

**SUPPLEMENTAL MATERIALS**

**Table A. Descriptive Statistics for Western Alaska Call Catalog**

Mean and standard deviation (mean±SD) of each measured metric, by call type. The number of calls measured for each type is given as *n*. In cases where statistics were calculated from fewer than *n* measurements, the number of measurements used is given in parentheses.

<b>Call Type</b>	<b><i>n</i></b>	<b>Element Count</b>	<b>Segment Count</b>	<b>UFC Present?</b>	<b>Total Duration (ms)</b>	<b>Time to Max Duration (ms)</b>	<b>Time to Max/Duration</b>
GAB01	2	1	1	Yes	733 ± 0.0	431 ± 75.0	0.5880 ± 0.1023
GAB02	10	1	1	No	1586 ± 538.4	1494 ± 507.3	0.9466 ± 0.0940
GAB03	6	2	1	No	1110 ± 551.4	896 ± 591.8	0.7696 ± 0.1546
GAB04	10	1	1	Yes	674 ± 62.9	599 ± 48.7	0.8897 ± 0.0537
GAB05	10	1	1	Yes	1331 ± 504.9	1145 ± 519.4	0.8236 ± 0.1233
GAB06	3	2	2	Yes	1294 ± 148.2	622 ± 52.3	0.4846 ± 0.0675
GAB07	4	1	1	No	1296 ± 27.6	1295 ± 27.3	1.0000 ± 0.0000
GAB08	6	1	1	No	1478 ± 83.6	952 ± 685.0	0.6358 ± 0.4554
GAB09	4	1	1	No	849 ± 114.7	17 ± 19.6	0.0197 ± 0.0232
GAB10	5	2	1	No	1545 ± 687.0	614 ± 204.4	0.4133 ± 0.0492
GAB11	3	1	1	No	604 ± 97.7	604 ± 98.0	1.0000 ± 0.0000
GAB12	11	2	1	Yes	1039 ± 198.5	164 ± 62.3	0.1590 ± 0.0542
GAB13i	10	2	1	Yes	865 ± 276.2	119 ± 59.0	0.1353 ± 0.0288
GAB13ii	9	2	1	Yes	573 ± 52.3	80 ± 20.9	0.1396 ± 0.0280
GAB14	6	2	1	No	533 ± 41.7	274 ± 29.1	0.5133 ± 0.0368
GAB15	2	3	2	No	1775 ± 73.5	720 ± 29.0	0.4054 ± 0.0005
GAB16	11	2	1	No	772 ± 373.8	152 ± 125.1	0.2030 ± 0.0873
GAB17	5	1	1	No	870 ± 314.6	422 ± 354.1	0.5186 ± 0.4442
GAB18i	8	2	1	No	1295 ± 164.9	85 ± 29.3	0.0656 ± 0.0181
GAB18ii	2	1	1	No	1253 ± 72.1	48 ± 3.5	0.0379 ± 0.0006
GAB19	9	2	1	No	986 ± 112.3	382 ± 124.0	0.3828 ± 0.1105
GAB20	10	2	1	No	1184 ± 240.6	156 ± 38.5	0.1340 ± 0.0338
GAB21	11	2	1	No	1727 ± 297.9	60 ± 48.3	0.0331 ± 0.0251
GAB22i	4	1	1	No	770 ± 163.4	755 ± 153.7	0.9831 ± 0.0338
GAB22ii	4	1	1	No	865 ± 127.9	277 ± 431.7	0.3057 ± 0.4517
GAB23i	4	3	1	No	2224 ± 456.1	0 ± 0.0	0.0000 ± 0.0000
GAB23ii	6	2	1	No	1248 ± 292.4	476 ± 93.2	0.3857 ± 0.0408
GAB24i	10	1	1	No	971 ± 335.5	971 ± 335.5	1.0000 ± 0.0000
GAB24ii	5	2	1	No	1125 ± 155.6	977 ± 266.3	0.8655 ± 0.1734
GAB25	6	3	1	No	1372 ± 143.5	1188 ± 122.9	0.8706 ± 0.0953
GAB26	5	2	1	No	729 ± 158.3	78 ± 17.4	0.1112 ± 0.0330
GAB27	7	1	1	No	1043 ± 261.2	949 ± 292.9	0.9102 ± 0.1426
GAB28	7	1	1	No	228 ± 28.5	158 ± 40.1	0.6881 ± 0.1241
GAB29	6	2	2	No	1327 ± 134.0	572 ± 130.2	0.4285 ± 0.0643
GAB30	4	1	1	No	1065 ± 136.0	130 ± 17.1	0.1229 ± 0.0173
GAB31	10	1	1	No	360 ± 94.4	128 ± 103.4	0.3910 ± 0.3098

