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Agenda item 7
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Indian Ocean - South-East Asian Marine Turtle Memorandum of Understanding

Report of the Sixth Meeting of IOSEA Signatory States

Bangkok, Thailand,
23-27 January 2012

IOSEA Marine Turtle MoU Secretariat • Bangkok, Thailand

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ANNEXES

Executive Summary

The Sixth Meeting of the Signatory States was held in Bangkok, Thailand, from 23-27 January 2012, preceded by a two-day session of the IOSEA Advisory Committee. The meeting was chaired by Dr. Maitree Duangsawadi, retired Director-General of Thailand's Department of Marine and Coastal Resources, and former IOSEA Focal Point. The organisation of the meeting was supported by generous contributions from the Governments of France and the United States.

Twenty-three Signatory States were officially represented at SS6, along with a nearly full contingent of Advisory Committee members, as well as invited experts and observers from various intergovernmental and non-governmental organisations. The meeting was to have been held in early December 2011, but the severe flooding in and around Bangkok in the latter part of 2011 forced its postponement.

The four days of wide-ranging discussions generated the most interesting ideas about the future direction of marine turtle conservation of any IOSEA Signatory State Meeting to date. After taking advantage of an opportunity to discuss issues in sub-regional groups, the meeting agreed that the following issues were the highest priorities for IOSEA to address in the immediate future: (1) illegal direct take of marine turtles; (2) identification of index beaches associated with genetic stocks; (3) capacity-building in support of Signatory State efforts; (4) investigation of indirect take in legal fisheries; and (5) socio-economic considerations of relevance to marine turtle conservation. Most of the areas identified by Signatory States as high priorities corresponded closely with issues that the Advisory Committee had reflected upon during its earlier meeting. In each instance, the Committee had suggested mechanisms that might be pursued in the coming biennium to make progress towards the desired conservation outcomes.

One of the highlights of the gathering was the finalisation of a proposal to create a Network of Sites of Importance for Marine Turtles in the IOSEA region, culminating many years of intensive development work and discussion.The network aims to enhance the local-to-global scale recognition of the importance of selected sites, while offering conservation benefits that are most readily achieved through a coordinated mechanism. A successful network will optimise use of limited resources though better coordination of activities, and help to diffuse adverse socio-economic impacts over a wider geographic scale, while promoting ecological connectivity, as well as resistance and resilience to environmental stress. Delegates fine-tuned the contents of the proposal, before adopting a resolution that sets out a schedule for finalising the selection criteria for the network, soliciting site nominations from Signatory States, and proceeding with the formal launch of the network at the next meeting of Signatory States.

The Secretariat presented its customary overview of IOSEA implementation progress, based on an exhaustive analysis of information submitted by Signatory States in their national reports. More than 80 percent of Signatory States have improved their implementation and reporting of IOSEA Conservation and Management Plan measures, many very substantially. Signatory States have done well to describe "best practice" approaches they have undertaken to reduce threats to marine turtles and their habitats; to document a range of socio-economic studies; and to put in place measures to counteract adverse economic incentives that contribute to turtle mortality. Advances have been made in the reporting of fisheries potentially interacting with turtles, as well as measures aimed at reducing incidental capture and mortality; and most Signatories have undertaken interesting research and development activities in support of bycatch reduction.

The reports of Signatories describe the important economic uses of marine turtles. Virtually all countries have enacted legislation to prohibit direct harvest and domestic trade in turtles and derivatives, though traditional consumption of meat and eggs still occurs. Almost all of the Signatory States have a suite of measures in place to minimise or reduce the mortality of eggs, hatchlings and nesting females, including monitoring programmes, extensive education / awareness activities, and debris removal and beach clean-up. Most Signatories have undertaken research and monitoring of turtles, with impressive

advances made satellite tracking to help elucidate migration routes; as well as characterisation of the genetic identity of turtle populations. Very good progress has been made to prioritise national conservation and management activities, and also to identify issues for which international cooperation is considered essential.

The Secretariat reported that the online IOSEA database now contains information on more than 1,000 sites of importance for marine turtles, a substantial increase since 2008. The system can be mined to gather information on each species, including the threats they faced and the mitigation measures that were being implemented at individual sites.

