

ORCAWALE 2001
Acoustics

RECORD

SonoBouy Log

Acoustics | ORCAWALE | SonoBouys

Here is the list which is published in the Navy sonobuoy manual with the asterisked channels prohibited as noted.

Channel	Freq.	Channel	Freq.	Channel	Freq.
1 *	162.250	34	136.750	67	149.125
2	163.000	35	137.875	68	149.500
3	163.750	36	137.500	69	149.875
4	164.500	37	137.875	70	150.250
5 *	165.250	38	138.250	71	150.625
6	166.000	39	138.625	72	151.000
7	166.750	40	139.000	73	151.375
8	167.500	41	139.375	74	151.750
9	168.250	42	139.750	75	152.125
10	169.000	43	140.125	76	152.500
11	169.750	44	140.500	77	152.875
12 *	170.500	45	140.875	78	153.250
13	171.250	46	141.250	79	153.625
14	172.000	47	141.625	80	154.000
15	172.750	48	142.000	81	154.375
16	173.500	49	142.375	82	159.750
17 *	162.625	50	142.750	83	155.125
18	163.375	51	143.125	84	155.500
19 *	164.125	52	143.500	85	155.875
20	164.875	53	143.875	86	156.250
21	165.625	54	144.250	87	156.625
22	166.375	55	144.625	88	157.000
23	167.125	56	145.000	89	157.375
24	167.875	57	145.375	90	157.750
25 *	168.625	58	145.750	91	158.125
26	169.375	59	146.125	92	158.500
27	170.125	60	146.500	93	158.875
28	170.875	61	146.875	94	159.250
29	171.625	62	147.250	95	159.625
30	172.375	63	147.625	96	160.000
31	173.125	64	148.000	97	160.375
32	136.000	65	148.375	98	160.750
33	136.375	66	148.750	99	161.125

best channels to use on Jordan

* these channels prohibited within 200 miles of the coast

ORCAWALE 2001

ACOUSTICS SONOBUOY LOG

Leave this side
blank
(except for some
small notes)

S#

Species

LAT/LONG

SONOBOUY TYPE (ex, 53 D)

Settings (Channel, time, depth)

TIME Deployed (& approx distance from animal)

TIME Updates: animal location, vocal activity,
receiving strength (in bars)

TIME start/stop monitoring

SONOBOUY #

Date

DAT Tape #

- try to write only on right hand side
- leave at least 1 blank page after entries
- leave more blank pages if tape needs to
be re-monitored

S#30

Sei whale

8.04.01

Orcanale SB1

53B 5845-01-155-0151/8W62

Ch 87 8hrs 90ft

AN/SSQ-53B LOT 049

06/88

0936 Bovy deployed - animal is
~1nm ~~E~~ behind us

DEAD Bovy

(monitored until 0955 - still dead)

Reset Dat

✓ → set clock time

✓ → reset record to 48k sampling rate

CLOCK ON DAT
IS OFF
Synch 0956
8:07^{min} Local Dat

★ Check Tascam 7 1:15:39 → 1:23:58
Odd sounds (vocals?) as we were
approaching the whale

①

8.0401

53A

Sci Whale

53A LAV-111A N00163-82-C-0070 MFG # 37095
Ch28 90ft 4hrs LOT 20

0940 Bouy deployed - animal ~ 1nm behind us

→ Good signal (start recording)

0941 Animal is 2 1/2 nm off port beam

0941 Now going to CS

Ch28 L (good)

Ch87 R (dead)

Not monitoring now, need to re-listen until note

John 2 Shannon Remonitored on 8/04

DAT TIME

04:50-134 sawdage beam only behind us a vocal

→ did not see the upswEEP ~ 7:20 (0955)

08:45 - WT OUT FOR A FEW SECONDS

0955 Poss LF upswEEP to 95 Hz (7min ~ 20 sec)

Ch28 3-4 hrs, Ch87 1 (bad still)

(Screw monitoring Problems → remonitor to Dat Time 11:28 sec)

10

~~check~~ TASCAA

S#30

Sei

sonobouy #2 con't
(remonitor first 12min of DAT)

8.04

DAT TIME

10:12 - w/ out some noise

11:14 knock - but on other channel?

11:23 knock - these don't look

11:35 knock - like anything biological

Didn't really see

anything at all

12:29 Ship noise - stopped monitoring

10:02 - Dat 12min Ch28 R & L channels R Ch28 3bars
L Ch28 2bars

10:07 Possible LF knocks?

10:08 ~~to~~ Upsweep to 61 Hz

Radio Interference - GRRR!!!

