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CRUISE RESULTS

08/07/2010 - 09/29/2010
Boitom Longline Survey
Coastal Sharks - Red Snapper

NOAA Ship OREGON II, Cruise R2 10-02 (291)

U.S. Department of Commerce
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Southeast Fisheries Science Center
Mississippi Laboratories
Pascagoula Facility
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STAFF PARTICIPANTS

Kevin	Biologist	NMFS Lab
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Bottom Longline Survey
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NOAA Ship OREGON II, R2 10-02 (291)

SURVEY PERIOD: 08/07 – 09/29/2010

AREA OF OPERATION

Survey operations were conducted in the western North Atlantic Ocean along the U.S. Gulf of Mexico coast (Figure 1).

OBJECTIVES

- 1) Conduct a study to assess the distribution and abundance of coastal sharks, red snapper (*Lutjanus campechanus*) and grouper.
- 2) Collect biological and environmental data with a conductivity-temperature-depth (CTD) sensor at survey sites.
- 3) Tag and release sharks.
- 4) Conduct plankton sampling

MATERIALS AND METHODS

The survey platform NOAA Ship OREGON II was outfitted with commercial-type longline gear. Monofilament mainline (4 mm diameter or 1200 lb test, 1 nm length) was deployed off the stern through a series of blocks. Radar reflector buoys (start and end of set), with strobes at night, 5 kg (11 lb) weights (start, mid-set, end set), and 3.66 m (12 ft) gangions (332 kg or 700 lb test 3 mm diameter) with hooks (#15 circle, Mustad #39960D) were clipped to the mainline as it was deployed. Vessel speed ranged from 2.5 – 3.5 kt during the set. Hand-held radios were used for communications between the bridge, stern and longline reel operator.

Bottom longline effort was 100 hooks fished for 1 h (soak time). Soak time was determined from the time the last radar reflector buoy was deployed during the set until the first radar reflector buoy was retrieved to begin the haulback. Some soak times varied depending on survey conditions or gear problems but were generally 1 hr. Hooks were baited with Atlantic mackerel (*Scomber scombrus*, 12 kg or 26 lb per set) cut to fit the circle hooks. Catch was brought aboard or held at surface for estimating size and weight or for tagging. Haulback speed was approximately 3.0 kt and haulback time ranged from 20 – 60 min depending on catch rates and sea conditions.

Environmental data were collected using a CTD deployed during the soak. The CTD provided a surface to bottom profile of temperature, salinity, dissolved oxygen and depth. Longline sets and haulbacks were monitored using shipboard Scientific Computing System (SCS)/Fisheries Scientific Computing Systems (FSCS) systems.

SURVEY DESIGN

All randomly selected longline survey sites were occupied in the most time efficient manner possible and were not designated as day or night sites prior to the survey. Survey sites for bottom longline effort were selected at random within three depth strata: 9 – 55 m (5 – 30 fm); and 55 – 183 m (30 – 100 fm), (Figure 1). Most bottom longline sets were conducted parallel to depth contours unless survey conditions (i.e., current, sea state, wind) necessitated a different orientation. The number of randomly selected survey sites occupied within 60 nm contiguous sampling zones was proportionally allocated based on the amount of continental shelf area within each of the depth strata. Fifty percent of stations were allocated between 9 – 55 m, 40% between 55 - 183 m, and 10% were allocated between 183 – 366 m (or at least 1 per sampling zone). Sampling zones with a broad continental shelf were proportionally allocated more survey sites than sampling zones with a narrow shelf.

RESULTS

Bottom longline effort produced 1678 captures from 152 bottom longline sets (Table 1). Elasmobranchs constituted 78% of the catch; teleosts constituted the remaining 22%. Elasmobranchs were represented by 17 species; teleosts were represented by 33 species (Table 2). The catch rate for all sharks combined was 8.6 sharks/100 hook hr. The most frequently captured shark was the Atlantic sharpnose shark constituting 56% of shark captures (Table 2), followed by the blacknose shark, blacktip shark, and the sandbar shark (Table 2). The most frequently captured teleost was the red grouper, followed by red snapper, and tilefish (Table 2).

Two days were lost to weather and one day was lost due to a ship's personnel issue. Due to vessel scheduling issues, the U.S. southeast Atlantic Ocean coast component of the survey (Cape Hatteras, NC to Cape Canaveral, FL) was conducted aboard the NOAA Ship DELAWARE II (DL 10-08, 7/30 – 8/9/2010); the survey cruise report and associated data are separate components that augment the OREGON II 10-02 (291) survey. Plankton sampling locations (20) were assigned 400 series station numbers to avoid confusion in the database with bottom longline stations (Table 1). As part of the Gulf of Mexico BP oil spill (Deepwater Horizon MC 252) monitoring and seafood safety program, fish were collected at designated longline stations (21, 22, 23, and 24), and all plankton stations (20) were part of the monitoring program. The samples for seafood safety and the plankton samples were transferred through Chain of Custody procedures to the NOAA National Seafood Inspection Laboratory, Pascagoula, MS. The CTD malfunctioned for stations 31 – 62; no environmental data are available for those stations.

