A roadmap for integrating eDNA in Australian marine park monitoring

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Received: 01 Mar 2021 | Published: 04 Mar 2021
Citation: De Brauwer M (2021) A roadmap for integrating eDNA in Australian marine park monitoring. ARPHA Conference Abstracts 4: e65257. https://doi.org/10.3897/aca.4.e65257

Abstract

Australia has one of the world’s largest marine park estates. At 3.3 million km², it spans an area three times larger than Germany, France, and the UK combined. Managing and monitoring such a vast and often remote area is logistically challenging and expensive. Current monitoring of Australian parks is decentralised and depends on traditional survey methods. As a result, real-time data on the state of Australia’s marine parks is incomplete, hampering effective management. Environmental DNA has been suggested as a potential solution to some of these challenges, but practical large-scale applications remain largely lacking in Australia. To overcome this, we are developing a roadmap towards integrating eDNA methods in marine park monitoring. We present an overview of the current state of marine monitoring in Australia marine, identify the aspects of bio-monitoring that eDNA can best contribute to, and suggest pathways towards best practice use of eDNA for resource managers in Australia and globally.

Keywords

Environmental DNA; Marine parks; Management; Monitoring

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Presented at
1st DNAQUA International Conference (March 9-11, 2021)