Emirates Nature

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AREAS OF PARTICULAR IMPORTANCE FOR MARINE BIODIVERSITY IN THE UNITED ARAB EMIRATES' ARABIAN GULF

EXECUTIVE SUMMARY

ACKNOWLEDGEMENTS AND CONTRIBUTORS

Emirates Nature-WWF would like to thank all the stakeholders and experts who contributed towards this report by participating in data sharing, data analysis, attending the workshop and/or providing feedback and external review of the report. We hope the findings will support the management and conservation of the Areas of Particular Importance for Marine Biodiversity (APIMBs) in the United Arab Emirates' Arabian Gulf. These areas are critical for a sustainable and resilient future for nature and humans. We look forward to engaging and continuing to collaborate with you.

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Emirates Nature is a national (UAE) environmental non-governmental organization established to drive positive change in the United Arab Emirates to conserve the nation's natural heritage.

Established in 2001 under the generous patronage of H.H. Sheikh Hamdan bin Zayed Al Nahyan, the Ruler's representative in the Al Dhafra region, we work with partners to devise policies, educate communities and implement conservation solutions to ensure the future health of the Earth, its ecosystems and inhabitants. We are part of the global WWF network, which has a 50-year legacy of environmental conservation and is supported by more than 5 million people worldwide.

For more information about Emirates Nature-WWF, please visit emiratesnaturewwf.ae.

Seascape Analytics is a marine science consultancy providing reliable information to support effective decision-making in marine and coastal management. Project results, data products and decision support tools have informed marine spatial planning, marine protected area management, risk assessments and conservation actions worldwide.

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“AREAS OF PARTICULAR IMPORTANCE FOR MARINE BIODIVERSITY NEED TO BE CONSERVED THROUGH ECOLOGICALLY REPRESENTATIVE AND WELL-CONNECTED SYSTEMS”

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OBJECTIVES AND RATIONALE

30 BY 30

IN 2020, AT THE UN GENERAL ASSEMBLY, THE UAE JOINED A GROUP OF 15 MINISTERS IN ENDORSING A GLOBAL GOAL TO CONSERVE 30 PER CENT OF THE OCEAN BY 2030

Biodiversity underpins the essential ecosystem services that sustain a healthy environment, power our economy, and promote human well-being. However, biodiversity is under threat, with human activity driving accelerated species loss – an estimated 25% of global biodiversity has been lost in the last 35 years. This loss can impair ecosystem integrity, putting the well-being of future generations at significant risk. Action to maintain a healthy thriving ocean will require effective measures to protect and sustainably manage ecosystems.

Technical advice from the International Union for the Conservation of Nature (IUCN) and the Convention on Biological Diversity (CBD) highlights the need to strengthen the global network of Marine Protected Areas (MPAs) by following rigorous science-based design principles which place ecological connectivity and representativity of conservation features as a central goal. Identifying and mapping Areas of Particular Importance for Marine Biodiversity (APIMBs) offers a 'blueprint' for strengthening marine biodiversity conservation.

As a country with rich marine and coastal heritage, the United Arab Emirates (UAE) would benefit significantly by fostering the identification and management of APIMBs. **The UAE is already well on track to meet and surpass its national and international biodiversity commitments.** Sixteen Marine Protected Areas (MPAs) together cover 12% (6,900 km²) of the nation's coastal and marine jurisdiction, advancing towards the target of 14% by 2021 set by the National Biodiversity Action Plan (NBSAP). At the United Nations (UN) General Assembly in 2020, the UAE endorsed a global goal to conserve 30% of the ocean by 2030. APIMBs would help the country deliver these aspirations. This '30 by 30' goal is expected to be formally considered by the CBD in 2021, with 'The Global Ocean Alliance' and the 'High Ambition Coalition' cited as key vehicles.

