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USE OF MARINE HABITATS BY HAWAIIAN MONK SEALS (*Monachus schauinslandi*) FROM KURE ATOLL: SATELLITE-LINKED MONITORING IN 2001-2002

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PREFACE

This report has been sponsored by the Pacific Islands Fisheries Science Center and provides the results of recent research efforts to ascertain the habitat use and foraging ecology of Hawaiian monk seals in the Northwestern Hawaiian Islands (NWHI). This work is a part of a research project involving a synthesis of all data available on the foraging behavior of Hawaiian monk seals in the NWHI. Subsequent publications of these results will involve a more thorough comparative analysis and interpretation of variation in individual and colony behaviors relative to variation in biotic and abiotic characteristics of marine habitats throughout the NWHI marine ecosystem.

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1. Introduction

The Hawaiian monk seal (*Monachus schauinslandi*) is endemic to the Hawaiian Islands Archipelago with six principal colonies in the Northwestern Hawaiian Islands (NWHI) and reefs of the archipelago. The species was designated as *Endangered* in 1976 under the Endangered Species Act of 1973 (ESA) following declines of 50% from the late 1950s. Overall, numbers declined about 11% annually from 1989 through the mid-1990s, owing to low birth rates and poor survival of neonates and juveniles from a variety of known and unknown causes (e.g., Gilmartin and Eberhardt, 1995; Antonelis and Ragen, 1997; Craig and Ragen, 1999). The Hawaiian monk seal metapopulation now numbers 1,300 to 1,400 with colonies at six isolated sites in the NWHI and small but increasing numbers at the main Hawaiian Islands (Ragen and Lavigne, 1999; Baker and Johanos, 2004). In 1988, *Critical Habitat* for monk seals in the NWHI was designated as the emergent land, lagoon waters, and ocean waters out to the 20-fathom isobath. In 1991, a *Protected Species Zone* was established out to 50 nautical miles from the islands and the corridors between islands to protect seals from interactions with the pelagic longline fishery. The boundaries of those areas were established with limited information on the foraging habitats and ranges of monk seals.

Here, we report the results of studies conducted at Kure Atoll Island[1] (25°46'N, 171°44'W; Figs. 1, 2), the westernmost colony in the NWHI, from October 2001 through September 2002 to define the general geographic and vertical marine habitats used by seals when foraging.

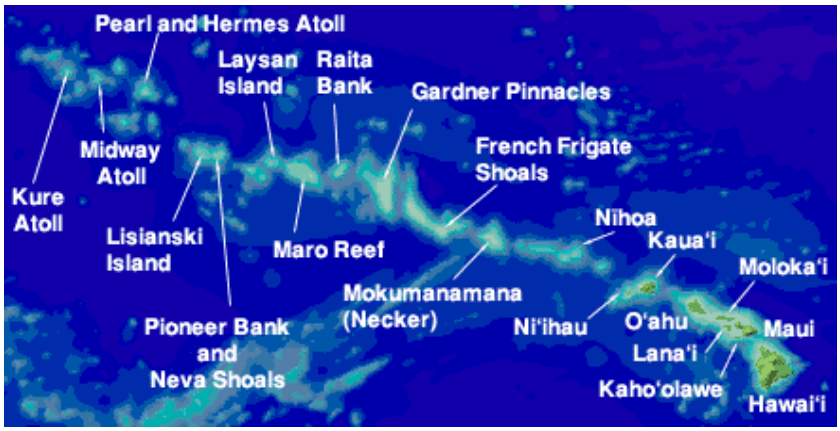

Figure 1. The main and Northwestern Hawaiian Islands.

[1] Kure Atoll consists of a roughly circular fringing reef around 9 km in diameter enclosing a relatively shallow lagoon and with one small permanent island (Green Island) and two ephemeral sand islets (Sand and Shark). Kure Atoll is approximately 2,175 km northwest of Honolulu and 90 km from the nearest monk seal colony at the Midway Islands (Woodward, 1972; http://www.hawaiireef.noaa.gov/, accessed October 2002). Monk seals numbered around 120 at Kure Atoll in 1998.

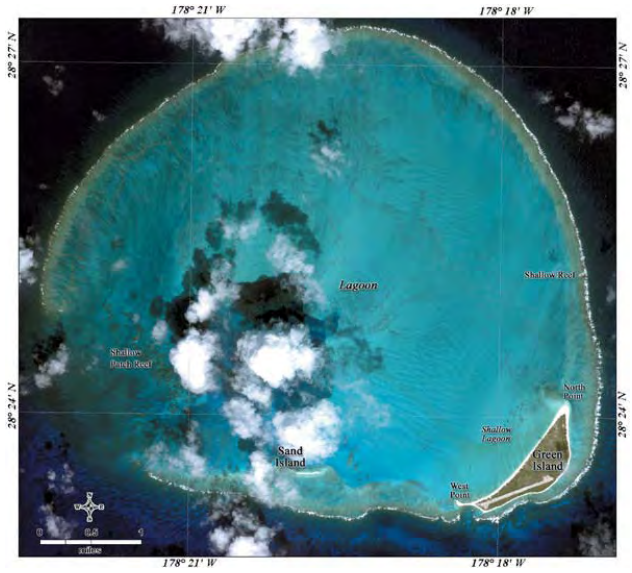

Figure 2. Kure Atoll, Northwestern Hawaiian Islands.

Figure 3. Green Island at the southeast corner of Kure Atoll.

2. Methods

Capture and restraint

We captured 24 Hawaiian monk seals at Kure Atoll (28°23' N, 178°18'W; Fig. 1) between 30 October and 12 November 2001with a hoop net, physically restrained (Fig. 2), and then chemically sedated them with an intravenous (extradural vein) injection of diazepam approximate dosage, 0.11 mg/kg (Tables 1 & 2).

One10-year old adult male (KZ94) had a pronounced sinus arrythymia (54-72 beats per minute), first detected within 10 min of sedation. This seal was given an intramuscular injection of atropine sulfate as a precaution; its heart rate increased and the irregular rhythm, though less pronounced, persisted (96-108 beats per minute). One other seal (K608, an adult male $\geq$ 16 years old) was given atropine sulfate intramuscularly as a precaution due to a slight decrease (still within normal limits) in heart rate during handling. Sedation was reversed with 0.25 mg flumazenil in one seal (RD13, a 2-year-old juvenile male) when all procedures were completed (22 minutes post-diazepam injection) to speed the animal's recovery and return to the water due to high ambient air temperature. One seal (KY32, a 3-year-old juvenile female) exhibited an idiosyncratic reaction to diazepam. Sedation and handling were uneventful but the seal's recovery was prolonged; KY32 remained slightly ataxic and sedated for approximately 133 min. This seal was treated with flumazenil twice (total intravenous dose, 0.45 mg; total intramuscular [IM] dose, 0.55 mg), was given atropine sulfate (1.62 mg IM) and dexamethasone sodium phosphate (24 mg IM), and was attended by a veterinarian until it had recovered fully.

Figure 4. Physical restraint and blood sample collection (Photo by B. S. Stewart).

Biomedical sampling

Within 2 to 4 minutes of intravenous injection of diazepam, we collected blood, tissue (blubber and skin), fecal and microbiological swab (ocular, nasal, oral, genital, rectal) samples. We took measurements of standard length and axillary girth to within 0.5 cm.

Preliminary processing of biomedical samples (including sample preservation and preparation for shipment) was accomplished within 2 to 5 hours of collection according to protocols established by Aguirre et al. (1999), Aguirre (2000), and the *2000 Field Manual for Research on the Hawaiian Monk Seal*[2].

No dead, moribund or emaciated seals were seen. Biomedical samples were collected from all 24 seals fitted with satellite transmitters. Minor clinical abnormalities were detected in five seals during physical exams. The lower jaw (right side) of one seal (K609, an adult male $\geq$ 16 years old) drooped and protruded slightly (possibly the result of an old/healed fracture at the mandibular symphysis), although the seal appeared to be able to close its mouth completely. A male yearling (KH27) was slightly dehydrated ($\leq$ 5%). A 17-year old adult female (K505) had loose, redundant mucosa at the vaginal opening; no prolapse was apparent and vaginal tone was normal. This female also held the right eye partially closed with the globe slightly retracted. No cause for the blepharospasm was apparent; no lesions were seen on the eyelids or the central cornea (approximately 25% of the cornea was visible), no conjunctivitis was present at the medial canthus, and there was no ocular discharge. A 3-year old juvenile male (KY28) had a corneal opacity of the right eye, occupying approximately 1/3 of the central cornea. One 2-year old juvenile male (RD13) had several small ($\leq$ 2.0 cm diameter), fresh, lacerations; one extended into the muscle layer and was flushed with povidone iodine solution prior to the seal's release.

Tracking instrument deployment

Once seals were sedated and samples collected, we glued a satellite linked data recorder/transmitter (SLDR) to the dorsal pelage of each of 24 seals (6 weaned pups [1 male, 5 females]; 10 juveniles [7 males, 3 females]; 8 adults [4 males, 4 females]; Tables 2 & 3) using a quick setting epoxy.

The SLDRs consisted of an ARGOS certified transmitter for determination of geographic location and a microprocessor controlled event recorder to monitor use of vertical marine habitats (diving behavior). Locations were determined up to several times each day by the Argos earth-orbiting satellite system and the Argos DCLS, described in detail elsewhere (e.g., Fancy et al., 1988; Harris et al., 1990; Stewart et al., 1989; Stewart, 1997).

[2]Anonymous. 2000. 2000 Field Manual for Research on the Hawaiian Monk Seal. Unpublished document. NOAA, SWFSC.

Figure 5. Small SLDR (20,000 transmission capability) glued to hair of juvenile Hawaiian monk seal at Kure Atoll (Photo by B. S. Stewart).

The SLDRs deployed on weaned pups and some juveniles (Fig. 5) were capable of about 20,000 transmissions (Table 2). Those deployed on the other juveniles and on all adults (Fig. 6) had larger battery supplies and were capable of about 60,000 transmissions (Table 2). Effective transmission power output was 250 W for all PTTs. All transmitters measured depth from 0 to 490 meters with a resolution of 2 meters

Maximum depth of dive, duration of dive, and time at depth were summarized by 6-hour periods and then transmitted as frequency histograms (Table 4). The depths of the deepest dives, up to 490 m, that occurred during each 6-hour period were also reported separately.

To lengthen the tracking period by conserving battery power, we programmed the transmitters to be active only during periods of the day when good satellite coverage was expected (Appendix I). The SLDRs were also programmed to shift from a transmission rate of around 1/40 s to around 1/90 s once a seal is hauled out constantly for 6 to 10 minutes.

Moreover, if the seal remained hauled out for about 70 minutes, then transmissions ceased until it reentered the sea for more than 1.5 minutes. Whenever at sea, transmissions were suppressed when the SLDR was below the sea surface owing to an electrical conductivity circuit that was closed by continuous saltwater contact between two or three electrodes mounted on the surface of the SLDR.

Figure 6. A large model SLDR (60,000 transmission capability) attached to an adult monk seal (Photo by B. S. Stewart).

Our general objectives were to identify the geographic and vertical habitats of Hawaiian monk seals from Kure Atoll by documenting their geographic dispersion and diving behaviors.

3. Results and Discussion

We tracked seals for 7 to 326 days (Tables 5 & 6). We filtered all locations to eliminate unreliable ones based on the distance and time between successive locations and estimates of reasonable travel rates of monk seals (cf. Abernathy, 1999; Lowry et al., 2001). Overall, seals foraged at Kure Atoll, at seamounts up to 100 km to the northwest of Kure Atoll, at Nero and Ladd Seamounts, and near the Midway Islands (Fig. 7). One adult female (24105) foraged at Nero Seamount, the Midway Islands, and Ladd Seamount in addition to Kure Atoll (Fig. 7). One adult male (24108) foraged at Nero Seamount and two adult males (24108 and 24111) foraged at seamounts northwest of Kure (Fig. 7) in addition to Kure Atoll. The other twenty (83%; all of the weaned pups and juveniles) seals foraged only within the atoll lagoon or on the seamount slopes just outside the fringing reef (Table 7, Figs. 8-13).

Daily maximum dive depths: The daily maximum depth of dives that were periodically reported indicated that five seals (13035, 24100, 24114, 25781, 24099) never dove deeper than 12 m during the tracking period (Table 6, Figs.14-18). All but one of the others exceeded 40 m and 14 seals (58%) dove deeper than 100 m (Table 6; Figs. 14-18). Two adult males (24110, 24111) exceeded the recording limit of the SLDRs of 490 m.

Dive depth frequency histograms: Overall, most dives of all seals were shallower than 40m, but weaned pups, juveniles and adults also had secondary modes at greater depths (ca 80 to 120 m; Fig.19, Fig. 33). Most dives of adult females were shallow (Fig. 20) and the deeper dives of one female (24105; Fig. 33) occurred only late in the tracking period (Fig. 18). Adult males dove considerably deeper (Fig. 32) and these dives appeared to occur mostly when they were foraging at the seamounts northwest of Kure Atoll and at Nero Seamount early and late during the tracking period. Weaned pups had secondary dive depth modes at around 80 to 120 m (Fig. 19) owing mostly to the dives of two of the female pups and the male pup (Fig. 34). The juveniles also had deeper secondary dive depth modes at 60 to 100 m and 100 to 120 m (Fig. 21); all but one of the males and two of the four females foraged at those greater depths (Figs. 29-31).

Dive duration frequency histograms: Most dives of all seals lasted less than six minutes (Fig. 22; Figs. 34-39) though some dives of adult males lasted up to 18 to 20 minutes (Fig. 38).

Time at depth: As a proxy for dive effort, the time-at-depth frequency histogram data suggest that individual seals allocated substantial amounts of time foraging at depth (Fig. 25), especially some weaned pups, juveniles and three of the four adult males (Figs. 40-45).

4. Acknowledgments

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Table 1. Chemical immobilization of Hawaiian monk seals at Kure Atoll, October – November 2001.

								Diazepam	Atropine	Lidocaine	Time (Local)		
Date	Seal ID	PTT No.	Sex	Age Class	Age (years)	Length (cm)	Girth (cm)	(mg IV)	(mg IM)	Used?	Capture	Release	Into Water
30-Oct-01	BK29	24110	M	Adult	16	218	135	32	-----	No	10:17	10:50	10:53
30-Oct-01	K609	24111	M	Adult	≥16	215	149.5	34	-----	No	12:09	12:39	12:55
30-Oct-01	KM17	13058	F	W. Pup	<1	138.5	87	9	-----	No	18:58	19:26	19:36
31-Oct-01	Kh27	24098	M	Juvenile	1	142	91.5	12	-----	No	10:03	10:29	10:43
31-Oct-01	K142	24105	F	Adult	19	199	132.5	22	-----	Yes	11:21	11:51	11:57
31-Oct-01	KD25	5414	F	Juvenile	2	182	99	14	-----	Yes	16:42	17:14	17:15
1-Nov-01	YL14	24100	F	Adult	15	205	129	22	-----	No	9:05	9:34	9:39
1-Nov-01	KX08	13035	F	Adult	8	194	116	22	-----	Yes	10:25	10:56	11:09
1-Nov-01	KM31	24099	F	W. Pup	<1	139	90	10	-----	No	11:23	11:52	?
1-Nov-01	KD01	24101	M	Juvenile	2	157	92	14	-----	No	16:47	17:15	?
2-Nov-01	RM04	24113	M	W. Pup	<1	137	87	10	-----	No	10:55	11:19	11:20
2-Nov-01	KD31	24195	F	Juvenile	2	176	101.5	15	-----	No	11:38	12:08	12:10
2-Nov-01	K608	24108	M	Adult	≥16	214	133.5	32	2.7	Yes	12:44	13:18	?
3-Nov-01	K505	24103	F	Adult	17	205	140	24	-----	Yes	9:31	10:01	10:02
3-Nov-01	KY28	24102	M	Juvenile	3	167.5	92	15	-----	No	15:51	16:20	16:29
3-Nov-01	KD11	24104	F	Juvenile	2	169	100	15	-----	Yes	17:10	17:40	17:50
4-Nov-01	KZ94	24106	M	Adult	10	209	129	32	2.7	Yes	9:25	10:00	10:15
4-Nov-01	KM29	24115	F	W. Pup	<1	137	84	10	-----	No	15:10	15:37	15:41
4-Nov-01	K616	13047	M	Juvenile	2	158.5	108	15	-----	Yes	16:46	17:20	17:24
5-Nov-01	KY14	24114	M	Juvenile	3	171	112	15	-----	No	15:44	16:12	16:17
6-Nov-01	KY32	25781	F	Juvenile	3	169	96	15*	-----	Yes	16:14	16:47	?
8-Nov-01	KM21	22813	F	W. Pup	<1	144	90	10	1.62	No	15:54	16:26	16:27
10-Nov-01	RD13	25780	M	Juvenile	2	163	96	12**	-----	No	15:26	16:01	16:01
12-Nov-01	KH00	22812	M	Juvenile	1	158	100	12	-----	Yes	18:00	18:40	18:49

*Slow recovery from diazepam. Reversed with flumazenil twice over 2h (total of 0.45 mg IV and 0.55 mg IM); 24 mg dexamethasone IM once

** Reversed with 0.25 mg flumazenil 22 min post-sedation to speed seal's recovery and return to the water due to high ambient air temperature.

Table 2. Instrumentation of Hawaiian monk seals with satellite-linked data recorders (SLDRs) at Green Island, Kure Atoll, October-November 2001.

PTT	SEAL ID	LTAG NO	RTAG NO	GMT DATE OUT	GMT TIME OUT	LOCAL DATE OUT	LOCAL TIME OUT	LATITUDE LONGITUDE	WC #	LENGTH (CM)	GIRTH (CM)	TRANS CAPACITY	AGE	SEX
5414	KD25	D25	D26	305	0315	31 OCT	1615	28°23.2'N,178°18.1'W		182	99	25K	2	F
13058	KM17	M17	M18	305	0530	30 OCT	1830	28°23.9'N, 178°17.5'W		138.5	87	25K	WP	F
22812	KH00	H04	H00	317	0440	12 NOV	1740	28°24.1'N, 178°18.4'W		158	100	25K	1	M
22813	KM21	M21	M22	313	0227	8 NOV	1527	28°23.9N, 178°17.3'W		144	90	25K	WP	F
24098	KH27	H28	H27	304	2029	31 OCT	0929	28°24.0'N, 178°17.4'W		142	91.5	25K	1	M
24099	KM31	M31	M32	305	2200	1 NOV	1100	28°23.3'N, 178°18.2'W		139	90	25K	WP	F
24101	KD01	D01	D02	306	0325	1 NOV	1625	28°23.2'N, 178°18.3'W		157	92	25K	2	M
24113	RM04	M04	M05	306	2120	2 NOV	1020	28°23.3'N, 178°18.4'W		137	87	25K	WP	M
24114	KY14	Y14	Y15	310	0212	5 NOV	1512	28°23.2'N, 178°18.1'W		171	112	25K	3	M
24115	KM29	M29	M30	309	0440	4 NOV	1440	28°23.2'N, 178°18.1'W		137	84	25K	WP	F
25780	RD13	D13	D15	314	0200	10 NOV	1500	28°24.1'N, 178°17.4'W		163	96	25K	2	M
25781	KY32	Y32	Y33	311	0158	6 NOV	1458	28°23.4'N, 178°18.0'W		169	96	25K	3	F
13035	KX08	X08	X09	305	2055	1 NOV	0955	28°23.9'N, 178°17.3'W		194	116	60K	8	F
13047	K616	1AW	1AX	309	0320	4 NOV	1620	28°23.9'N, 178°17.3'W		158.5	108	60K	2	M
24100	YL14	YL09	L708	305	1941	1 NOV	0841	28°23.8'N, 178°17.6'W		205	129	60K	15	F
24102	KY28	KY28	Y29	308	0220	3 NOV	1520	28°23.9'N, 178°17.5'W		167.5	92	60K	3	M
24103	K505	T02,1AU	T13,1AV	307	2004	3 NOV	0904	28°23.3'N, 178°17.9'W		205	140	60K	17	F
24104	KD11	D11	D12	308	0400	3 NOV	1700	28°23.9'N, 178°17.4'W		169	100	60K	2	F
24105	K142	O31	O30	304	2159	31OCT	1059	28°23.7'N, 178°17.6'W		199	132.5	60K	19	F
24106	KZ94	Z66	Z67,Z84	308	2003	4 NOV	0903	28°23.9'N, 178°17.3'W		209	129	60K	10	M
24108	K608	1AS	1AT	306	2320	2 NOV	1220	28°23.4'N, 178°18.2'W		214	133.5	60K	≥16	M
24110	BK29	NONE	K29	303	2054	30 OCT	0954	28°23.7'N, 178°17.3'W		218	135	60K	16	M
24111	K609	NONE	NONE	303	2234	30 OCT	1134	28°23.9'N, 178°17.5'W		215	149	60K	≥17	M
24195	KD31	D31	D32	306	2210	2 NOV	1110	28°23.3'N, 178°18.2'W		176	101.5	60K	2	F

Table 3. Summary of Hawaiian monk seals tagged at Green Island, Kure Atoll from 30 October through 12 November 2001.

	Males	Females	Total
Adults	4	4	8
Juveniles			11
1 year-old	2	0	2
2 year-old	3	3	6
3 year-old	2	1	3
Weaned pups	1	4	5
TOTAL	12	12	24

Table 4. Structure of frequency histogram data on dive depth, duration and time at depth.

Bin #	Depth interval (m)	Duration interval (min)	Time at depth interval (m)
1	4-20	0-2	0 (At the surface)
2	20-40	2-4	4-20
3	40-60	4-6	20-40
4	60-80	6-8	40-60
5	80-100	8-10	60-80
6	100-120	10-12	80-100
7	120-140	12-14	100-120
8	140-160	14-16	120-140
9	160-180	16-18	140-160
10	180-200	18-20	160-180
11	200-250	20-25	180-200
12	250-350	25-30	200-250
13	350-450	30-40	250-350
14	>450	>40	>350

Table 5. Tracking details for Hawaiian monk seals instrumented at Kure Atoll in 2001-2002.

SEAL ID	PTT	AGE	SEX	TRACK START	TRACK END	DAYS TRACKED
KZ94	24106	ADULT	MALE	4 Nov 01	8 Sep 02	307
K608	24108	ADULT	MALE	2 Nov 01	5 Sep 02	306
BK29	24110	ADULT	MALE	30 Oct 01	22 Sep 02	326
K609	24111	ADULT	MALE	30 Oct 01	14 Sep 02	318
KX08	13035	ADULT	FEMALE	1 Nov 01	8 May 02	187
YL14	24100	ADULT	FEMALE	1 Nov 01	(10 Jun 02)	(220)[3]
K505	24103	ADULT	FEMALE	3 Nov 01	15 Feb 02	103
K142	24105	ADULT	FEMALE	31 Oct 01	8 Jul 02	249
KH00	22812	JUVENILE	MALE	12 Nov 01	29 Nov 01	108
KH27	24098	JUVENILE	MALE	31 Oct 01	7 Nov 01	7
KD01	24101	JUVENILE	MALE	1 Nov 01	30 Apr 02	179
RD13	25780	JUVENILE	MALE	10 Nov 01	8 Jun 02	209
K616	13047	JUVENILE	MALE	4 Nov 01	25 Nov 02	19
KY14	24114	JUVENILE	MALE	5 Nov 01	8 Mar 02	122
KY28	24102	JUVENILE	MALE	3 Nov 01	6 Jun 02	214
KD25	5414	JUVENILE	FEMALE	31 Oct 01	14 Apr 02	166
KD11	24104	JUVENILE	FEMALE	3 Nov 01	18 Jul 02	256
KD31	24195	JUVENILE	FEMALE	2 Nov 01	6 Apr 02	154
KY32	25781	JUVENILE	FEMALE	6 Nov 01	23 Apr 02	167
RM04	24113	WEANED PUP	MALE	2 Nov 01	11 Apr 02	169
KM17	13058	WEANED PUP	FEMALE	30 Oct 01	10 Mar 02	130
KM21	22813	WEANED PUP	FEMALE	8 Nov 01	25 Mar 02	144
KM31	24099	WEANED PUP	FEMALE	1 Nov 01	23 Feb 02	115
KM29	24115	WEANED PUP	FEMALE	4 Nov 01	13 Nov 01	9

3 3 days following deployment, then no contact until a single day on day 220 after which no contact; evidently PTT malfunction

Table 6. Details of geographic locations and diving information acquired from instrumented Hawaiian monk seals at Kure Atoll; 2001-2002.

Seal ID	PTT	Age-Sex[7]	Days tracked	Daily maximum Dive depth (m)[4]	Number of locations[5]	Number of locations[6]					
						LC3	LC2	LC1	LC0	LCA	LCB
KZ94	24106	AD-M	307	180	642	11	31	91	89	118	297
K608	24108	AD-M	306	216	1606	0	11	105	512	413	485
BK29	24110	AD-M	326	>490	1577	4	12	70	365	373	704
K609	24111	AD-M	318	>490	1572	18	67	230	398	346	478
KX08	13035	AD-F	187	12	296	3	13	70	101	53	53
YL14	24100	AD-F	(220)[8]	12	22	1	3	4	4	4	6
K505	24103	AD-F	103	28	607	8	56	191	116	98	135
K142	24105	AD-F	249	368	1312	14	58	182	238	350	459
KH00	22812	J-M	108	108	23	0	1	5	2	8	6
KH27	24098	J-M	7	112	23	0	0	1	7	7	8
KD01	24101	J-M	179	184	758	23	50	104	94	194	291
RD13	25780	J-M	209	240	1364	19	78	222	296	350	390
K616	13047	J-M	19	68	39	1	3	0	3	10	22
KY14	24114	J-M	122	12	122	1	6	16	14	44	78
KY28	24102	J-M	214	96	1210	32	74	191	189	314	405
KD25	5414	J-F	166	172	849	8	50	119	183	198	53
KD11	24104	J-F	256	252	1620	8	24	162	567	353	484
KD31	24195	J-F	154	104	725	12	39	145	113	170	245
KY32	25781	J-F	167	12	471	17	54	120	68	100	110
RM04	24113	WP-M	169	180	1127	51	161	239	136	224	310
KM17	13058	WP-F	130	116	714	40	79	125	67	189	207
KM21	22813	WP-F	144	156	824	10	13	103	176	234	277
KM31	24099	WP-F	115	12	712	14	18	99	201	11	208
KM29	24115	WP-F	9	120	19	0	1	0	7	6	5

4 As reported in periodic status messages; as not all days were reported seals may have made dives to greater depths.
5 Parenthetical value is the number of locations that were unusable (LC=Z) and excluded from further location analyses.
6 LC = Location Class, as determined and assigned by the Argos Data Collection and Location Service (DCLS).
7 AD=adult; J=juvenile; WP=weaned pup.
8 3 days following deployment, then no contact until a single day on day 220 after which no contact; evidently PTT malfunction

Table 7. Locations used by foraging Hawaiian monk seals from Kure Atoll, 2001-2002.

Seal ID	PTT	Age-Sex1	Area used by foraging Hawaiian monk seals4				
			Kure Atoll	NW Kure Seamounts	Nero Seamount	Midway Islands	Ladd Seamount
KZ94	24106	AD-M	X				
K608	24108	AD-M	X		X		
BK29	24110	AD-M	X	X			
K609	24111	AD-M	X	X			
KX08	13035	AD-F	X				
YL14	24100	AD-F	X				
K505	24103	AD-F	X				
K142	24105	AD-F	X		X	X	X
KH00	22812	J-M	X				
KH27	24098	J-M	X				
KD01	24101	J-M	X				
RD13	25780	J-M	X				
K616	13047	J-M	X				
KY14	24114	J-M	X				
KY28	24102	J-M	X				
KD25	5414	J-F	X				
KD11	24104	J-F	X				
KD31	24195	J-F	X				
KY32	25781	J-F	X				
RM04	24113	WP-M	X				
KM17	13058	WP-F	X				
KM21	22813	WP-F	X				
KM31	24099	WP-F	X				
KM29	24115	WP-F	X				

1 AD=adult, J=juvenile,WP=weaned pup.

Table 8. Samples of dives received from monk seals equipped with satellite-linked diver recorders at Kure Atoll, 2001-2002.

		# Seals	Dive depth		Dive duration	
			# histograms	# dives	# histograms	# dives
Weaned pups	Males	1	593	14,925	582	14,826
	Females	4	1,210	65,736	1,184	63,707
	Total	5	1,803	80,661	1,766	78,533
Juveniles	Males	7	1,908	84,877	1,908	85,472
	Females	4	1,957	178,363	1,980	178,227
	Total	11	3,865	263,240	3,888	263,699
Adults	Males	4	4,132	264,387	4,079	271,758
	Females	4	2,989	195,097	2,925	200,841
	Total	8	4,132	264,387	4,079	271,758
All Seals		24	9,800	608,288	9,733	613,990

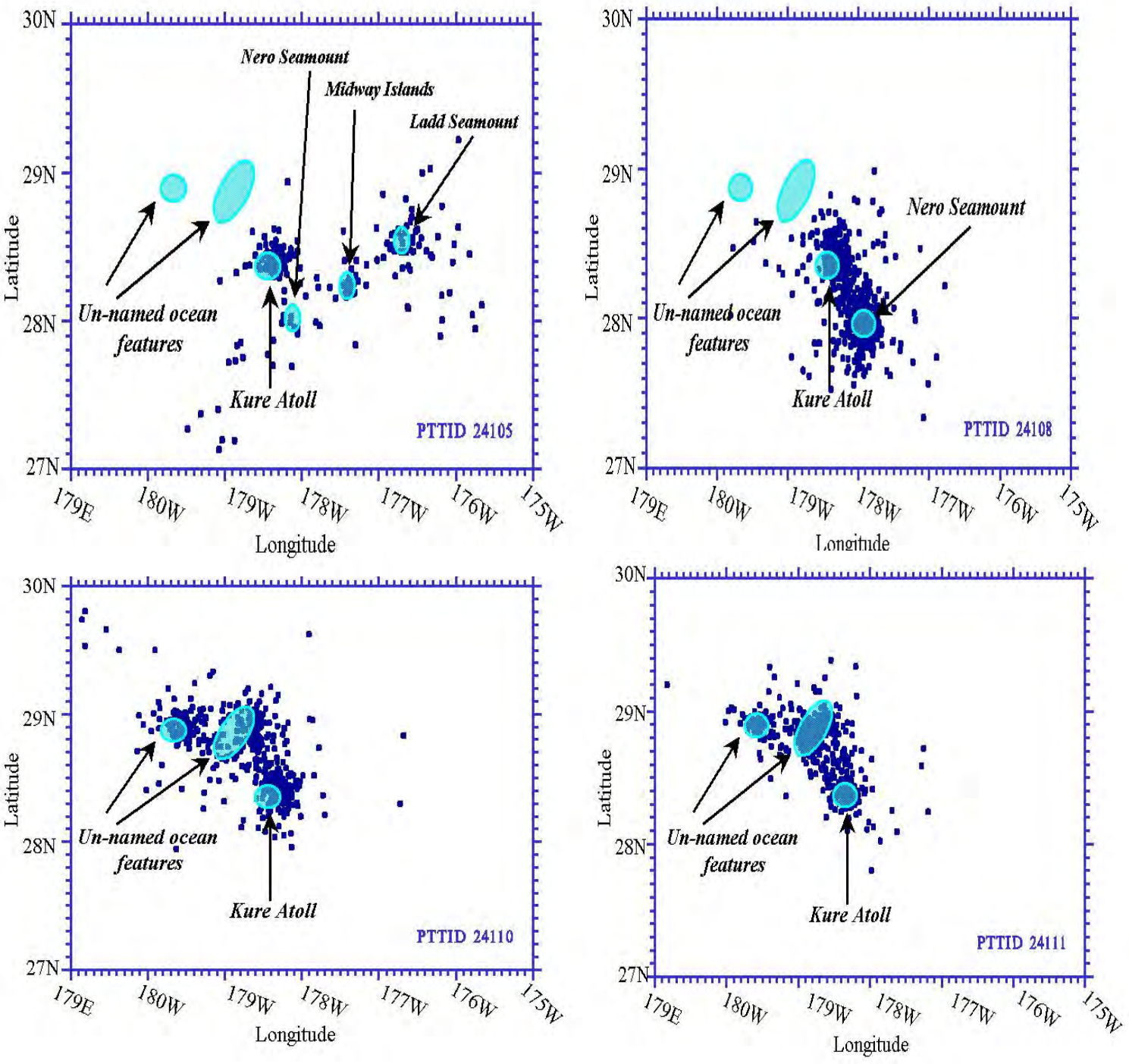


Figure 7. Foraging dispersions of adult Hawaiian monk seals near Kure Atoll, 2001-2002.

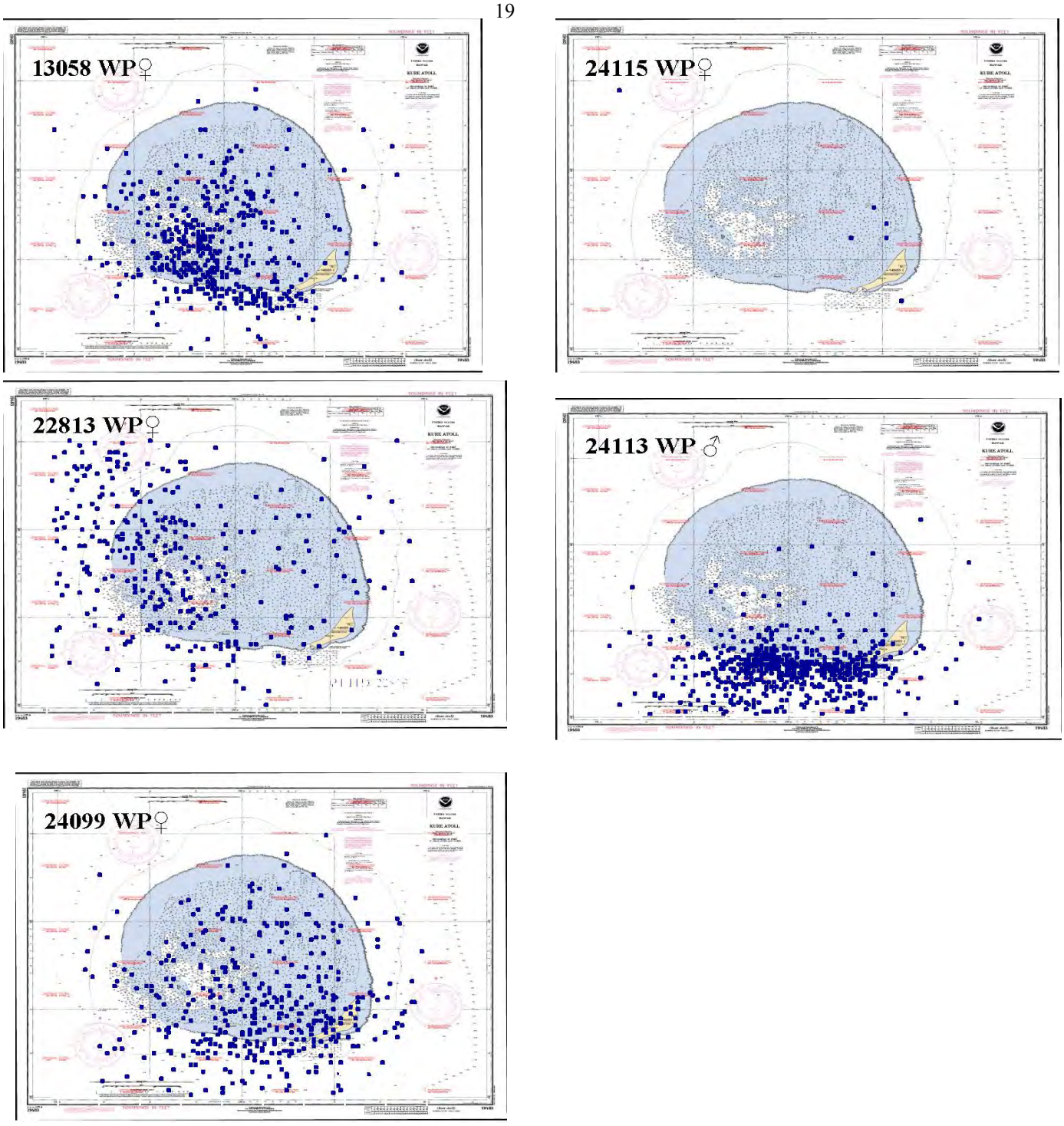
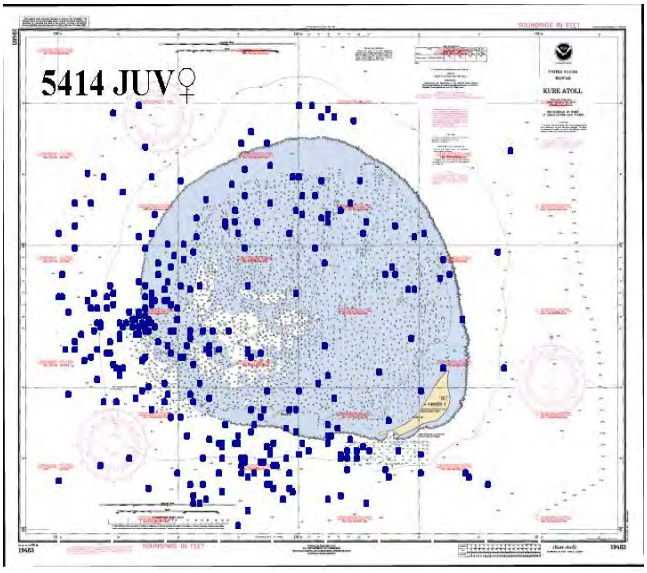
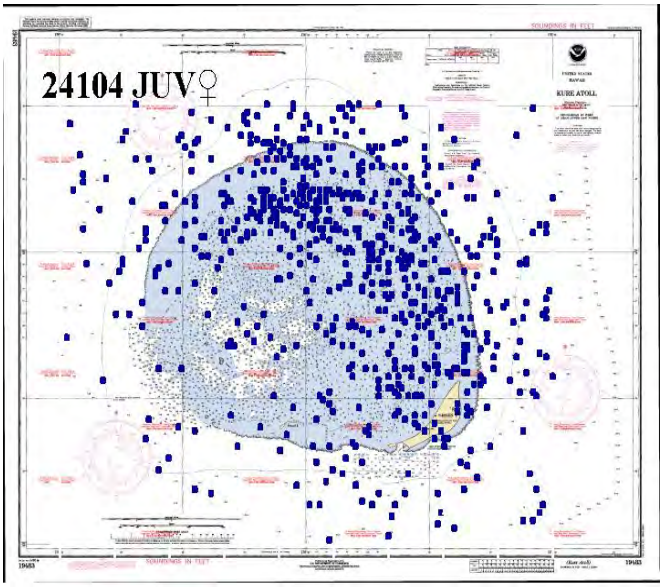
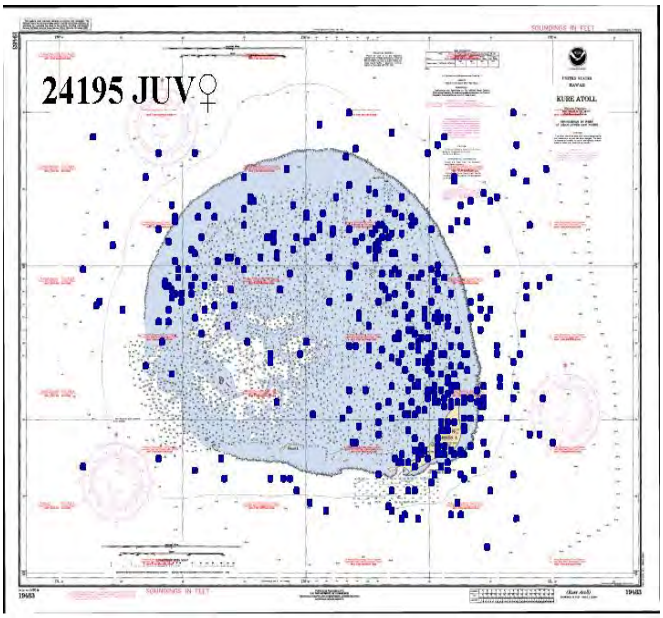


Figure 8. Dispersion of foraging weaned Hawaiian monk seal pups at Kure Atoll, 2001-2002.

Figure 9. Dispersion of foraging juvenile female Hawaiian monk seals at Kure Atoll, 2001-2002







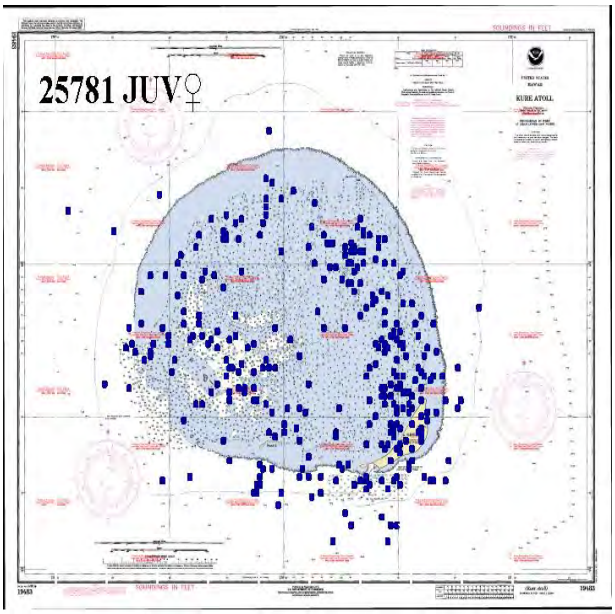
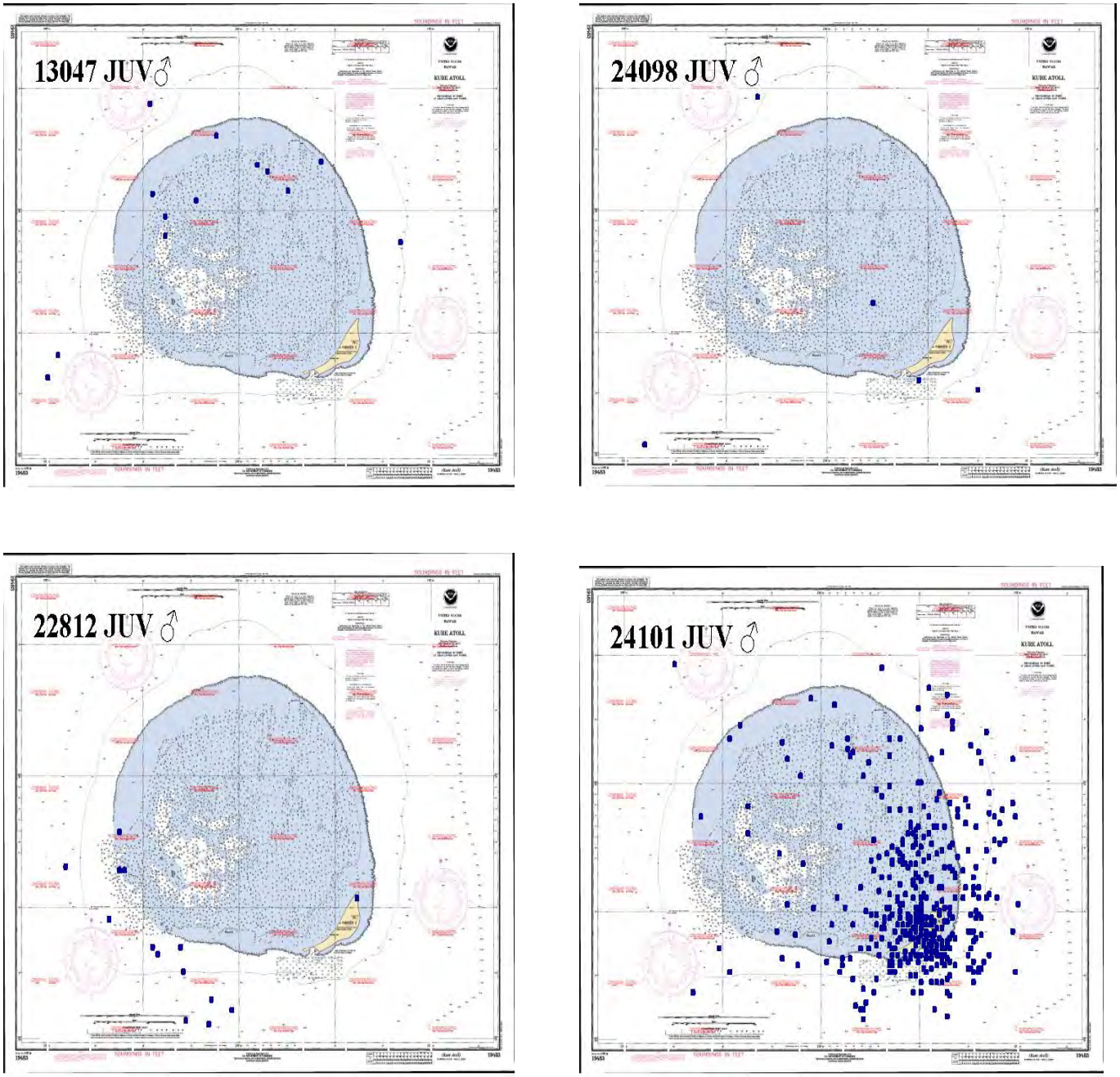


Figure 10. Dispersions of foraging juvenile male Hawaiian monk seals at Kure Atoll, 2001-2002.



