REPORT OF THE 1ST SUB-REGIONAL MEETING NORTH-WESTERN INDIAN OCEAN

Online
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Memorandum of Understanding on the Conservation and Management of Marine Turtles and their Habitats of the Indian Ocean and South-East Asia

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1st Sub-Regional Meeting North-Western Indian Ocean Report

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1. Opening of the Meeting

Melanie Virtue (Secretariat, Head Aquatic Species Team) welcomed everyone to the first stand-alone meeting of the North-Western Indian Ocean Sub-region of the IOSEA Marine Turtle MOU. While acknowledging that virtual meetings were not always the best option, she welcomed that they did allow more people to attend. She wished everyone well in their discussions and their decision on whether to establish a Marine Turtle Task Force (MTTF). She then reminded members that, during MOP8, Oman had been appointed as the Sub-regional Focal Point, and accordingly recommended Thuraya Al Sariri as Chair for this meeting, which was approved.

The Chair welcomed everyone, noting that the past year had been a very difficult year for everyone and that it had been decided to hold this virtual meeting to enable people to meet, get to know each other, exchange information and knowledge about sub-regional marine turtle conservation activities, hear updates about the IOSEA Work Programme, and discuss the suggested establishment of a MTTF. She thanked members for appointing her as Chair and opened the meeting.

Heidrun Frisch-Nwakanma (Secretariat, MOU Coordinator) suggested starting with a tour-de-table to allow people to introduce themselves. Participants of the Signatory States Bahrain, Iran, Jordan, Oman, United Arab Emirates (UAE) and Saudi Arabia attended the meeting, together with representatives from non-Signatory States Kuwait and Qatar, as well as Members of the Advisory Committee (AC) and observers.

Tine Lindberg-Roncari (Secretariat) outlined the Online Meeting Protocol.

2. Adoption of the Agenda and Schedule

The Chair invited comments on CMS/IOSEA/NWIO-SRM-1/Doc.2/Rev.2 Provisional Annotated Agenda and Schedule, which was adopted without revision.

3. Key Outcomes of MOS8 and Progress Report

Ms Frisch-Nwakanma introduced CMS/IOSEA/NWIO-SRM-1/Doc.3 Progress Report on Implementation of the Work Programme 2020-2024, which reflected the Work Programme adopted at MOS8 in Vietnam along with an update on its implementation. The Work Programme was organized following the MOU Conservation and Management Plan, and highlighted who the expected actors were for each measure. At MOS8, each of the sub-regions had assigned priorities to the activities leading to an overall priority. In the last column the Secretariat had added an indication of the status of progress, where known, using a traffic light system.

She highlighted nine activities as completed and noted that there were many more AC and Secretariat activities ongoing.

Outside of the national reporting cycles there was no mechanism for tracking progress of Signatory States in implementing the many activities foreseen for them. Accordingly, she had not attempted to indicate progress made with the many activities Signatory States had assigned to themselves. She was looking forward to hearing the country reports to get a feel for what had happened.

The implementation of many activities required funding including tasks related to capacity building so the Coordinator encouraged Signatory States to pay their contributions to make the MOU as useful as possible across the region.

The Chair thanked her and encouraged Signatory State representatives to review the Work Programme. She then invited the AC to report on their activities since MOS8.

Jack Frazier (AC Chair) emphasized the importance of sub-regional meetings. He also stressed the importance of evaluations and asked the sub-region to bear this in mind to enable analysis of what was being done. The AC had been given a large number of tasks by MOS8 and he referred again to the Work Programme noting the AC was involved in almost all of the activities. He highlighted the Hawksbill Turtle Assessment which would be made available in March 2022, encouraged feedback and requested the members to review it and consider how it was useful for their country or programme and whether the priority assigned was appropriate.

Himansu Das (UAE) asked whether the impacts of climate change were included in the Hawksbill Assessment, noting that climate change was one of the key issues in UAE, with many nesting areas being affected by the adverse weather. After MOS8, Abu Dhabi had started relocating nest to slightly higher areas with good results. Once three years of data were available they would publish the data, which was part of a project of a PhD Student of the University of Leeds.