**Table A. (cont.)**

<b>Call Type</b>	<b><i>n</i></b>	<b>Initial SBI (Hz)</b>	<b>Final SBI (Hz)</b>	<b>Initial Freq. (Hz)</b>	<b>Center Freq. (Hz)</b>	<b>Final Freq. (Hz)</b>	<b>Frequency Trend Ratio</b>
GAB01	2	711 ± 48	741 ± 91	709 ± 53	777 ± 6	761 ± 60	0.9319 ± 0.0032
GAB02	10	2800 ± 354	5033 ± 911	2544 ± 383	4182 ± 466	5119 ± 1023	0.5033 ± 0.0632
GAB03	6	378 ± 97	5927 ± 76	294 ± 76	617 ± 78	5896 ± 89	0.0499 ± 0.0132
GAB04	10	698 ± 68	1141 ± 79	710 ± 67	1050 ± 26	1168 ± 91	0.6082 ± 0.0314
GAB05	10	435 ± 61	594 ± 22	353 ± 101	592 ± 24	606 ± 27	0.5818 ± 0.1629
GAB06	3	762 ± 34	2056 ± 120	905 ± 33	2094 ± 139 (2) <sup>a</sup>	2112 ± 132	0.4300 ± 0.0346
GAB07	4	538 ± 33	731 ± 32	527 ± 17	636 ± 8	694 ± 31 (3)	0.6719 ± 0.0507
GAB08	6	2291 ± 102	2292 ± 50	2291 ± 101	2299 ± 63	2300 ± 66	0.9960 ± 0.0201
GAB09	4	779 ± 30	625 ± 51	762 ± 19	678 ± 17	587 ± 36 (3)	1.2858 ± 0.1325
GAB10	5	471 ± 69	477 ± 61	407 ± 38	542 ± 21	479 ± 61	0.8578 ± 0.1134
GAB11	3	432 ± 110	987 ± 209	437 ± 130	759 ± 88	959 ± 280	0.5066 ± 0.2776
GAB12	11	896 ± 79	595 ± 121	847 ± 62	420 ± 58	601 ± 147	1.4813 ± 0.3577
GAB13i	10	1397 ± 115	756 ± 30	1222 ± 63	714 ± 34	743 ± 28	1.6467 ± 0.1121
GAB13ii	9	1379 ± 108	744 ± 59	1288 ± 187	741 ± 37	761 ± 60	1.7118 ± 0.3673
GAB14	6	558 ± 74	565 ± 39	528 ± 71	619 ± 25	594 ± 29	0.8890 ± 0.1151
GAB15	2	834 ± 4	253 ± 9	765 ± 35	1326 ± 16	253 ± 9	3.0253 ± 0.2429
GAB16	11	1468 ± 284	1105 ± 99	1319 ± 280	1214 ± 348	1103 ± 95	1.2146 ± 0.3342
GAB17	5	469 ± 10	459 ± 14	462 ± 7	466 ± 14	461 ± 13	1.0020 ± 0.0429
GAB18i	8	2741 ± 678 (7)	368 ± 9	2594 ± 654	472 ± 98	368 ± 10	7.0651 ± 1.8361
GAB18ii	2	556 ± 10	331 ± 4	565 ± 4	526 ± 3	348.5 (1)	1.6176 (1)
GAB19	9	2645 ± 346	451 ± 42	2433 ± 307	454 ± 37 (8) <sup>b</sup>	455 ± 32	5.3885 ± 0.9003
GAB20	10	2964 ± 557	369 ± 28	2550 ± 535	426 ± 13	354 ± 43	7.1784 ± 1.1795
GAB21	11	3603 ± 224	324 ± 29	3594 ± 187	437 ± 68	323 ± 28	11.1619 ± 0.5720
GAB22i	4	2980 ± 236	3314 ± 138	2764 ± 274	3163 ± 150	3329 ± 145	0.8288 ± 0.0478
GAB22ii	4	3291 ± 167	3152 ± 140	3208 ± 242	3247 ± 139	3201 ± 323	1.0104 ± 0.1283
GAB23i	4	3447 ± 182	273 ± 42	3565 ± 276	2524 ± 123	270 ± 39	13.4084 ± 1.9134
GAB23ii	6	2396 ± 61	276 ± 14	2388 ± 44	317 ± 42	281 ± 19	8.5380 ± 0.5720
GAB24i	10	1135 ± 100	1378 ± 80	999 ± 75	1286 ± 80	1409 ± 110	0.7123 ± 0.0726
GAB24ii	5	1322 ± 39	1673 ± 48	1244 ± 90	1610 ± 92	1674 ± 46	0.7443 ± 0.0649
GAB25	6	1653 ± 186	2736 ± 192 (4)	1567 ± 275	256 ± 5 (5)	2774 ± 262	0.5665 ± 0.1051
GAB26	5	2352 ± 127 (4)	348 ± 38	2329 ± 259	356 ± 39	355 ± 31	6.5564 ± 0.4928
GAB27	7	2533 ± 155	2961 ± 477	2525 ± 156	2579 ± 176	2942 ± 461	0.8710 ± 0.1006
GAB28	7	799 ± 121 (6)	1135 ± 102 (6)	651 ± 63	1124 ± 90	1158 ± 81 (6)	0.5671 ± 0.0831 (6)
GAB29	6	1193 ± 54	899 ± 50	1093 ± 112	1097 ± 345 (3) <sup>c</sup>	881 ± 23	1.2410 ± 0.1331
GAB30	4	975 ± 116	746 ± 99	866 ± 121	774 ± 89	793 ± 109	1.1045 ± 0.1799
GAB31	10	1150 ± 80	1126 ± 142	1156 ± 38 (9)	1231 ± 108 (7)	1191 ± 171	1.0873 ± 0.1492