10:09 Quiet Again - R = 1-2 bars L = 1 bar 3 getting more static, losing reception

10:12 Ship is turning (??) & reception got better

10:15 We are about 4 nmi from buoy drop & we may ~~not~~
be losing our reception. → getting more static

10:21 Static Bad - Stop Monitoring Now (keep recording)

23
60'
8hrs

14
90'
8hrs

need cases for lot #

②

S#76 *O.orca* & *M. naviangliae*

8-12-01

45° 45.70 N, 124° 10.77 W

ORCAWALE SB2

SB57 Ch 14, 90', 8hrs 5845-01-289-90 72 8W73

AN/SSQ 57B/14 LOT 031

1317 start DAT

1321 Deploy Bouy

1321 45° 45.70 N samobuy in H₂O

124° 10.77 W

S#76, 00

1328 Start Monitoring - There have been EC & Squeals
& loud Kaoo's (MN?)

1335 Giving 12 reign of these guys - not getting many vocals
need to re-do this → 1 bar now, losing signal

1425 Stop recording - has not had signal in a long time

* There was a large container ship ~10-15 nmi from the
location of the buoy deployment

★ BOTH Biopsies and
Photos on This single
Fin whale

may be due
to loss in
reception

Moans??

* **

③



S# 98 B. physalus 9-3-01
47° 7.66N, 127° 56.04W Tape# SB3
SB53 AN/SSQ 53A 8W49 NO016382C6670 LOT 20
Ch 20 4 hrs 90'

1754 Buoy tossed, start recording → Good Buoy
Buoy was tossed ~400m off our bow
(probably w/in 500m, not sure)
Ship noise BAD

1758 whale resurfaced 400-500m from sonobuoy
1800 vocals! (but ship noise very loud)
~05:58 on tape
- 4 pulses ~400 Hz (~1800)
1810 Ship noise a little better now (we are ~3/4 mi from buoy)
(2248 on DAT) - possible signals @ 111 Hz
(1818) - Going back to CS now ~3 bars each
1823 - we are now on CS - should be going by the animal
again in a bit?
1825 - Poss upsweep? 60-117 (30:47 DAT)
1826 97 Hz? (32:18) - hard to tell, may be something?
1830 - back up to 6 bars (I think the buoy is ~1 mi starboard)
1839 - we are now ~2 mi from buoy (~3 bars)
* need to re-check stuff @ 200 - 250 - some ~1 sec moans?
not sure what they are? May be noise?
1846 Pulse @ 418-488 Hz (51:30 ish) (53:40)
1851 Sounds ~120 Hz - (56:40), (57:40) (58:39)
1854 → More sounds now - 1:08:00

5#98, con't

9-3-01

1855 - Starting to lose reception (1 box each)
→ more LF pulses, much (all?) related to losing reception

1900 - Stop monitoring (reception getting bad)
will keep recording
→ Bouy is just over 4nm to our stern

ch13 160ft 8hrs
AN 550 57A 8W68
NOO 16384 C 0010
LOT 602 MER 82268

ch14 90ft
AN 550 53A 8W49
NOO 163-82-C 0070
LOT 78 MAR 37695

④
S#179 Blue Whale

42° 48.67N, 124° 39.69W
Snowy ch14, 90ft (53D)

9.21.01
SB4

0952 dropped buoy - w/in 1/4 min of whale
0953 30R net 15 - whale position

1003 Just now started recon

1003 Blue Whale 70° 2-2.5 net

1004 - CS - 1st bar - 1st bar - 1st bar

1013 - 2 bars - reception

DAT 12:30 - Possible 75 Hz near

1020 - 1-2 bars

1021 - Ship turning around (1st) - 1st bar - 1st bar

1022 - 3-4 bars - we are approaching the whale

- 6-7 bars - turning around the whale

10 CS. We are now 1/2 mile from buoy.

Animal appeared to be feeding

1041 1-2 bars - being reception

* There were a million
sightings - faint vocals from
other whales may be present

This animal was feeding
@ the surface ... When the
small boat approached
avoided the boat

S#179
DATE TIME
06:20

Remonitor - Skankin

9/21/01

Notes

75 Hz moan? - 1.1 sec duration
w/ possible 80 Hz component before it
(coming from a distant whale)

12:00

170-80 Hz sweep? - 1.8 sec duration

12:20 !!

75-82 Hz moan? - 1.7 sec duration

13:50

2 Upsweeps? @ 206-227 Hz, 1.2 sec
@ 208-227 Hz, 1.7 sec

19:56

134 Hz - 216 Hz sweep? - 1.7 sec duration

(Nothing else)

* There do appear to be vocals
on this tape, but they may
not be from this whale. There
were a lot of whales this
day (fin, blue, humpback &
possible sei & minke) - so
there may be more
distant whales!

AN 53Q 53B 2060
N00163 -57 -C -002
LOT 0419 MFR 37075

DID
NOT
WORK!