Mr Frazier agreed that climate change effects were becoming more and more obvious globally and confirmed the Hawksbill Assessment contained a section on climate change. He emphasised the need to understand Hawksbill Turtles as a population, noting that there were several Management Units (MU) in the Red Sea. Work on the finer scale population structure of Hawksbill Turtles in the Persian Gulf was still ongoing and encouraged communication with colleagues in the region. He expected that the Assessment would periodically need updating as more information became available. Mr Das explained that the Hawksbill Turtle was the only nesting species in the UAE and they were therefore looking forward to reading the Assessment and including its recommendations in their conservation action.

Mr Frazier explained further that the Hawksbill Assessment was an effort to compile a large amount of information from the entire IOSEA region, saying that most work on it had been done by AC Member Mark Hamann, who had consulted very widely throughout the region.

Like other publications, it would be out-of-date as soon as it was published but would hopefully provide a baseline to understand what was going on with Hawksbill Turtles in the IOSEA region. He again encouraged members to give feedback on the Assessment once it was published.

The Chair pointed out that Oman had the largest nesting population of Hawksbill Turtles in the region, with close to 1,000 Hawksbill Turtles nesting each year and was the source of the foraging population that migrated to the south. The Hawksbill Turtles in the sub-region differed genetically from Hawksbill Turtles in other parts of the world. Regional cooperation was essential in a small region such as the Persian Gulf, and threats such as climate change were common for all countries.

Ms Frisch-Nwakanma confirmed that the Hawksbill Assessment provided some information on specific countries but mostly its value was in putting information into a region-wide context to enable people to see how the situation in each country related to the region as a whole. The Assessment contained many points on where to focus research and action at a sub-regional or regional level. She said the Signatory States could determine when it should be updated but also whether to undertake more sub-regionally focused work. The Assessment would be available on the IOSEA website and a short summary would be pre-published.

The Chair again stressed the need to prioritize studies on the impacts of climate change on nesting beaches and turtle populations including finding solutions for adaptation. She spoke of a recent destructive cyclone in Oman a month previously which had badly impacted many beaches. Most countries had an adaptation strategy for climate change, and she urged including the conservation of the marine environment and marine turtles in these adaptation strategies at the national and regional level.

Mr Frazier agreed that climate change was one of many very serious threats, which also included impacts from infrastructure developments such as hotel building and encouraged bearing these other threats in mind too. He highlighted microplastics as another important issue for marine life including turtles. He stressed that the key role of the MOU was to enhance cooperation.

Fadi Yaghmour (UAE) agreed about the importance of climate change and stressed that local context was important. Microplastics were also an important issue in the UAE, and they were starting to investigate ingestion of microplastics in turtles and other fauna. However, he urged not neglecting macroplastics and macro debris which were under-studied in the region. There was one recent paper from Iran on Green Turtles in relation to this but little on Hawksbill Turtles. Local context was key such as that in the UAE they had found for example that turtles inadvertently eat local fishing gear, and stressed not to rely on international literature alone.

Asghar Mobaraki (Iran) informed the meeting that he had been appointed as chair of the Illegal Trade Working Group (ITWG) of the MOU and that he and the MOU Coordinator would be in contact with countries to get reports about illegal trade.
The Chair emphasized considering the different challenges in the region which was one of the key reasons for meeting.

4. Presentation of Country Updates

Country updates were provided by representatives from Oman, Qatar, Saudi Arabia, UAE, Bahrain, Iran and Kuwait. Summaries submitted to the Secretariat had been made available as CMS/IOSEA/NWIO-SRM-1/Inf.4 Country Updates.

Oman

Aida Al Jabri (Oman) presented on the conservation of marine turtles in Oman. There were five species visiting Oman – Hawksbill, Green, Loggerhead and Olive Ridley Turtles as well as the Leatherback Turtle which visited but did not nest.

Threats included: light pollution which was the main issue in the region; boat strikes; fishing gear and equipment; marine debris in the sea and on beaches; and nest disturbance.

On measures being undertaken, there was some cooperation with fishermen in release and rehabilitation of turtles and efforts by authorities in tagging and tracking turtles, studying the causes of strandings and satellite tracking of Green, Loggerhead and Hawksbill Turtles to study their nesting areas and foraging habitat. X-rays were carried out following strandings and, where the turtle was still alive, they were rehabilitated where possible. Since 2019 beach surveys were being carried out to study cause of death from strandings but also to clear and count waste.