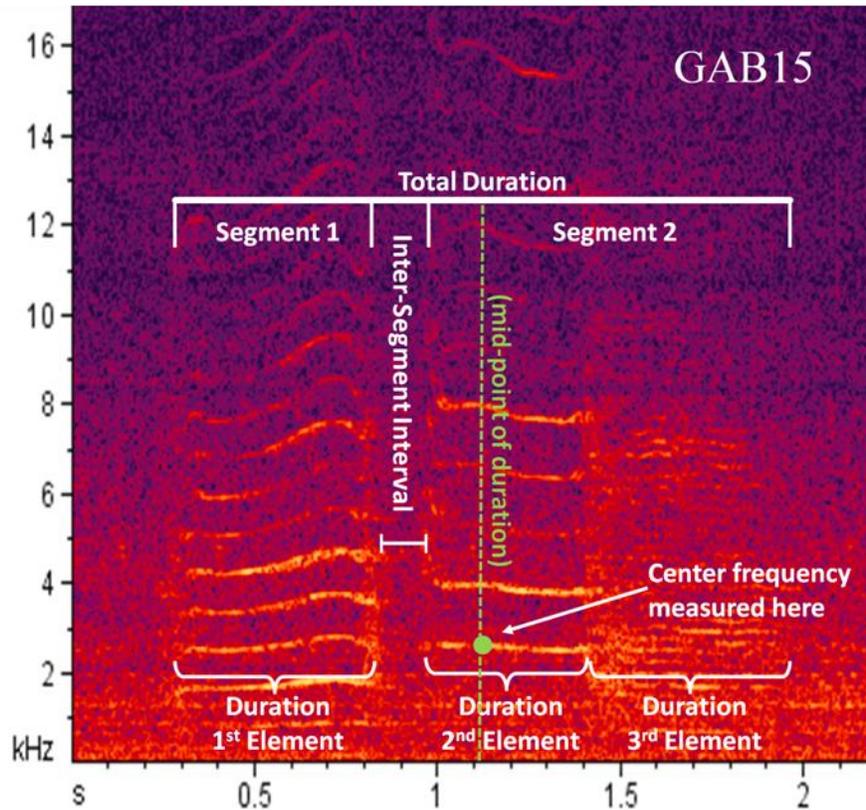
<sup>a</sup> For 1 of 3 calls measured for this type, the centerpoint occurred within the inter-segment interval.

<sup>b</sup> For 1 of 9 calls measured for this type, the center frequency was 3495 Hz, as it occurred during the first, rather than the second, element. This value was not included in the reported mean or SD.

<sup>c</sup> For 3 of 6 calls measured for this type, the centerpoint occurred within the inter-segment interval.