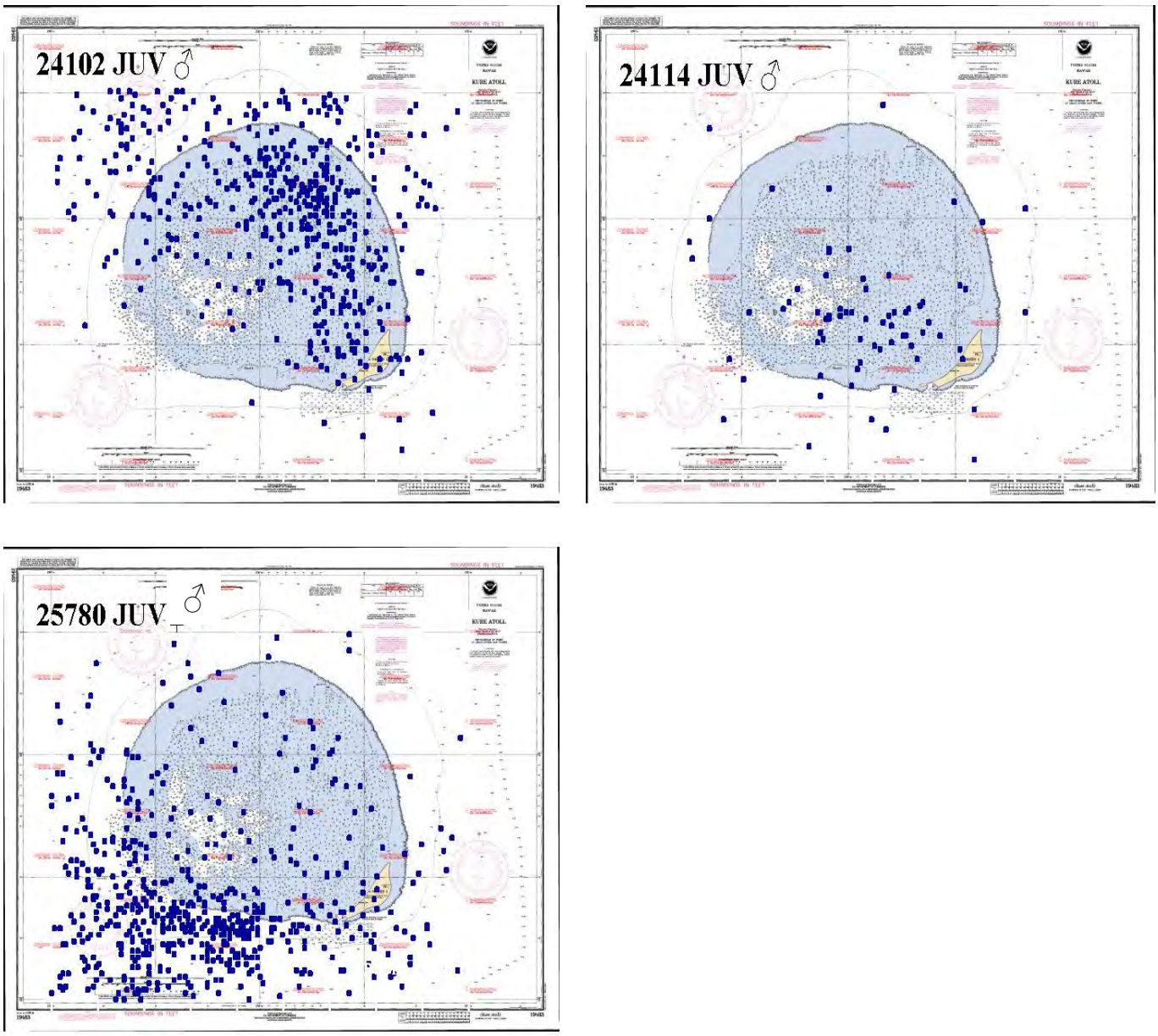


Figure 11. Dispersion of foranging juvenile male Hawaaiian monk seals at Kure Atoll, 2001-2002.

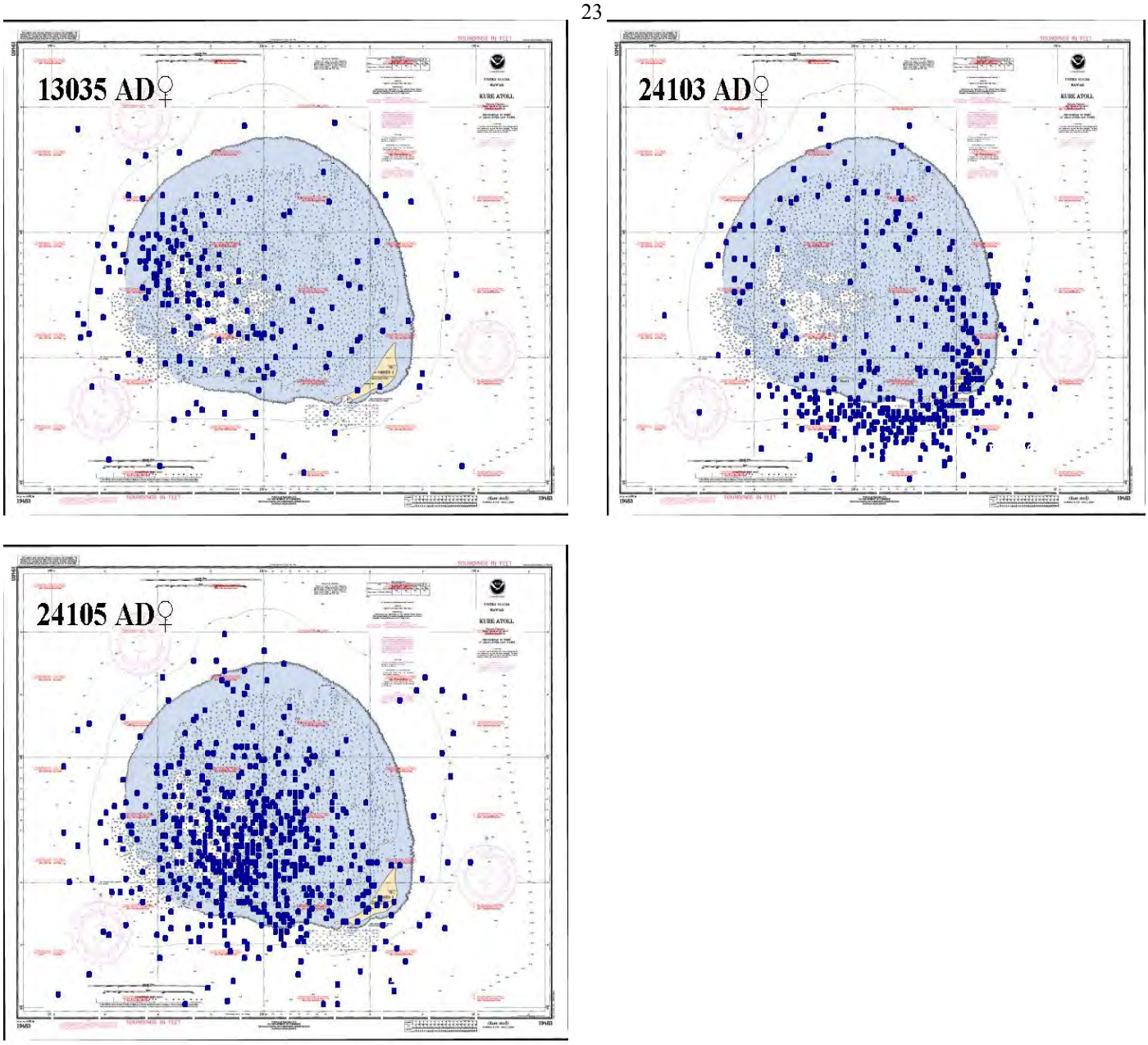


Figure 12. Dispersion of foraging adult female Hawaiian monk seals at Kure Atoll, 2001-2002.

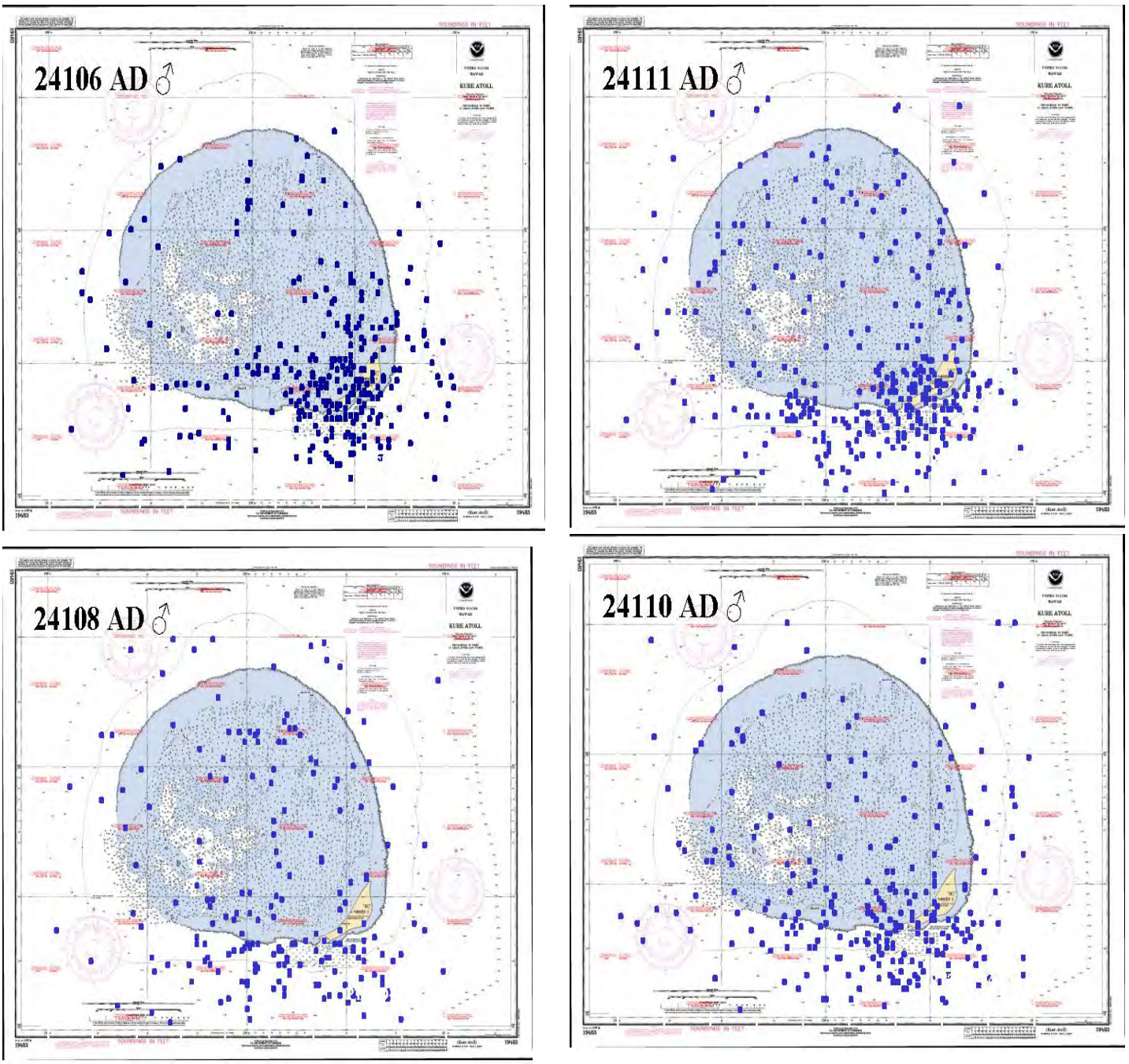


Figure 13. Dispersion of foraging adult male Hawaiian monk seals at Kure Atoll, 2001-2002.

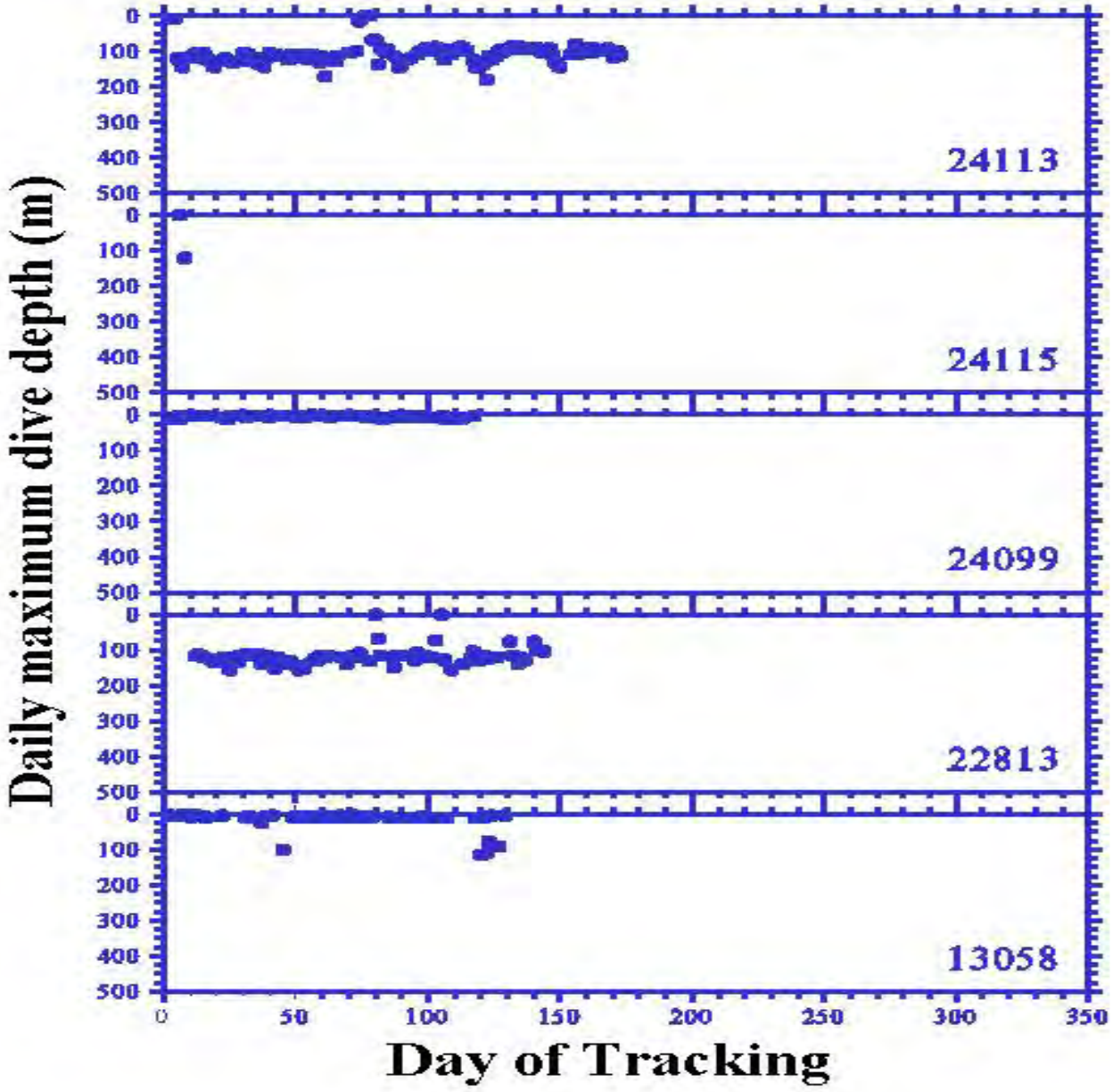


Figure 14. Daily maximum dive depths of weaned Hawaiian monk seal pups at Kure Atoll, 2001-2002.

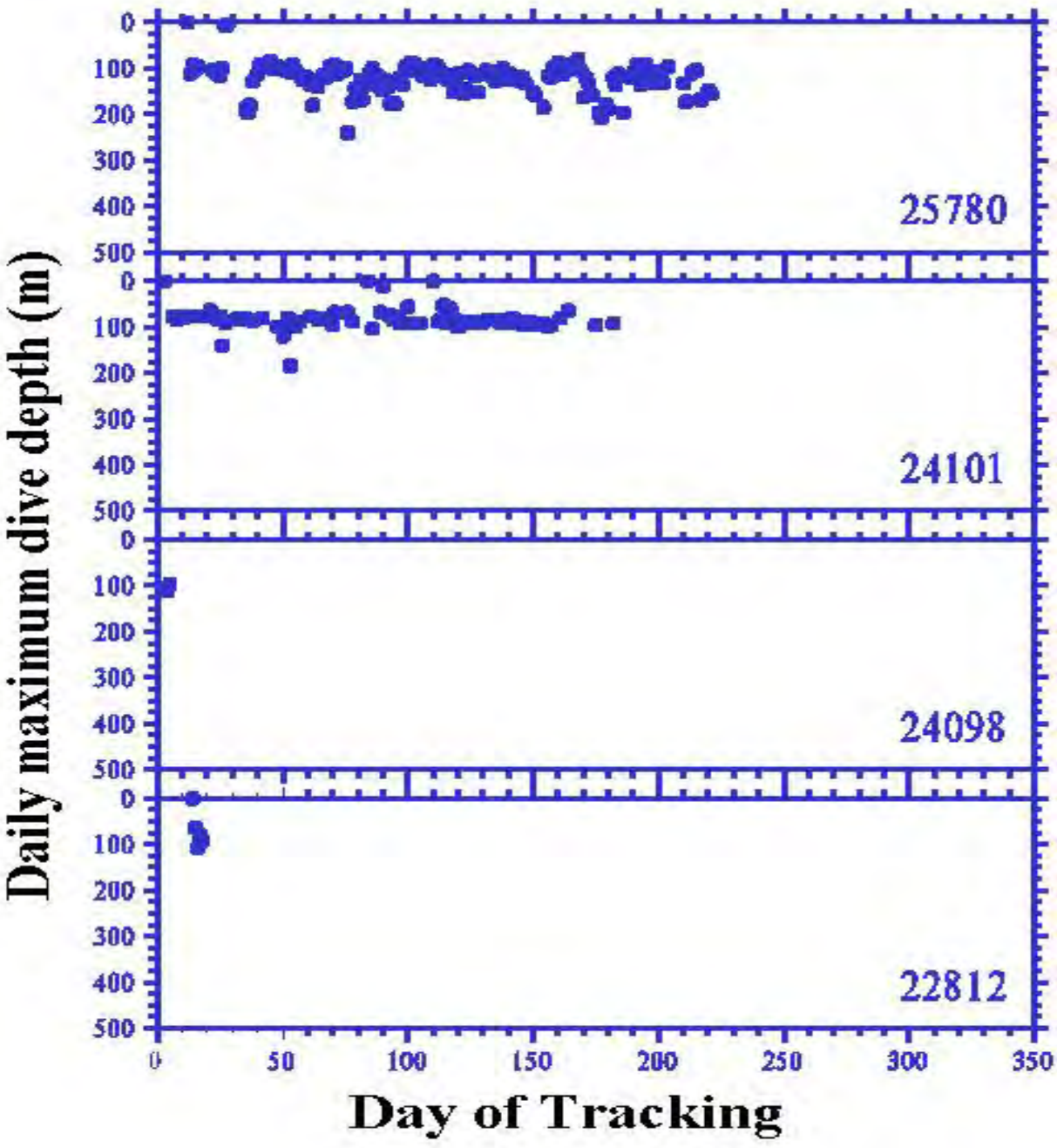


Figure 15. Daily maximum dive depths of juvenile male Hawaiian monk seals at Kure Atoll, 2001-2002.

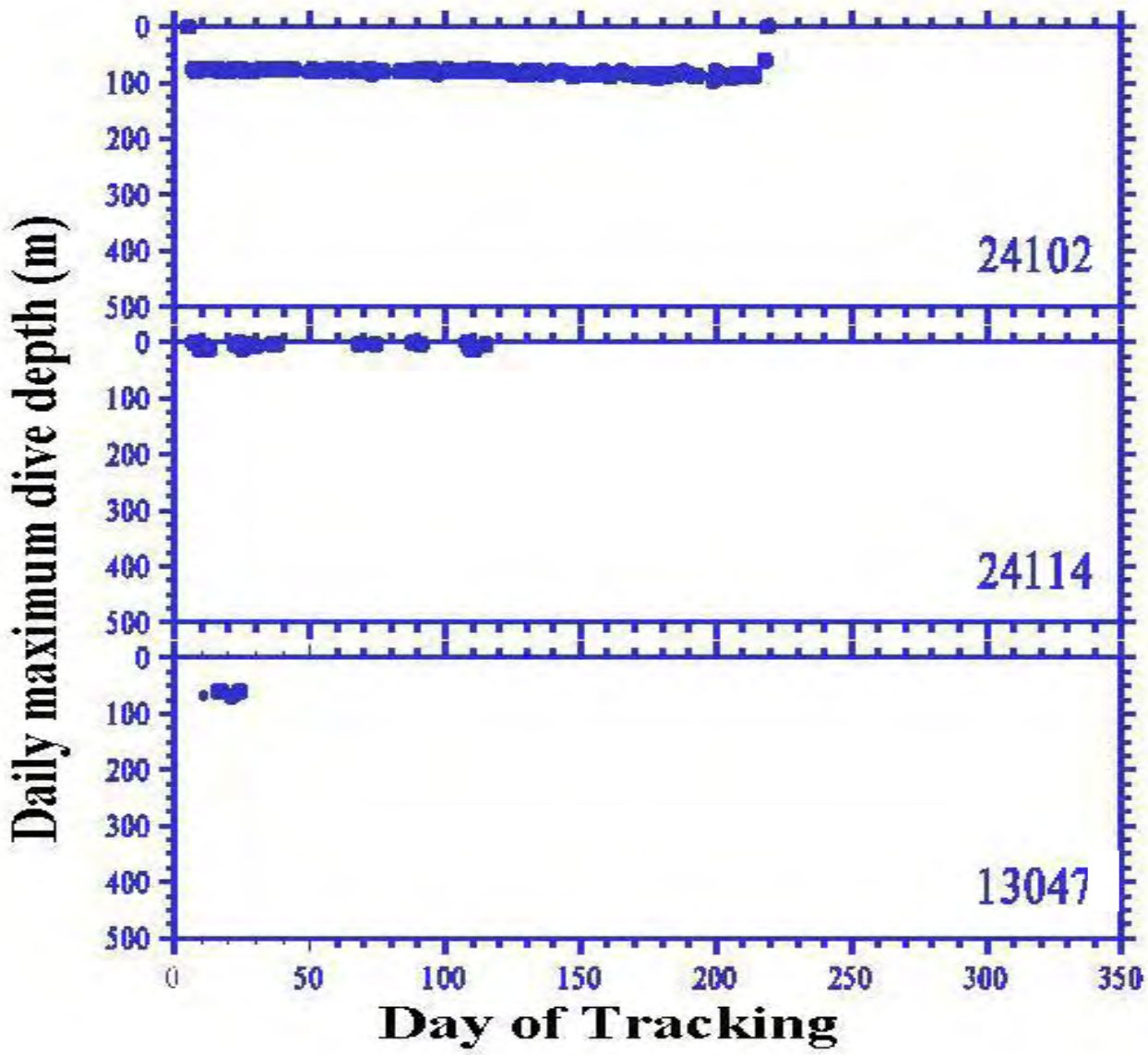


Figure 16. Daily maximum dive depths of juvenile Hawaiian monk seal males at Kure Atoll, 2001-2002.

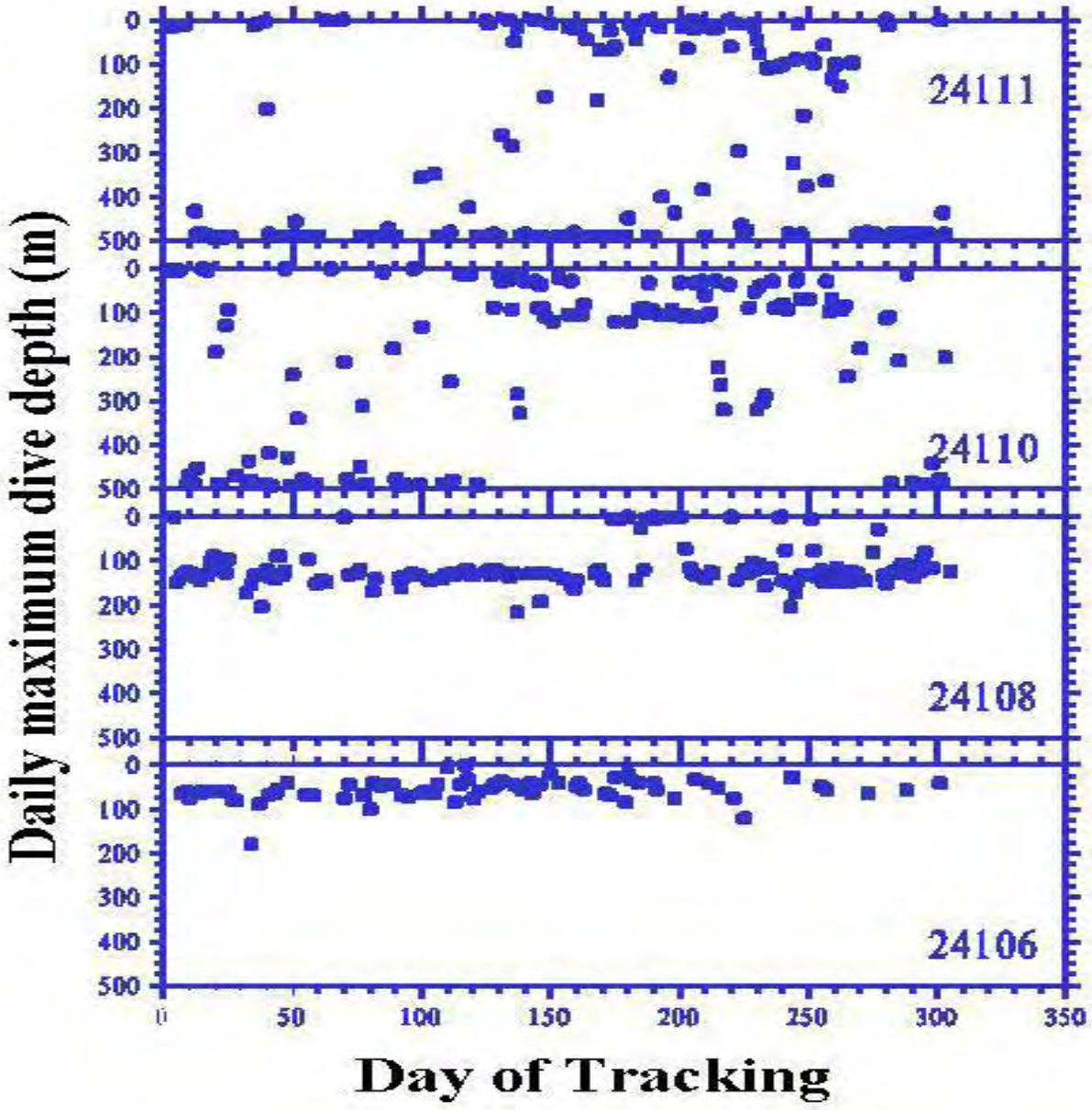


Figure 17. Daily maximum dive depths of adult male Hawaiian monk seals at Kure Atoll, 2001-2002.

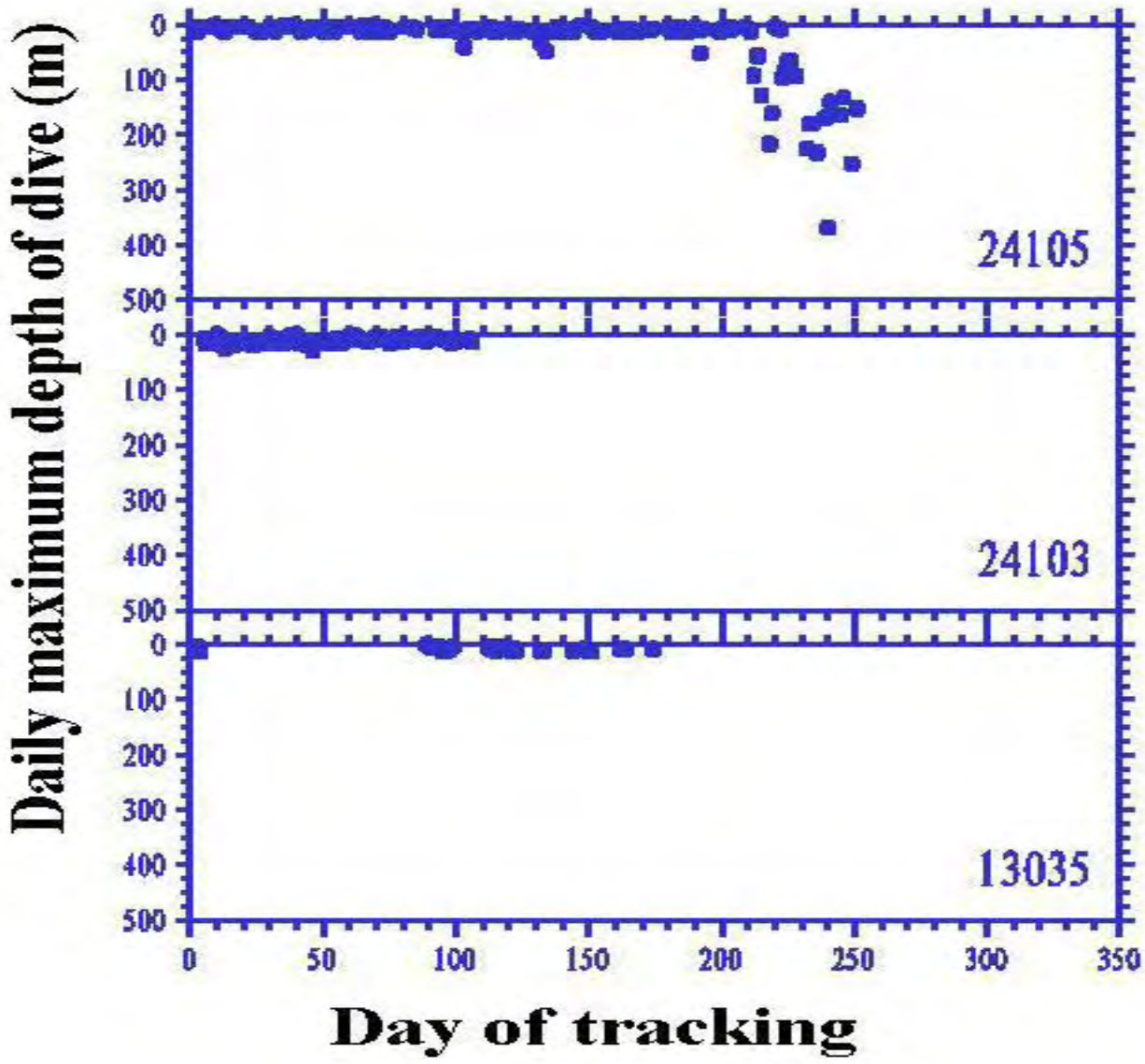


Figure 18. Daily maximum dive depths of adult female Hawaiian monk seals at Kure Atoll, 2001-2002.

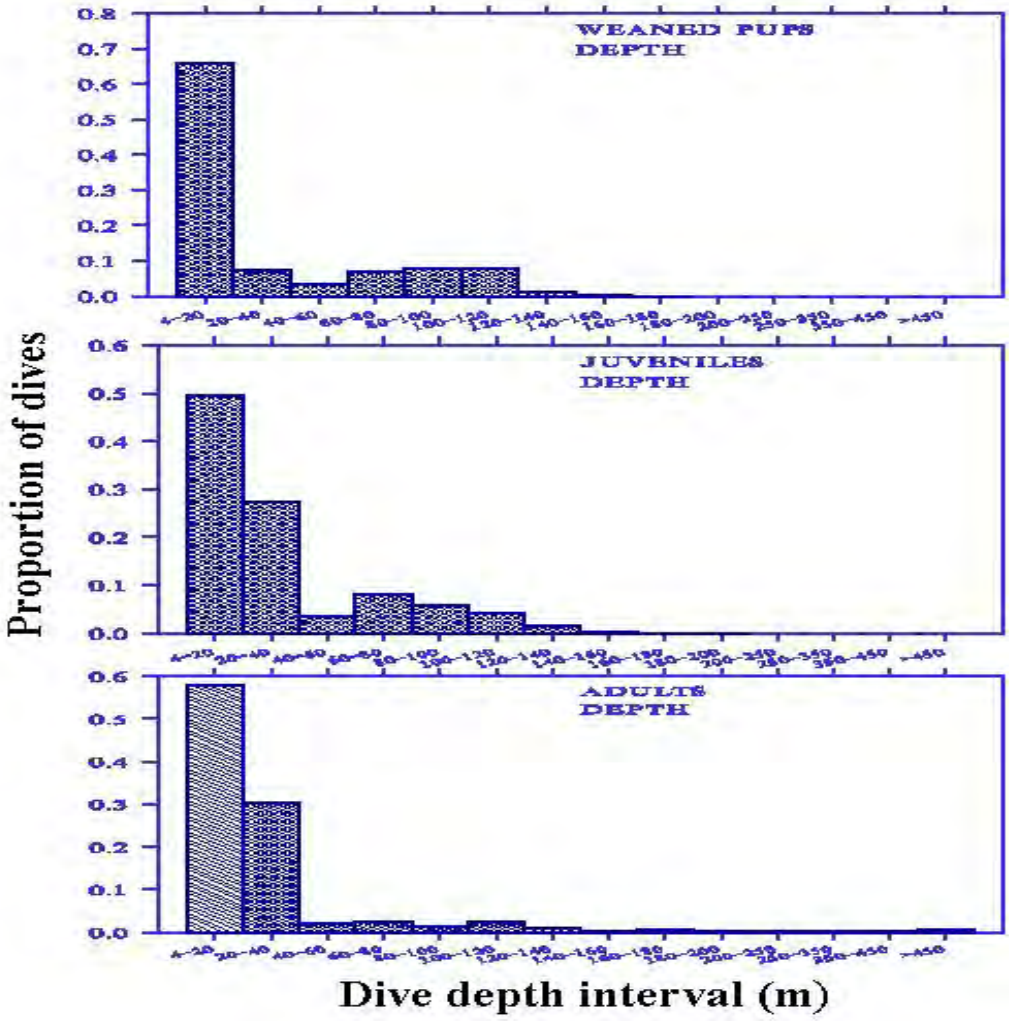
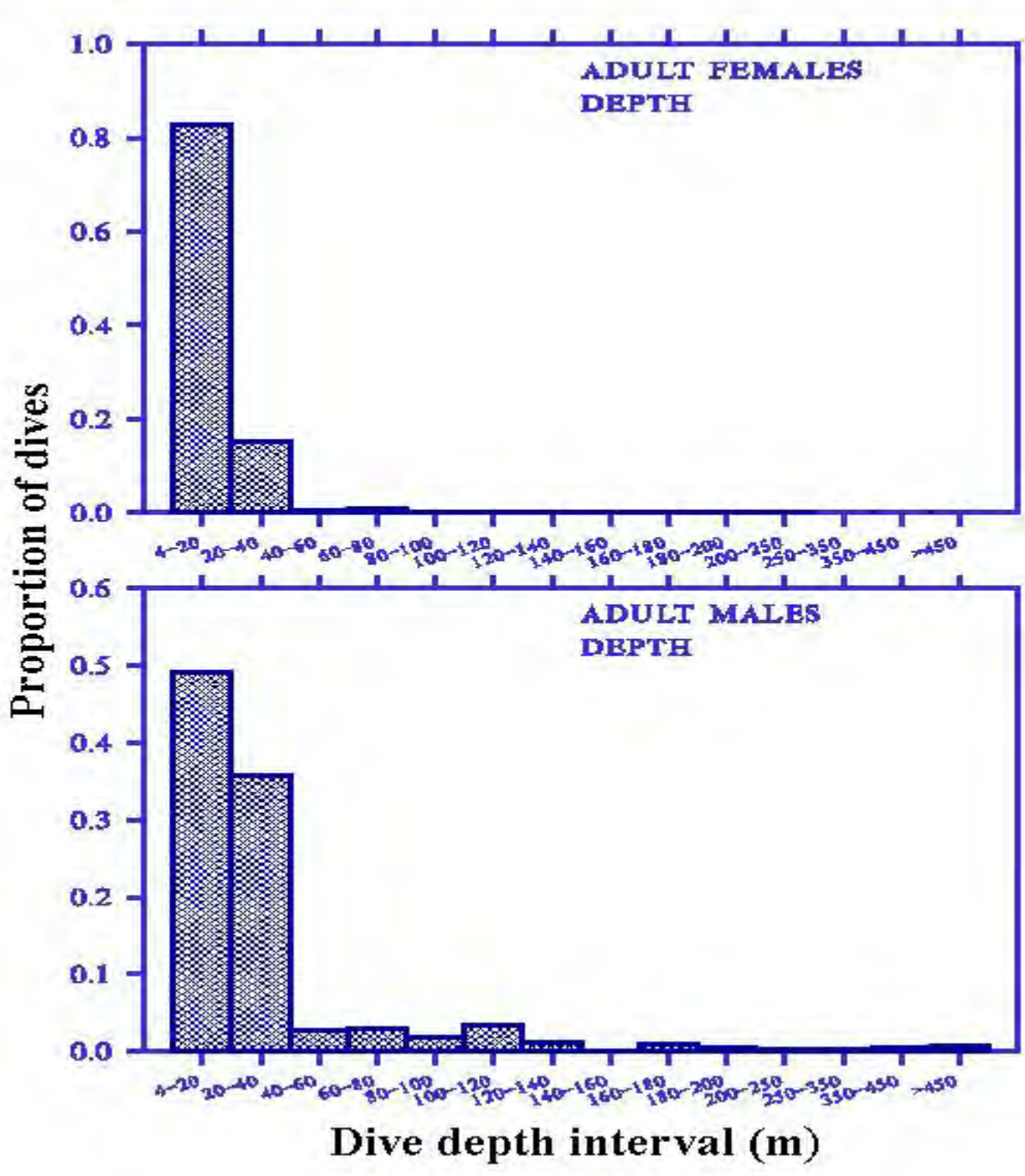


Figure 19. Patterns of dive depths of weaned pup, juvenile and adult Hawaiian monk seals from Kure Atoll, 2001-2002.



20. Patterns of diving depths of adult male and female Hawaiian monk seals from Kure Atoll, 2001-2002.

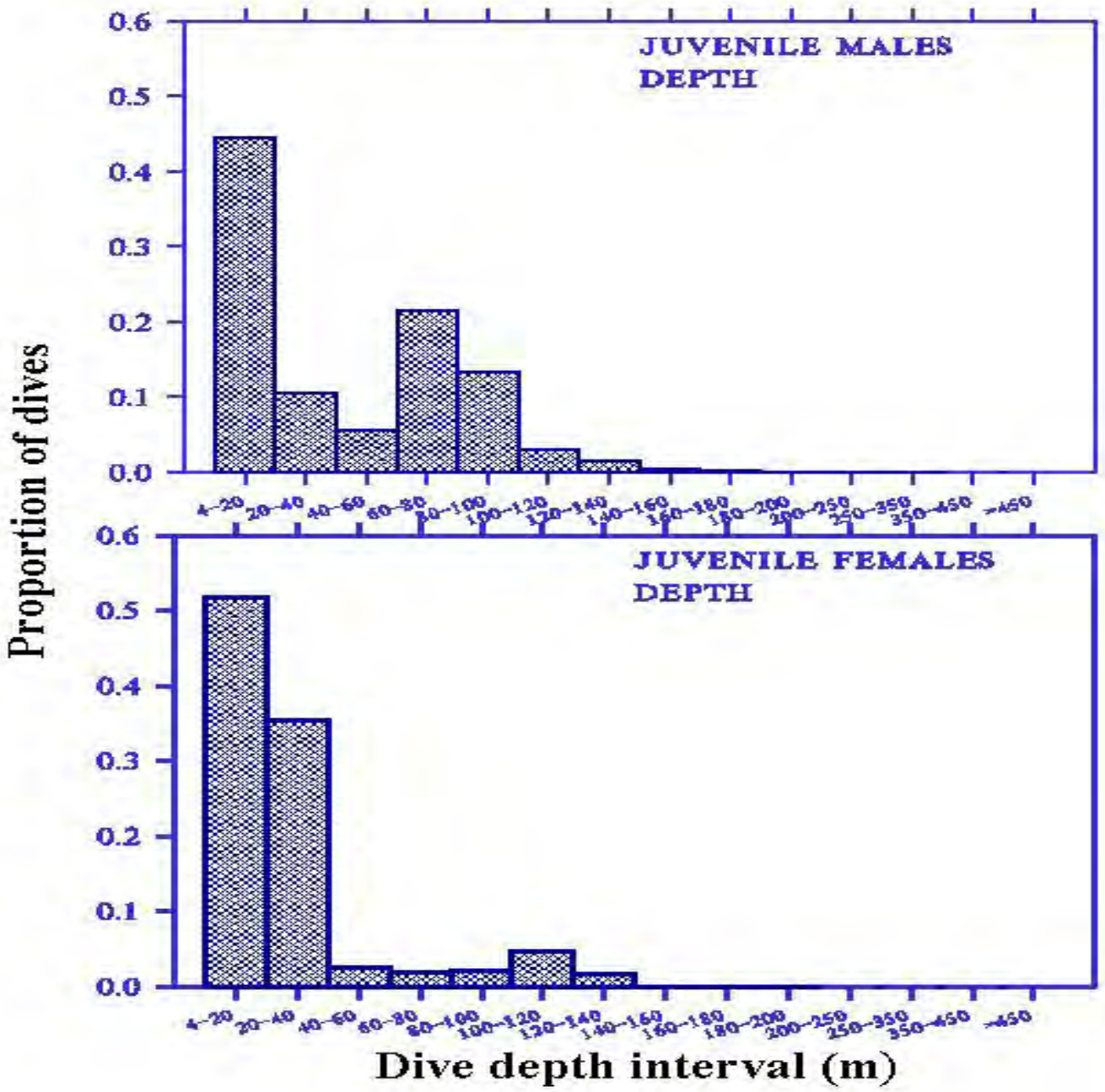


Figure 21. Patterns of dive depths of juvenile male and female Hawaiian monk seals from Kure Atoll, 2001-2002

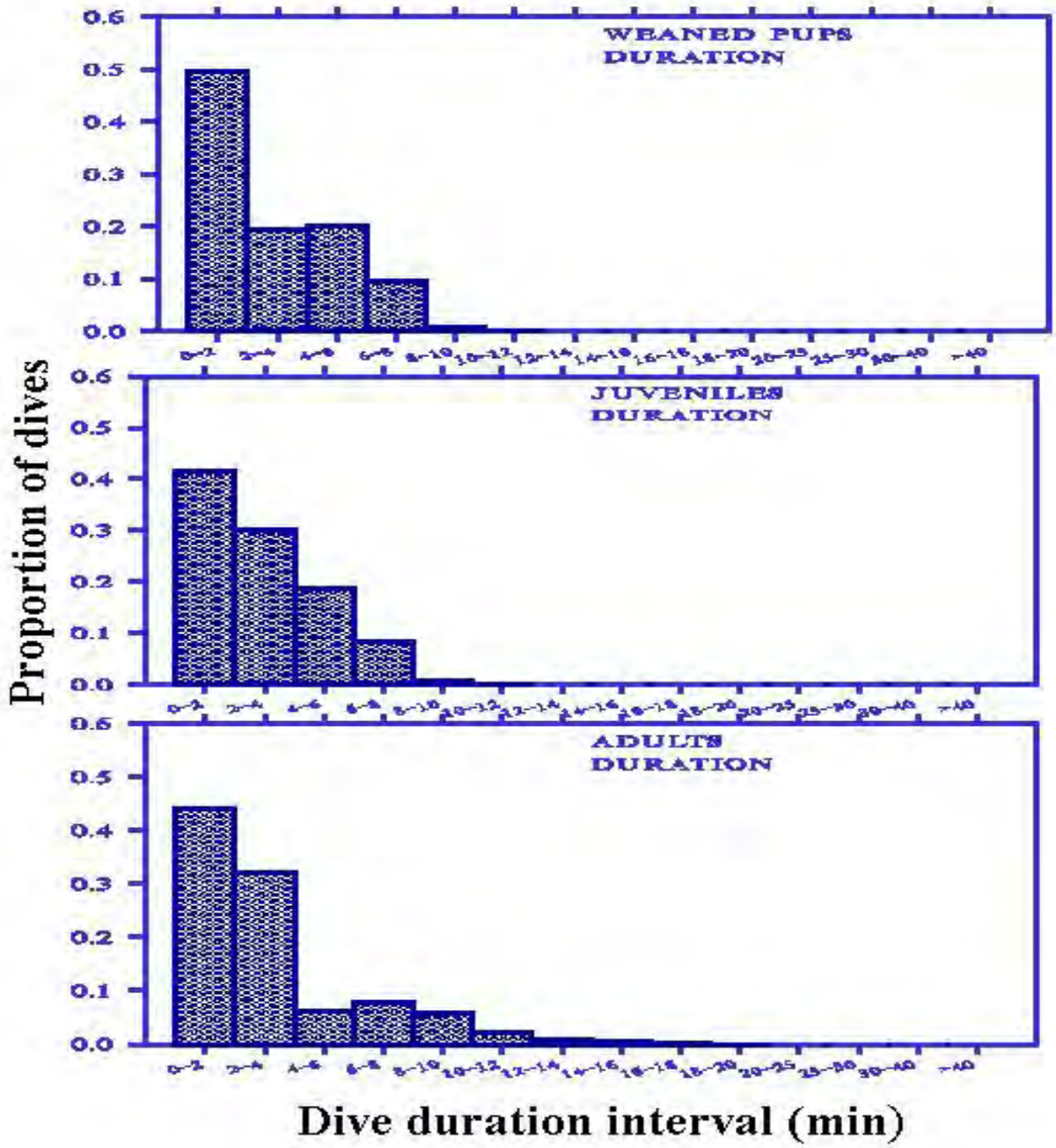


Figure 22. Patterns of durations of dives of adult male and female Hawaiian monk seals from Kure Atoll, 2001-2002

