

17:18 hearing whistles again - still sound like pws

17:23 rt chan - 3-4 bars
lt chan - 4-5 bars

17:46 rt chan - 2-3 bars } all static
lt chan - 3-4 bars }

17:56 stopped listening

8/10/99

9:51

(S7H)

Sonobuoy #19
Tape 4

Pilot whales

951 rec on SB in

chan 19

tape 4 prog 5 ~~not recorded~~

953 pause - too much boat noise

10:09 1 whist - not recorded

10:10 stop boat

10:12 start rec prog 6 (echolocation?)

10:14 pause

10:16 rec - prog 7 - whists?

10:17 pause

10:24 back to course + speed

10:37 rt chan - 4-5 bars

lt chan - 5-6 bars

I can hear rain

*Taping over this recording - only 1 whistle + some clicks. Not worth keeping.

11:15 rt chan - 2 bars

lt chan - 3 bars.

11:30 rt chan - 1 bar

lt chan - 2 bars

- stopped listening

- lots of static, still
hear some water

~~Stack 50 200~~

8/12/99

11:37

57A

Sondebuoy #20
TAPE 4

Pilot whals - success!

1137 - rec on + SB in

- chan 12, all bars lit on radio

- prog 5 tape 4

1138 - pause - boat + water - no pilot whales

1139 - rec on

- many whistles + Echolocation!

- prog 6.

1151 - pause - boat load => because we stopped to

11:53 - rec prog 7

listen - but it's

11:56 - pause

- I think I've got
enough whistles

much quieter when
we're moving at
full speed.

from these guys now.

- @ 11:52 we went
back to course
and speed

12:06 - picking up a bit of static

now rt chan 4-5 bars

lt chan 5-6 bars

- still lots of whistles.

12:37 more static, still whistles

rt chan - 4 bars

lt chan - 5 bars

12:51 lots of static, faint whistles

rt chan - 3 bars

lt chan - 4 bars

13:09 almost all static - very faint whistles
rt chan 2-3 bars
lt chan 3-4 bars

13:25 all static
rt chan 1-2 bars
lt chan 2-3 bars
stopped listening

9:07 rec on
prog 8 tape 4
chan 34 (lt channel)

no boat, water of cet. sounds
SB sank

3 bars on radio

not keeping recording

8/13/99

9:08

(53)

Sonobuoy 21
~~TAP 4~~

8/13/

9:09

(53)

Sonobuoy 22
TAPE 4

chan 30 (rt channel)

2-3 bars on radio

-no water, ship or cet sounds

not keeping recording

Current Inventory

Starboard box

36 53B's unused

12 53B's used

Port box

20 53B's unused

3 53B's used

57A's

4 chan 12

6 chan 25

3 chan 19

7 used

Plot Room

3 53B's (1-port box
2-stb. box)

2 57A's (1 chan 25
1 chan 12)

8/18/99

15:29

(57)

Sonobuoy 23
Tape 4

Pilot Whales

15:29 rec on SB in
prog 8 tape 4
chan 25 all bars on radio

15:29:40 pause - too much boat noise

15:40 rec on prog 9 - faint whistles

15:45 pause

15:48 rec on prog 10

- louder whistles lots of ^{water} ~~boat~~ noise

15:50 pause

15:52 rec on prog 11 - nothing?

15:53 pause

15:55 rec on prog 12 - nothing?

15:56 pause

15:57 rec on prog 13 - nothing?

15:59 pause

16:04 rec on prog 14 - a few good whistles @ beg?
- some static, lots of water
- some EC? (16:06)

16:06 pause

rt chan 5 bars

lt chan 6 bars

16:08 rec on ^{prog} chan 15 - faint whistles @ beg

- static, lots of water

16:10 pause

16:13 rec on prog 16 - faint whistles

16:15 pause

rt - 4-5 bars
lt - 5-6 bars

16:25 rec on prog 17 - lots of static
- for a few whists @ beg?

16:28 pause
rt - 3-4 bars
lt - 4-5 bars

16:38 rt 3-4 bars } all static
lt 4-5 bars }

16:57 rt 2-3 bars
lt 3-4 bars
- stopped listening.

