterletus</i>	0.0	-	-	-	0.0	-	-	-	0.0
<i>Sebastes levis</i>	0.0	0.0	-	-	-	0.0	0.0	-	0.0
<i>Sebastes rosaceus</i>	-	0.0	-	-	-	0.0	-	-	0.0
<i>Sebastes rufus</i>	0.0	-	-	-	-	0.0	-	-	0.0
<i>Sebastes umbrosus</i>	-	-	0.0	-	-	0.0	-	-	0.0
<i>Stenobranchius leucopsarus</i>	0.0	0.0	-	-	-	-	-	0.0	0.0
<i>Syngnathus exilis</i>	0.0	0.0	0.0	-	0.0	-	-	-	0.0
<i>Sebastes atrovirens</i>	0.0	-	-	-	0.0	-	-	-	0.0
<i>Lycodapus fierasfer</i>	0.0	-	-	-	-	-	-	0.0	0.0
<i>Hippocampus ingens</i>	-	-	0.0	0.0	-	-	-	-	0.0
<i>Icelinus burchami</i>	-	0.0	-	-	-	-	-	0.0	0.0
<i>Icelinus cavifrons</i>	0.0	-	-	-	0.0	-	-	-	0.0
<i>Icelinus oculatus</i>	-	0.0	-	-	-	-	-	0.0	0.0
<i>Icelinus tenuis</i>	0.0	0.0	-	-	-	0.0	0.0	-	0.0
<i>Ilypnus gilberti</i>	-	-	0.0	0.0	-	-	-	-	0.0
<i>Plectobranchnus evides</i>	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0
<i>Leuroglossus stilbius</i>	0.0	0.0	-	-	-	-	-	0.0	0.0
<i>Peprilus simillimus</i>	0.0	-	-	-	-	0.0	-	-	0.0
<i>Xenistius californiensis</i>	-	-	0.0	-	0.0	-	-	-	0.0
<i>Xeneretmus triacanthus</i>	0.0	0.0	0.0	-	-	0.0	0.0	-	0.0
<i>Oxylebius pictus</i>	0.0	-	-	-	0.0	-	-	-	0.0
<i>Syngnathus leptorhynchus</i>	-	-	0.0	0.0	-	-	-	-	0.0
<i>Paralabrax clathratus</i>	-	-	0.0	0.0	-	-	-	-	0.0
<i>Hexagrammos decagrammus</i>	0.0	-	-	-	0.0	-	-	-	0.0
<i>Lestidiops ringens</i>	-	0.0	-	-	-	-	-	0.0	0.0
Composite weight-Fish	7.5	4.4	6.7	2.3	2.6	5.3	3.2	5.2	18.6
Total	396.2	381.2	296.1	171.2	88.0	214.0	268.5	331.2	1073.0

*See Appendix E for common names of fish species

N = Northern; C = Central; S = Southern; B&H = Bays and harbors; IS = Inner shelf;

MS = Middle shelf; OS = Outer shelf; SCB = Southern California Bight

Appendix B-4. Taxonomic list of demersal fish species collected at depths of 2-490 m on the shelf and slope of the Southern California Bight in July-September 2008

Taxon/Species	Author	Common Name
MYXINI		HAGFISHES
-- MYXINIFORMES		
Myxinidae		HAGFISHES
<i>Eptatretus deani</i>	(Evermann & Goldsborough 1907)	black hagfish
<i>Eptatretus stoutii</i>	(Lockington 1878)	Pacific hagfish
CHONDRICHTHYES		
-- CHIMAERIFORMES		
Chimaeridae		SHORTNOSE CHIMAERAS
<i>Hydrolagus colliei</i>	(Lay & Bennett 1839)	spotted ratfish
-- SQUALIFORMES		
Squalidae		DOGFISH SHARKS
<i>Squalus acanthias</i>	Linnaeus 1758	spiny dogfish
-- CARCHARHINIFORMES		
Scyliorhinidae		CAT SHARKS
<i>Parmaturus xaniurus</i>	(Gilbert 1892)	filetail cat shark
Triakidae		HOUND SHARKS
<i>Mustelus henlei</i>	(Gill 1863)	brown smoothhound
-- TORPEDINIFORMES		
Torpedinidae		TORPEDO ELECTRIC RAYS
<i>Torpedo californica</i>	Ayres 1855	Pacific electric ray
-- RAJIFORMES		
Rhinobatidae		GUITARFISHES
<i>Rhinobatos productus</i>	Ayres 1854	shovelnose guitarfish
Platyrrhinidae		
<i>Platyrrhinoidis triseriata</i>	(Jordan & Gilbert 1880)	thornback
Rajidae		SKATES
<i>Bathyraja interrupta (=kincaidii)</i>	(Gill & Townsend 1897)	sandpaper (= Bering) skate
<i>Raja inornata</i>	Jordan & Gilbert 1881	California skate
<i>Raja rhina</i>	Jordan & Gilbert 1880	longnose skate
-- MYLIOBATIFORMES		
Urolophidae		ROUND STINGRAYS
<i>Urobatis (=Urolophus) halleri</i>	(Cooper 1863)	round stingray
Gymnuridae		BUTTERFLY RAYS
<i>Gymnura marmorata</i>	(Cooper 1864)	California butterfly ray
Myliobatidae		EAGLE RAYS
<i>Myliobatis californica</i>	Gill 1865	bat ray
ACTINOPTERYGII		RAY-FINNED FISHES
-- ANGUILLIFORMES		
Nettastomatidae		DUCKBILL EELS
<i>Facciolella equatorialis (=gilbertii)</i>	(Gilbert 1891)	dogface witch eel
-- CLUPEIFORMES		
Engraulidae		ANCHOVIES
<i>Anchoa compressa</i>	(Girard 1858)	deepbody anchovy
<i>Anchoa delicatissima</i>	(Girard 1854)	slough anchovy
<i>Engraulis mordax</i>	Girard 1854	northern anchovy

Taxon/Species	Author	Common Name
-- CLUPEIFORMES (continued)		
Clupeidae		HERRINGS
<i>Sardinops sagax</i>	(Jenyns 1842)	Pacific sardine
-- ARGENTINIFORMES		
Bathylagidae		DEEPSEA SMELTS
<i>Leuroglossus stilbius</i>	Gilbert, 1890	California smoothtongue
-- STOMIIFORMES		
Sternoptychidae		MARINE HATCHETFISHES
<i>Argyrolepecus affinis</i>	Garman 1899	slender hatchetfish
* <i>Argyrolepecus lychnus</i>	Garman 1899	*tropical (= silver) hatchetfish
<i>Argyrolepecus sladeni</i>	Regan 1908	lowcrest hatchetfish
-- AULOPIIFORMES		
Synodontidae		LIZARDFISHES
<i>Synodus lucioceps</i>	(Ayres 1855)	California lizardfish
Paralepididae		
<i>Lestidiops ringens</i>	(Jordan & Gilbert 1880)	slender barracudina
-- MYCTOPHIFORMES		
Myctophidae		LANTERNFISHES
<i>Ceratoscopelus townsendi</i>	(Eigenmann & Eigenmann 1889)	dogtooth lampfish
<i>Stenobrachius leucopsarus</i>	(Eigenmann & Eigenmann 1890)	northern lampfish
-- OPHIDIIFORMES		
Ophidiidae		CUSK-EELS
<i>Chilara taylori</i>	(Girard 1858)	spotted cusk-eel
-- GADIFORMES		
Macrouridae		GRENADIERS
<i>Nezumia stelgidolepis</i>	(Gilbert 1890)	California grenadier
Moridae		CODLINGS
<i>Physiculus rastrelliger</i>	Gilbert 1890	hundred-fathom codling
Merlucciidae		MERLUCCIID HAKES
<i>Merluccius productus</i>	(Ayres 1855)	Pacific hake
BATRACHOIDIFORMES		
Batrachoididae		TOADFISHES
<i>Porichthys myriaster</i>	Hubbs & Schultz 1939	specklefin midshipman
<i>Porichthys notatus</i>	Girard 1854	plainfin midshipman
-- GASTEROSTEIFORMES		
Syngnathidae		PIPEFISHES
<i>Hippocampus ingens</i>	Girard 1858	Pacific seahorse
<i>Syngnathus exilis</i>	(Osburn & Nichols 1916)	barcheek pipefish
<i>Syngnathus leptorhynchus</i>	Girard 1854	bay pipefish
-- SCORPAENIFORMES		
Scorpaenidae (=Sebastidae, in part)		SCORPIONFISHES
<i>Scorpaena guttata</i>	Girard 1854	California scorpionfish
<i>Sebastes atrovirens</i>	(Jordan & Gilbert 1880)	kelp rockfish
<i>Sebastes aurora</i>	(Gilbert 1890)	aurora rockfish
<i>Sebastes caurinus (=vexillaris)</i>	Richardson 1844	copper rockfish
<i>Sebastes chlorostictus</i>	(Jordan & Gilbert 1880)	greenspotted rockfish