The UAE's MPAs cover a substantial range of important biodiversity features, such as dugongs, sooty falcons, and unique coastal habitats. Further measures, however, are needed to provide adequate protection for habitats such as mangroves, oyster beds, seagrasses and critical life cycle habitat such as turtle nesting areas. Identifying APIMBs can guide spatial management and help target conservation actions for these priority areas. Doing so would mean the UAE can build on its existing achievements and take on a leadership role in the Post-2020 Global Biodiversity Framework. Furthermore, it would foster actions to preserve the country's blue natural capital that can support the growth of a Sustainable Blue Economy, bringing much needed new investment, innovative business opportunities and jobs to the country. As the UAE economy seeks to recover from the impact of the COVID-19 pandemic, these new opportunities can help catalyze a greener recovery making progress towards the 2030 Agenda for Sustainable Development while setting a positive example for others.

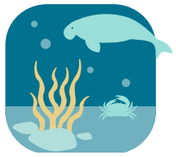
WHAT ARE APIMBs?

APIMBs are "marine areas high in species richness or threatened species, threatened biomes and habitats; areas with particularly important habitats; and areas that are important for the continued provision of ecosystem services" (CBD 2010).

APPROACH AND RESULTS

Emirates Nature-WWF has a long history of supporting the UAE leadership in its conservation efforts. This project was developed to continue this tradition and highlight opportunities for the UAE to sustainably manage its marine resources through APIMBs.

Using the 'Systematic Conservation Planning' (SCP) methodology and the Marxan tool, Emirates Nature-WWF conducted a ground-breaking and scientifically robust assessment to identify APIMBs for the UAE. The study area covered the marine realm of the UAE in the Arabian Gulf and approximately 5 km² inland to include coastal ecosystems such as mangroves and coastal sabkhas. The study region includes 11 marine protected areas with a combined areal extent of 6,862 km² (12% of the study area).



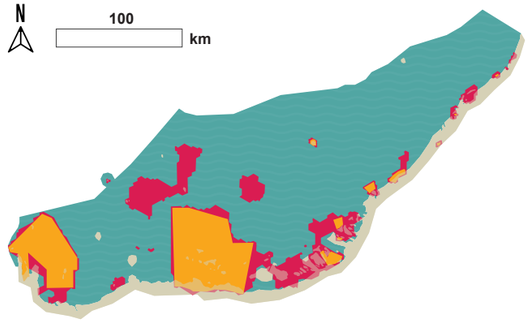
EXPERTS IDENTIFIED 26 BIODIVERSITY FEATURES, INCLUDING SPECIES AND CRITICAL HABITATS BASED ON ECOLOGICAL AND SOCIO-ECONOMIC VALUE

Key experts and stakeholders from academia, environmental authorities, and non-governmental organizations with knowledge of UAE coastal and marine biodiversity and relevant national and international policy, provided technical guidance and input to the project. These experts identified 26 biodiversity features, including species and critical habitats based on their ecological and socio-economic importance and availability of robust data. Conservation targets were agreed by the experts based on the ecological and socio-economic value of each biodiversity feature, its known local conservation status, and international best practice guidelines. Conservation targets were set for each feature identifying the proportion (%) of the total mapped distribution. For example, a conservation target of 85% of mangrove areas was set as this was determined as critical habitat and as current MPAs covered approximately 10% of the total mangrove extent.

When all targets were set, the SCP Marxan tool analyzed the data and provided an optimal solution in the form of maps showing the areas of importance according to two different scenarios. Identification and mapping of APIMBs using spatial scenarios provides a 'blueprint' for scaling up conservation measures and support decision making and spatial planning.