Spinners!

8/18/99

18:42

(57)

Sonobuoy 24
Tape 4

rec on +

18:42⁺ SB in
- chan 12
- prog 18 tape 4
- all bars
- lots of whistles!

18:50 pause

18:50 rec on prog 19
- great whists!

18:53 pause

18:53 rec on prog 20

18:54 pause

18:55 rec on prog 21

18:55 - good whists & clicks
pause

18:58 rec on prog 22 - great whists!

19:01 pause

19:02 rec on prog 23 - many whists

19:03 pause

19:10 rec on prog 24 - some great whists

19:15 pause.

rt - 4-5 bars } whists, water still
lt - 5-6 bars } coming in loud &
clear.

19:34 no more whists
- lots of water, no static
rt chan - 3 bars
lt chan - 4 bars

19⁴⁰ - some static
rt - 2-3 bars
lt - 3-4 bars

Stopped listening

Spinners!

8/20/99

17:42

(57)

Sonobuoy 25
Tape 4.5

17:42 rec on SB in
chan 25
tape 4 chan prog 25
all bars on radio

- many overlapping whistles, echolocation + burst pulses.
- some static

17:48 pause

17:49 rec prog 26

18:00 end tape 4

18:02 start rec tape 5 - no id number → not

18:04 pause

keeping this
rec

↓
\$ we are there are more dolphins about a mile ahead of us. There are spotters in with the spinners in that group.

- we are about 2 miles away from where we dropped the sonobuoy
- it is Beaufort 1 right now

- we are attempting a small boat launch.

- Richard + Jim were ^{95%} confident that there were no spotters with the first spinner group.

- I'm hearing lots of EC so the dolphins must be pretty close to the big SB. If I take the loud whistles, can I be 95% confident they are spinners?

- ~~the boat is about 2 miles away~~ I do hear the boat faintly → we are about 2 miles past where the

second group of dolphins were when ~~was~~ ^{they} were sighted
(we are about 5 miles away from where the
SB was dropped)

- Richard thinks there were probably spotters ~~enough~~
within 1 mile of the SB.

★ - not keeping the rec on tape #5

Steno !!

1404 Rec on + SB in
- prog 4 tape 5
- chan 25 all bars
1414 pause + rec prog 5

whists on tape @ (A-time)

8 ²⁶	14 ³³	21 ³⁸ -22 ⁰⁸
10 ³⁰	16 ⁴¹	23 ¹⁰
11 ²⁷	18 ⁰⁰	23 ⁴³
13 ⁰⁷	20 ⁴⁰	24 ⁰⁵ -25 ¹⁷
13 ²²	21 ¹³	25 ⁴⁷ -26 ¹⁷

26⁴⁵-27³⁴ ⇒ many whists
28⁰⁹

28³¹-55 ⇒ really interesting stuff
29⁴⁶-30⁴⁰

31⁰²-32¹¹

32³⁶-32⁴⁴

1433 dolphins ~ 500 m from ship

- we've been travelling @ course + speed since I dropped
the SB

1434 pause - turning
- some static now - can hear the boat loud + clear

8/22/99

14:04

57A

Sonobuoy ~~26~~ 26
TAPE 5

★ NOTE: the record time
stamp on prog
4 + 5 is 1 hour
ahead of the
real time (the
clocks went back
1 h last night.
+ I didn't change
the time on
the DAT

- Richard only saw 2 skno

we were about 3.5 miles from the SB when we sighted the other dolphins (they're spinners)

- I'm hearing some loud whistles

15⁰⁰ rec on prog 6

- unid whists - these sound kind of like pilot whales to me

15⁰² pause

15⁰³ rec prog 7

- interesting burst pulses

- we are about 3 miles from the SB now

15⁰⁴ pause

- more static now

rt - 4-5 bars

lt - 5-6 bars

- the whists I am hearing don't sound like spinners

- low freq

- short

- lots of burst pulses

- few inflection points

15¹¹ - lots of static

- hearing loud cries & some whistles through the static

rt = 4 bars

lt = 5 bars

when Richard 1st saw the spinners they were about 500m away & not really travelling in any direction. It looked like they were just resting at the surface