She outlined several awareness-raising activities with schools, special events such as World Sea Turtle Day, beach cleaning campaigns and recently a 3-month campaign with Turtle Commandos helping the rangers carry out a count of baby turtles as well as asking the local community to switch off their lights to reduce disturbance during nesting season. There were also plans to: train volunteers and veterinarians; design an “Incident Report Booklet” with clear definitions in English and Arabic; and prepare a strategy to study and protect marine turtles.

Mr Mobaraki said Oman was an important country in the region for marine turtles. He wondered if there was updated population information on Green and Loggerhead Turtles and Ms Al Jabri said she would share this with him.

Mr Frazier commended the effort on cooperation between biologists, vets and local communities. He also emphasised the importance of the Oman populations, noting there were only three archaeological records of Loggerhead Turtles in the world and the oldest one was from Oman and that these archaeological interactions were vital for learning more about what is happening today.

Qatar

John Wong (Qatar) reported on the Conservation and Management of Sea Turtles in Qatar. Qatar was on a peninsula of the Arabian Gulf with water on the east coast and marine turtles were found in the north east, eastern coastal area and offshore islands. There was concern about seagrass habitat and so Qatar was developing an ecosystem-based marine management system.

There were four species of sea turtle visiting Qatar – Green, Leatherback, Hawksbill and Olive Ridley Turtles. There had been a recent report of an unconfirmed sighting of a Loggerhead Turtle by oil-rig workers. The only turtle that nested in the area was the Hawksbill Turtle which nested from early April to end of July on the north-eastern coastal beaches and offshore islands of Umm Tai, Fuwairit, Ras Iaffen, Al Jassasiya and Haful. Both resident and transient juvenile Green Turtles were found, but abundance of Hawksbill Turtles was higher with a ratio of 7:3. The Hawksbill sex ratio was 4M:1F, and Green Turtle 2M:3F. He emphasised the importance of the Qatar Hawksbill Turtle nesting sites in Qatar and urged regional cooperation.

In 2007, the government took up the work on protection of sea turtles by setting up barriers preventing cars going onto the nesting beaches and in 2009, they fenced off the beaches and a ministerial decree was declared in 2010 protecting sea turtles. Since 2013 there had been annual monitoring and management of turtle nests. The Ministry was also carrying out public

awareness-raising and education activities including press releases and organizing small group site visits through Qatar Museum to observe turtle conservation work.

Nests had been transferred to Fuwairit for easy control and protection from predators such as foxes and poachers and since 2009 the Fuwairit nesting beaches had been fenced off to prevent vehicle access, but other nesting beaches were not yet protected. Turtles at sea were not protected from marine traffic or fishing nets and there were no designated Marine Protected Areas (MPA) for sea turtles and insufficient law enforcement and planning for MPAs due to lack of trained management staff.

It was hoped that the newly established Ministry of Environment and Climate Change (MECC) would have the ability to strengthen management of marine resources and more available resources, both financial and human. Qatar would be more proactive in international institutions related to Marine Science and Ocean Economy and planned to set up a centralised data bank and a GIS ecological map to improve knowledge exchange for management and research. The MECC was preparing a national action plan for conservation and management of marine biological resources and one for land in accordance with the Qatar National Vision and UN Ocean Decade.

Mr Das thanked Mr Wong for his presentation and asked how they had found out the sex ratios, stressing the importance of the methodology and the findings for the regional context.

Mr Mobaraki also emphasized the need to know the methodological basis of the sex ratio study and noted that one big question in the region was where Hawksbill Turtle hatchlings went after leaving their nests and whether they stayed in the Gulf region. He also highlighted the importance of finding the albino hatchlings. Mr Wong agreed and wanted to commission research on this and hoped that with the newly established MECC there would be more resources available for such research.

Robert Baldwin (AC Member) asked whether any population trend analysis had been done using the annual monitoring data collected since 2013. Mr Wong did not think so, noting there was a need for approval from the government and there had been a lot of disruption with government restructuring. Key activities had been around protection of sea turtles but he hoped that this would be initiated now. He agreed that trend analysis was important, with records available that went back to 2002.