Taxon/Species	Author	Common Name
Scorpaenidae (continued)		
<i>Sebastes crameri</i>	(Jordan 1897)	darkblotched rockfish
<i>Sebastes dallii</i>	(Eigenmann & Beeson 1894)	calico rockfish
<i>Sebastes diploproa</i>	(Gilbert 1890)	splitnose rockfish
<i>Sebastes elongatus</i>	Ayres 1859	greenstriped rockfish
<i>Sebastes eos</i>	(Eigenmann & Eigenmann 1890)	pink rockfish
<i>Sebastes goodei</i>	(Eigenmann & Eigenmann 1890)	chillipepper
<i>Sebastes hopkinsi</i>	(Cramer 1895)	squarespot rockfish
<i>Sebastes jordani</i>	(Gilbert 1896)	shortbelly rockfish
<i>Sebastes levis</i>	(Eigenmann & Eigenmann 1889)	cowcod
<i>Sebastes melanostomus</i>	(Eigenmann & Eigenmann 1890)	blackgill rockfish
<i>Sebastes miniatus</i>	(Jordan & Gilbert 1880)	vermillion rockfish
<i>Sebastes rosaceus</i>	Girard 1854	rosy rockfish
<i>Sebastes rosenblatti</i>	Chen 1971	greenblotched rockfish
<i>Sebastes rubrivinctus</i>	(Jordan & Gilbert 1880)	flag rockfish
<i>Sebastes rufus</i>	(Eigenmann & Eigenmann 1890)	bank rockfish
<i>Sebastes saxicola</i>	(Gilbert 1890)	stripetail rockfish
<i>Sebastes semicinctus</i>	(Gilbert 1897)	halfbanded rockfish
<i>Sebastes simulator</i>	Chen 1971	pinkrose rockfish
<i>Sebastes umbrosus</i>	(Jordan & Gilbert 1882)	honeycomb rockfish
<i>Sebastolobus alascanus</i>	Bean 1890	shortspine thornyhead
<i>Sebastolobus altivelis</i>	Gilbert 1896	longspine thornyhead
Anoplopomatidae		
<i>Anoplopoma fimbria</i>	(Pallas 1814)	SABLEFISHES sablefish
Hexagrammidae		
<i>Hexagrammos decagrammus</i>	(Pallas 1810)	GREENLINGS kelp greenling
<i>Ophiodon elongatus</i>	Girard 1854	lingcod
<i>Oxylebius pictus</i>	Gill 1862	painted greenling
<i>Zaniolepis frenata</i>	Eigenmann & Eigenmann 1889	shortspine combfish
<i>Zaniolepis latipinnis</i>	Girard 1858	longspine combfish
Cottidae		
<i>Artedius notospilotus</i>	Girard 1856	SCULPINS bonyhead (=bonehead) sculpin
<i>Chitonotus pugetensis</i>	(Steindachner 1876)	roughback sculpin
<i>Enophrys taurina</i>	Gilbert 1914	bull sculpin
<i>Icelinus burchami</i>	Evermann & Goldsborough 1907	dusky sculpin
<i>Icelinus cavifrons</i>	Gilbert 1890	pit-head sculpin
<i>Icelinus oculatus</i>	Gilbert 1890	frogmouth sculpin
<i>Icelinus quadriseriatus</i>	(Lockington 1880)	yellowchin sculpin
<i>Icelinus tenuis</i>	Gilbert 1890	spotfin sculpin
<i>Leptocottus armatus</i>	Girard 1854	Pacific staghorn sculpin
<i>Scorpaenichthys marmoratus</i>	(Ayres 1854)	cabezon
Agonidae		
<i>Agonopsis sterletus</i>	(Gilbert 1898)	POACHERS southern spearnose poacher
<i>Bathyagonus pentacanthus</i> (= <i>Asterotheca pentacantha</i>)	(Gilbert 1890)	bigeye poacher
<i>Odontopyxis trispinosa</i>	Lockington 1880	pygmy poacher

Taxon/Species	Author	Common Name
Agonidae (continued)		
<i>Xeneretmus latifrons</i>	(Gilbert 1890)	blacktip poacher
<i>Xeneretmus leiops</i>	Gilbert 1915	smootheye poacher
<i>Xeneretmus triacanthus</i>	(Gilbert 1890)	bluespotted poacher
Liparidae		SNAILFISHES
<i>Careproctus melanurus</i>	Gilbert 1892	blacktail snailfish
-- PERCIFORMES		
Serranidae		SEA BASSES AND GROUPERS
<i>Paralabrax clathratus</i>	(Girard 1854)	kelp bass
<i>Paralabrax maculatofasciatus</i>	(Steindachner 1868)	spotted sand bass
<i>Paralabrax nebulifer</i>	(Girard 1854)	barred sand bass
Haemulidae		GRUNTS
<i>Xenistius californiensis</i>	(Steindachner 1876)	salema
Sciaenidae		DRUMS AND CROAKERS
<i>Cheilotrema saturnum</i>	(Girard 1858)	black croaker
<i>Genyonemus lineatus</i>	(Ayres 1855)	white croaker
<i>Roncador stearnsii</i>	(Steindachner 1876)	spotfin croaker
<i>Seriphys politus</i>	Ayres 1860	queenfish
<i>Umbrina roncador</i>	Jordan & Gilbert 1882	yellowfin croaker
Embiotocidae		SURFPERCHES
<i>Cymatogaster aggregata (=gracilis)</i>	Gibbons 1854	shiner perch
<i>Embiotoca jacksoni</i>	Agassiz 1853	black perch
<i>Hypsurus caryi</i>	(Agassiz 1853)	rainbow seaperch
<i>Phanerodon furcatus</i>	Girard 1854	white seaperch
<i>Rhacochilus toxotes</i>	Agassiz 1854	rubberlip seaperch
<i>Rhacochilus (=Damalichthys) vacca</i>	(Girard 1855)	pile perch
<i>Zalembius rosaceus</i>	(Jordan & Gilbert 1880)	pink seaperch
Bathymasteridae		RONQUILS
<i>Rathbunella hypoplecta</i>	(Gilbert 1890)	bluebanded ronquil
Zoarcidae		EELPOUTS
<i>Lycodapus fierasfer</i>	Gilbert 1890	blackmouth eelpout
<i>Lycodapus mandibularis</i>	Gilbert 1915	pallid eelpout
<i>Lycodes (=Aprodon) cortezianus</i>	(Gilbert 1890)	bigfin eelpout
<i>Lycodes diapterus</i>	Gilbert 1892	black eelpout
<i>Lycodes pacificus</i> (= <i>Lycodopsis pacifica</i>)	Collett 1879	blackbelly eelpout
<i>Lycinema barbatum</i>	Gilbert 1896	bearded eelpout
Stichaeidae		PRICKLEBACKS
<i>Plectobranchnus evides</i>	Gilbert 1890	bluebarred prickleback
Clinidae		KELP BLENNIIES (=CLINIDS)
<i>Gibbonsia elegans</i>	(Cooper 1864)	spotted kelpfish
<i>Gibbonsia metzi</i>	Hubbs 1927	striped kelpfish
<i>Heterostichus rostratus</i>	Girard 1854	giant kelpfish
Gobiesocidae		CLINGFISHES
<i>Rimicola muscarum</i>	(Meek & Pierson 1895)	kelp clingfish