9/4/99

Inventory

Breakdown:

Port Box

Starboard box

Plot room

19 - 53's (good ones)

35 - 53's (bad ones)

1 - 53 (good)

3 - 25's

2 - 53 (bad)

4 - 12's

1 - 19

3 - 19's

1 - 25

Total

20 - 53's (good)

37 - 53's (bad)

4 - 12's

4 - 19's

4 - 25's

L = Local time

Bar = 24.7

channel 25

TAPE 6

9/6/99

Orcinus Orca #101

0745 1226 Local time

14°10.0 N } Richard thinks we

Dodgers 60ft - steering 1 mile

138°04.9 W } Wink broke but they

Listening on both channels

heard low 200 in air

1228 L - whistle

A30: (from tape review)

A time: 306

A time 0102 whistle

Whistle 335

0131 - 0156 whistle

* 0410 - good!

0253 whistle

0457

0300 "

* 0618 - good but faint

0713 - still good but faint

1235 Local we stopped to add station (10230 A time)

10230 A time

{ A time: 0945 - faint whistle

{ 1010 - faint whistle

1242 L going back to car: said I haven't heard anything in while

{ A time 1651: faint whistle }

1251 L, 310 bit digital square wave from the radio digital display

1256 L put on radio haven't heard anything since A time: 1655

1259 L 4-stars, more static heard, bottom radio more clearly better.

1302 L heard whistle - turned tape back on (not recorded)

Start Track 33

1304 L - paused again

1306 L Top radio running 2-3 bars

14°11.2 N

Whistle running 3-4 bars

131°59.6 W

1322 L Bottom radio for 4-5 bars

Top radio for 2-3 bars

Discontinuing monitoring no animal heard for a while -

Tape Review

Track 1 - 0-15 sec - test recording

Track 2 - Buoys 287

A time 15 sec → 30 min 00 sec

Track 3 Buoy 421 30 min 00 sec → 3230

9/9/99

Orcinus Orca #106

Boat #28
Channel 19
TAPE 4

Sonobouy tossed @ 1820 14° 14.3 N
129° 05.3 W

@ 1825 bouy secured - caught in the handling. We held station after deploying bouy. From now on if we are stopped we will pull in handling or deploy when ship is moving. We have been deploying w/ handling and w/ no problem but were always moving. Dat tape turned off

Track 4 was recording: 32:30 → 37:10 - just ship noise then enlargement

Atime: 32:35 Track 4 Begins
33:03 Sonobouy starts - ship heard
33:54 - about the time Sonobouy is caught I think
35:33 - Sonobouy secured
37:10 - end of track 4

— No Vocalizations Recorded —

Boat #29
Channel 25

9/9/99

Track #5

S. longirostris - whitebelly (#108) TAPE 4

Deployed 1813L

(Pure school - small tight group) sample stream away from

13° 44.4 N
128° 56.9 W

Whistles Alone: 37:40 faint

40:25 - good but faint

37:53 good one

40:31 good one

108 ship

38:00

41:08 good one

noise

38:25 good one

41:20 good one - but still 108 ship noise

38:55 faint

43:05 "

1820L - whistle "faint" 108 ship noise

43:51 whistle "faint" } great whistle

about there

44:08 - good one!

44:12 - great whistle

1821L - something wrong w/ signal Left sound like 44:00
After 18:21 more interference - could hear a right - but faint w/ some interference heard

Signal box are full - interference of some type

Atime: 45:43 - faint whistles

46:00 good whistle but "faint"

45:49 - " "

47:30 good whistle

1827L - changing course to see if "interference" coming away

Atime: 52:45 good whistle

(course change didn't work)

Interference possibly from another ship or possibly sub -

Atime: 59:37 good whistles

1:01:05 - good whistle but faint

1843 - Sonobouy bud again - interference gone

Atime: 1:07:38 - back to normal

1:07:54 - interference again

1:08:21 - Normal again good whistles

Booy # 29 cont

1816L - slowing down today in range of booy since the interference has gone - 6 to 7 bars on each channel

1818L - interference returned - turning off DDT tape 1:12:23 Aline

1850L - Interference gone

1852L - Interference return

1856L - Interference gone

not
recorded

End Track 5 @ 1hr 12:19 Aline

When interference started I checked w/ Bridge to see if they turned on something or were transmitting something. Nothing had been done. Our radar was on but since they're always been on when all other sonobuoys were deployed, I did not have them turned off to check. In hindsight I probably should have.