5#189 B. MUSCULUS

43° 5.11'N 124° 31.50'W

CH 8 90 ft 2000 (P)

53B

1332 Low Tides

1334 Start Recording

1336 End 1000 ft Bad Day
Revised Line 1000 ft

BAD DAY

ANSSG 53B SW67
N00163-77-C-0002
LOT 049 HEP 37615

S#200 B. musculus

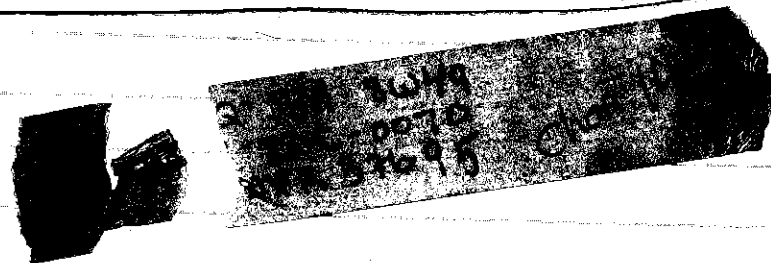
9-21-01
SB5

53E CH 27 SW 3/4 Sec
1/4 32.01N 12 25.65W

~~Start recording~~
177 bag deployed
NO record cap

1700 Still had bag

CH14
AN/SSQ 53A 8W49
NO0163-82C-6070
LOT28 MFR37695



S#232 B. musculus

Lat/Long
CH14

41°56.46'N 128°07'41'W

9.24.01
SONY DAT
SBS

1857 Buoy dropped
1857 Start Recording
looks Dead

→ It looks like it ended up working
after a few minutes, but not real
well - but not great reception.

See notes next page
(2nd buoy on this sighting)

Animal was moving - started
behaving

Todd says that this is the typical
behavior they get on vocalizing
whales (A-B calls)
Buoy dropped ~100m (1st buoy) from where
whale (2nd buoy)
(moving all the time North)

2nd buoy
Ch 27, 190ft, 4kms
AN/SSQ 53A 8W49
N00163-82-C-0070
LOT 28 MFR 37695

See previous page for Lat/Long
& notes on Animal Behavior

Need to RECHECK!!

2nd buoy

S# 232 B. musculus
(see prev. page)

(6)

(9)

9.24.01

Sony DAT
SRS

1858 2nd buoy in far off
1902 Ch 27 (red) 3-4 bars
Ch 14 (white) 2 bars

we are 20mi from buoy & whale &
noise was slow (rising).

hearing both channels - (think both are good) (yes)
I hear both whales

1906 Moan? 212Hz ~ 0.75 sec long (09:18 DAT TIME)

↳ not real sure May need to re-monitor


1912 I think we are approaching buoy - getting
closer (we are maneuvering trap J2)

1915 J2 is moving away from buoy now
↳ Ch 27 3 bars, Ch 14 1 bar

1927 (30:33^{DAT}) Possible Sound? - Pulsing ~ 2 sec
<100Hz

1931 Ch 27 2 bars Ch 14 1 bar

1937 (40:28^{DAT}) Buoy Position on East side
East of buoy (1000m) (1000m)
1000m (1000m)

Review of: 

Sgtting #232 Sub Tape #5

Time References are Atime fontape:

20315 : 10Hz "pulse" ? C/sec (Right channel only)

↳ Noise interference?

1047 : 248 → 23 = 3 sec dump, Stronger on Right channel

1255 : 255 → 29, 2 sec dump, faint both channels

3406 : 58 → 33 = 2 sec dump, both channels (weak signal on both)



100-443887-100

Ch. 14
→ 60 min

[REDACTED]

⑦

10
11

5# 251 04040000
34° 32.88'N, 121° 57.04'E

90-01
Sub

MH-1000 (CH90)



↳ it sunk

1. *Chlorophyll a* (Chl *a*) is the primary photosynthetic pigment in most plants and algae. It is responsible for capturing light energy and converting it into chemical energy through the process of photosynthesis.