Areas in need of further improvement by Signatory States included, among others, better documentation of incidental capture and mortality of turtles, use of alternative fishing practices, and identification and protection of critical habitat outside of protected areas. Signatory States were encouraged to undertake more systematic exchange of information and closer collaboration and coordination of activities, to better articulate their resource needs, to try to mobilise increased domestic resources for implementation, and participate in more equitable sharing of IOSEA's operational costs.

Two workshops incorporated into the conference programme provided much food for thought: one focused on satellite tracking in the IOSEA region and the other on climate change impacts and related mitigation strategies. Dr. Peter Richardson gave a very informative introduction to satellite tracking which illustrated the uses of this remarkable technology and encouraged participants to reflect on the kinds of research questions it could address. This was followed by a lively question and answer session involving expert panellists, and group discussions that identified priority areas for future satellite tracking work. The account of the satellite tracking workshop annexed to the main meeting report captures the essence of this enriching session.

Dr. Colin Limpus teamed up with Dr. Mark Hamann to convene the second workshop on climate change and mitigation strategies, which provided an opportunity for participants to discuss issues of concern regarding management of marine turtles in the context of global climate change. The workshop included technical presentations that dealt with the biological background to global warming impacts on turtle egg incubation, hatchery management in response to warming beaches, and the impact of extreme climate events on foraging turtles and dugongs in eastern Australia. The expert panel discussion that followed stressed the importance of maintaining resilience in the ecosystem, and of obtaining long-term monitoring information which would provide a better foundation for responding with mitigation approaches.

Apart from the two workshops, the meeting was enlightened by two additional expert presentations: the first on the use of spatial planning tools to identify areas of high conservation priority for sea turtles, delivered by Dr. Ronel Nel; and the second on various innovative information systems for exchanging data on sea turtles, presented by Prof. Pat Halpin.

The Meeting received an update from Dr. Mark Hamann on progress towards finalising a long-anticipated assessment of the conservation of status of loggerhead turtles. An advanced draft was made available for review, and the document is expected to be finalised by mid-2012. Already, some recommendations for additional conservation action have been formulated, including genetics work and population identification in Sri Lanka, analysis of existing data from the Northwest Indian Ocean, collection of bycatch and mortality data, and various other species-specific studies.

The Meeting also revisited the comprehensive leatherback assessment from 2006, which had been the focus of recent attention aimed at updating basic information on the species' current conservation status, and identifying progress made towards filling important information gaps and areas in need of further work. In presenting the progress made so far, Dr. Ronel Nel confirmed that the updating exercise also provided for the development of specific project concepts to take forward some of the key recommendations that had been proposed in the 2006 assessment, but had not yet been acted upon. The document is expected to be ready for circulation in April 2012.

The Meeting formally adopted 'Terms of Reference and Guidance for IOSEA Focal Points', which clarify the general roles and responsibilities of IOSEA national and sub-regional Focal Points, and offer guidance to assist Focal Points in their intersessional work, as well as in the preparation for future meetings of the Signatory States. The IOSEA sub-regional Focal Points were reconfirmed as follows: Indonesia (for South-East Asia+), India (for Northern Indian Ocean); United Arab Emirates (for Northwest Indian Ocean); and Madgascar (for Western Indian Ocean). It was further agreed that the Secretariat would facilitate regular consultations with the four sub-regional Focal Points and the Advisory Committee Chair.

The IOSEA Advisory Committee was reconstituted with the addition of one new member, Dr. Manjula Tiwari, and the re-nomination of two existing members who will serve alongside five other Committee members who have served half of their terms. Further development of technical support to Signatory States, review of the selection criteria for the IOSEA Site Network (and eventually the site nominations themselves), and finalisation of the loggerhead assessment are among the tasks the Committee will be working on in the coming months.

On behalf of IOSEA, the Coordinator paid tribute to two Advisory Committee members, Dr. Colin Limpus and Dr. Jack Frazier, for their lifetime service to marine turtle conservation by presented each with a plaque to formally recognise their enormous contributions.

The Meeting had little new information to consider from Signatory States regarding the establishment of national networks / committees to strengthen inter-agency collaboration, as encouraged by the text of the IOSEA MoU, but a questionnaire returned by the United Republic of Tanzania was singled out as being particularly informative and providing a good example of a country making a concerted effort in the area of inter-agency consultation despite limited resources. The Secretariat will continue to post all relevant information received from Signatory States in a decidated section of the IOSEA website.