Track 5 Review:

Aline 37:11 - Start Track 5

37:41 - Sonobuoy 200

44:32 - begin interference

1:08:24 - interference ends - some good but faint shells after this

1:11:59 - interference returned

1:12:23 - turned off DDT - end Track

30

Channel 30
534 (Badone)

9/13

B. edeni Sighting # 123

(1 animal)

2° 09.7' N

124° 50.0' W

1635L - deployed, set @ 400ft - did not pop up -

Failure -

This was on from the starboard box - all have failed thus far -

9/13/99 B.edeni #123

2° 9.7' N , whales w/in 1 mile
124° 50.0' W . Both channels recorded

1637L : Buggy deployed (set @ 400ft)

Attn: 1:10:24 - start Recording

(Track 6)

you can hear it dropping

1:13:17 : hear the ship, hear high pitched "interference"

1:16 - Buggy doesn't sound "clear" is it the depth??

Don't hear the ship anymore

1:18:23 - something @ 100-200hz - not audible Background noise?

to 1:19 -

1:19:20 something again - not audible @ 128hz

1645L 1:19:43 - end track - paused, Not sure how well Buggy's working
doesn't sound good. (Bears are full out on radar)

1651L - Begin recording (Track 7)

Just heard gunshot type sound while paused - 1:15 by
sonobuoy slapped by wake or something

1701L : End Track 7 - paused (not seeing/hearing anything)

Attn @ 1:32:26

1706L : Begin Track 8 - off pause (just prior while on pause - saw)

Attn 1:32:27 some possible vocals - missed "ahggg!!")

1:33:30 - Something? Analyzed - nothing obvious

1:38 - Something? Analyzed - nothing obvious

Bay #31

53A - Good one

Channel #34

TAPE 6

Cont . . .

1:40:32 - Something? Analyzed - possibly?

1716L - End Track 8 - recording
(Attn: 1:42:07)

* I did not save Analyzed files - although the one
looked at for 1:40:32 time maybe possibility

* The sonobuoy did not sound as good as in other deployments
I was going to deploy the next B&B @ 90ft instead. (I
deployed this @ 400ft since I was Bay #5)

Bouy #32
53A (Bouy)
Channel 40

9/13/99 Bouy #124
(2 animals)

2° 05.96' N
124° 45.5 W

1747L: Deployed sonobouy (set for 90ft)
Nothing heard - failure - (Did not pop up)
— This is from starboard box —

~~Failure~~

Bouy #33
53A (good one)
Channel 47
TAPE 6:7

9/13/99

Bouy #124
(2 animals) (This sighting 8 miles from #123)

2° 05.96' N
124° 45.5 W

— whale within 1/2 mile
— Both channels recorded

1746L: Bouy deployed (@ 90ft) — ship steaming away 1 mile
(Time 1:42:08 : Track 9, tape 6)

Time: 1:42:00 — hearing ship, Bouy sounds much better than #31

— possibly depth affected quality of sound?

1:52:00 — something? analyzed — nothing obvious (again not an audible sound)

1757L: ship holding station

1805L: ship goes back to course speed —

1806L: End Track 9 (end of tape 6) —

1812L: Begin Track 1, tape 7

(Time) 06:20 — something? — analyzed — nothing obvious (Not audible)

08:35 — knock heard — think from sonobouy

09:10 — stuff in 100-200 Hz range — nothing audible

11:00 end track 1 & recording of this Sighting —

9

9/17/99

Pseudorca Crassidens (#133)

Buoy #39

57

Channel 12
TAPE 2

2° 28.2 S

115° 41.2 W

Deployed 90ft

Animals within 1/2 mile

Recorded on both channels

Eg 50 initially on, notes below when turned off.

Track # not Recording —

1147 L Buoy deployed

At time: 11:58 - heavy buoy

hearing EQ 50? I think animals as well. They seem

to be responding to EQ-50 - Not sure what's

what - VERY INTERESTING!