10

1917 L/R 20th Century - 1917 - 1917

Wholesaler - 14 and 150000

DAI TIME

↓

1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 26

1900-1901, 1902-1903, 1904-1905, 1906-1907, 1908-1909, 1910-1911, 1912-1913, 1914-1915, 1916-1917, 1918-1919, 1920-1921, 1922-1923, 1924-1925, 1926-1927, 1928-1929, 1930-1931, 1932-1933, 1934-1935, 1936-1937, 1938-1939, 1940-1941, 1942-1943, 1944-1945, 1946-1947, 1948-1949, 1950-1951, 1952-1953, 1954-1955, 1956-1957, 1958-1959, 1960-1961, 1962-1963, 1964-1965, 1966-1967, 1968-1969, 1970-1971, 1972-1973, 1974-1975, 1976-1977, 1978-1979, 1980-1981, 1982-1983, 1984-1985, 1986-1987, 1988-1989, 1990-1991, 1992-1993, 1994-1995, 1996-1997, 1998-1999, 2000-2001, 2002-2003, 2004-2005, 2006-2007, 2008-2009, 2010-2011, 2012-2013, 2014-2015, 2016-2017, 2018-2019, 2020-2021, 2022-2023, 2024-2025, 2026-2027, 2028-2029, 2030-2031, 2032-2033, 2034-2035, 2036-2037, 2038-2039, 2040-2041, 2042-2043, 2044-2045, 2046-2047, 2048-2049, 2050-2051, 2052-2053, 2054-2055, 2056-2057, 2058-2059, 2060-2061, 2062-2063, 2064-2065, 2066-2067, 2068-2069, 2070-2071, 2072-2073, 2074-2075, 2076-2077, 2078-2079, 2080-2081, 2082-2083, 2084-2085, 2086-2087, 2088-2089, 2090-2091, 2092-2093, 2094-2095, 2096-2097, 2098-2099, 2100-2101, 2102-2103, 2104-2105, 2106-2107, 2108-2109, 2110-2111, 2112-2113, 2114-2115, 2116-2117, 2118-2119, 2120-2121, 2122-2123, 2124-2125, 2126-2127, 2128-2129, 2130-2131, 2132-2133, 2134-2135, 2136-2137, 2138-2139, 2140-2141, 2142-2143, 2144-2145, 2146-2147, 2148-2149, 2150-2151, 2152-2153, 2154-2155, 2156-2157, 2158-2159, 2160-2161, 2162-2163, 2164-2165, 2166-2167, 2168-2169, 2170-2171, 2172-2173, 2174-2175, 2176-2177, 2178-2179, 2180-2181, 2182-2183, 2184-2185, 2186-2187, 2188-2189, 2190-2191, 2192-2193, 2194-2195, 2196-2197, 2198-2199, 2200-2201, 2202-2203, 2204-2205, 2206-2207, 2208-2209, 2210-2211, 2212-2213, 2214-2215, 2216-2217, 2218-2219, 2220-2221, 2222-2223, 2224-2225, 2226-2227, 2228-2229, 2230-2231, 2232-2233, 2234-2235, 2236-2237, 2238-2239, 2240-2241, 2242-2243, 2244-2245, 2246-2247, 2248-2249, 2250-2251, 2252-2253, 2254-2255, 2256-2257, 2258-2259, 2260-2261, 2262-2263, 2264-2265, 2266-2267, 2268-2269, 2270-2271, 2272-2273, 2274-2275, 2276-2277, 2278-2279, 2280-2281, 2282-2283, 2284-2285, 2286-2287, 2288-2289, 2290-2291, 2292-2293, 2294-2295, 2296-2297, 2298-2299, 2300-2301, 2302-2303, 2304-2305, 2306-2307, 2308-2309, 2310-2311, 2312-2313, 2314-2315, 2316-2317, 2318-2319, 2320-2321, 2322-2323, 2324-2325, 2326-2327, 2328-2329, 2330-2331, 2332-2333, 2334-2335, 2336-2337, 2338-2339, 2340-2341, 2342-2343, 2344-2345, 2346-2347, 2348-2349, 2350-2351, 2352-2353, 2354-2355, 2356-2357, 2358-2359, 2360-2361, 2362-2363, 2364-2365, 2366-2367, 2368-2369, 2370-2371, 2372-2373, 2374-2375, 2376-2377, 2378-2379, 2380-2381, 2382-2383, 2384-2385, 2386-2387, 2388-2389, 2390-2391, 2392-2393, 2394-2395, 2396-2397, 2398-2399, 2400-2401, 2402-2403, 2404-2405, 2406-2407, 2408-2409, 2410-2411, 2412-2413, 2414-2415, 2416-2417, 2418-2419, 2420-2421, 2422-2423, 2424-2425, 2426-2427, 2428-2429, 2430-2431, 2432-2433, 2434-2435, 2436-2437, 2438-2439, 2440-2441, 2442-2443, 2444-2445, 2446-2447, 2448-2449, 2450-2451, 2452-2453, 2454-2455, 2456-2457, 2458-2459, 2460-2461, 2462-2463, 2464-2465, 2466-2467, 2468-2469, 2470-2471, 2472-2473, 2474-2475, 2476-2477, 2478-2479, 2480-2481, 2482-2483, 2484-2485, 2486-2487, 2488-2489, 2490-2491, 2492-2493, 2494-2495, 2496-2497, 2498-2499, 2500-2501, 2502-2503, 2504-2505, 2506-2507, 2508-2509, 2510-2511, 2512-2513, 2514-2515, 2516-2517, 2518-2519, 2520-2521, 2522-2523, 2524-2525, 2526-2527, 2528-2529, 2530-2531, 2532-2533, 2534-2535, 2536-2537, 2538-2539, 2540-2541, 2542-2543, 2544-2545, 2546-2547, 2548-2549, 2550-2551, 2552-2553, 2554-2555, 2556-2557, 2558-2559, 2560-2561, 2562-2563, 2564-2565, 2566-2567, 2568-2569, 2570-2571, 2572-2573, 2574-2575, 2576-2577, 2578-2579, 2580-2581, 2582-2583, 2584-2585, 2586-2587, 2588-2589, 2590-2591, 2592-2593, 2594-2595, 2596-2597, 2598-2599, 2600-2601, 2602-2603, 2604-2605, 2606-2607, 2608-2609, 2610-2611, 2612-2613, 2614-2615, 2616-2617, 2618-2619, 2620-2621, 2622-2623, 2624-2625, 2626-2627, 2628-2629, 2630-2631, 2632-2633, 2634-2635, 2636-2637, 2638-2639, 2640-2641, 2642-2643, 26