The meeting reviewed the working relationships that had been developed, in varying degrees, with various intergovernmantal and non-governmental organisations operating in the region. These included the Indian Ocean Tuna Commission (IOTC), the Southeast Asian Fisheries Development Center (SEAFDEC), the Bay of Bengal Large Marine Ecosystem Project (BOBLME), the Regional Organisation for the Protection of the Marine Environment (ROPME), and World Wide Fund for Nature (WWF). The collaboration has ranged from sharing information and provision of advice, participation in relevant meetings, and implementation of specialised project activities. It was noted that there was still scope for greater collaboration, to the extent that secretariat capacity allowed, as well as greater reciprocal participation in IOSEA meetings by partner organisations.

The Secretariat presented a report on IOSEA's financial situation, which had shown some improvement over the past three years, thanks to continued voluntary contributions from traditional donors, as well has new support from several other Signatory States. The Meeting endorsed the proposed budget for 2012-2014, together with an indicative scale of contributions, with the understanding that all financial support remained voluntary and that fulfilment of the programme budget lines depended on the level of contributions received. The Meeting agreed with the Secretariat's suggestion that the next Meeting of IOSEA Signatory States be held about two years hence, in the first half of 2014.

An excursion to Koh Mannai, an island in the Gulf of Thailand that hosts a marine turtle conservation centre, rounded out the week-long meeting. As always, apart from the formal discussions that took place within the meeting proper, there were many opportunities for delegates to share information and experiences informally. While these exchanges do not figure in any report of the meeting, they have immense value in enriching knowledge and creating bonds between countries.

Douglas Hykle
IOSEA MoU Coordinator / Senior CMS Advisor
Bangkok, February 2012

Glossary

Abbreviation	Meaning
ASEAN	Association of Southeast Asian Nations
BIOT	British Indian Ocean Territory
BOBLME	Bay of Bengal Large Marine Ecosystem
CBD	Convention on Biological Diversity
CI	Conservation International
CITES	Convention on International Trade in Endangered Species of Wild Flora and Fauna
CMP	Conservation and Management Plan (of IOSEA)
CMS	Convention on the Conservation of Migratory Species of Wild Animals
COFI	Committee on Fisheries (FAO)
COP	Conference of the Parties
CTI	Coral Triangle Initiative
DENR	Department of Environment and Natural Resources (Philippines)
EAD	Environment Agency – Abu Dhabi
ECA	Ecologically Critical Area
EIA	Environmental Impact Assessment
ESA	Endangered Species Act (United States)
FAD	Fish Aggregating Device
FAO	Food and Agriculture Organization
FFI	Fauna & Flora International
GBRMPA	Great Barrier Reef Marine Park Authority
GEF	Global Environment Facility
ICZM	Integrated Coastal Zone Management
IFAW	International Fund for Animal Welfare
IMapS	Interactive Mapping System (IOSEA / UNEP-WCMC)
IOSEA	Indian Ocean – South-East Asian Marine Turtle MoU
IOTC	Indian Ocean Tuna Commission
ISTS	International Sea Turtle Society
IUCN	International Union for Conservation of Nature
KESCOM	Kenya Sea Turtle Conservation Committee
KWS	Kenya Wildlife Service
MCS	Monitoring, Control and Surveillance System
MFRDMD	Marine Fishery Resources Development and Management Department
MMAF	Ministry of Marine Affairs and Fisheries, Republic of Indonesia
MoEF	Ministry of Environment and Forests, Government of India

Abbreviation	Meaning
MPA	Marine Protected Area
NMFS	National Marine Fisheries Service (United States)
NOAA	National Oceanic and Atmospheric Administration (United States)
OBIS	Ocean Biogeographic Information System
PERSGA	Regional Organization for the Conservation of the Environment of the Red Sea and Gulf of Aden
PTT	Platform Transmitter Terminal
Ramsar	Convention on Wetlands of International Importance
ROPME	Regional Organization for the Protection of the Marine Environment
SAARC	South Asian Association for Regional Cooperation
SACEP	South Asia Co-operative Environment Programme
SaT	Satellite telemetry
SAWEN	South Asian Wildlife Enforcement Network
SEAFDEC	Southeast Asian Fisheries Development Center
SPREP	Secretariat of the Pacific Regional Environment Programme
STAT	Satellite Tracking and Analysis Tool (of seaturtle.org)
SWIOFP	Southwest Indian Ocean Fisheries Project
TCP	Turtle Conservation Project (Sri Lanka)
TED	Turtle Excluder Device
TTFD	Thai Turtle Free Device
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
USFWS	United States Fish and Wildlife Service
WCPFC	Western and Central Pacific Fisheries Commission
WCS	Wildlife Conservation Society
WIOMSA	Western Indian Ocean Marine Science Association
WIO-MTTF	Western Indian Ocean – Marine Turtle Task Force
WWF	World Wide Fund for Nature