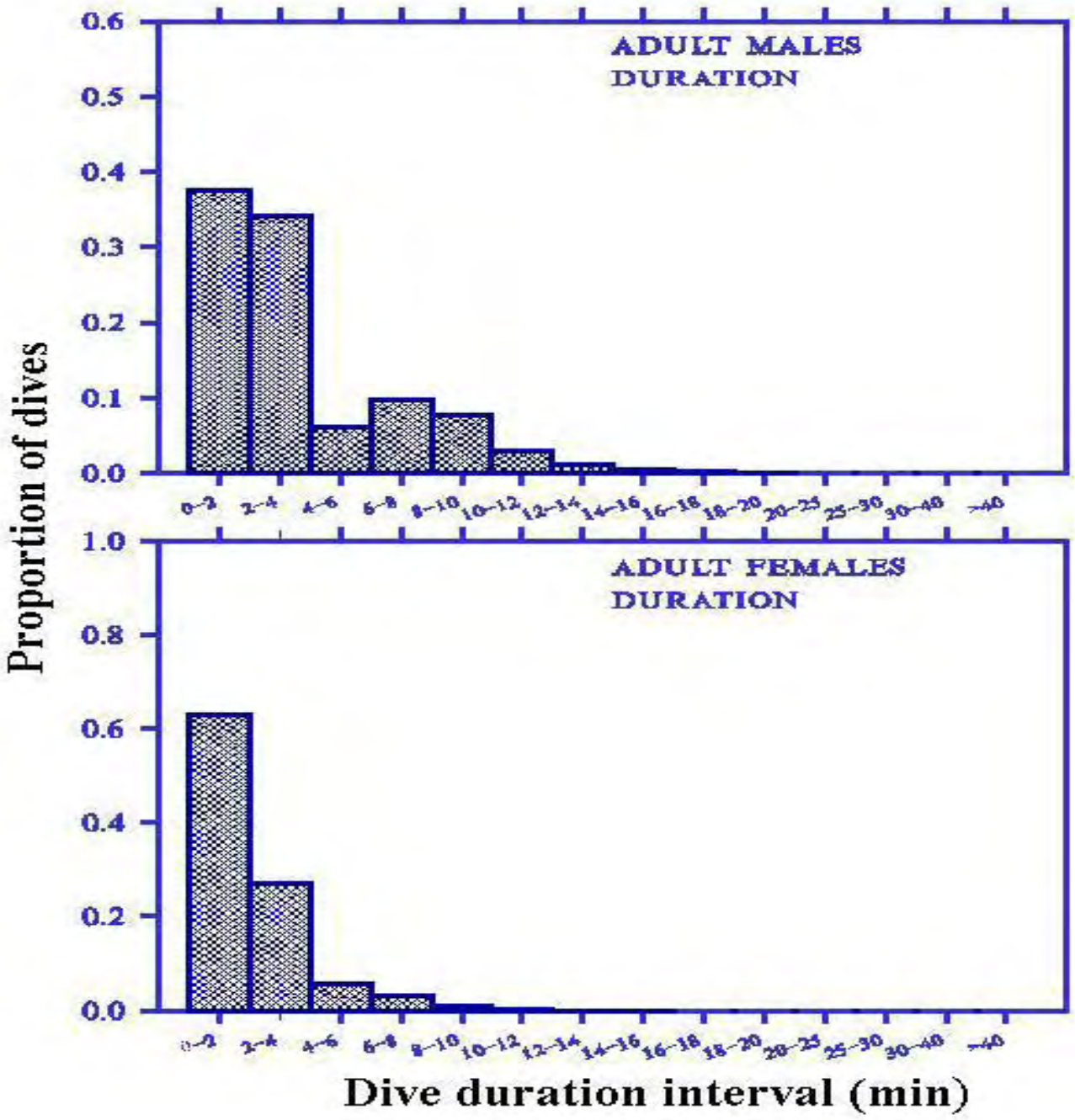


Figure 23. Patterns of durations of dives of adult male and female Hawaiian monk seals from Kure Atoll, 2001-2002

Figure 24. Patterns of durations of dives of juvenile male and female Hawaiian monk seals from Kure Atoll, 2001-2002

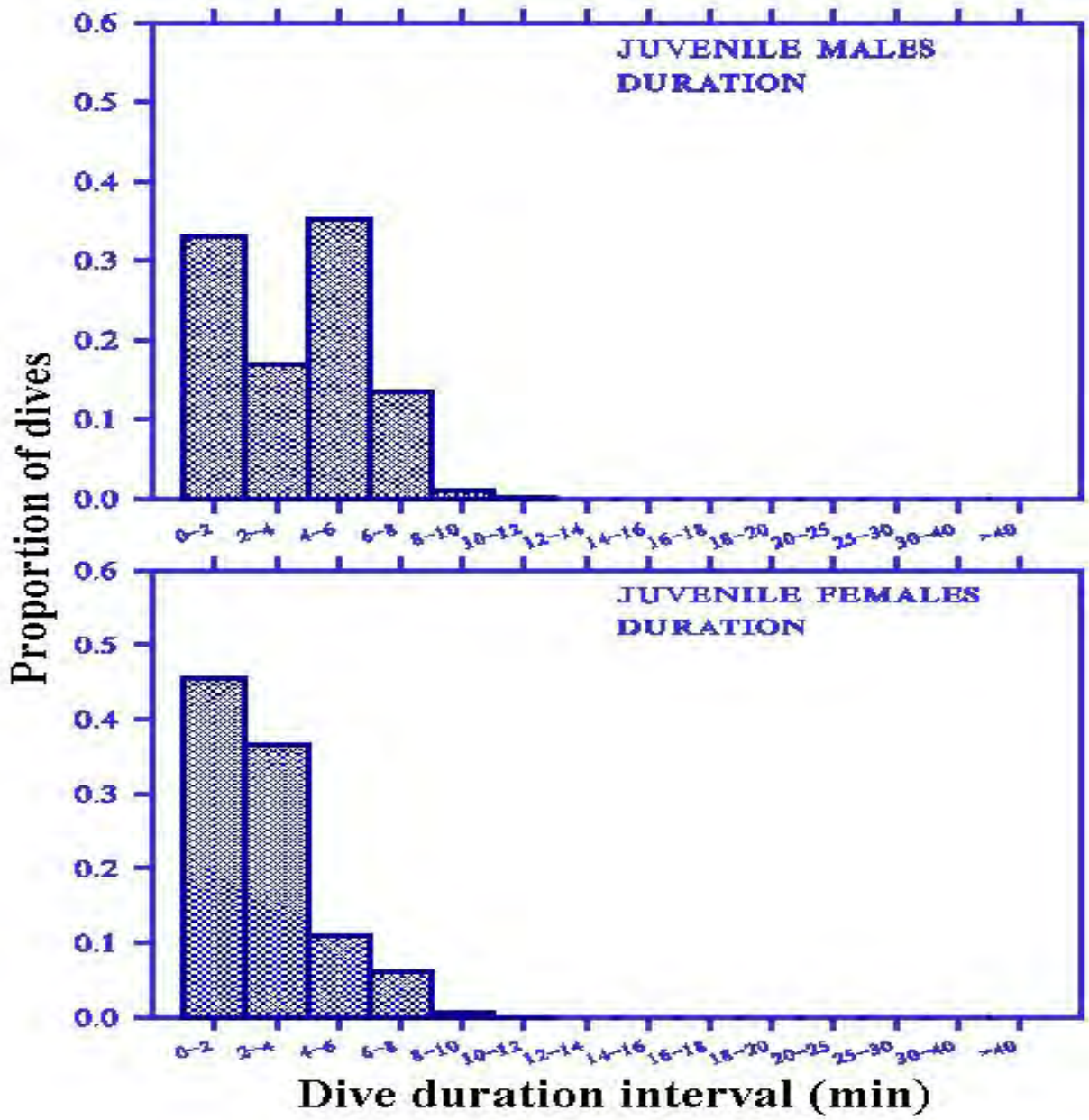


Figure 25. Patterns of time at depth for dives of weaned pup, juvenile and adult Hawaiian monk seals from Kure Atoll, 2001-2002

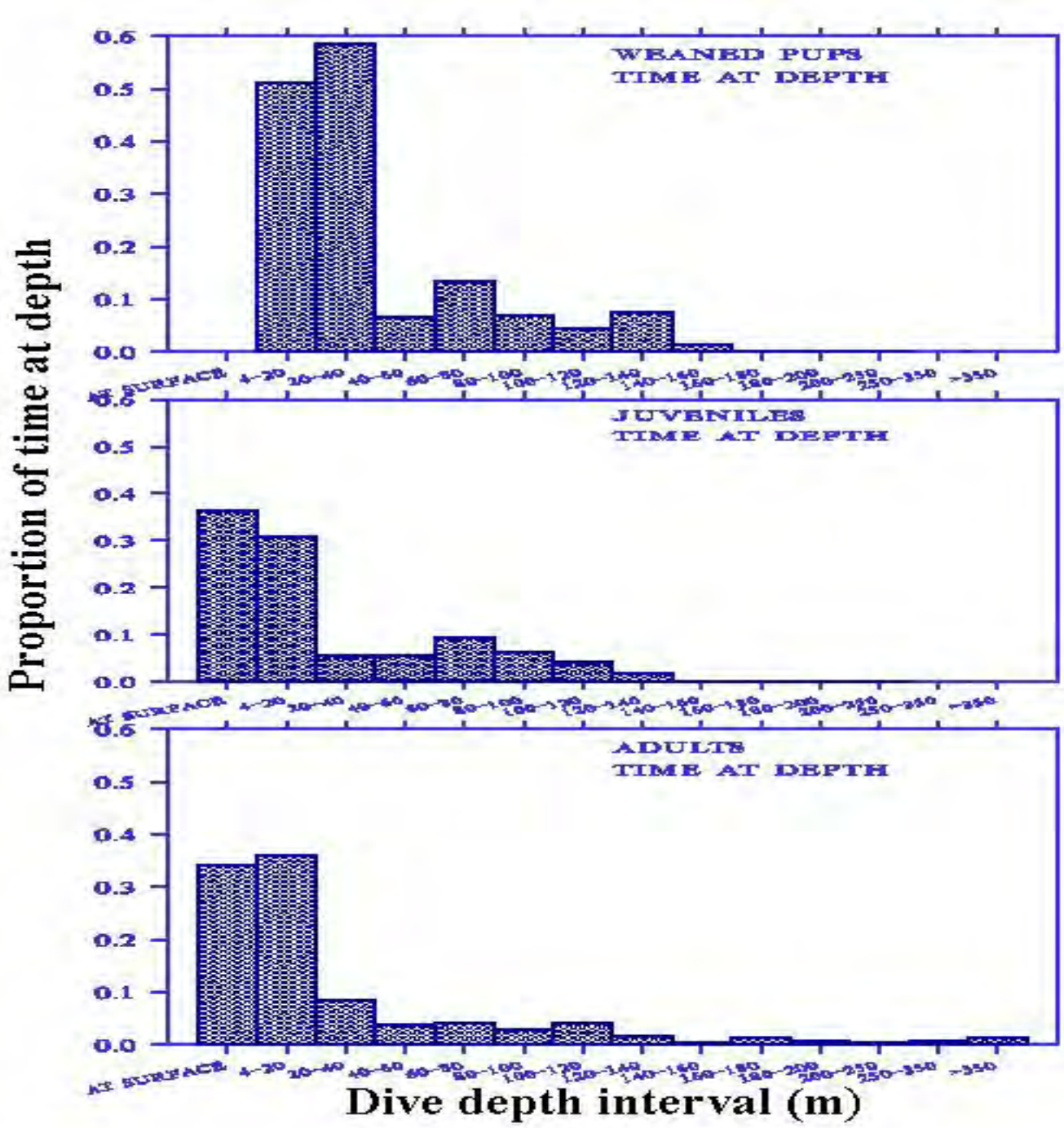


Figure 26. Patterns of time at depth for adult male and female Hawaiian monk seals from Kure Atoll, 2001-2002

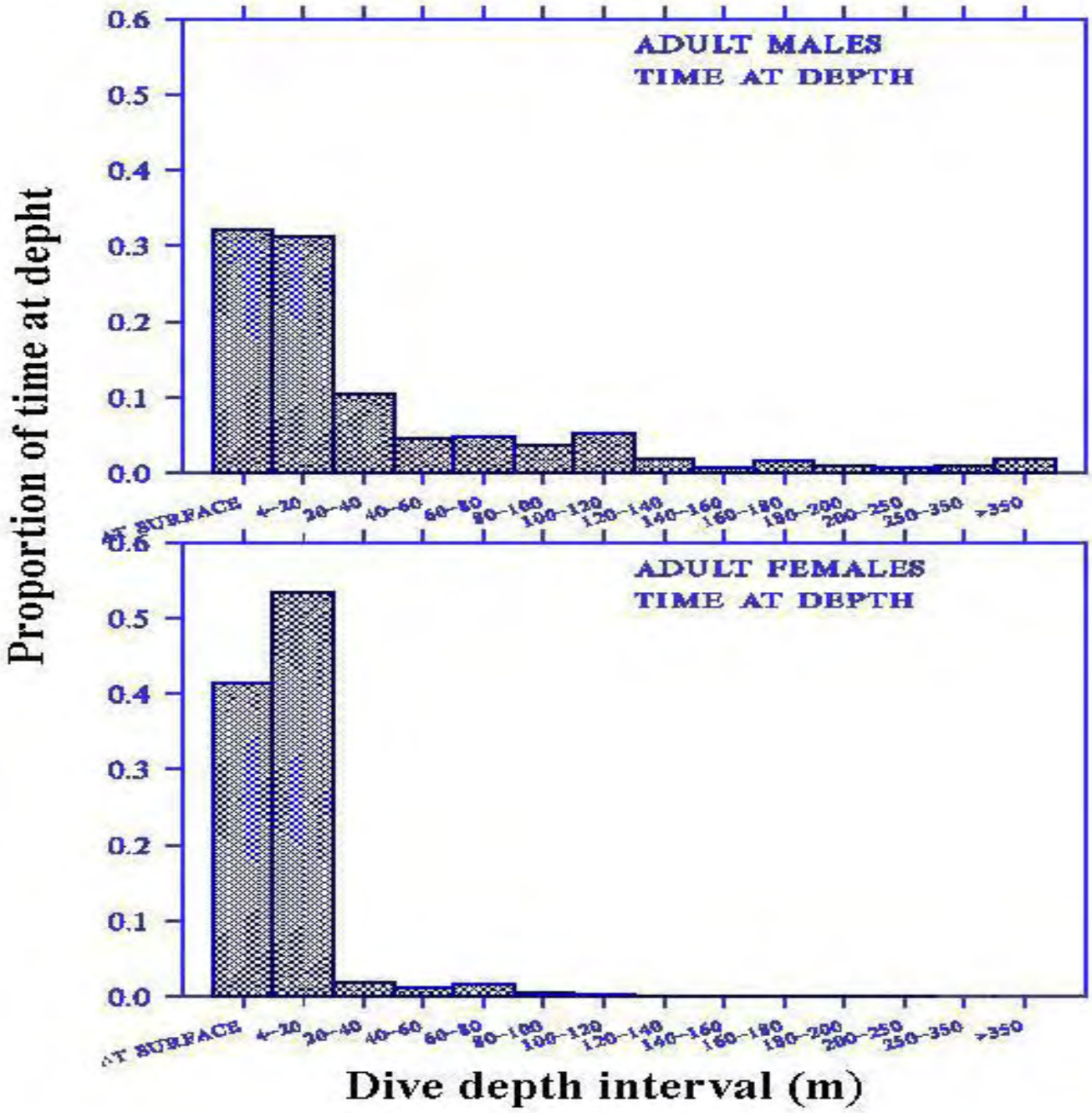
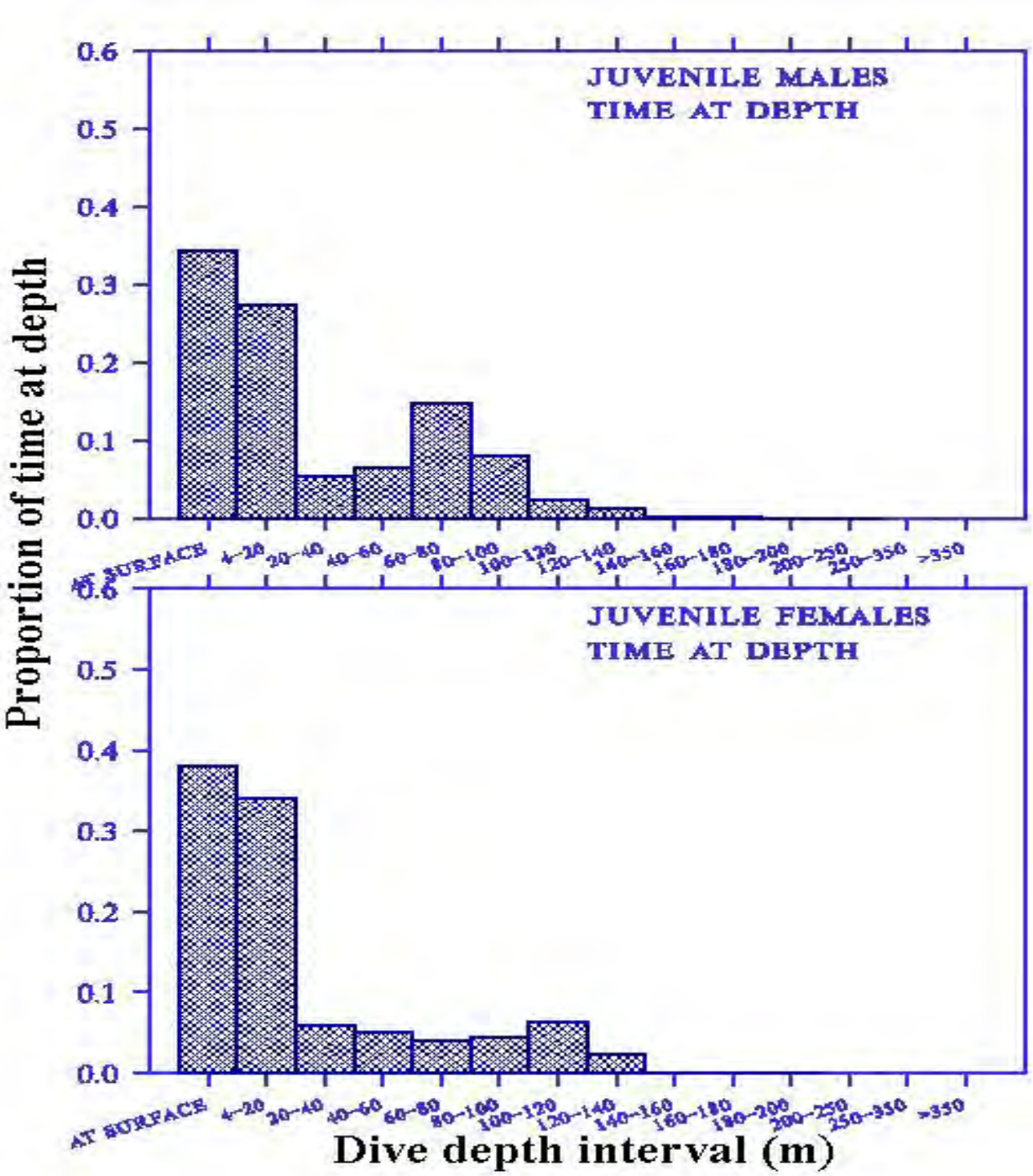


Figure 27. Patterns of time at depth for dives of juvenile male and female Hawaiian monk seals from Kure Atoll, 2001-2002



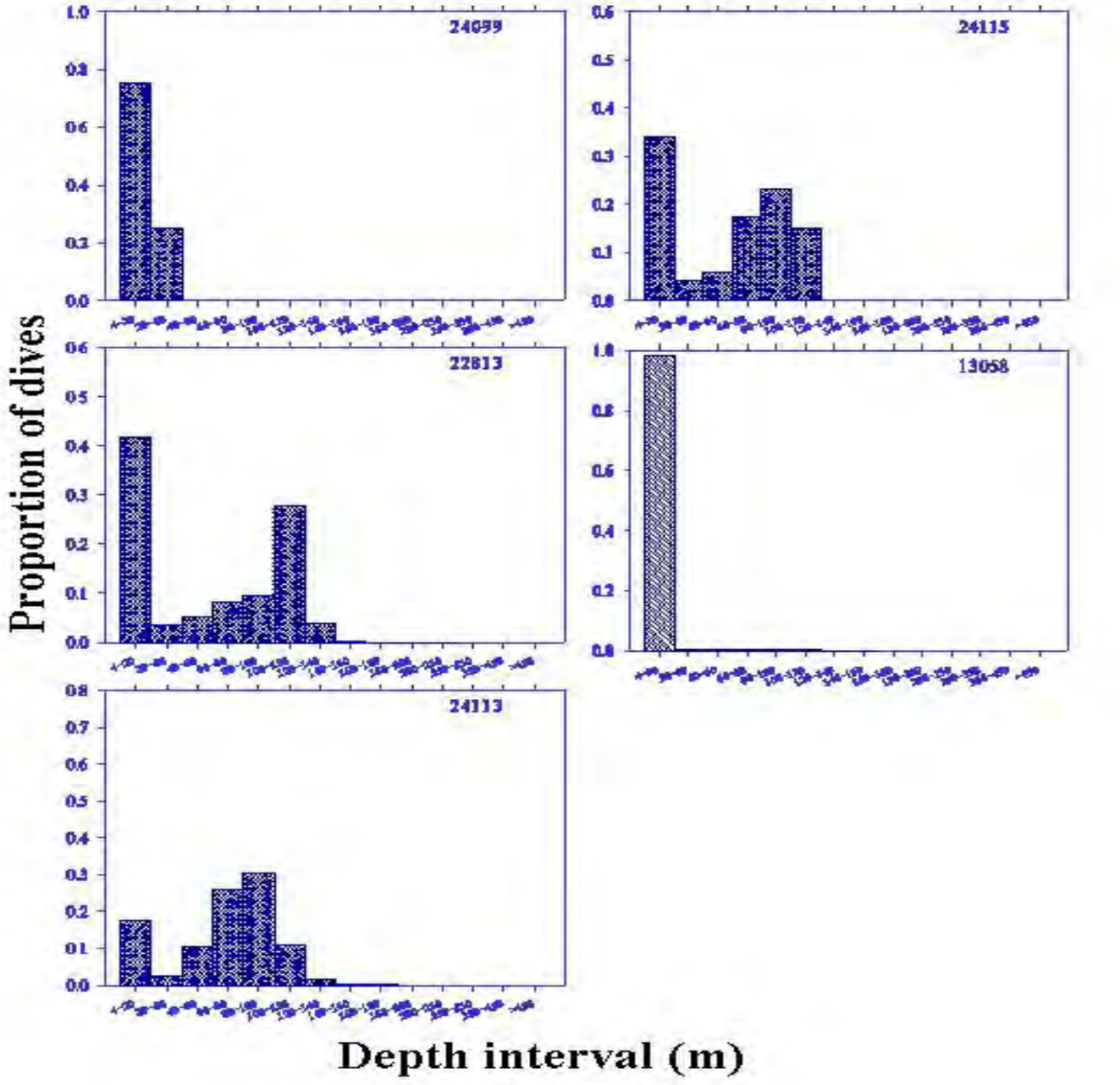


Figure 28. Patterns of dive depths of weaned Hawaiian monk seal pups from Kure Atoll, 2001-2002.

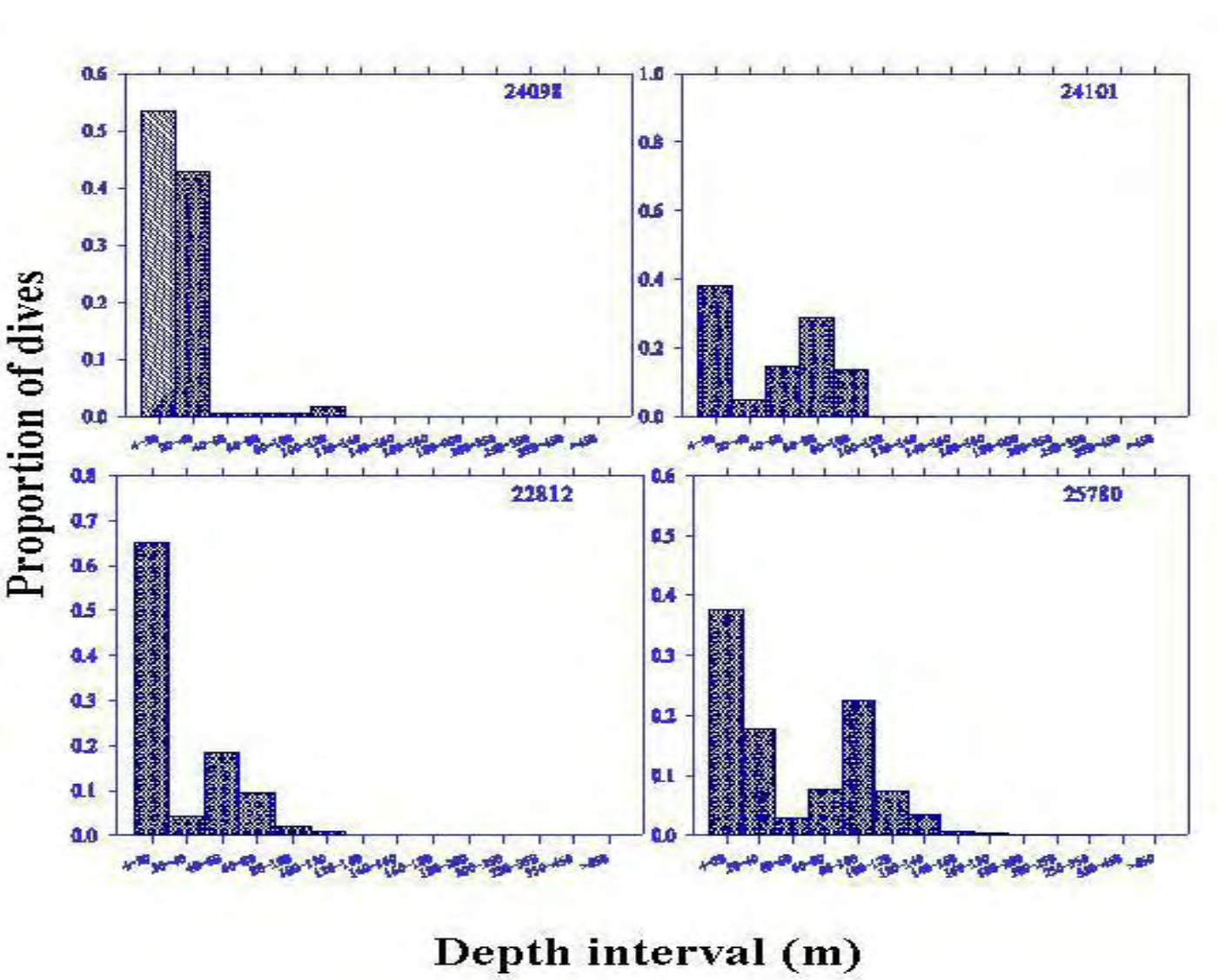


Figure 29. Patterns of dive depths of juvenile male Hawaiian monk seals from Kure Atoll, 2001-2002.

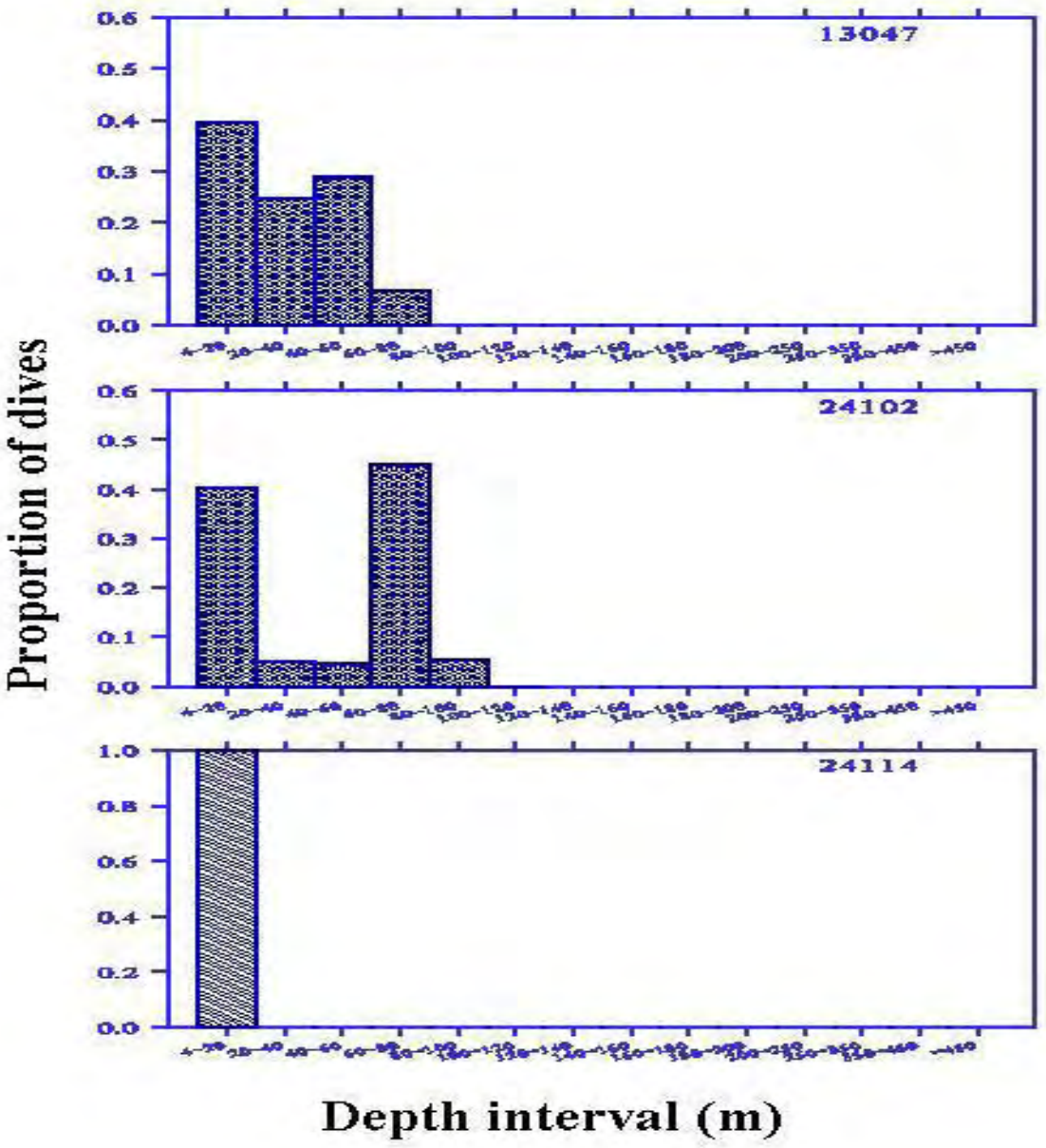


Figure 30. Patterns of dive depths of juvenile male Hawaiian monk seals from Kure Atoll, 2001-2002.

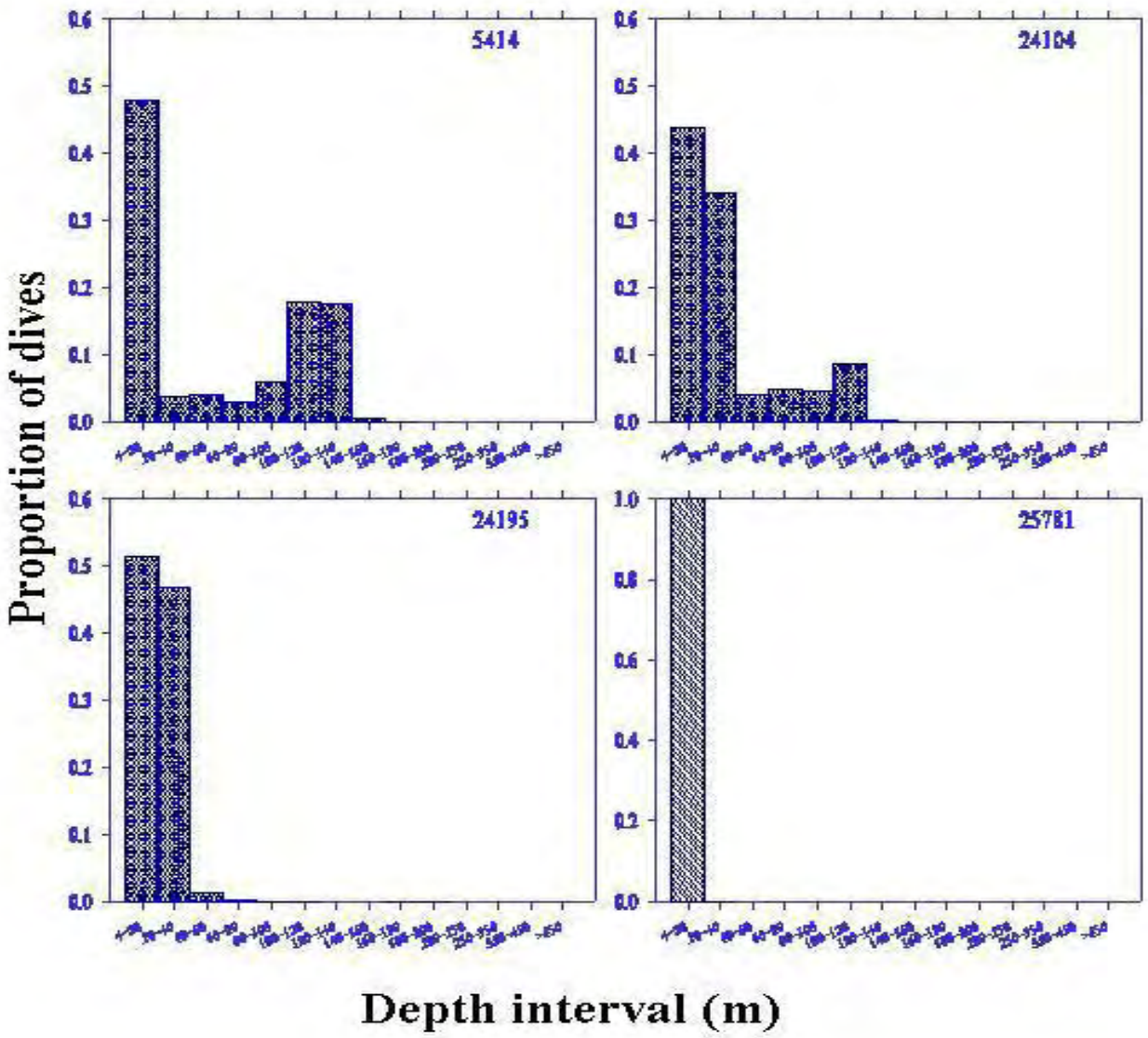


Figure 31. Patterns of dive depths of juvenile female Hawaiian monk seals from Kure Atoll, 2001-2002.

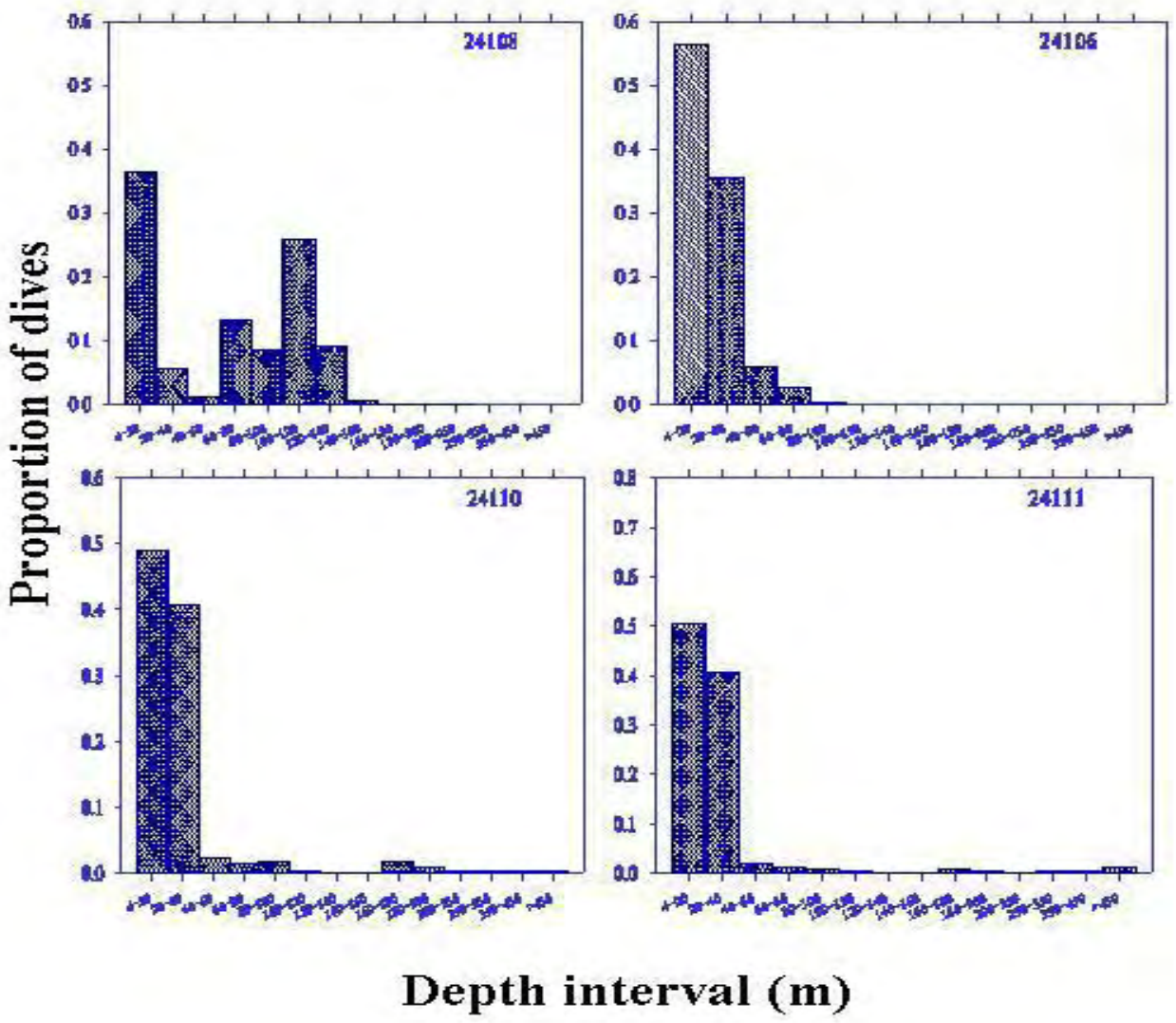


Figure 32. Patterns of dive depths of adult male Hawaiian monk seals from Kure Atoll, 2001-2002.

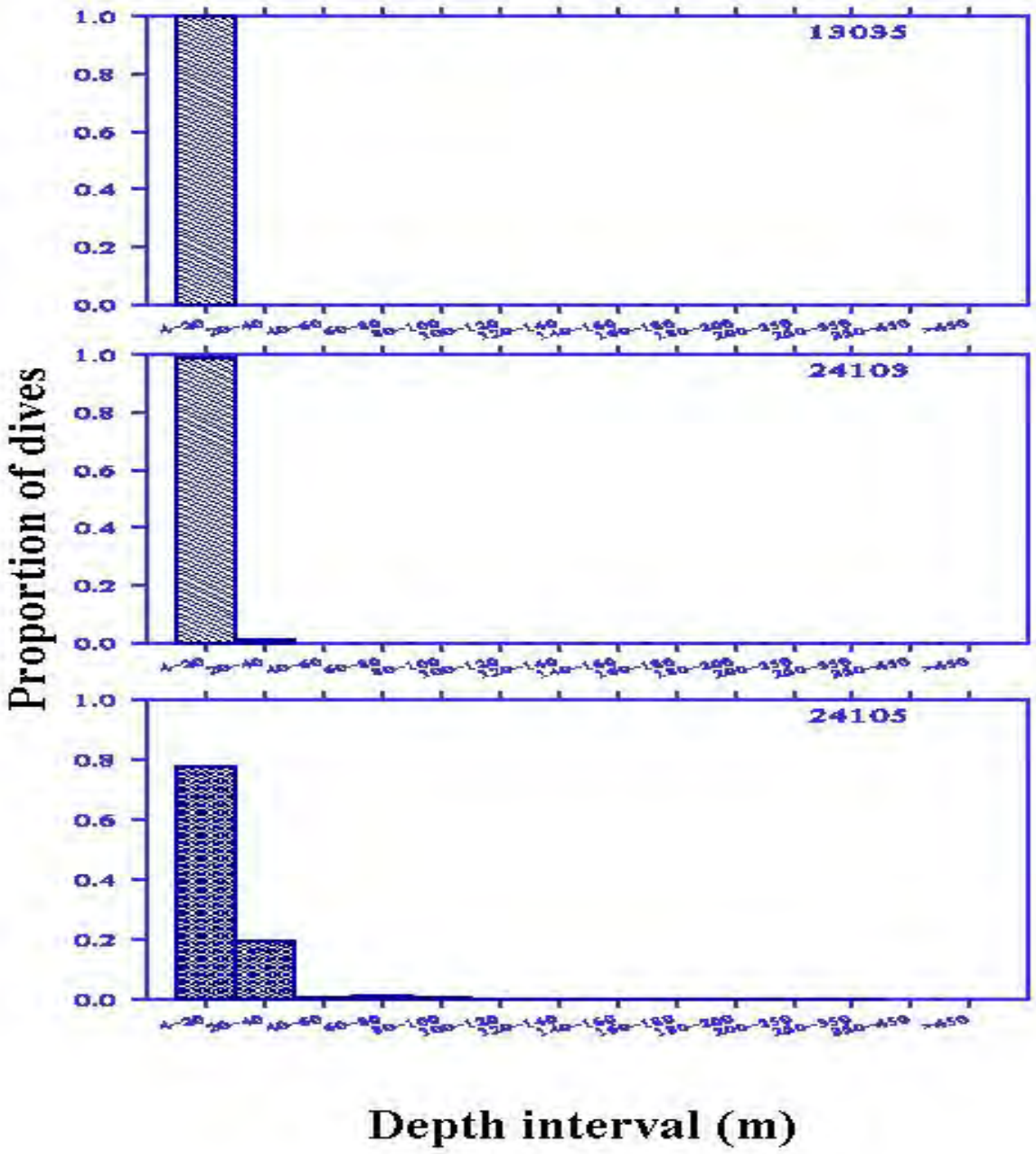


Figure 33. Patterns of dive depths of adult female Hawaiian monk seals from Kure Atoll, 2001-2002.

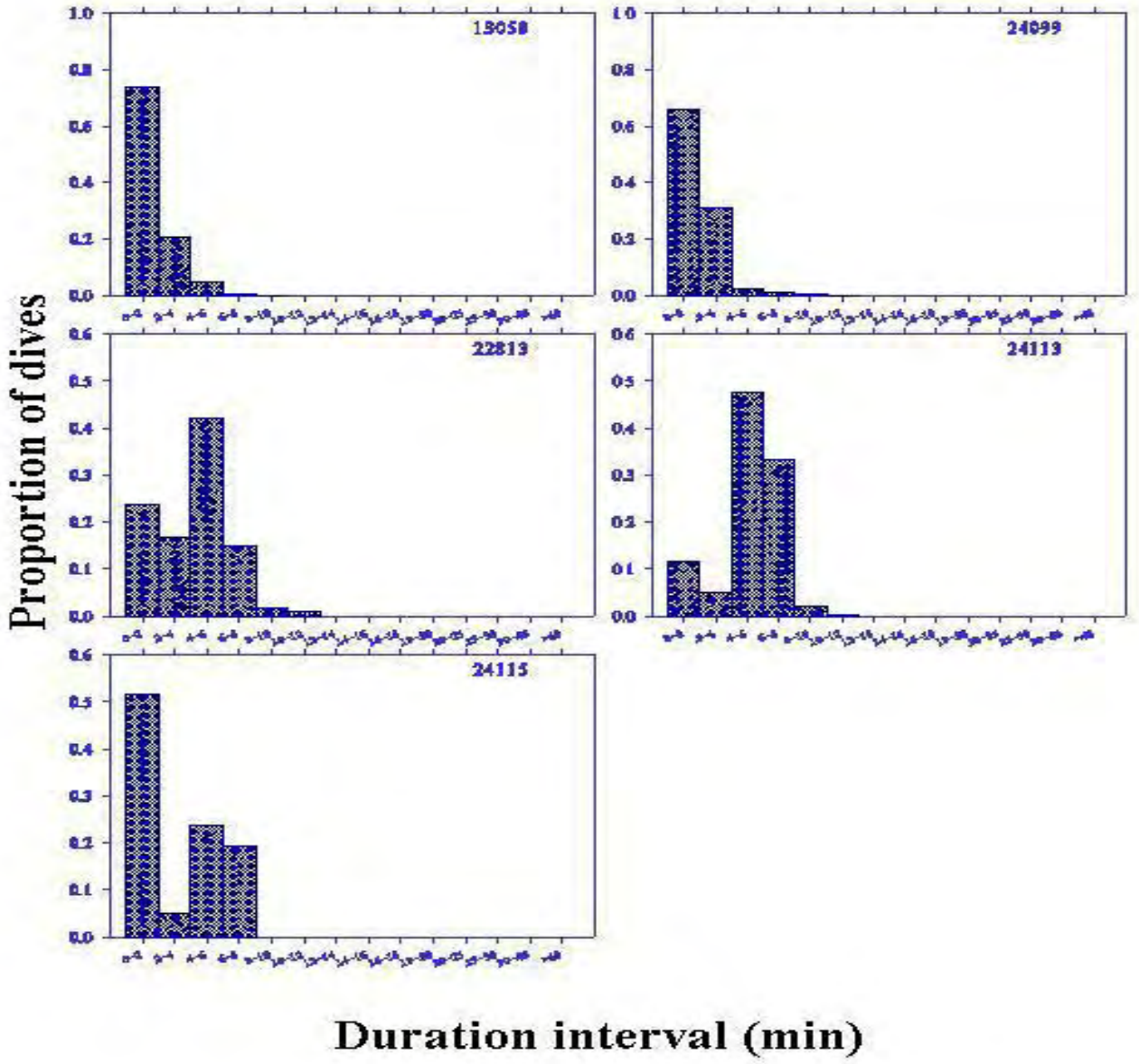


Figure 34. Patterns of dive durations of weaned Hawaiian monk seal pups from Kure Atoll, 2001-2002.