Figure 1 is a line graph showing the percentage of total catch versus the number of hauls for various fish species. The x-axis is labeled 'Number of hauls' and ranges from 0 to 10. The y-axis is labeled 'Percentage of total catch' and ranges from 0 to 100. There are 20 data series, each represented by a different line style and marker. The series are numbered 1 through 20. Series 1 (solid line, circles) shows a sharp increase in catch percentage as the number of hauls increases, reaching nearly 100% by haul 10. Series 2 (dashed line, squares) shows a more gradual increase, reaching about 80% by haul 10. Series 3 (dotted line, triangles) shows a very low catch percentage, remaining near 0% throughout. Series 4 (dash-dot line, diamonds) shows a moderate catch percentage, increasing from about 20% to 40%. Series 5 (solid line, circles) shows a high catch percentage, starting at about 80% and increasing to 100% by haul 10. Series 6 (dashed line, squares) shows a high catch percentage, starting at about 80% and increasing to 100% by haul 10. Series 7 (dotted line, triangles) shows a very low catch percentage, remaining near 0% throughout. Series 8 (dash-dot line, diamonds) shows a moderate catch percentage, increasing from about 20% to 40%. Series 9 (solid line, circles) shows a high catch percentage, starting at about 80% and increasing to 100% by haul 10. Series 10 (dashed line, squares) shows a high catch percentage, starting at about 80% and increasing to 100% by haul 10. Series 11 (dotted line, triangles) shows a very low catch percentage, remaining near 0% throughout. Series 12 (dash-dot line, diamonds) shows a moderate catch percentage, increasing from about 20% to 40%. Series 13 (solid line, circles) shows a high catch percentage, starting at about 80% and increasing to 100% by haul 10. Series 14 (dashed line, squares) shows a high catch percentage, starting at about 80% and increasing to 100% by haul 10. Series 15 (dotted line, triangles) shows a very low catch percentage, remaining near 0% throughout. Series 16 (dash-dot line, diamonds) shows a moderate catch percentage, increasing from about 20% to 40%. Series 17 (solid line, circles) shows a high catch percentage, starting at about 80% and increasing to 100% by haul 10. Series 18 (dashed line, squares) shows a high catch percentage, starting at about 80% and increasing to 100% by haul 10. Series 19 (dotted line, triangles) shows a very low catch percentage, remaining near 0% throughout. Series 20 (dash-dot line, diamonds) shows a moderate catch percentage, increasing from about 20% to 40%.

Volume 12, Number 1

[illegible][illegible][illegible]

11

$\frac{1}{2} \left(\frac{1}{2} \right) = \frac{1}{4}$

1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 26

Figure 1 is a line graph showing the relationship between the number of days after the start of the rainy season (X-axis) and the number of days until the start of the rainy season (Y-axis). The X-axis is labeled 'Days after the start of the rainy season' and ranges from 0 to 100. The Y-axis is labeled 'Days until the start of the rainy season' and ranges from 0 to 100. The curve starts at (0, 100) and ends at (100, 0). The area above the curve is labeled 'Rainy season' and the area below the curve is labeled 'Dry season'.

Figure 1. The effect of the concentration of the H_2O_2 solution on the amount of the released H_2O_2 from the H_2O_2 -loaded hydrogel. The amount of the released H_2O_2 was measured by the amount of the released H_2O_2 from the H_2O_2 -loaded hydrogel. The amount of the released H_2O_2 was measured by the amount of the released H_2O_2 from the H_2O_2 -loaded hydrogel.

7

* We are going to Havelock
2 mi SW of the lagoon

11:00 AM. Track 1930
to follow ship course to
lagoon

3:01:27 - School of *Stomatopoda*
~ 20-30 - 60-80 cm down

→ MANY LF DOWNSWEEPS
EVERY FEW SECONDS
WILL DISCLOSE TYPE

6:00 AM. 10000
5:00 AM. 10000
2:00 AM. 10000 very
4:30 AM. 10000

Possible *Stomatopoda* *Stomatopoda*
AM *Stomatopoda* *Stomatopoda*

3:01:11 - *Stomatopoda* *Stomatopoda* for several
(3 bars detection - 600)

1:02:25 *Stomatopoda* *Stomatopoda*

1:08 *Stomatopoda* *Stomatopoda* 15-25
1:10 *Stomatopoda* *Stomatopoda* LF and *Stomatopoda*
~ 36-40 *Stomatopoda* 100

1:27:40 *Stomatopoda*

→ 1000 *Stomatopoda* monitoring, but still recording
all *Stomatopoda* type

[illegible]

21H Street 207 - 207-21H
 21H Street 207 - 207-21H
 (not moving)
 ↳ Bar Street 207

712 - Two to go

2398 Poughkeepsie, N.Y. 10142?

1. John F. Kennedy - 1961-1963
 2. Lyndon B. Johnson - 1963-1969
 3. Richard Nixon - 1969-1974
 4. Jerry Ford - 1974-1977
 5. Gerald R. Ford - 1977-1981
 6. Ronald Reagan - 1981-1989
 7. George H. W. Bush - 1989-1993
 8. Bill Clinton - 1993-2001
 9. George W. Bush - 2001-2009
 10. Barack Obama - 2009-2017
 11. Donald Trump - 2017-2021
 12. Joe Biden - 2021-Present

