

STAR 2003

RECORD  
ACOUSTICS

SONOBUOY LOG

MAC  $\frac{1}{2}$

7530-00-222-3525  
FEDERAL SUPPLY SERVICE  
(GPO)

STAR 2003  
 $\frac{1}{2}$   
Sonobuoy Log  
MAC

Buoy #	Type (535f, 57B)	Chainage	Depth	Date	Time	Tape #	Sighting #	Species	Latitude			Longitude			Degrees Minutes	Minutes	N/E/W	Water Ship	Cotations	Sounds (Y/N)
									Degrees	Minutes	N/S	Degrees	Minutes	N/S						
1																				
2																				
3																				
4	57B	10	90	9/17/03	1214	SB1	243	0.0m	00°	21.09	S	120°	13.06	W	Y	Y	N			
5	57B	10	90	9/17/03	1458	SB2	245	Badeni	00°	6.19	S	120°	01.46	W	Y	Y	N			
6	57B	10	90	10/7/03	1528	SB3	328	P. indicata	07°	36.2	N	84°	49.05	W	Y	Y				
7	57B	10	90	10/9/03	1457	SB4	339	Boden	30°	30.3	N	86'	51.55	W	Y	Y				
8	57B	10	90	10/10/03	1403	SB5	352	Beleni	10°	46.83	N	89°	4.66	W	Y	Y				
9	57B	80	90	10/11/03	1033	SB6	371	Bemisia	10°	33.70	S	92°	25.29	W	Y	Y	N			
10	53	84	90	10/12/03	1033															
11	53	87	90	10/12/03	1033															
12	57B	10	90	10/12/03	1041	SB6	371	B.m.	10°	33.70	S	92°	25.29	W	Y	Y	N			
13	57B	10	90	10/17/03	1806	SB7	401	Fishes												
14	57B	10	90	10/19/03	1810	SB8	405	Allothuria												
15	52	54	90	10/21/03	0849	SB7	414	Blue	80°	53.62	S	89°	8.25	W	Y	Y				
16	53	50	90	10/21/03	0849	SB7	414	Blue	80°	53.62	S	89°	8.25	W	Y	Y				
17	57	11	90	10/21/03	0849	SB7	414	Blue	80°	53.62	S	89°	8.25	W	Y	Y				
18	57	10	90	10/24/03	1030	SB7	414	Blue	80°	53.73	S	89°	5.73	W	Y	Y				
19	53	53	90	10/27/03	1015	SB12	420	Blue	11°	50.02	S	88°	13.79	W	AJ	AJ				
20	57	10	90	10/22/03	1016	SB12	420	Blue	11°	50.02	S	88°	13.79	W	Y	Y				
21	53	69	90	10/21/03	1227	SB11	416	Blue	90°	8.98	S	88°	13.79	W	Y	Y				
22	57	10	90	10/21/03	1227	SB11	416	Blue	90°	8.98	S	88°	00.57	W	AJ	AJ				
23	57	10	90	10/22/03	1044	SB13	427	Brachae	12°	28.37	S	88°	80.57	W	Y	Y				
24	57	11	90	10/23/03	0827	SB14	428	Blue	14°	26.59	S	87°	4.64	W	Y	Y				
25	57	10	90	10/24/03	1153	SB15	431	Fin	14°	46.6	S	87°	04.84	W	Y	Y				
26	57	10	90	10/25/03	1006	SB16	433	Blue	13°	45.63	S	87°	42.6	W	Y	Y				
27	53	51	90	10/30/03	0923	SB17	451	Bythaelia	90°	58.13	S	78°	4.22	W	Y	Y				
28	53	50	90	11/02/03	1455	SB18	455	Sei	90°	58.50	S	78°	46.36	W	Y	Y				
29	53	60	90	11/02/03	1503	SB18	455	Sei	90°	33.75	S	78°	34.77	W	N	N				
30	57	10	90	11/02/03	1823	SB19	457	Sei	90°	24.66	S	78°	34.77	W	AJ	AJ				
31	53	56/64	90?	11/03/03	1103	SB20	466	Sei	90°	00.61	S	79°	44.22	W	Y	Y				
32	53	60/45	90?	11/03/03	1211	SB20	467	Byodes	90°	00.69	S	79°	20.11	W	Y	Y				
33	57	10	90	11/4/03	1307	SB22	478	umpunkt	70°	28.84	S	79°	21.27	W	Y	Y				
34	53	55	90	11/4/03	1547	SB24	481	byodes	70°	23.36	S	79°	57.67	W	Y	Y				
35	53	62	90	11/6/03	1546	SB25	490	Byodes	30°	19.44	S	80°	38.85	W	Y	Y				
36	53	62	90	11/8/03	0808	—	507	Brades	0°	1.33	N	80°	36.57	W	Y	Y				
37	57	10	90	11/8/03	0216	SB26	510	Brades	0°	23.40	N	80°	14.98	W	Y	Y				
38																				
39	57	10	90	11/13/03	1745	SB27	513	Orcina	60°	21.81	N	79°	35.03	W	Y	Y				
40	53	62	90	11/23/03	1837	SB28	643	bivalvularis	90°	3.06	N	82°	28.03	W	Y	Y				
41	53	62	90	11/24/03	1034	SB29	640	bivalvularis	90°	44.06	N	82°	26.23	W	Y	Y				



STAR 2003

SONOBUOY  
LOG

MAC



# \*EXAMPLE\*

S#45 B. Musculus

7/31/02, 12:12

45° 12.2'N 130° 10. W

Dot Tape: STAR 03 SB2

53 b, Ch 40

S# Species  
Date Sighting Time  
Lat, Long

Songbox type, Channel  
(57)