Agenda item 1: Welcoming remarks

1. Mr. Douglas Hykle, IOSEA Coordinator, welcomed the delegates to the Meeting, noting that the number of Signatory States had increased by six since the last gathering in Bali, Indonesia, in 2008. Since then, the global economic situation had changed, with less funding available for conservation activities. More positively, remarkable advances in technology had occurred to support conservation efforts over the past decade, and the overall knowledge about marine turtles had greatly improved. In addition, IOSEA had benefitted from sound technical advice and support from governments. He concluded his remarks by acknowledging two sponsors of the present meeting, the Governments of France and the United States of America. The full list of meeting participants appears in Annex 1.

Agenda item 2: Signature of the Memorandum of Understanding by additional States

2. No additional States signed the IOSEA Memorandum of Understanding during the course of the meeting.

Agenda item 3: Election of officers

3. The meeting elected Dr. Maitree Duangsawasdi, Thailand, as Chair and Dr. Mohamed Omar Said, Kenya, as Vice-Chair.

Agenda item 4: Adoption of the agenda and schedule

4. The agenda and schedule were adopted without amendment. A copy of the agenda is in Annex 2.

Agenda item 5: Statements

5. The representative of Australia submitted a written statement on behalf of her government, which welcomed the new Signatory States since the last meeting and stressed the importance of ongoing collaboration with regional initiatives for the conservation and management of marine turtles. The statement emphasised that Australia acknowledged its obligations for the conservation and protection of marine turtles and, to that end, it would continue to undertake a range of international and domestic measures to implement the IOSEA Conservation and Management Plan (CMP). The representatives of Mauritius and the United Kingdom also read statements for inclusion in the meeting report, which appear in Annex 3. The statements from Mauritius and the United Kingdom were in relation to a new Marine Protected Area designation in the Chagos Archipelago.

Agenda item 6: Reports of the Secretariat and Advisory Committee

(a) Report of the Secretariat

6. The Coordinator gave a summary of document MT-IOSEA/SS.6/Doc. 5, noting the addition of six Signatories – namely Yemen, France, Mozambique, Maldives, Papua New Guinea, and Malaysia – since the Fifth Meeting of the Signatory States (Bali, August 2008). The total number of States participating in the agreement stood at 33, including most key coastal States of the Indian Ocean and adjacent seas. Three countries with important fleets operating in the Indian Ocean had yet to join the IOSEA Marine Turtle MoU.

7. He then detailed substantive activities undertaken during the reporting period, such as development of the site network proposal and a new technical support / capacity-building programme, and the introduction and enhancement of online tools, such as the IOSEA Satellite Tracking Metadatabase and the Online Bibliography Resource. The IOSEA website had continued to expand and attract considerable interest until a lengthy disruption during the flooding that occurred in Bangkok in the latter part of 2011.

8. Good progress had been made in forging inter-agency and sub-regional coordination, however there had been limited capacity to develop closer bilateral collaborations with individual countries. Regarding financial matters, the Secretariat continued to be staffed by one professional officer, about 15 percent of whose time was spent as Senior Advisor to the Convention on Migratory Species (CMS) and an assistant, supported in part by overhead charges levied through the United Nations Environment Programme (UNEP).

9. At the conclusion of the presentation, the Chair congratulated the Secretariat for the successful implementation of the agreement since its inception more than 10 years ago. The representative of the United States of America also commended the Secretariat for its work and called on Signatory States to collaborate in securing more funding for projects and encouraging States with high seas fleets to join the IOSEA MoU.