SURVEY PARTICIPANTS

Leg I – OREGON II; 8/7 – 22/2010

William Driggers	Field Party Chief	NMFS MS Lab
Joey Salisbury	Biologist	NMFS MS Lab
Travis Holland	Biologist	NMFS MS Lab
Kristin Hannan	Biologist	NMFS MS Lab
Alicia LaPorte	Biologist	NMFS Panama City Lab
Alyssa Napier	Biologist	NMFS Panama City Lab

Katie Dragoonis	Biologist	NMFS/SERO
Katie Nichols	Biologist	NOAA SEAGRANT
Ryan Knotek	Biologist	Univ. New England
Annmarie Babicki	Biologist	NOAA/Teacher at Sea
Lisa Hug	Bird Observer	NRDA (USFWS)

Leg II – OREGON II; 8/30 – 9/11/2010

Lisa Jones,	Field Party Chief	NMFS MS Lab
William Driggers	Biologist	NMFS MS Lab
Kristin Hannan	Biologist	NMFS MS Lab
Lori Hale	Biologist	NMFS Panama City Lab
Michael Sherburne	Biologist	Volunteer
Claudia Friess	Biologist	Volunteer
Ashley Beebe	Biologist	Volunteer
Cassidy Peterson	Biologist	Univ. New England
Guy DuBeck	Biologist	NOAA/HMS
Peggy Deichstetter	Biologist	NOAA Teacher at Sea

Leg III – OREGON II; 9/13 – 9/29/2010

Mark Grace	Field Party Chief	NMFS MS Lab
William Driggers	Biologist	NMFS MS Lab
Kristin Hannan	Biologist	NMFS MS Lab
Amanda Canning	Biologist	NMFS MS Lab
Linda Lombardi	Biologist	NMFS MS Lab
Delisse Ortiz	Biologist	NMFS/HMS
Maggi Mars	Biologist	Univ. NYSB
Shannon O'Leary	Biologist	Univ. NYSB
Willy Cupit	Biologist	TXPW
Morgan Kilgour	Biologist	Harte Inst., TX
Sarah Leucke	Bird Observer	NRDA (USFWS)

SUBMITTED BY

[Signature]

William Driggers, Ph.D.
Field Party Chief (Leg I)

Date _____

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Lisa M. Jones
Field Party Chief (Leg II)

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Mark Grace
Field Party Chief (Leg III)

Date 11/4/2010

APPROVED BY

[Signature]

Lisa Desfosse, Ph.D.

Date 1/20/11

Laboratory Director
NMFS MS Labs

[Signature]

Bonnie Ponwith, Ph. D.

NMFS, SEFSC Center Director

Date _____

Table 1. Catch summary for 2010 bottom trawls survey OREGON 11-02-10-02 (091)

Station	Date (GMT)	Latitude (N)	Longitude (W)
1	8/9/2010	25 01.97	123 14.30
2	8/9/2010	25 10.29	123 13.04
3	8/9/2010	25 17.35	123 11.86
4	8/9/2010	25 21.7	123 10.64
5	8/9/2010	25 13.90	123 09.42
6	8/9/2010	25 20.29	123 08.20
7	8/10/2010	25 06.08	122 57.08
8	8/10/2010	25 09.62	122 55.86
9	8/10/2010	25 21.44	122 54.64
10	8/10/2010	25 27.24	122 53.42
11	8/10/2010	25 31.10	122 52.20
12	8/11/2010	25 37.56	122 50.98
13	8/11/2010	25 49.27	122 49.76
14	8/11/2010	25 55.74	122 48.54
15	8/11/2010	25 58.29	122 47.32
16	8/12/2010	25 46.18	122 46.10

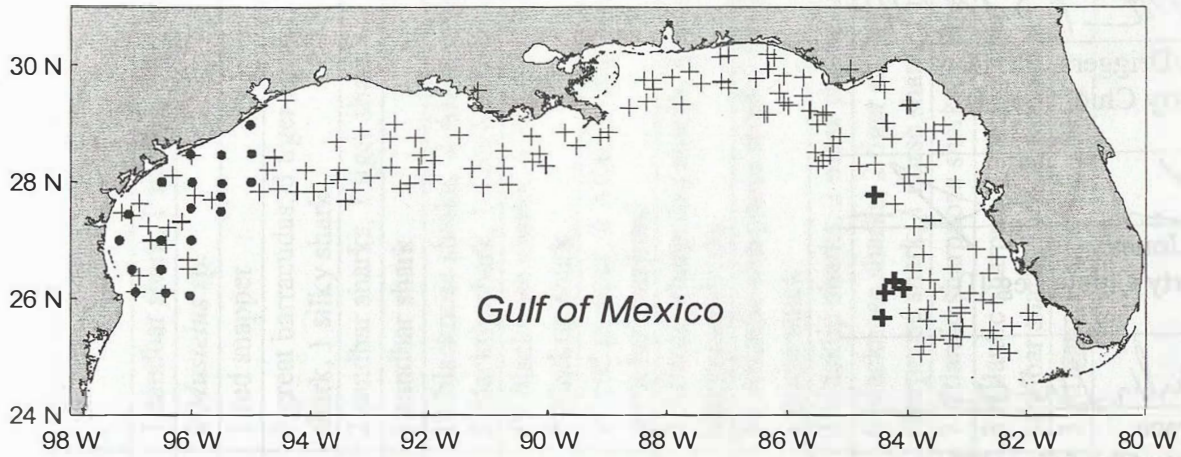


Figure 1. Bottom longline and plankton locations for OREGON II R2-10-02 (291) bottom longline survey; plankton locations are indicated with closed circle, bold + are seafood sample locations. Locations are degrees north latitude, and degrees west longitude.