<u>TIME</u>	<u>INFO</u>
1212	Buoy deployed - Good Signal Animals 500m off port beam Ship heading 030 (magnetic)
1230	No sounds yet, whales resighted Y2 nmi from buoy (about 640 to buoy) Ship heading still 030
1240	A-B Call
1242	Up sweep
1250	No calls Recently, signal fading Ship still moving 030
1310	Reception Gone, but will still record to end

↗ Animals appeared to be feeding,  
no biopsies or photos, 2 animals  
seen swimming/diving close to  
each other

\* 3/19/94 VV \*

zulu cam.d 24#2

51:51, 50/1st

W.01°08' 45.51 24

S 83 80 STAR : 1901 to G

0° N) 88

Sighting 2/3 Orcinus Orca

Position: 00° 21.08'S / 120° 13.86'W

OR-17-03 10:36

DAT TAPE: 90C STAR '03 #243 Snobuay 1

B57 Ch10 Snobuay #1

5741

SMIT

Time

Info

large dive - dropped void  
max freq in most channel  
distance 0.80 picked up  
bubbles rapidly, try about all  
(part of ORCA heard just now in 5'  
183 11th picked up, 11.2  
11.2 9.8  
guruay  
picked hearing within 0.1  
3.2 210m 11.2 pick  
near 11.2 11.2 11.2 distance  
line of

5751

12:14

try deployed food signals  
Animals were appr. 1.5 miles behind us but  
down, ship noise no whale sounds

5751

12:20

Arrived at 1 mile distance and  
came to steerage  
no whale sounds

5751

12:34

turning to come back to course & speed

5751

12:39

min team try on effort  
still no whale sounds

5751

12:46

picked up some white wheeling birds  
no whale sounds

5754

12:54

only one bar for reception left.  
no whale sounds  
try at 6 mile behind us now

→ Sonobuoy was launched after small boat was retrieved. Animals were not resighted after I landed the buoy. Throughout the entire sighting - starting from sighting time until we finished small boat ops - animals were either travelling fast or even leaping through the water  
No biopsies - no pictures

The school consisted of 2 clusters that came back together and split back up a few times during the sighting.

Remonitored Tape (1015103-S. Rankin)

→ monitored through 1255 (local time)  
→ no vocals detected

Sighting 245 *B. edeni*

Position:  $00^{\circ} 06.19' S$   $1120^{\circ} 01.46' W$

09-17-03 14:16

DAT TAPE: 97AC STAR '03 #245 Sonobuoy 2  
357 Ctt 10 Sonobuoy #2

note: on this sighting

we see very little on  
the screen. We'd like  
to see more. Caribbean

water perfectly clear but on  
the screen no whale (or often)

noises all around. Try play  
around now. Get start at  
1547 balloon whale on 145

Time Info

14:58

Boat launched, good signal lots of ship noise  
attempting biopsies at this time

15:06

Coming to stop at 1 nm distance from buoy,  
Whale has not been seen in ~ 5 min

15:09

HD 125° of starboard bow, 1 1/2 nute = whale position

15:14

Mixed up transmission of radio on Daniel  
#1, asked Bridge to minimize radio com. + switch to 800x

15:19

127 right, 2nd whale position rel. to ship

Sighting 245 continued

15:28 turned back to course and speed

16:08 only on reception bar on receiver, no whale sounds

⇒ Overall: the signals showing up on Spectraphus screen looked very faint when changed to baleen-configuration  
the signals were barely visible at first and after a few minutes pretty much disappeared. Therefore I was not sure whether we got whale sounds on the tape or not.  
No biopsies, no pictures

Review SB2

(10/15/03 - S Rankin)

→ no vocals detected,  
monitored 9mW 1545 (local)  
(7mo)

S#328 Sperm Whales

10/07/03 15:28

7°36.2 °N 84°49.05 °W

DAT TAPE # SB3

57B CH10

TIME	INFO
1528	bouy dropped - whales from 70B to 20R MOTHER/calf, juveniles - start recording
1540	bouy very good, great reception, lots of <del>clicks</del> normal clicks, haven't heard codas or ratchets yet - will stop & go upstairs for a bit.
1549	Done w/ biopsy attempt (no skin) we are ~ 4nm from bouy ~1 bar for reception, still good
1723	Sonobouy still good - we did a U-turn a bit ago, it is now ~ 2 1/2 nm @ 100°L 2-3 bars reception, normal clicks.

ST#339 *B. edeni*

10/9/03

LAT  $3^{\circ}30'3\text{N}$  LONG  $86^{\circ}51.55\text{W}$

DAT TAPE SB4

3:57B) Ch. 10

YES  
Vocals

NOT  
MONITORED  
(IN REAL  
TIME!)

TIME  
1451

1452

1457

1517

1526

INFO

Sonobuoy deployed, start recording  
Heading back to CS, animals are off our  
beam now, we are now  $\sim 0.5\text{nm}$  from buoy  
Animals now  $\sim 300\text{m}$  off stern, port side  
2 bars reception - buoy  $\sim 3\frac{1}{4}\text{nmi}$  away  
1 bar reception - losing reception (will keep recording)

### Review Tape (Post-Recording)

\* monitored below  
300 Hz

~ 03:03:00 Some flat tonal 1sec calls  $\sim 34-38\text{Hz}$  - don't  
think it is biological

→ 03:05:04 41 Hz flat tonal (several seconds long)  
(& faint ones a few seconds later)

↳ I think there were a few more vocals (faint)

3:11:03 36 Hz flat tonal

3:12:06 good 36 Hz flat tonal call

3:13:09 36 Hz -- (w/ ~~bounce~~ bounce/echo?)