Taxon/Species	Author	Common Name
Gobiidae		GOBIES
<i>Ilypnus gilberti</i>	(Eigenmann & Eigenmann 1889)	cheekspot goby
<i>Lepidogobius lepidus</i>	(Girard 1858)	bay goby
<i>Rhinogobiops (=Coryphopterus)</i> <i>nicholsii</i>	(Bean 1882)	blackeye goby
Stromateidae		BUTTERFISHES
<i>Peprilus simillimus</i>	(Ayres 1860)	Pacific pompano
-- PLEURONECTIFORMES		
Paralichthyidae		SAND FLOUNDERS
<i>Citharichthys fragilis</i>	Gilbert 1890	Gulf sanddab
<i>Citharichthys sordidus</i>	(Girard 1854)	Pacific sanddab
<i>Citharichthys stigmaeus</i>	Jordan & Gilbert 1882	speckled sanddab
<i>Citharichthys xanthostigma</i>	Gilbert 1890	longfin sanddab
<i>Hippoglossina stomata</i>	Eigenmann & Eigenmann 1890	bigmouth sole
<i>Paralichthys californicus</i>	(Ayres 1859)	California halibut
<i>Xystreurus liolepis</i>	Jordan & Gilbert 1880	fantail sole
Pleuronectidae		RIGHTEYE FLOUNDERS
<i>Eopsetta jordani</i>	(Lockington 1879)	petrale sole
<i>Glyptocephalus (=Errex) zachirus</i>	Lockington 1879	rex sole
<i>Lyopsetta (=Eopsetta) exilis</i>	(Jordan & Gilbert 1880)	slender sole
<i>Microstomus pacificus</i>	(Lockington 1879)	Dover sole
<i>Parophrys vetulus</i> (= <i>Pleuronectes vetula</i>)	Girard 1854	English sole
<i>Pleuronichthys decurrens</i>	Jordan & Gilbert 1881	curlfin sole
<i>Pleuronichthys guttulatus</i> (= <i>Hypsopsetta guttulata</i>)	Girard 1856	diamond turbot
<i>Pleuronichthys ritteri</i>	Starks & Morris 1907	spotted turbot
<i>Pleuronichthys verticalis</i>	Jordan & Gilbert 1880	hornyhead turbot
Cynoglossidae		TONGUEFISHES
<i>Symphurus atricaudus</i> (= <i>atricauda</i>)	(Jordan & Gilbert 1880)	California tonguefish

Taxonomic arrangement, classification, scientific names, common names, and author are from the following:
Nelson, J. S., E. J. Crossman, H. Espinosa-Perez, L. T. Findley, C. R. Gilbert, R. N. Lea, and J. D. Williams.
2004. Common and scientific names of fishes from the United States, Canada, and Mexico. American
Fisheries Society, Special Publication 29. Bethesda, MD. 386 p.

Species in bold were new species to the list collected in Bight '08 Regional Trawl Survey

* Species not in Nelson et al. (2004) due to depth, common and scientific names are from Love et al. (2005).

Appendix B-5. Length and Frequency Distributions of the 10 Most Abundant Fish Species in Bight'08

Size distributions of species differed by region and depth (Figures 1 through 10). Dover sole was absent in Bays and Harbors and Inner Shelf zones of the Northern, Central, and Southern regions, but occurred in all three regions in the Middle Shelf, Outer Shelf, and Upper Slope zones (Figure 1). Overall, Dover sole was most abundant (431 fish) in the Upper Slope zone of the Northern region and the Upper Slope zone of the Central region (293 fish). It was least abundant (65 fish) in the Southern region of the Upper Slope zone. On the Outer Shelf, Dover sole was most abundant in the Northern region (127 fish), followed by the Southern region (120 fish), and was least (26 fish) in the Central region. On the Middle Shelf zone, Dover Sole was most abundant (64 fish) in the Northern region, next most abundant (56 fish) in the Southern region, and least abundant (5 fish) in the Central region (Figure 1). Dover sole less than 10 cm were found on the Middle and Outer Shelf of all three regions (North, Central, South), but only in the Northern region for the Upper Slope. Besides the Bays and Harbors and Inner Shelf in all regions, Dover sole of this size were absent from the Central and Southern regions of the Upper

Slope (Figure 1). Dover sole greater than 30 cm in length were only found on the Upper Slope of the Northern region (Figure 1). The widest length distributions of Dover sole populations were found in the Upper Slope zones, with populations in the northern region best developed, followed by those in the Central region, and then those in the southern region (Figure 1).

Of the 10 most frequently occurring fish species, English sole was ecologically the most similar species to Dover sole (Allen 1982). Both feed predominantly on infaunal organisms, and particularly on polychaetes. Neither species was collected in Bays and Harbors during the 2008 regional trawl survey (Figures 1 and 2).

However, in contrast to Dover sole, English sole was found on the Inner Shelf, with better developed population structure in the Central region, followed by the Northern region, and then the Southern region (Figure 2). Also, whereas Dover sole populations were best developed on the Upper Slope, followed by Outer Shelf, and Middle Shelf (Figure IV-9), English sole populations were best developed on the Middle Shelf, followed by the Inner Shelf and Outer Shelf zones, and poorly developed on the Upper Slope (Figure 2).

Of the 10 most frequently occurring species, halfbanded rockfish (Figure IV-11) and stripetail rockfish (Figure 2) are also ecologically similar. Both species are small species of soft-bottom rockfishes that feed on zooplankton (e.g., euphausiids) in the water column, but which find refuge on the bottom when inactive (Allen 1982). Neither halfbanded rockfish nor stripetail rockfish were collected in Bays and Harbors or on the Inner Shelf during the Bight'08 trawl survey (Figures 3 and 4). Halfbanded rockfish was not collected on the Upper Slope in this survey, whereas stripetail rockfish was collected there in the Northern, Central, and Southern regions (Figure 3). Population structure of halfbanded rockfish was best developed in the Southern region of the Middle Shelf (Figure 3), followed by the Central and Northern regions of this shelf zone (Figure 3). Its populations were next most developed on the Southern region of the Outer Shelf, followed by that zone in the Northern and Central regions (Figure 3).

Population structure of stripetail rockfish was best developed in the Southern region of the Outer Shelf (Figure 4), followed by the Northern regions of the Middle and Outer Shelf zone, and the Central regions of these two zones (Figure 4). Its populations were next most developed on the Southern region of the Outer Shelf, followed by that zone in the Northern and Central regions (Figure 4). On the Upper Slope, its populations were best developed in the Central region, followed by the Northern region. It was not collected in the Southern region of this depth zone (Figure 4).