Trawl	Date (GMT)	Latitude (N)	Longitude (W)	Depth (m)
1	8/27/00	25 01.47	083 46.75	96.3
2	8/28/00	25 07.24	081 44.88	93.3
3	8/29/00	25 15.23	080 22.43	71.8
4	8/29/00	25 28.37	077 18.02	51.3
5	8/29/00	25 13.30	080 12.65	25.1
6	8/29/00	25 07.24	081 18.02	12.8
7	8/29/00	25 07.24	080 22.43	24.3
8	8/29/00	25 07.24	080 22.43	24.3
9	8/29/00	25 07.24	080 22.43	24.3
10	8/29/00	25 07.24	080 22.43	24.3
11	8/29/00	25 07.24	080 22.43	24.3
12	8/29/00	25 07.24	080 22.43	24.3
13	8/29/00	25 07.24	080 22.43	24.3
14	8/29/00	25 07.24	080 22.43	24.3
15	8/29/00	25 07.24	080 22.43	24.3
16	8/29/00	25 07.24	080 22.43	24.3

Table 1. Catch summary for 2010 bottom longline survey OREGON II R2-10-02 (291).

Station	Date (GMT)	Latitude ($^{\circ}$ N)	Longitude ($^{\circ}$ W)	Depth (m)	Time (GMT)	Catch
1	8/9/2010	25 01.97	083 46.75	96.5	08:33	1 sandbar shark, 1 scalloped hammerhead
2	8/9/2010	25 10.22	083 44.88	93.3	10:59	2 <i>Mustelus</i> sp.
3	8/9/2010	25 17.23	083 32.45	71.8	15:42	1 red snapper
4	8/9/2010	25 21.37	083 18.02	61.3	19:24	3 great barracudas, 3 tiger sharks, 1 sandbar shark, 1 silky shark
5	8/9/2010	25 13.50	083 14.85	60.1	22:34	2 sandbar sharks, 1 tiger shark
6	8/9/2010	25 20.29	083 05.86	55.6	02:15	1 sandbar shark
7	8/10/2010	25 06.98	082 29.36	34.5	08:13	14 blacknose sharks, 2 Atlantic sharpnose sharks, 2 blacktip shark, 1 <i>Carcharhinus</i> sp.
8	8/10/2010	25 03.42	082 18.20	28.2	11:28	19 blacknose sharks, 6 Atlantic sharpnose sharks, 1 blacktip shark
9	8/10/2010	25 21.44	082 33.94	33.7	15:28	10 red grouper, 4 Atlantic sharpnose sharks, 1 great hammerhead
10	8/10/2010	25 27.24	082 37.04	34.0	19:31	4 Atlantic sharpnose sharks, 4 red grouper, 3 blacknose sharks
11	8/10/2010	25 31.10	082 15.35	26.8	23:49	13 Atlantic sharpnose sharks, 6 blacknose sharks, 1 nurse shark
12	8/11/2010	25 37.38	081 54.41	15.0	13:12	3 blacktip sharks, 2 nurse sharks, 2 tiger sharks
13	8/11/2010	25 45.27	081 58.65	16.4	17:03	6 blacknose sharks, 2 tiger sharks, 1 Atlantic sharpnose shark, 1 nurse shark, 1 red grouper
14	8/11/2010	25 55.74	082 33.77	31.6	22:48	7 Atlantic sharpnose sharks, 2 blacknose sharks
15	8/11/2010	25 58.29	082 43.84	34.7	01:04	8 Atlantic sharpnose sharks, 4 red grouper, 2 sandbar shark, 1 blacknose shark, 1 tiger shark
16	8/12/2010	25 44.18	083 05.96	53.6	06:33	3 Atlantic sharpnose sharks

Table 1 continued.

Station	Date (GMT)	Latitude (°N)	Longitude (°W)	Depth (m)	Time (GMT)	Catch
17	8/12/2010	25 30.47	083 05.32	55.0	11:08	1 blacknose shark, 1 sandbar shark, 1 tiger shark
18	8/12/2010	25 42.15	083 18.88	59.7	15:11	4 tiger sharks, 3 <i>Mustelus</i> sp., 3 Atlantic sharpnose sharks, 1 great barracuda, 1 sandbar shark
19	8/12/2010	25 36.86	083 40.99	84.0	18:50	1 <i>Mustelus</i> sp., 1 great barracuda, 1 red grouper, 1 tiger shark, 1 wahoo
20	8/12/2010	25 44.68	083 58.91	133.9	22:54	No catch
21	8/12/2010	25 39.60	084 25.31	205.7	04:15	1 yellowedge grouper
22	8/13/2010	26 06.60	084 22.36	195.9	10:17	1 yellowedge grouper, 1 blacktail moray eel
23	8/13/2010	26 18.06	084 13.65	163.8	14:13	2 speckled hind, 1 Warsaw grouper
24	8/13/2010	26 10.66	084 04.58	147.3	17:39	1 blueline tilefish, 1 speckled hind
25	8/13/2010	25 48.83	083 40.13	81.9	22:46	3 <i>Mustelus</i> sp., 1 gag grouper, 1 red snapper
26	8/13/2010	25 49.89	083 16.80	57.6	03:22	No catch
27	8/14/2010	26 06.87	083 33.06	66.3	08:12	1 sandbar shark
28	8/14/2010	26 04.96	082 57.95	41.5	14:01	11 Atlantic sharpnose sharks, 1 blacknose shark, 1 great barracuda
29	8/14/2010	26 26.61	082 38.58	25.6	19:16	4 Atlantic sharpnose sharks, 1 great hammerhead shark, 1 sandbar shark
30	8/14/2010	26 43.31	082 30.10	18.4	23:33	1 Atlantic sharpnose shark, 1 blacknose shark, 1 nurse shark, 1 red grouper
31	8/15/2010	26 50.96	082 51.00	29.6	04:08	3 sandbar sharks, 1 Atlantic sharpnose shark
32	8/15/2010	26 30.55	083 15.20	48.4	10:01	2 Atlantic sharpnose shark
33	8/15/2010	26 19.25	083 37.19	65.3	14:23	2 tiger sharks
34	8/15/2010	26 29.58	083 55.09	108.6	18:39	No catch
35	8/15/2010	26 46.16	083 44.67	69.0	23:03	No catch