3:13:49 faint 36 Hz

3:15:40 faint 36 Hz

3:16:58 good 36 Hz

3:18:18 good 36 Hz  
3:19:16 good 36 Hz

YES! Vocals

S# 352 Buoyes Whales

10/10/03

LAT  $1^{\circ}46.83N$  LONG  $89^{\circ}4.46W$

DAT TAPE #565

57B Ch 10

TIME

1403

INFO

buoy deployed, start recording

Good Buoy, all ~~Channels~~ good reception

1407 Whale ~  $150^{\circ}L$  @ 0.5nm, very close to buoy

1407 Going back to CS, look for ship noise

1411 We are on CS now, buoy & whale behind us

1413 Good LF flat tonal call! Did not get exact DAT time

→ I think I hit something & briefly stopped recording!!! I hope this pause was <1 min

1416 - Cannot monitor well, must stay w/ effort on Array  
Buoy ~ 1.5nm behind us, excellent reception

1423 - Still good reception (~4 bars) - buoy is 2.5nm behind us - I have some vocals (<50 Hz) - only partially monitoring this tape in real-time

1427 - Sonobuoy reception 3-4 bars starting to fade out, getting some radar interference, but still some calls  
Buoy is ~ 3nm behind us

1433 Still some LF calls, reception 2 bars  
lots of radar interference

1439 - buoy is now @ 5nm, 1-2 bars

S#352  
10/10  
BE

1451 - Reception bad now, but will keep recording

3 DIFAR 2 no float (Ch 80,81)

+ bad sand (Ch 81)

1 HF buoy → good (Ch 11)

90 Hz Pulsing ---  
AM 100 Hz

59 Hz Pulsing ---

LF Downsweps

50 Hz 3 part? — (1102) - short ~1 sec?

Short Moans 36 Hz — 1 sec

note: South NDE  
LA 7200E

371

S# 360 T B. MUSCAVUS

10/12/03

LAT  $1^{\circ}33.7'$  LONG  $92^{\circ}25.2'W$

DAT TAPE SB6

57B Ch 11

TIME INFO

1033

start recording

1042

FINALLY! A GO

DL @ 3ret

- 1044  $0^{\circ}22$ , resight of whale
- 1047 Ch 11 buoy dropped - good
- 1050 10:50:10 possible LF sound < 50Hz?
- 10:50:40 80 → 50 Hz Downswep
- 10:51:11 Downsweps
- 10:52 Several good downsweps,
- 10:52 2 1/2 set @  $0^{\circ}$  - blue whale resighted
- buoy now ~ 3/4 nm behind us
- 1052 90 Hz Pulsing!! Great
- 1054 Downsweps - lots of 'em!
- 1055 2 1/2 Hz moan (short ~1-2 sec)
- 1055 30 90 Hz pulses
- 1056 LOUD Down sweeps!,
- 1057 Faint 59 Hz pulsing?
- 1057 AM ~100 Hz, & 90 Hz pulsing overlapped.
- 1100 SO MUCH!!! - ship coming down to HS
- 1101 Blue whale night R, 1 1/2 set from ship - buoy is ~ 2 nm behind us - still sounds good
- 1102 Strange LF short — <sup>some</sup>, about 1 sec?

1105 whales now @ 1R, 5ret

1107 Radio interference

1108 A second animal out at ~ 0.8ret

1111 Radio interference

1112 Lots of radio interference, buoy at ~ 4nm

1115 Too much interference - 3 bars reception  
Mostly bad

1119 11.19.36 good call ; no radio interference

1120 11.20.44 another call w/ little radio interference

1123 11.24.07 strange signal

1126 11.24.30 another call

1126 11.27.03 another call

1131 11.32.19 more calls

1132 11.33.17 call

1135 11.35.55 call

1143 11.44.05 call

1145 11.44.29 call

→ Stop monitoring here, but still recording

VES

Vocals

ST# ~~080~~ 401 Frasers Dolphins

10/13/03

LAT

LONG

DAT TAPE 387

51A Ch 10

TIME

1806

INFO

Buoy tossed - good buoy,  
Frasers now 200m off bow  
Small tight group

1835

-Some vocals - we chased them  
away from buoy for a while  
SpecPlus not working well, whaltrak  
wasn't on (bad wx today)

Yes! Vocals on both

S#404 Sperm Whales

S#405 Pilot Whales

S# 405 Globicephala Macrorhynchus

10/18/03

AS#404 Sperm Whales

9°12.72S

96°31.51W maybe net cornered

57B ch 10

1840 buoy deployed, good hearing  
- deployed within 10m of pilot whales  
(They were very slow-moving animals)

- sperm whales are also around  
here! I hear the PM, but not  
the pilot whales

1852 - we just turned around after biopsy  
& did a VERY close approach to the  
buoy - Whaltrak does not appear to be  
working correctly (re-check my L.A. lines)

1857 - sound better now - I think I may hear some  
pilot whales - YES! Vocals - ec trains & dw!!

1920 - observers off for the nite - buoy 1-3 bar  
reception - not hearing any migration.

1934 - we are approaching sonobuoy again (nearly  
all bars reception)

1937 - Good Pilot Whales now (brief?)

1958 - 2 bars reception, going down —

Ch 50 53 BAD  
 Ch 54 53 BAD  
 Ch 11 57 Good

S#414 Blue whale, *B. musculus*

10/21

10/21/03

Lat  $8^{\circ}53'62''$  S long  $89^{\circ}8'25''$  W

53 buoy Ch ~~14~~<sup>11</sup>, 90 ft

DAT tape SB9

time	info
0849	buoy in, start recording buoy deployed w/in 200m of 2 blues just after biopsy -
0856	Ship noise VERY loud - we are turning cycles next to buoy to pick up bolts - NO vocals detected yet

0904

{ 2<sup>nd</sup> time I've  
heard this  
long!!

