

DRAFT REPORT

September 2010 Survey

Eastern Closed Zone and Viable Area 10

Julian J Harrington and Jayson M Semmens

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tafi

Tasmanian Aquaculture
and Fisheries Institute



Australian Government

Australian Fisheries Management Authority

Overview

- The scallop fishing vessel Anne B departed Victoria for the Bass Strait Central Zone Scallop Fishery (BSCZSF) on Wednesday 29th September 2010.
- 78 survey tows were conducted within the two areas of interest over the 30th September and 1st October (Figure 1).
- These tows provided good spatial coverage within what is known as the Eastern Scallop Bed Closed (RED) Zone and scallop viable area 10.
- Furthermore, the data collected provides a good representation of the abundance and condition of scallops within the surveyed areas.

Key Results

- The Eastern Closed Zone covers approximately 10 km distance in latitude, running from 39° 18' to 39° 23.5'.
- 63 survey tows were conducted within the Eastern Closed (RED) Zone.
- For ease of interpretation, data were grouped into 1 minute latitudinal zones (i.e. tows falling between 39° 18' and 39° 19' = zone a etc. (see Figure 2)).
- These 'zones' will be referred to as zones a – e (see figure 2).
- A further 15 sample tows were conducted within the region to the south west of the 2009 open region (referred to as viable area 10 – see Figure 1). This region will be referred to as zone f in this report.

Scallop abundances

- Scallop abundances have been shown as the standardised kilogram catch of scallops per 1000m tow distance using an 11 foot scallop dredge.
- Approximately three quarters of the sample tows conducted in zones a-e had greater than 60 kilograms of scallops caught per standardised 1000m sample tow (Figure 2).
- Sample tows with catches of less than 30 kg per 1000m standardised tow were generally located within the western portion of zones a and b (see Figure 2).
- Thirteen of the 15 sample tows conducted within Zone f (viable area 10) had catches greater than 60 kg of scallops per 1000m sample tow (Figure 3).
- Very high abundances of scallops were observed within two sample tows within zone f (Figure 3). This was the consequence of very short tow distances being recorded for these tows.
- The abundances recorded would suggest that all regions surveyed can be considered commercial prospects.

Scallop Size

- The average size of scallops was 102 mm within zones a to d; 100 mm in zone e and 96.6 mm in zone f (see Figure 4)
- Corresponding discard rates were 1.5%, 6%, <1%, 1% 7% and 19% for zones a – f respectively (see Figure 4).

Scallop Condition

- The roe and meat condition of 10 randomly selected scallops were collected from approximately every second tow and indexed as either:
 - Poor meat and roe condition – not suitable for harvesting
 - Poor meat but roe ok – not suitable for harvesting
 - Good meat but poor roe – has potential for commercial harvest
 - Good meat and good roe condition – suitable for commercial harvest
- Greater than 90% of all scallops indexed fell within the good roe and good meat condition category (Figure 5).
- Scallop condition appears suitable for harvesting.

New Dead Shell and seastars

- Comments on the datasheets suggested substantial quantities of new dead shell were present within most surveyed regions (see Figure 6).
- In some instances, it was suggested that 80% or more of the catch was newly dead scallop shell.
- Other comments referred to the presence of seastars.