Another set of ecologically similar species among the 10 most frequently occurring fish species in the Bight'08 trawl survey consisted of three small species of flatfish: slender sole, Pacific sanddab, and speckled sanddab (Figures 5, 6, and 7). All are relatively small flatfishes with medium size mouths which feed on active prey (mostly crustaceans) on or near the bottom (Allen 1982).

Slender sole (Figure 5) had relatively well-developed populations in the Outer Shelf and Upper Slope zones in the Northern, Central, and Southern regions. It was most abundant in the Southern region of the Outer Shelf zone and the Central region of the Upper Slope zone (Figure 5). Slender sole was barely present in the Northern and Central regions of the Middle Shelf zones (Figure 5).

In contrast to slender sole, Pacific sanddab (Figure 6) was most abundant on the Middle and Outer Shelf of the Northern, Central, and Southern regions. Pacific sanddab was relatively abundant on the Inner Shelf of the Northern region, in low abundance on the Inner Shelf of the Central region, and absent from the Inner Shelf of the Southern region. As with slender sole, Pacific sanddab was absent from Bays and Harbors of all three regions (Figure 6)

In contrast to slender sole and Pacific sanddab that were absent or in low abundance on the Inner Shelf, speckled sanddab most abundant on the Inner Shelf in all regions (Figure 7). It was absent from the Outer Shelf and Upper Slope (Figure 7). Its abundance on the Middle Shelf was least in the Northern region, moderate in the Central region, and most in the Southern region (Figure 7). Although absent from Bays and Harbors in the Northern and Central regions, it occurred in low abundance in Bays and Harbors of the Central region (Figure 7).

Another pair of somewhat ecologically similar species among the 10 most frequently occurring species (Figure 1), are the pink seaperch (Figure 8) and white croaker (9). Although the latter species gets larger, and is more active at night than the former, both species forage while swimming above but near the bottom on benthic organisms (e.g., gammaridean amphipods, or polychaetes for white croaker; Allen 1982).

Pink seaperch was abundant on the Middle Shelf of all three regions (North, Central, South), but was most abundant in the Northern and Southern regions of this shelf zone (Figure 8). It was absent from Bays and Harbors, and the Upper Slope zone of all three regions. It occurred in moderate abundance on the Inner Shelf of the Northern region, and was absent from the Inner Shelf in the Central and Southern region (Figure 8) It occurred in low abundance on the Outer Shelf of all three regions (Figure 8).

In contrast, white croaker was more abundant in Bays and Harbors of the Central region, but occurred in low abundance in Bays and Harbors of the Southern region, and was absent from Bays and Harbors of the

Northern region (Figure 9). It occurred in low abundance in the Inner Shelf of the Central and Southern regions, and very low abundance in the Northern region of this zone. On the Middle Shelf it occurred in very low abundance in the Northern and Southern regions, but was absent from the Central region. It was absent from the Outer Shelf and Upper Slope in all three regions (Figure 9).

The last of the 10 most frequently occurring species in the Bight'08 regional trawl survey is yellowchin sculpin (Figure 1). Yellowchin sculpin is a small fish without a swimbladder that lives on the bottom, and feeds on benthic crustaceans and polychaetes (Allen 1982). It was most abundant in Bays and Harbors of the Central region, but occurred in low abundance in Bays and Harbors of the Southern region, but was absent in Bays and Harbors of the Northern region (Figure 10).

The species occurred in low abundance on the Inner Shelf of the Central and Southern regions, and one individual was collected on the Inner Shelf in the Northern region. It also occurred in very low abundance in the Middle Shelf zone in the Northern and Southern regions, but was absent in the Central region of this shelf zone (Figure 10). It was absent from the Outer Shelf and Upper Slope zones in all three regions (Figure 10).

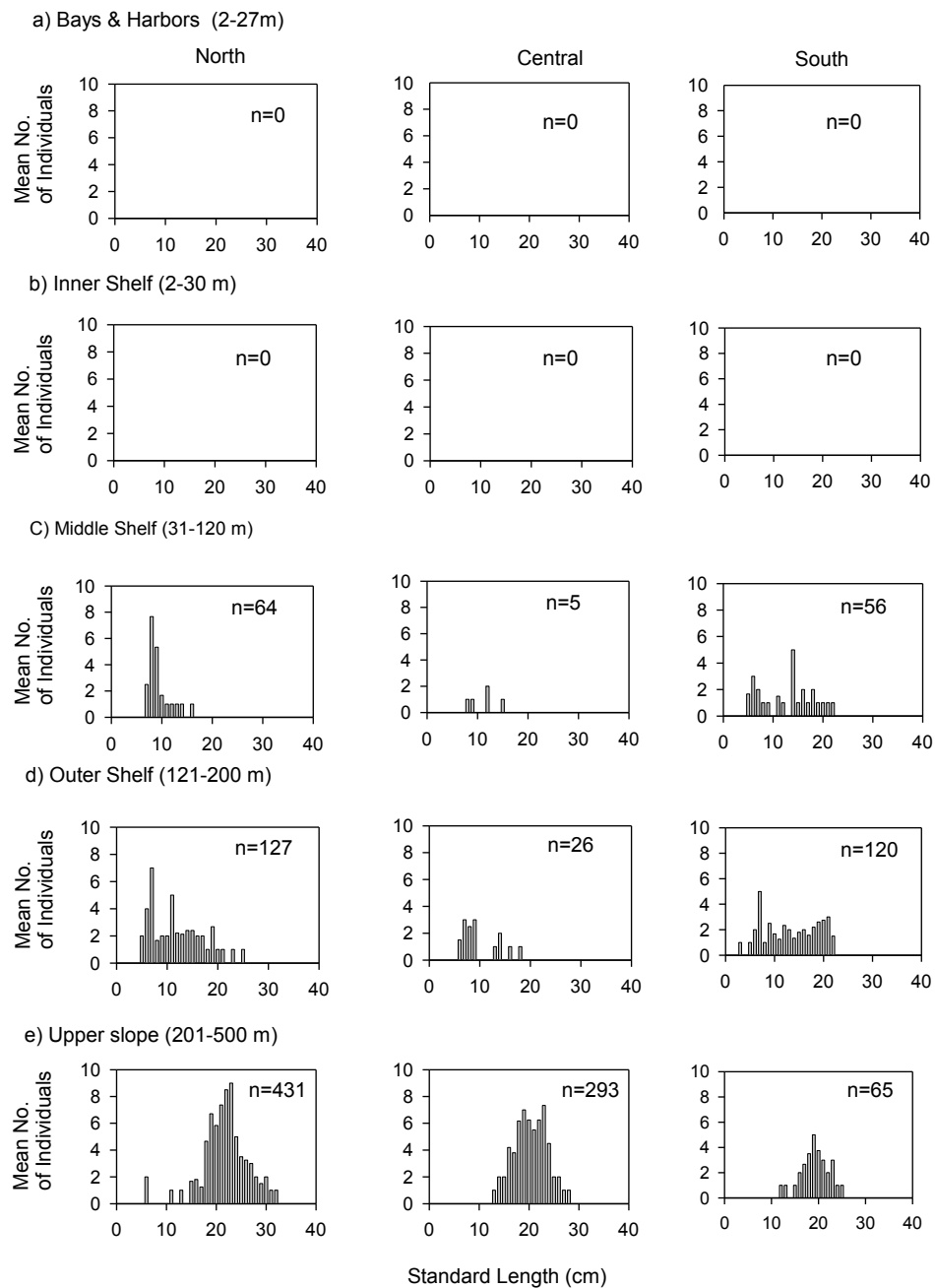


Figure 1. Length frequency of Dover sole (*Microstomus pacificus*) by regions within depth subpopulations in the Bight'08 Regional Survey at depths of 2-484 m from July to September 2008.