(b) Report of the Advisory Committee Chair

10. The Chair of the Advisory Committee, Dr Jack Frazier, gave a brief summary of the Sixth Meeting of Advisory Committee, held in the two days prior to the conference. The meeting had been attended by six Advisory Committee members, the Chair of IOSEA Western Indian Ocean – Marine Turtle Task Force, and other observers. Key points of its deliberations included prioritising and elaborating recommendations contained in the "Overview of IOSEA Implementation" (Document MT-IOSEA/SS.6/Doc.6), the proposal for the establishment of a network of sites, the further development of technical support and capacity building, ongoing species assessments, and progress made by Signatory States towards the establishment of national networks.

11. Following the report, the representative of the United States asked if the Advisory Committee had discussed the prioritisation of species for conservation action. The representative of India suggested that sub-regional capacity-building programmes should be considered and that the development of training modules would be required to institutionalise them. The Coordinator noted that both of these points would come up later in the agenda. The full report of the Advisory Committee meeting, held on 21-22 January 2012, appears in Annex 11.

Agenda item 7: Review of implementation progress of the Memorandum of Understanding

(a) Synthesis of national reports – Overview of MoU implementation

12. The Coordinator introduced document MT-IOSEA/SS.6/Doc.6 and its addendum, as well as document MT-IOSEA/SS.6/Doc. 6.1. He gave an overview of the reporting used as a basis for the documents, explaining that national reporting was directly linked to the comprehensive IOSEA Conservation and Management Plan (CMP). IOSEA had developed a unique system for monitoring performance across areas of work, individual countries and each of the four sub-regions. The analysis also allowed for temporal comparisons with past evaluations.

13. Core reporting was generally satisfactory for about half of the Signatory States, whilst shortcomings were observed in about one-third of the reports submitted, mainly in the site data sheets, and only a few Signatories had not provided reports on their implementation of the MoU.

14. The presentation also included a detailed assessment of all activities conducted in each country based on the national reports, with the extent of progress displayed graphically in a colour-coded matrix. Among the notable strengths in implementation were the general descriptions of species occurrence, identification of socio-economic studies examining the relationship between resource users and turtle populations, and measures to counteract adverse economic incentives that contribute to turtle mortality. Areas in need of improvement included, among others, better documentation of incidental capture and mortality of turtles, use of alternative fishing practices, identification and protection of critical habitat

outside of protected areas, more systematic exchange of information and closer collaboration and coordination among Signatory States, better articulation of resource needs, and mobilisation of increased domestic resources for implementation and more equitable sharing of IOSEA's operational costs.

15. With regard to the site-based information, contained in document MT-IOSEA/SS.6/Doc. 6.1, the Coordinator explained the online database now contained information on more than 1,000 sites of importance for marine turtles, a substantial increase since SS5. He noted that the system could be mined to gather information on each species, including the threats they faced and the mitigation measures that were being implemented at individual sites. The information had not been analysed as thoroughly as that provided in the core national reports, but such an exercise could be quite informative if the quality and completeness of data were improved. However, the site-level reports had already revealed that incidental capture in coastal fisheries was the most common threat to turtles, reported at 30 percent of the sites in the system, but equally prevalent were natural threats, such as predation. Also high in the ranking of threats at individual sites was egg collection, with 20 percent of the sites reporting it being problematic.

16. Following the presentation, delegates made suggestions for improving the process of national reporting. The representative of Bangladesh proposed that countries with national conservation plans submit them to the Secretariat for posting on the IOSEA website, as models for others to consider. The representative of Jordan proposed to standardise socio-economic studies through IOSEA and the representative of Kenya introduced the idea of parlaying national programmes into sub-regional ones.

17. The Secretariat's analysis of progress made in implementing the Conservation and Management Plan's 24 programmes of work outlined specific proposals for additional conservation and management actions, as well as suggestions for improvements in reporting that would enable a better assessment of progress. Three working groups were formed with the task of reviewing the preliminary proposals and suggestions, prioritising the most important ones to take forward, including any new ideas that might emerge from the discussions, and fleshing out the required follow-up action in more detail. Working Group 1 considered the issues in Objective I (Reducing direct and indirect causes of marine turtle mortality); Working Group 2 dealt with Objective II (Protecting, conserving and rehabilitating marine turtle habitats) and Objective III (Improving understanding of marine turtle ecology and populations); while Working Group 3 covered Objective IV (Increasing public awareness and enhancing public participation), Objective V (Enhancing national, regional and international cooperation) and Objective VI (Promoting and supporting implementation). The deliberations of each of the working groups are summarised in Annexes 4a, 4b and 4c, as reported by each of the groups' rapporteurs.

