**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) | Sa  lin  ity  (psu) | Fluores  cence  (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 | | | | | | | | | | | | | |

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.