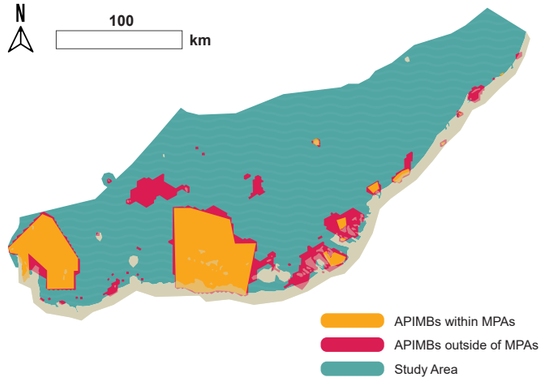
Scenario 1

High conservation targets as set by expert stakeholders



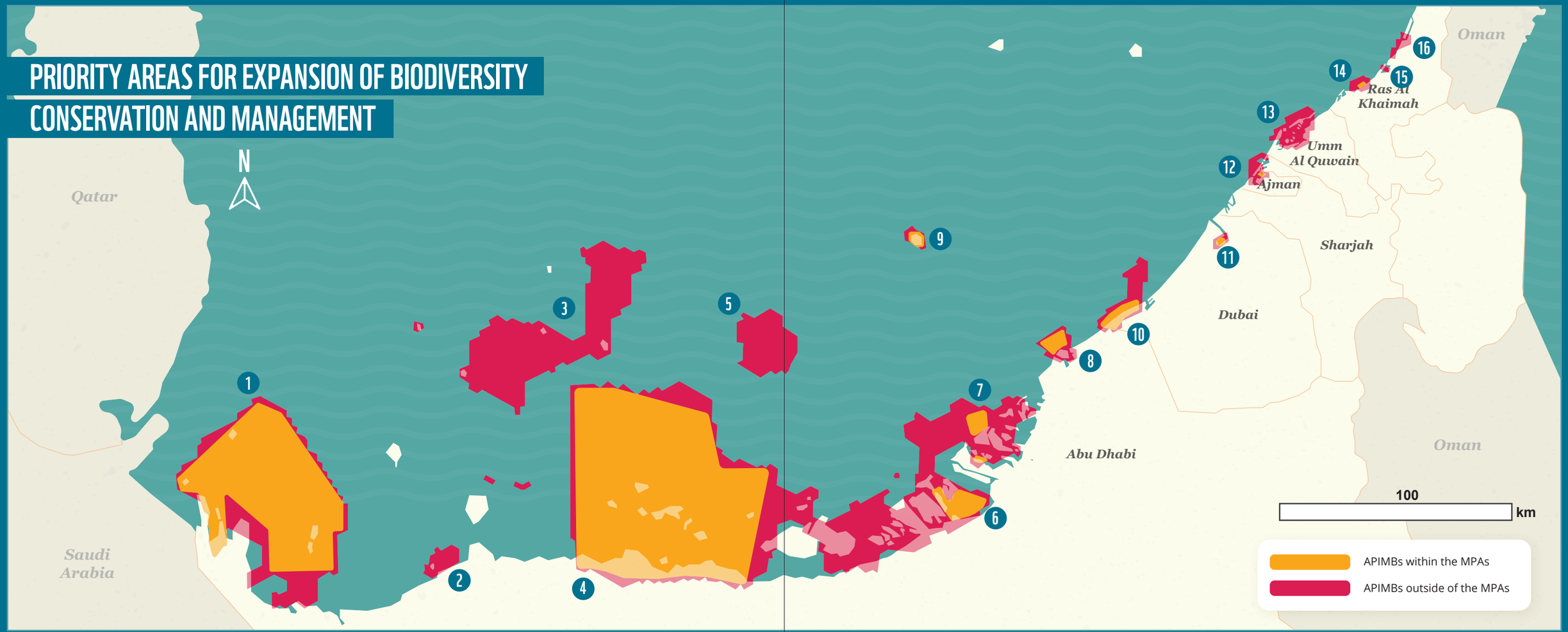
Scenario 2

Experts' high conservation targets reduced by 20 per cent



The existing MPAs are quite well placed covering many of the selected conservation features. The results show that the UAE's critical biodiversity features can be conserved by increasing management efforts in an additional 7-11% of areas beyond designated MPAs. Sixteen geographically discrete APIMBs were identified that would help deliver these goals in addition to the UAE's current MPAs.

