# **Holobiont dysbiosis or acclimatization? Shift in the microbial taxonomic diversity and functional composition of a cosmopolitan sponge subjected to chronic pollution in a Patagonian Bay**

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| --- | --- | --- | --- | --- | --- | --- | --- |
| Variable | high | medium | low | Reference | Guideline-  Aquatic Life | Guideline-  Recreation | Guideline-Agricultural |
| Nitrate (mg/L) | 62-991  3.5-5.32  3.7-6.83  8.1-9.94 | 49-741  2.34 | 1.5-3.52  < 2.53  2.5-2.74 | 1Saad et al. 2019  2Martinetto et al. 2010  3Martinetto et al. 2010  4Marello et al. in prep | < 16 | < 43 |  |
|  |  |  |  |  |  |  |  |
| Nitrite (mg/L) | 0.064 | ND | 0.0005 | Marello et al. in prep |  | < 4.3 |  |
|  |  |  |  |  |  |  |  |
| Ammonia (mg/L) | 0.037-1.31  0.23-1.52 | NA | 0.009-0.151  < 0.122 | 2Martinetto et al. 2010  3Martinetto et al. 2010 | < 1.1 | - |  |
|  |  |  |  |  |  |  |  |
| Pb (mg/kg) | 13-15 | 8-10 | NA | Idaszkin et al. 2015, Marinho et al. 2016 | < 30.2 |  | < 1.4 |
|  |  |  |  |  |  |  |  |
| Zn (mg/kg) | 25-48 | 17-25 | NA | Idaszkin et al. 2015, Marinho et al. 2016 | < 124 |  | < 200 |
|  |  |  |  |  |  |  |  |
| Cu (mg/kg) | 3.5-11 | 5 | NA | Idaszkin et al. 2015, Marinho et al. 2016 | < 19 |  | < 63 |
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Table S1: Concentration of nutrients and heavy metals pollutants reported previously for the studied sites. Canada Government guidelines reference values are included for reference. ND: non-detected concentration; NA: not available data.