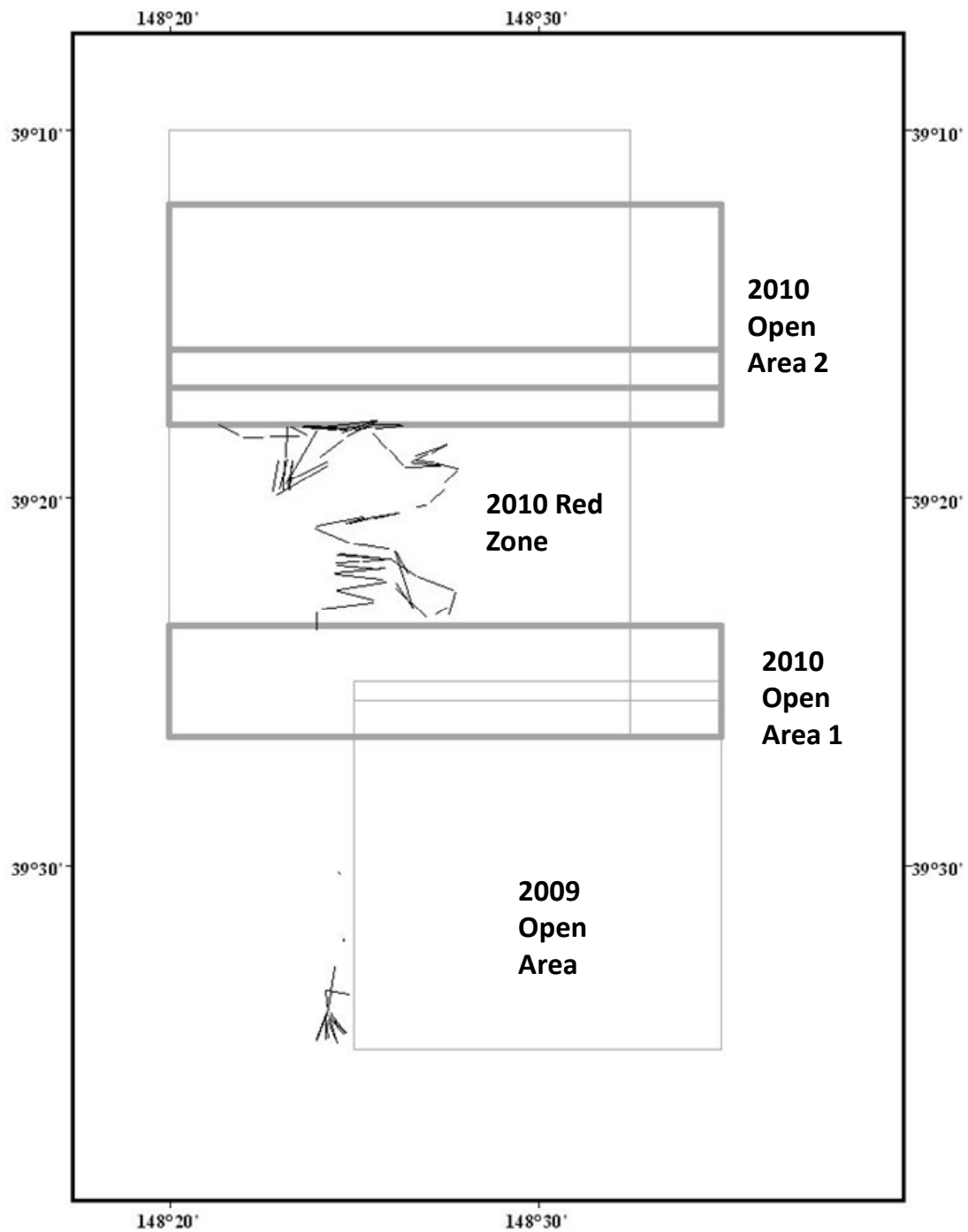


Figure 1: Overview of sample tows conducted within the Eastern Closed Zone (Red Zone and viable scallop region 10 during the September 2010 survey.

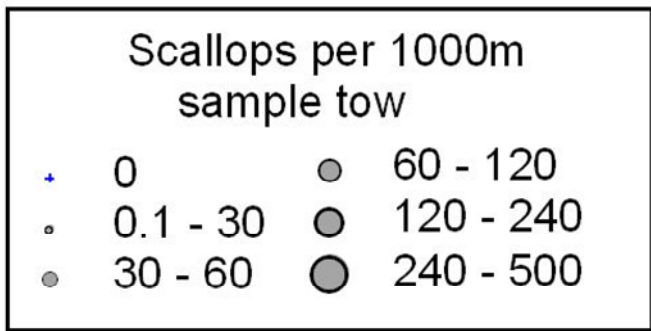
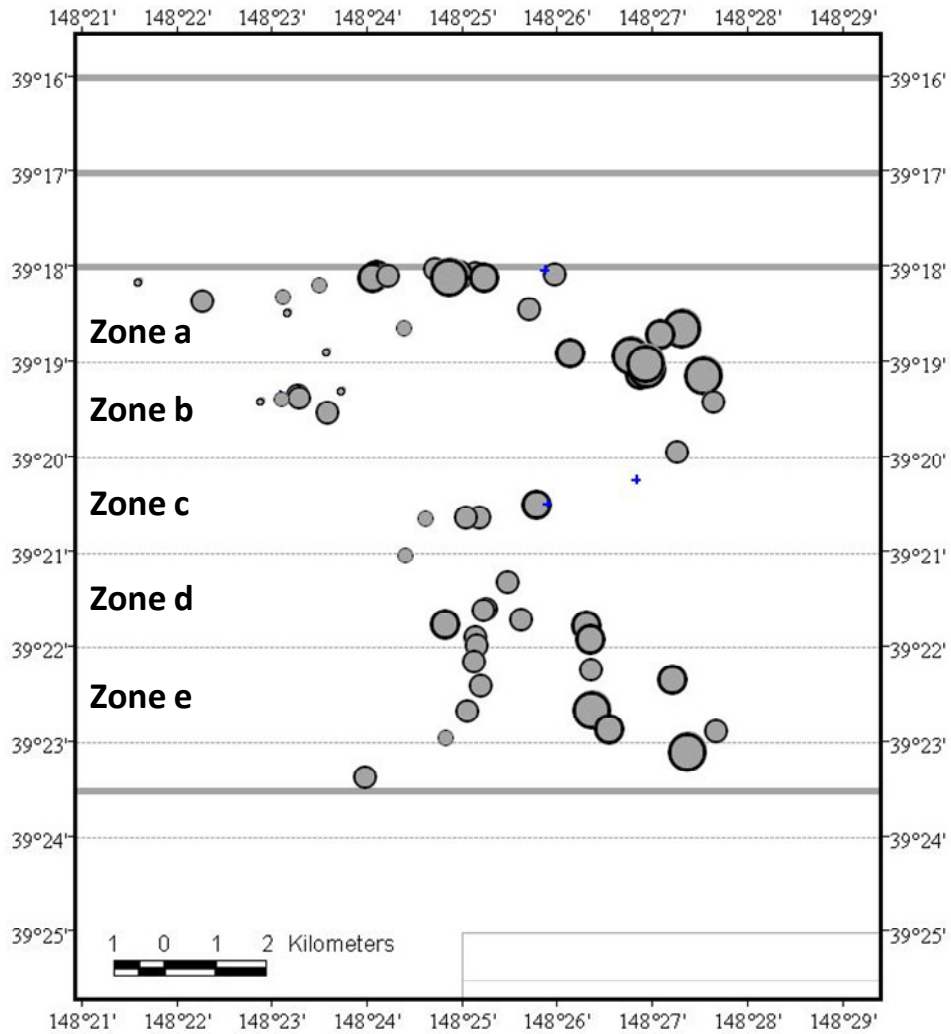


Figure 2: Estimated kilograms of scallops caught per standardised 1000m sample tow using an 11 foot dredge within the eastern closed zone region of the survey. The labels Zone a – Zone e correspond to length frequencies shown later.