[illegible]

2321 - E. J. SBI
- S. J. SBI - 1-3 bars reaction

SBH 3

Sub E

2021

Continuation of show notes

10/1/2021

Time limit 21:00 last recording 20:00

30 min stop

M. Novengia H443; H444 9/25/01

36° 22.5

122° 44-9

6124-L Dropped 57A - Channel 13
Seems to be Dnd

36° 22.6

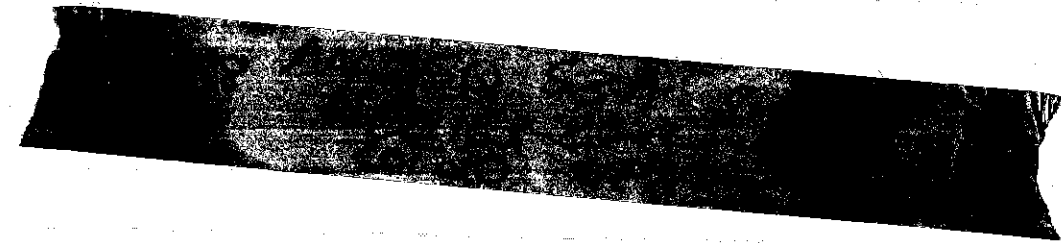
122° 45.4

53 Channel 27 1245-L
Working!

28

87

location
34 2.4
119 8.9



8

12

#272 B. muschke

SB9

1555 SE in bay of V. day

1555 SE in bay of V. day

1555 SE in bay of V. day

(1329) location of all specimens of

2 1443 - all new bearing specimens of

523 - all new bearing specimens of

1903 - 1-2 b. & c. specimens of

from same locality as above

2 new b. & c. specimens of

2350 + b. & c. specimens of

1443 - all new bearing specimens of

NOV 1903? location

very short description

Time

will still record full time

104 → 104

9

13

S#291 B. musculus

SE 53
31.14

181

10-01-11
DAT
SB10



3-7 Rec'd signal - 70002 200 p. 210

SH/NOISE LOG - 3-4 bars

31.14 p. 100

DAT. 1111

5.07 - 10000 200 p. 210

3-11 - 10000 200 p. 210

3-12 - 10000 200 p. 210

3-13 - 10000 200 p. 210

3-14 - 10000 200 p. 210

3-15 - 10000 200 p. 210

3-16 - 10000 200 p. 210

3-17 - 10000 200 p. 210

3-18 - 10000 200 p. 210

3-19 - 10000 200 p. 210

3-20 - 10000 200 p. 210

3-21 - 10000 200 p. 210

3-22 - 10000 200 p. 210

3-23 - 10000 200 p. 210

3-24 - 10000 200 p. 210

3-25 - 10000 200 p. 210



220

10.27

10.10

10.10 (4:05 - 4:20)

10.10 LF Downward 25-10 Hz
(good by some body - 1000 Hz)

23.13

08.36 LF Downward 30-15 Hz

08.50 "

21.10 LF Downward 10-5 Hz

30.00 "

30.00 LF Downward 10-5 Hz ~ 1/2 sec

31.20 LF Downward 10-5 Hz ~ 1/2 sec

32.42 LF Downward

33.10 90 Hz Pulse (~10 sec) - 1/2 sec

33.50 Mean (on 10 Hz) very faint

37.45 LF Downward

(41.35 - Reception is best)

14

#291 B. musciv.

257

1256 11/11/12 (100-12112)

→ 100-12112

100-12112

100-12112

BAD BUOY

BAD BUOY



0414 - [unclear]

3187 - [unclear]

(10)

(15)

S#291 B. musculus

0127

32° 41.9 N, 117° 26.2 W

49.85

1251 Wad - [unclear]

1251 Wad - [unclear]

12min

SHIP NOISE LOUD!

5934

HS

1100 10min

100 1000 / [unclear] 1000

10389

10489

10511

10539

10679

10709

10809

10909

11009

11109

11209

11309

11409

11509

11609

10389 [unclear] (10389) [unclear]
10489 9542 10489 [unclear] [unclear]
10511 27-15 [unclear] [unclear]
10539 48Hz [unclear]
10679 (11 min [unclear] [unclear])
10709 70 [unclear] [unclear]
10809 [unclear]
10909 [unclear]
11009 [unclear]
11109 [unclear]
11209 [unclear]
11309 [unclear]
11409 [unclear]
11509 [unclear]
11609 [unclear]

5024 5024 5024 5024

AC-MOUTER 2247

5024 5024 5024 5024

102:30 start (red monitoring)