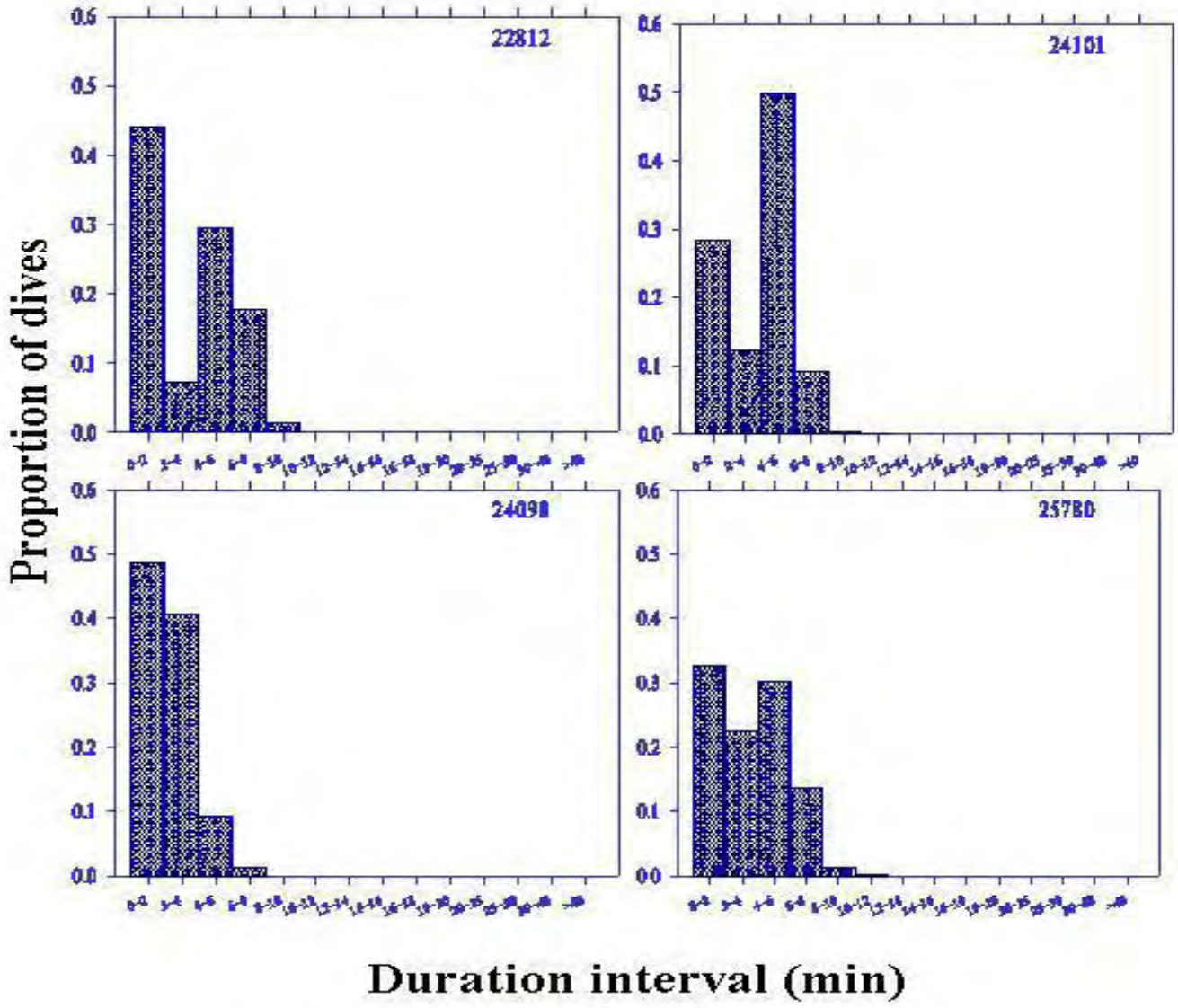


Figure 35. Patterns of dive durations of juvenile male Hawaiian monk seals from Kure Atoll, 2001-2002.

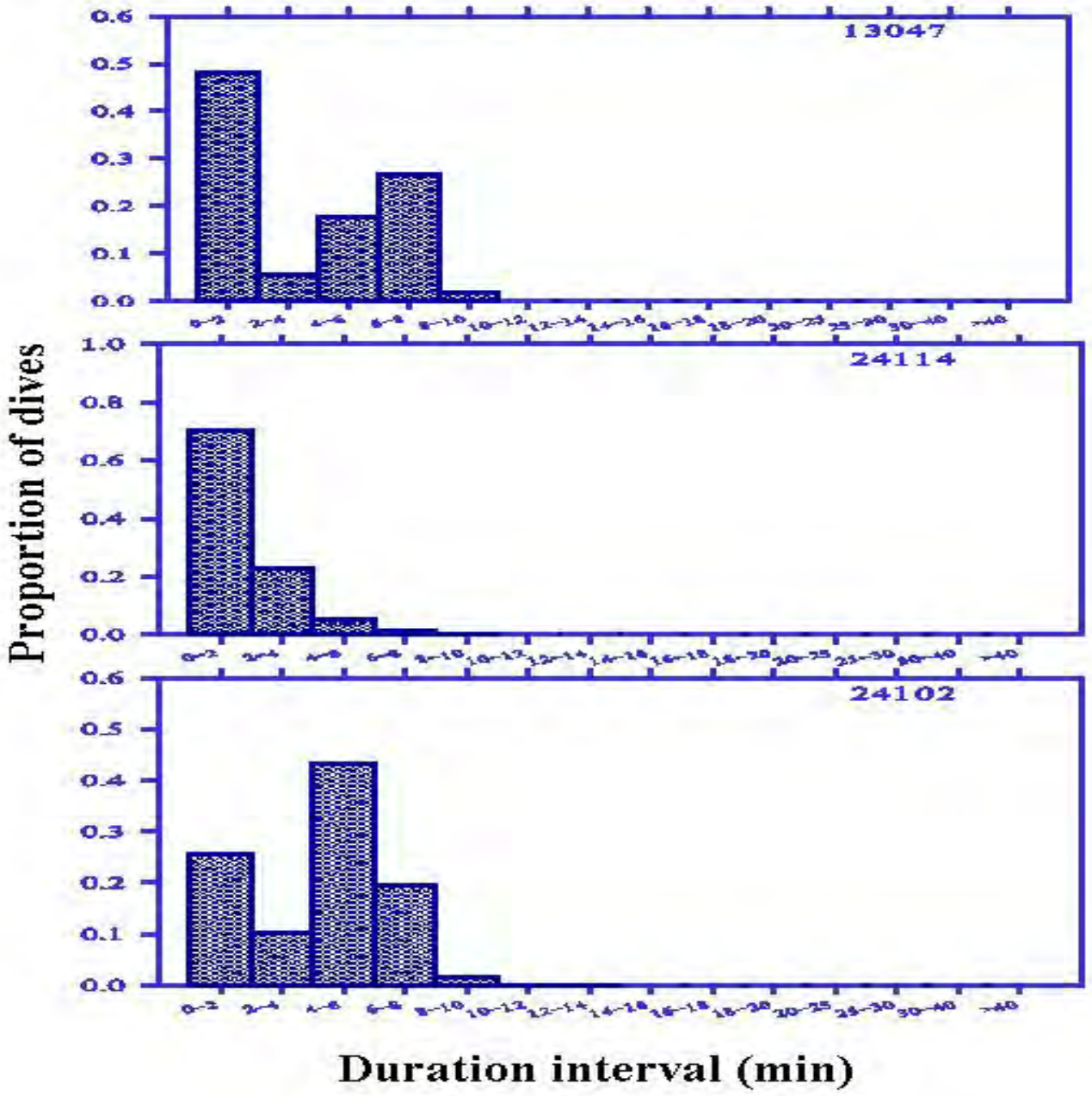


Figure 36. Patterns of dive durations of juvenile male Hawaiian monk seals from Kure Atoll, 2001-2002.

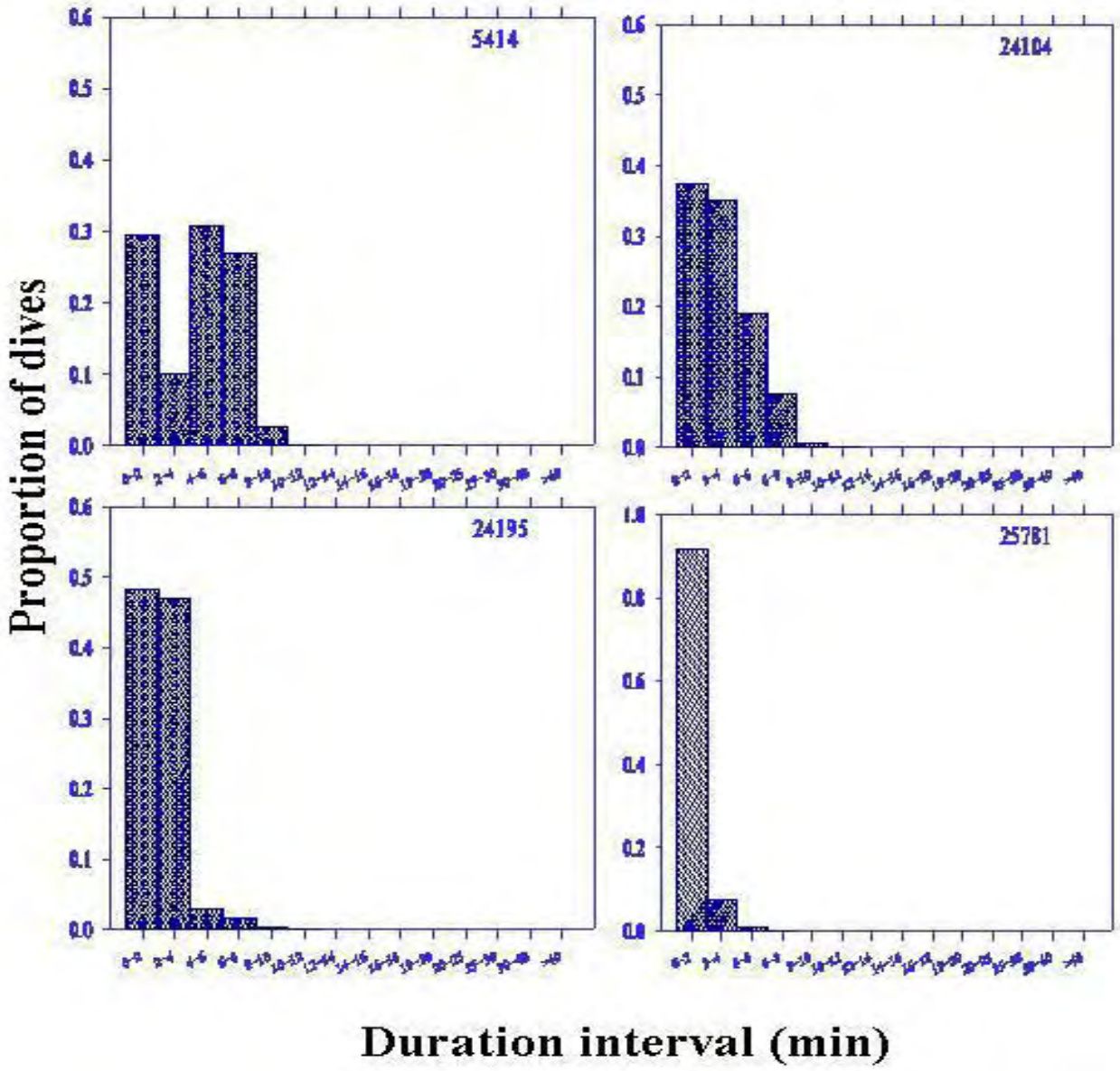


Figure 37. Patterns of dive durations of juvenile female Hawaiian monk seals from Kure Atoll, 2001-2002.

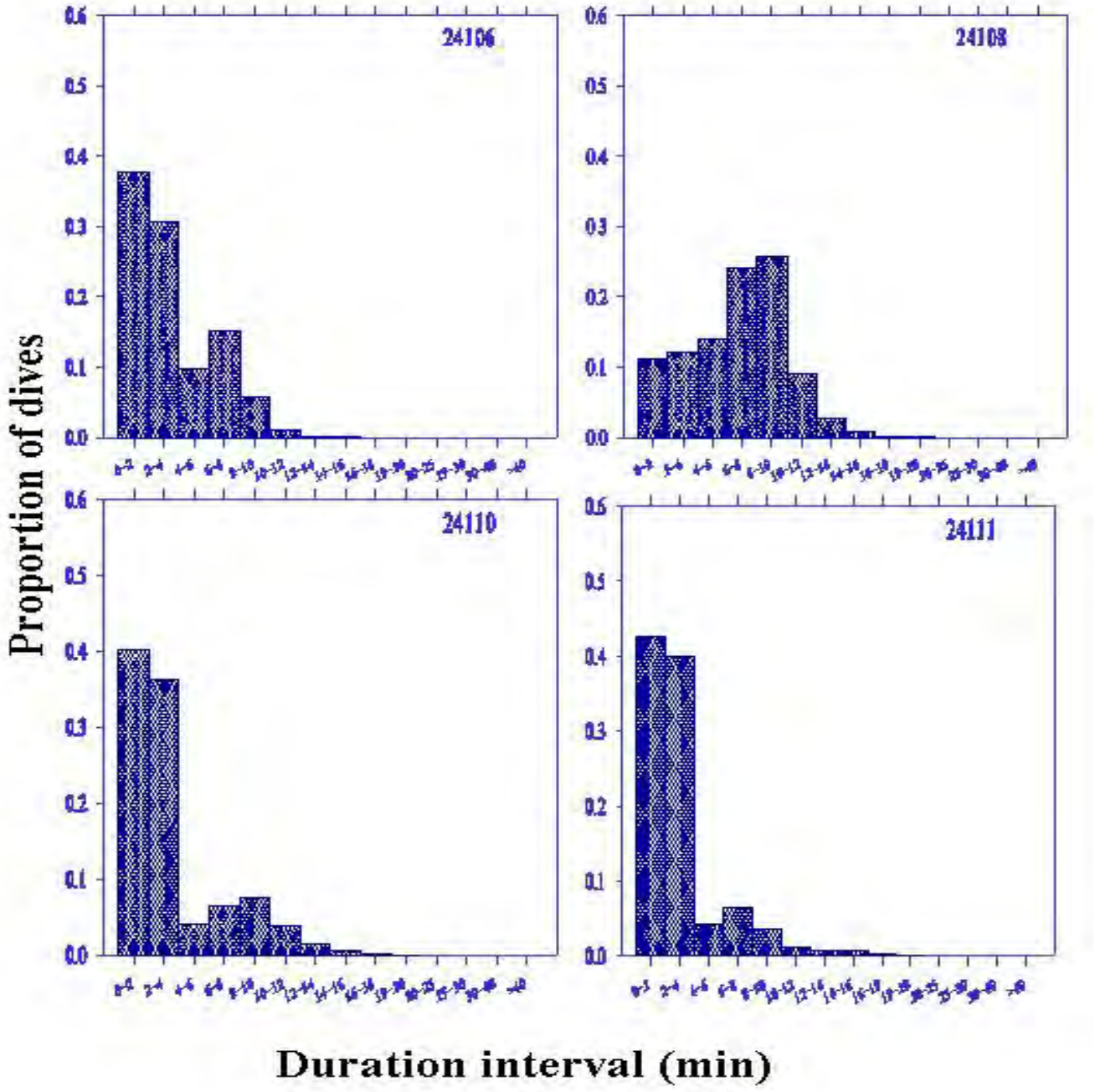


Figure 38. Patterns of dive durations of adult male Hawaiian monk seals from Kure Atoll, 2001-2002.

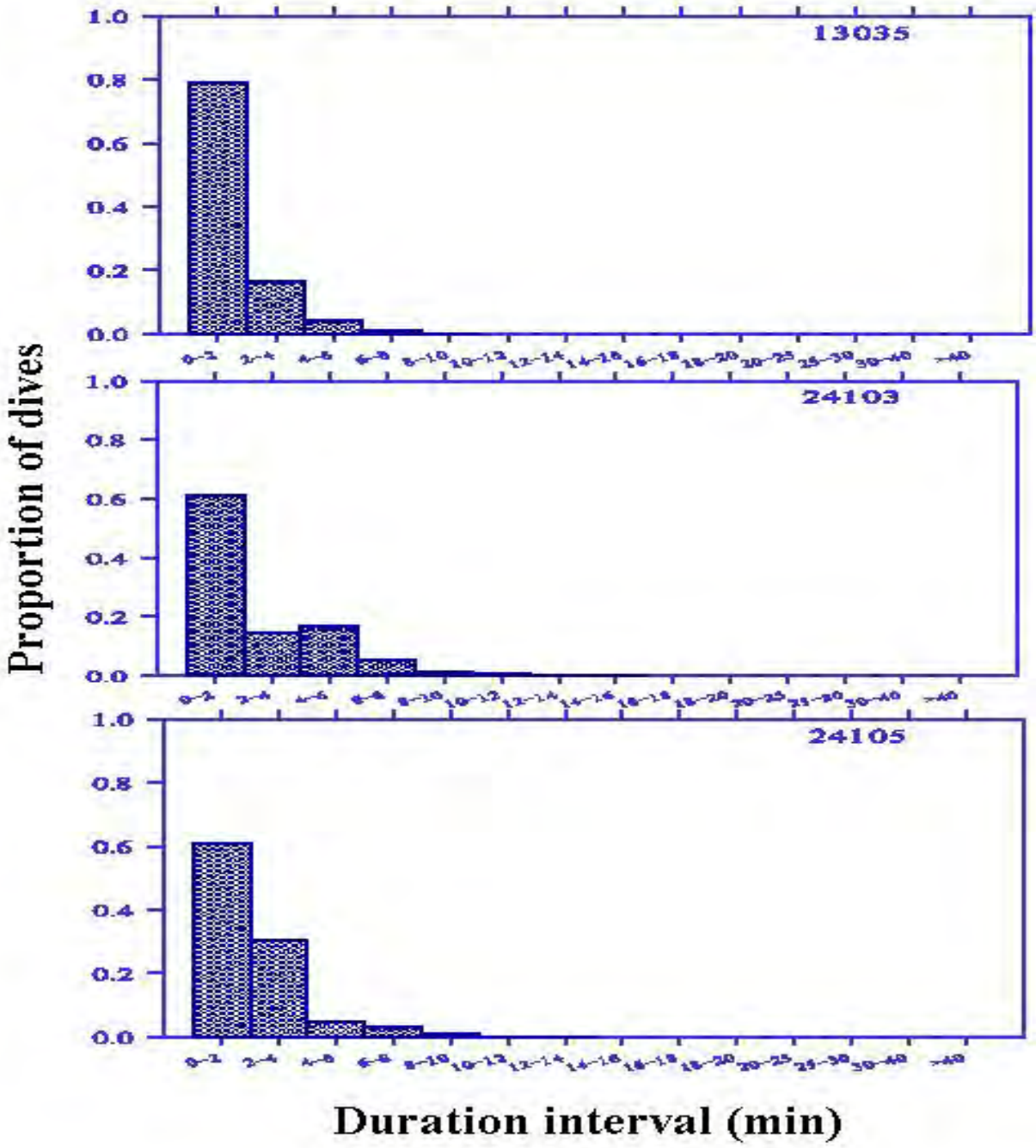


Figure 39. Patterns of dive durations of adult female Hawaiian monk seals from Kure Atoll, 2001-2002.

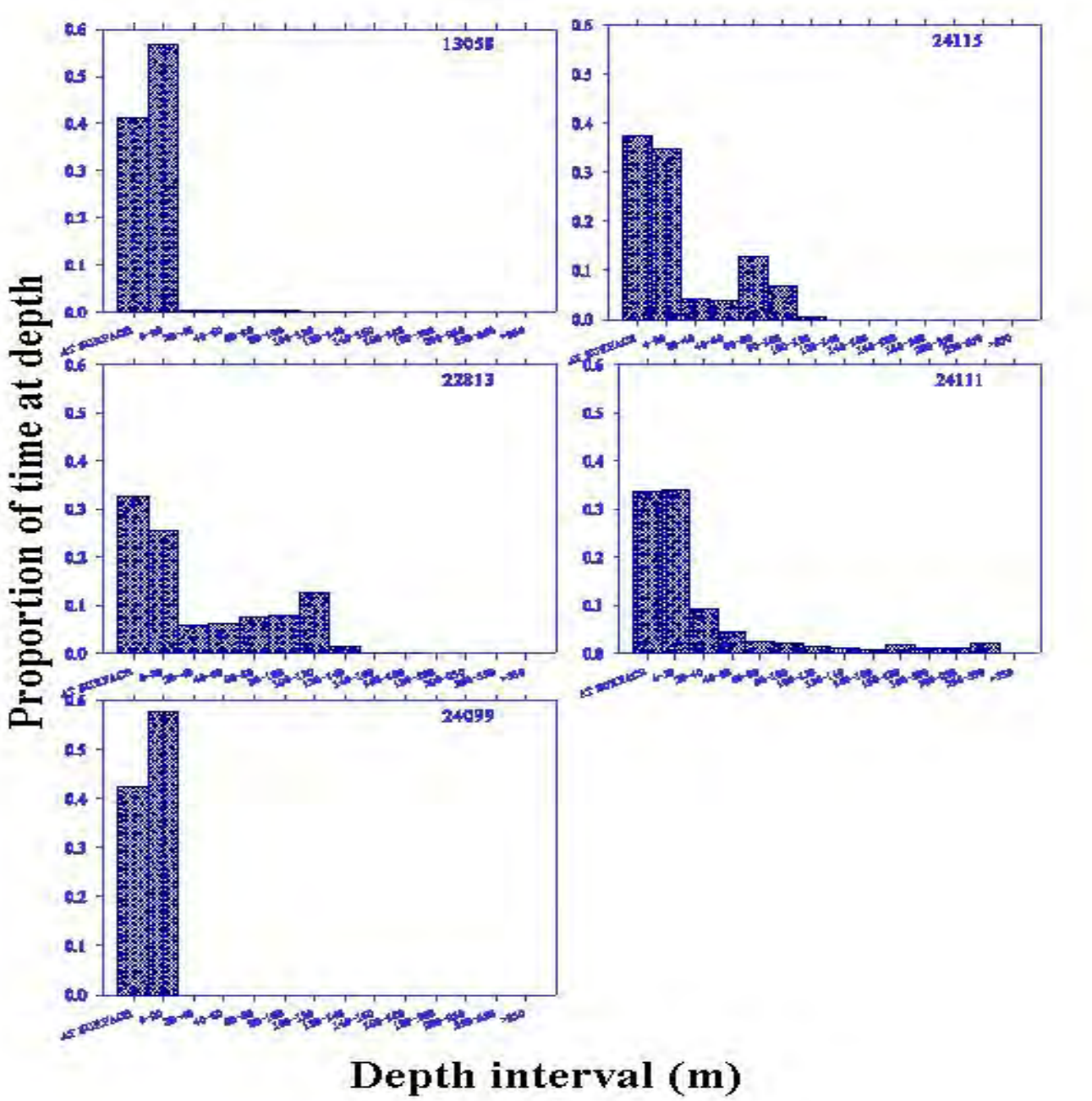


Figure 40. Relative dive effort of weaned Hawaiian monk seal pups from Kure Atoll, 2001-2002.

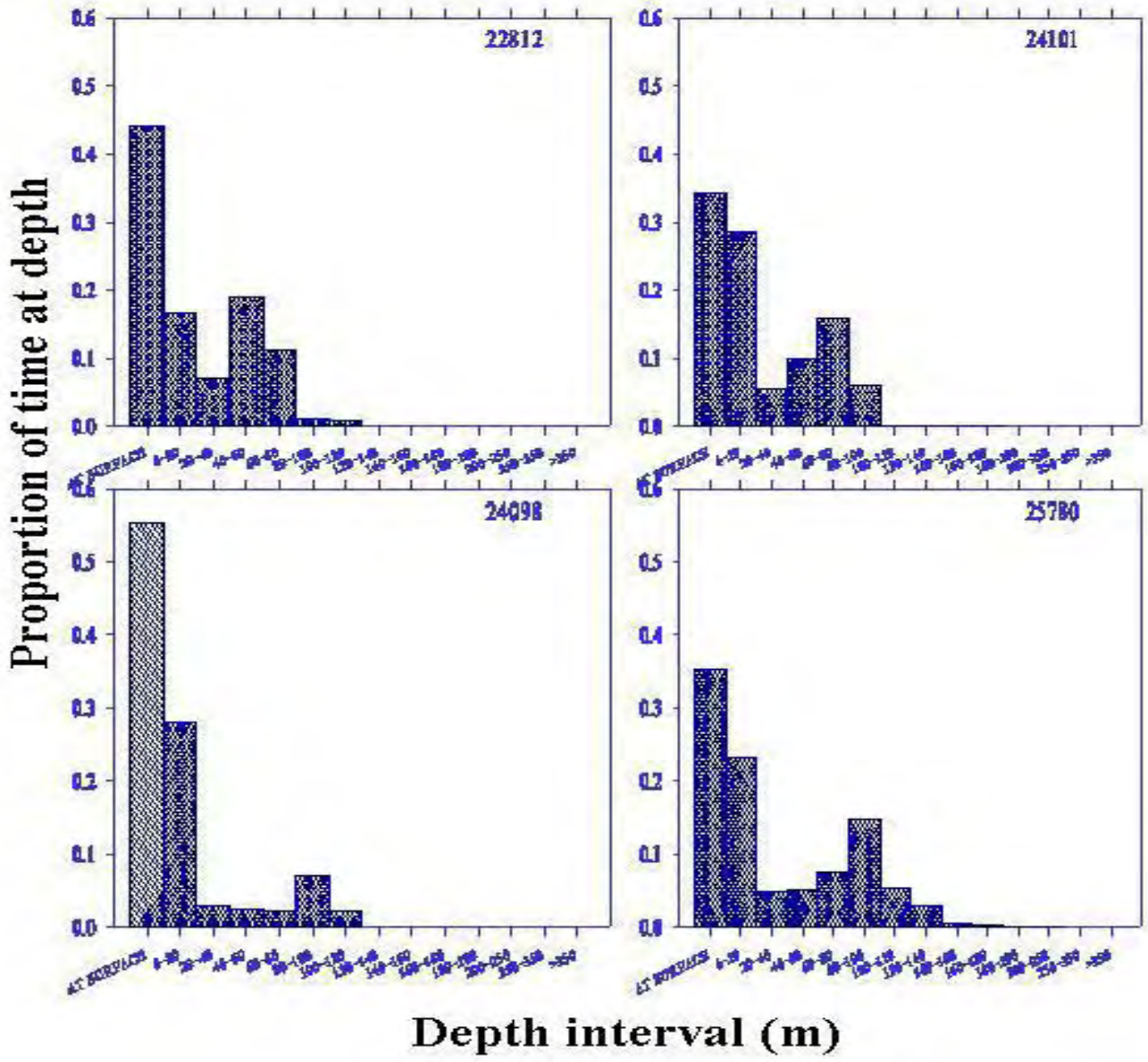


Figure 41. Relative dive effort of juvenile male Hawaiian monk seals from Kure Atoll, 2001-2002.

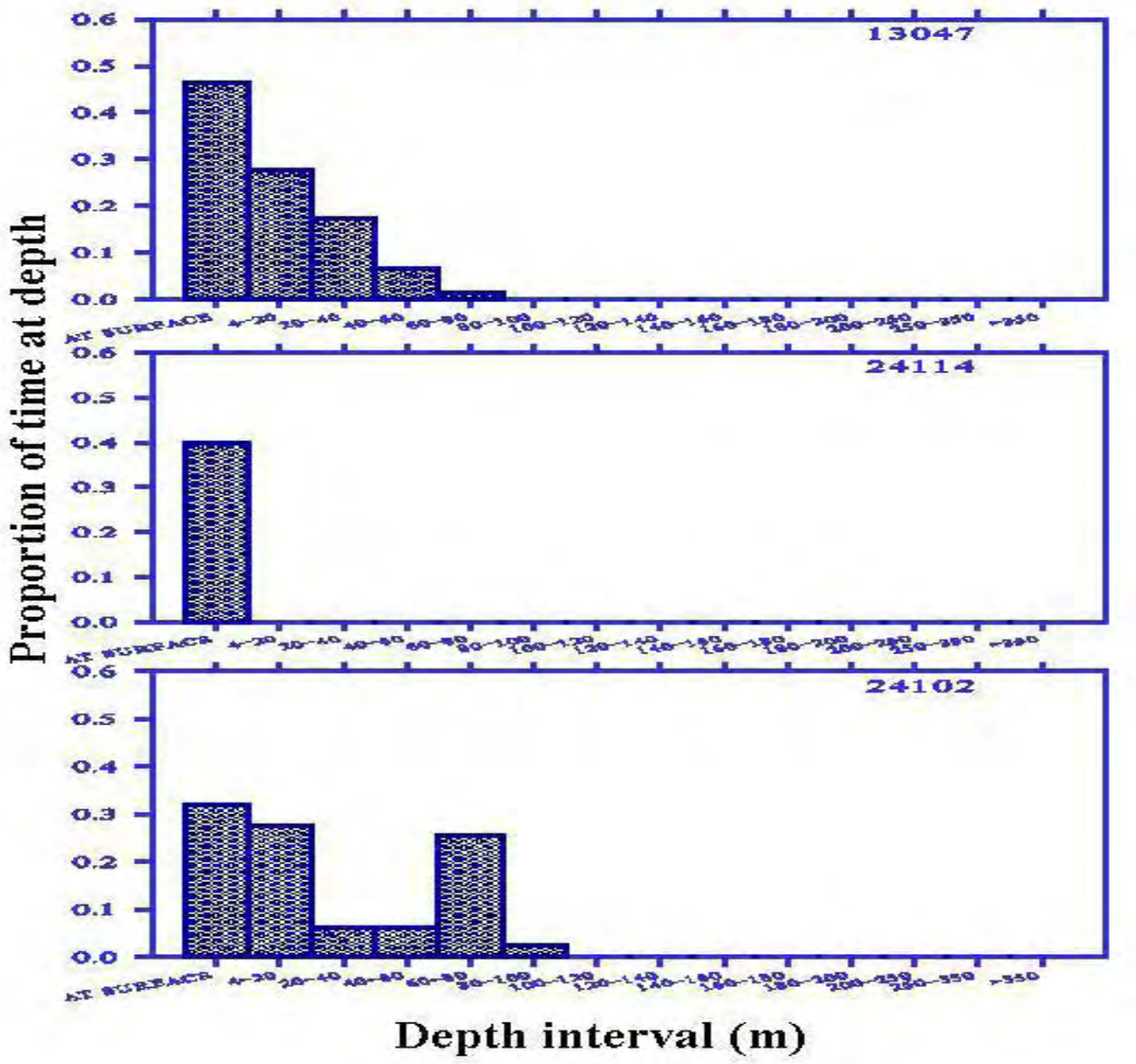


Figure 42. Relative dive effort of juvenile male Hawaiian monk seals from Kure Atoll, 2001-2002.

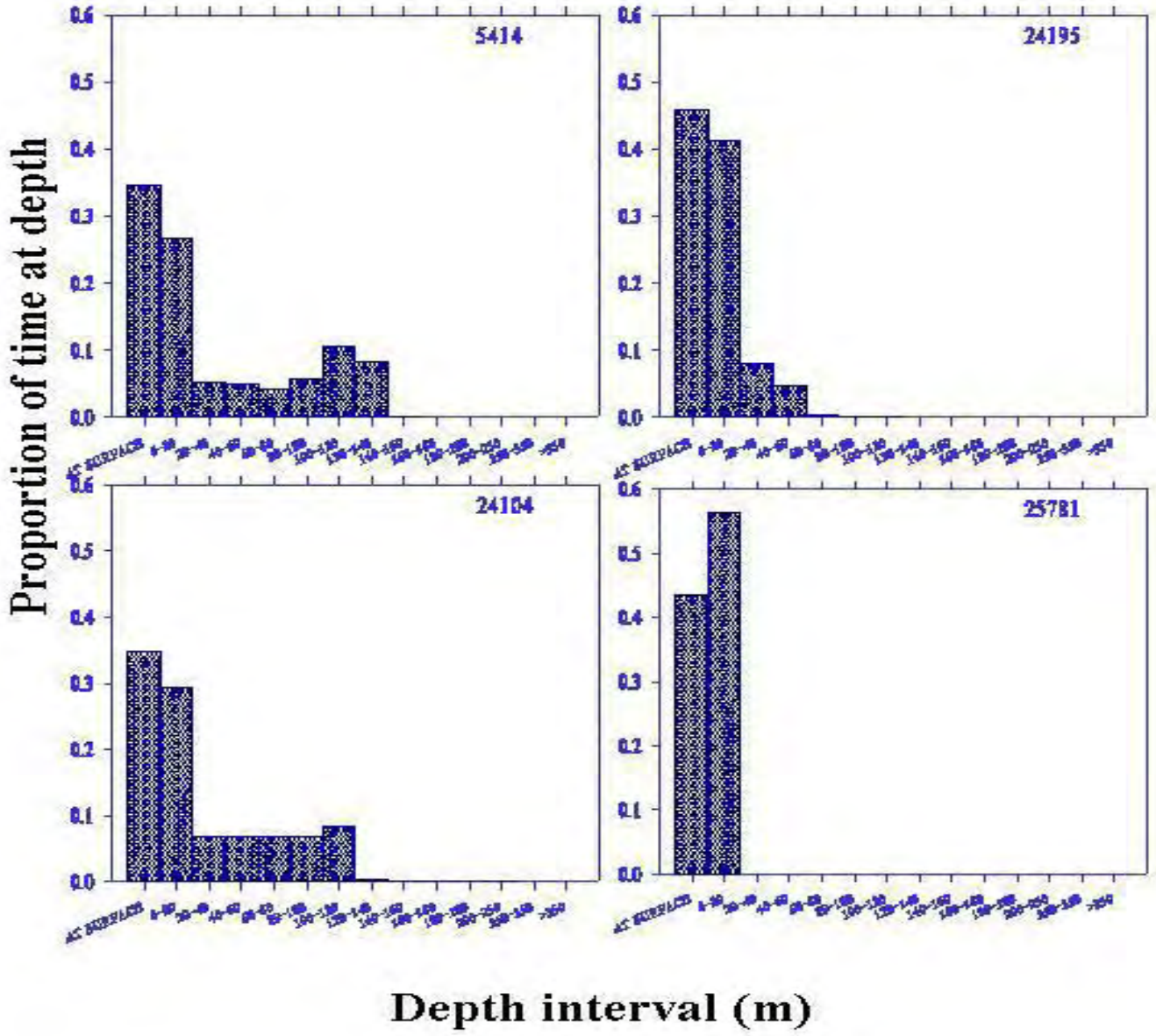


Figure 43. Relative dive effort of juvenile female Hawaiian monk seals from Kure Atoll, 2001-2002.

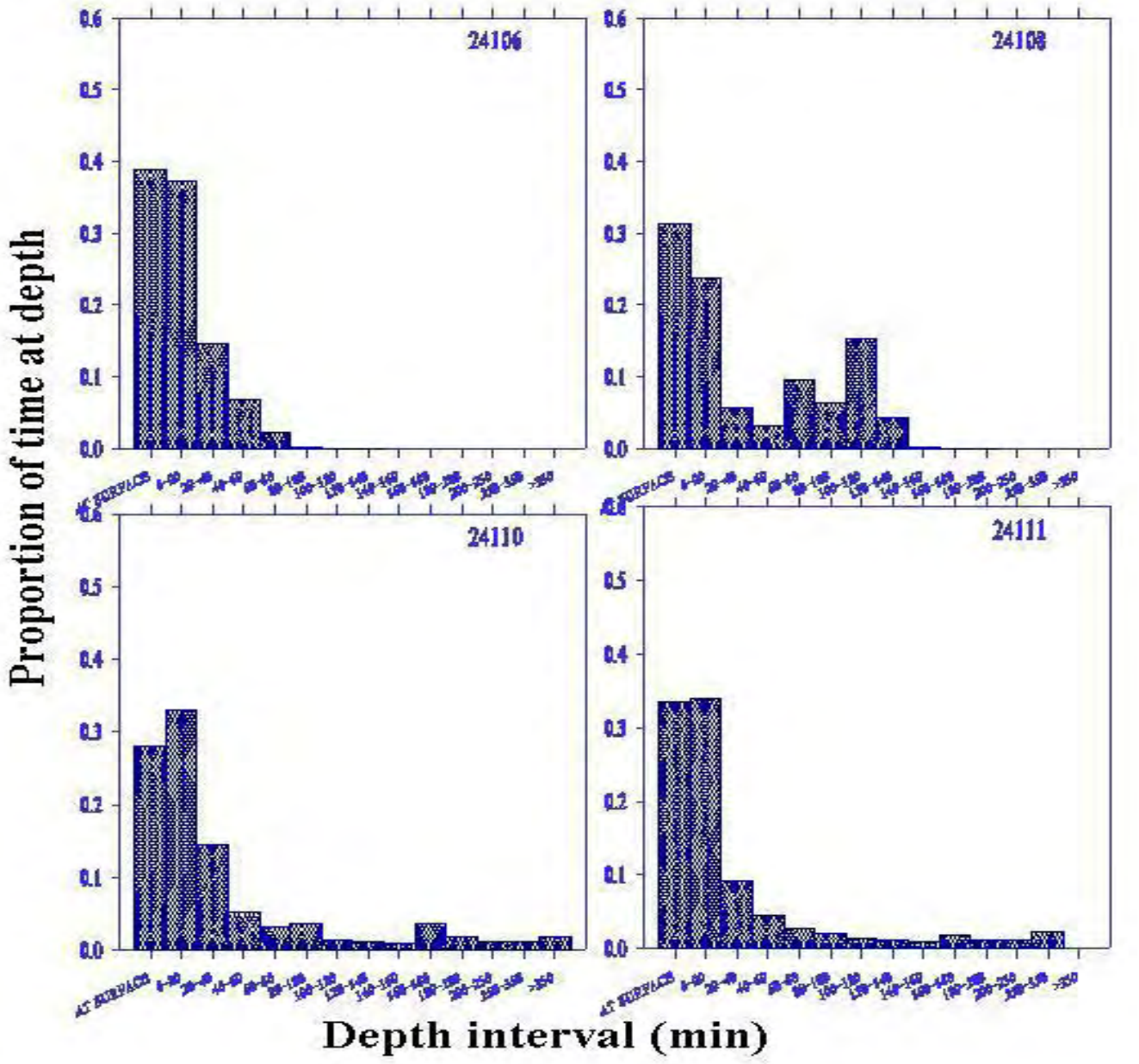


Figure 44. Relative dive effort of adult male Hawaiian monk seals from Kure Atoll, 2001-2002.

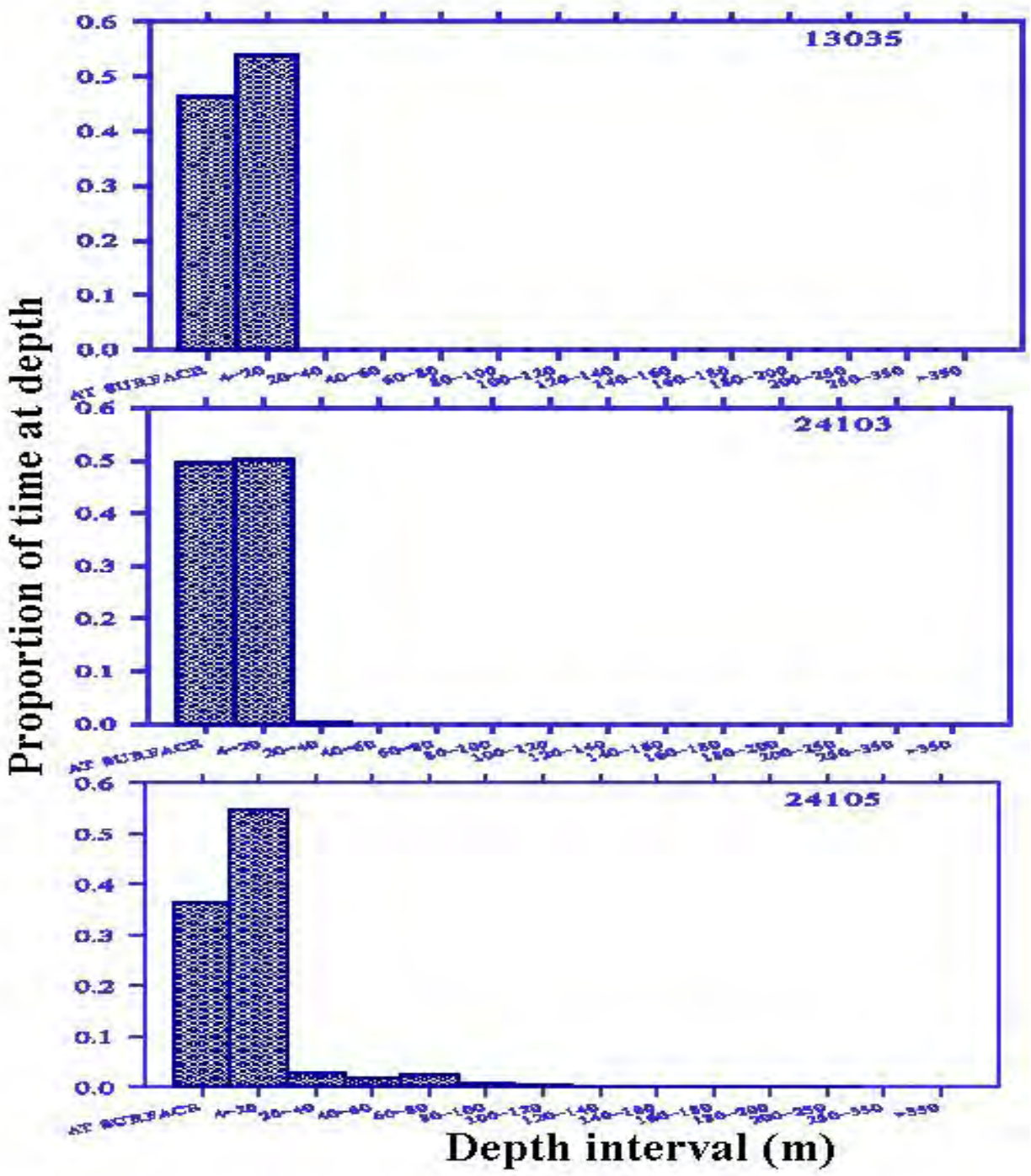


Figure 45. Relative dive effort of adult female Hawaiian monk seals from Kure Atoll, 2001-2002.

6.1. Appendix I: Setup protocols for satellite-linked data recorders (SLDRs) deployed on Hawaiian monk seals at Kure Atoll, October-November 2001.