Table 1 continued.

Station	Date GMT)	Latitude (°N)	Longitude (°W)	Depth (m)	Time (GMT)	Catch
36	8/16/2010					Station not conducted (weather), no data
37	8/16/2010	27 14.21	083 53.32	62.8	06:52	3 red grouper
38	8/16/2010	27 20.81	083 36.35	48.1	10:57	8 red grouper, 2 Atlantic sharpnose shark, 1 blacknose shark
39	8/16/2010	27 37.92	084 12.61	60.8	17:00	1 blacknose shark
40	8/16/2010	27 46.76	084 32.85	127.3	21:28	2 palespotted eels
41	8/16/2010	27 59.49	084 02.51	46.8	02:59	7 blacknose sharks, 1 <i>Mustelus</i> sp., 1 silky shark
42	8/17/2010	28 52.60	083 42.46	41.2	07:33	1 Atlantic sharpnose shark, 1 blacknose shark, 1 leopard toadfish, 2 red grouper, 1 tiger shark
43	8/17/2010	27 58.48	083 12.36	23.2	12:38	6 red grouper, 2 nurse sharks
44	8/17/2010	28 01.42	083 42.61	37.1	17:55	4 red grouper, 2 blacknose sharks, 1 Atlantic sharpnose shark
45	8/17/2010	28 08.61	083 57.9	41.3	21:56	9 red grouper, 2 red snapper, 1 sandbar shark
46	8/17/2010	28 17.94	084 31.74	64.0	03:35	2 red snapper, 1 sandbar shark
47	8/18/2010	28 18.67	083 39.71	31.1	10:50	11 Atlantic sharpnose sharks, 8 red grouper, 1 blacknose shark, 1 nurse shark, 1 red snapper, 1 sandbar shark
48	8/18/2010	28 33.91	083 29.43	22.4	15:21	2 nurse sharks, 1 bull shark
49	8/18/2010	28 44.83	083 10.96	13	19:59	5 red grouper, 1 nurse shark
50	8/18/2010	28 53.25	083 33.85	21.2	00:07	5 red grouper, 1 gag, 2 blacktip sharks, 2 blacknose sharks, 1 Atlantic sharpnose shark, 1 nurse shark
51	8/19/2010	29 19.36	084 00.13	21.6	11:12	7 red grouper, 4 Atlantic sharpnose shark, 2 blacknose sharks, 2 nurse sharks, 1 tiger shark
52	8/19/2010	29 01.08	084 20.98	30.2	18:01	7 sandbar sharks, 2 Atlantic sharpnose sharks, 1 bull shark, 1 blacktip shark, 1 tiger shark, 1 red grouper

Table 1 continued.

Station	Date (GMT)	Latitude (°N)	Longitude (°W)	Depth (m)	Time (GMT)	Catch
53	8/19/2010	28 47.74	085 06.97	81.0	01:35	1 <i>Mustelus</i> sp.
54	8/20/2010	28 27.31	085 17.36	171.6	06:21	1 scalloped hammerhead
55	8/20/2010	28 16.99	085 28.79	283.0	09:27	1 <i>Mustelus</i> sp.
56	8/20/2010	28 30.61	085 31.68	200.9	13:49	2 blacktail moray eel, 1 <i>Mustelus</i> sp., 1 golden tilefish
57	8/20/2010	29 09.47	085 23.82	44.3	20:11	2 Atlantic sharpnose sharks, 1 tiger shark
58	8/20/2010	29 18.45	085 58.57	113.3	01:49	7 silky sharks, 3 yellowedge groupers, 1 golden tilefish, 1 king snake eel, 1 <i>Mustelus</i> sp., 1 scalloped hammerhead shark
59	8/21/2010	29 09.51	086 19.71	305.3	06:49	3 golden tilefish
60	8/21/2010	29 31.68	086 08.12	83.3	10:41	6 <i>Mustelus</i> sp., 3 sandbar sharks, 1 Atlantic sharpnose shark
61	8/21/2010	29 49.23	086 03.97	41.6	16:20	10 Atlantic sharpnose sharks, 2 tiger sharks
62	8/21/2010	30 07.93	086 12.22	33.1	20:50	3 sandbar sharks, 1 Atlantic sharpnose shark, 1 red grouper, 1 red snapper, 1 tiger shark
Begin Leg II						
401	9/1/2010	26 02.92	096 01.44	980	17:19	Plankton station
63	9/1/2010	26 05.19	096 26.26	69.1	20:30	10 Atlantic sharpnose sharks, 1 Gulf smoothhound, 1 sandbar shark
402	9/1/2010	26 05.74	096 25.48	69.1	20:30	Plankton station
64	9/2/2010	26 06.23	096 55.85	32.4	01:36	53 Atlantic sharpnose sharks, 1 blacktip shark
403	9/2/2010	26 06.23	096 55.85	32.4	01:36	Plankton station
65	9/2/2010	26 23.01	096 51.65	39.6	05:38	1 Atlantic sharpnose shark, 1 sandbar shark, 1 tiger shark
404	9/2/2010	26 29.69	096 59.49	35.4	09:22	Plankton station
66	9/2/2010	26 29.69	096 52.92	41.8	10:55	3 sandbar sharks, 1 Atlantic sharpnose shark, 1 whitefin shark sucker