104:30 104:30 104:30 104:30

104:40 104:40 104:40 104:40

104:40 104:40 104:40 104:40

104:40 104:40 104:40 104:40

104:40 104:40 104:40 104:40

104:40 104:40 104:40 104:40

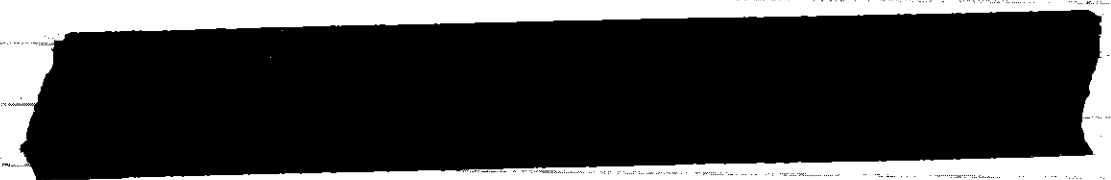
104:40 104:40 104:40 104:40

104:40 104:40 104:40 104:40

104:40 104:40 104:40 104:40

104:40 104:40 104:40 104:40

37° 15' 06" N
155° 00' 00" W



⑪
S# 271
10-14-01
11:12 AM
CHIZ

⑫
10-14-01
11:12 AM

90° R 0200 0200 0200
200 1000 1000

1000 1000 1000
4000 1000 1000
1000 1000 1000
1000 1000 1000
1000 1000 1000

1000 1000 1000
1000 1000 1000

1000 1000 1000
1000 1000 1000
1000 1000 1000
1000 1000 1000

Weather was very dry - clouds
1000 1000 1000

1000 1000 1000
(1000 1000)

S# 311 O. orca

10.20.01



BAD Buoy - no float, no reception

DO NOT HAVE SPECS
ON THIS BUOY

* See next page
no monitor
no monitor

need to re-monitor →
buoy comes & goes

S#311
Ch 26

O. orcas

(2)

10.20.01
SB DAT 12

0912 Good buoy, start recording
animals ~100m off starboard bow
(not monitoring now)

0922

0928 15:00 — BUOY JUST DIED

1026 - going back to CS - animals weren't moving
much, need to re-listen to all of this

1036 - according to the map, buoy should be ~1-1.5mi off stbd gtr

1100 - buoy reception is lost

69

VOCALS →

all below
1 kHz

DAT: TIME

BOT → bad, poor, loud ship noise

16:00 -- Bad reception and a lot of static (static)

17:10 -- reception better / good (but can't hear)

17:20 -- again bad again, and some can't hear

17:30 reception good again

28:56 -- Ship noise very loud again, and reception / static
bad as well

31:52 -- loud mechanical noise (engine?)

32:00 -- mechanical noise

1:00:00 -- reception getting bad again

1:04:00 -- reception better, but still bad

1:13:44 880 Hz w/ Harmonics. 1:14:00

1:13:56 840-850 Hz w/ Harmonics

1:13:59 -- faint white noise (seen, not heard)

1:14:30 -- another faint av (seen, not heard)

1:14:51 faint white noise (seen, not heard)

1:15:00 4 white noise (seen, not heard)

cannot tell --

1:20:00 possible first 2 kHz

1:30:32 possible first 2 kHz

1:31:00 -- possibly first 2 kHz

There is still a lot of noise

→ several more

(stop monitoring @

(13) (14)

339 Minkie Whale
45°14'N 126°56'W

10.25-DI
SBB

(13)

~ 1740 (as 2 buoy tossed 157' away)
1740 start recording, good buoy

600 - 1800

1740
27

1767
1807

1747 - VATTIME 08:14 - 1-2 birds reception

1749 - turning back to buoy for 2nd reception
birds from birds. Re-appears.

27:09 Drifted 2nd buoy, Ch 16 - Seal
45°13.941N, 126°55.838

→ Buoy at 1000, 1100
Seal 1000 on a line
1100

5400 Stop Recording (1831)

CH15 60ft 8hrs

1045 Buoy dropped, no signal
(no float)

37° 54' 13" °
123° 04' 58" °

CH23 60ft 8hrs

37° 53.985
123° 02.46

need to remonitor

S# 412

O.orca

(15)

11/15/01
SB 14

1449 - now reception on the buoy

Yes! vocals!!

Animals 90° left (2 animals, at least 2 note)

Signal is in sort

1705 Dropped CH23 buoy w/in 50-100 m of animals

Ch26
→ Good buoy

Ch67 906t 8hrs 53D
→ Bad buoy

Sta ~~415~~ 415 B. musculus

33°50.45 N, 125°55.52 W

16

11/18/01
SB15

0835 Ch26 buoy in - 0.45nm from animal
~3min after it did a terminal dive
(start recording)

0839 All buoys ok → overloading
buoy now @ 180°, 18net

0902 2nd buoy dropped near terminal dive of A
1001 Changed both to Ch26 (1bar)

Re-examine by S. Rankin on 11/19/01

BOT - LOUD SHIP NOIS

0:06:00 - SHIP NOISE A LITTLE BETTER

0:25:00 - noise still

0:35:30 - clearly heard more radiointerference - ship
no vocals - will give it 10 more minutes

0:45:00 NOTHING - STOPPED MONITORING
(BOT STILL RECORDING)

NO VOCALS

16

(17)

EVENING SONOBUOY

34° 45.5 N 174° Local

120° 50.7 W

11/23/01
SB 16

-OFF POINT CONCEPTION, MANY HUMPBACKS SEEN
near Sightings #438 & 439

1741 Ch 14 buoy dropped, good buoy (start recording)
1807 (1 bar now → Great Song!!
heavy phrase again.

517: Still hearing Humpbacks but sound more distant.