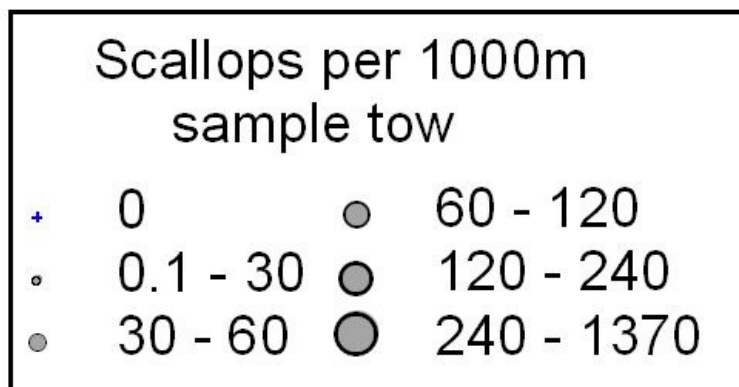
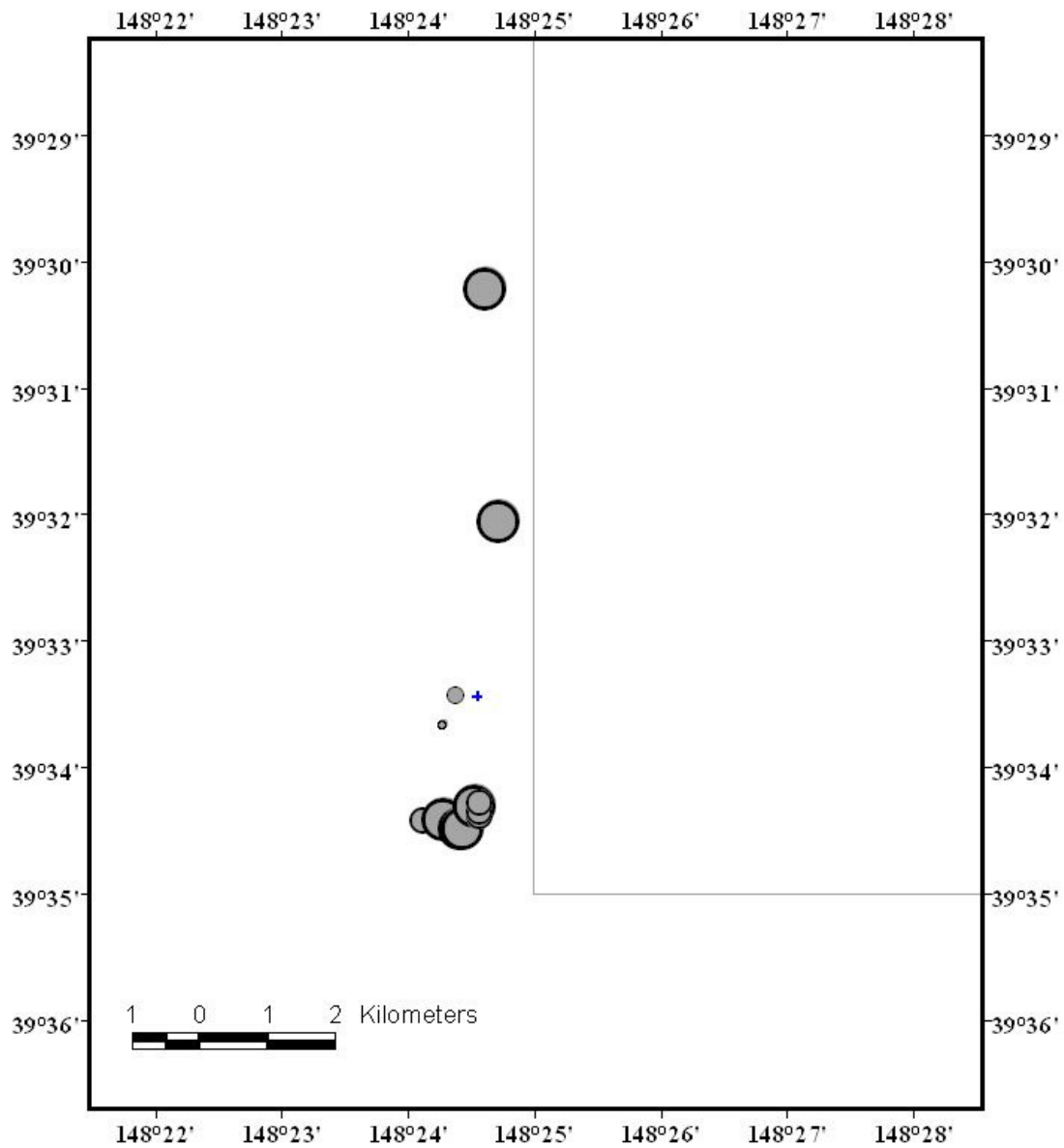