Table 1 continued.

Station	Date (GMT)	Latitude (°N)	Longitude (°W)	Depth (m)	Time (GMT)	Catch
405	9/2/2010	26 29.87	096 29.93	81.6	15:43	Plankton station
67	9/2/2010	26 39.75	096 33.22	95.9	18:32	No catch
406	9/2/2010	26 59.88	097 12.16	26.3	23:47	Plankton station
68	9/3/2010	27 00.05	096 40.11	86.2	03:21	12 Atlantic sharpnose sharks, 3 sandbar sharks, 1 hake, 1 red snapper
69	9/3/2010	26 55.69	096 24.98	224.8	09:15	3 tilefish, 2 southern hake, 1 yellowedge grouper
408	9/3/2010	27 00.06	095 59.87	787.6	13:25	Plankton station
70	9/3/2010	27 12.95	096 23.53	144.8	16:51	1 greater amberjack, 1 Gulf smoothhound, 1 king snake eel, 1 wenchman
71	9/3/2010	27 15.06	096 42.79	67.2	21:46	33 Atlantic sharpnose sharks, 1 king snake eel, 3 red snapper, 1 scalloped hammerhead
72	9/4/2010	27 25.80	097 00.30	32.0	00:40	1 sandbar shark
73	9/4/2010	27 28.99	097 09.26	20.4	06:33	4 blacktip sharks, 2 gafftopsail catfish, 1 bull shark, 1 finetooth shark, 1 southern stingray, 1 <i>Carcharhinus</i> sp.
409	9/4/2010	27 26.82	097 02.89	27.2	09:00	Plankton station
74	9/4/2010	27 38.15	096 51.64	30.0	11:29	19 blacknose sharks, 2 great hammerhead sharks, 2 blacktip sharks, 1 Atlantic sharpnose shark
410	9/4/2010	27 30.10	096 30.14	72.1	16:07	Plankton station
75	9/4/2010	27 19.39	096 09.64	251.8	19:15	8 tilefish
411	9/4/2010	27 33.26	096 00.34	158.3	23:27	Plankton station
412	9/5/2010	27 29.88	095 29.75	200	03:46	Plankton station
413	9/5/2010	27 45.16	095 29.72	106	06:12	Plankton station
076	9/5/2010	27 41.72	095 38.95	278.6	09:07	2 <i>Mustelus</i> sp.
077	9/5/2010	27 46.57	095 56.18	63.8	13:45	1 sandbar shark
414	9/5/2010	27 59.87	095 59.23	45.9	16:35	Plankton station

Table 1 continued.

Station	Date (GMT)	Latitude (°N)	Longitude (°W)	Depth (m)	Time (GMT)	Catch
415	9/5/2010	28 00.19	096 29.61	26.8	19:54	Plankton station
78	9/5/2010	28 07.80	096 18.34	25.2	22:29	4 blacktip sharks, 2 Atlantic sharpnose sharks, 2 blacknose sharks, 2 gafftopsail catfish, 1 southern stingray
416	9/6/2010	28 28.73	096 01.01	15.9	04:17	Plankton station
79	9/6/10	28 27.75	096 00.17	16.5	03:52	10 red drum, 9 Atlantic sharpnose sharks, 4 blacktip sharks, 2 gafftopsail catfish, 1 spinner shark
417	9/6/2010	28 28.21	095 29.28	27.3	09:59	Plankton station
Begin Leg III						
80	9/8/2010	29 24.64	094 25.68	12.4	01:00	20 gafftopsail catfish, 12 blacktip sharks, 7 red drum
418	9/13/2010	28 59.10	095 00.68	16.8	19:27	Plankton station
419	9/13/2010	28 29.56	094 59.09	34	22:58	Plankton station
420	9/13/2010	27 59.00	095 28.85	56.8	04:07	Plankton station
421	9/14/2010	28 00.19	094 59.73	79.3	07:09	Plankton station
81	9/14/2010	27 50.38	094 51.38	249.3	09:17	1 Gulf hake, 1 shortspine spurdog, 1 southern hake, 1 tilefish
82	9/14/2010	27 52.78	094 32.99	133.6	13:14	5 yellowedge grouper, 1 red snapper
83	9/14/2010	28 12.26	094 43.18	50.9	18:15	11 Atlantic sharpnose sharks, 1 scalloped hammerhead
84	9/14/2010	28 25.83	094 37.11	39.0	21:55	1 Atlantic sharpnose shark, 1 blacknose shark
85	9/15/2010	28 12.43	094 04.99	58.7	03:34	23 Atlantic sharpnose sharks, 3 blacknose sharks, 2 bull sharks, 1 blacktip shark
86	9/15/2010	27 50.87	094 13.96	108.8	09:51	2 king snake eels, 2 yellowedge grouper, 1 conger eel, 1 <i>Mustelus</i> sp.