Saudi Arabia

Ibrahim Alharthi (Saudi Arabia) summarised an initiative around nesting sites in Ras Baridi, Al-Hassi and Ras Al-Shabaan in Saudi Arabia. The initiative had many projects including: training and educating border guard soldiers on how to deal with sea turtles; updating the marine turtle mortality database; annual turtle monitoring on Arabian Gulf islands and the Red Sea; development of a National Plan of Action for Sea Turtles; conducting Turtle Excluder Device (TED) workshops; developing turtle research and a monitoring plan for Ras Baridi; implementing and finalising fencing at Ras Baridi; and ongoing monitoring at giga-project sites.

He described the large infrastructure developments affecting marine turtle nesting sites and measures to preserve them, including first addressing threats and challenges such as: vehicles running over sea turtle nests; red foxes which were natural predators of sea turtles and feral dogs; turtles falling off the cliffs at the edge of the beach, with a project working on finding an effective solution to this; camping inside the nesting areas which was now prohibited; and negative interactions with sea turtles such as videoing the hatchlings, with awareness signs now having been erected near nesting sites to enhance public awareness.

Saudi Arabia had a new national strategy setting out a comprehensive framework to achieve environmental sustainability. This strategy included the adoption of environmental law and its executive regulations and the establishment of a National Centre for Wildlife. A Marine and Coastal Habitat By-law imposed fines for killing, catching and harming sea turtles (from 5000 to 100,000 riyals) and for disposing of fishing gear or hazardous waste.

Achievements included: fencing three main nesting sites as part of a pilot study and recruiting and training six rangers to watch these sites; reducing light impact in nesting areas, with a recent study being carried out on light which he hoped to report on at the next meeting; and public engagement programmes to remove marine debris from the three nesting sites. Further achievements included the Marine and Coastal Environment Executive Regulation, the establishment of a department purely for sea turtles and the engagement of several international experts for marine habitat and sea turtles.

Mr Mobaraki requested more information on the nesting sites, noting that the marine turtle population in Saudi Arabia was one of the largest and most important in the region. Mr Alharthi welcomed the opportunity to share.

United Arab Emirates

Obaid Alshamsi (UAE) gave a general overview based on activities by the Ministry for Climate Change and Environment (MCCE) and the different local authorities and emirates in the country.

New research or conservation projects related to marine turtles and/or their habitats included: monitoring programs including turtle satellite tracking and collection of data on body measurements, blood sampling, genetic sampling and flipper tagging); nesting beach and nest temperature modelling; relocation of nests that were expected to flood to shaded areas; and deep-water habitat surveys to identify possible habitat areas across the Emirates.

Some other projects were emirate-specific, including: the Sharjah Standings Response Program (SSRP) aimed to expand the knowledge of biodiversity, ecology and threats to evidence-based conservation action and policy, which was an important tool for the response and rescue of live strandings; the Gulf Green Turtle Project, completed in 2019, which was a four-year project led by Emirates Nature/WWF, the MCCE and others that had involved necropsies and satellite tracking to explore the regional habitat connectivity and provide insight into breeding migration routes, foraging behaviours and requirements for MPAs; field surveys in Umm Al Quwain by Emirates Nature/WWF between March and June 2020 across shallow coastal lagoons to characterize the megafauna in the area, finding a high abundance of Green and Hawksbill Turtles; and the project Nature-based Solutions for People, Biodiversity and Climate in the UAE by Emirates Nature/WWF, MCCE, Environment Agency Abu Dhabi, and the International Centre for Biosaline Agriculture (ECBA), focusing on biodiversity surveys in two coastal lagoons and seascapes in UAE and studying their use by marine vertebrates including turtles.

There were several development projects around protected areas which were expected to impose a threat to the marine turtle habitats. The concerned authorities in different emirates had worked to develop contingency plans to address these expected impacts and on the eastern coast of the UAE there was a concern surrounding development and urbanisation as well as persistent oil spills in coastal areas.

There were some recent changes in management frameworks in the country including the ban of surface netting in Abu Dhabi which had affected turtles positively. A portion of the Jabal Ali Marine Sanctuary in Dubai was declared as a Ramsar Site in 2018.