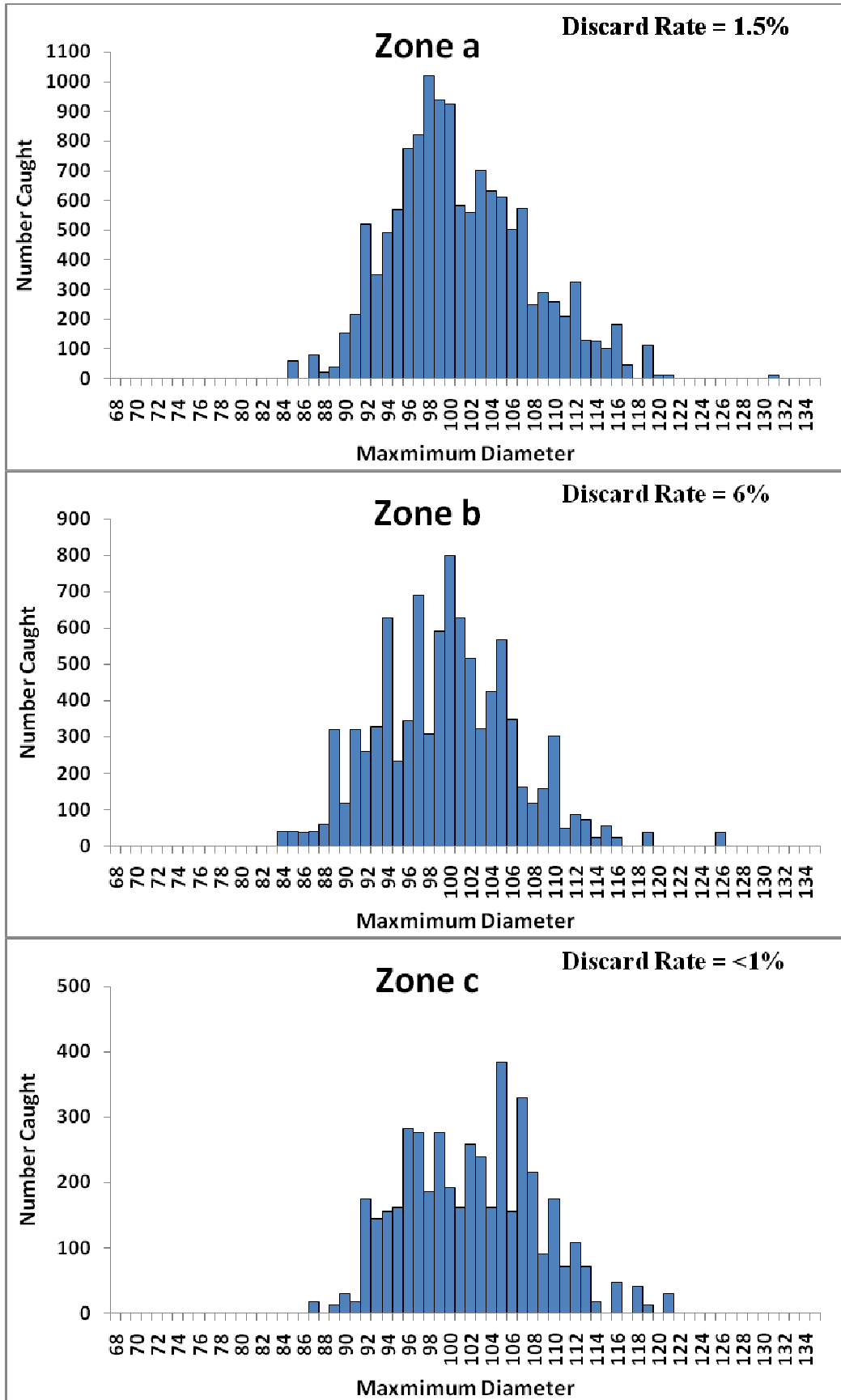


