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# A standardised ecosystem services framework for the deep sea

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Appendix 1. For our second review, a total of 182 papers were considered relevant for this study's analysis. References are alphabetically listed according to service type.

| # | Ecosystem Services | Reference |
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| 1 | Nutrient cycling | Bart, M. C. *et al.* (2021) 'Dissolved organic carbon (DOC) is essential to balance the metabolic demands of four dominant North-Atlantic deep-sea sponges', pp. 925–938. doi: 10.1002/lno.11652. |
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| 1 | Nutrient cycling | Dell'Anno, A., Corinaldesi, C. and Danovaro, R. (2015) 'Virus decomposition provides an important contribution to benthic deep-sea ecosystem functioning', pp. E2014–E2019. doi: 10.1073/pnas.1422234112. |
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| 1 | Nutrient cycling | Dombrowski, N. *et al.* (2017) 'Genomic insights into potential interdependencies in microbial hydrocarbon and nutrient cycling in hydrothermal sediments', p. 106. doi: 10.1186/s40168-017-0322-2. |
| 1 | Nutrient cycling | Dunham, A. *et al.* (2018) 'Assessing condition and ecological role of deep-water biogenic habitats: Glass sponge reefs in the Salish Sea', pp. 88–99. doi: 10.1016/j.marenvres.2018.08.002. |
| 1 | Nutrient cycling | Dunlop, K. M. *et al.* (2016) 'Carbon cycling in the deep eastern North Pacific benthic food web: Investigating the effect of organic carbon input', *LIMNOLOGY AND OCEANOGRAPHY*, 61(6), pp. 1956–1968. doi: 10.1002/lno.10345. |
| 1 | Nutrient cycling | Gooday, A. J. *et al.* (2020) 'Protist diversity and function in the dark ocean – Challenging the paradigms of deep-sea ecology with special emphasis on foraminiferans and naked protists', *European Journal of Protistology*, 75, p. 125721. doi: https://doi.org/10.1016/j.ejop.2020.125721. |
| 1 | Nutrient cycling | Huang, J.-M. *et al.* (2019) 'New microbial lineages capable of carbon fixation and nutrient cycling in deepsea sediments of the northern South China Sea'. doi: 10.1128/AEM.00523-19. |
| 1 | Nutrient cycling | Langlet, D. *et al.* (2020) 'Foraminiferal Ecology and Role in Nitrogen Benthic Cycle in the Hypoxic Southeastern Bering Sea', *FRONTIERS IN MARINE SCIENCE*, 7. doi: 10.3389/fmars.2020.582818. |
| 1 | Nutrient cycling | Li, Y. *et al.* (2018) 'Metagenomic insights into the microbial community and nutrient cycling in the western subarctic Pacific Ocean'. doi: 10.3389/fmicb.2018.00623. |
| 1 | Nutrient cycling | Li, Z. *et al.* (2016) 'Metagenomic Analysis of Genes Encoding Nutrient Cycling Pathways in the Microbiota of Deep-Sea and Shallow-Water Sponges', *Marine Biotechnology*, 18(6), pp. 659–671. doi: 10.1007/s10126-016-9725-5. |
| 1 | Nutrient cycling | Lin, G. *et al.* (2021) 'Geochemical and microbial insights into vertical distributions of genetic potential of N-cycling processes in deep-sea sediments', *Ecological Indicators*, 125, p. 107461. doi: https://doi.org/10.1016/j.ecolind.2021.107461. |

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| 1 | Nutrient cycling | Rooks, C. *et al.* (2020) ‘Deep-sea sponge grounds as nutrient sinks: denitrification is common in boreo-Arctic sponges’, *BIOGEOSCIENCES*, 17(5), pp. 1231–1245. doi: 10.5194/bg-17-1231-2020. |
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