Emerging threats or challenges included: nesting sites were threatened by dynamics and changes in land use due to the construction and operation of development projects; feeding habitats were impacted by construction and operations of development projects; climate change with exceptionally high temperatures during the nesting season; ingestion of marine debris; and boat strikes and entanglement in marine debris including ghost gear.

Achievement and Success stories included: The launch of a National Plan of Action for the Conservation of Marine Turtles in 2019, with the vision that "marine turtle populations and their critical habitats in the UAE are effectively conserved and managed to enable their sustainability", which had been developed with involvement of several experts and international agreements; turtle release events being conducted in the country with over 200 turtles released in the past year; several awareness-raising activities on turtle conservation, targeting the general public and students including dissemination of information on social media platforms and focused activities and campaigns; turtle nesting in the Jabal Ali Marine Sanctuary had been increasing in the past three years; different turtle rehabilitation and release programmes in the country including in Abu Dhabi, Dubai, Sharjah and Fujairah; and the observation of the first Olive Ridley turtle nest in the UAE.

Mr Das added that a big success in the UAE was cooperation between all UAE stakeholders, including the agencies in different emirates and the MECC.

Mr Baldwin welcomed the reports of cooperation and hoped this could be extended across the region. He also lauded the UAE's comprehensive approach to management and conservation and asked if there was any indication of trend in populations in the UAE. Mr Das said for nesting populations, variability was observed but the population appeared to be stable. On some of the islands where there was development taking place there would be an initial drop but then the population sprung back. On foraging populations, he said a drop had been observed in 2018. A follow-up aerial survey had taken place in 2021 and the data was still being analyzed.

Mr Alshamsi reported that in 2019-2020 the UAE finalised the red list for marine turtles and that part of the red list assessment was to ascertain the trend in the population. They highlighted knowledge gaps so they could focus on them in the following years, and he offered to share details with the group. He invited other emirates to give input on this.

Jimena Rodriguez (UAE) complemented the information for Sharjah's in-water monitoring programme for juvenile Green Turtles started in 2020. They were conducting research to identify sex ratio, genetic studies and health assessments. She hoped to have robust information to share about this life stage that was important for turtles and the threats in foraging areas. She added also that they had started to implement research to monitor the temperature of incubation of nests and the sex ratio of hatchlings. They were conducting research on the impacts of climate change on turtle habitat, including sea level rise, and hoped to continue to collect more information in the nesting season.

Bahrain

Narjes Khalil (Bahrain) provided an update on the situation in Bahrain. She outlined a marine life mortality programme to quantify marine turtle mortality and assess, monitor and identify the main threats to marine turtles, which allowed citizens to report strandings through a hotline or online. A study by Ebrahim AA Abulqader and Jeff Miller had indicated that the main threat to Green and Loggerhead Turtles were bottom trawls for shrimp. They had been able to set appropriate measures to tackle this and the study also recorded the first siting of an Olive Ridley Turtle in Bahrain where in general Green and Loggerhead Turtle occurred. She also outlined a marine turtle rehabilitation programme for injured turtles where they received appropriate care and treatment in a wildlife park before being released.

There were no recorded impacts from infrastructure development as marine turtles were often found offshore foraging on seagrass far from the development.

Legal Measures included Decree-Law No (16) on the designation of Hawar Islands and the Surrounding Territorial Waters as a RAMSAR site in 1997, Ministerial Order (3) 2003 with respect to the Prohibition of Hunting of all species of Sea-Cows, Marine Turtles and Dolphins. Decision No (3) 2017 of the Supreme Council for the Environment concerned the designation of Hayr Shttayyah and Hayr Bu A'mamah as MPAs, banning hunting of marine turtles and established the Hawar Islands and Surrounding Waters MPA. Decision No (205) 2018 on the Prohibition of Bottom Trawling (Al-Karaf) and Article (1) of Resolution No (18) 2021 setting a period when shrimp fishing was allowed or banned – typically six months.

An emerging threat which had been aggravated by the pandemic was an increase in the use of plastic – face masks, shields and gloves for example – and while this was necessary plastic, she was concerned that if not discarded properly then this may be an increasing problem.

On successes, Ms Khalil referred to decisions on shrimp fishing, showing a graph that indicated that there was a major decrease in turtle mortality both during the approved shrimp fishing period and closure period and noting that since 2018 there had been a total ban on bottom trawling.