Figure 3: Estimated kilograms of scallops caught per standardised 1000m sample tow using an 11 foot dredge within the viable area 10 region of the survey. This region is represented by zone f in later length frequencies.



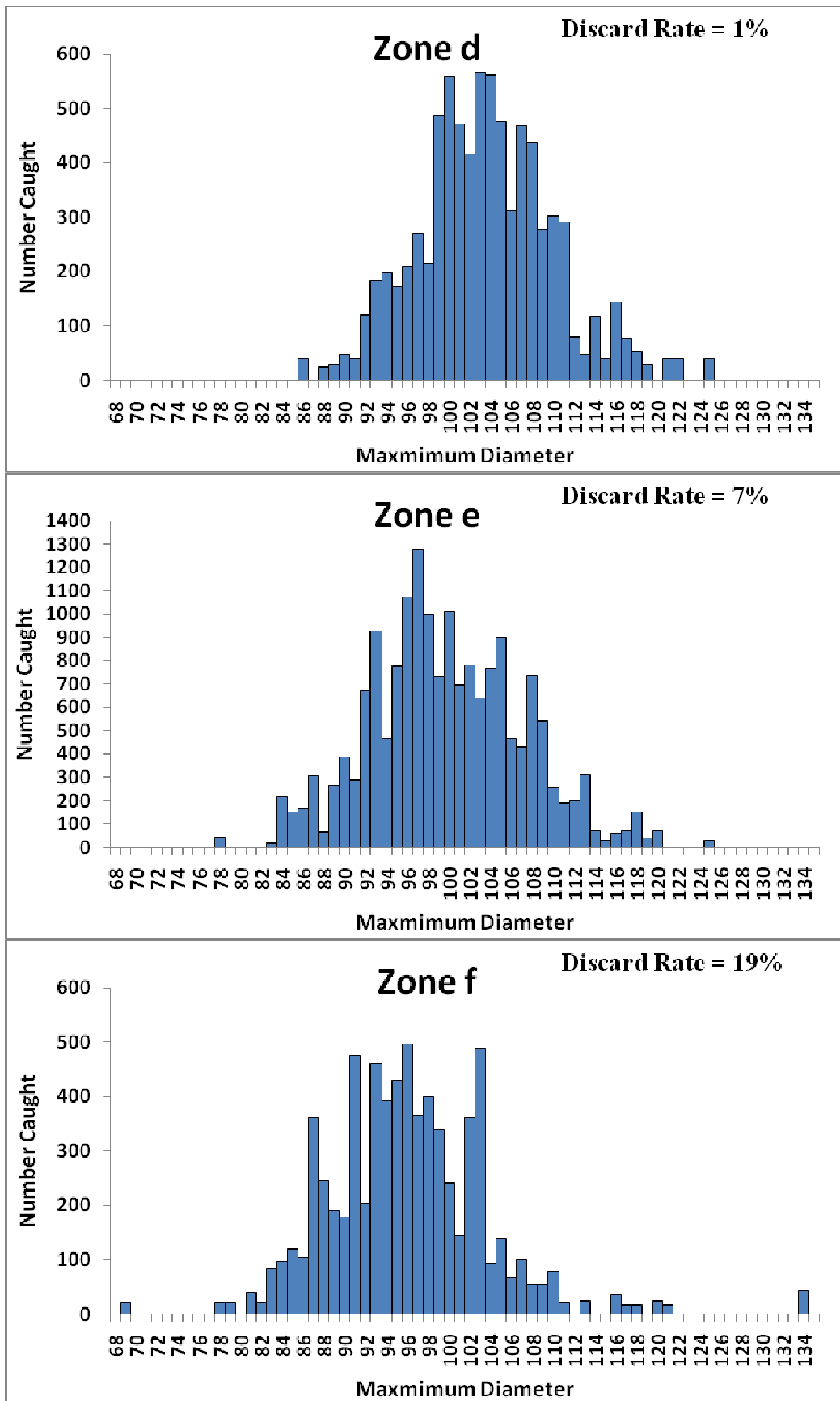


Figure 4: Length frequency plots for zones a to f. All discard rates are below the 20% discard rate rule requirement.

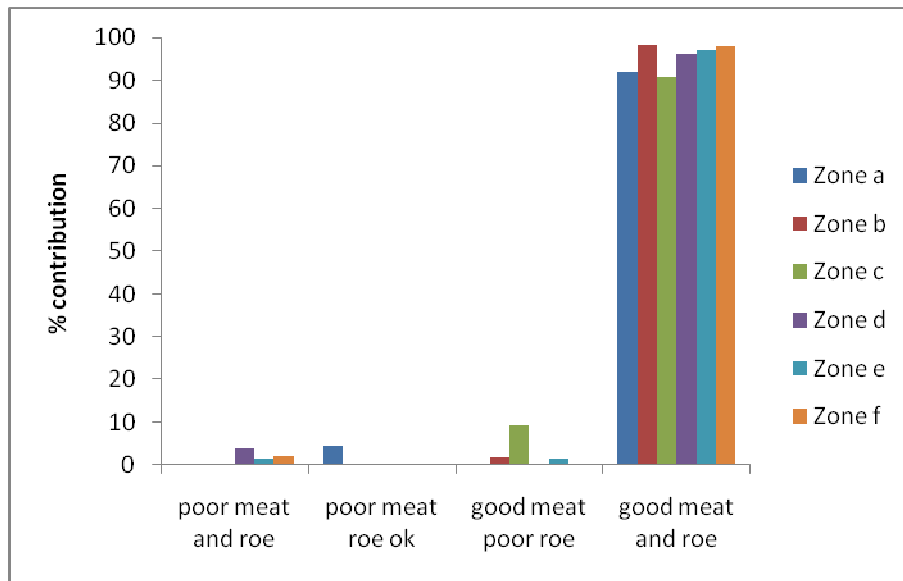


Figure 5: Percentage contribution of each meat and roe index category within each of the surveyed zones.