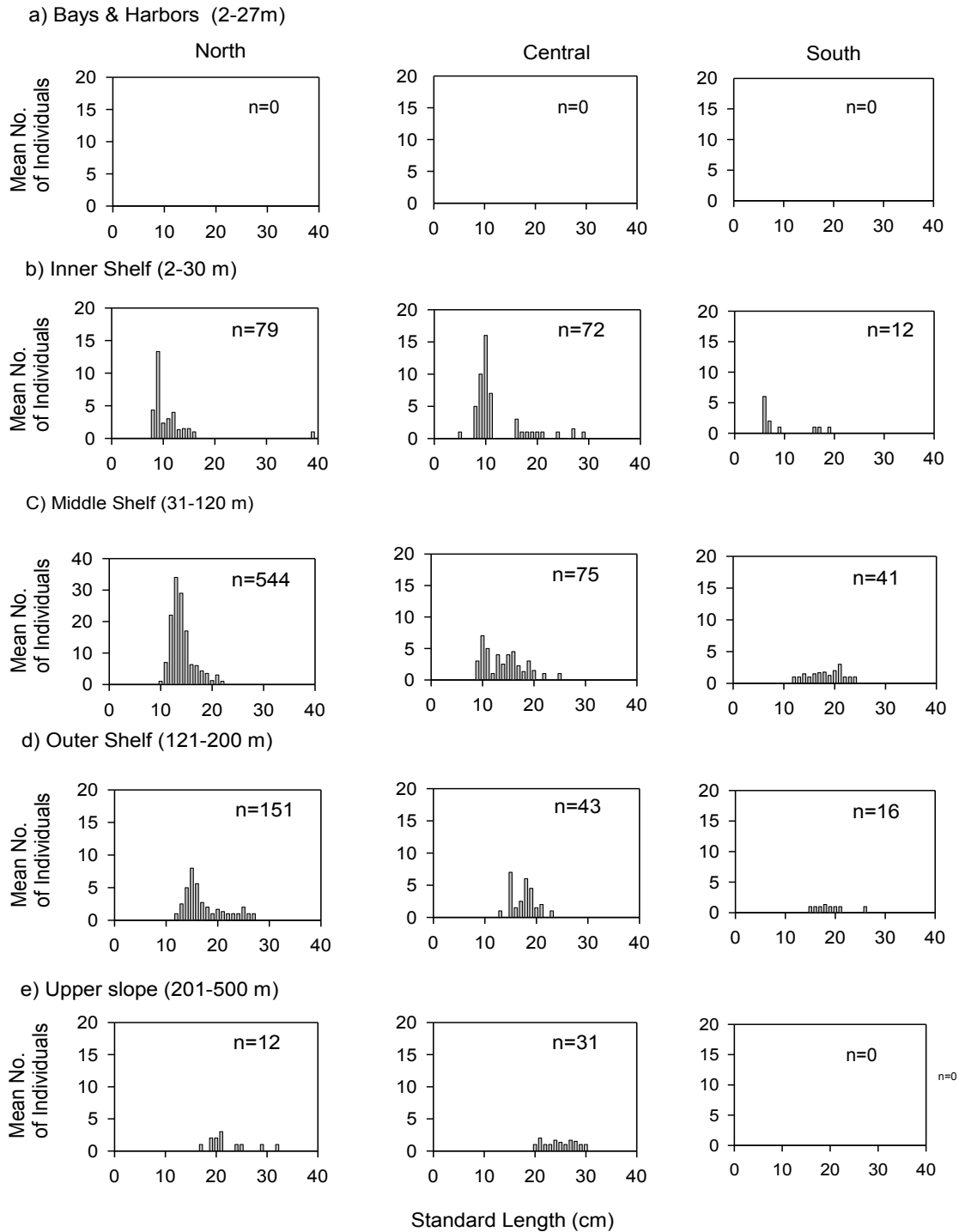


Figure 2. Length frequency of English sole (*Parophrys vetulus*) by regions within depth subpopulations in the Bight'08 Regional Survey at depths of 2-484 m from July to September 2008.

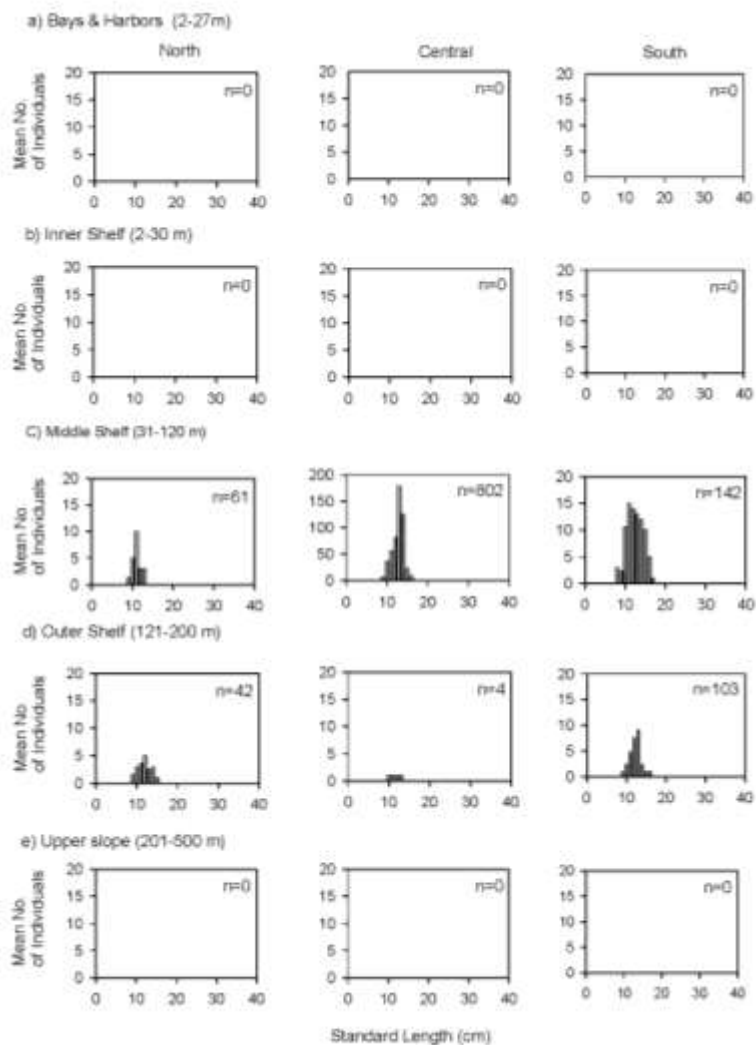


Figure 3. Length frequency of halfbanded rockfish (*Sebastes semicinctus*) by regions within depth subpopulations in the Bight'08 Regional Survey at depths of 2-484 m from July to September 2008.