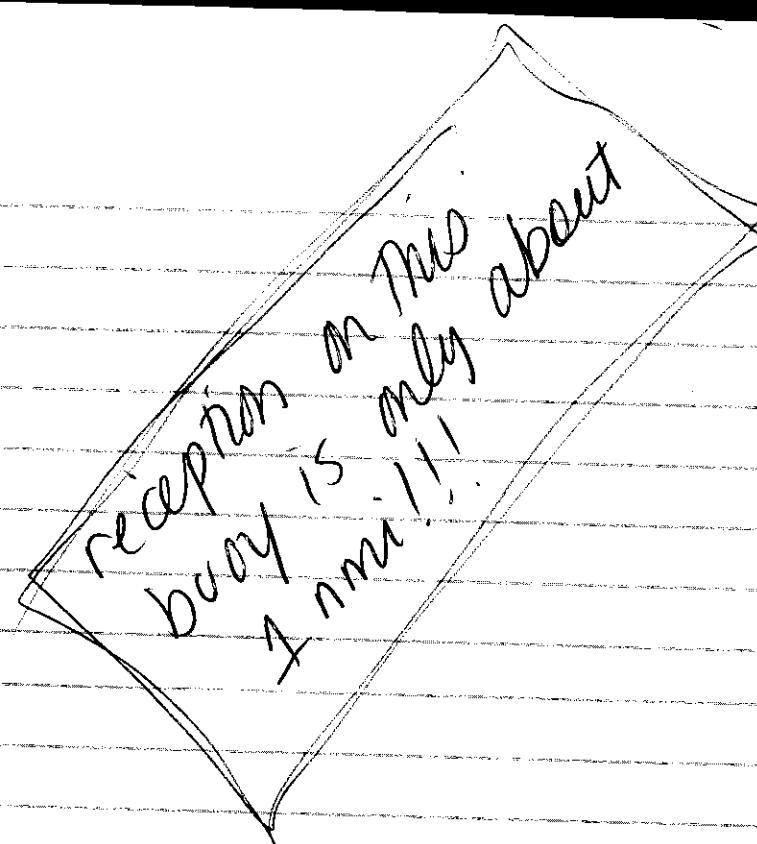
is This ship noise or whale noise?  
I'm not sure - sounds more like whale  
sounds, but who knows?

0908 - now LF 80 Hz sounds - but engine noise  
They are launching the small boat

0920 - Approaching buoy again to retrieve bolt  
Ship noise increasing again

→ reception is dying (I don't know why,  
we are only ~1 min from buoy)

0922 - obs. resight on buoy → S/L q ret (close!)  
→ now, noisy - maybe small boat?



- 0923 - small boat noise  
 0926 - reception is coming back  
 0926 SOR, I let - resight on blue Whales  
 (I was just checking ch 50, 54 in case they were working (on rt ch)) - Nope  
 0932 - Ship noise is loud now  
 ↑ speed, noise VERY loud now

0937 ~ sound - it is engine noise

0939 possible LF moan <20Hz?

0942 go, FS (cloud!!!) to go to blue whales - no biopsies, so we will get small boat on whales this time??  
 (no monitor now, will try to prepare another buoy)

0952 buoy ~3/4 <sup>1nm</sup> behind us, whales are ahead of us ~2.6nm (SOR)

0955 reception on buoy is going out

0958 - stop monitoring - will see how far we have to go to get to B.W.

SB<sup>9</sup>  
NEW BUOY (8°58.95'S)  
(89°5.73'W) S#414  
f. musculus  
On

1030 buoy tossed w/in 200m of whales  
(2 whales). Small boat in water,  
we are going 2.5 knots.  
I May have some stuff here ??

1033 I keep getting low LF pulses & noise.  
Not sure what it is. Maybe something  
is touching buoy

1034 30R to turn

Animals seem to be moving in a  
straight direction

1036 500m off starboard bow - approx location  
of animals

→ This buoy has good reception,  
but it does not appear to be  
a good buoy.

1038 buoy sounds ok, though - when listen to  
full bandwidth - I hear some dolphin  
whistles, so it should be good? Sounds  
like something legs touching it

1040 - buoy about 1/2 nm behind us. - sounds like  
buoy is entangled or touching something - but  
I think it is a good buoy.

10/21

cont<sup>+</sup>

1042 Blue whales @ 400m off strbd bow ~40R

1043 20R, 3/4 speed

1044 - They have photos & biopsies, we are now picking up AR1. Buoy is ~1nm behind us now

1046 Radio Interference (4-5 bars reception @)  
1nm

1049 - possible ~~to~~ short LF down sweep ~60 Hz?

1050 - HS (order noise now)

1051 evt

1055 buoy ~2nm away, 3 bars reception

1057 3/4 speed, 20L

1059 - STOP monitoring - will put out  
the array

→ still Recording, but no  
mariner

1110 1-2 bars reception 11:10  
buoy is almost 4nm away

180  
10

57 Ch 10 Rt - good  
53, 68 — bad

S# 416 *B. musculus*

10/21/03

LAT  $9^{\circ} 8.98'$  S LONG  $89^{\circ} 00.54'$  W

571, Ch 10

SB 11 DAT

TIME INFO

1226

Ch 68 deployed - bad buoy

1227

Ch 10 buoy deployed - bad ship noise  
bad small boat noise - but good buoy

45L, 7 set

1232 Good reception

1235 Good (full) Reception - hearing pilot whales

I HAVE NOT BEEN MONITORING

THIS SONOBUDY

1305 - starting to lose reception ~1 bar

1310 - I think the buoy is dead - picking up  
AR 1 now - buoy is a few miles behind  
us now

~~to buoy should be 176 k. 0.8 mi~~  
~~should be ahead ~0.5 mi~~

Review Tape SBII - SRankin 10/21/03

~1240 90Hz pulse (single) every ~ 13sec-14sec  
not sure what it is

~Keeps going for quite a long time

1300 - busy seems to be dying?