Table 1 continued.

Station	Date (GMT)	Latitude (°N)	Longitude (°W)	Depth (m)	Time (GMT)	Catch
87	9/15/2010	27 49.96	093 57.51	149.6	12:55	2 yellowedge grouper, 1 king snake eel, 1 <i>Mustelus</i> sp., 1 tilefish
88	9/15/2010	27 59.23	093 45.51	94.8	16:46	15 <i>Mustelus</i> sp., 1 sandbar shark
89	9/15/2010	28 12.40	093 31.40	61.1	20:55	2 Atlantic sharpnose sharks
90	9/15/2010	28 02.71	093 32.49	85.6	00:36	6 Atlantic sharpnose, 4 red snapper, 1 blacknose shark, 1 king snake eel, 1 <i>Mustelus</i> sp., 1 sandbar shark, 1 silky shark, 1 tiger shark
91	9/16/2010	27 40.14	093 25.26	247	05:29	4 golden tilefish, 3 yellowedge grouper, 1 southern hake
92	9/16/2010	27 51.34	093 15.41	142.2	09:29	2 yellowedge grouper, 1 pale spotted eel
93	9/16/2010	28 04.89	092 58.74	88.1	14:40	5 Atlantic sharpnose sharks, 2 red snapper, 1 unidentified shark
94	9/16/2010	28 41.39	093 33.89	29.5	20:57	No catch
95	9/16/2010	28 52.18	093 09.32	25.6	01:43	16 Atlantic sharpnose sharks, 3 blacknose sharks, 2 gafftopsail catfish
96	9/17/2010	28 59.92	092 35.40	26.0	07:41	14 Atlantic sharpnose sharks, 9 spinner sharks, 7 blacknose sharks, 4 gafftopsail catfish, 1 blacktip shark, 1 great hammerhead
97	9/17/2010	28 44.07	092 39.95	32.4	12:50	31 Atlantic sharpnose sharks, 2 blacktip sharks, 1 bull shark
98	9/17/2010	28 15.69	092 38.41	61.9	17:13	6 Atlantic sharpnose sharks, 2 <i>Mustelus</i> sp., 2 scalloped hammerheads
99	9/17/2010	27 53.93	092 29.21	226.8	22:20	1 Cuban dogfish, 1 king snake eel
100	9/17/2010	27 58.23	092 19.43	145.4	02:07	5 king snake eels, 3 <i>Mustelus</i> sp.
101	9/18/2010	28 15.68	092 10.51	66	07:07	11 <i>Mustelus</i> sp., 5 Atlantic sharpnose sharks, 4 scalloped hammerheads, 1 king snake eel, 1 spinner shark, 1 tiger shark

Table 1 continued.

Station	Date GMT	Latitude (°N)	Longitude (°W)	Depth (m)	Time (GMT)	Catch
102	9/18/2010	28 03.56	091 55.94	92.7	11:48	12 red snapper, 3 <i>Mustelus</i> sp., 1 Atlantic sharpnose shark, 1 sandbar shark
103	9/18/2010	28 22.70	091 55.03	59.4	16:35	11 Atlantic sharpnose sharks, 6 <i>Mustelus</i> sp., 1 scalloped hammerhead
104	9/18/2010	28 27.32	092 08.80	54.3	19:18	26 Atlantic sharpnose sharks, 1 blacktip shark, 1 scalloped hammerhead
105	9/18/2010	28 45.37	092 13.85	34.8	23:23	10 Atlantic sharpnose sharks, 2 blacknose sharks, 1 blacktip shark, 1 gafftopsail catfish, 1 spinner shark, 1 <i>Carcharhinus</i> sp.
106	9/19/2010	28 48.28	091 30.29	20.9	06:00	2 spinner sharks, 1 Atlantic sharpnose shark, 1 blacktip shark, 1 gafftopsail catfish
107	9/19/2010	28 93.99	091 11.15	19.4	11:28	16 blacktip sharks, 10 spinner sharks, 3 Atlantic sharpnose sharks, 1 gafftopsail catfish, 1 scalloped hammerhead
108	9/19/2010	28 13.86	091 16.99	79.2	16:48	1 scalloped hammerhead
109	9/19/2010	27 54.42	091 06.19	303.0	20:31	8 golden tilefish, 2 king snake eels, 1 gulf hake
110	9/19/2010	27 57.37	090 40.12	285.9	01:17	2 <i>Mustelus</i> sp., 3 golden tilefish, 3 Gulf hake 2 king snake eels
111	9/20/2010	28 14.07	090 44.48	71.8	05:32	44 Atlantic sharpnose sharks, 3 <i>Mustelus</i> sp., 1 bull shark, 1 king snake eel, 1 sandbar, 1 scalloped hammerhead
112	9/20/2010	28 31.92	090 45.77	28	10:59	16 Atlantic sharpnose sharks, 13 blacktip sharks, 2 blacknose sharks, 1 king mackerel
113	9/20/2010	28 20.98	090 16.12	61.9	15:28	16 Atlantic sharpnose sharks, 11 red snapper
114	9/20/2010	28 17.16	090 02.64	107.2	19:59	5 yellowedge grouper, 3 sandbar sharks, 1 greater amberjack, 1 king snake eel, 1 <i>Mustelus</i> sp.