**Table A. (cont.)**

<b>Call Type</b>	<b><i>n</i></b>	<b>Frequency Range Ratio</b>	<b>Duration 1st Element (ms)</b>	<b>Duration 2nd Element (ms)</b>	<b>Duration 3rd Element (ms)</b>	<b>Inter-Segment Interval (ms)</b>
GAB01	2	1.1943 ± 0.0182	611 ± 9.2	—	—	—
GAB02	10	1.9925 ± 0.2447	1586 ± 538.4	—	—	—
GAB03	6	21.5725 ± 5.5099	872 ± 586.4	238 ± 122.7	—	—
GAB04	10	1.8955 ± 0.1851	674 ± 62.9	—	—	—
GAB05	10	2.3092 ± 0.8030	1311 ± 520.9	—	—	—
GAB06	3	5.1233 ± 0.2728	361 ± 58.2	691 ± 157.8	—	187 ± 22.7
GAB07	4	1.4982 ± 0.1160	1042 ± 62.3	—	—	—
GAB08	6	1.0216 ± 0.0208	1478 ± 83.6	—	—	—
GAB09	4	1.3376 ± 0.1569	849 ± 114.9	—	—	—
GAB10	5	1.2812 ± 0.1391	446 ± 308.7	1098 ± 379.6	—	—
GAB11	3	2.6251 ± 1.2081	604 ± 97.7	—	—	—
GAB12	11	2.7019 ± 0.4049	157 ± 42.7	779 ± 163.1	—	—
GAB13i	10	2.7858 ± 0.3223	124 ± 22.3	689 ± 224.5	—	—
GAB13ii	9	2.6973 ± 0.1375	93 ± 15.8	439 ± 49.9	—	—
GAB14	6	1.2554 ± 0.1616	199 ± 35.7	334 ± 16.8	—	—
GAB15	2	5.6988 ± 0.2754	562 ± 12.0	463 ± 15.6	596 ± 25.5	153 ± 21.2
GAB16	11	1.8732 ± 0.2091	260 ± 143.3	511 ± 313.5	—	—
GAB17	5	1.0509 ± 0.0146	870 ± 314.6	—	—	—
GAB18i	8	9.7627 ± 1.1344	83 ± 16.7	1212 ± 158.9	—	—
GAB18ii	2	1.6641 ± 0.0394	1253 ± 72.1	—	—	—
GAB19	9	11.7278 ± 2.2739	415 ± 65.8	572 ± 87.6	—	—
GAB20	10	10.0475 ± 1.7405	173 ± 38.0	1011 ± 219.6	—	—
GAB21	11	11.5694 ± 0.7318	629 ± 124.7	1098 ± 265.7	—	—
GAB22i	4	1.2166 ± 0.0618	770 ± 163.4	—	—	—
GAB22ii	4	1.1249 ± 0.0686	865 ± 127.9	—	—	—
GAB23i	4	13.2969 ± 2.0826	968 ± 365.1	756 ± 186.4	500 ± 250.9	—
GAB23ii	6	8.7378 ± 0.5080	483 ± 97.4	765 ± 203.5	—	—
GAB24i	10	1.3893 ± 0.1392	971 ± 335.5	—	—	—
GAB24ii	5	1.3821 ± 0.1097	469 ± 155.3	654 ± 129.5	—	—
GAB25	6	11.2506 ± 1.1064	527 ± 91.9	561 ± 66.5	283 ± 89.9	—
GAB26	5	10.7401 ± 1.6175	85 ± 19.2	645 ± 161.4	—	—
GAB27	7	1.1866 ± 0.1423	1004 ± 24.7	—	—	—
GAB28	7	1.9923 ± 0.3658	1018 ± 19.3	—	—	—
GAB29	6	1.5234 ± 0.0805	574 ± 129.3	632 ± 84.7	—	121 ± 14.5
GAB30	4	1.3682 ± 0.1044	1065 ± 136.0	—	—	—
GAB31	10	1.2423 ± 0.1063	1019 ± 39.2	—	—	—



**Figure A.** Illustration of additional measurements collected for descriptive statistics. Center frequency values were obtained by measuring the fundamental frequency contour (lowest band) at the midpoint of the call's duration. However, in this example, the lowest band was not visible at the mid-point of the call, so the center frequency was measured on the second band (at the green circle) and the resulting value was divided by two. (48 kHz, FFT size = 512 points, Hanning window, 50% overlap)