→ No Vocals Detected ←

53 Ch 53  
57 Ch 10

11 Vocs  
10 S.  
10 N.  
10 R.

Boat noise  
25 min @ 10m  
boat noise  
25 min @ 10m  
boat noise  
25 min @ 10m  
boat noise  
25 min @ 10m

Cheek pulse  
10 kHz  
10 kHz  
Repealed

S# 420 B. musculus

DATE: 10/22/03

LAT  $11^{\circ} 50.02' S$  LONG  $88^{\circ} 13.99' W$

BUOY TYPE: ST CH: 10

TAPE: SB12

TIME:

0958

INFO:

600m off port bow 40L (no buoy ret)

Also pilot whales out here

1015

Bad buoys - Ch 53

1016

Start Recording

1016:30

Ch 10 buoy in - Good buoy

1017

Small boat is at 26L @ 10ret

1018

small boat noise

1019

Whale @ 328 @ 6.5ret

I hear pilot whales, too

1019

55 downswing

1020

Big boat going 20L

1024

{ 20L @ 300m - buoy location

{ AR1 is at 2L @ 5ret (near blues)

BOAT NOISE LOUD

1026

2 blues 25L @ 600m - maybe 3 whales there

1028

2-3 whales @ 10ret

1034

buoy should be  $\sim 176^{\circ} R$ , 0.8nm behind us

AR2 & whales  $\sim 0.5$  nm ahead of bow

1036

faint downswing

1038

30L, blue whale off out port bow 300m

10122  
S#420

20 Hz  
pulses, also  
wl 90 Hz also  
(20 borders)  
↓  
similar to pulses  
from whale are  
mainly blues!!!

- 1040 - hearing good pilot whales/TI now - blue whales  
passing ship now (~300m off bow) - buoy is  
about 1.5 nmi behind us
- 1041 I've been getting 20 Hz short pulses &  
faint downsweps.
- 1042 Bringing in AR1 - we are out of time.  
4 bars reception on buoy - sounds great!!
- 1044 Med - faint downsweps  
Still hearing pilot whales
- 1050 Still Recording, but not monitoring anymore  
Buoy still good, 3-4 bars  
Small boat on board

S#421 Brydes'/Sei

10/22/03

LAT  $12^{\circ}28.37'$ S LONG  $88^{\circ}4.64'$ W

SB TYPE 57 CH 10

DAT TAPE# SB 13

00

TIME

1644

INFO

Buoy in - good buoy, start recording

1658 Buoy now ~2nmi behind us, 3-4 bars reception  
I've had some faint LF downsweeps, looked more  
like blues (but, they were faint, would not have  
been from this animal) - I'm not monitoring  
this very well - look over it later

1704. Reception getting bad - lots of noise - 2-3 bars  
reception - buoy is 3.2 nmi behind us now

1710 - Bad noise - buoy is going bad now  
it is now 4nmi behind us

Only 1 bar reception - quitting here,  
but will still keep recording.

\* Review this later!!! \*

S# 428

*B. musculus*

DATE 10/23/03

LAT  $14^{\circ} 26.59' S$  LONG  $87^{\circ} 24.84' W$ 

SB TYPE 57 CH 11

DAT TAPE # SB 14

YES !!

Vocals !!

TIME

INFO

0827

buoy deployed, start recording  
Animal ~ 500-800m from buoy

Good buoy, full reception

0829

Good LF Downsweeps

0830

Bad Noise on buoy

0833

Noise better, no vocals now

0834

2 Downsweeps (not really loud, but audible)

0836

animal @ 300m, 60 R (from ship)

buoy is ~ 3/4 - 1nm off our stbd gtr

→ Not hearing too much

buoy reception 3-4 bars - Noisy now

0841

Buoy now 1.3nm behind us (3-4 bars reception)

Still chasing whale for biopsy from bow

Not seeing any LF calls (monitoring to 200 Hz)

0846

90R 3/4 Speed - buoy is 1.5nm away (2 bars)

2 whales ~ 300m in front of the ship

0852

Whales ~ 300m off bow, they are 2 whales  
about 50m apart.

Buoy is 2nm behind us (160L) - 12 bars reception

0857

Reception dying, still chasing whale

Buoy 2.5 nm behind us - Stop Monitoring Now

(must prep more buoys)

0929

CS - giving up

\* Check recording for \*  
Hydrophone Array  
T24

Whale was continually  
passing over the array

\* Time on Whaltrak is \*  
2 min behind SB DAT

Yes.  
No CA (S)

Re-man for @ overences  
higher freq  
possible  
swell ~ 400 Hz  
~ 300

S#431, *Balaenoptera physalus*

DATE 10/24/03

LAT  $14^{\circ} 46.6' S$

LON E  $84^{\circ} 42.6' W$

SB TYPE 57

cn 10

DAT TYPE SB 15

10/24

TIME

INFO

1153

buoy tossed, good buoy

~~1200~~ 1200

tossed w/in 50m of whale  
whale now 300m off port stern

~~1201~~ 1201

Animal now 140R, 400M

~~1202~~

Small boat approaching for biopsy  
whale appears to be curious  
about the ship

1200

buoy now 1.4 nmi behind us  
whale is behind us - 500m, 140L

1212

Turning ship 180 L

1218

Another Ratchet Sand!! I am  
hearing it on the array

1222

Whale surfaced next to the array  
They have a biopsy of the finner  
Maneuvering to plv AR2

1225

buoy is  $1\frac{3}{4}$  nmi behind us, 3 bars reception

1228

(stop monitoring sonobuoy)

1230

Strong vocals ~ 250 - 400 Hz

1236

We are now going back to CS - so we  
will be approaching / passing the buoy w/in  
a mile or so ...

