October 1, 2004 F/PIC:RWB:FLF
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CRUISE REPORT

VESSEL: *Oscar Elton Sette*, Cruise OES-04-06 (OES-015)

CRUISE PERIOD: 2 May-25 May 2004

AREAS OF OPERATION: The lee side of the Island of Hawaii (Kona coast) to the vicinity of Jaeger, Cross, and Swordfish Seamounts (Fig. 1).

ITINERARY:

2 May	Departed Snug Harbor at approximately 1000. On board were Richard Brill, Michele Cochran, Daniel Curran, Steven Evill, Rikard Frederiksen, Kerstin Fritsches, Eva Landgren, Kylie McPherson, Lianne McNaughton, Michael Musyl, and Melissa Paine. Starting 1500, deployed approximately 100 longline hooks (no bait) to test hydraulic systems and allow ship's crew, officers, and scientists to refamiliarize themselves with longline operations. Retrieved gear immediately after setting and began transit to Cross Seamount.
3 May	Strong (30+ knot) winds and 6-8-ft seas forced course change to Kona Coast (leeward coast, Island of Hawaii). (Conditions in open ocean areas in the vicinity of Cross Seamount were unsafe for longline operations.) Arrived Kona Coast around 1000. Began longline, trolling, and IK operations. (Locations of all longline and IK operations are listed in Table 1.)
4-5 May	Continued longline, trolling, and IK operations near Kona coast.
6 May	Departed for Cross Seamount area after retrieval of longline gear.
7-13 May	Continued longline and troll operations in proximity of Cross and Swordfish Seamounts.
14 May	After completion of longline retrieval, began transit to Kailua-Kona (Island of Hawaii) to embark Steven Evill.

15 May	Embarked Steven Evill. Proceeded to Apuupuu Seamount (about 35 nmi south of South Point, Island of Hawaii) to set longline gear.
16 May	Began transit to Cross and Swordfish Seamount areas after retrieval of longline gear. Set longline gear in area approximately halfway between South Point (Island of Hawaii) and Swordfish Seamount.
17-19 May	Completed transit to Swordfish Seamount. Continued fishing operations in vicinity of Swordfish and Cross Seamounts.
20-21 May	Transited to Jaeger Seamount and conducted fishing operations in this area; then transited to leeward coast of Island of Hawaii because of predicted strong trade winds and high seas.
22-23 May	Continued troll and longline operations in area near leeward coast of the Island of Hawaii.
24 May	Began transit to Pearl Harbor.
25 May	Arrived at Pearl Harbor for fueling. Transited to Snug Harbor; disembarked scientists; end of cruise.

MISSIONS AND RESULTS:

A. Capture billfishes, tunas, and sharks for attachment of pop-up satellite archival tags (PSATs).

Made 20 successful longline sets (Table 1). Deployed 14 PSATs on billfishes, sharks, or tunas (Table 3).

B. Collect tissue samples for ongoing physiological, biochemical, and anatomical studies of tunas, billfishes, other pelagic teleost species, and sharks.

Took tissue samples from tunas, billfishes, mahimahi, escolar, lancet fish, snake mackerel, barracuda and blue sharks (Table 2) for ongoing physiological, biochemical, and anatomical studies.

C. Conduct visual experiments on pelagic fishes using isolated retinas and standard physiological techniques.

Conducted detailed studies on the visual capabilities of swordfish, tunas, striped marlin, mahimahi, escolar, lancet fish, and blue sharks using isolated retinas and/or eye lenses.

NARRATIVE SUMMARY:

A total of 20 operational longline sets were conducted during the cruise (Table 1, Fig. 1) and 14 PSATs were deployed (Table 3). Biological samples for ongoing physiological and fish vision studies were obtained from most of the other fishes caught. Thirteen IK trawls (Table 4) were conducted to collect billfish larval and egg specimens for cooperative studies with scientists at the Virginia Institute of Marine Science.

Narrative reports on the objectives and results from the various cooperative studies are provided in Appendix I.

RECORDS:

The following forms, logs, charts, and data records were kept and given to the Pacific Islands Fisheries Science Center upon termination of the cruise. These include all data captured onto computer storage media during the cruise. All the records are filed there unless indicated otherwise in parentheses.