PRIORITY AREAS FOR EXPANSION OF BIODIVERSITY CONSERVATION AND MANAGEMENT



1 Al Yasat MPA
Seagrass, corals, dugongs. Breeding: Sooty falcon, lesser crested tern and Socotra cormorant. Nesting and feeding: hawksbill. Rocky shore.

2 Seagrass, corals and oyster beds. Dugongs and Socotra cormorant breeding, mudflats, halophytes.

3 Seagrass and reef framework. Nesting and feeding areas: Hawksbill sea turtles. Breeding: Lesser crested tern.

4 Marawah Biosphere Reserve
Important area for greater flamingo, crab plover and Socotra cormorant. Nesting and feeding areas of hawksbill. Roosting area of Socotra cormorant. Marine habitats: seagrass, mangroves, coral reef, algal mat, hard bottom.

5 Roosting area for Socotra cormorant.

6 Bul Syayeef MPA
Roosting area: Socotra cormorant. Important area: Greater flamingo, nesting hawksbill. Marine habitats: Mangroves, seagrass, algal mats, halophytes, coastal sabkha.

7 Al Saadiyat MPA and Mangrove National Park
Nesting area: Hawksbill. Important area: Greater flamingo, roosting Socotra cormorant. Marine habitats: Algal mat,halophyte, mangroves, seagrass.

8 Ras Ghanada MPA
Roosting: Socotra cormorant. Habitats: Coral reef, reef framework, seagrass, hard bottom and coral, mangroves.

9 Sir Bu Nair MPA
Coral reef, nesting hawksbill, hard bottom and coral, beach.

10 Jebel Ali MPA
Hawksbill nesting area. Hard bottom and coral, macroalgae and oyster beds.

11 Ras Al Khor MPA
Mangroves, greater flamingo important area.

12 Al Zorah MPA
Mangroves, coral reef, oyster beds.

13 Khor Al Beidah
Breeding and roosting Socotra cormorant. Greater flamingo important area, seagrass, beach, halophytes, mangroves, coral reef, mudflats.

14 Khor Mazahmi
Seagrass, mangroves, beach, greater flamingo important area.

15 Khor Ras Al Khaimah
Seagrass, mangroves, greater flamingo important area, roosting Socotra cormorant.

16 Khor Rams
Seagrass, mangroves, mudflats, greater flamingo important area.

KEY RECOMMENDATIONS

To identify and manage APIMBs, a systematic approach is needed where ecological connectivity and representativity of conservation features is a central goal. A series of recommendations are provided below that can inform strategies and plans and ultimately enable the UAE in managing these priority areas. By implementing these recommendations, the UAE would make significant progress in addressing a suite of domestic policy goals set through the NBSAP, UAE Vision 2021, as well as its international commitments to the CBD, the 30 by 30 goal and the UN Sustainable Development Goals (SDGs).

1. Adopt principles for effective conservation measures and actions
2. Implement key measures for APIMB conservation
3. Mainstream APIMBs into existing policies and processes
4. Engage the private sector in creating a Sustainable Blue Economy with APIMBs

1 ADOPT THE FOLLOWING PRINCIPLES FOR EFFECTIVE BIODIVERSITY CONSERVATION MEASURES AND ACTIONS

Consider the suitability of managing APIMBs with a holistic whole-site approach that considers social and ecological factors.

Such an approach recognizes that the seascape context, including activities on land, can have a decisive impact on the ability to deliver ecological and socio-economic benefits. According to IUCN guidelines, conserving connectivity through ecological networks of protected areas is essential for managing healthy ecosystems conserving biodiversity, and adapting to climate change. This is relevant to the conservation of complex areas such as the coastal lagoons "khors" seascapes where the whole ecosystem is more than the sum of its individual habitat types and species.

JOINT DEVELOPMENT OF CONSERVATION MEASURES IS NEEDED TO ENSURE MANAGEMENT IS EFFECTIVE

Collaborative conservation between emirates is key for effective safeguarding of marine ecosystem health.