PTT ID 5414; SEAL ID KD25

Satellite-linked Data Recorder with Telonics ST-16 Argos Transmitter.
Software version 3.15b. Unit number: 01T0078. ARGOS geolocation id = 5414
Unit identifier = ms20015414. Unit started at 03:49:15 on 11/10/01
Time (GMT) is 06:11:06.80. Date (GMT) is 30 October 2001
Shallowest depth to be considered a "dive" = 4 meters
Deepest depth for accumulating surface-timelines (0=dry only) = 2 meters
SLTDR uses 1-sec / 1/4-sec wakeups when shallower than 20 / 10 meters
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Transmission intervals (at-sea / on-land) = 00:42.00 / 01:27.00
SLTDR will use on-land interval after 10 consecutive dry transmissions
SLTDR will suspend transmissions after 1 hours "hauled-out".
"Haul-out" ends
after SLTDR is "wet" for 2 successive at-sea transmission intervals
Transmissions will be duty cycled with 1 day on and 0 days off
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 250
STATUS will be transmitted every 20 messages.
Blocks of Time-Lines will be transmitted every 48 messages.
Hours when SLTDR transmits: 03-07,15-19
Upper limits of maximum-depth histogram bins are:
20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters
Upper limits of dive-duration histogram bins are:
2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Upper limits of time-at-depth histogram bins are:
0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
SL-TDR> o
Do you wish to allow any unused portion of your daily transmission allowance
to be added to the next day's allowance? [n]

Do you wish to be able to set the daily transmission allowance on a month-by-month basis? [n]

Enter number (0/6/10/14) of depth histogram bins: [14]

Enter number (0/6/10/14) of duration histogram bins: [14]

Enter number (0/6/10/14) of time-at-depth histogram bins: [14]

How many histograms or timeline messages should be encoded into
each transmission (1/2) [1]

Will the instrument be deployed in an area where fresh and salt water may
exist in discrete layers? [n]
SL-TDR> p
User-definable identification = ms20015414
Enter new identifier (up to 15 characters):
Shallowest depth to be considered a "dive" = 4
Enter new value:
Deepest depth for accumulating surface-timelines (0=dry only) = 2
Enter new value:
Unit will try to detect surface every second when shallower than 20
Enter new value:
Unit will try to detect surface every 1/4-second when shallower than 10
Enter new value:
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Enter new value:
Change to on-land transmission interval after n [1-255 consecutive transmissions without sea-water induced delays. n 10
Enter new value:
After n hours of "haul-out", unit will suspend further transmissions,
(n = 0 will disable this option). n = 1
Enter new value:
"Haul-out" ends when n successive at-sea transmission intervals elapse which
are all "wet". n = 2
Enter new value:
Unit will duty cycle with n [1-15] days on. n = 1
Enter new value:
Unit will duty cycle with n [0-15] days off. n = 0
Enter new value:
Nominal battery capacity is 20000 transmissions.
See User's manual for formula to determine actual battery capacity.
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 250
Enter new daily allowance [1-65535]:
STATUS will be transmitted every nth [0-255] message. n = 20
Enter new value:
Blocks of Time-Lines will be transmitted every nth [0-255] message. n = 48
Enter new value:
Transmission hours with good satellite coverage
|000000000011111111112222|
(these hours (read vertically) are all in GMT)
|012345678901234567890123|
----------+----------+
Current setting (1=good, 0=bad)
|000111110000000111110000|
Enter new settings. . . . . :
(in listing the histogram bins, the symbol * indicates
that there is no upper limit for this bin.)
Set the upper limits of the maximum-depth histogram bins:
Upper limits are: 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters
Enter new limits (in meters):
Set the upper limits of the dive-duration histogram bins:
Upper limits are: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Enter new limits (in minutes):
Set the upper limits of the time-at-depth histogram bins (0 = haul-out):
Upper limits are: 0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
Enter new limits (in meters):

SL-TDR> v
Battery voltage under light load = 7.308 Volts.
SL-TDR> v
Battery voltage under light load = 7.308 Volts.

SL-TDR> v
Battery voltage under light load = 7.308 Volts.
SL-TDR> a3
S.W. Resistance = 255, Depth (m) = 0
S.W. Resistance = 255, Depth (m) = 2
S.W. Resistance = 255, Depth (m) = 2
SL-TDR> e
It is strongly recommended that you log the following information to a disk
file so that you have a permanent copy of this setup. In PROCOMM you do this
by pressing the ALT-F1 key combination. You will then be prompted for a
filename, a suggested name is 01T0078.SET
After you have entered a filename, press return to continue.
SLTDR version: 3.15b
60020C140102001401002AFD530A0100
00000001010101010000000000000001
01010101000000000027010000420000
01FFFFFFFFFFFFF000A0200000A0200
000A0200007E21FE0000010000000100
00100A0501000100010002000000000
FA000000000000000000000000000000
00000000000000000000000407020091
0A141E28323C46505A647DAFE1FF000E
020406080A0C0E101214191E28FF000E
000A141E28323C46505A647DAFFF000E
30030F620001020380FFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFF0549A1FF
6D733230303135343134FFFFFFFFFF
FFFFFFFFFFFFFFF30315430303738FF

Quarter-Watt, Microprocessor-controlled Satellite-linked Time-Depth Recorder.
Unit measures depth from 0 to 490 meters with a resolution of 2 meters
Software version 3.15b. Unit number: 01T0078. ARGOS geolocation id = 5414
Unit identifier = ms20015414. Unit started at 03:49:15 on 11/10/01
Time (GMT) is 06:11:31.82. Date (GMT) is 30 October 2001
Shallowest depth to be considered a "dive" = 4 meters
Deepest depth for accumulating surface-timelines (0=dry only) = 2 meters
SLTDR uses 1-sec / 1/4-sec wakeups when shallower than 20 / 10 meters
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Transmission intervals (at-sea / on-land) = 00:42.00 / 01:27.00
SLTDR will use on-land interval after 10 consecutive dry transmissions
SLTDR will suspend transmissions after 1 hours "hauled-out".
"Haul-out" ends
after SLTDR is "wet" for 2 successive at-sea transmission intervals
Transmissions will be duty cycled with 1 day on and 0 days off
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 250
STATUS will be transmitted every 20 messages.
Blocks of Time-Lines will be transmitted every 48 messages.
Hours when SLTDR transmits: 03-07,15-19
Upper limits of maximum-depth histogram bins are:
20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters

Upper limits of dive-duration histogram bins are:
2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Upper limits of time-at-depth histogram bins are:
0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
**** Check these parameters carefully ****. Ready to deploy? y
Type D to archive depth readings, H to archive histograms: h

Unit is ready for deployment, disconnect cblend go for it...
□□□□

PTT ID 13058; SEAL ID KM17

Satellite-linked Data Recorder with Telonics ST-16 Argos Transmitter.
Software version 3.15b. Unit number: 00T1012. ARGOS geolocation id = 13058
Unit identifier = ms200113058. Unit started at 21:25:32 on 16/11/00
Time (GMT) is 06:18:02.76. Date (GMT) is 30 October 1901
Shallowest depth to be considered a "dive" = 4 meters
Deepest depth for accumulating surface-timelines (0=dry only) = 2 meters
SLTDR uses 1-sec / 1/4-sec wakeups when shallower than 20 / 10 meters
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Transmission intervals (at-sea / on-land) = 00:40.50 / 01:25.50
SLTDR will use on-land interval after 10 consecutive dry transmissions
SLTDR will suspend transmissions after 1 hours "hauled-out". "Haul-out" ends
after SLTDR is "wet" for 2 successive at-sea transmission intervals
Transmissions will be duty cycled with 1 day on and 0 days off
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 250
STATUS will be transmitted every 20 messages.
Blocks of Time-Lines will be transmitted every 48 messages.
Hours when SLTDR transmits: 03-07,15-19
Upper limits of maximum-depth histogram bins are:
20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters
Upper limits of dive-duration histogram bins are:
2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Upper limits of time-at-depth histogram bins are:
0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
SL-TDR> o
Do you wish to allow any unused portion of your daily transmission allowance
to be added to the next day's allowance? [n]

Do you wish to be able to set the daily transmission allowance on a month-by-month basis? [n]

Enter number (0/6/10/14) of depth histogram bins: [14]

Enter number (0/6/10/14) of duration histogram bins: [14]

Enter number (0/6/10/14) of time-at-depth hogram bins: [14]

How many histograms or timeline messages should be encoded into
each transmission (1/2) [1]

Will the instrument be deployed in an area where fresh and salt water may
exist in discrete layers? [n]
SL-TDR> p
User-definable identification = ms200113058
Enter new identifier (up to 15 characters):
Shallowest depth to be considered a "dive" = 4
Enter new value:
Deepest depth for accumulating surface-timelines (0=dry only) = 2
Enter new value:
Unit will try to detect surface every second when shallower than 20
Enter new value:
Unit will try to detect surface every 1/4-second when shallower than 10
Enter new value:
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Enter new value:
Change to on-land transmission interval after n [1-255] consecutive
transmissions without sea-water induced delays. n = 10
Enter new value:
After n hours of "haul-out", unit will suspend further transmissions,
(n = 0 will disable this option). n = 1
Enter new value:
"Haul-out" ends when n successive at-sea transmission intervals elapse which
are all "wet". n = 2
Enter new value:
Unit will duty cycle with n [1-15] days on. n = 1
Enter new value:
Unit will duty cycle with n [0-15] days off. n = 0
Enter new value:
Nominal battery capacity is 20000 transmissions.
See User's manual for formula to determine actual battery capacity.
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 250
Enter new daily allowance [1-65535]:
STATUS will be transmitted every nth [0-255] message. n = 20
Enter new value:
Blocks of Time-Lines will be transmitted every nth [0-255] message. n = 48
Enter new value:
Transmission hours with good satellite coverage
|000000000011111111112222|
(these hours (read vertically) are all in GMT)
|012345678901234567890123|
---+---+
Current setting (1=good, 0=bad)
|000111110000000111110000|
Enter new settings. . . . . :
(in listing the histogram bins, the symbol * indicates
that there is no upper limit for this bin.)
Set the upper limits of the maximum-depth histogram bins:
Upper limits are: 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters
Enter new limits (in meters):
Set the upper limits of the dive-duration histogram bins:
Upper limits are: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Enter new limits (in minutes):
Set the upper limits of the time-at-depth histogram bins (0 = haul-out):
Upper limits are: 0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
Enter new limits (in meters):
SL-TDR> v
Battery voltage under light load = 7.353 Volts.
SL-TDR> v
Battery voltage under light load = 7.353 Volts.
SL-TDR> v
Battery voltage under light load = 7.353 Volts.
SL-TDR> a3
S.W. Resistance = 255, Depth (m) = 6
S.W. Resistance = 255, Depth (m) = 6
S.W. Resistance = 255, Depth (m) = 6

S.W. Resistance = 255, Depth (m) = 6
SL-TDR> e
It is strongly recommended that you log the following information to a disk
file so that you have a permanent copy of this setup. In PROCOMM you do this
by pressing the ALT-F1 key combination. You will then be prompted for a
filename, a suggested name is 00T1012.SET
After you have entered a filename, press return to continue.
SLTDR version: 3.15b
90020C140102001401002BFD520A0100
00000001010101010000000000000001
01010101000000005025010050400000
01FFFFFFFFFFFFF000A0200000A0200
000A0200007E21FE0000010000000100
00100A0010001000100020000000000
FA000000000000000000000000000000
00000000000000000000000407020232
0A141E28323C46505A647DAFE1FF000E
020406080A0C0E101214191E28FF000E
000A141E28323C46505A647DAFFF000E
30030F62000102038AFFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFFF0CC0B2FF
6D7332303031313330353 8FFFFFFFFF
FFFFFFFFFFFFFFF30305431303132FF
Quarter-Watt, Microprocessor-controlled Satellite-linked Time-Depth Recorder.
Unit measures depth from 0 to 490 meters with a resolution of 2 meters
Software version 3.15b. Unit number: 00T1012. ARGOS geolocation id = 13058
Unit identifier = ms200113058. Unit started at 21:25:32 on 16/11/00
Time (GMT) is 06:18:27.09. Date (GMT) is 30 October 1901
Shallowest depth to be considered a "dive" = 4 meters
Deepest depth for accumulating surface-timelines (0=dry only) = 2 meters
SLTDR uses 1-sec / 1/4-sec wakeups when shallower than 20 / 10 meters
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Transmission intervals (at-sea / on-land) = 00:40.50 / 01:25.50
SLTDR will use on-land interval after 10 consecutive dry transmissions
SLTDR will suspend transmissions after 1 hours "hauled-out". "Haul-out" ends
after SLTDR is "wet" for 2 successive at-sea transmission intervals
Transmissions will be duty cycled with 1 day on and 0 days off
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 250
STATUS will be transmitted every 20 messages.
Blocks of Time-Lines will be transmitted every 48 messages.
Hours when SLTDR transmits: 03-07,15-19
Upper limits of maximum-depth histogram bins are:
20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters
Upper limits of dive-duration histogram bins are:
2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Upper limits of time-at-depth histogram bins are:
0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
**** Check these parameters carefully ****. Ready to deploy? y
Type D to archive depth readings, H to archive histograms: h

Unit is ready for deployment, disconnect cable and go for it...

PTT ID 22812; SEAL ID KH00

Satellite-linked Data Recorder with Telonics ST-16 Argos Transmitter.
Software version 3.15b. Unit number: 01T0082. ARGOS geolocation id = 22812
Unit identifier = ms200122812. Unit started at 03:54:33 on 13/10/01
Time (GMT) is 06:13:28.78. Date (GMT) is 30 October 2001
Shallowest depth to be considered a "dive" = 4 meters
Deepest depth for accumulating surface-timelines (0=dry only) = 2 meters
SLTDR uses 1-sec / 1/4-sec wakeups when shallower than 20 / 10 meters
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Transmission intervals (at-sea / on-land) = 00:46.00 / 01:31.00
SLTDR will use on-land interval after 10 consecutive dry transmissions
SLTDR will suspend transmissions after 1 hours "hauled-out". "Haul-out" ends
after SLTDR is "wet" for 2 successive at-sea transmission intervals
Transmissions will be duty cycled with 1 day on and 0 days off
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 250
STATUS will be transmitted every 20 messages.
Blocks of Time-Lines will be transmitted every 48 messages.
Hours when SLTDR transmits: 03-07,15-19
Upper limits of maximum-depth histogram bins are:
20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters
Upper limits of dive-duration histogram bins are:
2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Upper limits of time-at-depth histogram bins are:
0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
SL-TDR> o
Do you wish to allow any unused portion of your daily transmission allowance
to be added to the next day's allowance? [n]

Do you wish to be able to set the daily transmission allowance on a month-by-month basis? [n]

Enter number (0/6/10/14) of depth histogram bins: [14]

Enter number (0/6/10/14) of duration histogram bins: [14]

Enter number (0/6/10/14) of time-at-depth histogram bins: [14]

How many histograms or timeline messages should be encoded into
each transmission (1/2) [1]

Will the instrument be deployed in an area where fresh and salt water may
exist in discrete layers? [n]
SL-TDR>
SL-TDR> p
User-definable identification = ms200122812
Enter new identifier (up to 15 characters):
Shallowest depth to be considered a "dive" = 4
Enter new value:
Deepest depth for accumulating surface-timelines (0=dry only) = 2
Enter new value:
Unit will try to detect surface every second when shallower than 20
Enter new value:
Unit will try to detect surface every 1/4-second when shallower than 10
Enter new value:
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Enter new value:
Change to on-land transmission interval after n [1-255] consecutive
transmissions without sea-water induced delays. n = 10
Enter new value:
After n hours of "haul-out", unit will suspend further transmissions,
(n = 0 will disable this option). n = 1
Enter new value:
"Haul-out" ends when n successive at-sea transmission intervals elapse which
are all "wet". n = 2
Enter new value:
Unit will duty cycle with n [1-15] days on. n = 1
Enter new value:
Unit will duty cycle with n [0-15] days off. n = 0
Enter new value:
Nominal battery capacity is 20000 transmissions.
See User's manual for formula to determine actual battery capacity.
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 250
Enter new daily allowance [1-65535]:
STATUS will be transmitted every nth [0-255] message. n = 20
Enter new value:
Blocks of Time-Lines will be transmitted every nth -255] message. n = 48
Enter new value:
Transmission hours with good satellite coverage
|000000000011111111112222|
(these hours (read vertically) are all in GMT)
|012345678901234567890123|
---+---+
Current setting (1=good, 0=bad)
|000111110000000111110000|
Enter new settings. . . . . :
(in listing the histogram bins, the symbol * indicates
that there is no upper limit for this bin.)
Set the upper limits of the maximum-depth histogram bins:
Upper limits are: 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters
Enter new limits (in meters):
Set the upper limits of the dive-duration histogram bins:
Upper limits are: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Enter new limits (in minutes):
Set the upper limits of the time-at-depth histogram bins (0 = haul-out):
Upper limits are: 0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
Enter new limits (in meters):
SL-TDR> v
Battery voltage under light load = 7.396 Volts.
SL-TDR> v
Battery voltage under light load = 7.396 Volts.
SL-TDR> v
Battery voltage under light load = 7.396 Volts.
SL-TDR> a3
S.W. Resistance = 255, Depth (m) = 0
S.W. Resistance = 255, Depth (m) = 0

S.W. Resistance = 255, Depth (m) = 0
S.W. Resistance = 255, Depth (m) = 0
SL-TDR> e
It is strongly recommended that you log the following information to a disk
file so that you have a permanent copy of this setup. In PROCOMM you do this
by pressing the ALT-F1 key combination. You will then be prompted for a
filename, a suggested name is 01T0082.SET
After you have entered a filename, press return to continue.
SLTDR version: 3.15b
7C020C140102001401002BFD520A0100
00000001010101010000000000000001
01010101000000000031010000460000
01FFFFFFFFFFFFFF000A0200000A0200
000A0200007E21FE0000010000000100
00100A0501000100010002000000000
FA000000000000000000000000000000
00000000000000000000004070200F7
0A141E28323C46505A647DAFE1FF000E
020406080A0C0E101214191E28FF000E
000A141E28323C46505A647DAFFF000E
30030F620001020380FFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFF064701FF
6D7332303031323232383132FFFFFFFFF
FFFFFFFFFFFFFFF30315430303832FF
Quarter-Watt, Microprocessor-controlled Satellite-linked Time-Depth Recorder.
Unit measures depth from 0 to 490 meters with a resolution of 2 meters
Software version 3.15b. Unit number: 01T0082. ARGOS geolocation id = 22812
Unit identifier = ms200122812. Unit started at 03:54:33 on 13/10/01
Time (GMT) is 06:13:57.21. Date (GMT) is 30 October 2001
Shallowest depth to be considered a "dive" = 4 meters
Deepest depth for accumulating surface-timelines (0=dry only) = 2 meters
SLTDR uses 1-sec / 1/4-sec wakeups when shallower than 20 / 10 meters
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Transmission intervals (at-sea / on-land) = 00:46.00 / 01:31.00
SLTDR will use on-land interval after 10 consecutive dry transmissions
SLTDR will suspend transmissions after 1 hours "hauled-out". "Haul-out" ends
after SLTDR is "wet" for 2 successive at-sea transmission intervals
Transmissions will be duty cycled with 1 day on and 0 days off
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 250
STATUS will be transmitted every 20 messages.
Blocks of Time-Lines will be transmitted every 48 messages.
Hours when SLTDR transmit 03-07,15-19
Upper limits of maximum-depth histogram bins are:
20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters
Upper limits of dive-duration histogram bins are:
2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Upper limits of time-at-depth histogram bins are:
0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
**** Check these parameters carefully ****. Ready to deploy?
SL-TDR> e
It is strongly recommended that you log the following information to a disk
file so that you have a permanent copy of this setup. In PROCOMM you do this
by pressing the ALT-F1 key combination. You will then be prompted for a
filename, a suggested name is 01T0082.SET
After you have entered a filename, press return to continue.
SLTDR version: 3.15b
7C020C140102001401002BFD520A0100
00000001010101010000000000000001
01010101000000000031010000460000
01FFFFFFFFFFFFFF000A0200000A0200
000A0200007E21FE0000010000000100
00100A0501000100010002000000000
FA000000000000000000000000000000
00000000000000000000004070200F7
0A141E28323C46505A647DAFE1FF000E
020406080A0C0E101214191E28FF000E
000A141E28323C46505A647DAFFF000E
30030F620001020380FFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFF064701FF
6D7332303031323232383132FFFFFFFFF
FFFFFFFFFFFFFFF30315430303832FF
Quarter-Watt, Microprocessor-controlled Satellite-linked Time-Depth Recorder.
Unit measures depth from 0 to 490 meters with a resolution of 2 meters
Software version 3.15b. Unit number: 01T0082. ARGOS geolocation id = 22812
Unit identifier = ms200122812. Unit started at 06:13:58 on 30/10/01
Time (GMT) is 06:14:23.82. Date (GMT) is 30 October 2001
Shallowest depth to be considered a "dive" = 4 meters
Deepest depth for accumulating surface-timelines (0=dry only) = 2 meters
SLTDR uses 1-sec / 1/4-sec wakeups when shallower than 20 / 10 meters
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Transmission intervals (at-sea / on-land) = 00:46.00 / 01:31.00
SLTDR will use on-land interval after 10 consecutive dry transmissions
SLTDR will suspend transmissions after 1 hours "hauled-out". "Haul-out" ends
after SLTDR is "wet" for 2 successive at-sea transmission intervals
Transmissions will be duty cycled with 1 day on and 0 days off
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 250
STATUS will be transmitted every 20 messages.
Blocks of Time-Lines will be transmitted every 48 messages.
Hours when SLTDR transmits: 03-07,15-19
Upper limits of maximum-depth histogram bins are:
20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters
Upper limits of dive-duration histogram bins are:
2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Upper limits of time-at-depth histogram bins are:
0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
**** Check these parameters carefully ****. Ready to deploy? y
Type D to archive depth readings, H to archive histograms: h

Unit is ready for deployment, disconnect cable and go for it...
□□

PTT ID 22813; SEAL ID KM21

Satellite-linked Data Recorder with Telonics ST-16 Argos Transmitter.
Software version 3.15b. Unit number: 01T0083. ARGOS geolocation id = 22813
Unit identifier = ms200122813. Unit started at 03:57:02 on 13/10/01
Time (GMT) is 06:17:42.45. Date (GMT) is 30 October 2001
Shallowest depth to be considered a "dive" = 4 meters
Deepest depth for accumulating surface-timelines (0=dry only) = 2 meters
SLTDR uses 1-sec / 1/4-sec wakeups when shallower than 20 / 10 meters
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Transmission intervals (at-sea / on-land) = 00:47.00 / 01:32.00
SLTDR will use on-land interval after 10 consecutive dry transmissions
SLTDR will suspend transmissions after 1 hours "hauled-out". "Haul-out" ends
after SLTDR is "wet" for 2 successive at-sea transmission intervals
Transmissions will be duty cycled with 1 day on and 0 days off
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 250
STATUS will be transmitted every 20 messages.
Blocks of Time-Lines will be transmitted every 48 messages.
Hours when SLTDR transmits: 03-07,15-19
Upper limits of maximum-depth histogram bins are:
20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters
Upper limits of dive-duration histogram bins are:
2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Upper limits of time-at-depth histogram bins are:
0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
SL-TDR>
SL-TDR> v
Battery voltage under light load = 7.350 Volts.
SL-TDR> v
Battery voltage under light load = 7.308 Volts.
SL-TDR> v
Battery voltage under light load = 7.308 Volts.
SL-TDR> a3
S.W. Resistance = 255, Depth (m) = 0
S.W. Resistance = 255, Depth (m) = 0
S.W. Resistance = 255, Depth (m) = 0
SL-TDR> o
Do you wish to allow any unused portion of your daily transmission allowance
to be added to the next day's allowance? [n]

Do you wish to be able to set the daily transmission allowance on a month-by-month basis? [n]

Enter number (0/6/10/14) of depth histogram bins: [14]

Enter number (0/6/10/14) of duration histogram bins: [14]

Enter number (0/6/10/14) of time-at-depth histogram bins: [14]

How many histograms or timeline messages should be encoded into
each transmission (1/2) [1]

Will the instrument be deployed in an area where fresh and salt water may
exist in discrete layers? [n]
SL-TDR>
SL-TDR> p
User-definable identification = ms200122813
Enter new identifier (up to 15 characters):
Shallowest depth to be considered a "dive" = 4
Enter new value:
Deepest depth for accumulating surface-timelines (0=dry only) = 2
Enter new value:
Unit will try to detect surface every second when shallower than 20
Enter new value:
Unit will try to detect surface every 1/4-second when shallower than 10
Enter new value:
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Enter new value:
Change to on-land transmission interval after n [1-255] consecutive
transmissions without sea-water induced delays. n = 10
Enter new value:
After n hours of "haul-out", unit will suspend further transmissions,
(n = 0 will disable this option). n = 1
Enter new value:
"Haul-out" ends when n successive at-sea transmission intervals elapse which
are all "wet". n = 2
Enter new value:
Unit will duty cycle with n [1-15] days on. n = 1
Enter new value:
Unit will duty cycle with n [0-15] days off. n = 0
Enter new value:
Nominal battery capacity is 20000 transmissions.
See User' manual for formula to determine actual battery capacity.
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 250
Enter new daily allowance [1-65535]:
STATUS will be transmitted every nth [0-255] message. n = 20
Enter new value:
Blocks of Time-Lines will be transmitted every nth [0-255] message. n = 48
Enter new value:
Transmission hours with good satellite coverage
|000000000011111111112222|
(these hours (read vertically) are all in GMT)
|012345678901234567890123|
----------+----------+
Current setting (1=good, 0=bad)
|000111110000000111110000|
Enter new settings. . . . . :
(in listing the histogram bins, the symbol * indicates
that there is no upper limit for this bin.)
Set the upper limits of the maximum-depth histogram bins:
Upper limits are: 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters
Enter new limits (in meters):
Set the upper limits of the dive-duration histogram bins:
Upper limits are: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Enter new limits (in minutes):
Set the upper limits of the time-at-depth histogram bins (0 = haul-out):

Upper limits are: 0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
Enter new limits (in meters):
SL-TDR> e
It is strongly recommended that you log the following information to a disk
file so that you have a permanent copy of this setup. In PROCOMM you do this
by pressing the ALT-F1 key combination. You will then be prompted for a
filename, a suggested name is 01T0083.SET
After you have entered a filename, press return to continue.
SLTDR version: 3.15b
4A020C140102001401002AFD530A0100
00000001010101010000000000000001
01010101000000000032010000470000
01FFFFFFFFFFFFFF000A0200000A0200
000A0200007E21FE0000010000000100
00100A0501000100010002000000000
FA00000000000000000000000000000
00000000000000000000000407020099
0A141E28323C46505A647DAFE1FF000E
020406080A0C0E101214191E28FF000E
000A141E28323C46505A647DAFFF000E
30030F620001020389FFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFF064752FF
6D7332303031323238313 3FFFFFFFFF
FFFFFFFFFFFFFFF30315430303833FF
Quarter-Watt, Microprocessor-controlled Satellite-linked Time-Depth Recorder.
Unit measures depth from 0 to 490 meters with a resolution of 2 meters
Software version 3.15b. Unit number: 01T0083. ARGOS geolocation id = 22813
Unit identifier = ms200122813. Unit started at 03:57:02 on 13/10/01
Time (GMT) is 06:18:07.64. Date (GMT) is 30 October 2001
Shallowest depth to be considered a "dive" = 4 meters
Deepest depth for accumulating surface-timelines (0=dry only) = 2 meters
SLTDR uses 1-sec / 1/4-sec wakeups when shallower than 20 / 10 meters
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Transmission intervals (at-sea / on-land) = 00:47.00 / 01:32.00
SLTDR will use on-land interval after 10 consecutive dry transmissions
SLTDR will suspend transmissions after 1 hours "hauled-out". "Haul-out" ends
after SLTDR is "wet" for 2 successive at-sea transmission intervals
Transmissions will be duty cycled with 1 day on and 0 days off
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 250
STATUS will be transmitted every 20 messages.
Blocks of Time-Lines will be transmitted every 48 messages.
Hours when SLTDR transmits: 03-07,15-19
Upper limits of maximum-depth histogram bins are:
20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters
Upper limits of dive-duration histogram bins are:
2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Upper limits of time-at-depth histogram bins are:
0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
**** Check these parameters carefully ****. Ready to deploy? y
Type D to archive depth readings, H to archive histograms: h

Unit is ready for deployment, disconnect cable and go for it...

PTT ID 24098; SEAL ID KH27

Satellite-linked Data Recorder with Telonics ST-16 Argos Transmitter.
Software version 3.15b. Unit number: 01T0084. ARGOS geolocation id = 24098
Unit identifier = ms200124098. Unit started at 02:55:07 on 13/10/01
Time (GMT) is 18:17:35.60. Date (GMT) is 31 October 2001
Shallowest depth to be considered a "dive" = 4 meters
Deepest depth for accumulating surface-timelines (0=dry only) = 2 meters
SLTDR uses 1-sec / 1/4-sec wakeups when shallower than 20 / 10 meters
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Transmission intervals (at-sea / on-land) = 00:48.00 / 01:33.00
SLTDR will use on-land interval after 10 consecutive dry transmissions
SLTDR will suspend transmissions after 1 hours "hauled-out". "Haul-out" ends
after SLTDR is "wet" for 2 successive at-sea transmission intervals
Transmissions will be duty cycled with 1 day on and 0 days off
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 250
STATUS will be transmitted every 20 messages.
Blocks of Time-Lines will be transmitted every 48 messages.
Hours when SLTDR transmits: 03-07,15-19
Upper limits of maximum-depth histogram bins are:
20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters
Upper limits of dive-duration histogram bins are:
2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Upper limits of time-at-depth histogram bins are:
0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
SL-TDR> o
Do you wish to allow any unused portion of your daily transmission allowance
to be added to the nextday'sallowae? [n]

Do you wish to be able to set the daily transmission allowance on a month-by-month basis? [n]

Enter number (0/6/10/14) of depth histogram bins: [14]

Enter number (0/6/10/14) of duration histogram bins: [14]

Enter number (0/6/10/14) of time-at-depth histogram bins: [14]

How many histograms or timeline messages should be encoded into
each transmission (1/2) [1]

Will the instrument be deployed in an area where fresh and salt water may
exist in discrete layers? [n]
SL-TDR> p
User-definable identification = ms200124098
Enter new identifier (up to 15 characters):
Shallowest depth to be considered a "dive" = 4
Enter new value:
Deepest depth for accumulating surface-timelines (0=dry only) = 2
Enter new value:
Unit will try to detect surface every second when shallower than 20
Enter new value:
Unit will try to detect surface every 1/4-second when shallower than 10
Enter new value:
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Enter new value:
Change to on-land transmission interval after n [1-255] consecutive
transmissions without sea-water induced delays. n = 10
Enter new value:
After n hours of "haul-out", unit will suspend further transmissions,
(n = 0 will disable this option). n = 1
Enter new value:
"Haul-out" ends when n successive at-sea transmission intervals elapse which
are all "wet". n = 2
Enter new value:
Unit will duty cycle with n [1-15] days on. n = 1
Enter new value:
Unit will duty cycle with n [0-15] days off. n = 0
Enter new value:
Nominal battery capacity is 20000 transmissions.
See User's manual for formula to determine actual battery capacity.
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 250
Enter new daily allowance [1-65535]:
STATUS will be transmitted every nth [0-255] message. n = 20
Enter new value:
Blocks of Time-Lines will be transmitted every nth [0-255] message. n = 48
Enter new value:
Transmission hours with good satellite coverage
|000000000011111111112222|
(these hours (read vertically) are all in GMT)
|012345678901234567890123|
---+---+
Current setting (1=good, 0=bad)
|000111110000000111110000|
Enter new settings. . . . . :
(in listing the histogram bins, the symbol * indicates
that there is no upper limit for this bin.)
Set the upper limits of the maximum-depth histogram bins:
Upper limits are: 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters
Enter new limits (in meters):
Set the upper limits of the dive-duration histogram bins:
Upper limits are: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Enter new limits (in minutes):
Set the upper limits of the time-at-depth histogram bins (0 = haul-out):
Upper limits are: 0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
Enter new limits (in meters):
SL-TDR> v
Battery voltage under light load = 7.396 Volts.
SL-TDR> v
Battery voltage under light load = 7.396 Volts.
SL-TDR> va3
Battery voltage under light load = 7.396 Volts.
Battery voltage under light load = 7.396 Volts.
Battery voltage under light load = 7.396 Volts.
SL-TDR> a3
S.W. Resistance = 255, Depth (m) = 0

S.W. Resistance = 255, Depth (m) = 0
S.W. Resistance = 255, Depth (m) = 0
S.W. Resistance = 255, Depth (m) = 0
SL-TDR> e
It is strongly recommended that you log the following information to a disk
file so that you have a permanent copy of this setup. In PROCOMM you do this
by pressing the ALT-F1 key combination. You will then be prompted for a
filename, a suggested name is 01T0084.SET
After you have entered a filename, press return to continue.
SLTDR version: 3.15b
E4020C140102001401002BFD530A0100
00000001010101010000000000000001
01010101000000000033010000480000
01FFFFFFFFFFFFFF000A0200000A0200
000A0200007E21FE0000010000000100
00100A0501000100010002000000000
FA000000000000000000000000000000
00000000000000000000000407020004
0A141E28323C46505A647DAFE1FF000E
020406080A0C0E101214191E28FF000E
000A141E28323C46505A647DAFFF000E
30030F620001020380FFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFF0788A3FF
6D7332303031323430393 8FFFFFFFFF
FFFFFFFFFFFFFFF30315430303834FF
Quarter-Watt, Microprocessor-controlled Satellite-linked Time-Depth Recorder.
Unit measures depth from 0 to 490 meters with a resolution of 2 meters
Software version 3.15b. Unit number: 01T0084. ARGOS geolocation id = 24098
Unit identifier = ms200124098. Unit started at 02:55:07 on 13/10/01
Time (GMT) is 18:18:00.45. Date (GMT) is 31 October 2001
Shallowest depth to be considered a "dive" = 4 meters
Deepest depth for accumulating surface-timelines (0=dry only) = 2 meters
SLTDR uses 1-sec / 1/4-sec wakeups when shallower than 20 / 10 meters
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Transmission intervals (at-sea / on-land) = 00:48.00 / 01:33.00
SLTDR will use on-land interval after 10 consecutive dry transmissions
SLTDR will suspend transmissions after 1 hours "hauled-out". "Haul-out" ends
after SLTDR is "wet" for 2 successive at-sea transmission intervals
Transmissions will be duty cycled with 1 day on and 0 days off
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 250
STATUS will be transmitted every 20 messages.
Blocks of Time-Lines will be transmitted every 48 messages.
Hours when SLTDR transmits: 03-07,15-19
Upper limits of maximum-depth histogram bins are:
20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters
Upper limits of dive-duration histogram bins are:
2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Upper limits of time-at-depth histogram bins are:
0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
**** Check these parameters carefully ****. Ready to deploy? y
Type D to archive depth readings, H to archive histograms: h
Unit is ready for deployment, disconnect cable and go for it...
□□

PTT ID 24099; SEAL IDKM31

Satellite-linked Data Recorder with Telonics ST-16 Argos Transmitter.
Software version 3.15b. Unit number: 01T0085. ARGOS geolocation id = 24099
Unit identifier = ms200124099. Unit started at 03:01:31 on 13/10/01
Time (GMT) is 18:20:14.46. Date (GMT) is 31 October 2001
Shallowest depth to be considered a "dive" = 4 meters
Deepest depth for accumulating surface-timelines (0=dry only) = 2 meters
SLTDR uses 1-sec / 1/4-sec wakeups when shallower than 20 / 10 meters
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Transmission intervals (at-sea / on-land) = 00:49.00 / 01:34.00
SLTDR will use on-land interval after 10 consecutive dry transmissions
SLTDR will suspend transmissions after 1 hours "hauled-out". "Haul-out" ends
after SLTDR is "wet" for 2 successive at-sea transmission intervals
Transmissions will be duty cycled with 1 day on and 0 days off
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 250
STATUS will be transmitted every 20 messages.
Blocks of Time-Lines will be transmitted every 48 messages.
Hours when SLTDR transmits: 03-07,15-19
Upper limits of maximum-depth histogram bins are:
20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters
Upper limits of dive-duration histogram bins are:
2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Upper limits of time-at-depth histogram bins are:
0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
SL-TDR> o
Do you wish to allow any unused portion of your daily transmission allowance
to be added to the next day's allowance? [n]

Do you wish to be able to set the daily transmission allowance on a month-by-month basis? [n]

Enter number (0/6/10/14) of depth histogram bins: [14]

Enter number (0/6/10/14) of duration histogram bins: [14]

Enter number (0/6/10/14) of time-at-depth histogram bins: [14]

How many histograms or timeline messages should be encoded into
each transmission (1/2) [1]

Will the instrument be deployed in an area where fresh and salt water may
exist in discrete layers? [n]
SL-TDR> p
User-definable identification = ms200124099
Enter new identifier (up to 15 characters):
Shallowest depth to be considered a "dive" = 4
Enter new value:
Deepest depth for accumuting surface-timnes (0=dry only) = 2
Enter new value:
Unit will try to detect surface every second when shallower than 20
Enter new value:
Unit will try to detect surface every 1/4-second when shallower than 10
Enter new value:
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Enter new value:
Change to on-land transmission interval after n [1-255] consecutive
transmissions without sea-water induced delays. n = 10
Enter new value:
After n hours of "haul-out", unit will suspend further transmissions,
(n = 0 will disable this option). n = 1
Enter new value:
"Haul-out" ends when n successive at-sea transmission intervals elapse which
are all "wet". n = 2
Enter new value:
Unit will duty cycle with n [1-15] days on. n = 1
Enter new value:
Unit will duty cycle with n [0-15] days off. n = 0
Enter new value:
Nominal battery capacity is 20000 transmissions.
See User's manual for formula to determine actual battery capacity.
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 250
Enter new daily allowance [1-65535]:
STATUS will be transmitted every nth [0-255] message. n = 20
Enter new value:
Blocks of Time-Lines will be transmitted every nth [0-255] message. n = 48
Enter new value:
Transmission hours with good satellite coverage
|000000000011111111112222|
(these hours (read vertically) are all in GMT)
|012345678901234567890123|
---+---+
Current setting (1=good, 0=bad)
|000111110000000111110000|
Enter new settings. . . . . :
(in listing the histogram bins, the symbol * indicates
that there is no upper limit for this bin.)
Set the upper limits of the maximum-depth histogram bins:
Upper limits are: 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters
Enter new limits (in meters):
Set the upper limits of the dive-duration histogram bins:
Upper limits are: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Enter new limits (in minutes):
Set the upper limits of the time-at-depth histogram bins (0 = haul-out):
Upper limits are: 0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
Enter new limits (in meters):
SL-TDR> v
Battery voltage under light load = 7.396 Volts.
SL-TDR> v
Battery voltage under light load = 7.396 Volts.
SL-TDR> va3
Battery voltage under light load = 7.396 Volts.
Battery voltage under light load = 7.396 Volts.
Battery voltage under light load = 7.396 Volts.
SL-TDR> a3
S.W. Resistance = 255, Depth (m) = 0

S.W. Resistance = 255, Depth (m) = 2
S.W. Resistance = 255, Depth (m) = 2
SL-TDR> e
It is strongly recommended that you log the following information to a disk
file so that you have a permanent copy of this setup. In PROCOMM you do this
by pressing the ALT-F1 key combination. You will then be prompted for a
filename, a suggested name is 01T0085.SET
After you have entered a filename, press return to continue.
SLTDR version: 3.15b
06020C140102001401002BFD530A0100
00000001010101010000000000000001
01010101000000000034010000490000
01FFFFFFFFFFFFF000A0200000A0200
000A0200007E21FE0000010000000100
00100A0501000100010002000000000
FA00000000000000000000000000000
00000000000000000000004070200B3
0A141E28323C46505A647DAFE1FF000E
020406080A0C0E101214191E28FF000E
000A141E28323C46505A647DAFFF000E
30030F620001020380FFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFF0788F0FF
6D7332303031323430393 9FFFFFFFFF
FFFFFFFFFFFFFFF30315430303835FF
Quarter-Watt, Microprocessor-controlled Satellite-linked Time-Depth Recorder.
Unit measures depth from 0 to 490 meters with a resolution of 2 meters
Software version 3.15b. Unit number: 01T0085. ARGOS geolocation id = 24099
Unit identifier = ms200124099. Unit started at 03:01:31 on 13/10/01
Time (GMT) is 18:21:01.98. Date (GMT) is 31 October 2001
Shallowest depth to be considered a "dive" = 4 meters
Deepest depth for accumulating surface-timelines (0=dry only) = 2 meters
SLTDR uses 1-sec / 1/4-sec wakeups when shallower than 20 / 10 meters
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Transmission intervals (at-sea / on-land) = 00:49.00 / 01:34.00
SLTDR will use on-land interval after 10 consecutive dry transmissions
SLTDR will suspend transmissions after 1 hours "hauled-out".
"Haul-out" ends
after SLTDR is "wet" for 2 successive at-sea transmission intervals
Transmissions will be duty cycled with 1 day on and 0 days off
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 250
STATUS will be transmitted every 20 messages.
Blocks of Time-Lines will be transmitted every 48 messages.
Hours when SLTDR transmits3-07,15-19
Upper limits of maximum-depth histogram bins are:
20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters
Upper limits of dive-duration histogram bins are:
2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Upper limits of time-at-depth histogram bins are:
0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
**** Check these parameters carefully ****. Ready to deploy? y
Type D to archive depth readings, H to archive histograms: h
Unit is ready for deployment, disconnect cable and go for it...
□□□

PTT ID 24101; SEAL ID KD01

Satellite-linked Data Recorder with Telonics ST-16 Argos Transmitter.
Software version 3.15b. Unit number: 01T0086. ARGOS geolocation id = 24101
Unit identifier = ms200124101. Unit started at 03:21:47 on 13/10/01
Time (GMT) is 18:22:26.52. Date (GMT) is 31 October 2001
Shallowest depth to be considered a "dive" = 4 meters
Deepest depth for accumulating surface-timelines (0=dry only) = 2 meters
SLTDR uses 1-sec / 1/4-sec wakeups when shallower than 20 / 10 meters
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Transmission intervals (at-sea / on-land) = 00:50.00 / 01:35.00
SLTDR will use on-land interval after 10 consecutive dry transmissions
SLTDR will suspend transmissions after 1 hours "hauled-out". "Haul-out" ends
after SLTDR is "wet" for 2 successive at-sea transmission intervals
Transmissions will be duty cycled with 1 day on and 0 days off
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 250
STATUS will be transmitted every 20 messages.
Blocks of Time-Lines will be transmitted every 48 messages.
Hours when SLTDR transmits: 03-07,15-19
Upper limits of maximum-depth histogram bins are:
20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters
Upper limits of dive-duration histogram bins are:
2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Upper limits of time-at-depth histogram bins are:
0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
SL-TDR> o
Do you wish to allow any unused portion of your daily transmission allowance
to be added to the next day's allowance? [n]

Do you wish to be able to set the daily transmission allowance on a month-by-month basis? [n]

Enter number (0/6/10/14) of depth histogram bins: [14]

Enter number (0/6/10/14) of duration histogram bins: [14]

Enter number (0/6/10/14) of time-at-depth histogram bins: [14]

How many histograms or timeline messages should be encoded into
each transmission (1/2) [1]

Will the instrument be deployed in an area where fresh and salt water may
exist in discrete layers? [n]
SL-TDR> p
User-definable identification = ms200124101
Enter new identifier (up to 15 characters):
Shallowest depth to be considered a "dive" = 4
Enter new value:
Deepest depth for accumulating surface-timelines (0=dry only) = 2
Enter new value:
Unit will try to detect surface every second when shallower than 20
Enter new value:
Unit will try to detect surface every 1/4-second when shallower than 10
Enter new value:
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Enter new value:
Change to on-land transmission interval after n [1-255] consecutive
transmissions without sea-water induced delays. n = 10
Enter new value:
After n hours of "haul-out", unit will suspend further transmissions,
(n = 0 will disable this option). n = 1
Enter new value:
"Haul-out" ends when n successive at-sea transmission intervals elapse which
are all "wet". n = 2
Enter new value:
Unit will duty cycle with n [1-15] days on. n = 1
Enter new value:
Unit will duty cycle with n [0-15] days off. n = 0
Enter new value:
Nominal battery capacity is 20000 transmissions.
See User's manual for formula to determine actual battery capacity.
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 250
Enter new daily allowance [1-65535]:
STATUS will be transmitted every nth [0-255] message. n = 20
Enter new value:
Blocks of Time-Lines will be transmitted every nth [0-255] message. n = 48
Enter new value:
Transmission hours with good satellite coverage
|000000000011111111112222|
(these hours (read vertically) are all in GMT)
|012345678901234567890123|
---+----------------------+
Current setting (1=good, 0=bad)
|000111110000000111110000|
Enter new settings. . . . . :
(in listing the histogram bins, the symbol * indicates
that there is no upper limit for this bin.)
Set the upper limits of the maximum-depth histogram bins:
Upper limits are: 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters
Enter new limits (in meters):
Set the upper limits of the dive-duration histogram bins:
Upper limits are: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Enter new limits (in minutes):
Set the upper limits of the time-at-depth histogram bins (0 = haul-out):
Upper limits are: 0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
Enter new limits (in meters):
SL-TDR> v
Battery voltage under light load = 7.224 Volts.
SL-TDR> v
Battery voltage under light load = 7.224 Volts.
SL-TDR> v
Battery voltage under light load = 7.224 Volts.
SL-TDR> a3
S.W. Resistance = 255, Depth (m) = 0
S.W. Resistance = 255, Depth (m) = 0
S.W. Resistance = 255, Depth (m) = 0