517: Right channel recording to Channel 111 (start sonobuoy @ 1820 (57 buoy))

34° 45.4 N 182° 12

120° 50.4 W

Chokes down!

Dad
S

1823: Going back to recording SB 16 on both channels (57 buoy)

Channel 26

1825 34° 45.4 N

120° 57.1 W

1829: Hearing 1 Humpback whale sound

1833: Started recording

20
Dad

(18)

1836 New Sonobuoy Channel 21

34° 45.6 N 1836 Local

120° 58.8 W

Sonobuoy # 17

(N)

Evening songing out

11/23/91

1886

heavily shadowed

heavy songing sound especially - ship noise?

no obvious H-backs yet

1905ish: sharp, sunset like sound - no biological structure
still no H-backs yet

1910 - note of song heard

1916: Finally! Can hear H-back

1937: Still singing! May hear above song??

1938: 1.8 x 10⁴ sound - some song? of song?
hearing more High freq. notes from H-backs.

1949 19418 - many more song - still no H-backs yet

1955 (1.5 x 10⁴) faint end of song - still no H-backs yet

2003 (1.58:30:02) High frequency vocal as part of song
Back around to what I call end of song - no H-backs yet
many more song - last 2 rounds of song -
end of tape

2003L: starting new tapes SB# 17 continued

Evening songbuoy cont.

01/23/01

2011: 1-2 bars We're @ $34^{\circ} 45.5'$ \approx 5-6 miles from buoy -
 $101^{\circ} 04.4'$

2015 : 0810 on tape - getting back to "waaaa" section 6 0839

8025/26 : 1860-2/902 new phases?

2028 : 2000th output - mm new phrases?

19

M. novengial #443: #444

11/25/01

SB18

36° 22.6'N, 122° 45.4'W
Ch 27

36° 22.5' } ♂ 1241L Dropped 57A - channel 3
122° 44.9 } Seems to be Dead!!

36° 22.6' } ♂ 1241L Dropped 53 Channel 27
122° 45.4 } Working!

Sonobuoy dropped near #443 which is Mother/calf pair

1259L: Still no vocals heard, relatively quiet!

1300: clicks heard - sperm whales, I think -

1305: louder clicks

36° 23.5' } 1311L, 1 bar, occasional static noise
122° 50.4 }

1312: still hearing faint clicks

1342L stopped recording - too much noise!!



S#452 B. musculus

37 02 303 125 51.474

Ch21 90ft, 8hrs

11/26/07
SB 19

Ch21

Single Blue Whale

Good photos (both sides)

1649 Buoy bssed - good buoy, start recording
(w/in ~1/3nm of blue whale)
not sure if ship LARZ are heading ~135° magnetic
\$1700 (6:06pm) - possible start record?

0:12:28 - faint 90 Hz pulsing (A"?) → too faint to be our animal?

(0:21:19 - possible PM clicks? hard to tell w/ LF buoy ???)

0:29:54 - still hearing some sperm whales?

nothing nothing nothing

0:37:00 - stopped here for now

0:37:00 start monitoring (again)

0:51:00 - odd knocking (?? no character ??) ~50 Hz

I cannot hear in this corner (S not near blue whale)

0:52:34 → nada, stop monitoring altogether, but keep recording

NO
VOCALS

SH 454 O. oca

Ch 26

36° 45.999 124° 32.811

1248

Buoy tossed, start recording
buoy fading in & out - I don't think it
is good (in between static I hear
noise now)

1303

Tossed 2nd buoy ch 21 36° 46.132, 124° 31.58

This buoy looks bad, too

Ch 26 (right) Ch 21 (left)

BAD BUOYS

(both of 'em)

→ delete recording

11/27/01

~~5670~~
delete

#456,457 M. novaeangliae

(21)

11/27/01

SB20

Ch 15

36°43.652, 124°23.508

↑
MAZ (106° heading)

• BOY

NO DMR
TIME

1410

Ch 15 → bad buoy (57)

1412

Ch 26 (53) to 54, → good buoy (~1/3 mi from whale
10:03:50) - DAT TIME 36°43.507N, 124°22.844W

[Ch 15 ~~to~~ right channel, Ch 26 left channel]
DAT 0:00:00 → no vocals so far, will monitor later (just hear HZ?)

Tape reviewed by LHM - Nothing heard - no H-backs -

Ch 27 53 90 ft, this

* Many humpbacks today, tossed a
buoy after end of effort

Not thrown on a particular
sighting, just hoping to get some song

It is a beaufort 6, but low sea
height (high winds ~25 knots)

after this last NW sighting
S# (4A) M. novianlia

Evening sonobuoy - after effort
35° 18.883, 122° 12.627°

11/28/01

~~5:27~~
delete

1635 buoy in, looks good, start recording

DAT TIME

0:04:00 5-6 bars, Ch 27 on left/right - ship noise loud

0:18:00 Nada so far

1:00:00 - no vocals
Delete Recording

NO VOCALS