These findings are an important foundation to facilitate collaboration and dialogue between different emirates for biodiversity conservation. Federal policies and strategies such as the NBSAP can enable such collaboration and facilitate stakeholder engagement.

Create a decision-making framework based on best available scientific information and the precautionary principle.

- Conservation planning should be **re-evaluated every 5 years** to include new data acquired on species and habitats and updated habitat maps, shifts in species distribution, change in conservation status, analyze threats, address new policies, targets and actions, etc.
- **Prioritize information gathering on the status and trends of APIMBs** across the region and implement monitoring programmes to support adaptive management. Making environmental monitoring information easily accessible online would support both the business sector and government in environmental impact assessment and compliance.
- **There is a need to improve fundamental ecological information on at-risk species and ecosystems** especially the understanding of spatial and temporal patterns of ecological connectivity. Software tools for spatial planning such as Marxan can help include connectivity in protected area networks.
- **Improve ecological and socio-economic data.** This addresses the UN call for action through the UN Decade of Ocean Science for Sustainable Development (2021-2030). Progress in this direction has been made through the establishment of the Abu Dhabi Research and Development Authority.

2 IMPLEMENT KEY MEASURES FOR APIMB CONSERVATION, RESTORATION, AND MANAGEMENT

Accelerate effective restoration and recovery plans for APIMBs.

Implementing measures aligned with the UN Decade of Restoration (2021-2030) and IUCN Red List will accelerate the UAE's performance on APIMBs. This is measured through global indices for progress in sustainable development.

Adjusting the coverage of existing MPAs to achieve targets set by experts for key conservation priorities would require an additional 11% of the planning area to be managed.

The maps of APIMBs provide a spatial framework that each competent authority can use to evaluate scenarios and options based on development plans. These spatial scenarios could therefore be further adjusted in the future. This could result in surpassing the NBSAP target 8 and contribute to **Environment Agency – Abu Dhabi's (EAD) recent goals to increase MPA coverage by 40% by 2022.** The UAE has an excellent opportunity to show global leadership in setting targets for the post-2020 Global Biodiversity Framework, which is likely to require at least 30% of the oceans to be effectively protected.

Evaluate management options for offshore APIMBs.

A programme of work is needed to evaluate suitable conservation and management options including place-based management tools and spatial regulations for safeguarding offshore APIMBs. This would need to be integrated in broader maritime management frameworks, best practice sectoral guidelines and implemented with the extensive engagement of key economic sectors that are active in these areas.

3 MAINSTREAM APIMBs INTO EXISTING POLICIES AND PROCESSES

Embed APIMBs into Integrated Coastal Zone Management (ICZM).

Effective conservation of APIMBs requires integrated land-sea planning based on principles of Ecosystem-Based Management where MPAs are an important tool embedded in a wider seascape sustainable management framework.

Results from this project would support the UAE government in evaluating existing strategies, help prioritize conservation needs and explore Other Effective area-based Conservation Measures (OECMs).

This could be done by integrating APIMBs into the UAE's ICZM and planning systems. Planning processes can be enhanced by integrating into one framework, multiple biodiversity conservation measures, such as APIMBs, Key Biodiversity Areas (KBAs), Ecologically and Biologically Significant Areas (EBSAs), Important Bird and Biodiversity Areas (IBAs), Important Plant Area (IPA), Important Marine Mammal Areas (IMMAs), Important Marine Turtle Areas (IMTAs) and Ramsar sites.

APIMBs ARE AN IMPORTANT ASSET TO THE UAE's NATURAL CAPITAL

Recognizing APIMBs as high-profile assets in the UAE's Natural Capital Programme led by Ministry of Climate Change and Environment (MOCCAE).

Natural capital assessments that focus on APIMBs and the valuation of ecosystem services flowing from MPAs is highly recommended to grow support and encourage investments from across all sectors of society. Both natural capital accounting and valuation of ecosystem services will benefit from greater integration of ecological patterns such as those documented in the new coastal and marine habitat map. The UAE's Natural Capital Programme would be an obvious candidate to take forward this approach.