SL-TDR> e
It is strongly recommended that you log the following information to a disk
file so that you have a permanent copy of this setup. In PROCOMM you do this
by pressing the ALT-F1 key combination. You will then be prompted for a
filename, a suggested name is 01T0086.SET
After you have entered a filename, press return to continue.
SLTDR version: 3.15b
4E020C140102001401002AFD530A0100
00000001010101010000000000000001
01010101000000000035010000500000
01FFFFFFFFFFFFF000A0200000A0200
000A0200007E21FE0000010000000100
00100A0501000100010020000000000
FA00000000000000000000000000000
00000000000000000000000040702008C
0A141E28323C46505A647DAFE1FF000E
020406080A0C0E101214191E28FF000E
000A141E28323C46505A647DAFFF000E
30030F620001020355FFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFF078949FF
6D7332303031323431303 1FFFFFFFFF
FFFFFFFFFFFFFFF30315430303836FF
Quarter-Watt, Microprocessor-controlled Satellite-linked Time-Depth Recorder.
Unit measures depth from 0 to 490 meters with a resolution of 2 meters
Software version 3.15b. Unit number: 01T0086. ARGOS geolocation id = 24101
Unit identifier = ms200124101. Unit started at 03:21:47 on 13/10/01
Time (GMT) is 18:22:54.60. Date (GMT) is 31 October 2001
Shallowest depth to be considered a "dive" = 4 meters
Deepest depth for accumulating surface-timelines (0=dry only) = 2 meters
SLTDR uses 1-sec / 1/4-sec wakeups when shallower than 20 / 10 meters
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Transmission intervals (at-sea / on-land) = 00:50.00 / 01:35.00
SLTDR will use on-land interval after 10 consecutive dry transmissions
SLTDR will suspend transmissions after 1 hours "hauled-out". "Haul-out" ends
after SLTDR is "wet" for 2 successive at-sea transmission intervals
Transmissions will be duty cycled with 1 day on and 0 days off
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 250
STATUS will be transmitted every 20 messages.
Blocks of Time-Lines will be transmitted every 48 messages.
Hours when SLTDR transmits: 03-07,15-19
Upper limits of maximum-depth histogram bins are:
20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters
Upper limits of dive-duration histogram bins are:
2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Upper limits of time-at-depth histogram bins are:
0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
**** Check these parameters carefully ****. Ready to deploy? y
Type D to archive depth readings, H to archive histograms: h

Unit is ready for deployment, disconnect cable and go for it...
□□

PTT ID 24113; SEAL ID RM04

Satellite-linked Data Recorder with Telonics ST-16 Argos Transmitter.
Software version 3.15b. Unit number: 01T0121. ARGOS geolocation id = 24113
Unit identifier = ms200124113. Unit started at 03:29:44 on 13/10/01
Time (GMT) is 23:57:50.99. Date (GMT) is 31 October 2001
Shallowest depth to be considered a "dive" = 4 meters
Deepest depth for accumulating surface-timelines (0=dry only) = 2 meters
SLTDR uses 1-sec / 1/4-sec wakeups when shallower than 20 / 10 meters
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Transmission intervals (at-sea / on-land) = 00:40.00 / 01:25.00
SLTDR will use on-land interval after 10 consecutive dry transmissions
SLTDR will suspend transmissions after 1 hours "hauled-out". "Haul-out" ends
after SLTDR is "wet" for 2 successive at-sea transmission intervals
Transmissions will be duty cycled with 1 day on and 0 days off
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 250
STATUS will be transmitted every 20 messages.
Blocks of Time-Lines will be transmitted every 48 messages.
Hours when SLTDR transmits: 03-07,15-19
Upper limits of maximum-depth histogram bins are:
20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters
Upper limits of dive-duration histogram bins are:
2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Upper limits of time-at-depth histogram bins are:
0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
SL-TDR> o
Do you wish to allow any unused portion of your daily transmission allowance
to be added to the next day's allowance? [n]

Do you wish to be able to set the daily transmission allowance on a month-by-month basis? [n]

Enter number (0/6/10/14) of depth histogram bins: [14]

Enter number (0/6/10/14) of duration histogram bins: [14]

Enter number (0/6/10/14) of time-at-depth histogram bins: [14]

How many histograms or timeline messages should be encoded into
each transmission (1/2) [1]

Will the instrument be deployed in an area where fresh and salt water may
exist in discrete layers? [n]
SL-TDR> p
User-definable identification = ms200124113
Enter new identifier (up to 15 characters):
Shallowest depth to be considered a "dive" = 4
Enter new value:
Deepest depth for accumulating surface-timelines (0=dry only) = 2
Enter new value:
Unit will try to detect surface every second when shallower than 20
Enter new value:
Unit will try to detect surface every 1/4-second when shallower than 10
Enter new value:
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Enter new value:
Change to on-land transmission interval after n [1-255] consecutive
transmissions without sea-water induced delays. n = 10
Enter new value:
After n hours of "haul-out", unit will suspend further transmissions,
(n = 0 will disable this option). n = 1
Enter new value:
"Haul-out" ends when n successive at-sea transmission intervals elapse which
are all "wet". n = 2
Enter new value:
Unit will duty cycle with n [1-15] days on. n = 1
Enter new value:
Unit will duty cycle with n [0-15] days off. n = 0
Enter new value:
Nominal battery capacity is 20000 transmissions.
See User's manual for formula to determine actual battery capacity.
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 250
Enter new daily allowance [1-65535]:
STATUS will be transmitted every nth [0-255] message. n = 20
Enter new value:
Blocks of Time-Lines will be transmitted every nth [0-55] message. n = 48
Enter new value:
Transmission hours with good satellite coverage
|000000000011111111112222|
(these hours (read vertically) are all in GMT)
|012345678901234567890123|
---+---+
Current setting (1=good, 0=bad)
|000111110000000111110000|
Enter new settings. . . . . :
(in listing the histogram bins, the symbol * indicates
that there is no upper limit for this bin.)
Set the upper limits of the maximum-depth histogram bins:
Upper limits are: 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters
Enter new limits (in meters):
Set the upper limits of the dive-duration histogram bins:
Upper limits are: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Enter new limits (in minutes):
Set the upper limits of the time-at-depth histogram bins (0 = haul-out):
Upper limits are: 0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
Enter new limits (in meters):
SL-TDR> v
Battery voltage under light load = 7.482 Volts.
SL-TDR> v
Battery voltage under light load = 7.482 Volts.
SL-TDR> v
Battery voltage under light load = 7.482 Volts.
SL-TDR> a3
S.W. Resistance = 255, Depth (m) = 0
S.W. Resistance = 255, Depth (m) = 0
S.W. Resistance = 255, Depth (m) = 2

SL-TDR> e
It is strongly recommended that you log the following information to a disk
file so that you have a permanent copy of this setup. In PROCOMM you do this
by pressing the ALT-F1 key combination. You will then be prompted for a
filename, a suggested name is 01T0121.SET
After you have entered a filename, press return to continue.
SLTDR version: 3.15b
78020C140102001401002BFD530A0100
00000001010101010000000000000001
01010101000000000025010000400000
01FFFFFFFFFFFFF000A0200000A0200
000A0200007E21FE0000010000000100
00100A0501000100010020000000000
FA000000000000000000000000000000
00000000000000000000000407020054
0A141E28323C46505A647DAFE1FF000E
020406080A0C0E101214191E28FF000E
000A141E28323C46505A647DAFFF000E
30030F620001020380FFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFF078C79FF
6D7332303031323431313 3FFFFFFFFF
FFFFFFFFFFFFFFF30315430313231FF
Quarter-Watt, Microprocessor-controlled Satellite-linked Time-Depth Recorder.
Unit measures depth from 0 to 490 meters with a resolution of 2 meters
Software version 3.15b. Unit number: 01T0121. ARGOS geolocation id = 24113
Unit identifier = ms200124113. Unit started at 03:29:44 on 13/10/01
Time (GMT) is 23:58:23.81. Date (GMT) is 31 October 2001
Shallowest depth to be considered a "dive" = 4 meters
Deepest depth for accumulating surface-timelines (0=dry only) = 2 meters
SLTDR uses 1-sec / 1/4-sec wakeups when shallower than 20 / 10 meters
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Transmission intervals (at-sea / on-land) = 00:40.00 / 01:25.00
SLTDR will use on-land interval after 10 consecutive dry transmissions
SLTDR will suspend transmissions after 1 hours "hauled-out". "Haul-out" ends
after SLTDR is "wet" for 2 successive at-sea transmission intervals
Transmissions will be duty cycled with 1 day on and 0 days off
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 250
STATUS will be transmitted every 20 messages.
Blocks of Time-Lines will be transmitted every 48 messages.
Hours when SLTDR transmits: 03-07,15-19
Upper limits of maximum-depth histogram bins are:
20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters
Upper limits of dive-duration histogra

PTT ID 24114; SEAL ID KY14

```
          +-----------------------------------------------------+
          |  Wildlife Computers Microprocessor-Controlled       |
          |        Satellite-linked Data Recorder               |
          |                                                     |
          |  Communications established, baud rate = 9600       |
          +-----------------------------------------------------+
          |  Copyright: Wildlife Computers,                     |
          |           16150 N.E. 85th St, Suite 226,            |
          |           Redmond, WA 98052, USA.                   |
          |  Telephone: (425)-881-3048  Fax: (425)-881-3405     |
          +-----------------------------------------------------+
          |  Built for: Bud Antonelis                           |
          |           NOAA,NMFS,SWFC Honolulu Lab               |
          |           2570 Dole Street                          |
          |           Honolulu, HI 96822-2396                   |
          +-----------------------------------------------------+
          |  Revision date: 26th February 2001                  |
+---------+-----------------------------------------------------+---------+
| Limit of Liability.  This unit may only be used with the understanding that |
| its value is its retail cost and that responsibility of Wildlife Computers  |
| from whatever cause arising is limited to its repair or replacement.        |
+-----------------------------------------------------------------------------+

Press return to accept this limit of liability and to continue...
Satellite-linked Data Recorder with Telonics ST-16 Argos Transmitter.
Software version 3.15b.  Unit number: 01T0122.  ARGOS geolocation id = 24114
Unit identifier = ms200124114.  Unit started at 03:35:59 on 13/10/01
Time (GMT) is 23:55:54.20.  Date (GMT) is 31 October 2001
Shallowest depth to be considered a "dive" = 4 meters
Deepest depth for accumulating surface-timelines (0=dry only) = 2 meters
SLTDR uses 1-sec / 1/4-sec wakeups when shallower than 20 / 10 meters
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Transmission intervals (at-sea / on-land) = 00:41.00 / 01:26.00
SLTDR will use on-land interval after 10 consecutive dry transmissions
SLTDR will suspend transmissions after 1 hours "hauled-out". "Haul-out" ends
  after SLTDR is "wet" for 2 successive at-sea transmission intervals
Transmissions will be duty cycled with 1 day on and 0 days off
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 250
STATUS will be transmitted every 20 messages.
Blocks of Time-Lines will be transmitted every 48 messages.
Hours when SLTDR transmits: 03-07,15-19
Upper limits of maximum-depth histogram bins are:
20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters
Upper limits of dive-duration histogram bins are:
2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Upper limits of time-at-depth histogram bins are:
0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
SL-TDR> b
Satellite-linked Data Recorder with Telonics ST-16 Argos Transmitter.
Software version 3.15b.  Unit number: 01T0122.  ARGOS geolocation id = 24114
Unit identifier = ms200124114.  Unit started at 03:35:59 on 13/10/01
Time (GMT) is 23:55:56.70.  Date (GMT) is 31 October 2001
Shallowest depth to be considered a "dive" = 4 meters
Deepest depth for accumulating surface-timelines (0=dry only) = 2 meters
SLTDR uses 1-sec / 1/4-sec wakeups when shallower than 20 / 10 meters
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Transmission intervals (at-sea / on-land) = 00:41.00 / 01:26.00
SLTDR will use on-land interval after 10 consecutive dry transmissions
SLTDR will suspend transmissions after 1 hours "hauled-out". "Haul-out" ends
  after SLTDR is "wet" for 2 successive at-sea transmission intervals
Transmissions will be duty cycled with 1 day on and 0 days off
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 250
STATUS will be transmitted every 20 messages.
Blocks of Time-Lines will be transmitted every 48 messages.
Hours when SLTDR transmits: 03-07,15-19
Upper limits of maximum-depth histogram bins are:
20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters
Upper limits of dive-duration histogram bins are:
2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Upper limits of time-at-depth histogram bins are:
0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
SL-TDR> o
Do you wish to allow any unused portion of your daily transmission allowance
to be added to the next day's allowance? [n]

Do you wish to be able to set the daily transmission allowance on a month-by-month basis? [n]

Enter number (0/6/10/14) of depth histogram bins: [14]

Enter number (0/6/10/14) of duration histogram bins: [14]

Enter number (0/6/10/14) of time-at-depth histogram bins: [14]

How many histograms or timeline messages should be encoded into
each transmission (1/2) [1]

Will the instrument be deployed in an area where fresh and salt water may
exist in discrete layers? [n]
SL-TDR>
SL-TDR> p
User-definable identification = ms200124114
Enter new identifier (up to 15 characters):
Shallowest depth to be considered a "dive" = 4
En new value:
Deepest depth for accumulating surface-timelines (dry nly) = 2
Enter new value:
Unit will try to detect surface every second when shallower than 20
Enter new value:
```

```
Unit will try to detect surface every 1/4-second when shallower
than 10
Enter new value:
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Enter new value:
Change to on-land transmission interval after n [1-255]
consecutive
transmissions without sea-water induced delays.  n = 10
Enter new value:
After n hours of "haul-out", unit will suspend further
transmissions,
(n = 0 will disable this option).  n = 1
Enter new value:
"Haul-out" ends when n successive at-sea transmission intervals
elapse which
are all "wet".  n = 2
Enter new value:
Unit will duty cycle with n [1-15] days on.  n = 1
Enter new value:
Unit will duty cycle with n [0-15] days off.  n = 0
Enter new value:
Nominal battery capacity is 20000 transmissions.
See User's manual for formula to determine actual battery capacity.
Daily allowance (1-message transmissions; unused xmits don't
accumulate) = 250
Enter new daily allowance [1-65535]:
STATUS will be transmitted every nth [0-255] message.  n = 20
Enter new value:
Blocks of Time-Lines will be transmitted every nth [0-255]
message.  n = 48
Enter new value:
Transmission hours with good satellite coverage
|000000000011111111112222|
 (these hours (read vertically) are all in GMT)
|012345678901234567890123|
-------------------------------------------------+-----------------------+
            Current setting (1=good, 0=bad)
|000111110000000111110000|
Enter new settings. . . . . . . . . . :
     (in listing the histogram bins, the symbol * indicates
     that there is no upper limit for this bin.)
Set the upper limits of the maximum-depth histogram bins:
Upper limits are: 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250,
350, 450, * meters
Enter new limits (in meters):
Set the upper limits of the dive-duration histogram bins:
Upper limits are: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, *
minutes
Enter new limits (in minutes):
Set the upper limits of the time-at-depth histogram bins (0 = haul-
out):
Upper limits are: 0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200,
250, 350, * meters
Enter new limits (in meters):
SL-TDR> v
Battery voltage under light load = 7.266 Volts.
SL-TDR> v
Battery voltage under light load = 7.266 Volts.
SL-TDR> v
Battery voltage under light load = 7.266 Volts.
SL-TDR> a3
S.W. Resistance = 255, Depth (m) = 0
S.W. Resistance = 255, Depth (m) = 2
S.W. Resistance = 255, Depth (m) = 2
S.W. Resistance = 255, Depth (m) = 2
SL-TDR> e
It is strongly recommended that you log the following information
to a disk
file so that you have a permanent copy of this setup.  In
PROCOMM you do this
by pressing the ALT-F1 key combination.  You will then be
prompted for a
filename, a suggested name is 01T0122.SET
After you have entered a filename, press return to continue.
SLTDR version: 3.15b
E0020C140102001401002AFD530A0100
00000001010101010000000000000001
0101010100000000002601000041000 0
01FFFFFFFFFFFFF000A0200000A0200
000A0200007E21FE0000010000000100
00100A0501000100010002000000000
FA000000000000000000000000000000
00000000000000000000000040702003C
0A141E28323C46505A647DAFE1FF000E
020406080A0C0E101214191E28FF000E
000A141E28323C46505A647DAFFF000E
30030F620001020382FFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFF078C8CFF
6D7332303031323431313 4FFFFFFFFF
FFFFFFFFFFFFFFF30315430313232FF
Quarter-Watt, Microprocessor-controlled Satellite-linked Time-
Depth Recorder.
Unit measures depth from 0 to 490 meters with a resolution of 2
meters
Software version 3.15b.  Unit number: 01T0122.  ARGOS
geolocation id = 24114
Unit identifier = ms200124114.  Unit started at 03:35:59 on
13/10/01
Time (GMT) is 23:56:28.10.  Date (GMT) is 31 October 2001
Shallowest depth to be considered a "dive" = 4 meters
Deepest depth for accumulating surface-timelines (0=dry only) = 2
meters
SLTDR uses 1-sec / 1/4-sec wakeups when shallower than 20 / 10
meters
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Transmission intervals (at-sea / on-land) = 00:41.00 / 01:26.00
SLTDR will use on-land interval after 10 consecutive dry
transmissions
SLTDR will suspend transmissions after 1 hours "hauled-out".
"Haul-out" ends
  after SLTDR is "wet" for 2 successive at-sea transmission
intervals
Transmissions will be duty cycled with 1 day on and 0 days off
Daily allowance (1-message transmissions; unused xmits don't
accumulate) = 250
STATUS will be transmitted every 20 messages.
Blocks of Time-Lines will be transmitted every 48 messages.
Hours when SLTDR transmits: 03-07,15-19
Upper limits of maximum-depth histogram bins are:
20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, *
meters
Upper limits of dive-duration histogram bins are:
2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Upper limits of time-at-depth histogram bins are:
0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
****  Check these parameters carefully ****.  Ready to deploy? y
Type D to archive depth readings, H to archive histograms: h

Unit is ready for deployment, disconnect cable and go for it...
□□□
```

PTT ID 24115; SEAL ID KM29

Satellite-linked Data Recorder with Telonics ST-16 Argos Transmitter.
Software version 3.15b. Unit number: 01T0123. ARGOS geolocation id = 24115
Unit identifier = ms200124115. Unit started at 03:25:19 on 13/10/01
Time (GMT) is 23:53:09.33. Date (GMT) is 31 October 2001
Shallowest depth to be considered a "dive" = 4 meters
Deepest depth for accumulating surface-timelines (0=dry only) = 2 meters
SLTDR uses 1-sec / 1/4-sec wakeups when shallower than 20 / 10 meters
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Transmission intervals (at-sea / on-land) = 00:42.00 / 01:27.00
SLTDR will use on-land interval after 10 consecutive dry transmissions
SLTDR will suspend transmissions after 1 hours "hauled-out". "Haul-out" ends
after SLTDR is "wet" for 2 successive at-sea transmission intervals
Transmissions will be duty cycled with 1 day on and 0 days off
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 250
STATUS will be transmitted every 20 messages.
Blocks of Time-Lines will be transmitted every 48 messages.
Hours when SLTDR transmits: 03-07,15-19
Upper limits of maximum-depth histogram bins are:
20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters
Upper limits of dive-duration histogram bins are:
2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Upper limits of time-at-depth histogram bins are:
0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
SL-TDR> o
Do you wish to allow any unused portion of your daily transmission allowance
to be added to the next day's allowance? [n]

Do you wish to be able to set the daily transmission allowance on a month-by-month basis? [n]

Enter number (0/6/10/14) of depth histogram bins: [14]

Enter number (0/6/10/14) of duration histogram bins: [14]

Enter number (0/6/10/14) of time-at-depth histogram bins: [14]

How many histograms or timeline messages should be encoded into
each transmission (1/2) [1]

Will the instrument be deployed in an area where fresh and salt water may
exist in discrete layers? [n]
SL-TDR> p
User-definable identification = ms200124115
Enter new identifier (up to 15 characters):
Shallowest depth to be considered a "dive" = 4
Enter new value:
Deepest depth for accumulating surface-timelines (0=dry only) = 2
Enter new value:
Unit will try to detect surface every second when shallower than 20
Enter new value:
Unit will try to detect surface every 1/4-second when shallower than 10
Enter new value:
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Enter new value:
Change to on-land transmission interval after n [1-255] consecutive
transmissions without sea-water induced delays. n = 10
Enter new value:
After n hours of "haul-out", unit will uspend further tranissions, (n = 0 will disable this option). n = 1
Er new value:
"Haul-out" ends when n successive at-sea transmission intervals elapse which
are all "wet". n = 2
Enter new value:
Unit will duty cycle with n [1-15] days on. n = 1
Enter new value:
Unit will duty cycle with n [0-15] days off. n = 0
Enter new value:
Nominal battery capacity is 20000 transmissions.
See User's manual for formula to determine actual battery capacity.
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 250
Enter new daily allowance [1-65535]:
STATUS will be transmitted every nth [0-255] message. n = 20
Enter new value:
Blocks of Time-Lines will be transmitted every nth [0-255] message. n = 48
Enter new value:
Transmission hours with good satellite coverage
|000000000011111111112222|
(these hours (read vertically) are all in GMT)
|012345678901234567890123|
---+---+
Current setting (1=good, 0=bad)
|000111110000000111110000|
Enter new settings. . . . . :
(in listing the histogram bins, the symbol * indicates
that there is no upper limit for this bin.)
Set the upper limits of the maximum-depth histogram bins:
Upper limits are: 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters
Enter new limits (in meters):
Set the upper limits of the dive-duration histogram bins:
Upper limits are: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Enter new limits (in minutes):
Set the upper limits of the time-at-depth histogram bins (0 = haul-out):
Upper limits are: 0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
Enter new limits (in meters):
SL-TDR> v
Battery voltage under light load = 7.353 Volts.
SL-TDR> v
Battery voltage under light load = 7.353 Volts.
SL-TDR> v
Battery voltage under light load = 7.353 Volts.
SL-TDR> a3
S.W. Resistance = 255, Depth (m) = 2
S.W. Resistance = 255, Depth (m) = 2
S.W. Resistance = 255, Depth (m) = 2
S.W. Resistance = 255, Depth (m) = 2

SL-TDR> e
It is strongly recommended that you log the following information to a disk
file so that you have a permanent copy of this setup. In PROCOMM you do this
by pressing the ALT-F1 key combination. You will then be prompted for a
filename, a suggested name is 01T0123.SET
After you have entered a filename, press return to continue.
SLTDR version: 3.15b
68020C140102001401002BFD520A0100
00000001010101010000000000000001
01010101000000000027010000420000
01FFFFFFFFFFFFF000A0200000A0200
000A0200007E21FE0000010000000100
00100A0501000100010002000000000
FA000000000000000000000000000000
00000000000000000000000004070200E7
0A141E28323C46505A647DAFE1FF000E
020406080A0C0E101214191E28FF000E
000A141E28323C46505A647DAFFF000E
30030F620001020380FFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFF078CDFFF
6D7332303031323431313 5FFFFFFFFF
FFFFFFFFFFFFFFF30315430313233FF
Quarter-Watt, Microprocessor-controlled Satellite-linked Time-Depth Recorder.
Unit measures depth from 0 to 490 meters with a resolution of 2 meters
Software version 3.15b. Unit number: 01T0123. ARGOS geolocation id = 24115
Unit identifier = ms200124115. Unit started at 03:25:19 on 13/10/01
Time (GMT) is 23:53:37.95. Date (GMT) is 31 October 2001
Shallowest depth to be considered a "dive" = 4 meters
Deepest depth for accumulating surface-timelines (0=dry only) = 2 meters
SLTDR uses 1-sec / 1/4-sec wakeups when shallower than 20 / 10 meters
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Transmission intervals (at-sea / on-land) = 00:42.00 / 01:27.00
SLTDR will use on-land interval after 10 consecutive dry transmissions
SLTDR will suspend transmissions after 1 hours "hauled-out". "Haul-out" ends
after SLTDR is "wet" for 2 successive at-sea transmission intervals
Transmissions will be duty cycled with 1 day on and 0 days off
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 250
STATUS will be transmitted every 20 messages.
Blocks of Time-Lines will be transmitted every 48 messages.
Hours when SLTDR transmits: 03-07,15-19
Upper limits of maximum-depth histogram bins are:
20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters
Upper limits of dive-duration histogram bins are:
2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Upper limits of time-at-depth histogram bins are:
0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
**** Check these parameters carefully ****. Ready to deploy? y
Type D to archive depth readings, H to archive histograms: h

Unit is ready for deployment, disconnect cable and go for it...
□□□

PTT ID 25780; SEAL ID RD13

Satellite-linked Data Recorder with Telonics ST-16 Argos Transmitter.
Software version 3.15b. Unit number: 01T0124. ARGOS geolocation id = 25780
Unit identifier = ms200125780. Unit started at 03:05:34 on 13/10/01
Time (GMT) is 23:51:16.27. Date (GMT) is 31 October 2001
Shallowest depth to be considered a "dive" = 4 meters
Deepest depth for accumulating surface-timelines (0=dry only) = 2 meters
SLTDR uses 1-sec / 1/4-sec wakeups when shallower than 20 / 10 meters
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Transmission intervals (at-sea / on-land) = 00:43.00 / 01:28.00
SLTDR will use on-land interval after 10 consecutive dry transmissions
SLTDR will suspend transmissions after 1 hours "hauled-out". "Haul-out" ends
after SLTDR is "wet" for 2 successive at-sea transmission intervals
Transmissions will be duty cycled with 1 day on and 0 days off
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 250
STATUS will be transmitted every 20 messages.
Blocks of Time-Lines will be transmitted every 48 messages.
Hours when SLTDR transmits: 03-07,15-19
Upper limits of maximum-depth histogram bins are:
20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters
Upper limits of dive-duration histogram bins are:
2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Upper limits of time-at-depth histogram bins are:
0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
SL-TDR> o
Do you wish to allow any unused portion of your daily transmission allowance
to be added to the next day's allowance? [n]

Do you wish to be able to set the daily transmission allowance on a month-by-month basis? [n]

Enter number (0/6/10/14) of depth histogram bins: [14]

Enter number (0/6/10/14) of duration histogram bins: [14]

Enter number (0/6/10/14) of time-at-depth histogram bins: [14]

How many histograms or timeline messages should be encoded into
each transmission (1/2) [1]

Will the instrument be deployed in an area where fresh and salt water may
exist in discrete layers? [n]
SL-TDR> p
User-definable identification = ms200125780
Enter new identifier (up to 15 characters):
Shallowest depth to be considered a "dive" = 4
Enter new value:
Deepest depth for accumulating surface-timelines (0=dry only) = 2
Enter new value:
Unit will try to detect surface every second when shallower than 20
Enter new value:
Unit will try to detect surface every 1/4-second when shallower than 10
Enter new value:
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Enter new value:
Change to on-land transmission interval after n [1-255] consecutive
transmissions without sea-water induced delays. n = 10
Enter new value:
After n hours of "haul-out", unit will suspend further transmissions,
(n = 0 will disable this option). n = 1
Enter new value:
"Haul-out" ends when n successive at-sea transmission intervals elapse which
are all "wet". n = 2
Enter new value:
Unit will duty cycle with n [1-15] days on. n = 1
Enter new value:
Unit will duty cycle with n [0-15] days off. n = 0
Enter new value:
Nominal battery capacity is 20000 transmissions.
See User's manual for formula to determine actual battery capacity.
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 250
Enter new daily allowance [1-65535]:
STATUS will be transmitted every nth [0-255] message. n = 20
Enter new value:
Blocks of Time-Lines will be transmitted every nth [0-255] message. n = 48
Enter new value:
Transmission hours with good satellite coverage
|000000000011111111112222|
(these hours (read vertically) are all in GMT)
|012345678901234567890123|
---+----------------------+
Current setting (1=good, 0=bad)
|000111110000000111110000|
Enter new settings. . . . . :
(in listing the histogram bins, the symbol * indicates
that there is no upper limit for this bin.)
Set the upper limits of the maximum-depth histogram bins:
Upper limits are: 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters
Enter new limits (in meters):
Set the upper limits of the dive-duration histogram bins:
Upper limits are: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Enter new limits (in minutes):
Set the upper limits of the time-at-depth histogram bins (0 = haul-out):
Upper limits are: 0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
Enter new limits (in meters):
SL-TDR> e
It is strongly recommended that you log the following information to a disk
file so that you have a permanent copy of this setup. In PROCOMM you do this
by pressing the ALT-F1 key combination. You will then be prompted for a
filename, a suggested name is 01T0124.SET
After you have entered a filename, press return to continue.
SLTDR version: 3.15b

02020C140102001401002BFD520A0100
00000001010101010000000000000001
01010101000000000028010000430000
01FFFFFFFFFFFFF000A0200000A0200
000A0200007E21FE0000010000000100
00100A0501000100010002000000000
FA000000000000000000000000000000
00000000000000000000000004070200ED
0A141E28323C46505A647DAFE1FF000E
020406080A0C0E101214191E28FF000E
000A141E28323C46505A647DAFFF000E
30030F62000102038EFFFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFF092D1CFF
6D7332303031323537383 0FFFFFFFFF
FFFFFFFFFFFFFFF30315430313234FF
Quarter-Watt, Microprocessor-controlled Satellite-linked Time-Depth Recorder.
Unit measures depth from 0 to 490 meters with a resolution of 2 meters
Software version 3.15b. Unit number: 01T0124. ARGOS geolocation id = 25780
Unit identifier = ms200125780. Unit started at 03:05:34 on 13/10/01
Time (GMT) is 23:52:01.22. Date (GMT) is 31 October 2001
Shallowest depth to be considered a "dive" = 4 meters
Deepest depth for accumulating surface-timelines (0=dry only) = 2 meters
SLTDR uses 1-sec / 1/4-sec wakeups when shallower than 20 / 10 meters
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Transmission intervals (at-sea / on-land) = 00:43.00 / 01:28.00
SLTDR will use on-land interval after 10 consecutive dry transmissions
SLTDR will suspend transmissions after 1 hours "hauled-out". "Haul-out" ends
  after SLTDR is "wet" for 2 successive at-sea transmission intervals
Transmissions will be duty cycled with 1 day on and 0 days off
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 250
STATUS will be transmitted every 20 messages.
Blocks of Time-Lines will be transmitted every 48 messages.
Hours when SLTDR transmits: 03-07,15-19
Upper limits of maximum-depth histogram bins are:
20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters
Upper limits of dive-duration histogram bins are:
2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Upper limits of time-at-depth histogram bins are:
0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
**** Check these parameters carefully ****. Ready to deploy? y
Type D to archive depth readings, H to archive histograms: h

Unit is ready for deployment, disconnect cable and go for it...
□□□

PTT ID 25781; SEAL ID KY32

Satellite-linked Data Recorder with Telonics ST-16 Argos Transmitter.
Software version 3.15b. Unit number: 01T0125. ARGOS geolocation id = 25781
Unit identifier = ms200125781. Unit started at 03:33:01 on 13/10/01
Time (GMT) is 23:48:44.99. Date (GMT) is 31 October 2001
Shallowest depth to be considered a "dive" = 4 meters
Deepest depth for accumulating surface-timelines (0=dry only) = 2 meters
SLTDR uses 1-sec / 1/4-sec wakeups when shallower than 20 / 10 meters
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Transmission intervals (at-sea / on-land) = 00:44.00 / 01:29.00
SLTDR will use on-land interval after 10 consecutive dry transmissions
SLTDR will suspend transmissions after 1 hours "hauled-out". "Haul-out" ends
after SLTDR is "wet" for 2 successive at-sea transmission intervals
Transmissions will be duty cycled with 1 day on and 0 days off
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 250
STATUS will be transmitted every 20 messages.
Blocks of Time-Lines will be transmitted every 48 messages.
Hours when SLTDR transmits: 03-07,15-19
Upper limits of maximum-depth histogram bins are:
20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters
Upper limits of dive-duration histogram bins are:
2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Upper limits of time-at-depth histogram bins are:
0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
SL-TDR> o
Do you wish to allow any unused portion of your daily transmission allowance
to be added to the next day's allowance? [n]

Do you wish to be able to set the daily transmission allowance on a month-by-month basis? [n]

Enter number (0/6/10/14) of depth histogram bins: [14]

Enter number (0/6/10/14) of duration histogram bins: [14]

Enter number (0/6/10/14) of time-at-depth histogram bins: [14]

How many histograms or timeline messages should be encoded into
each transmission (1/2) [1]

Will the instrument be deployed in an area where fresh and salt water may
exist in discrete layers? [n]
SL-TDR> p
User-definable identification = ms200125781
Enter new identifier (up to 15 characters):
Shallowest depth to be considered a "dive" = 4
Enter new value:
Deepest depth for accumulating surface-timelines (0=dry only) = 2
Enter new value:
Unit will try to detect surface every second when shallower than 20
Enter new value:
Unit will try to detect surface every 1/4-second when shallower than 10
Enter new value:
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Enter new value:
Change to on-land transmission interval after n [1-255] consecutive
transmissions without sea-water induced delays. n = 10
Enter new value:
After n hours of "haul-out", unit will suspend further transmissions,
(n = 0 will disable this option). n = 1
Enter new value:
"Haul-out" ends when n successive at-sea transmission intervals elapse which
are all "wet". n = 2
Enter new value:
Unit will duty cycle with n [1-15] days on. n = 1
Enter new value:
Unit will duty cycle with n [0-15] days off. n = 0
Enter new value:
Nominal battery capacity is 20000 transmissions.
See User's manual for formula to determine actual battery capacity.
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 250
Enter new daily allowance [1-65535]:
STATUS will be transmitted every nth [0-255] message. n = 20
Enter new value:
Blocks of Time-Lines will be transmitted every nth [0-255] message. n = 48
Enter new value:
Transmission hours with good satellite coverage
|000000000011111111112222|
(these hours (read vertically) are all in GMT)
|012345678901234567890123|
---+------------------------+
Current setting (1=good, 0=bad)
|000111110000000111110000|
Enter new settings. . . . . :
(in listing the histogram bins, the symbol * indicates
that there is no upper limit for this bin.)
Set the upper limits of the maximum-depth histogram bins:
Upper limits are: 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters
Enter new limits (in meters):
Set the upper limits of the dive-duration histogram bins:
Upper limits are: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Enter new limits (in minutes):
Set the upper limits of the time-at-depth histogram bins (0 = haul-out):
Upper limits are: 0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
Enter new limits (in meters):
SL-TDR> v
Battery voltage under light load = 7.353 Volts.
SL-TDR> v
Battery voltage under light load = 7.353 Volts.
SL-TDR> v
Battery voltage under light load = 7.353 Volts.
SL-TDR> a3
S.W. Resistance = 255, Depth (m) = 0
S.W. Resistance = 255, Depth (m) = 0

S.W. Resistance = 255, Depth (m) = 0
SL-TDR> e
It is strongly recommended that you log the following information to a disk
file so that you have a permanent copy of this setup. In PROCOMM you do this
by pressing the ALT-F1 key combination. You will then be prompted for a
filename, a suggested name is 01T0125.SET
After you have entered a filename, press return to continue.
SLTDR version: 3.15b
86020C140102001401002BFD520A0100
00000001010101010000000000000001
01010101000000000029010000440000
01FFFFFFFFFFFFF000A0200000A0200
000A0200007E21FE0000010000000100
00100A0501000100010002000000000
FA00000000000000000000000000000
00000000000000000000004070200C9
0A141E28323C46505A647DAFE1FF000E
020406080A0C0E101214191E28FF000E
000A141E28323C46505A647DAFFF000E
30030F62000102037BFFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFF092D4FFF
6D733230303132353738 31FFFFFFFFF
FFFFFFFFFFFFFFF30315430313235FF

Quarter-Watt, Microprocessor-controlled Satellite-linked Time-Depth Recorder.
Unit measures depth from 0 to 490 meters with a resolution of 2 meters
Software version 3.15b. Unit number: 01T0125. ARGOS geolocation id = 25781
Unit identifier = ms200125781. Unit started at 03:33:01 on 13/10/01
Time (GMT) is 23:49:21.14. Date (GMT) is 31 October 2001
Shallowest depth to be considered a "dive" = 4 meters
Deepest depth for accumulating surface-timelines (0=dry only) = 2 meters
SLTDR uses 1-sec / 1/4-sec wakeups when shallower than 20 / 10 meters
Local time [0-23 hours] coresponding to 00h UT (GMT): 12
Transmission itervals (at-sea / on-land) = 00:44.00 / 01:29.00
SLTDR will use on-land interval after 10 consecutive dry transmissions
SLTDR will suspend transmissions after 1 hours "hauled-out".
"Haul-out" ends
after SLTDR is "wet" for 2 successive at-sea transmission intervals
Transmissions will be duty cycled with 1 day on and 0 days off
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 250
STATUS will be transmitted every 20 messages.
Blocks of Time-Lines will be transmitted every 48 messages.
Hours when SLTDR transmits: 03-07,15-19
Upper limits of maximum-depth histogram bins are:
20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters
Upper limits of dive-duration histogram bins are:
2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Upper limits of time-at-depth histogram bins are:
0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
**** Check these parameters carefully ****. Ready to deploy? y
Type D to archive depth readings, H to archive histograms: h
Unit is ready for deployment, disconnect cabend go for it...
□□□□

PTT ID 13035; SEAL ID KX08

Satellite-linked Data Recorder with Telonics ST-16 Argos Transmitter.
Software version 3.15b. Unit number: 01T0126. ARGOS geolocation id = 13035
Unit identifier = ms200113035. Unit started at 03:47:55 on 13/10/01
Time (GMT) is 00:02:40.53. Date (GMT) is 31 October 2001
Shallowest depth to be considered a "dive" = 4 meters
Deepest depth for accumulating surface-timelines (0=dry only) = 2 meters
SLTDR uses 1-sec / 1/4-sec wakeups when shallower than 20 / 10 meters
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Transmission intervals (at-sea / on-land) = 00:45.00 / 01:30.00
SLTDR will use on-land interval after 10 consecutive dry transmissions
SLTDR will suspend transmissions after 1 hours "hauled-out". "Haul-out" ends
after SLTDR is "wet" for 2 successive at-sea transmission intervals
Transmissions will be duty cycled with 1 day on and 0 days off
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 350
STATUS will be transmitted every 20 messages.
Blocks of Time-Lines will be transmitted every 48 messages.
Hours when SLTDR transmits: 03-07,15-19
Upper limits of maximum-depth histogram bins are:
20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters
Upper limits of dive-duration histogram bins are:
2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Upper limits of time-at-depth histogram bins are:
0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
SL-TDR> o
Do you wish to allow any unused portion of your daily transmission allowance
to be added to the next day's allowance? [n]

Do you wish to be able to set the daily transmission allowance on a month-by-month basis? [n]

Enter number (0/6/10/14) of depth histogram bins: [14]

Enter number (0/6/10/14) of duration histogram bins: [14]

Enter number (0/6/10/14) of time-at-depth histogram bins: [14]

How many histograms or timeline messages should be encoded into
each transmission (1/2) [1]

Will the instrument be deployed in an area where fresh and salt water may
exist in discrete layers? [n]
SL-TDR> p
User-definable identification = ms200113035
Enter new identifier (up to 15 characters):
Shallowest depth to be considered a "dive" = 4
Enter new value:
Deepest depth for accumulating surface-timelines (0=dry only) = 2
Enter new value:
Unit will try to detect surface every second when shallower than 20
Enter new value:
Unit will try to detect surface every 1/4-second when shallower than 10
Enter new value:
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Enter new value:
Change to on-land transmission interval after n [1-255] consecutive
transmissions without sea-water induced delays. n = 10
Enter new value:
After n hours of "haul-out", unit will suspend further transmissions,
(n = 0 will disable this option). n = 1
Enter new value:
"Haul-out" ends when n successive at-sea transmission intervals elapse which
are all "wet". n = 2
Enter new value:
Unit will duty cycle with n [1-15] days on. n = 1
Enter new value:
Unit will duty cycle with n [0-15] days off. n = 0
Enter new value:
Nominal battery capacity is 60000 transmissions.
See User's manual for formula to determine actual battery capacity.
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 350
Enter new daily allowance [1-65535]:
STATUS will be transmitted every nth [0-255] message. n = 20
Enter new value:
Blocks of Time-Lines will be transmitted every nth [0-255] message. n = 48
Enter new value:
Transmission hours with good satellite coverage
|000000000011111111112222|
(these hours (read vertically) are all in GMT)
|012345678901234567890123|
---+---+
Current setting (1=good, 0=bad)
|000111110000000111110000|
Enter new settings. . . . . :
(in listing the histogram bins, the symbol * indicates
that there is no upper limit for this bin.)
Set the upper limits of the maximum-depth histogram bins:
Upper limits are: 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters
Enter new limits (in meters):
Set the upper limits of the dive-duration histogram bins:
Upper limits are: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Enter new limits (in minutes):
Set the upper limits of the time-at-depth histogram bins (0 = haul-out):
Upper limits are: 0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
Enter new limits (in meters):
SL-TDR> v
Battery voltage under light load = 7.353 Volts.
SL-TDR> v
Battery voltage under light load = 7.310 Volts.
SL-TDR> v
Battery voltage under light load = 7.310 Volts.
SL-TDR> a3
S.W. Resistance = 255, Depth (m) = 0
S.W. Resistance = 255, Depth (m) = 0
S.W. Resistance = 255, Depth (m) = 0

SL-TDR> e □À□□□
It is strongly recommended that you log the following information to a disk
file so that you have a permanent copy of this setup. In PROCOMM you do this
by pressing the ALT-F1 key combination. You will then be prompted for a
filename, a suggested name is 01T0126.SET
After you have entered a filename, press return to continue.
SLTDR version: 3.15b
3C020C140102003C01002BFD510A0100
00000001010101010000000000000001
01010101000000000030010000450000
01FFFFFFFFFFFFF000A0200000A0200
000A0200007E21FE0000010000000100
00100A0501000100010002000000000
5E010000000000000000000000000000
00000000000000000000000040702001C
0A141E28323C46505A647DAFE1FF000E
020406080A0C0E101214191E28FF000E
000A141E28323C46505A647DAFFF000E
30030F620001020396FFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFF0CBAC7FF
6D7332303031313303303335FFFFFFFFF
FFFFFFFFFFFFFFF30315430313236FF

Quarter-Watt, Microprocessor-controlled Satellite-linked Time-Depth Recorder.
Unit measures depth from 0 to 490 meters with a resolution of 2 meters
Software version 3.15b. Unit number: 01T0126. ARGOS geolocation id = 13035
Unit identifier = ms200113035. Unit started at 03:47:55 on 13/10/01
Time (GMT) is 00:03:13.34. Date (GMT) is 31 October 2001
Shallowest depth to be considered a "dive" = 4 meters
Deepest depth for accumulating surface-timelines (0=dry only) = 2 meters
SLTDR uses 1-sec / 1/4-sec wakeups when shallower than 20 / 10 meters
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Transmission intervals (at-sea / on-land) = 00:45.00 / 01:30.00
SLTDR will use on-land interval after 10 consecutive dry transmissions
SLTDR will suspend transmissions after 1 hours "hauled-out". "Haul-out" ends
after SLTDR is "wet" for 2 successive at-sea transmission intervals
Transmissions will be duty cycled with 1 day on and 0 days off
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 350
STATUS will be transmitted every 20 messages.
Blocks of Time-Lines will be transmitted every 48 messages.
Hours when SLTDR transmits: 03-07,15-19
Upper limits of maximum-depth histogram bins are:
20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters
Upper limits of dive-duration histogram bins are:
2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Upper limits of time-at-depth histogram bins are:
0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
**** Check these parameters carefully ****. Ready to deploy? y
Type D to archive depth readings, H to archive histograms: h

Unit is ready for deployment, disconnect cable and go for it...