10/24  
S#431  
con't

~~STATION~~  
~~TIME~~ LONG  
SB TYPE CH  
DATA TAPE #  
INFO

1240 - we are now back on CS - observers not on - no updates on location of fin. The sonobuoy is now ~ 40L @ 2nmile -- and we should be passing it as we go along (4 bars reception now)

1250 the buoy should be passing our beam now (90L) at 1.5nmile - 4-5 bars reception

1250 buoy is now ~ 140L, 2nmile (3-4 bars reception)  
Still not monitoring now

# Review S#431-SB0AT15

LOTS OF CALLS, examined tape at mid-frequency (100 Hz - 1 kHz)

when was story?  
check what has?

[1000 Hz view] - vocals 100 Hz - 1000 Hz

- 1156 \ down sweep (~200 Hz) (not real loud)
- 1212 \ faint /ok 200 Hz down sweeps (repetitive)
- 1215 \ 150 Hz down sweeps
- 1218 \ ~ 250 Hz FM calls ~~200 250 300~~
- 1218 \ 200 Hz Down sweeps
- 1221 ~ 600 Hz FM
- 1225 ~ 600 Hz FM
- 1226 \ 300 Hz Down sweep
- 1227 \ short 200 Hz upsweeps
- 1230 - 160 Hz pulses (short)
- 1231 ~ 300 Hz down sweep
- 1231 ~ 300 Hz FM calls - lvd
- 1232 ~ Good FM calls ~ 300 Hz - 400 Hz
- 1233 ~ Nice Variety of Good FM Calls 300-400 Hz
- 1246 \ 300 Hz down sweeps - not real lvd
- 1247 : 170 Hz pulses repetitive
- 1249 ~ ~ lvd 300 Hz FM calls
- 1250 — — 300-400 Hz FM calls
- 1251 ~ ~ 300-400 Hz Nice lvd Calls
- 1253 // Faint 200 Hz upsweeps - repetitive, but faint
- 1254 ~ ~ 170 Hz FM Calls
- 1257 \ 300 Hz down sweeps - faint
- 1257 \ 140 Hz short upsweeps (faint)
- 1259 — 300 Hz FM calls - not real lvd now
- 1300 ~ ~ 200 Hz FM calls
- 1302 // Faint 200 Hz upsweeps
- (303) ' 600 Hz upsweeps - TONS of faint FM calls.  
All over the place.  
→ They are new  
→ getting more faint

Review S# 431 - SB DAT 15  
[0-150 Hz]

S# 433 B. musculus

DATE 10/25/03

LAT  $13^{\circ} 45.63' S$  LONG  $81^{\circ} 56.13' W$

SB TYPE 57 CH 10

SB DAT SB16

TIME

1005

INFO

buoy deployed, start recording

Whale 5R, 200m off bow - moving slowly

1006 on SB DAT = 1004 on whaltrak

1008

whales 45L @ 300m, turning to approach for photo/biopsy pass  
(slip noise bad)

1017

whale now ~200m off bow

buoy ~ 1nm behind us (5 bars reception)

whaltrak time = 1015

No vocals noted yet (semi-monitoring)

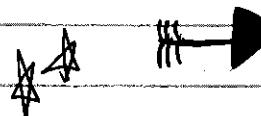
1030

→ I am also recording on the array, just in case  
buoy is ~1.5nm behind us - check around  
500 Hz, 300 Hz - sometimes I think I might  
see something there. We are still turning a  
lot and chasing this whale to approach  
for photos & biopsies.

1043 Sonobuoy is 2nm behind us - 3-4 bars reception  
we have been turning A LOT to chase this  
whale - some very faint stuff detected at  
> 300 Hz - but overall I have not  
been monitoring above 200 Hz

St 433 BM, un't

10/25



1052

80 Hz Down sweep!! This was fairly strong & long (~3 sec?)  
(Tascam ~ 1.35.00?) w/in 1 min of that time  
(at this point ship is ~ 2.2 nmi from buoy, but we have a good 4 bars reception)

1059 (maybe biopsy now?)

1102 - They have a biopsy sample (happened w/in last few minutes)

1103 buoy is now ~ 2.5 nmi ~~behind~~ stbd beam (1 bar)

losing reception a little. We have a biopsy of this whale, but so far maybe only one vocalization??

( 110934 = cot T26 1:51:52 )

No  
biopsy  
6

1118 buoy is now 3 nmi behind us ~ 3-4 bars <sup>reception</sup>  
not really monitoring anymore - going back & forth  
between array and sonobuoy

1127 buoy is now ~ 3.6 nmi off stbd qTR, 1-3 bars reception  
Going back to CS now  
Buoy coming in/out - haven't really been  
monitoring it lately

→ as we approach Mackline, we will come back  
towards buoy a little, should get some more  
time on this sonobuoy, but not monitoring - going  
back on effort for the array

S# 451 Brydes / Sei

DATE 2 Nov 03

LAT 9° 56.50S LONG 78° 46.36W

SB TYPE 53

cr 54

SB DAT SB17

TIME

0923

0928

0929

INFO

buoy deployed w/in 3/4 mi of whale

Start recording

130R - 0.7 mi - whale resight

\*went back to CS very quickly,  
did not monitor buoy - must re-monitor

Re-monitor below 400 Hz (u-3-3 SRantin)

-> buoy starting to die ~ 0937! No vocals below 400 Hz

NO VOCALS

S#455

Brydes/Sci

DATE 11/2/03

LAT 90 33.75'S LONG 78° 34.77'N

SB TYPE 53

CH 50 (850)

SB DAT 18

TIME

1455

INFO

buoy tossed - maybe no good?  
(53 ch50)

1503

another way deployed. ch 60  
looks bad - sending out a bad  
signal

BAD  
BOYS

BAD  
BOYS

S# 457 Sei whale

Date 11/02/03

Lat  $90^{\circ} 24.66' S$  Long  $78^{\circ} 44.22' W$

SB Type 57 Ch 10

SB DAT 19

TIME

~1823

~~DATA~~ INFO

bouy deployed

w/in 500m of the whale

→ need to monitor later

Review

1829 300 Hz Down sweep

147 + 2 pulses (1/2 sec)

1831 270 Hz moan

Several calls

1833 26 Hz moan (2-4 sec?)