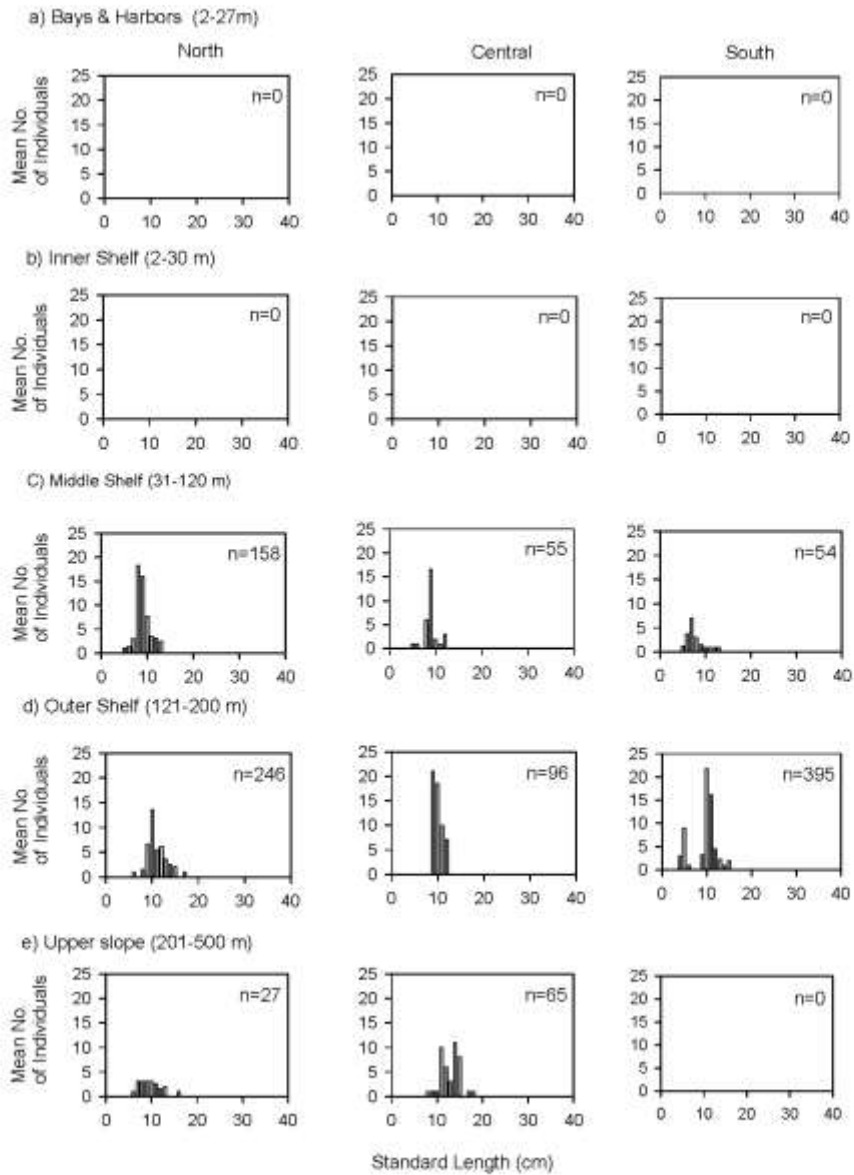


Figure 4. Length frequency of stripetail rockfish (*Sebastes saxicola*) by regions within depth subpopulations in the Bight'08 Regional Survey at depths of 2-484 m from July to September 2008.

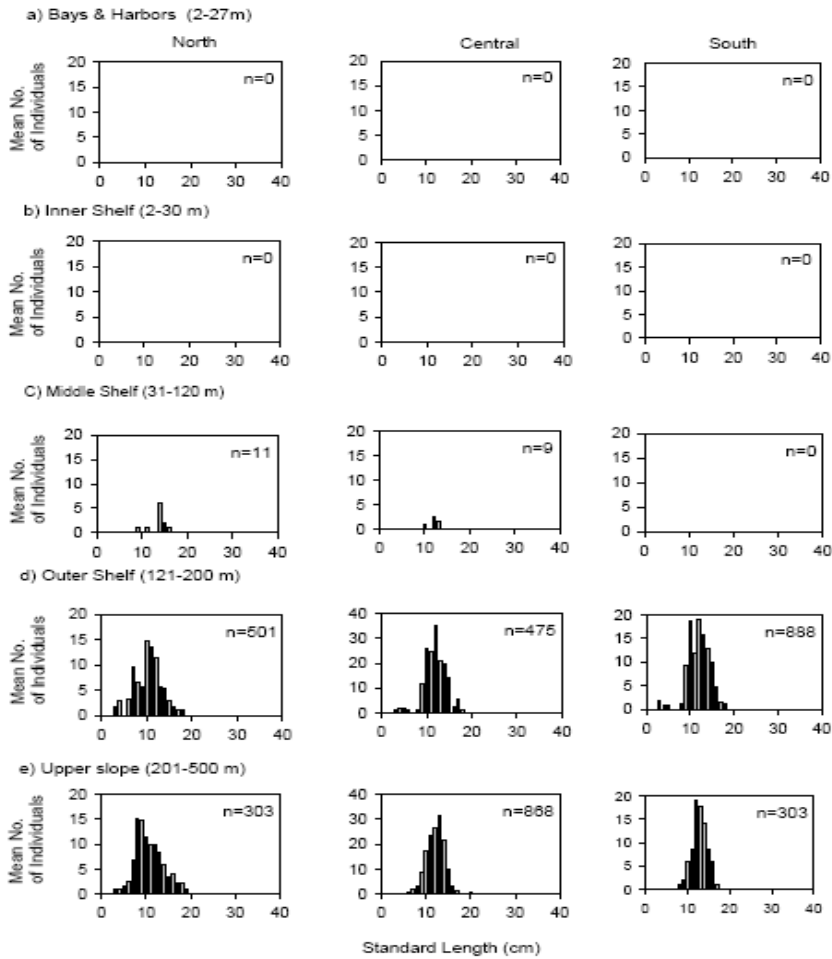


Figure 5. Length frequency of slender sole (*Lyopsetta exilis*) by regions within depth subpopulations in the Bight'08 Regional Survey at depths of 2-484 m from July to September 2008.

