**S1 Table. Bottom water characteristics of the du Couedic and Bonney regions at the time of sampling.**

| Station | Latitude ( ̊S) | Longitude ( ̊E) | Day (Feb 2008) | Depth (m) | Temperature ( ̊C) | Salinity (psu) | Fluorescence(μgl-1) | PAR(volts) | Oxygen(μMl-1) | Silicate(μMl-1) | Nitrate (μMl-1) | Phosphate (μMl-1) |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| du Couedic  |
|

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| DW 100 | 36 14.460 | 136 26.496 | 18 | 112 | 10.29 | 34.85 | 14.37 | 1.06 | 244.98 | 3.45 | 14.35 | 0.95 |
| DC 100 | 36 16.967 | 136 32.161 | 17 | 113 | 11.08 | 34.98 | 15.54 | 0.71 | 244.15 | 2.73 | 11.95 | 0.81 |
| DE 100 | 36 20.137 | 136 37.363 | 17 | 107 | 11.60 | 35.06 | 14.82 | 0.51 | 248.03 | 2.21 | 10.24 | 0.71 |
| DW 200 | 36 30.326 | 136 18.444 | 19 | 154 | 12.64 | 35.22 | 12.01 | 0.19 | 251.60 | 1.06 | 5.94 | 0.57 |
| DC 200 | 36 23.495 | 136 29.178 | 18 | 186 | 11.21 | 35.00 | 13.16 | nd | 247.14 | 2.22 | 10.76 | 0.97 |
| DE 200 | 36 33.173 | 136 30.800 | 19 | 168 | 11.22 | 35.00 | 15.49 | 0.17 | 246.58 | 2.38 | 10.91 | 0.91 |
| DW 500 | 36 31.855 | 136 17.313 | 20 | 442 | 9.52 | 34.72 | 10.97 | nd | 249.95 | 3.88 | 15.94 | 1.31 |
| DC 500 | 36 27.365 | 136 27.450 | 19 | 494 | 8.98 | 34.64 | 10.34 | nd | 249.07 | 5.09 | 17.58 | 1.41 |
| DE 500 | 36 34.656 | 136 29.820 | 20 | 486 | 9.42 | 34.71 | 10.20 | nd | 250.72 | 4.05 | 16.18 | 1.32 |
| DW 1000 | 36 32.614 | 136 16.941 | 21 | 904 | 5.22 | 34.39 | 9.80 | nd | 199.61 | 30.30 | 29.39 | 2.23 |
| DC 1000 | 36 32.126 | 136 24.555 | 20 | 824 | 5.09 | 34.39 | 11.40 | nd | 197.79 | 32.48 | 29.74 | 2.20 |
| DE 1000 | 36 35.546 | 136 29.213 | 20 | 1009 | 4.19 | 34.40 | 10.22 | nd | 192.28 | 43.57 | 31.61 | 2.38 |
| DW 1500 | 36 33.563 | 136 16.378 | 21 | 1626 | 2.77 | 34.56 | 10.02 | nd | 170.97 | 75.17 | 33.85 | 2.66 |
| DC 1500 | 36 34.834 | 136 24.703 | 21 | 1475 | 2.87 | 34.54 | 11.33 | nd | 172.24 | 72.57 | 33.98 | 2.65 |
| DE 1500 | 36 36.216 | 136 28.820 | 21 | 1450 | 2.99 | 34.51 | 10.40 | nd | 173.96 | 68.99 | 33.19 | 2.62 |
| Bonney |
| BW 100 | 37 28.009 | 139 30.927 | 07 | 102 | 10.35 | 34.86 | 11.22 | nd | 253.88 | 3.17 | 12.94 | 0.92 |
| BC 100 | 37 30.156 | 139 36.900 | 07 | 102 | 10.69 | 34.91 | 13.87 | nd | 252.69 | 2.54 | 10.78 | 0.80 |
| BE 100 | 37 35.313 | 139 38.916 | 07 | 99 | 11.09 | 34.98 | 14.28 | nd | 251.53 | 2.64 | 11.04 | 0.83 |
| BW 200 | 37 32.650 | 139 27.605 | 08 | 160 | 12.06 | 35.14 | 11.13 | 0.06 | 254.73 | 1.46 | 7.12 | 0.60 |
| BC 200 | 37 36.054 | 139 34.672 | 08 | 196 | 9.65 | 34.74 | 10.33 | 0.38 | 249.91 | 3.92 | 15.88 | 1.09 |
| BE 200 | 37 38.635 | 139 37.286 | 08 | 182 | 9.52 | 34.73 | 9.97 | 0.10 | 253.59 | 4.05 | 15.31 | 1.08 |
| BW 500 | 37 34.553 | 139 26.384 | 09 | 516 | 8.29 | 34.55 | 9.92 | nd | 241.04 | 6.57 | 20.17 | 1.34 |
| BC 500 | 37 38.519 | 139 32.309 | 09 | 454 | 8.92 | 34.63 | 10.34 | nd | 249.67 | 4.68 | 18.19 | 1.19 |
| BE 500 | 37 42.432 | 139 34.458 | 08 | 456 | 9.02 | 34.64 | 9.93 | nd | 251.98 | 4.16 | 17.42 | 1.16 |
| BW 1000 | 37 41.972 | 139 20.773 | 10 | 1001 | 4.06 | 34.40 | 9.72 | nd | 190.45 | 46.98 | 32.58 | 2.30 |
| BC 1000 | 37 41.589 | 139 28.994 | 10 | 951 | 4.37 | 34.39 | 10.05 | nd | 194.15 | 41.38 | 32.03 | 2.22 |
| BE 1000 | 37 47.700 | 139 30.779 | 09 | 992 | 4.17 | 34.39 | 10.70 | nd | 192.73 | 45.29 | 33.68 | 2.28 |
| BW 1500 | 37 48.990 | 139 15.641 | 10 | 1503 | 2.75 | 34.57 | 10.95 | nd | 171.07 | 75.54 | 34.04 | 2.48 |
| BC 1500 | 37 43.956 | 139 26.253 | 10 | 1597 | 2.66 | 34.60 | 10.73 | nd | 170.68 | 82.07 | 35.75 | 2.50 |
| BE 1500 | 37 53.770 | 139 26.572 | 11 | 1504 | 2.72 | 34.57 | 9.97 | nd | 171.04 | 78.00 | 35.91 | 2.50 |

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Pressure, temperature, salinity, fluorescence, PAR and oxygen were measured by CTD. Silicate, nitrate and phosphate levels were determined in the laboratory after water collection by Niskin bottle. Nd = not detectable.