Mr Baldwin asked whether she had a quantification of the increase in plastic since the pandemic and Ms Khalil said this was a personal observation and was not scientifically evidenced yet.

Iran

Mr Mobaraki presented an update on the situation in Iran. He highlighted several studies, including two important genetic studies on foraging Green Turtles and nesting Hawksbill Turtles. He also highlighted: a tagging programme on foraging turtles, noting it was interesting to identify some Olive Ridley Turtles; identification of foraging grounds; a study on fisheries bycatch effects on sea turtles; climate change impacts sea turtle habitats; and monitoring of nesting sites, with an ongoing tagging programme in main nesting sites since 2005.

The main nesting sites of the Hawksbill Turtle were the small Nakhiloo, Ommolkaram, Sheedvar and Hendourabi Islands, of which 3 were uninhabited although sometimes used as fishing bases. The Management Authority for these islands was now expanding tourism on Hendourabi Island which was starting to threaten the nesting populations. Construction of an airport, a harbour and hotels was also impacting on this most important turtle site in Iran.

There had also been a study on foraging turtles, with a mixture of different populations, different age classes, species, health and condition. They had carried out tagging, and a genetic study for population/genetic identification, finding a possible connection with other rookeries for example in Saudi and Oman. He outlined the sampling sites for foraging Green Turtles showing they covered the Persian and Oman Gulf region.

Mr Mobaraki referred to the paper: *Population Study on foraging Green Sea Turtles in the Northern Persian Gulf and Oman Sea (Asghar Mobaraki, Eskandar Rastegar, Poutani, Haji Gholi Kami (Regional Studies in Marine Science))*. It demonstrated that Iran had some populations specific to the region and may be an important habitat for the Green Turtle. He emphasised the need for further work and cooperation with other countries including Kuwait and Oman in genetic studies using new methods to better understand the populations in the region.

Key threats were: changes in the Hendourabi Island governance authority and defining the island as a tourist area; developments along the Oman Sea coasts causing an increase in development of the area including plans for petrochemicals and factories; and in general disturbance and debris. Emerging threats and challenges included: climate change impacts on population and habitats, illegal and harmful fishing activities; increased pollution caused by plastics and sea debris, especially since the pandemic; sand mining on some islands; and uncontrolled tourism activities.

There had been an increase in legal protection through increased fines for illegal take and harvest of sea turtle species. A draft national action plan for marine turtles was being prepared by the Deputy for Marine Environment and there had been a decision on the banning of large-scale trawls in the Persian Gulf and Oman Sea.

Successes included: education and awareness-raising projects with local people and fishermen; support from important stakeholders such as oil companies and refineries; protection of nests and nursery sites Queshm, Hengam, and Kish; new scientific research findings as outlined above with the recording of more Olive Ridley Turtles in different life stages in foraging grounds.

Mr Mobaraki made some recommendations, including: cooperative genetic studies of sea turtles in the region to identify populations and shared stocks, in particular for Hawksbill and Green Turtles; satellite tracking of turtles; forming of an expert group for the region, perhaps through the proposed Marine Turtle Task Force; more support to conduct conservation activities; a national workshop for coordinated and harmonised data collection; public awareness activities; more attention to existing treaties and tools like IOSEA; and measures to mitigate bycatch mortality and other threats.

Kuwait

Shorouk Almarzooq (Kuwait) presented an update from Kuwait. She explained that marine turtles had cultural and ecological importance in Kuwait. Studies on different species had been carried out, with the latest in 2019 tracking Hawksbill Turtles. There were a number of conservation projects, including: a project by the EPA carrying out surveys during the nesting season on Qaruh Island in Southern Kuwait which is a small island with little human activity. In October 2021 there were damaged nests found together with seasonal sand erosion, following which there was a suggestion to protect part of the island during nesting season.