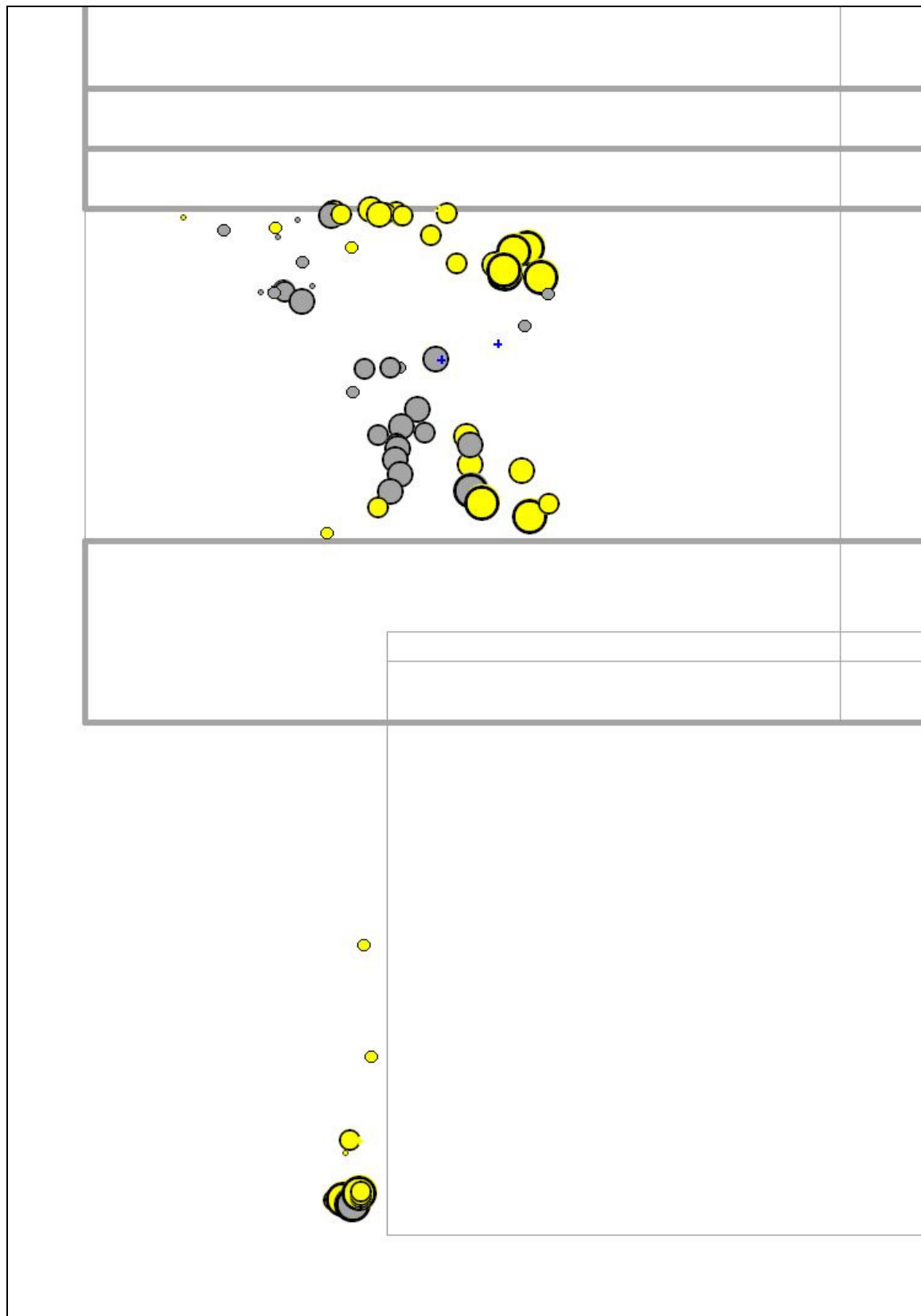


Figure 6: Yellow circles identify those sample tows where comments concerning substantial abundances of newly dead shell were made.

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Appendix 1: Raw data and comments collected during the September 2010 survey of the Eastern Closed Zone and Viable scallop area 10.

Shot	Time	Date	Start Long	Start lat	Finish Long	Finish Lat	Depth	kg scallop	kg per 1000m	Comments	Other comments
1	03:00-03:10	30/09/2010	148 21.36	39 39	18.01 148 21.85	39 18.28	48.5	0.5	1	all dead shell	All dead shell - not harvestable
2	03:13-03:21	30/09/2010	148 22.02	39 39	18.37 148 22.54	39 18.36	47	60	80	good size	All in good condition - harvestable
3	03:25-03:39	30/09/2010	148 22.75	39 39	18.31 148 23.51	39 18.32	49	60	55	good size	Some new dead shell - Scallops caught harvestable
4	03:43-04:00	30/09/2010	148 23.72	39 39	18.30 148 23.30	39 18.08	49	30	41	good size	In good condition - harvestable
5	04:02-04:11	30/09/2010	148 23.20	39 39	18.07 148 23.16	39 18.88	45	20	13	70%good size 30% small	Good condition - some smaller scallops
6	04:13-04:29	30/09/2010	148 23.19	39 39	18.94 148 23.00	39 19.74	47	0	0	n/a - no catch	Dredge upside down - No scallops caught.
7	04:37-04:54	30/09/2010	148 23.23	39 39	19.73 148 23.33	39 18.97	48	120	85	good size	Scallops good size and condition
8	04:55-05:12	30/09/2010	148 23.32	39 39	18.98 148 23.28	39 19.79	46	120	80	good size	All in good condition - harvestable
9	05:15-05:33	30/09/2010	148 23.10	39 39	19.82 148 23.13	39 18.97	46.5	60	38	good size	Good condition and size
10	05:35-05:55	30/09/2010	148 22.96	39 39	18.97 148 22.82	39 19.83	46	30	19	good size	All in good condition - harvestable
11	06:00-06:19	30/09/2010	148 22.90	39 39	19.93 148 24.27	39 19.14	48	200	81	good size	All in good condition - harvestable
12	06:20-06:44	30/09/2010	148 24.28	39 39	19.03 148 23.22	39 19.55	47.5	30	17	good size	Good condition and size
13	06:46-07:00	30/09/2010	148 23.18	39 39	19.60 148 23.99	39 18.17	47	50	17	good size	All in good condition - harvestable
14	07:03-07:14	30/09/2010	148 24.10	39 39	18.88 148 24.70	39 18.42	48	60	49	A lot of dead shell	A lot of new dead shell
15	07:16-07:27	30/09/2010	148 24.83	39 39	18.32 148 25.62	39 17.90	49	100	72	Smaller	Full dredge 80% new dead shell and starfish.
16	07:30-07:47	30/09/2010	148 25.59	39 39	17.91 148 24.71	39 18.21	49	100	73	A lot of dead shell	Full dredge 80% new dead shell and starfish.
17	07:50-08:02	30/09/2010	148 25.59	39 39	17.91 148 23.86	39 18.13	48.5	160	64	A lot of dead shell	A lot of new dead shell
18	08:05-08:17	30/09/2010	148 23.70	39 39	18.05 148 24.52	39 18.09	47.5	200	169	Good size	A lot of new dead shell. A lot of starfish
19	08:20-08:29	30/09/2010	148 24.69	39 39	18.10 148 25.26	39 18.05	48	100	121	A lot of dead shell	Good size, cleaner catch. Some new dead shell
20	08:30-08:43	30/09/2010	148 25.15	39 39	18.07 148 24.59	39 18.13	50	200	245	A lot of dead shell	A lot of new dead shell and starfish