18. Following the presentation in plenary of summaries of the deliberations of each of the working groups, the meeting agreed by consensus that the following issues were the highest priorities for IOSEA to address in the immediate future: (1) illegal direct take of marine turtles; (2) identification of index beaches associated with genetic stocks; (3) capacity-building in support of Signatory State efforts; (4) investigation of indirect take in legal fisheries; and (5) socio-economic considerations, particularly stakeholder engagement. Other issues were identified by some Signatory States as meriting further action, but were considered by the meeting to be of lesser importance.

19. It was noted that most of the areas identified by Signatory States as high priorities corresponded closely with issues that the Advisory Committee had reflected upon during its recent meeting. In each instance, the Committee had identified a mechanism that might be pursued in the coming biennium to make progress towards the desired conservation outcomes, and some of the ideas had also been raised in the working groups.

20. The Advisory Committee had identified a pressing need to understand the geographic, taxonomic and economic scope and magnitude of illegal fishing as it relates to marine turtles and their habitats. The report of the Committee's deliberations outlined a number of fundamental questions in need of reliable answers, particularly with regard to impacts, markets, mitigation measures, and recommended actions. The Advisory Committee suggested some practical ways of making progress in these areas, through commissioned reviews (e.g., in collaboration with the non-governmental organisation TRAFFIC, the fisheries sector and community-based studies) and prescribed student projects (ranging from semester-long reviews / course work, to Masters or PhD level theses).

21. In the plenary discussion that followed, it was noted that greater interaction with the Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES) would be beneficial; and it was recommended that the IOSEA Secretariat take advantage of the CITES Meeting of the Conference of the Parties (scheduled to take place in Bangkok in 2013) to engage CITES on this issue. The observer from the Convention on Migratory Species (CMS) clarified that her organisation had agreed a joint programme with CITES to work together intersessionally on various issues, including marine turtles. She volunteered to work with the IOSEA Secretariat on advancing the work programme in relation to turtle issues. The Coordinator agreed that collaboration with CITES and TRAFFIC would be important for making progress in this particular area of concern.

22. The Advisory Committee considered it essential to have adequate procedures in place for long-term monitoring to be able to assess trends in population size, and thereby evaluate the effectiveness of conservation interventions. This would entail identification and mapping of genetic stocks for each species in the IOSEA region, and establishment of at least one appropriate index nesting beach for each genetic stock of each species. For each index beach, it would be essential for a responsible agency to make a commitment to conduct regular, standardized monitoring over decades in order to estimate turtle numbers, irrespective of financial and other challenges that may occur over the years.

23. The Advisory Committee developed a template to facilitate the establishment and evaluation of index beaches; and Dr. Colin Limpus offered to consult with Dr. Nancy FitzSimmons, a geneticist with extensive experience in the IOSEA region, to create a listing and geographic mapping of known and suspected genetic stocks for each species in the IOSEA region.

24. The Advisory Commitee discussed the diverse methods of training and capacity building that could be used, ranging from regional courses and symposia, with core modules, to training activities tailored to specific needs of an identified audience. Particular importance was given to the unique value of graduate level training, with the view to nurturing highly trained and competent individuals who would subsequently serve as resident, in-country trainers. The Committee identified a need to have a clear institutional vision for the training / capacity building activity – for example by developing a "certification" process for IOSEA trainers – as well as a need for better integration of Advisory Committee member efforts.

25. Dr. Jeff Miller was invited to inform the plenary of how the Advisory Committee intended to proceed in the matter raised above. He agreed to revise and recirculate Annex 4 of document MT-IOSEA/SS.6/Doc. 8 (Draft road map for the further development of the IOSEA Marine Turtle Training Course / Capacity-Building Programme) among the Advisory Committee's roster of training experts and country representatives to come up with the best way to deal with this activity and to engage Signatory States. He would then analyse the results and consult with the Advisory Committee about putting together a document to advance the process.

26. The representative of Oman commented that as capacity-building needs might differ from sub-region to sub-region, it could be useful to identify gaps and then impart capacity-building information not only through IOSEA, but also in bilateral or sub-regional cooperative arrangements. The Coordinator noted that the two approaches mentioned were completely compatible and complementary.