SEAS system data files
Deck Log-Weather Observation Sheet
Marine Operations Log (NOAA)
Project Area and Operations Chartlets
Station Number and Activity Log
Fish catch record

SCIENTIFIC PERSONNEL:

Richard Brill, National Marine Fisheries Service, Northeast Fisheries Science Center
Michele Cochran, Virginia Institute of Marine Science
Daniel Curran, Joint Institute for Marine and Atmospheric Research (JIMAR), University of Hawaii (UH)
Steven Evill, University of Queensland (Australia)
Rikard Frederiksen, University of Lund (Sweden)
Kerstin Fritsches, University of Queensland (Australia)
Eva Landgren, University of Lund (Sweden)
Kylie McPherson, University of Queensland (Australia)
Lianne McNaughton, JIMAR, UH
Michael Musyl, JIMAR, UH
Melissa Paine, Virginia Institute of Marine Science

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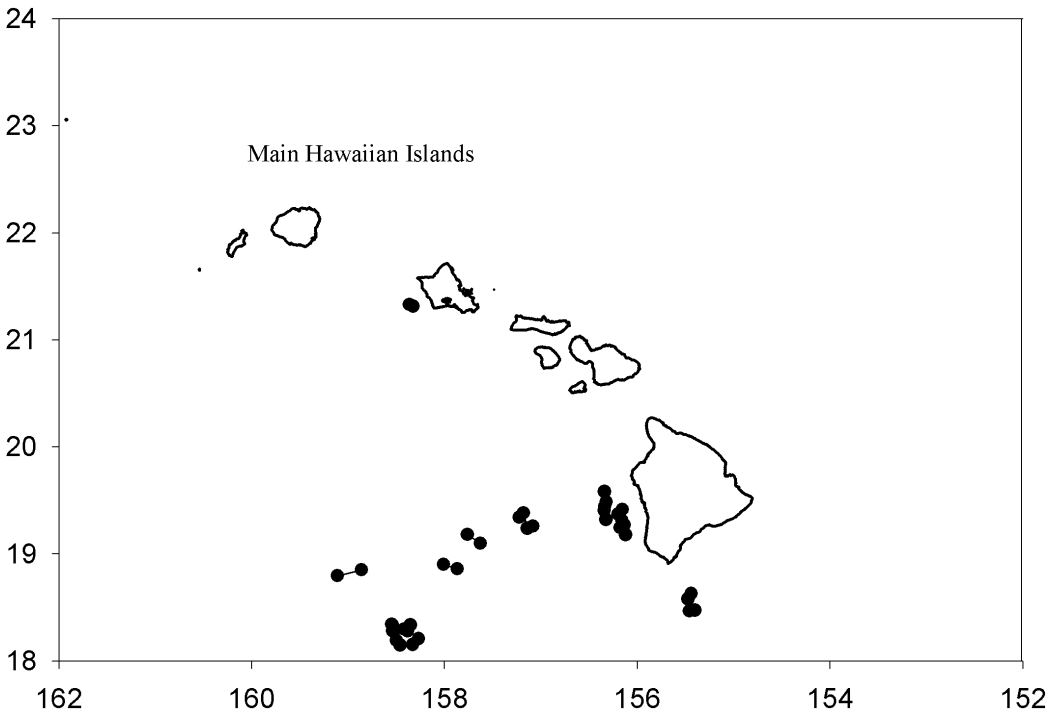

Figure 1.-- Longline deployment locations.

Attachments

Table 1. Summary of longline deployment locations.

Set #	Date of deployment	Start deployment	Start of set		End of set		# of hooks
		HST	Latitude	Longitude	Latitude	Longitude	(approximate)
1	02 May	01:58 PM	21 19.824	158 21.888	21 18.874	158 19.684	100
2	03 May	07:56 PM	19 10.806	156 07.333	19 18.923	156 09.580	400
3	04 May	08:16 PM	19 16.212	156 08.162	19 24.984	156 09.413	400
4	05 May	07:58 PM	19 14.709	156 10.771	19 22.349	156 12.033	400
5	07 May	07:53 PM	18 47.862	159 06.615	18 51.104	158 51.667	360
6	08 May	07:55 PM	18 08.912	158 27.598	18 12.610	158 16.186	550
7	09 May	07:58 PM	18 16.828	158 32.487	18 16.814	158 22.982	450
8	10 May	07:56 PM	18 20.431	158 32.543	18 17.241	158 22.916	550
9	11 May	07:56 PM	19 10.894	157 45.853	19 05.918	157 37.647	450
10	12 May	08:47 PM	18 11.609	158 29.903	18 09.234	158 19.835	550
11	13 May	07:53 PM	18 20.605	158 32.961	18 17.873	158 25.283	450
12	15 May	07:55 PM	18 37.831	155 26.451	18 28.070	155 27.711	400
13	16 May	07:49 PM	18 34.868	155 28.641	18 28.442	155 24.287	400
14	17 May	07:52 PM	18 20.142	158 21.186	18 17.468	158 31.128	450
15	18 May	07:59 PM	18 54.161	158 00.683	18 51.749	157 52.032	420
16	19 May	07:50 PM	19 20.492	157 13.521	19 15.573	157 05.006	420
17	20 May	07:52 PM	19 23.065	157 10.939	19 14.446	157 08.461	420
18	21 May	07:53 PM	19 34.759	156 20.297	19 26.513	156 20.375	420
19	22 May	07:54 PM	19 24.397	156 20.578	19 35.064	156 20.548	520
20	23 May	07:51 PM	19 19.322	156 19.619	19 29.225	156 19.409	520