Table 1 continued.

Station	Date (GMT)	Latitude (°N)	Longitude (°W)	Depth (m)	Time (GMT)	Catch
115	9/20/2010	28 29.16	090 09.45	57.8	23:03	29 Atlantic sharpnose sharks, 1 <i>Mustelus</i> sp., 1 red snapper
116	9/21/2010	28 46.61	090 16.73	23	03:14	20 blacktip sharks, 8 Atlantic sharpnose sharks, 4 blacknose sharks, 3 spinner sharks, 1 tiger shark
117	9/20/2010	28 50.86	089 43.77	61.7	11:05	26 Atlantic sharpnose sharks, 2 sandbar sharks, 1 spinner shark, 1 king snake eel, 1 cutlassfish
118	9/21/2010	28 37.34	089 32.19	109.6	14:50	4 bearded brotula, 3 <i>Mustelus</i> sp., 2 Atlantic sharpnose, 1 tiger shark
119	9/21/2010	28 46.02	089 07.16	350.0	20:27	1 swordfish
120	9/21/2010	28 51.08	088 59.48	250.8	00:13	1 sevengill shark, 7 king snake eels, 1 cutlassfish
121	9/22/2010	29 16.49	088 38.47	64.3	05:59	57 Atlantic sharpnose sharks, 4 sandbar sharks, 1 tiger shark, 1 <i>Carcharhinus</i> sp.
122	9/22/2010	29 22.90	088 20.75	55.8	11:26	9 Atlantic sharpnose, 1 bull shark, 1 red snapper
123	9/22/2010	29 35.84	088 13.95	38.7	15:11	No catch
124	9/22/2010	29 20.20	087 46.42	106.7	20:07	3 <i>Mustelus</i> sp., 1 greater amberjack, 1 red porgy, 1 yellowedge grouper
125	9/22/2010	29 41.67	087 26.43	56.9	01:29	16 sandbar sharks, 13 Atlantic sharpnose sharks, 2 blacknose sharks, 2 <i>Carcharhinus</i> sp.
126	9/23/2010	29 43.22	087 06.00	222	07:07	5 golden tilefish, 2 king snake eels, 2 yellowedge grouper, 1 pale spotted eel, 1 southern hake
127	9/23/2010	29 37.18	086 58.77	251.9	09:49	1 golden tilefish, 1 king snake eel, 1 longspine scorpionfish, 1 <i>Mustelus</i> sp., 1 southern hake, 1 yellowedge grouper
128	9/23/2010	29 46.13	086 30.91	118.7	15:12	4 <i>Mustelus</i> sp., 1 king snake eel, 1 snowy grouper, 1 Warsaw grouper
129	9/23/2010	29 09.74	086 23.11	321.5	23:19	9 golden tilefish

Table 1 continued.

Station	Date (GMT)	Latitude (°N)	Longitude (°W)	Depth (m)	Time (GMT)	Catch
130	9/24/2010	29 22.36	086 03.26	95.8	04:11	2 Atlantic sharpnose sharks, 1 pale spotted eel
131	9/24/2010	29 13.63	085 37.41	71.4	09:11	7 Atlantic sharpnose sharks, 2 red grouper, 2 red snapper
132	9/24/2010	28 59.81	085 29.43	71.1	12:40	2 tiger sharks, 1 sandbar shark
133	9/24/2010	28 22.91	085 24.59	205.6	20:05	no catch
134	9/24/2010	28 16.94	084 47.95	79.6	02:02	1 tiger shark
135	9/25/2010	28 44.80	084 15.72	36.4	07:21	5 sandbar sharks, 3 Atlantic sharpnose sharks, 2 blacknose sharks, 1 blacktip shark, 1 red grouper
136	9/25/2010	28 59.52	083 24.50	13.3	15:52	2 red grouper, 2 black sea bass, 1 blacknose shark, 1 nurse shark
137	9/25/2010	29 19.93	083 57.51	20.7	21:41	1 blacknose shark, 1 inshore lizardfish
138	9/26/2010	29 35.35	084 22.89	20.5	02:36	2 tiger sharks, 1 nurse shark
139	9/26/2010	29 43.35	084 26.95	14.3	06:55	3 blacktip sharks, 1 Atlantic sharpnose shark, 1 nurse shark, 1 bull shark
140	9/26/2010	29 56.62	084 56.62	41.3	14:22	8 blacknose sharks, 5 sandbar sharks, 1 bull shark, 1 red snapper
141	9/26/2010	28 40.13	085 14.14	130.0	21:11	1 gag, 1 <i>Mustelus</i> sp.
142	9/27/2010	29 11.65	085 20.79	43.7	02:47	4 sandbar sharks, 2 tiger sharks
143	9/27/2010	29 28.40	085 44.58	33.1	08:55	4 Atlantic sharpnose sharks, 4 gafftopsail catfish, 1 great hammerhead shark, 1 nurse shark, 1 tiger shark
144	9/27/2010	29 47.64	085 44.27	30.5	13:01	2 blacknose sharks, 2 whitefin sharksuckers
145	9/27/2010	29 56.07	086 19.13	63.7	19:30	8 Atlantic sharpnose sharks, 1 sandbar shark
146	9/27/2010	30 11.99	086 19.76	30.6	23:23	4 Atlantic sharpnose sharks, 4 sandbar sharks, 1 nurse shark, 1 red grouper
147	9/28/2010	30 10.36	086 58.77	27.3	05:07	3 hardhead catfish, 1 great hammerhead

Table 1 continued.