1835 Upsweeps? 300 Hz? Maybe not close to bouy?

1837 100 Hz down sweeps (pulsed due to propagation?)

→ lots of 'em ~1840

lots of calls,  
none are truly  
loud, but they  
do get increasingly  
faint as time  
goes on

→ may want to  
look at this again

Seems like sequences of  
repeated calls

## S# 466 Sei Whale

Date 11/3/03

Lat  $9^{\circ} 2.61' S$  Long  $79^{\circ} 20.11' W$ 

SB Type 53 Ch 56

SB DAT 20

bottom depth = 107 m

also, all recording on T36 (bot)

TASCAM  
SB DAT  
 $1114.30 = 0.27.02$  $11:19.18 = 0.31.49.00$ 

## TIME

1103

1105

1109

1112

1112

1114

~~SB DAT~~~~SB DAT~~

## INFO

start recording  
toss buoy (within 500m of whale)Whale @ 20L, 500m  
buoy is 1nm behind us

300 Hz downsweeps

Whale up @ 60R, 400m!

→ Many vocals around 250-350 Hz

Whale has been heading in this direction

(ships' heading now is ~~92.3°~~)~~SB DAT~~ + 162°

1119

SB DAT TIME 1120:44

TASCAM TIME 0:33:15

Buoy is 1nm behind us

we are at 4 knots following

The whale

Whale is up 90L 60m from ship  
( $0.37.00 \text{ T36} = 1.24.30 \text{ DAT}$ )

1122

CS - positive ID. as Sei Whale

1124

Noisy for turning ship - buoy is 1.5nm

1125

away, we are leaving whale now, but  
it had been heading away from buoy  
across 160° - we will now change heading

S#466, con't

1133

our heading is now  $017^\circ$ , we are on CS, whale is behind us.

1138

Good reception buoy is  $\sim 1.3$  nmi off our port qrt ( $\sim 160^\circ$  of us), whale should be  $2.3$  nmi behind us

MAC  
now  
 $020^\circ$   
SB

see bitmap  
S466.sci.bit

where  
 $\sim 160^\circ$

some of the 300 Hz  
calls are louder now  
(still recording on Tascam)

1142 local  $\Rightarrow$  DAT 14:44:22 = T36 0.56.54

1150

(1151 Dat, 1.04.20 T36)  $\rightarrow$  another whale  
sighting. Buoy is  $\sim 2.5$  nmi away

mac track

S#466

1256 ext 20, brt 21

64

S# 467 ~~SB~~ Brydes  
Whales

Date 11/3/03

Lat 9° 0.69' S Long 19° 21.27' W

SB Type 53 Ch 64 (R), 56 (L)

SB DAT 20, 21

TIME

1211

INFObuoy deployed w/in 500m  
of cow/calf sei whales

1215

LOUD VOCALS - 300 Hz

downsweeps

1220

Whales now 200m off port bow

buoy 1.5 nmi behind us

earlier buoy (S# 766) is 2.75 nmi

at about 75 R

(see S466 sei, 1221.bmp) > whaltrak  
map

1249

CS

1255

eot 20, brt 21

S# 478 humpbacks

DATE 11/4/03

LAT  $7^{\circ} 28.84' S$  LONG  $79^{\circ} 57.67' W$

SB Type 51 CH 10

SB DAT 22,23

Yes!  
Great  
Vocals

\*Coastline  
+ Humpback  
Humpbacks\*

TIME

INFO

~~00000000 buoy deployed~~  
~~00000000 start recording~~  
~~00000000 00000000 00000000 00000000~~

1307

Buoy deployed, start  
recording

@  $0^{\circ}, 19^{\circ} E$  - buoy deployed  
w/in 500m (or less!) from whale

1309

loud for boat noise, but  
lots of Vocals - lots

1315

Ship noise is bad, getting better  
Animals 500m off Port bow ( $15^{\circ}$ )

1323

Whales now ~1/2nm off port gr  
buoy is ~3/4nmi behind us

1407

buoy is 3nm behind us - still really  
good calls, but more noise

1 bar reception - I think we are  
maybe starting to lose the buoy

1418

bringing small boat back on board. These  
were scattered humpbacks (well >2 animals)  
Great vocals

1514 bot SB23 buoy is 3nm behind us

1544 stopped

S# 481

Brydes

DATE 4 Nov 03

LAT 1:23.36S

LONG 79:54.88W

SB TYPE 53

CH 55

SB DAT 24

DAT 02 15.52' N 0 = THD 041.21

TIME

1547

INFO

buoy deployed, steel record cap  
60L, 400m from whale

1554

whale resurfaced 150L, 16 net

towing ship towards whale

1559

whale 200m off bow!

1602

whale 100m off port bow

1605

whale 50m off bow (10°)

1614

ship heading 295°

whale 150°? behind ship \*

1618

whale 150° ~1mm

1625

whale 75° L?, 400m

1630

whale 120 L, ~600m \*(very close to)

1639

Whale 10L, 200m (no way)

(we are 2.5 mm from the bay)

S# 490 Bryde's whale

DATE 11/6/03

LAT  $3^{\circ} 19.44'$ 'S LONG  $80^{\circ} 38.85'$ 'W

SB Type S3 CH 62

SB DAT 25

No  
Vocals?