PTT ID 13047; SEAL ID K616

Satellite-linked Data Recorder with Telonics ST-16 Argos Transmitter.
Software version 3.15b. Unit number: 01T0130. ARGOS geolocation id = 13047
Unit identifier = ms200113047. Unit started at 03:45:43 on 13/10/01
Time (GMT) is 06:23:53.80. Date (GMT) is 30 October 2001
Shallowest depth to be considered a "dive" = 4 meters
Deepest depth for accumulating surface-timelines (0=dry only) = 2 meters
SLTDR uses 1-sec / 1/4-sec wakeups when shallower than 20 / 10 meters
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Transmission intervals (at-sea / on-land) = 00:49.00 / 01:34.00
SLTDR will use on-land interval after 10 consecutive dry transmissions
SLTDR will suspend transmissions after 1 hours "hauled-out". "Haul-out" ends
after SLTDR is "wet" for 2 successive at-sea transmission intervals
Transmissions will be duty cycled with 1 day on and 0 days off
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 350
STATUS will be transmitted every 20 messages.
Blocks of Time-Lines will be transmitted every 48 messages.
Hours when SLTDR transmits: 03-07,15-19
Upper limits of maximum-depth histogram bins are:
20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters
Upper limits of dive-duration histogram bins are:
2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Upper limits of time-at-depth histogram bins are:
0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
SL-TDR> o
Do you wish to allow any unused portion of your daily transmission allowance
to be added to the next day's allowance? [n]

Do you wish to be able to set the daily transmission allowance on a month-by-month basis? [n]

Enter number (0/6/10/14) of depth histogram bins: [14]

Enter number (0/6/10/14) of duration histogram bins: [14]

Enter number (0/6/10/14) of time-at-depth histogram bins: [14]

How many histograms or timeline messages should be encoded into
each transmission (1/2) [1]

Will the instrument be deployed in an area where fresh and salt water may
exist in discrete layers? [n]
SL-TDR> p
User-definable identification = ms200113047
Enter new identifier (up to 15 characters):
Shallowest depth to be considered a "dive" = 4
Enter new value:
Deepest depth for accumulating surface-timelines (0=dry only) = 2
Enter new value:
Unit will try to detect surface every second wheshallower than 20
Enter new value:
Unit will try to detect surface every 1/4-second when shallower than 10
Enter new value:
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Enter new value:
Change to on-land transmission interval after n [1-255] consecutive
transmissions without sea-water induced delays. n = 10
Enter new value:
After n hours of "haul-out", unit will suspend further transmissions,
(n = 0 will disable this option). n = 1
Enter new value:
"Haul-out" ends when n successive at-sea transmission intervals elapse which
are all "wet". n = 2
Enter new value:
Unit will duty cycle with n [1-15] days on. n = 1
Enter new value:
Unit will duty cycle with n [0-15] days off. n = 0
Enter new value:
Nominal battery capacity is 60000 transmissions.
See User's manual for formula to determine actual battery capacity.
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 350
Enter new daily allowance [1-65535]:
STATUS will be transmitted every nth [0-255] message. n = 20
Enter new value:
Blocks of Time-Lines will be transmitted every nth [0-255] message. n = 48
Enter new value:
Transmission hours with good satellite coverage
|000000000011111111112222|
(these hours (read vertically) are all in GMT)
|012345678901234567890123|
---+----------------------+
Current setting (1=good, 0=bad)
|000111110000000111110000|
Enter new settings. . . . . :
(in listing the histogram bins, the symbol * indicates
that there is no upper limit for this bin.)
Set the upper limits of the maximum-depth histogram bins:
Upper limits are: 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters
Enter new limits (in meters):
Set the upper limits of the dive-duration histogram bins:
Upper limits are: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Enter new limits (in minutes):
Set the upper limits of the time-at-depth histogram bins (0 = haul-out):
Upper limits are: 0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
Enter new limits (in meters):
SL-TDR> v
Battery voltage under light load = 7.396 Volts.
SL-TDR> v
Battery voltage under light load = 7.396 Volts.
SL-TDR> v
Battery voltage under light load = 7.396 Volts.
SL-TDR> a3
S.W. Resistance = 255, Depth (m) = 0
S.W. Resistance = 255, Depth (m) = 0
S.W. Resistance = 255, Depth (m) = 0

SL-TDR> e
It is strongly recommended that you log the following information to a disk
file so that you have a permanent copy of this setup. In PROCOMM you do this
by pressing the ALT-F1 key combination. You will then be prompted for a
filename, a suggested name is 01T0130.SET
After you have entered a filename, press return to continue.
SLTDR version: 3.15b
2E020C140102003C01002BFD530A0100
00000001010101010000000000000001
01010101000000000034010000490000
01FFFFFFFFFFFFF000A0200000A0200
000A0200007E21FE0000010000000100
00100A0501000100010002000000000
5E010000000000000000000000000000
00000000000000000000000040702001E
0A141E28323C46505A647DAFE1FF000E
020406080A0C0E101214191E28FF000E
000A141E28323C46505A647DAFFF000E
30030F620001020387FFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFF0CBDC9FF
6D7332303031313330343 7FFFFFFFFF
FFFFFFFFFFFFFFF30315430313330FF
Quarter-Watt, Microprocessor-controlled Satellite-linked Time-Depth Recorder.
Unit measures depth from 0 to 490 meters with a resolution of 2 meters
Software version 3.15b. Unit number: 01T0130. ARGOS geolocation id = 13047
Unit identifier = ms200113047. Unit started at 03:45:43 on 13/10/01
Time (GMT) is 06:24:28.11. Date (GMT) is 30 October 2001
Shallowest depth to be considered a "dive" = 4 meters
Deepest depth for accumulating surface-timelines (0=dry only) = 2 meters
SLTDR uses 1-sec / 1/4-sec wakeups when shallower than 20 / 10 meters
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Transmission intervals (at-sea / on-land) = 00:49.00 / 01:34.00
SLTDR will use on-land interval after 10 consecutive dry transmissions
SLTDR will suspend transmissions after 1 hours "hauled-out". "Haul-out" ends
after SLTDR is "wet" for 2 successive at-sea transmission intervals
Transmissions will be duty cycled with 1 day on and 0 days off
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 350
STATUS will be transmitted every 20 messages.
Blocks of Time-Lines will be transmitted every 48 messages.
Hours when SLTDR transmits: 03-07,15-19
Upper limits of maximum-depth histogram bins are:
20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters
Upper limits of dive-duration histogram bins are:
2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Upper limits of time-at-depth histogram bins are:
0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
**** Check these parameters carefully ****. Ready to deploy? y
Type D to archive depth readings, H to archive histograms: h

Unit is ready for deployment, disconnect cable and go for it...
□□□□□□□

PTT ID 24100; SEAL ID YL14

Satellite-linked Data Recorder with Telonics ST-16 Argos Transmitter.
Software version 3.15b. Unit number: 01T0131. ARGOS geolocation id = 24100
Unit identifier = ms200124100. Unit started at 02:21:45 on 13/10/01
Time (GMT) is 00:04:39.45. Date (GMT) is 31 October 2001
Shallowest depth to be considered a "dive" = 4 meters
Deepest depth for accumulating surface-timelines (0=dry only) = 2 meters
SLTDR uses 1-sec / 1/4-sec wakeups when shallower than 20 / 10 meters
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Transmission intervals (at-sea / on-land) = 00:50.00 / 01:35.00
SLTDR will use on-land interval after 10 consecutive dry transmissions
SLTDR will suspend transmissions after 1 hours "hauled-out". "Haul-out" ends
after SLTDR is "wet" for 2 successive at-sea transmission intervals
Transmissions will be duty cycled with 1 day on and 0 days off
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 350
STATUS will be transmitted every 20 messages.
Blocks of Time-Lines will be transmitted every 48 messages.
Hours when SLTDR transmits: 03-07,15-19
Upper limits of maximum-depth histogram bins are:
20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters
Upper limits of dive-duration histogram bins are:
2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Upper limits of time-at-depth histogram bins are:
0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
SL-TDR> v
Battery voltage under light load = 7.224 Volts.
SL-TDR> v
Battery voltage under light load = 7.224 Volts.
SL-TDR> v
Battery voltage under light load = 7.224 Volts.
SL-TDR> a3
S.W. Resistance = 255, Depth (m) = -2
S.W. Resistance = 255, Depth (m) = 0
S.W. Resistance = 255, Depth (m) = 0
SL-TDR> o
Do you wish to allow any unused portion of your daily transmission allowance
to be added to the next day's allowance? [n]

Do you wish to be able to set the daily transmission allowance on a month-by-month basis? [n]

Enter number (0/6/10/14) of depth histogram bins: [14]

Enter number (0/6/10/14) of duration histogram bins: [14]

Enter number (0/6/10/14) of time-at-depth histogram bins: [14]

How many histograms or timeline messages should be encoded into
each transmission (1/2) [1]

Will the instrument be deployed in an area where fresh and salt water may
exist in discrete layers? [n]
SL-TDR> p
User-definable identification = ms200124100
Enter new identifier (up to 15 characters):
Shallowest depth to be considered a "dive" = 4
Enter new value:
Deepest depth for accumulating surface-timelines (0=drynly) = 2
Enter new value:
Unit will try to detect surface every second when shallower than 20
Enter new value:
Unit will try to detect surface every 1/4-second when shallower than 10
Enter new value:
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Enter new value:
Change to on-land transmission interval after n [1-255] consecutive
transmissions without sea-water induced delays. n = 10
Enter new value:
After n hours of "haul-out", unit will suspend further transmissions,
(n = 0 will disable this option). n = 1
Enter new value:
"Haul-out" ends when n successive at-sea transmission intervals elapse which
are all "wet". n = 2
Enter new value:
Unit will duty cycle with n [1-15] days on. n = 1
Enter new value:
Unit will duty cycle with n [0-15] days off. n = 0
Enter new value:
Nominal battery capacity is 60000 transmissions.
See User's manual for formula to determine actual battery capacity.
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 350
Enter new daily allowance [1-65535]:
STATUS will be transmitted every nth [0-255] message. n = 20
Enter new value:
Blocks of Time-Lines will be transmitted every nth [0-255] message. n = 48
Enter new value:
Transmission hours with good satellite coverage
|000000000011111111112222|
(these hours (read vertically) are all in GMT)
|012345678901234567890123|
---+---+
Current setting (1=good, 0=bad)
|000111110000000111110000|
Enter new settings. . . . . :
(in listing the histogram bins, the symbol * indicates
that there is no upper limit for this bin.)
Set the upper limits of the maximum-depth histogram bins:
Upper limits are: 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters
Enter new limits (in meters):
Set the upper limits of the dive-duration histogram bins:
Upper limits are: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Enter new limits (in minutes):
Set the upper limits of the time-at-depth histogram bins (0 = haul-out):
Upper limits are: 0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
Enter new limits (in meters):

SL-TDR> e
It is strongly recommended that you log the following information to a disk
file so that you have a permanent copy of this setup. In PROCOMM you do this
by pressing the ALT-F1 key combination. You will then be prompted for a
filename, a suggested name is 01T0131.SET
After you have entered a filename, press return to continue.
SLTDR version: 3.15b
28020C140102003C01002AFD530A0100
00000001010101010000000000000001
01010101000000000035010000500000
01FFFFFFFFFFFFF000A0200000A0200
000A0200007E21FE0000010000000100
00100A0501000100010002000000000
5E010000000000000000000000000000
00000000000000000000000407020010
0A141E28323C46505A647DAFE1FF000E
020406080A0C0E101214191E28FF000E
000A141E28323C46505A647DAFFF000E
30030F62000102037DFFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFF07891AFF
6D7332303031323431303 0FFFFFFFFF
FFFFFFFFFFFFFFF30315430313331FF
Quarter-Watt, Microprocessor-controlled Satellite-linked Time-Depth Recorder.
Unit measures depth from 0 to 490 meters with a resolution of 2 meters
Software version 3.15b. Unit number: 01T0131. ARGOS geolocation id = 24100
Unit identifier = ms200124100. Unit started at 02:21:45 on 13/10/01
Time (GMT) is 00:06:51.42. Date (GMT) is 31 October 2001
Shallowest depth to be considered a "dive" = 4 meters
Deepest depth for accumulating surface-timelines (0=dry only) = 2 meters
SLTDR uses 1-sec / 1/4-sec wakeups when shallower than 20 / 10 meters
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Transmission intervals (at-sea / on-land) = 00:50.00 / 01:35.00
SLTDR will use on-land interval after 10 consecutive dry transmissions
SLTDR will suspend transmissions after 1 hours "hauled-out". "Haul-out" ends
after SLTDR is "wet" for 2 successive at-sea transmission intervals
Transmissions will be duty cycled with 1 day on and 0 days off
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 350
STATUS will be transmitted every 20 messages.
Blocks of Time-Lines will be transmitted every 48 messages.
Hours when SLTDR transmits: 03-07,15-19
Upper limits of maximum-depth histogram bins are:
20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters
Upper limits of dive-duration histogram bins are:
2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Upper limits of time-at-depth histogram bins are:
0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
**** Check these parameters carefully ****. Ready to deploy? y
Type D to archive depth readings, H to archive histograms: yh

Unit is ready for deployment, disconnect cable and go for it...

PTT ID 24102; SEAL ID KY28

Satellite-linked Data Recorder with Telonics ST-16 Argos Transmitter.
Software version 3.15b. Unit number: 01T0132. ARGOS geolocation id = 24102
Unit identifier = ms200124102. Unit started at 03:51:05 on 13/10/01
Time (GMT) is 00:08:31.53. Date (GMT) is 31 October 2001
Shallowest depth to be considered a "dive" = 4 meters
Deepest depth for accumulating surface-timelines (0=dry only) = 2 meters
SLTDR uses 1-sec / 1/4-sec wakeups when shallower than 20 / 10 meters
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Transmission intervals (at-sea / on-land) = 00:45.00 / 01:30.00
SLTDR will use on-land interval after 10 consecutive dry transmissions
SLTDR will suspend transmissions after 1 hours "hauled-out". "Haul-out" ends
after SLTDR is "wet" for 2 successive at-sea transmission intervals
Transmissions will be duty cycled with 1 day on and 0 days off
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 350
STATUS will be transmitted every 20 messages.
Blocks of Time-Lines will be transmitted every 48 messages.
Hours when SLTDR transmits: 03-07,15-19
Upper limits of maximum-depth histogram bins are:
20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters
Upper limits of dive-duration histogram bins are:
2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Upper limits of time-at-depth histogram bins are:
0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
SL-TDR>
SL-TDR> v
Battery voltage under light load = 7.353 Volts.
SL-TDR> v
Battery voltage under light load = 7.353 Volts.
SL-TDR> v
Battery voltage under light load = 7.353 Volts.
SL-TDR> a3
S.W. Resistance = 255, Depth (m) = 0
S.W. Resistance = 255, Depth (m) = 0
S.W. Resistance = 255, Depth (m) = 0
SL-TDR> o
Do you wish to allow any unused portion of your daily transmission allowance
to be added to the next day's allowance? [n]

Do you wish to be able to set the daily transmission allowance on a month-by-month basis? [n]

Enter number (0/6/10/14) of depth histogram bins: [14]

Enter number (0/6/10/14) of duration histogram bins: [14]

Enter number (0/6/10/14) of time-at-depth histogram bins: [14]

How many histograms or timeline messages should be encoded into
each transmission (1/2) [1]

Will the instrument be deployed in an area where fresh and salt water may
exist in discrete layers? [n]
SL-TDR> p
User-definable identification = ms200124102
Enter new identifier (up to 15 characters):
Shallowest depth to be considered a "dive" = 4
Enter new value:
Deepest depth for accumulating surface-timelines (0=dry only) = 2
Enter new value:
Unit will try to detect surface every second when shallower than 20
Enter new value:
Unit will try to detect surface every 1/4-second when shallower than 10
Enter new value:
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Enter new value:
Change to on-land transmission interval after n [1-255] consecutive
transmissions without sea-water induced delays. n = 10
Enter new value:
After n hours of "haul-out", unit will suspend further transmissions,
(n = 0 will disable this option). n = 1
Enter new value:
"Haul-out" ends when n successive at-sea transmission intervals elapse which
are all "wet". n = 2
Enter new value:
Unit will duty cycle with n [1-15] days on. n = 1
Enter new value:
Unit will duty cycle with n [0-15] days off. n = 0
Enter new value:
Nominal battery capacity is 60000 transmissions
See ser' manual forformula to determineactual battery capacity.
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 350
Enter new daily allowance [1-65535]:
STATUS will be transmitted every nth [0-255] message. n = 20
Enter new value:
Blocks of Time-Lines will be transmitted every nth [0-255] message. n = 48
Enter new value:
Transmission hours with good satellite coverage
|000000000011111111112222|
(these hours (read vertically) are all in GMT)
|012345678901234567890123|
----------+----------+
Current setting (1=good, 0=bad)
|000111110000000111110000|
Enter new settings. . . . . :
(in listing the histogram bins, the symbol * indicates that there is no upper limit for this bin.)
Set the upper limits of the maximum-depth histogram bins:
Upper limits are: 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters
Enter new limits (in meters):
Set the upper limits of the dive-duration histogram bins:
Upper limits are: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Enter new limits (in minutes):
Set the upper limits of the time-at-depth histogram bins (0 = haul-out):

Upper limits are: 0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
Enter new limits (in meters):
SL-TDR> e
It is strongly recommended that you log the following information to a disk
file so that you have a permanent copy of this setup. In PROCOMM you do this
by pressing the ALT-F1 key combination. You will then be prompted for a
filename, a suggested name is 01T0132.SET
After you have entered a filename, press return to continue.
SLTDR version: 3.15b
02020C140102003C01002BFD520A0100
00000001010101010000000000000001
01010101000000000030010000450000
01FFFFFFFFFFFFF000A0200000A0200
000A0200007E21FE0000010000000100
00100A0501000100010002000000000
5E010000000000000000000000000000
00000000000000000000000407020084
0A141E28323C46505A647DAFE1FF000E
020406080A0C0E101214191E28FF000E
000A141E28323C46505A647DAFFF000E
30030F620001020374FFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFF0789BCFF
6D7332303031323431303 2FFFFFFFFF
FFFFFFFFFFFFFFF30315430313332FF
Quarter-Watt, Microprocessor-controlled Satellite-linked Time-Depth Recorder.
Unit measures depth from 0 to 490 meters with a resolution of 2 meters
Software version 3.15b. Unit number: 01T0132. ARGOS geolocation id = 24102
Unit identifier = ms200124102. Unit started at 03:51:05 on 13/10/01
Time (GMT) is 00:09:10.31. Date (GMT) is 31 October 2001
Shallowest depth to be considered a "dive" = 4 meters
Deepest depth for accumulating surface-timelines (0=dry only) = 2 meters
SLTDR uses 1-sec / 1/4-sec wakeups when shallower than 20 / 10 meters
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Transmission intervals (at-sea / on-land) = 00:45.00 / 01:30.00
SLTDR will use on-land interval after 10 consecutive dry transmissions
SLTDR will suspend transmissions after 1 hours "hauled-out". "Haul-out" ends
after SLTDR is "wet" for 2 successive at-sea transmission intervals
Transmissions will be duty cycled with 1 day on and 0 days off
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 350
STATUS will be transmitted every 20 messages.
Blocks of Time-Lines will be transmitted every 48 messages.
Hours when SLTDR transmits: 03-07,15-19
Upper limits of maximum-depth histogram bins are:
20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters
Upper limits of dive-duration histogram bins are:
2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Upper limits of time-at-depth histogram bins are:
0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
**** Check these parameters carefully ****. Ready to deploy? y
Type D to archive depth readings, H to archive histograms: h

Unit is ready for deployment, disconnect cable and go for it...
□□□

PTT ID 24103; SEAL ID K505

```
          +-----------------------------------------------------+
          |  Wildlife Computers Microprocessor-Controlled       |
          |        Satellite-linked Data Recorder               |
          |                                                     |
          |  Communications established, baud rate = 9600       |
          +-----------------------------------------------------+
          |  Copyright: Wildlife Computers,                     |
          |           16150 N.E. 85th St, Suite 226,            |
          |           Redmond, WA 98052, USA.                   |
          |  Telephone: (425)-881-3048  Fax: (425)-881-3405     |
          +-----------------------------------------------------+
          |  Built for: Bud Antonelis                           |
          |           NOAA,NMFS,SWFC Honolulu Lab               |
          |           2570 Dole Street                          |
          |           Honolulu, HI 96822-2396                   |
          +-----------------------------------------------------+
          |  Revision date: 26th February 2001                  |
+-----------+-------------------------------------------------------+-----------+
| Limit of Liability.  This unit may only be used with the
understanding that |
| its value is its retail cost and that responsibility of Wildlife
Computers  |
| from whatever cause arising is limited to its repair or replacement.
      |
+-----------------------------------------------------------------------------+

Press return to accept this limit of liability and to continue...
Satellite-linked Data Recorder with Telonics ST-16 Argos
Transmitter.
Software version 3.15b.  Unit number: 01T0067.  ARGOS
geolocation id = 24103
Unit identifier = ms200124103.  Unit started at 02:49:52 on
13/10/01
Time (GMT) is 00:10:22.17.  Date (GMT) is 31 October 2001
Shallowest depth to be considered a "dive" = 4 meters
Deepest depth for accumulating surface-timelines (0=dry only) = 2
meters
SLTDR uses 1-sec / 1/4-sec wakeups when shallower than 20 / 10
meters
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Transmission intervals (at-sea / on-land) = 00:41.00 / 01:26.00
SLTDR will use on-land interval after 10 consecutive dry
transmissions
SLTDR will suspend transmissions after 1 hours "hauled-out".
"Haul-out" ends
  after SLTDR is "wet" for 2 successive at-sea transmission
intervals
Transmissions wll be duty cycled with 1 day on and 0 days off
Daily allowance (1-message transssions; unused xmits don't
accumulate) = 350
STATUS will  transmitted every 20 messages.
Blocks of Time-Lines will be transmitted every 48 messages.
Hours when SLTDR transmits: 03-07,15-19
Upper limits of maximum-depth histogram bins are:
20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, *
meters
Upper limits of dive-duration histogram bins are:
2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Upper limits of time-at-depth histogram bins are:
0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
SL-TDR> b
Satellite-linked Data Recorder with Telonics ST-16 Argos
Transmitter.
Software version 3.15b.  Unit number: 01T0067.  ARGOS
geolocation id = 24103
Unit identifier = ms200124103.  Unit started at 02:49:52 on
13/10/01
Time (GMT) is 00:10:45.85.  Date (GMT) is 31 October 2001
Shallowest depth to be considered a "dive" = 4 meters
Deepest depth for accumulating surface-timelines (0=dry only) = 2
meters
SLTDR uses 1-sec / 1/4-sec wakeups when shallower than 20 / 10
meters
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Transmission intervals (at-sea / on-land) = 00:41.00 / 01:26.00
SLTDR will use on-land interval after 10 consecutive dry
transmissions
SLTDR will suspend transmissions after 1 hours "hauled-out".
"Haul-out" ends
  after SLTDR is "wet" for 2 successive at-sea transmission
intervals
Transmissions will be duty cycled with 1 day on and 0 days off
Daily allowance (1-message transmissions; unused xmits don't
accumulate) = 350
STATUS will be transmitted every 20 messages.
Blocks of Time-Lines will be transmitted every 48 messages.
Hours when SLTDR transmits: 03-07,15-19
Upper limits of maximum-depth histogram bins are:
20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, *
meters
Upper limits of dive-duration histogram bins are:
2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Upper limits of time-at-depth histogram bins are:
0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
SL-TDR> o
Do you wish to allow any unused portion of your daily
transmission allowance
to be added to the next day's allowance? [n]

Do you wish to be able to set the daily transmission allowance on a
month-by-month basis? [n]

Enter number (0/6/10/14) of depth histogram bins: [14]

Enter number (0/6/10/14) of duration histogram bins: [14]

Enter number (0/6/10/14) of time-at-depth histogram bins: [14]

How many histograms or timeline messages should be encoded
into
each transmission (1/2) [1]

Will the instrument be deployed in an area where fresh and salt
water may
exist in discrete layers? [n]
SL-TDR> p
User-definable identification = ms200124103
Enter new identifier (up to 15 characters):
Shallowest depth to be considered a "dive" = 4
Enter new value:
Deepest depth for accumulating surface-timelines (0=dry only) = 2
Enter new value:
Unit will try to detect surface every second when shallower than 20
Enter new value:
Unit will try to detect surface every 1/4-second when shallower
than 10
```

```
Enter new value:
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Enter new value:
Change to on-land transmission interval after n [1-255]
consecutive
transmissions without sea-water induced delays.  n = 10
Enter new value:
After n hours of "haul-out", unit will suspend further
transmissions,
(n = 0 will disable this option).  n = 1
Enter new value:
"Haul-out" ends when n successive at-sea transmission intervals
elapse which
are all "wet".  n = 2
Enter new value:
Unit will duty cycle with n [1-15] days on.  n = 1
Enter new value:
Unit will duty cycle with n [0-15] days off.  n = 0
Enter new value:
Nominal battery capacity is 60000 transmissions.
See User's manual for formula to determine actual battery capacity.
Daily allowance (1-message transmissions; unused xmits don't
accumulate) = 350
Enter new daily allowance [1-65535]:
STATUS will be transmitted every nth [0-255] message.  n = 20
Enter new value:
Blocks of Time-Lines will be transmitted every n[0-255] message.
 n = 48
Enter new value:
Transmission hours with good satellite coverage
|000000000011111111112222|
 (these hours (read vertically) are all in GMT)
|012345678901234567890123|
-------------------------------------------------+------------------------+
              Current setting (1=good, 0=bad)
|000111110000000111110000|
Enter new settings. . . . . . . . . . :
      (in listing the histogram bins, the symbol * indicates
      that there is no upper limit for this bin.)
Set the upper limits of the maximum-depth histogram bins:
Upper limits are: 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250,
350, 450, * meters
Enter new limits (in meters):
Set the upper limits of the dive-duration histogram bins:
Upper limits are: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, *
minutes
Enter new limits (in minutes):
Set the upper limits of the time-at-depth histogram bins (0 = haul-
out):
Upper limits are: 0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200,
250, 350, * meters
Enter new limits (in meters):
SL-TDR> v
Battery voltage under light load = 7.140 Volts.
SL-TDR> v
Battery voltage under light load = 7.140 Volts.
SL-TDR> v
Battery voltage under light load = 7.140 Volts.
SL-TDR> a3
S.W. Resistance = 255, Depth (m) = 0
S.W. Resistance = 255, Depth (m) = 0
S.W. Resistance = 255, Depth (m) = 0
SL-TDR> e
It is strongly recommended that you log the following information
to a disk
file so that you have a permanent copy of this setup.  In
PROCOMM you do this
by pressing the ALT-F1 key combination.  You will then be
prompted for a
filename, a suggested name is 01T0067.SET
After you have entered a filename, press return to continue.
SLTDR version: 3.15b
48020C140102003C010023FD630A0100
00000001010101010000000000000001
01010101000000000026010000410000
01FFFFFFFFFFFFF000A0200000A0200
000A0200007E21FE0000010000000100
00100A0501000100010002000000000
5E010000000000000000000000000000
00000000000000000000000407020042
0A141E28323C46505A647DAFE1FF000E
020406080A0C0E101214191E28FF000E
000A141E28323C46505A647DAFFF000E
30030F620001020380FFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFF0789EFFF
6D7332303031323431303 3FFFFFFFFF
FFFFFFFFFFFFFFF30315430303637FF

Quarter-Watt, Microprocessor-controlled Satellite-linked Time-
Depth Recorder.
Unit measures depth from 0 to 490 meters with a resolution of 2
meters
Software version 3.15b.  Unit number: 01T0067.  ARGOS
geolocation id = 24103
Unit identifier = ms200124103.  Unit started at 02:49:52 on
13/10/01
Time (GMT) is 00:11:17.08.  Date (GMT) is 31 October 2001
Shallowest depth to be considered a "dive" = 4 meters
Deepest depth for accumulating surface-timelines (0=dry only) = 2
meters
SLTDR uses 1-sec / 1/4-sec wakeups when shallower than 20 / 10
meters
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Transmission intervals (at-sea / on-land) = 00:41.00 / 01:26.00
SLTDR will use on-land interval after 10 consecutive dry
transmissions
SLTDR will suspend transmissions after 1 hours "hauled-out".
"Haul-out" ends
  after SLTDR is "wet" for 2 successive at-sea transmission
intervals
Transmissions will be duty cycled with 1 day on and 0 days off
Daily allowance (1-message transmissions; unused xmits don't
accumulate) = 350
STATUS will be transmitted every 20 messages.
Blocks of Time-Lines will be transmitted every 48 messages.
Hours when SLTDR transmits: 03-07,15-19
Upper limits of maximum-depth histogram bins are:
20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, *
meters
Upper limits of dive-duration histogram bins are:
2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Upper limits of time-at-depth histogram bins are:
0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
****  Check these parameters carefully ****.  Ready to deploy? y
Type D to archive depth readings, H to archive histograms: h

Unit is ready for deployment, disconnect cable and go for it...
□□□□
```

PTT ID 24104; SEAL ID KD11

Satellite-linked Data Recorder with Telonics ST-16 Argos Transmitter.
Software version 3.15b. Unit number: 01T0068. ARGOS geolocation id = 24104
Unit identifier = ms200124104. Unit started at 02:37:53 on 13/10/01
Time (GMT) is 00:11:52.99. Date (GMT) is 31 October 2001
Shallowest depth to be considered a "dive" = 4 meters
Deepest depth for accumulating surface-timelines (0=dry only) = 2 meters
SLTDR uses 1-sec / 1/4-sec wakeups when shallower than 20 / 10 meters
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Transmission intervals (at-sea / on-land) = 00:42.00 / 01:27.00
SLTDR will use on-land interval after 10 consecutive dry transmissions
SLTDR will suspend transmissions after 1 hours "hauled-out". "Haul-out" ends
after SLTDR is "wet" for 2 successive at-sea transmission intervals
Transmissions will be duty cycled with 1 day on and 0 days off
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 350
STATUS will be transmitted every 20 messages.
Blocks of Time-Lines will be transmitted every 48 messages.
Hours when SLTDR transmits: 03-07,15-19
Upper limits of maximum-depth histogram bins are:
20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters
Upper limits of dive-duration histogram bins are:
2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Upper limits of time-at-depth histogram bins are:
0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
SL-TDR> o
Do you wish to allow any unused portion of your daily transmission allowance
to be added to the next day's allowance? [n]

Do you wish to be able to set the daily transmission allowance on a month-by-month basis? [n]

Enter number (0/6/10/14) of depth histogram bins: [14]

Enter number (0/6/10/14) of duration histogram bins: [14]

Enter number (0/6/10/14) of time-at-depth histogram bins: [14]

How many histograms or timeline messages shuld be encoded into each transmission (1/2) [1]

Will the instrument be deployed in an area where fresh and salt water may
exist in discrete layers? [n]
SL-TDR> p
User-definable identification = ms200124104
Enter new identifier (up to 15 characters):
Shallowest depth to be considered a "dive" = 4
Enter new value:
Deepest depth for accumulating surface-timelines (0=dry only) = 2
Enter new value:
Unit will try to detect surface every second when shallower than 20
Enter new value:
Unit will try to detect surface every 1/4-second when shallower than 10
Enter new value:
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Enter new value:
Change to on-land transmission interval after n [1-255] consecutive
transmissions without sea-water induced delays. n = 10
Enter new value:
After n hours of "haul-out", unit will suspend further transmissions,
(n = 0 will disable this option). n = 1
Enter new value:
"Haul-out" ends when n successive at-sea transmission intervals elapse which
are all "wet". n = 2
Enter new value:
Unit will duty cycle with n [1-15] days on. n = 1
Enter new value:
Unit will duty cycle with n [0-15] days off. n = 0
Enter new value:
Nominal battery capacity is 60000 transmissions.
See User's manual for formula to determine actual battery capacity.
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 350
Enter new daily allowance [1-65535]:
STATUS will be transmitted every nth [0-255] message. n = 20
Enter new value:
Blocks of Time-Lines will be transmitted every nth [0-255] message. n = 48
Enter new value:
Transmission hours with good satellite coverage
|000000000011111111112222|
(these hours (read vertically) are all in GMT)
|012345678901234567890123|
---+---+
Current setting (1=good, 0=bad)
|000111110000000111110000|
Enter new settings. . . . . :
(in listing the histogram bins, the symbol * indicates
that there is no upper limit for this .)
Set the upper limits of the maximum-depth histogram bins:
pper limits are: 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450,* meters
Enter new limits (in meters):
Set the upper limits of the dive-duration histogram bins:
Upper limits are: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Enter new limits (in minutes):
Set the upper limits of the time-at-depth histogram bins (0 = haul-out):
Upper limits are: 0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
Enter new limits (in meters):
SL-TDR> v
Battery voltage under light load = 7.236 Volts.
SL-TDR> v
Battery voltage under light load = 7.236 Volts.
SL-TDR> v
Battery voltage under light load = 7.236 Volts.
SL-TDR> a3
S.W. Resistance = 255, Depth (m) = 0
S.W. Resistance = 255, Depth (m) = 0
S.W. Resistance = 255, Depth (m) = 0
S.W. Resistance = 255, Depth (m) = 0

SL-TDR> e
It is strongly recommended that you log the following information to a disk
file so that you have a permanent copy of this setup. In PROCOMM you do this
by pressing the ALT-F1 key combination. You will then be prompted for a
filename, a suggested name is 01T0068.SET
After you have entered a filename, press return to continue.
SLTDR version: 3.15b
20020C140102003C010024FD610A0100
00000001010101010000000000000001
01010101000000000027010000420000
01FFFFFFFFFFFFF000A0200000A0200
000A0200007E21FE0000010000000100
00100A0501000100010002000000000
5E010000000000000000000000000000
00000000000000000000000407020010
0A141E28323C46505A647DAFE1FF000E
020406080A0C0E101214191E28FF000E
000A141E28323C46505A647DAFFF000E
30030F620001020362FFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFF078A3BFF
6D7332303031323431303 4FFFFFFFFF
FFFFFFFFFFFFFFF30315430303638FF

Quarter-Watt, Microprocessor-controlled Satellite-linked Time-Depth Recorder.
Unit measures depth from 0 to 490 meters with a resolution of 2 meters
Software version 3.15b. Unit number: 01T0068. ARGOS geolocation id = 24104
Unit identifier = ms200124104. Unit started at 02:37:53 on 13/10/01
Time (GMT) is 00:12:23.43. Date (GMT) is 31 October 2001
Shallowest depth to be considered a "dive" = 4 meters
Deepest depth for accumulating surface-timelines (0=dry only) = 2 meters
SLTDR uses 1-sec / 1/4-sec wakeups when shallower than 20 / 10 meters
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Transmission intervals (at-sea / on-land) = 00:42.00 / 01:27.00
SLTDR will use on-land interval after 10 consecutive dry transmissions
SLTDR will suspend transmissions after 1 hours "hauled-out". "Haul-out" ends
after SLTDR is "wet" for 2 successive at-sea transmission intervals
Transmissions will be duty cycled with 1 day on and 0 days off
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 350
STATUS will be transmitted every 20 messages.
Blocks of Time-Lines will be transmitted every 48 messages.
Hours when SLTDR transmits: 03-07,15-19
Upper limits of maximum-depth histogram bins are:
20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters
Upper limits of dive-duration histogram bins are:
2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Upper limits of time-at-depth histogram bins are:
0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
**** Check these parameters carefully ****. Ready to deploy? y
Type D to archive depth readings, H to archive histograms: h

Unit is ready for deployment, disconnect cable and go for it...

PTT ID 24105; SEAL ID K142

Satellite-linked Data Recorder with Telonics ST-16 Argos Transmitter.
Software version 3.15b. Unit number: 01T0069. ARGOS geolocation id = 24105
Unit identifier = ms200124105. Unit started at 02:17:01 on 13/10/01
Time (GMT) is 06:28:41.86. Date (GMT) is 30 October 2001
Shallowest depth to be considered a "dive" = 4 meters
Deepest depth for accumulating surface-timelines (0=dry only) = 2 meters
SLTDR uses 1-sec / 1/4-sec wakeups when shallower than 20 / 10 meters
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Transmission intervals (at-sea / on-land) = 00:43.00 / 01:28.00
SLTDR will use on-land interval after 10 consecutive dry transmissions
SLTDR will suspend transmissions after 1 hours "hauled-out". "Haul-out" ends
after SLTDR is "wet" for 2 successive at-sea transmission intervals
Transmissions will be duty cycled with 1 day on and 0 days off
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 350
STATUS will be transmitted every 20 messages.
Blocks of Time-Lines will be transmitted every 48 messages.
Hours when SLTDR transmits: 03-07,15-19
Upper limits of maximum-depth histogram bins are:
20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters
Upper limits of dive-duration histogram bins are:
2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Upper limits of time-at-depth histogram bins are:
0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
SL-TDR> o
Do you wish to allow any unused portion of your daily transmission allowance
to be added to the next day's allowance? [n]

Do you wish to be able to set the daily transmission allowance on a month-by-month basis? [n]

Enter number (0/6/10/14) of depth histogram bins: [14]

Enter number (0/6/10/14) of duration histogram bins: [14]

Enter number (0/6/10/14) of time-at-depth histogram bins: [14]

How many histograms or timeline messages should be encoded into
each transmission (1/2) [1]

Will the instrument be deployed in an area where fresh and salt water may
exist in discrete layers? [n]
SL-TDR> p
User-definable identification = ms200124105
Enter new identifier (up to 15 characters):
Shallowest depth to be considered a "dive" = 4
Enter new value:
Deepest depth for accumulating surface-timelines (0=dry only) = 2
Enter new value:
Unit will try to detect surface every second when shallower than 20
Enter new value:
Unit will try to detect surface every 1/4-second when shallower than 10
Enter new value:
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Enter new value:
Change to on-land transmission interval after n [1-255] consecutive
transmissions without sea-water induced delays. n = 10
Enter new value:
After n hours of "haul-out", unit will suspend further transmissions,
(n = 0 will disable this option). n = 1
Enter new value:
"Haul-out" ends when n successive at-sea transmission intervals elapse which
are all "wet". n = 2
Enter new value:
Unit will duty cycle with n [1-15] days on. n = 1
Enter new value:
Unit will duty cycle with n [0-15] days off. n = 0
Enter new value:
Nominal battery capacity is 60000 transmissions.
See User's manual for formula to determine actual battery capacity.
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 350
Enter new daily allowance [1-65535]:
STATUS will be transmitted every nth [0-255] message. n = 20
Enter new value:
Blocks of Time-Lines will be transmitted every nth [0-255] message. n = 48
Enter new value:
Transmission hours with good satellite coverage
|000000000011111111112222|
(these hours (read vertically) are all in GMT)
|012345678901234567890123|
---+---+
Current setting (1=good, 0=bad)
|000111110000000111110000|
Enter new settings. . . . . :
(in listing the histogram bins, the symbol * indicates
that there is no upper limit for this bin.)
Set the upper limits of the maximum-depth histogram bins:
Upper limits are: 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters
Enter new limits (in meters):
Set the upper limits of the dive-duration histogram bins:
Upper limits are: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Enter new limits (in minutes):
Set the upper limits of the time-at-depth histogram bins (0 = haul-out):
Upper limits are: 0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
Enter new limits (in meters):
SL-TDR> v
Battery voltage under light load = 7.224 Volts.
SL-TDR> v
Battery voltage under light load = 7.224 Volts.
SL-TDR> v
Battery voltage under light load = 7.224 Volts.
SL-TDR> a3
S.W. Resistance = 255, Depth (m) = -2
S.W. Resistance = 255, Depth (m) = -2
S.W. Resistance = 255, Depth (m) = -2

SL-TDR> e
It is strongly recommended that you log the following information to a disk
file so that you have a permanent copy of this setup. In PROCOMM you do this
by pressing the ALT-F1 key combination. You will then be prompted for a
filename, a suggested name is 01T0069.SET
After you have entered a filename, press return to continue.
SLTDR version: 3.15b
92020C140102003C01002AFD530A0100
00000001010101010000000000000001
01010101000000000028010000430000
01FFFFFFFFFFFFF000A0200000A0200
000A0200007E21FE0000010000000100
00100A0501000100010020000000000
5E010000000000000000000000000000
00000000000000000000000004070200D5
0A141E28323C46505A647DAFE1FF000E
020406080A0C0E101214191E28FF000E
000A141E28323C46505A647DAFFF000E
30030F620001020374FFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFF078A68FF
6D7332303031323431303 5FFFFFFFFF
FFFFFFFFFFFFFFF30315430303639FF

Quarter-Watt, Microprocessor-controlled Satellite-linked Time-Depth Recorder.
Unit measures depth from 0 to 490 meters with a resolution of 2 meters
Software version 3.15b. Unit number: 01T0069. ARGOS geolocation id = 24105
Unit identifier = ms200124105. Unit started at 02:17:01 on 13/10/01
Time (GMT) is 06:29:20.82. Date (GMT) is 30 October 2001
Shallowest depth to be considered a "dive" = 4 meters
Deepest depth for accumulating surface-timelines (0=dry only) = 2 meters
SLTDR uses 1-sec / 1/4-sec wakeups when shallower than 20 / 10 meters
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Transmission intervals (at-sea / on-land) = 00:43.00 / 01:28.00
SLTDR will use on-land interval after 10 consecutive dry transmissions
SLTDR will spend transsionster 1 hours "hauled-ou". "Haul-out" ends
after SLTDR is "wet" for 2 successive at-sea transmission intervals
Transmissions will be duty cycled with 1 day on and 0 days off
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 350
STATUS will be transmitted every 20 messages.
Blocks of Time-Lines will be transmitted every 48 messages.
Hours when SLTDR transmits: 03-07,15-19
Upper limits of maximum-depth histogram bins are:
20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters
Upper limits of dive-duration histogram bins are:
2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Upper limits of time-at-depth histogram bins are:
0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
**** Check these parameters carefully ****. Ready to deploy? y
Type D to archive depth readings, H to archive histograms: h

Unit is ready for deployment, disconnect cable and go for it...