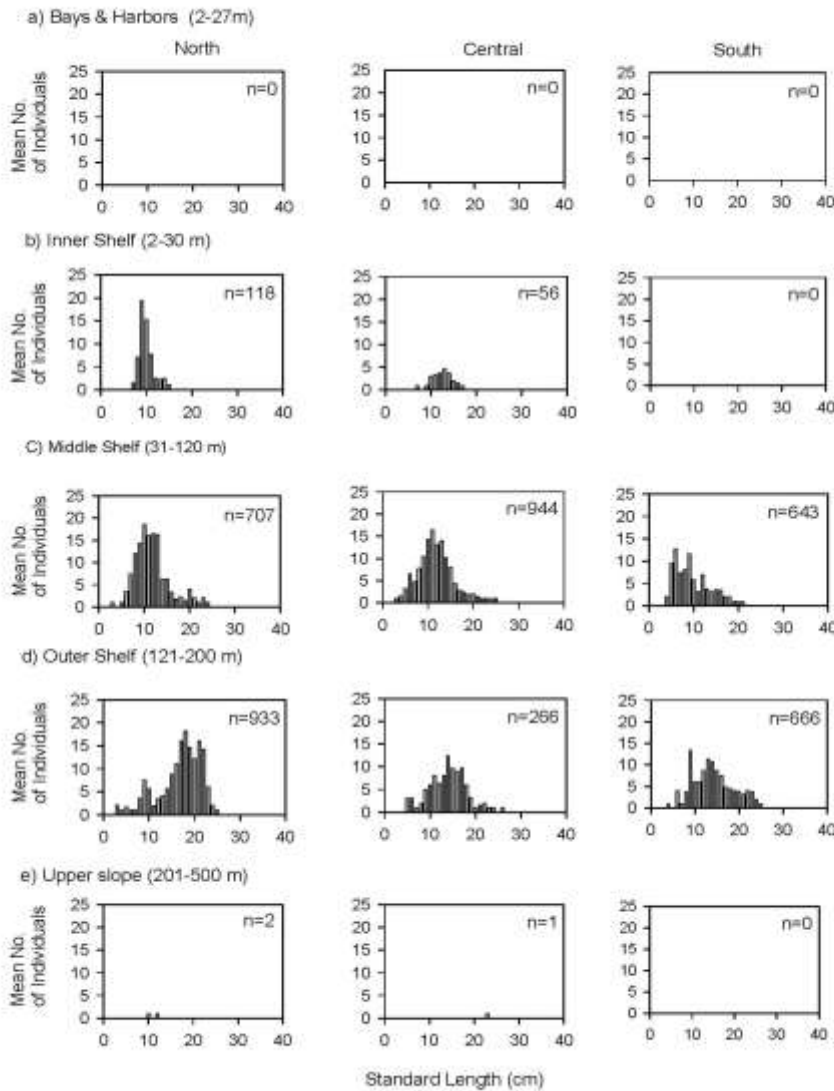


Figure 6. Length frequency of Pacific sanddab (*Citharichthys sordidus*) by regions within depth subpopulations in the Bight'08 Regional Survey at depths of 2-484 m from July to September 2008.

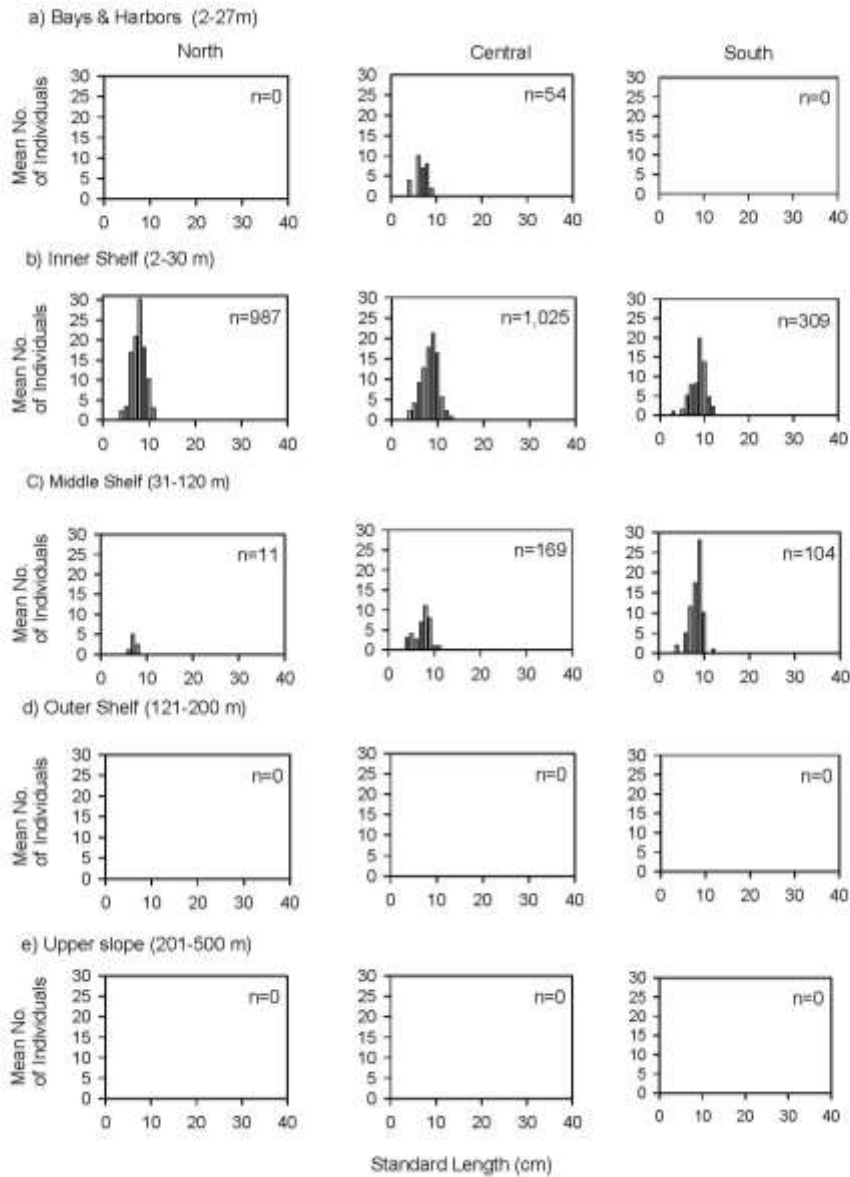


Figure 7. Length frequency of speckled sanddab (*Citharichthys stigmaeus*) by regions within depth subpopulations in the Bight'08 Regional Survey at depths of 2-484 m from July to September 2008.

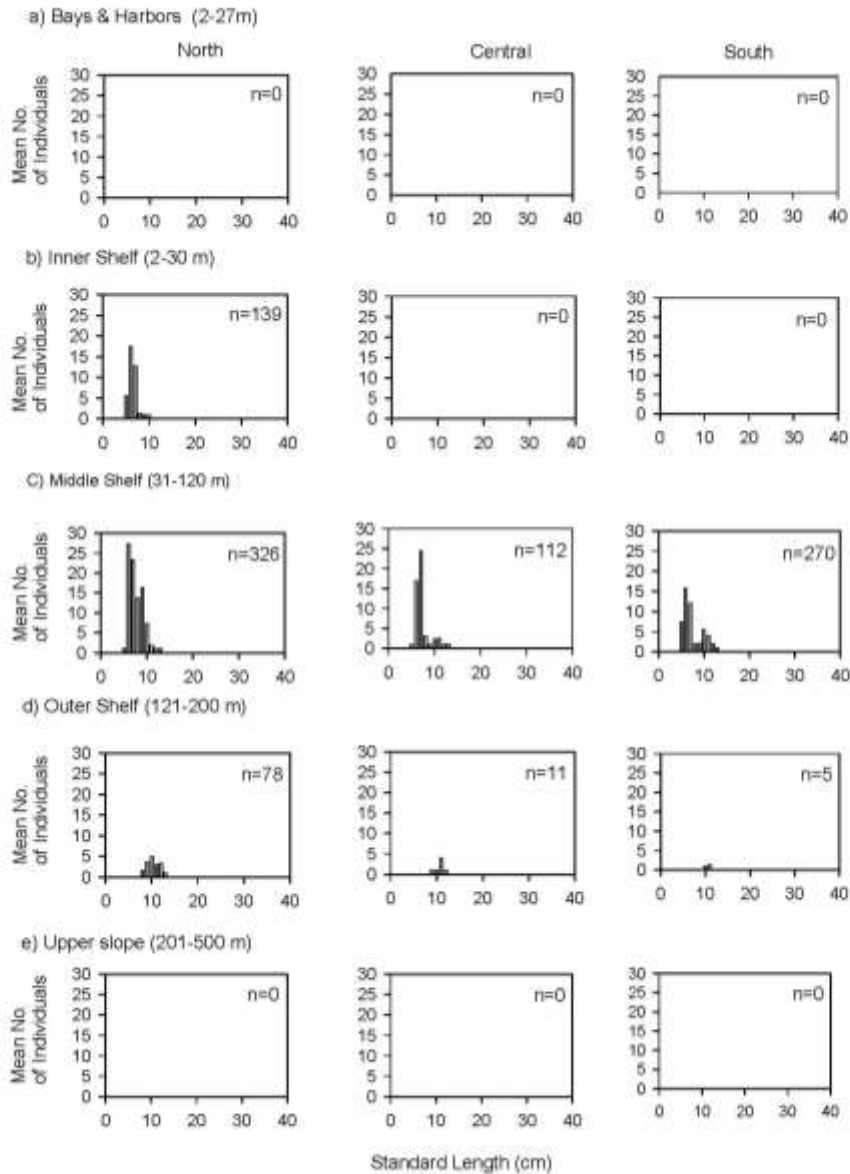


Figure 8. Length frequency of pink seaperch (*Zalambius rosaceus*) by regions within depth subpopulations in the Bight'08 Regional Survey at depths of 2-484 m from July to September 2008.

