RESEARCH SUMMARY

SUB-REGIONAL REVIEWS OF THE SEA TURTLES OF THE NORTH-WESTERN AND WESTERN INDIAN OCEAN

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Summaries of our understanding of the distribution and status of sea turtle populations in the western and north-western Indian Ocean were first compiled and presented at the *World Conference on Sea Turtle Conservation* in the US in 1979. The summaries were subsequently published in 1982 in the *Biology and Conservation of Sea Turtles*, edited by Karen Bjorndal. Containing now forty-year-old data, these seminal chapters formed the foundation of our understanding, and for decades were the go-to resources to obtain an overview of our understanding of turtles in the wider region. Ross & Barwani (1982) presented an extensive review of what was known from the Arabian region, for example, highlighting the regionally important nesting populations of green turtles in Saudi Arabia, Oman and Yemen and the globally significant loggerhead nesting population of Masirah Island in Oman. Each country (Iran, Iraq, Kuwait, Saudi Arabia, Bahrain, Qatar, United Arab Emirates, Oman, Yemen) and the grouped entry covering the Red Sea had a dedicated description on turtle status including known nesting abundance and threats. Frazier (1982) similarly reviewed the central western Indian Ocean, covering Somalia, Kenya, Tanzania, Seychelles, Mayotte, Comores, and the British Oversea Territories. He described nesting by green and hawksbill turtles, with the green turtle being more numerous but only moderate to low numbers of nests by either species. Completing the western Indian Ocean region, Hughes (1982) presented the situation for turtles in the remaining two continental countries (Mozambique and South Africa) together with Madagascar, Réunion and Mauritius. It again indicated the distribution of nesting populations, including green, hawkbill and loggerhead turtles and the only regular leatherback nesting population of the region, present in the mainland, transboundary Maputo Reserve. Hughes' chapter had more of an emphasis on establishment and utility of protected areas or reserves to aid conservation of turtles than Ross & Barwani (1982) and Frazier (1982).

For more recent regional reviews we must jump forward to the late 2010s when the Regional Reports published by the IUCN Marine Turtle Specialist Group (MTSG) were compiled. *Sea Turtles in the Middle East and South Asia Region: MTSG Annual Regional Report 2021* (Phillott & Rees, 2021), the most recent version for that sub-region of the Indian Ocean, summarised our understanding of sea turtle conservation status in all (21) territories of the region, starting at Djibouti and countries bordering the Red Sea, and eastwards to Yemen and Oman and the countries bordering the Persian Gulf. The report also covered countries making up south Asia. *Sea Turtles in the East Africa and the West Indian Ocean Region: MTSG Annual Regional Report 2020* (Dalleau *et al*., 2020) is the most recent version of the report for that subregion. It contained chapters from seven of the 14 territories in the region (Kenya, Tanzania, South Africa, Seychelles, France – Reunion Island, France Eparses Islands, British Indian Ocean Territories – Chagos) with France-Mayotte, Somalia, Mozambique, Madagascar, Comoros, and Mauritius not represented. These MTSG Regional Reports were formatted to present individual country-chapters detailing aspects such as nesting and in water distribution and abundance of the sea turtle species present together with threats and conservation actions per species Regional Management Unit (Wallace *et al*., 2010) per country. An overview chapter in each report summarised the individual country chapter contents, highlighting the most pertinent findings.

Now, in 2022, comprehensive reviews of sea turtles of the north-western Indian Ocean and those of continental eastern Africa have been published. The paper covering the north-western Indian Ocean is authored by Al Ameri and 21 other experts (Al Ameri *et al*., 2022). The thorough review synthesises over 250 primary and grey literature sources. It, together with the extensive supplemental material, presents data on turtle occurrence, nesting biology, morphology, foraging areas, population status, threats, and relevant national legislation from 13 countries with significant coastlines in the region. Furthermore, the review highlights the perceived most significant threats to turtles in the region together with the most critical knowledge gaps, impediments to practical conservation, and essential strengths and opportunities in the region. Al Ameri *et al*. (2022) concludes that up-to-date information, such as nest abundance, are lacking for many locations across the north-western Indian

Ocean and calls for local actors to focus to address these gaps through new initiatives and publication of existing data. In doing so, together with the synthesis of threat distributions, best practices can be targeted in areas requiring most conservation interventions. van de Geer's paper (van de Geer *et al*., 2022) also includes 21 additional, expert co-authors in the review covering sea turtles of the five continental eastern African countries (Somalia, Kenya, Tanzania, Mozambique, and South Africa). Using a mixed methods approach, data on nesting (abundance and distribution), foraging and migrations of five species of sea turtle, together with relevant anthropogenic threats, were compiled from systematic literature searches with additional input from the identified experts. The collected information, which is available in the extensive supplemental material published with the review, is synthesised into a clear and contextualised precis. Knowledge gaps and conservation initiatives are discussed, and the article concludes that-despite progress in the region over the last two decades-significant gaps remain which hinder better insight into the status of turtle populations in continental eastern Africa. It is suggested that conservation and research of sea turtles should feed into ecosystem-based approaches, which consider coastal peoples and their cultures and hence achieve sustainability for all threatened species.

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