At time 11:50 still great sounds —

1153 L: 1 mile away —

1740: hearing clicking

1154 L: EQ 50 turned off

At time 1827: Great vocals!!

1830-1840: Great vocals — sound like their echolocating off buoy
Very distinctive vocals

1952: Hearing distant vocals that sound different, Not hearing
loud vocals anymore. Are the animals just moved away

2255: hearing whistles? Click like sounds that were heard earlier
in this sightings recording

2300: Still hearing faint vocals

Note: There were no other sightings of delphinids in the immediate
area - but given the detection of distant - vocals it is possible
another group of unknown species was around.

At time 31:00 → hearing distant vocals, whistles? Pseudorca vocals

34:00 → hearing whistles w/ down sweeps —

3537 → heavy sperm whale clicks?? Pretty certain that's what it is —

39:00 → definitely sperm whale clicks —

41:00 - more sounds clicks - louder, occasional faint
delphinid vocals still heard

4227: clicks

43:00 - EQ 50 turned on, signal getting more "staticy"

44:43 - end Recording —

1220 L

No track # given — Auto-ID is visible on DAT
recorder — not sure why track # not given —

9/17/99

B. edeni (#134)

Bouy #35

534

Channel 34
TAPE 7

2° 17.0 S

115° 28.6 W

Animals a/in 1 mile, Sighting #135 (Biden) 25 miles away

Recorded on both channels

Deployed 90ft

1543L: Deployed sonobouy

Attn 4444: Begin recording

4507: heavy ship's high pitched sound (EQ50??)

47:00 - still heavy high pitch sound: ship is faint - must be sonobouy, heavy water

4955: faint whistles (delphinids)

53:00 heavy faint whistles

(Groupus were seen (5/645) (Sighting #136).

Attn:

1:00:00 - still heavy faint occasional whistles

1:01:30 - strange vocal click-like -

1:04:20 - End recording -

(1602 Local)

No audible vocals of Bryde's whales. Faint vocals of delphinids -

9/24/99

B. edeni (#189)

Bouy #36

534 (Biden)

Channel 34

TAPE 7

3° 45.8 N

093° 35.7 W

1556L Deployed 590ft sitting -

Failure !!! Sunk out of sight !!!

Failure

9/24/99

3 edeni (#189)

Bathy #37
53A (bad one)
channel 40
TAPE 7

3° 45.3 N

093° 38.7 W

at 690 ft

2 animals, one in 400m of ship

Edo's Not sure if animal but Richard confident. Saw
on behavior: what he saw, animal that it was a
Bryde's.

— Not much written on Tape —

1557L: Bathy deployed

Lots of background noise - sounds terrible

1559L: going back to canal spot -

Sound is proving

Time 01:09:01 hear vocal!! (right after the ship change)
south direction

1:09:44 faint vocal? or ship?

1625L: Still receiving good signal: 6 to 7 hours better
(3° 45.3 N, 93° 31.1 W)

1633L: Paused

Time - 1240:00

1639 - stopped monitoring -

— End Tape #7 - sent to San Diego —

#38

9/25/99

Failed 53 - Bad one

ECO panel not working

— can't set channels - disposed of our side —

Failed - Dead —

9/28/99

#222

Grampus griseus

Tursiops truncatus

- Mock recording w/ hand hydrophone

Records: nearly 30 minutes - Most of the recordings

were taken near ^{Sub} tursiops groups w/out Grampus. The

first 5 minutes were more for group w/ Grampus seen off
at about 100-m by case.

A Few grampus in the sighting. Mostly tursiops.

Comments regarding dolphins positions what we
hydrophone were recorded down.

I am confident the Grampus was relatively out for fun.
the subgroups I observed mostly. (Comments on grampus
positions recorded only DRT)

Hydro phone #1

Time

Program 1: 00 → 0058 → nothing

059 → heard Sighting #22 (1317L)

04:27 - better white etc

06:11 - busy/playing

07:57 - good vocals

1006: pulled hydrophone

1007: redeployed after doing 260° in small boat

1558 - good vocal

16:00 → 1800 - good vocal

18:20 - Grampus seen about 50-100 m away

2712 - end recording -

Sonobay Interview

9/29/99

Total: 53' good: 16

53' Bad: 34

25' : 2

19' : 3

10' : 3

1

TABLE 2

Clean up sweep

1843 possible distant sperm whale clicks,
or clicking engine?
or 12 kHz ping?