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Shot	Time	Date	Start Long	Start lat	Finish Long	Finish Lat	Depth	kg scallop	kg per 1000m	Comments	Other comments
21	08:44-08:59	30/09/2010	148 24.51	39 18.14	148 23.63	39 18.08	49	240	189	good size	A cleaner shot with good size scallops
22	09:02-09:23	30/09/2010	148 23.64	39 18.05	148 24.81	39 18.14	48.5	120	71	A lot of dead shell	Half a dredge new dead shell, starfish. Live scallops a good size
23	09:30-09:33	30/09/2010	148 25.05	39 18.14	148 25.44	39 18.09	48.5	100	174	A lot of dead shell	Mostly new dead shell and starfish. Good condition - live ones
24	09:44-09:46	30/09/2010	148 25.61	39 18.10	148 26.35	39 18.06	47	100	94	A lot of dead shell	Mostly new dead shell. Less starfish. Good condition - live ones
25	09:57-10:00	30/09/2010	148 26.25	39 18.02	148 25.50	39 18.02	49	0	0	all dead shell	All new dead shell, no live scallops.
26	10:13-10:16	30/09/2010	148 25.54	39 18.25	148 25.89	39 18.63	48	100	114	A lot of dead shell	A lot of new dead shell. Live scallops good condition
27	10:28-10:31	30/09/2010	148 25.97	39 18.71	148 26.32	39 19.09	48	120	139	Mostly dead shell	A lot of new dead shell. Live scallops good condition
28	10:44-10:47	30/09/2010	148 26.41	39 19.15	148 27.35	39 19.11	47	200	147	good size	Full dredge 50% new dead shell. 50% Live scallops in good condition
29	10:57-11:02	30/09/2010	148 27.31	39 19.08	148 26.61	39 19.07	47	260	259	good size	Full dredge mixed with dead shell. Live scallops in good condition
30	11:13-11:14	30/09/2010	148 26.59	39 19.04	148 26.98	39 18.82	48	180	259	good size	Half dredge mixed scallop and new dead shell.
31	11:21-11:24	30/09/2010	148 27.13	39 18.77	148 27.51	39 18.53	46	280	404	good size	Full dredge 80% live scallop in good condition.
32	11:37-11:41	30/09/2010	148 27.51	39 18.56	148 26.69	39 18.85	47	300	232	good size	Full dredge mixed with dead shell. Live scallops in good condition
33	11:52-11:52	30/09/2010	148 26.72	39 18.98	148 27.15	39 19.03	47	300	477	good size	Full dredge mixed with dead shell. Live scallops in good condition
34	12:02-12:05	30/09/2010	148 27.25	39 19.06	148 27.84	39 19.21	47	300	340	good size	Mixed live and new dead shell.
35	12:14-12:15	30/09/2010	148 27.78	39 19.27	148 27.50	39 19.57	46.5	60	88	good size	Only a little bit of dead shell
36	12:25-12:27	30/09/2010	148 27.43	39 19.77	148 27.10	39 20.12	46.5	60	75	Good size	Clean shot of live scallops. Good condition
37	12:30-13:43	30/09/2010	148 26.97	39 20.21	148 26.73	39 20.26	47	0	0	n/a - no catch	Shackle broke on dredge. There was no catch.
38	13:57-14:01	30/09/2010	148 25.36	39 20.56	148 26.23	39 20.43	46.5	210	165	good size	Full dredge. Only a small amount of dead shell. Live scallops in good cond
39	14:09-14:11	30/09/2010	148 26.24	39 20.41	148 25.58	39 20.55	46	0	0	dead shell	There were only a couple of new dead shells in the dredge.
40	14:20-14:25	30/09/2010	148 25.47	39 20.57	148 24.89	39 20.69	46	60	69	good size	Clean shot of live scallops. Good condition
41	14:36-14:39	30/09/2010	148 24.79	39 20.70	148 25.29	39 20.57	46	90	118	good size	Clean shot of live scallops. Good condition
42	14:59	30/09/2010	148 25.24	39 20.52	148 24.01	39 20.78	46.5	90	49	good size	Clean shot of live scallops. Good condition
43	15:02-	30/09/2010	148 23.96	39 20.84	148 24.86	39 21.23	45	60	41	good size	Clean shot of live scallops. Good condition