Table 2. Fish caught during longline and trolling operations.

	Scientific Name	Total all gears	Longline	Troll	Retained
Bigeye thresher	*Alopias superciliosus*	2	2	0	1
Bigeye tuna	*Thunnus obesus*	13	3	10	12
Blue marlin	*Makaira mazara*	2	2	0	2
Blue shark	*Prionace glauca*	19	19	0	10
Swordfish	*Xiphias gladius*	10	10	0	8
Crocodile shark	*Pseudocarcharias kamoharai*	2	2	0	2
Escolar	*Lepidocybium flavobrunneum*	59	59	0	35
Great barracuda	*Sphyraena barracuda*	31	30	1	8
Lancetfish	*Alepisaurus ferox*	1	1	0	1
Mahimahi	*Coryphaena hippurus*	18	13	5	13
White-tip shark	*Carcharhinus longimanus*	7	7	0	1
Pomfret	*Brama brama*	1	1	0	1
Spearfish	*Tetrapturus angustirostris*	2	1	1	2
Silky shark	*Carcharhinus falciformis*	3	3	0	0
Skipjack tuna	*Katsuwonus pelamis*	16	2	14	16
Snake mackerel	*Gempylus serpens*	16	16	0	8
Striped marlin	*Tetrapturus audax*	2	2	0	0
Wahoo	*Acanthocybium solandri*	14	11	3	14
Yellowfin tuna	*Thunnus albacare*	8	1	7	6

Fish not retained were either equipped with PSAT and released (Table 3), or just released.

Table 3. Species tagged with pop-up satellite tags (PSATs).

Date	Species	Latitude	Longitude
09 May	silky shark	18 07.96	158 24.62
09 May	oceanic white-tip shark	18 07.62	158 26.94
10 May	Swordfish	18 12.99	158 31.85
10 May	bigeye tuna	18 12.99	158 33.94
11 May	yellowfin tuna	18 15.76	158 29.80
13 May	yellowfin tuna	18 39.14	158 14.82
14 May	oceanic white-tip shark	18 15.25	158 29.28
16 May	oceanic white-tip shark	18 33.04	155 29.10
20 May	silky shark	19 22.18	157 10.08
20 May	oceanic white-tip shark	19 21.99	157 07.44
21 May	bigeye thresher shark	19 23.45	157 09.32
22 May	oceanic white-tip shark	19 36.12	156 17.62
22 May	Swordfish	19 40.02	156 16.94
23 May	striped marlin	19 34.56	156 16.85

Table 4. Summary of IK tows.

Date of deployment	Start deployment	Location		Duration	Depth
	HST	Latitude	Longitude	hours	meters
03 May	02:36 PM	19 31.234	155 59.556	1	surface
03 May	03:42 PM	19 28.861	156 00.263	1	80-20
04 May	12:05 AM	19 18.905	156 05.911	1	60-surface
04 May	01:15 AM	19 17.332	156 05.509	1	60-surface
04 May	12:17 PM	19 19.761	155 55.240	1	surface
04 May	01:37 PM	19 20.996	155 55.671	1	surface
04 May	10:36 PM	19 25.743	156 05.885	1	60-surface
04 May	11:49 PM	19 24.153	156 05.610	1	60-surface
05 May	12:17 PM	19 29.571	155 57.761	1	surface
05 May	01:22 PM	19 27.285	155 56.709	1	surface
05 May	10:08 PM	19 21.672	156 06.950	1	60-surface
05 May	11:27 PM	19 14.452	156 06.932	1	60-surface
15 May	10:05 PM	18 28.340	155 25.387	1	60-surface