1918 Shannon heard weird sound

1931:00 Creak? Trail?

1931:15 "

35:22 "

39:53 " (clearer)

40:00 " clicks continue through 46:30

51:00 "

52:20 Jay heiser "rook" (so Shannon is sure)

57:50

59:00 - NOW it's going crazy

Click Fish. wav



2009 Really good sound now, much louder

2014:50 Really cool sounds

14:45 (around here there was a little squeak?)

14:46 dolphin clicks

16:58

17:15

18:25 - Possible dolphin vocalization

9 Oct 1999 - Costa Rica Dome

We crossed over The dome today and did not see any blue whales. The weather was poor most of The afternoon, so we might have missed some. We are about 2° east of where The Jordan crossed The dome. Last leg.

Sonobuoy was dropped @ 1816, about 1/2 hour before The CTD station. Lost signal after a couple minutes, but it came back a few minutes later. Full 7 Bar

Very early on there was a distinct visible up-sweep around 190 KHz. It did not repeat

1850 CTD station - still 7 BARS on one receiver and 6 BARS on the other. We must be 5 mi away

Bridge said that two ships went by about 10 min ago (1910) about 5 mi back along our track. This would put it right over our buoy. This corresponds to noise we heard

88.
TAPE 9

8:21:14 (continuing tape #2 - SR)

21:32 faint delphinid whistle, loud clicks "clickfish" can't

22:36 faint squeals - delphinid

25:21 good Squeals (still a little faint, but ok)

27:05 squeals

27:35 "

28:38 "

29:24 " → continue occasional squeals and
"clickfish" through 236:01

35:29 good squeal

8:43:00 - possible LF Pulses? (could not hear, see ~37 Hz)

8:45 - clicks are less frequent, more faint
orca-like squeals are gone

54:09 pulse ~250 Hz (saw - did not hear)

"clickfish" still around - poor SNR

56:04 2 brief LF pulses (1 ~37 Hz) + lower (see, didn't hear)

58:31 LF pulse - heard this one! 179-241 Hz, very brief

9:04:13 "LF" blip (~350 Hz)

9:10:00 more blips, 250-500 Hz - faint. Could this
just be water noise? Just more of it?

9:20:29 end of tape

Sono buoy 39
Continued

9 Oct '99 Continued

Tape 9

0901 Click Fish Sounds continue,
Still 4-5 BARs signal strength

I started a new tape because we
were still getting great sounds from
the click fish and from a delphinid-
like call (possible Orca?).

The very start of this tape may
have the best sounds of both.

0926 - Loosing carrier signal @ 2-3 BARs

Stopped tape

Tape 10

0940:00 whistle

42:30 whistles

44:28

0950

dolphins on the bow
dolphins are lost, they did
not follow the vessel through
a turn back towards the sonobuoy

0952:30

very faint whistles?

0953

30° R

19 reticles in 25x

Ship sounds are very loud now,
faint whistles were probably
propeller shaft squeaks.

0956

loud ship sounds continuing

0957:50

more dolphin whistles, very faint

1001

animals back on bow, 500 m
away from buoy

1002:10

down to starboard, some whistles

1006

faint whistles, ship is loud

1007 R

whistles @ 11 kHz

1009:00

back to course & speed

1023:30

more whistles, pretty faint

9:38:58 → 9:42:40
was accidentally
lost - sonobuoy
left in there
SE

Sonobuoy #40

10 Oct 99

Tursiops Sighting #273

Tape 10

0939

I threw in a type 57A sonobuoy
It worked well right away with
Full 7 BAR signal strength

Observers thought it was a pure
school

Got some distinct dolphin whistles

We were able to lead bow riding
animals back to the sonobuoy, but
on another try they did not continue
to follow the ship

1026

Signal still at 6-7 BARs

1027

Tape off signal fading