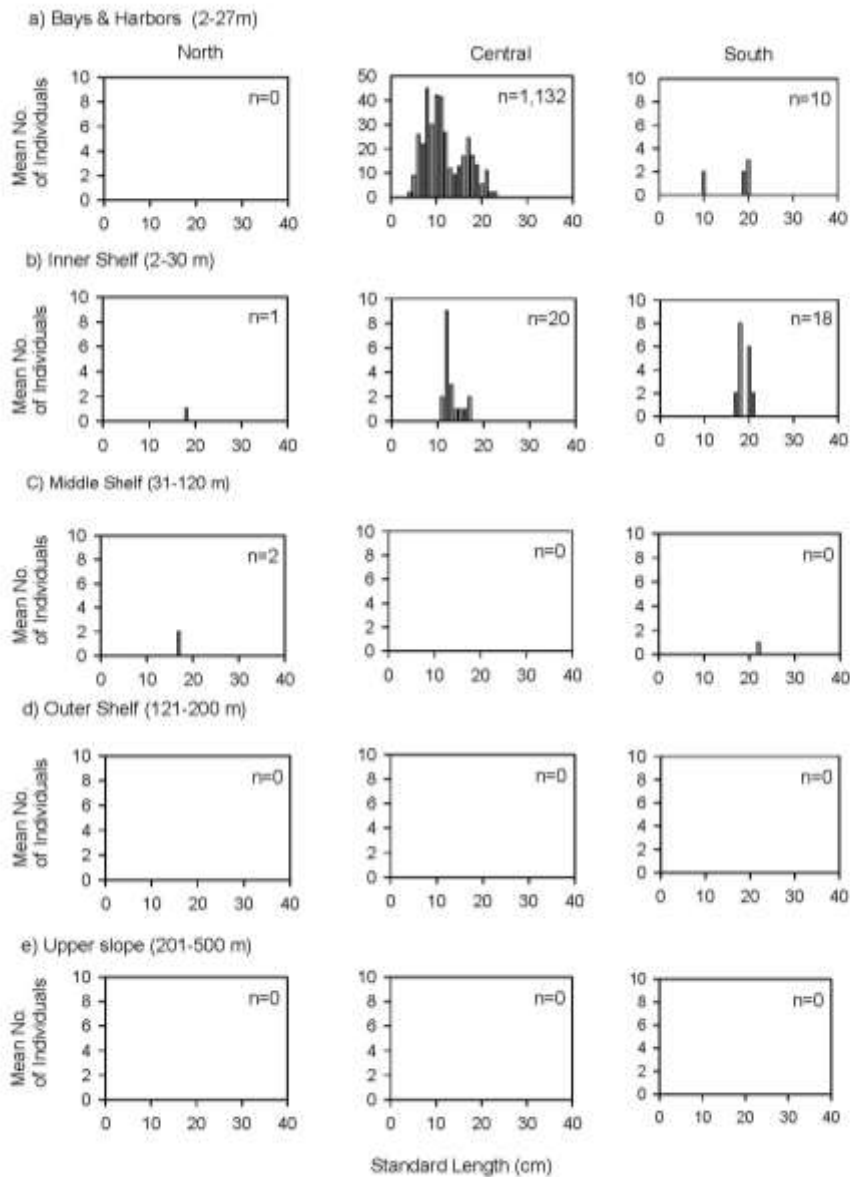


Figure 9. Length frequency of white croaker (*Genyonemus lineatus*) by regions within depth subpopulations in the Bight'08 Regional Survey at depths of 2-484 m from July to September 2008.

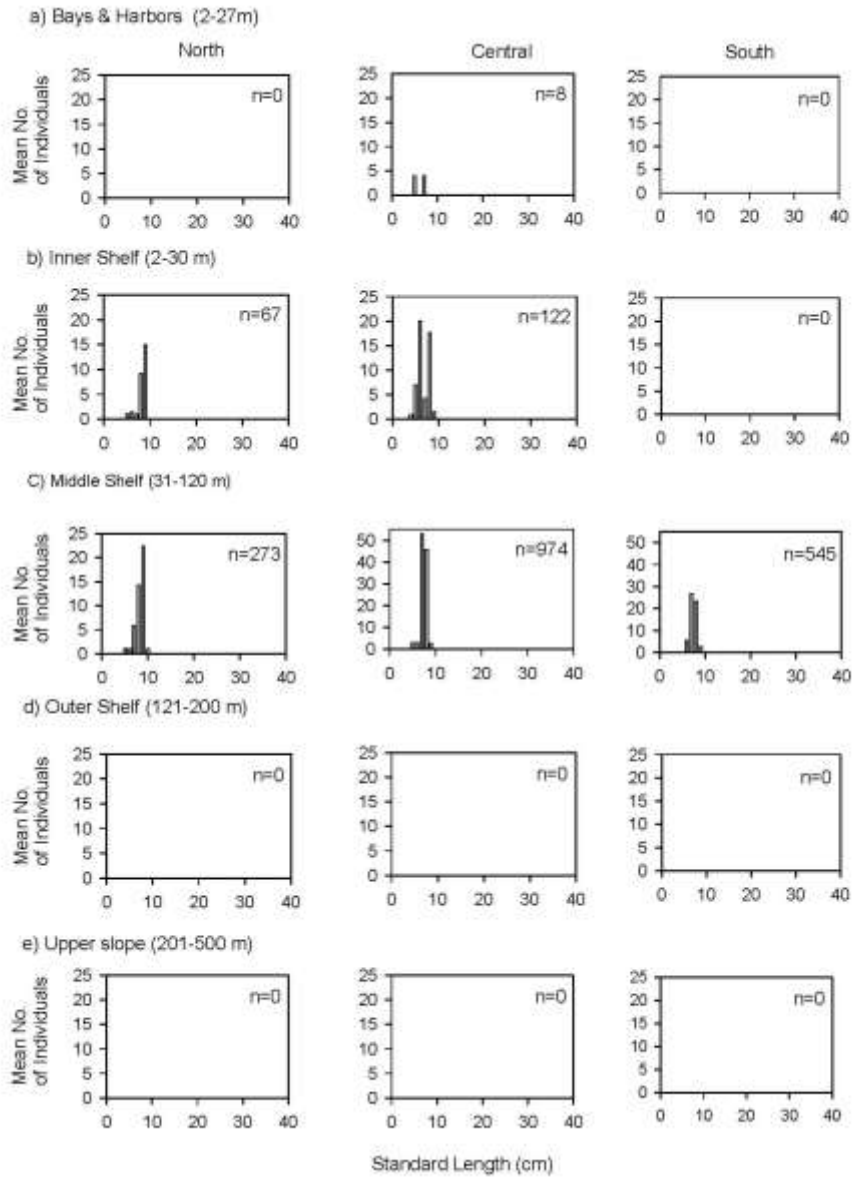


Figure 10. Length frequency of yellowchin sculpin (*Icelinus quadriseriatus*) by regions shelf depth subpopulations in the Bight'08 Regional Survey at depths of 2-484 m from July to September 2008.