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44	15:23-15:39	30/09/2010	148 25.01	39 21.25	148 25.96	39 21.38	46	150	108	good size	Clean shot of live scallops. Good condition. Some new dead shells.
45	15:42-15:58	30/09/2010	148 26.14	39 21.49	148 26.49	39 22.06	44	200	170	good size	Half a dredge mostly live scallops. Some new dead shell.
46	16:14-16:15	30/09/2010	148 26.60	39 22.99	148 26.12	39 21.48	46	200	69	good size	Half a dredge mostly live scallops. Some new dead shell.
47	16:31-16:34	30/09/2010	148 26.60	39 22.99	148 26.16	39 22.34	44.5	400	294	good size	3/4 of a dredge. Some new dead shell. Live scallops in good condition.
48	16:52-15:56	30/09/2010	148 26.17	39 22.49	148 26.95	39 23.23	42	300	169	Mostly dead shell	Full dredge. Mostly dead shell and starfish. Live scallops in good condition.
49	17:03-17:06	30/09/2010	148 27.23	39 23.18	148 27.51	39 23.02	42	250	495	good size	Mostly new dead shell and starfish. Good condition - live ones.
50	17:13-17:16	30/09/2010	148 27.58	39 23.18	148 27.75	39 22.59	43	100	89	good size	Half a dredge mostly deadshell and starfish
51	17:34-17:36	30/09/2010	148 27.69	39 22.52	148 26.75	39 22.15	43	230	152	good size some smaller ones	Half a dredge. More live scallops but still some new dead shell.
52	17:50-17:54	30/09/2010	148 26.67	39 22.12	148 26.04	39 21.69	45	200	165	good size	Half dredge. 90% live scallops. Some new dead shell.
53	18:13-18:15	30/09/2010	148 25.89	39 21.66	148 24.62	39 21.54	45	120	65	good size	90% live scallops.some new dead shells scattered throughout.
54	18:34-18:37	30/09/2010	148 24.56	39 21.56	148 25.90	39 21.66	44	200	103	good size	Half dredge mostly live scallops. Only a little new dead shells.
55	18:50-18:53	30/09/2010	148 26.01	39 21.68	148 25.24	39 21.74	45.5	120	108	good size	Clean shot. Mostly live scallops with only a few new dead shells.
56	18:53-19:03	30/09/2010	148 25.16	39 21.75	148 24.52	39 21.77	44	120	132	Good size	Clean shot. Mostly live scallops with only a few new dead shells.
57	19:06-19:22	30/09/2010	148 24.57	39 21.84	148 25.72	39 21.95	44.5	120	72	Good size	Clean shot. Mostly live scallops with only a few new dead shells.
58	19:25-19:46	30/09/2010	148 25.83	39 21.92	148 24.49	39 22.05	44.5	200	103	Good size	Clean shot. Mostly live scallops with only a few new dead shells.
59	19:48-20:06	30/09/2010	148 24.50	39 22.09	148 25.76	39 22.22	43	150	82	Good size	Clean shot. Mostly live scallops with only a few new dead shells.
60	20:11-20:31	30/09/2010	148 25.87	39 22.30	148 24.54	39 22.51	44.5	200	103	Good size	Clean shot. Mostly live scallops with only a few new dead shells.
61	20:33-20:47	30/09/2010	148 24.57	39 22.55	148 25.54	39 22.80	43	150	102	Good size	Clean shot. Mostly live scallops an increase in new dead shells.
62	20:52-21:12	30/09/2010	148 25.53	39 22.87	148 24.14	39 23.04	44.5	100	50	Good size	Smaller catch with more new dead shells.
63	21:15-21:30	30/09/2010	148 23.98	39 23.15	148 23.99	39 23.59	41	60	75	Good size	Smaller catch with more new dead shells.
64		30/09/2010	148 24.60	39 30.20	148 24.61	39 30.22	35	60	1370	Average size	A lot of dead shell. Some sponge.
65		30/09/2010	148 24.72	39 32.09	148 24.73	39 32.02	34	60	462	Average size	A lot of dead shell. Some sponge.

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66	23:43-	30/09/2010	148 24.47	39 32.78	148 24.27	39 34.09	34	120	49	Average size	Few more new dead shell. More sponge and spider crab
67	23:54-	30/09/2010	148 24.24	39 34.05	148 24.01	39 34.73	34	60	46	Average size	Mostly dead shell, sponge. Smaller meats in scallop
68	23:56-00:09	1/10/2010	148 24.01	39 34.74	148 24.23	39 34.12	34	90	75	Average size	Mostly dead shell, sponge. Smaller meats in scallop
69	00:11-00:20	1/10/2010	148 24.23	39 34.19	148 24.23	39 34.71	34	90	93	Average size	Mostly dead shell, sponge.
70	0:23-0:33	1/10/2010	148 24.31	39 34.68	148 24.26	39 34.16	34	300	309	Average size	Full dredge Scallops and New dead shell.
71	00:37-00:47	1/10/2010	148 24.30	39 34.23	148 24.51	39 34.74	34	300	303	Good size	Full dredge, more live scallops. Less dead shell. Smaller meats in scallop
72	00:50-01:10	1/10/2010	148 24.54	39 34.81	148 24.33	39 34.17	34.5	300	244	Good size	Full dredge, more live scallops. Less dead shell.
73	01:10-01:22	1/10/2010	148 24.33	39 34.10	148 24.74	39 34.51	34.5	280	293	Good size	3/4 dredge, some more new dead scallops and sponge. Smaller meats in scallop
74	01:25-01:36	1/10/2010	148 24.74	39 34.59	148 24.39	39 34.18	35	100	110	Good size	1/2 dredge, more new dead scallops and sponge.
75	01:38-01:48	1/10/2010	148 24.34	39 34.15	148 24.79	39 34.56	34.5	100	101	Good size	A lot more sponge. Some new dead scallops.
76	01:51-02:04	1/10/2010	148 24.77	39 34.56	148 24.36	39 34.01	34.5	100	86	Good size	More sponge. More new dead scallops.
77	02:06-02:19	1/10/2010	148 24.32	39 33.95	148 24.25	39 33.38	36	10	10	Mostly dead shell	Less sponge. More live scallops. Still a large amount of new dead shell.
78	02:20-02:29	1/10/2010	148 24.25	39 33.38	148 24.86	39 33.49	36	0	0	all dead shell	All dead shell - not harvestable