Article 100 of the Environment Protection Law (Law No. 42 of 2014) states that “It is prohibited to hunt, kill, catch, collect, harm, acquire or transport wild land and marine organisms, whether alive or dead or prejudice their juveniles, eggs, nests or their habitats, and the Executive Bylaw of this law shall determine the types and numbers of organisms allowed to be hunted or fished in certain seasons and specific areas. Hunting or fishing for scientific purposes shall be exempted after the approval of competent concerned authorities in coordination with the Authority.” The Public Authority for Agricultural Affairs and Fish Resources (PAAF) Resolution 521 (2008), prevented hunting of sea turtles, sea mammals, sharks and some rare fish. Resolution No 1620/2017 banned trawling and as part of efforts to introduce eco-friendly trawl nets, TEDs had been fitted to a trawl nets to stop turtles drowning. This was now being tested to make sure it was ready to be introduced to the market.

Ms Almarzooq outlined several threats, including marine litter (including ghost nets) – 4.3 tonnes of ghost nets were removed from the coasts of Kuwait between January and July 2020. Other threats included sewage and rainfall outlets, activities along the coastlines including tourism, climate change, in particular as turtles have temperature-dependent sex determination (TSD). A study published in 2014, found that Hawksbill Turtles in the Gulf

employed thermo-regulatory responses that tended to take them out of high temperatures since surface water typically exceed 30º centigrade in the summer.

She concluded by saying the greatest successes had been beach clean-ups and turtle rescues.

The Chair thanked her for the update and welcomed the fact this had been the first time they had heard an update from Kuwait.

5. Sub-Regional Situation and Priorities

The Chair pointed out the similarities between projects across the presentations.

In the discussion, participants identified several priorities for the NWIO region, including:

- Climate change effects: There had been some baseline studies for climate change effects in the Persian Gulf on sea birds, fish and turtles. Mr Mobaraki referred to a paper[1] containing a complete study on climate change effects in the Gulf Region. He prioritised finding nature-based solutions to protect the region's small and fragmented nesting and foraging sites, many of which were very sensitive to climate change effects or sea-level rise.
- Defining management units for the Persian Gulf: Mr Mobaraki emphasized the need for cooperation to identify the nesting and foraging populations across the Persian Gulf by means of genetic research.
- Development activities
- Finding mechanisms to share information on the IOSEA website or some other platform so that all the countries could add their activities and programmes and exchange information: Mr Alharthi raised the question of how to share data across countries to help with management. Under the Convention on Biological Diversity there were a range of MPA targets, and he suggested it would be good to include nesting areas as one of the target places under these protected areas. The Secretariat highlighted TurtleNet (https://apps.information.qld.gov.au/TurtleDistribution/) for data sharing. A link was available on the IOSEA website. Data confidentiality agreements were in place. She also repeated the invitation to submit information to the Secretariat for the IOSEA Newsletter option and publication on the website. Further, she stressed how important meetings such as this one were for sharing information at a sub-regional level.

6. Marine Turtle Task Force (MTTF) for the Sub-Region

The MOU Coordinator introduced document CMS/IOSEA/NWIO-SRM-1/Doc.6 Purpose, Organisation and Operation of a MTTF, explaining that it had been prepared to support a discussion around setting up an MTTF for the NWIO region. This had been identified as a key topic for the sub-region by the Meeting of the Signatory States.

The MOU area was divided into 4 regions across a vast diverse area to support implementation of the MOU and its objectives – the Western Indian Ocean (WIO), North-Western Indian Ocean (NWIO), Northern Indian Ocean (NIO), and South-East Asia (SEA). Each of the sub-regions

[1] Wabnitz et al. (2018). Climate change impacts on marine biodiversity, fisheries and society in the Arabian Gulf. PLoS ONE 13(5): e0194537. https://doi.org/ 10.1371/journal.pone.0194537.

had a Sub-Regional Focal Point – currently Kenya, Oman, Maldives and Thailand. This was mostly a policy-focused role and the key counterparts for focal points were other focal points in the region.

In addition to the Sub-Regional Focal Points, two sub-regions had established MTTFs, whose purpose was technical support to the national Focal Point and relevant Sub-regional Focal Points and facilitating technical cooperation between actors across the sub-region. The WIO-MTTF had been established in 2007; and the NIO-MTTF in 2015.

Members serving on the MTTFs were nominated by each of the countries concerned. The WIO-MTTF had one member per country including National Focal Point researchers and NGO staff. The NIO-MTTF had two members per country, one governmental and one non-governmental. The meetings could be in-person or virtual. In the past, the meetings were held in-person but they were sporadic as there was no finance for meetings in the MOU budget. The WIO-MTTF had taken advantage of meeting alongside other regular scientific meetings in the sub-region. However, now virtual meetings were more the norm she reported that the WIO had met virtually a few months previously and the NWIO meeting was meeting in 2 weeks' time.