Not S/V

TIME

1546

1549

1553

1603

1616

1626

INFO

buoy deployed  
Good buoy, deployed w/in 300m  
of whale

CS-not monitoring buoy

buoy 1nm behind us (good reception)

buoy  $1\frac{3}{4}$  nmi  $\theta \sim 260^{\circ}$  (full bars)

$3\frac{1}{2}$  nmi  $\theta \sim 270^{\circ}$  (4 bars)

5 nmi  $\theta \sim 270^{\circ}$  (2 bars)

— Remonitors 11/6/03 Slantiza (below  $300$  Hz)

1600 - possible downsweps alone  
1608 - pulsed downswep at 190 Hz?

No Vocals Noted.

S# 507 Brydes whale

DATE 11/8/07

LAT  $0^{\circ} 1.33'N$  LONG  $80^{\circ} 36.57'W$

SB TYPE S3 CH 62

SB DAT 26

→ dead

TIME

0808

0812

0815 we

INFO

start recording  
Buoy tossed

. we ran over & killed  
The buoy

No vocals detected  
(partially monitored)

Whale re-sight info  
whale pre/sep  
is for Brydes

STT 510 Brydes/Sei Whale & humpback  
Date 11/8/03  
Lat  $0^{\circ}23.40'N$  Long  $80^{\circ}14.98'W$   
SB Type 57 Ch 10  
SB Dat 26

Time	Info
1426	start recording
1428	buoy tossed w/in 800m of whale
1429	whale now @ 50L, 800m
1433	→ There was also a mother/calf humpack ~1nm away animal now 60L, 500m buoy is <del>&gt;1nm</del> close to whale?
1435	buoy: 72L, 17 net > buoy location; it is ~ 1/2 nm from the whale
1439	buoy is ~ 1/2 nm behind us
1441	animal is up 10R, 1/2 nm buoy is >1nm behind us
1457	→ monitored zone of the buoy (<150 Hz) no vocals detected - <u>But</u> needs a better re-check
	CS - will go to course & speed, will go towards buoy (now ~1nm ahead of us) Whales are behind us

S# 513 Orcas

DATE 11/13/03

LAT 6° 29.8'N LONG 79° 35.08'W

SB TYPE 57 CH 10

SB DAT 27

TIME

1745

INFO

Sonobuoy going in now (from AR1)  
good buoy

1747

Small boat (1nm off bow)  
lots of noise from AR1 (neutral?)

1748

AR1 turned off the engine

1750

Animals up 20R from small boat?  
NOISY!!

1750

Whales up - 24R, 1nm

(so, buoy is ~1nm from animals)

1752

HS (1 speed), 20R 3 for MAC

1753

Boat noise (ord - hearing dolphin  
whistles, but they don't sound like orcas)

1755

Now, SUPER noisy

1755

MAC - slow down to steerage

\* I'M OFF At This point, no more monitoring! \*

1755

5R, 7 net - whale resight

S# 647

DATE 11/23/03

LAT 9°3.06'N LONG 88°28.03'W

SB Type 53 Ch 62

SB DAT 28

whatever all over  
spread all over place

This SB showed by  
n' moving

Time

1837 SB in + working  
scattered group of blue whales  
+ brydes/ sei whales  
near water + difar signal  
vis obs off effort for the night  
lots of noise in 40-90 Hz freq  
band

1848 120 Hz tonal sound

1849 ~130 Hz tonal sounds

- the buoy is 1.5 nm behind  
us

1851 20 Hz tone

1852 R IF pulse (5-20 Hz)

1853 IF pulse

1855 V IF tone + harmonics ?

- 3 bars on both radios

- we're moving @ 5.9 kn

1856 If pulse

1858 those pulses are pretty frequent - are  
they anything ?

1859 buoy 2.4 nm behind us ; 3 bars  
on radio

1903 If tones & harmonics)

1909 more If tones & harms

1912 2 bars on radio 3.8 nmi behind us  
- weird clicking noises - lots of them

1915 starting to lose signal

1919 radio interference

1923 1 bar on radio & still hearing water +  
Difar sig.

= we're down to 1.3 kn - night ops

1931 clicking again

1955 still hearing water noise

SB is 4.7 nmi behind us

2001 If tone

2009 Think I heard a bp?

2019 more bps?

2020 more bps?

2026 bps

2034 man dolphs

still going slow - SB 4.6 nmi away

2038 dolphs

eot

- weak signal - not going to continue rec.

S# 660

DATE 11/24/03

LAT 9 44 06 N

LONG 90 26.23 W

SB Type 53

ch 62

SB DAT 29

Time

Info

1034

SB in & sounds good  
whale should have been @  
~75 R 1.1 nm when threw buoy  
- hadn't been seen in ~20 min  
- was an off effort sighting, tons  
of dolphins around - chaos  
- not going back to find the whale

Vocal? :

1040 hearing dolphins

1042 50-100 Hz up sweeps in a long train  
→ I guess that was probably E just us  
turning

1043 ec

1048 dw :

1050 80 Hz pulses

1051 1052 SB is ~~approximately~~ 3 nm away - 5 bars on radio

1055 long 50 Hz tone

1057 " "

1058 turning 180° to chase dolphs. still hear the ship

1102 long 50 Hz tone

1103 stopped monitoring for a bit to see stereo on  
the bow

1108 back to monitoring SB

1111 40 Hz tone?

SB 4.4 nmi away 4 bars on radio

1118 2 bars on radio - starting to lose signal a bit  
5.7 nmi away

1123 still hearing ship really clearly

1129 7.4 nmi from SB + still sounds good

1132 20 Hz tone - radio interference? - yup.

1147 8.7 nmi away - still hear ship but starting  
to lose signal a bit more

1154 10 nmi away - losing signal a lot

1157 signal mostly gone - will keep rec but  
stop monitoring.

1234 end rec

-another blue whale - sent another  
SB out in the small boat