APIMBs that protect fish habitats would enhance resilience to climate change and help create more sustainable fisheries in the UAE.

This work will support the fisheries sector, as well as MOCCAE, emirate-level competent authorities and other stakeholders to achieve the vision outlined in the UAE National Framework Statement for Sustainable Fisheries (2019-2030). Protecting critical fish habitats also aligns with the Food and Agriculture Organization (FAO) Code of Conduct for Responsible Fisheries and addresses SDG 2 to increase food security and SDG 14.4 to implement science-based management plans, in order to restore fish stocks.

Integrating APIMBs into the National Climate Change Plan of the UAE (2017-2050), the UAE Green Agenda and the UAE Centennial 2071.

APIMBs play an important role as nature-based solutions for climate change mitigation and adaptation. It can also help enhance economic benefits by, for example, promoting ecotourism.

Mapping and assessing human impacts from singular stressors and cumulative effects on APIMBs, including climate change, should be carried out as a priority.

This will draw on scientific evidence and up-to-date information on exposure of APIMBs to disturbance with potential to complement existing work such as MOCCAE National Climate Change Adaptation Program, EAD's ICZM Framework, among others.

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4 ENGAGE THE PRIVATE SECTOR IN CREATING A SUSTAINABLE BLUE ECONOMY WITH APIMBs

Marine biodiversity conservation is central to achieving a Sustainable Blue Economy.

The private sector is increasingly understanding its dependence on healthy ecosystems and their engagement in APIMBs should be prioritized. Businesses recognize that taking action to reduce environmental impacts would demonstrate tangible corporate leadership and create value for shareholders and consumers. Innovative financing such as 'blue bonds' or impact investing can also be explored through sustainable financing strategies.

THE SUSTAINABLE BLUE ECONOMY

The true potential of the Sustainable Blue Economy – defined as all the economic sectors that have a direct or indirect link to the ocean – can only be fulfilled if our ocean's health is secured. We need to restore, protect and sustainably manage ocean assets in order to realize the ocean's capacity to support human development well into the future.

WWF (2018). *Sustainable Blue Economy Finance Principles*

Tourism and biodiversity conservation.

Well-managed and thriving APIMBs would underpin economically viable ecotourism in the UAE. Increasing awareness of the UAE's marine biodiversity assets as highlighted here, can form a foundation for nurturing responsible marine ecotourism.

Sound multi-disciplinary research plays a key role in effective conservation planning and a Sustainable Blue Economy.

The importance of science to sustainable development is highlighted by Aichi Target 19 and SDG 17. Science will become more prominent throughout the UN Decade of Ocean Science for Sustainable Development, something that is also recognized by the Abu Dhabi Declaration from the Blue Economy Summit 2014, which acknowledged that the "Blue Economy is founded upon research, assessment and data sharing, and that the assessment and valuation of the blue capital will require diverse and strong scientific and technical capacities".

"THRIVING HEALTHY ECOSYSTEMS WITHIN APIMBs CAN BE THE BASIS OF A SUSTAINABLE BLUE ECONOMY BRINGING NEW INVESTMENT, INNOVATIVE BUSINESS OPPORTUNITIES AND JOBS TO THE UAE"

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BUILDING A FUTURE IN WHICH PEOPLE LIVE IN HARMONY WITH NATURE

Emirates Nature

WWF

Emirates Nature-WWF is a non-profit organisation established to drive positive change in the United Arab Emirates to conserve the nation's natural heritage. Established in 2001 under the generous patronage of H.H. Sheikh Hamdan bin Zayed Al Nahyan, the Ruler's Representative in the Al Dhafra Region, we work with partners to devise policies, educate communities and implement conservation solutions to ensure the future health of the Earth, its ecosystems and inhabitants. We are part of the global WWF network, which has a 50-year legacy of environmental conservation and is supported by more than five million people worldwide.

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