The document provided sample Terms of Reference in Annex 1 and she invited Signatory States to consider whether an MTTF would be a suitable instrument to provide technical support for the NWIO sub-region, and if so, how they wished to take its establishment forward. She suggested they consider how an MTTF might stimulate action, and whether it would be useful in supporting implementation of the MOU.

The Chair invited comments and suggested it would be good to write to the country ministries and explain the benefits of an MTTF for the work of marine turtle conservation in the region as well as how the role of an MTTF differed from that of Focal Points so they could discuss it internally. Mr Mobaraki supported this suggestion, saying it would be good to have some time to think about it and to understand the benefits of an MTTF. Mr Alshamsi also emphasized the need for an official communication. Further, he asked for clarification on how the MTTF would add value to the work in the sub-region in addition to what National Focal Points were doing.

The Secretariat pointed to the information contained in the document she had presented and asked what further was needed and noted that, as the Secretariat, her role was to respond to the direction from the NWIO. She said it was up to countries in the sub-region to determine whether an MTTF was considered of benefit.

Mr Frazier said he had been involved with the establishment of the WIO-MTTF and that it had been established as a technical group whereas the National and Sub-Regional Focal Points were mostly focused on policy. Acknowledging the level of technical information shared during NWIO-SRM-1, as well as the comments on policy issues like developing a regional programme and the need for cooperation, he noted that the current NWIO was a hybrid of both of these elements and was already to a degree doing what an MTTF would be doing perhaps more regularly if established. The options open to them were whether to separate out the issues focussed on policy to be dealt with by Focal Points and to let the technical people do what they do as a MTTF. He emphasized the need to create the necessary organizational structures to support ongoing sustainable work.

Mr Alharthi confirmed that the document presented by the MOU Coordinator essentially contained the necessary information and should be sent to the ministries perhaps with some examples how the MTTFs had benefitted the WIO and NIO sub-regions.

Mr Baldwin urged people to seriously consider establishing a MTTF as one of the things lacking was the agility and the ability to get things done and respond in a good time frame. Stressing

the sub-region was home to some of the most significant turtle populations in the world, he urged setting up an MTTF if they considered it would support an increased focus on the science to inform management decisions and lead to the right kind of advice.

The Chair summarised that the Secretariat would write to the country ministries following which they could arrange another meeting to agree formally on the way forward.

7. Next Meeting

The Chair proposed arranging two meetings per year given the success of this meeting and suggesting this would be very beneficial at the national and regional level.

Mr Mobaraki questioned whether there would be sufficient information to benefit from sharing twice per year given the timeframe for ecological assessments. He proposed meeting once a year. This met with general agreement.

Ms Rodriguez agreed that the meeting had been very useful and proposed having a further technical session to discuss the proposed priorities and projects in the regions with a view to closing the gaps around turtle population knowledge across the region. She agreed with Mr Baldwin that there was a need to develop more scientific information. She highlighted the effort from the IUCN Marine Turtle Specialist Group to reassess the regional management units, suggesting that a good step towards this would be to generate data on the cohesive genetic characteristics of the nesting populations in the region as well as of some foraging ground characteristics. While genetic studies could be challenging as they required funding, she wondered whether the Signatory States could look at how to do this.

Mr Frazier suggested asking participants what had been useful about this meeting to understand better what issues to focus on.

The Chair noted there was a WhatsApp group for National Focal Points of the sub-region and suggested using this more frequently.

8. Closing of the Meeting

The Chair closed the meeting following the customary expressions of thanks, saying the meeting had been very informative even though it had been held online.

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Agenda

1. Opening of the Meeting
2. Adoption of the Agenda and Schedule
3. Key Outcomes of MOS8 and Progress Report
4. Presentation of Country Updates
5. Sub-regional Situation and Priorities
6. Marine Turtle Task Force (MTTF) for the Sub-region
7. Next Meeting
8. Closing of the Meeting

Memorandum of Understanding on the Conservation and Management of Marine Turtles and their Habitats of the Indian Ocean and South-East Asia

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