PTT ID 24106; SEAL ID KZ94

Satellite-linked Data Recorder with Telonics ST-16 Argos Transmitter.
Software version 3.15b. Unit number: 01T0070. ARGOS geolocation id = 24106
Unit identifier = ms200124100. Unit started at 02:33:46 on 13/10/01
Time (GMT) is 00:14:13.48. Date (GMT) is 31 October 2001
Shallowest depth to be considered a "dive" = 4 meters
Deepest depth for accumulating surface-timelines (0=dry only) = 2 meters
SLTDR uses 1-sec / 1/4-sec wakeups when shallower than 20 / 10 meters
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Transmission intervals (at-sea / on-land) = 00:44.00 / 01:29.00
SLTDR will use on-land interval after 10 consecutive dry transmissions
SLTDR will suspend transmissions after 1 hours "hauled-out". "Haul-out" ends
after SLTDR is "wet" for 2 successive at-sea transmission intervals
Transmissions will be duty cycled with 1 day on and 0 days off
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 350
STATUS will be transmitted every 20 messages.
Blocks of Time-Lines will be transmitted every 48 messages.
Hours when SLTDR transmits: 03-07,15-19
Upper limits of maximum-depth histogram bins are:
20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters
Upper limits of dive-duration histogram bins are:
2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Upper limits of time-at-depth histogram bins are:
0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
SL-TDR> o
Do you wish to allow any unused portion of your daily transmission allowance
to be added to the next day's allowance? [n]

Do you wish to be able to set the daily transmission allowance on a month-by-month basis? [n]

Enter number (0/6/10/14) of depth histogram bins: [14]

Enter number (0/6/10/14) of duration histogram bins: [14]

Enter number (0/6/10/14) of time-at-depth histogram bins: [14]

How many histograms or timeline messages should be encoded into
each transmission (1/2) [1]

Will the instrument be deployed in an area where fresh and salt water may
exist in discrete layers? [n]
SL-TDR> p
User-definable identification = ms200124100
Enter new identifier (up to 15 characters):
Shallowest depth to be considered a "dive" = 4
Enter new value:
Deepest depth for accumulating surface-timelines (0=dry only) = 2
Enter new value:
Unit will try to detect surface every second when shallower than 20
Enter new value:
Unit will try to detect surface every 1/4-second when shallower than 10
Enter new value:
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Enter new value:
Change to on-land transmission interval after n [1-255] conecutve transmissions without sea-water inded deays. n = 10
Enter new value:
After n hours of "haul-out", unit will suspend further transmissions,
(n = 0 will disable this option). n = 1
Enter new value:
"Haul-out" ends when n successive at-sea transmission intervals elapse which
are all "wet". n = 2
Enter new value:
Unit will duty cycle with n [1-15] days on. n = 1
Enter new value:
Unit will duty cycle with n [0-15] days off. n = 0
Enter new value:
Nominal battery capacity is 60000 transmissions.
See User's manual for formula to determine actual battery capacity.
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 350
Enter new daily allowance [1-65535]:
STATUS will be transmitted every nth [0-255] message. n = 20
Enter new value:
Blocks of Time-Lines will be transmitted every nth [0-255] message. n = 48
Enter new value:
Transmission hours with good satellite coverage
|000000000011111111112222|
(these hours (read vertically) are all in GMT)
|012345678901234567890123|
---+---+
Current setting (1=good, 0=bad)
|000111110000000111110000|
Enter new settings. . . . . :
(in listing the histogram bins, the symbol * indicates
that there is no upper limit for this bin.)
Set the upper limits of the maximum-depth histogram bins:
Upper limits are: 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters
Enter new limits (in meters):
Set the upper limits of the dive-duration histogram bins:
Upper limits are: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Enter new limits (in minutes):
Set the upper limits of the time-at-depth histogram bins (0 = haul-out):
Upper limits are: 0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
Enter new limits (in meters):
SL-TDR> v
Battery voltage under light load = 7.105 Volts.
SL-TDR> v
Battery voltage under light load = 7.105 Volts.
SL-TDR> v
Battery voltage under light load = 7.105 Volts.
SL-TDR> a3
S.W. Resistance = 255, Depth (m) = 0
S.W. Resistance = 255, Depth (m) = 0
S.W. Resistance = 255, Depth (m) = 0

```
SL-TDR> e
It is strongly recommended that you log the following information
to a disk
file so that you have a permanent copy of this setup.  In
PROCOMM you do this
by pressing the ALT-F1 key combination.  You will then be
prompted for a
filename, a suggested name is 01T0070.SET
After you have entered a filename, press return to continue.
SLTDR version: 3.15b
30020C140102003C010023FD630A0100
00000001010101010000000000000001
01010101000000000029010000440000
01FFFFFFFFFFFFF000A0200000A0200
000A0200007E21FE0000010000000100
00100A0501000100010002000000000
5E010000000000000000000000000000
00000000000000000000000004070200A9
0A141E28323C46505A647DAFE1FF000E
020406080A0C0E101214191E28FF000E
000A141E28323C46505A647DAFFF000E
30030F62000102036DFFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFF078A9DFF
6D7332303031323431303 0FFFFFFFFF
FFFFFFFFFFFFFFF30315430303730FF

Quarter-Watt, Microprocessor-controlled Satellite-linked Time-
Depth Recorder.
Unit measures depth from 0 to 490 meters with a resolution of 2
meters
Software version 3.15b.  Unit number: 01T0070.  ARGOS
geolocation id = 24106
Unit identifier = ms200124100.  Unit started at 02:33:46 on
13/10/01
Time (GMT) is 00:14:37.42.  Date (GMT) is 31 October 2001
Shallowest depth to be considered a "dive" = 4 meters
Deepest depth for accumulating surface-timelines (0=dry only) = 2
meters
SLTDR uses 1-sec / 1/4-sec wakeups when shallower than 20 / 10
meters
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Transmission intervals (at-sea / on-land) = 00:44.00 / 01:29.00
SLTDR will use on-land interval after 10 consecutive dry
transmissions
SLTDR will suspend transmissions after 1 hours "hauled-out".
"Haul-out" ends
  after SLTDR is "wet" for 2 successive at-sea transmission
intervals
Transmissions will be duty cycled with 1 day on and 0 days off
Daily allowance (1-message transmissions; unused xmits don't
accumulate) = 350
STATUS will be transmitted every 20 messages.
Blocks of Time-Lines will be transmitted every 48 messages.
Hours when SLTDR transmits: 03-07,15-19
Upper limits of maximum-depth histogram bins are:
20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, *
meters
Upper limits of dive-duration histogram bins are:
2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Upper limits of time-at-depth histogram bins are:
0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
****  Check these parameters carefully ****.  Ready to deploy? y
Type D to archive depth readings, H to archive histograms: h

Unit is ready for deployment, disconnect cable and go for it...
```

PTT ID 24108; SEAL ID K608

Satellite-linked Data Recorder with Telonics ST-16 Argos Transmitter.
Software version 3.15b. Unit number: 01T0072. ARGOS geolocation id = 24108
Unit identifier = ms200124108. Unit started at 02:44:41 on 13/10/01
Time (GMT) is 00:15:59.54. Date (GMT) is 31 October 2001
Shallowest depth to be considered a "dive" = 4 meters
Deepest depth for accumulating surface-timelines (0=dry only) = 2 meters
SLTDR uses 1-sec / 1/4-sec wakeups when shallower than 20 / 10 meters
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Transmission intervals (at-sea / on-land) = 00:45.00 / 01:30.00
SLTDR will use on-land interval after 10 consecutive dry transmissions
SLTDR will suspend transmissions after 1 hours "hauled-out". "Haul-out" ends
after SLTDR is "wet" for 2 successive at-sea transmission intervals
Transmissions will be duty cycled with 1 day on and 0 days off
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 350
STATUS will be transmitted every 20 messages.
Blocks of Time-Lines will be transmitted every 48 messages.
Hours when SLTDR transmits: 03-07,15-19
Upper limits of maximum-depth histogram bins are:
20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters
Upper limits of dive-duration histogram bins are:
2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Upper limits of time-at-depth histogram bins are:
0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
SL-TDR> o
Do you wish to allow any unused portion of your daily transmission allowance
to be added to the next day's allowance? [n]

Do you wish to be able to set the daily transmission allowance on a month-by-month basis? [n]

Enter number (0/6/10/14) of depth histogram bins: [14]

Enter number (0/6/10/14) of duration histogram bins: [14]

Enter number (0/6/10/14) of time-at-depth histogram bins: [14]

How many histograms or timeline messages should be encoded into
each transmission (1/2) [1]

Will the instrument be deployed in an area where fresh and salt water may
exist in discrete layers? [n]
SL-TDR> p
User-definable identification = ms200124108
Enter new identifier (up to 15 characters):
Shallowest depth to be considered a "dive" = 4
Enter new value:
Deepest depth for accumulating surface-timelines (0=dry only) = 2
Enter new value:
Unit will try to detect surface every second when shallower than 20
Enter new value:
Unit will try to detect surface every 1/4-second when shallower than 10
Enter new value:
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Enter new value:
Change to on-land transmission interval after n [1-255] consecutive
transmissions without sea-water induced delays. n = 10
Enter new value:
After n hours of "haul-out", unit will suspend further transmissions,
(n = 0 will disable this option). n = 1
Enter new value:
"Haul-out" ends when n successive at-sea transmission intervals elapse which
are all "wet". n = 2
Enter new value:
Unit will duty cycle with n [1-15] days on. n = 1
Enter new value:
Unit will duty cycle with n [0-15] days off. n = 0
Enter new value:
Nominal battery capacity is 60000 transmissions.
See User's manual for formula to determine actual battery capacity.
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 350
Enter new daily allowance [1-65535]:
STATUS will be transmitted every nth [0-255] message. n = 20
Enter new value:
Blocks of Time-Lines will be transmitted every nth [0-255] message. n = 48
Enter new value:
Transmission hours with good satellite coverage
|000000000011111111112222|
(these hours (read vertically) are all in GMT)
|012345678901234567890123|
---+---+
Current setting (1=good, 0=bad)
|000111110000000111110000|
Enter new settings. . . . . :
(in listing the histogram bins, the symbol * indicates
that there is no upper limit for this bin.)
Set the upper limits of the maximum-depth histogram bins:
Upper limits are: 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters
Enter new limits (in meters):
Set the upper limits of the dive-duration histogram bins:
Upper limits are: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Enter new limits (in minutes):
Set the upper limits of the time-at-depth histogram bins (0 = haul-out):
Upper limits are: 0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
Enter new limits (in meters):
SL-TDR> v
Battery voltage under light load = 7.236 Volts.
SL-TDR> v
Battery voltage under light load = 7.236 Volts.
SL-TDR> va3
Battery voltage under light load = 7.236 Volts.
Battery voltage under light load = 7.236 Volts.
Battery voltage under light load = 7.236 Volts.
SL-TDR> a3
S.W. Resistance = 255, Depth (m) = 0

S.W. Resistance = 255, Depth (m) = 2
S.W. Resistance = 255, Depth (m) = 2
S.W. Resistance = 255, Depth (m) = 2
SL-TDR> e
It is strongly recommended that you log the following information to a disk
file so that you have a permanent copy of this setup. In PROCOMM you do this
by pressing the ALT-F1 key combination. You will then be prompted for a
filename, a suggested name is 01T0072.SET
After you have entered a filename, press return to continue.
SLTDR version: 3.15b
20020C140102003C010024FD620A0100
00000001010101010000000000000001
01010101000000000030010000450000
01FFFFFFFFFFFFFF000A0200000A0200
000A0200007E21FE0000010000000100
00100A0501000100010002000000000
5E010000000000000000000000000000
00000000000000000000000040702000A
0A141E28323C46505A647DAFE1FF000E
020406080A0C0E101214191E28FF000E
000A141E28323C46505A647DAFFF000E
30030F620001020372FFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFF078B24FF
6D7332303031323431303 8FFFFFFFFF
FFFFFFFFFFFFFFF30315430303732FF

Quarter-Watt, Microprocessor-controlled Satellite-linked Time-Depth Recorder.
Unit measures depth from 0 to 490 meters with a resolution of 2 meters
Software version 3.15b. Unit number: 01T0072. ARGOS geolocation id = 24108
Unit identifier = ms200124108. Unit started at 02:44:41 on 13/10/01
Time (GMT) is 00:16:37.20. Date (GMT) is 31 October 2001
Shallowest depth to be considered a "dive" = 4 meters
Deepest depth for accumulating surface-timelines (0=dry only) = 2 meters
SLTDR uses 1-sec / 1/4-sec wakeups when shallower than 20 / 10 meters
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Transmission intervals (at-sea / on-land) = 00:45.00 / 01:30.00
SLTDR will use on-land interval after 10 consecutive dry transmissions
SLTDR will suspend transmissions after 1 hours "hauled-out". "Haul-out" ends
after SLTDR is "wet" for 2 successive at-sea transmission intervals
Transmissions will be duty cycled with 1 day on and 0 days off
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 350
STATUS will be transmitted every 20 messages.
Blocks of Time-Lines will be transmitted every 48 messages.
Hours when SLTDR transmits: 03-07,15-19
Upper limits of maximum-depth histogram bins are:
20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters
Upper limits of dive-duration histogram bins are:
2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Upper limits of time-at-depth histogram bins are:
0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
**** Check these parameters carefully ****. Ready to deploy? y
Type D to archive depth readings, H to archive histograms: h

Unit is ready for deployment, disconnect cable and go for it...
□□□

PTT ID 24110; SEAL ID BK29

Satellite-linked Data Recorder with Telonics ST-16 Argos Transmitter.
Software version 3.15b. Unit number: 01T0074. ARGOS geolocation id = 24110
Unit identifier = ms200124110. Unit started at 03:42:43 on 13/10/01
Time (GMT) is 06:27:20.09. Date (GMT) is 30 October 2001
Shallowest depth to be considered a "dive" = 4 meters
Deepest depth for accumulating surface-timelines (0=dry only) = 2 meters
SLTDR uses 1-sec / 1/4-sec wakeups when shallower than 20 / 10 meters
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Transmission intervals (at-sea / on-land) = 00:47.00 / 01:32.00
SLTDR will use on-land interval after 10 consecutive dry transmissions
SLTDR will suspend transmissions after 1 hours "hauled-out". "Haul-out" ends
after SLTDR is "wet" for 2 successive at-sea transmission intervals
Transmissions will be duty cycled with 1 day on and 0 days off
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 350
STATUS will be transmitted every 20 messages.
Blocks of Time-Lines will be transmitted every 48 messages.
Hours when SLTDR transmits: 03-07,15-19
Upper limits of maximum-depth histogram bins are:
20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters
Upper limits of dive-duration histogram bins are:
2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Upper limits of time-at-depth histogram bins are:
0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
SL-TDR> v
Battery voltage under light load = 7.272 Volts.
SL-TDR> v
Battery voltage under light load = 7.272 Volts.
SL-TDR> v
Battery voltage under light load = 7.272 Volts.
SL-TDR> a3
S.W. Resistance = 255, Depth (m) = 0
S.W. Resistance = 255, Depth (m) = 0
S.W. Resistance = 255, Depth (m) = 0
SL-TDR> o
Do you wish to allow any unused portion of your daily transmission allowance
to be added to the next day's allowance? [n]

Do you wish to be able to set the daily transmission allowance on a month-by-month basis? [n]

Enter number (0/6/10/14) of depth histogram bins: [14]

Enter number (0/6/10/14) of duration histogram bins: [14]

Enter number (0/6/10/14) of time-at-depth histogram bins: [14]

How many histograms or timeline messages should be encoded into
each transmission (1/2) [1]

Will the instrument be deployed in an area where fresh and salt water may
exist in discrete layers? [n]
SL-TDR>
SL-TDR> p
User-definable identification = ms200124110
Enter new identifier (up to 15 characters):
Shallowest depth to be considered a "dive" = 4
Enter new value:
Deepest depth for accumulating surface-timelines (0=dry only) = 2
Enter new value:
Unit will try to detect surface every second when shallower than 20
Enter new value:
Unit will try to detect surface every 1/4-second when shallower than 10
Enter new value:
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Enter new value:
Change to on-land transmission interval after n [1-255] consecutive
transmissions without sea-water induced delays. n = 10
Enter new value:
After n hours of "haul-out", unit will suspend further transmissions,
(n = 0 will disable this option). n = 1
Enter new value:
"Haul-out" ends when n successive at-sea transmission intervals elapse which
are all "wet". n = 2
Enter new value:
Unit will duty cycle with n [1-15] days on. n = 1
Enter new value:
Unit will duty cycle with n [0-15] days off. n = 0
Enter new value:
Nominal battery capacity is 60000 transmissions.
See User's manual for formula to determine actual battery capacity.
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 350
Enter new daily allowance [1-65535]:
STATUS will be transmitted every nth [0-255] message. n = 20
Enter new value:
Blocks of Time-Lines will be transmitted every nth [0-255] message. n = 48
Enter new value:
Transmission hours with good satellite coverage
|000000000011111111112222|
(these hours (read vertically) are all in GMT)
|012345678901234567890123|
---+---+
Current setting (1=good, 0=bad)
|000111110000000111110000|
Enter new settings. . . . . :
(in listing the histogram bins, the symbol * indicates
that there is no upper limit for this bin.)
Set the upper limits of the maximum-depth histogram bins:
Upper limits are: 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters
Enter new limits (in meters):
Set the upper limits of the dive-duration histogram bins:
Upper limits are: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Enter new limits (in minutes):
Set the upper limits of the time-at-depth histogram bins (0 = haul-out):
Upper limits are: 0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters

```
Enter new limits (in meters):
SL-TDR> e
It is strongly recommended that you log the following information
to a disk
file so that you have a permanent copy of this setup.  In
PROCOMM you do this
by pressing the ALT-F1 key combination.  You will then be
prompted for a
filename, a suggested name is 01T0074.SET
After you have entered a filename, press return to continue.
SLTDR version: 3.15b
EE020C140102003C010024FD630A0100
00000001010101010000000000000001
01010101000000000032010000470000
01FFFFFFFFFFFFF000A0200000A0200
000A0200007E21FE0000010000000100
00100A0501000100010002000000000
5E010000000000000000000000000000
00000000000000000000000040702009A
0A141E28323C46505A647DAFE1FF000E
020406080A0C0E101214191E28FF000E
000A141E28323C46505A647DAFFF000E
30030F620001020384FFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFF078B82FF
6D7332303031323431313 0FFFFFFFFF
FFFFFFFFFFFFFFF30315430303734FF

Quarter-Watt, Microprocessor-controlled Satellite-linked Time-
Depth Recorder.
Unit measures depth from 0 to 490 meters with a resolution of 2
meters
Software version 3.15b.  Unit number: 01T0074.  ARGOS
geolocation id = 24110
Unit identifier = ms200124110.  Unit started at 03:42:43 on
13/10/01
Time (GMT) is 06:27:49.85.  Date (GMT) is 30 October 2001
Shallowest depth to be considered a "dive" = 4 meters
Deepest depth for accumulating surface-timelines (0=dry only) = 2
meters
SLTDR uses 1-sec / 1/4-sec wakeups when shallower than 20 / 10
meters
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Transmission intervals (at-sea / on-land) = 00:47.00 / 01:32.00
SLTDR will use on-land interval after 10 consecutive dry
transmissions
SLTDR will suspend transmissions after 1 hours "hauled-out".
"Haul-out" ends
  after SLTDR is "wet" for 2 successive at-sea transmission
intervals
Transmissions will be duty cycled with 1 day on and 0 days off
Daily allowance (1-message transmissions; unused xmits don't
accumulate) = 350
STATUS will be transmitted every 20 messages.
Blocks of Time-Lines will be transmitted every 48 messages.
Hours when SLTDR transmits: 03-07,15-19
Upper limits of maximum-depth histogram bins are:
20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, *
meters
Upper limits of dive-duration histogram bins are:
2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Upper limits of time-at-depth histogram bins are:
0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
****  Check these parameters carefully ****.  Ready to deploy? y
Type D to archive depth readings, H to archive histograms: h
Unit is ready for deployment, disconnect cable and go for it...
□□¨□
```

PTT ID 24111; SEAL ID K609

Satellite-linked Data Recorder with Telonics ST-16 Argos Transmitter.
Software version 3.15b. Unit number: 01T0075. ARGOS geolocation id = 24111
Unit identifier = ms20012411. Unit started at 02:27:06 on 13/10/01
Time (GMT) is 06:25:39.34. Date (GMT) is 30 October 2001
Shallowest depth to be considered a "dive" = 4 meters
Deepest depth for accumulating surface-timelines (0=dry only) = 2 meters
SLTDR uses 1-sec / 1/4-sec wakeups when shallower than 20 / 10 meters
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Transmission intervals (at-sea / on-land) = 00:48.00 / 01:33.00
SLTDR will use on-land interval after 10 consecutive dry transmissions
SLTDR will suspend transmissions after 1 hours "hauled-out". "Haul-out" ends
after SLTDR is "wet" for 2 successive at-sea transmission intervals
Transmissions will be duty cycled with 1 day on and 0 days off
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 350
STATUS will be transmitted every 20 messages.
Blocks of Time-Lines will be transmitted every 48 messages.
Hours when SLTDR transmits: 03-07,15-19
Upper limits of maximum-depth histogram bins are:
20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters
Upper limits of dive-duration histogram bins are:
2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Upper limits of time-at-depth histogram bins are:
0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
SL-TDR> o
Do you wish to allow any unused portion of your daily transmission allowance
to be added to the next day's allowance? [n]

Do you wish to be able to set the daily transmission allowance on a month-by-month basis? [n]

Enter number (0/6/10/14) of depth histogram bins: [14]

Enter number (0/6/10/14) of duration histogram bins: [14]

Enter number (0/6/10/14) of time-at-depth histogram bins: [14]

How many histograms or timeline messages should be encoded into
each transmission (1/2) [1]

Will the instrument be deployed in an area where fresh and salt water may
exist in discrete layers? [n]
SL-TDR> p
User-definable identification = ms20012411
Enter new identifier (up to 15 characters):
Shallowest depth to be considered a "dive" = 4
Enter new value:
Deepest depth for accumulating surface-timelines (0=dry only) = 2
Enter new value:
Unit will try to detect surface every second when shallower than 20
Enter new value:
Unit will try to detect surface every 1/4-second when shallower than 10
Enter new value:
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Enter new value:
Change to on-land transmission interval after n [1-255] consecutive
transmissions without sea-water induced delays. n = 10
Enter new value:
After n hours of "haul-out", unit will suspend further transmissions,
(n = 0 will disable this option). n = 1
Enter new value:
"Haul-out" ends when n successive at-sea transmission intervals elapse which
are all "wet". n = 2
Enter new value:
Unit will duty cycle with n [1-15] days on. n = 1
Enter new value:
Unit will duty cycle with n [0-15] days off. n = 0
Enter new value:
Nominal battery capacity is 60000 transmissions.
See User's manual for formula to determine actual battery capacity.
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 350
Enter new daily allowance [1-65535]:
STATUS will be transmitted every nth [0-255] message. n = 20
Enter new value:
Blocks of Time-Lines will be transmitted every nth [0-255] message. n = 48
Enter new value:
Transmission hours with good satellite coverage
|000000000011111111112222|
(these hours (read vertically) are all in GMT)
|012345678901234567890123|
---+----------------------+
Current setting (1=good, 0=bad)
|000111110000000111110000|
Enter new settings. . . . . :
(in listing the histogram bins, the symbol * indicates
that there is no upper limit for this bin.)
Set the upper limits of the maximum-depth histogram bins:
Upper limits are: 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters
Enter new limits (in meters):
Set the upper limits of the dive-duration histogram bins:
Upper limits are: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Enter new limits (in minutes):
Set the upper limits of the time-at-depth histogram bins (0 = haul-out):
Upper limits are: 0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
Enter new limits (in meters):
SL-TDR> v
Battery voltage under light load = 7.272 Volts.
SL-TDR> v
Battery voltage under light load = 7.272 Volts.
SL-TDR> v
Battery voltage under light load = 7.272 Volts.
SL-TDR> a3
S.W. Resistance = 255, Depth (m) = 0
S.W. Resistance = 255, Depth (m) = 0
S.W. Resistance = 255, Depth (m) = 0

S.W. Resistance = 255, Depth (m) = 0
SL-TDR> e
It is strongly recommended that you log the following information to a disk
file so that you have a permanent copy of this setup. In PROCOMM you do this
by pressing the ALT-F1 key combination. You will then be prompted for a
filename, a suggested name is 01T0075.SET
After you have entered a filename, press return to continue.
SLTDR version: 3.15b
9E020C140102003C010024FD630A0100
00000001010101010000000000000001
01010101000000000033010000480000
01FFFFFFFFFFFFF000A0200000A0200
000A0200007E21FE0000010000000100
00100A0501000100010002000000000
5E010000000000000000000000000000
00000000000000000000000407020088
0A141E28323C46505A647DAFE1FF000E
020406080A0C0E101214191E28FF000E
000A141E28323C46505A647DAFFF000E
30030F620001020375FFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFFF078BD1FF
6D733230303132343131FFFFFFFFFFF
FFFFFFFFFFFFFFF30315430303735FF

Quarter-Watt, Microprocessor-controlled Satellite-linked Time-Depth Recorder.
Unit measures depth from 0 to 490 meters with a resolution of 2 meters
Software version 3.15b. Unit number: 01T0075. ARGOS geolocation id = 24111
Unit identifier = ms20012411. Unit started at 02:27:06 on 13/10/01
Time (GMT) is 06:26:12.14. Date (GMT) is 30 October 2001
Shallowest depth to be considered a "dive" = 4 meters
Deepest depth for accumulating surface-timelines (0=dry only) = 2 meters
SLTDR uses 1-sec / 1/4-sec wakeups when shallower than 20 / 10 meters
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Transmission intervals (at-sea / on-land) = 00:48.00 / 01:33.00
SLTDR will use on-land interval after 10 consecutive dry transmissions
SLTDR will suspend transmissions after 1 hours "hauled-out".
"Haul-out" ends
after SLTDR is "wet" for 2 successive at-sea transmission intervals
Transmissions will be duty cycled with 1 day on and 0 days off
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 350
STATUS will be transmitted every 20 messages.
Blocks of Time-Lines will be transmitted every 48 messages.
Hours when SLTDR trasmts: 03-07,15-19
Upper limits of maximum-depth histogram bins are:
20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters
Upper limits of dive-duration histogram bins are:
2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Upper limits of time-at-depth histogram bins are:
0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
**** Check these parameters carefully ****. Ready to deploy? y
Type D to archive depth readings, H to archive histograms: h
Unit is ready for deployment, disconnect cable and go for it...
□□□□

PTT ID 24195; SEAL ID KD31

Satellite-linked Data Recorder with Telonics ST-16 Argos Transmitter.
Software version 3.15b. Unit number: 01T0160. ARGOS geolocation id = 24195
Unit identifier = ms200124195. Unit started at 20:52:50 on 24/10/01
Time (GMT) is 00:22:08.04. Date (GMT) is 31 October 2001
Shallowest depth to be considered a "dive" = 4 meters
Deepest depth for accumulating surface-timelines (0=dry only) = 2 meters
SLTDR uses 1-sec / 1/4-sec wakeups when shallower than 20 / 10 meters
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Transmission intervals (at-sea / on-land) = 00:45.00 / 01:30.00
SLTDR will use on-land interval after 10 consecutive dry transmissions
SLTDR will suspend transmissions after 1 hours "hauled-out". "Haul-out" ends
after SLTDR is "wet" for 2 successive at-sea transmission intervals
Transmissions will be duty cycled with 1 day on and 0 days off
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 350
STATUS will be transmitted every 20 messages.
Blocks of Time-Lines will be transmitted every 48 messages.
Hours when SLTDR transmits: 03-07,15-19
Upper limits of maximum-depth histogram bins are:
20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters
Upper limits of dive-duration histogram bins are:
2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Upper limits of time-at-depth histogram bins are:
0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
SL-TDR> o
Do you wish to allow any unused portion of your daily transmission allowance
to be added to the next day's allowance? [n]

Do you wish to be able to set the daily transmission allowance on a month-by-month basis? [n]

Enter number (0/6/10/14) of depth histogram bins: [14]

Enter number (0/6/10/14) of duration histogram bins: [14]

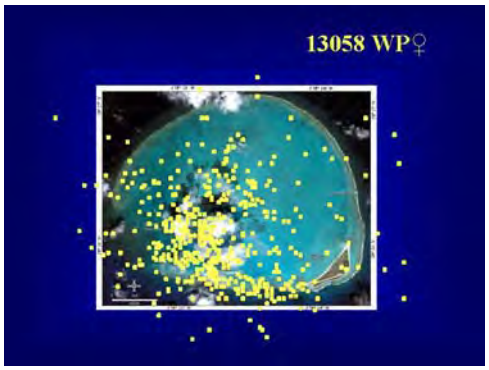
Enter number (0/6/10/14) of time-at-depth histogram bins: [14]

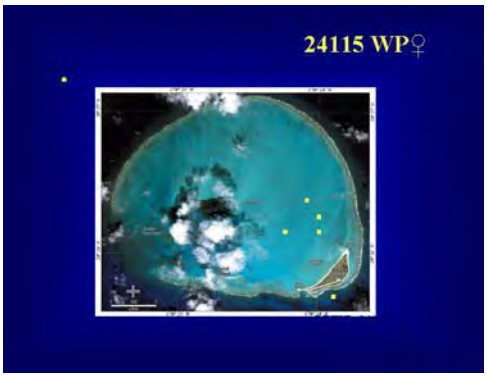
How many histograms or timeline messages should be encoded into
each transmission (1/2) [1]

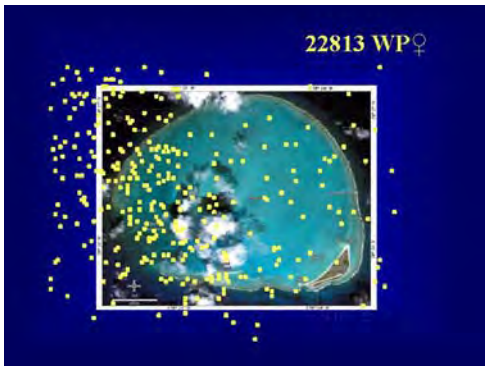
Will the instrument be deployed in an area where fresh and salt water may
exist in discrete layers? [n]
SL-TDR> p
User-definable identification = ms200124195
Enter new identifier (up to 15 characters):
Shallowest depth to be considered a "dive" = 4
Enter new value:
Deepest depth for accumulating surface-timelines (0=dry only) = 2
Enter new value:
Unit will try to detect surface every second when shallower than 20
Enter new value:
Unit will try to detect surface every 1/4-second when shallower than 10
Enter new value:
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Enter new value:
Change to on-land transmission interval after n [1-255] consecutive
transmissions without sea-water induced delays. n = 10
Enter new value:
After n hours of "haul-out", unit will suspend further transmissions,
(n = 0 will disable this option). n = 1
Enter new value:
"Haul-out" ends when n successive at-sea transmission intervals elapse which
are all "wet". n = 2
Enter new value:
Unit will duty cycle with n [1-15] days on. n = 1
Enter new value:
Unit will duty cycle with n [0-15] days off. n = 0
Enter new value:
Nominal battery capacity is 60000 transmissions.
See User's manual for formula to determine actual battery capacity.
Daily allowance (1-message transmissions; unused xmits don't accumulate) = 350
Enter new daily allowance [1-65535]:
STATUS will be transmitted every nth [0-255] message. n = 20
Enter new value:
Blocks of Time-Lines will be transmitted every nth [0-255] message. n = 48
Enter new value:
Transmission hours with good satellite coverage
|000000000011111111112222|
(these hours (read vertically) are all in GMT)
|012345678901234567890123|
---+------------------------+
Current setting (1=good, 0=bad)
|000111110000000111110000|
Enter new settings. . . . . :
(in listing the histogram bins, the symbol * indicates
that there is no upper limit for this bin.)
Set the upper limits of the maximum-depth histogram bins:
Upper limits are: 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, * meters
Enter new limits (in meters):
Set the upper limits of the dive-duration histogram bins:
Upper limits are: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Enter new limits (in minutes):
Set the upper limits of the time-at-depth histogram bins (0 = haul-out):
Upper limits are: 0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
Enter new limits (in meters):
SL-TDR> v
Battery voltage under light load = 7.396 Volts.
SL-TDR> v
Battery voltage under light load = 7.396 Volts.
SL-TDR> v
Battery voltage under light load = 7.396 Volts.
SL-TDR> a3
S.W. Resistance = 255, Depth (m) = -2
S.W. Resistance = 255, Depth (m) = 0
S.W. Resistance = 255, Depth (m) = -2

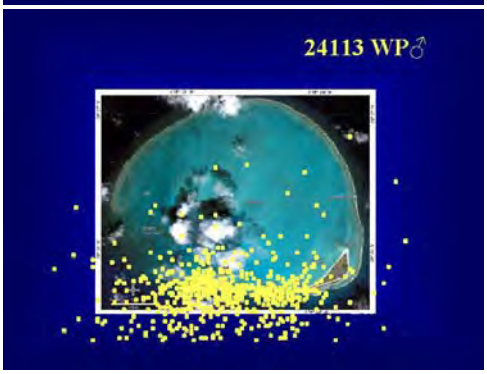
```
SL-TDR> e
It is strongly recommended that you log the following information
to a disk
file so that you have a permanent copy of this setup.  In
PROCOMM you do this
by pressing the ALT-F1 key combination.  You will then be
prompted for a
filename, a suggested name is 01T0160.SET
After you have entered a filename, press return to continue.
SLTDR version: 3.15b
B2020C140102003C01002BFD530A0100
00000001010101010000000000000001
01010101000000000030010000450000
01FFFFFFFFFFFFF000A0200000A0200
000A0200007E21FE0000010000000100
00010A0501000100010020000000000
5E010000000000000000000000000000
00000000000000000000000040702006D
0A141E28323C46505A647DAFE1FF000E
020406080A0C0E101214191E28FF000E
000A141E28323C46505A647DAFFF000E
30030F620001020368FFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFF07A0C9FF
6D7332303031323431393 5FFFFFFFFF
FFFFFFFFFFFFFFF30315430313630FF

Quarter-Watt, Microprocessor-controlled Satellite-linked Time-
Depth Recorder.
Unit measures depth from 0 to 490 meters with a resolution of 2
meters
Software version 3.15b.  Unit number: 01T0160.  ARGOS
geolocation id = 24195
Unit identifier = ms200124195.  Unit started at 20:52:50 on
24/10/01
Time (GMT) is 00:23:05.78.  Date (GMT) is 31 October 2001
Shallowest depth to be considered a "dive" = 4 meters
Deepest depth for accumulating surface-timelines (0=dry only) = 2
meters
SLTDR uses 1-sec / 1/4-sec wakeups when shallower than 20 / 10
meters
Local time [0-23 hours] corresponding to 00h UT (GMT): 12
Transmission intervals (at-sea / on-land) = 00:45.00 / 01:30.00
SLTDR will use on-land interval after 10 consecutive dry
transmissions
SLTDR will suspend transmissions after 1 hours "hauled-out".
"Haul-out" ends
  after SLTDR is "wet" for 2 successive at-sea transmission
intervals
Transmissions will be duty cycled with 1 day on and 0 days off
Daily allowance (1-message transmissions; unused xmits don't
accumulate) = 350
STATUS will be transmitted every 20 messages.
Blocks of Time-Lines will be transmitted every 48 messages.
Hours when SLTDR transmits: 03-07,15-19
Upper limits of maximum-depth histogram bins are:
20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, 450, *
meters
Upper limits of dive-duration histogram bins are:
2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 25, 30, 40, * minutes
Upper limits of time-at-depth histogram bins are:
0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 350, * meters
****  Check these parameters carefully ****.  Ready to deploy? y
Type D to archive depth readings, H to archive histograms: h

Unit is ready for deployment, disconnect cable and go for it...
```

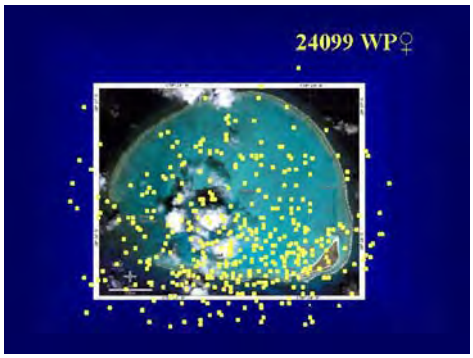
6.2 Appendix II. Supplemental dispersion plots for Hawaiian monk seals foraging at Kure Atoll.

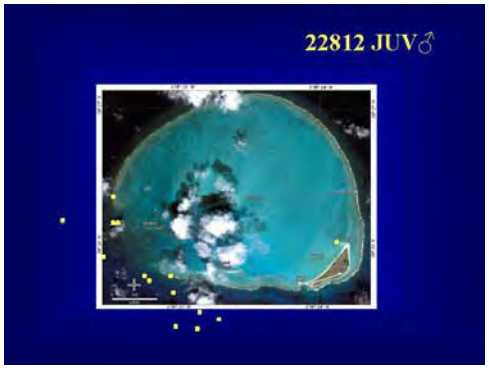


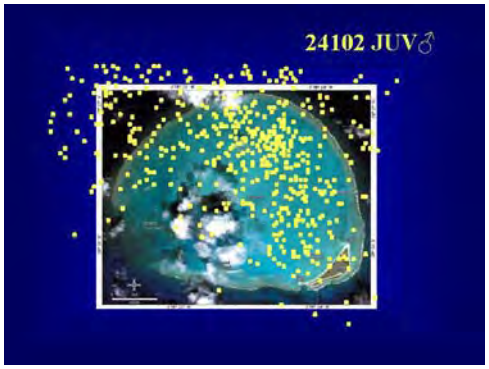


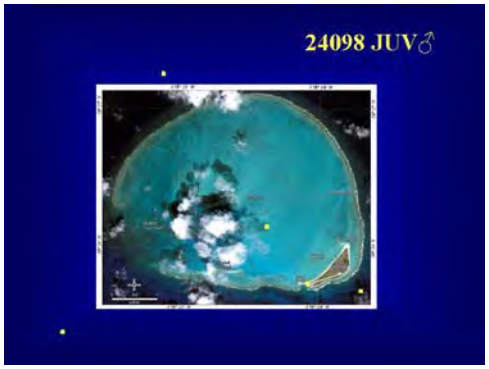


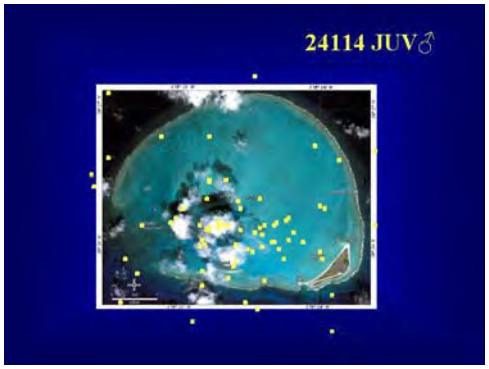


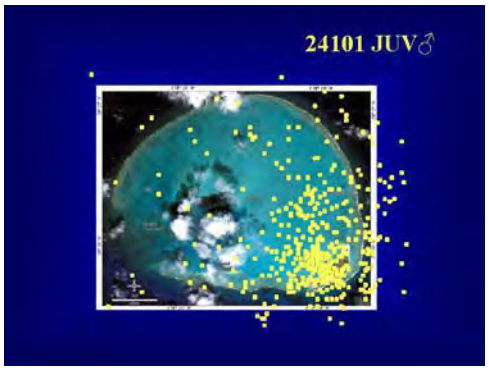


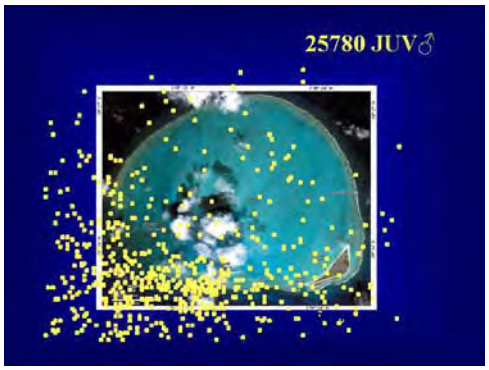

22812 JUV♂

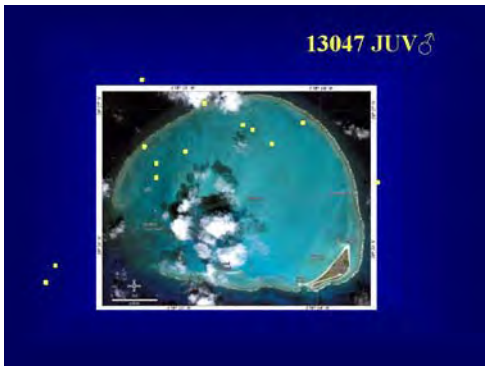

24102 JUV♂

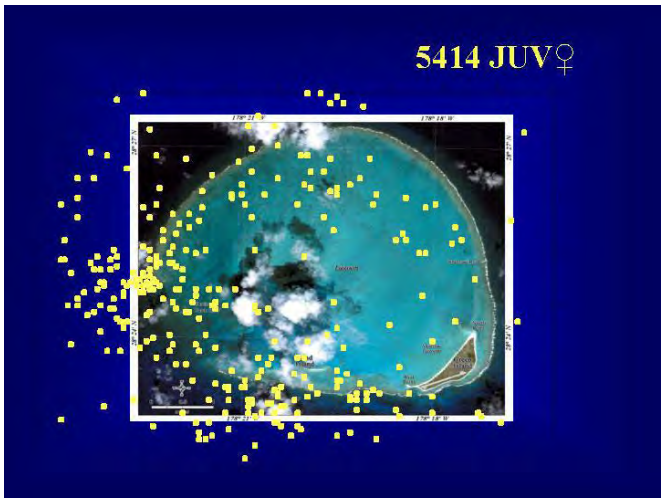

24098 JUV♂

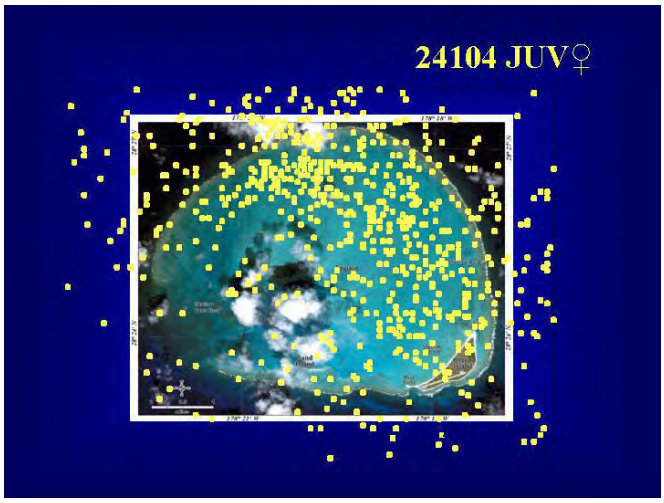

24114 JUV♂

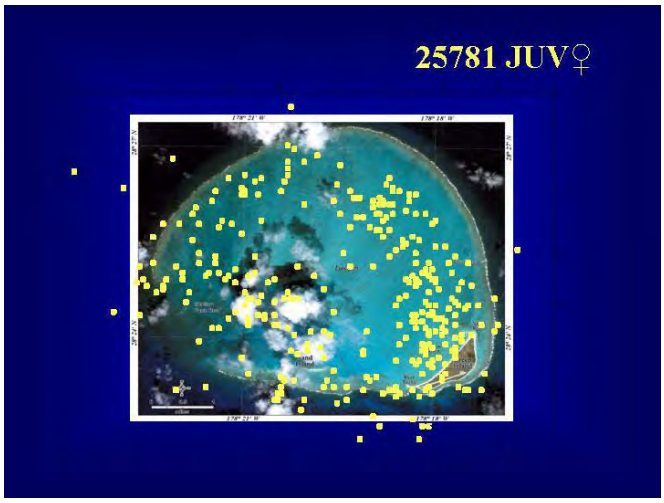

24101 JUV♂


25780 JUV♂


13047 JUV♂


5414 JUV♀


24104 JUV♀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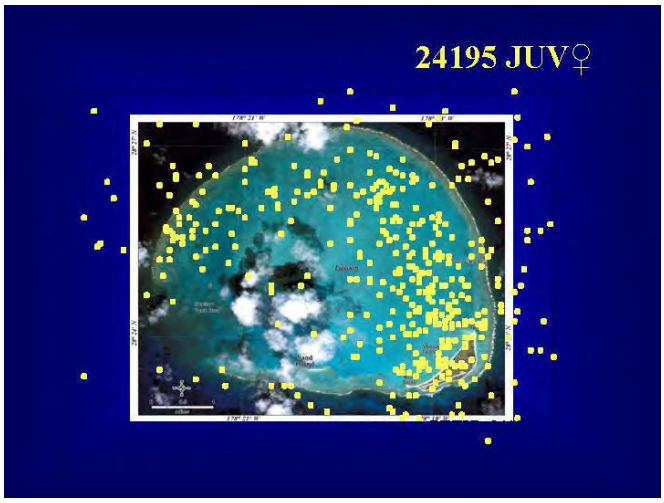
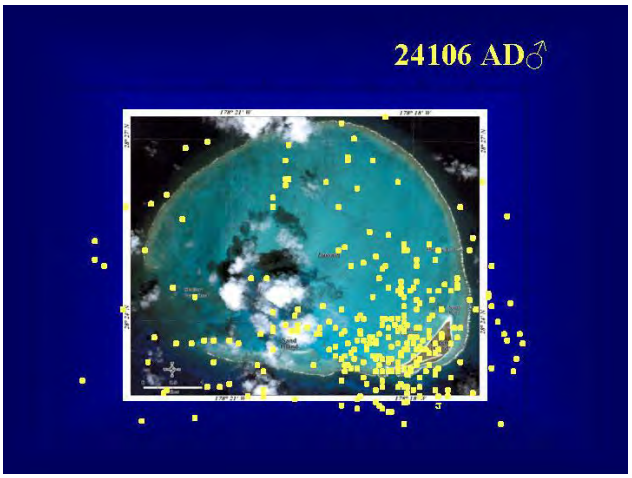
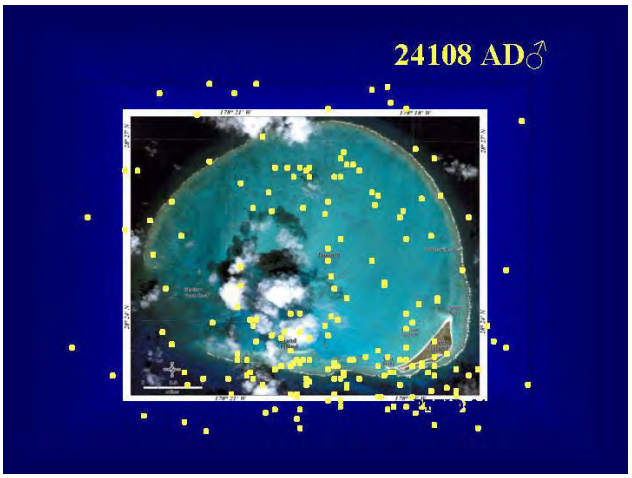
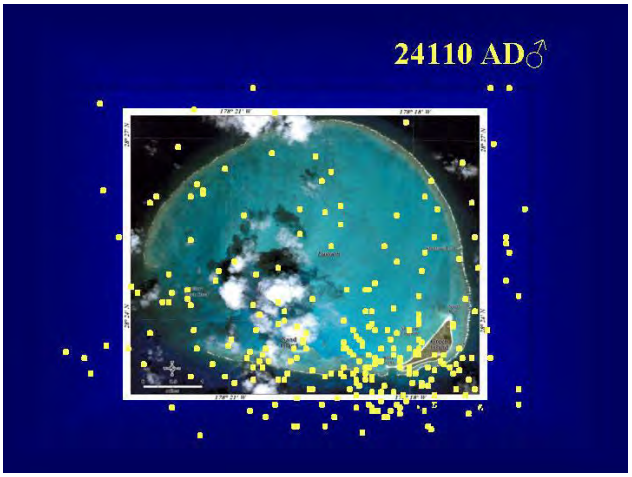

24195 JUV♀


24106 AD♂


24108 AD♂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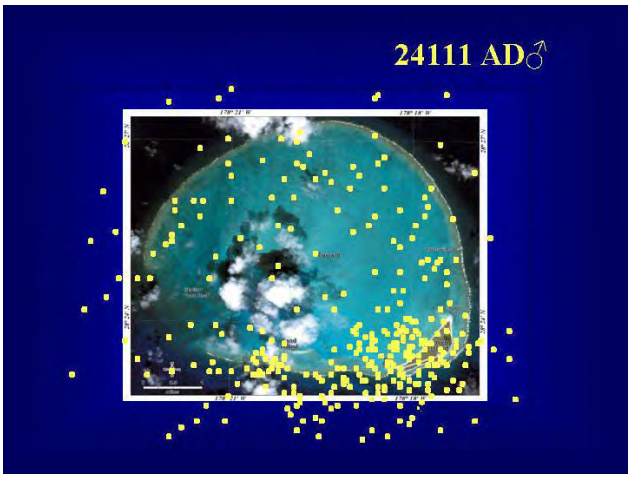
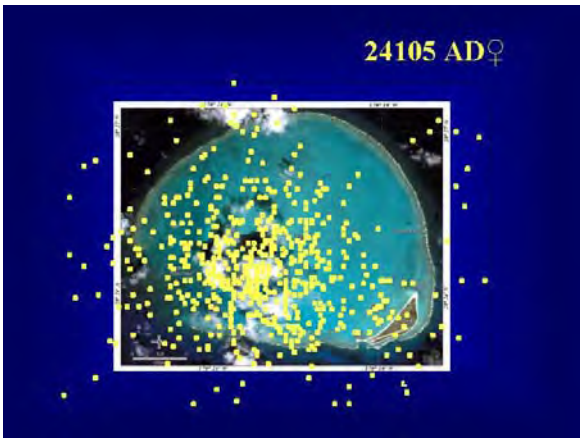

24111 AD♂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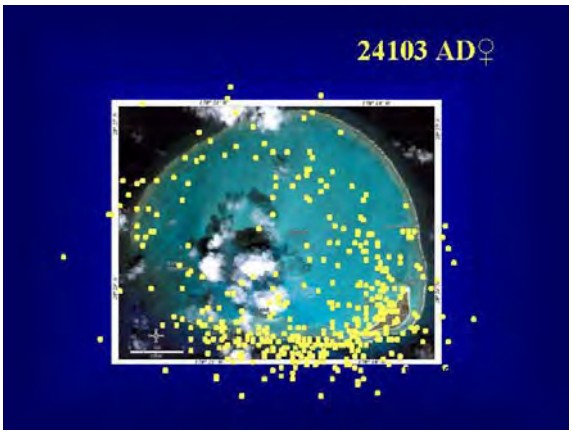
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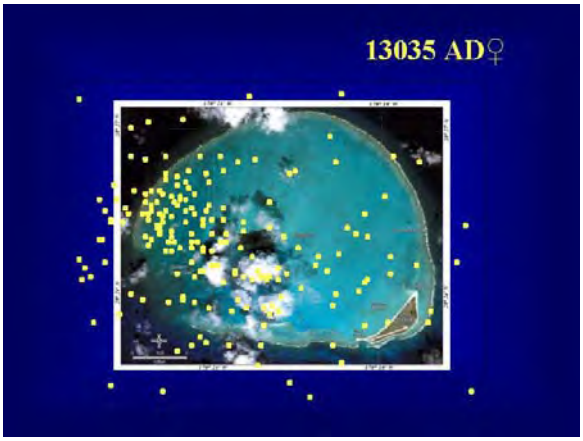
13035 AD♀