Station	Date (GMT)	Latitude (°N)	Longitude (°W)	Depth (m)	Time (GMT)	Catch
148	9/28/2010	30 09.29	087 07.15	30.9	07:15	5 red snapper, 2 gafftopsail catfish, 1 Atlantic sharpnose shark, 1 blacknose shark, 1 hardhead catfish
149	9/28/2010	29 54.21	087 38.52	30.8	13:40	1 blacknose shark, 1 sandbar shark
150	9/28/2010	29 47.63	087 56.34	36.3	17:31	15 Atlantic sharpnose sharks, 17 blacknose sharks, 2 bull sharks, 1 cobia, 1 tiger shark, 1 red snapper
151	9/28/2010	29 45.62	088 15.37	36.1	21:49	5 Atlantic sharpnose sharks, 1 blacknose shark, 1 bull shark, 1 scalloped hammerhead
152	9/28/2010	29 44.88	088 23.60	36.0	00:48	63 Atlantic sharpnose sharks, 4 blacktip sharks

Table 2. Catch summary for bottom longline survey 2010 OREGON II R2-10-02 (291).

Elasmobranchs	Number
Atlantic sharpnose shark, <i>Rhizoprionodon terraenovae</i>	733
Blacknose shark, <i>Carcharhinus acronotus</i>	151
Blacktip shark, <i>Carcharhinus limbatus</i>	100
Bull shark, <i>Carcharhinus leucas</i>	12
Cuban dogfish, <i>Squalus cubensis</i>	1
Finetooth shark, <i>Carcharhinus isodon</i>	2
Great hammerhead, <i>Sphyrna mokarran</i>	7
Gulf smoothhound, <i>Mustelus sinuatus</i>	2
Nurse shark, <i>Ginglymostoma cirratum</i>	19
Sandbar shark, <i>Carcharhinus plumbeus</i>	90
Scalloped hammerhead, <i>Sphyrna lewini</i>	17
Shortspine spurdog, <i>Squalus mitsukurii</i>	1
Silky shark, <i>Carcharhinus falciformis</i>	10
Smooth dogfish, <i>Mustelus canis</i>	6
Southern stingray, <i>Dasyatis americana</i>	2
Spinner shark, <i>Carcharhinus brevipinna</i>	28
Tiger shark, <i>Galeocerdo cuvier</i>	39
Unidentified carcharhinid	7
<i>Mustelus</i> sp.	83
Teleosts	Number
Atlantic cutlassfish, <i>Trichiurus lepturus</i>	2
Bearded brotula, <i>Brotula barbata</i>	4
Black seabass, <i>Centropristis striata</i>	2
Blacktail moray, <i>Gymnothorax kolpos</i>	1
Blueline tilefish, <i>Caulolatilus microps</i>	1
Cobia, <i>Rachycentron canadum</i>	1
Dwarf scorpionfish, <i>Scorpaena elachys</i>	1
Gafftopsail catfish, <i>Bagre marinus</i>	41
Gag, <i>Mycteroperca microlepis</i>	3
Great barracuda, <i>Sphyrna barracuda</i>	6
Greater amberjack, <i>Seriola dumerili</i>	3
Gulf hake, <i>Urophycis cirrata</i>	8
Hardhead catfish, <i>Arius felis</i>	4
Inshore lizardfish, <i>Synodus foetens</i>	1
King mackerel, <i>Scomberomorus cavalla</i>	1
King snake eel, <i>Ophichthus rex</i>	31
Leopard toadfish, <i>Opsanus pardus</i>	1
Longspine scorpionfish, <i>Pontinus longispinis</i>	1
Palespotted eel, <i>Ophichthus puncticeps</i>	5
Red drum, <i>Sciaenops ocellatus</i>	17
Red grouper, <i>Epinephelus morio</i>	86
Red porgy, <i>Pagrus pagrus</i>	1
Red snapper, <i>Lutjanus campechanus</i>	53

Table 2 continued.

Teleosts	Number
Remora, <i>Remora remora</i>	3
Snowy grouper, <i>Epinephelus niveatus</i>	1
Southern hake, <i>Urophycis floridana</i>	4
Speckled hind, <i>Epinephelus drummondhayi</i>	3
Swordfish, <i>Xiphias gladius</i>	1
Tilefish, <i>Lopholatilus chamaeleonticeps</i>	49
Yellowedge grouper, <i>Epinephelus flavolimbatus</i>	29
Wahoo, <i>Acanthocybium solanderi</i>	1
Warsaw grouper, <i>Epinephelus nigritus</i>	2
Wenchman, <i>Pristipomoides aquilonaris</i>	1