27. The Meeting was referred to the Advisory Committee's deliberations concerning indirect take (incidental capture) of marine turtles in legal fisheries, which found that the information currently available in IOSEA National Reports was not adequate to be able to develop well-substantiated mitigation and management plans and actions. The Committee had proposed a number of actions to better understand these negative impacts on marine turtles, including collection and compilation of data on turtle bycatch in legal fisheries; as well as better reporting on levels of fisheries (e.g., effort, gear type, etc.) and their impacts on turtles. Where uncertainty existed regarding minimum / optimal data, the Advisory Committee could provide guidance on the minimum data that must be available and reported on. It further recommended that examples of data, data sources, and data gathering methods from different countries in the IOSEA region should be sought. The Committee recommended that these actions should be undertaken by Signatory States, with support from dedicated studies, such as by specialists from pertinent fisheries organisations, graduate students, consultants, and others.

28. In the discussion of follow-through actions for dealing with socio-economic considerations, it was acknowledged that the topic was too broad to pinpoint specific actions since there were three large components associated with it, namely: reducing adverse economic incentives, developing alternative livelihood opportunities, and promoting public participation and engagement of stakeholders. The Advisory Committee had discussed each of these topics and noted that more information needed to be gathered through specialised studies. Ultimately, the Meeting decided that a compilation of lessons learned and best practices in the areas of public participation and stakeholder engagement, perhaps by a graduate student, would be a useful output to have for the next Meeting.

29. As the discussion on the matter drew to a close, the Coordinator expressed satisfaction that the Meeting had identified five priorities that matched quite closely the advice given by the Advisory Committee, whose deliberations had also touched on a number of other areas of concern. He undertook to canvass the Signatory States further, in due course, about the modalities of making progress in each of the five areas before the next Meeting.

(b) Review of past and current species assessments

30. Dr. Mark Hamann, Advisory Committee member, informed the Meeting that an incomplete draft assessment of the conservation of status of loggerhead turtles had been worked on intersessionally, and had recently been circulated within the Advisory Committee for review and comment. As such, it had not been distributed more widely in advance of the present SS6 meeting, but it was available as Information Document 14 on the IOSEA website. The assessment would have a similar structure to that prepared in 2006 for the leatherback turtle, and it was hoped to finalise the document by mid-2012. The exercise had been complicated by two concurrent assessments for species, and the need to avoid duplication as well as take advantage of the most recent information.

31. Summarising the findings of the assessment thus far, Dr. Hamann explained that loggerhead turtles nested in 10 nations within the Indian and Pacific Ocean basins, seven of which were IOSEA Signatory States, and foraged within the Exclusive Economic Zones (EEZ) of 22 Signatory States. Five genetically distinct populations / management units of loggerhead turtles existed within the IOSEA region. He cited two population assessments of breeding locations completed recently which, for the most part, had derived similar conclusions but also had some major differences which needed to be further analysed. Some information gaps that remained included the need for more bycatch data, more information about loggerhead turtles found in marine protected areas (MPAs), and integration of

information from other reports. The recommendations for additional conservation action focussed specifically on loggerhead turtles included genetics work and population identification in Sri Lanka, analysis of existing data from the Northwest Indian Ocean management unit, collection of species-specific bycatch and mortality data, understanding hatchling and post-hatchling dispersal in the Indian Ocean, initiation of studies to assess the vulnerability of loggerhead turtle management units to climate change, and foraging area surveys to quantify abundance, and demography of loggerhead turtles in coastal waters.

32. The representative of the United States expressed a strong interest in the document under development. Dr. Hamann expressed his readiness to receive comments on the interim draft, and it was agreed that the Secretariat would circulate the next version to Signatory States prior to the document's finalisation later in the year.

33. Dr. Ronel Nel gave an overview of recent efforts undertaken to revisit the 2006 Leatherback assessment, with a view to updating basic information on the species' conservation status, as well as identifying progress made towards filling important information gaps and areas in need of further work. The exercise also provided for the development of specific project concepts to take forward some of the key recommendations that had been proposed in the 2006 assessment, but not yet been acted upon. Some ideas had already been discussed and these would be included in an updated document expected to be completed and circulated in April 2012.

34. In response to one of the gaps cited – namely the absence of data on marine turtle bycatch – the representative of Australia inquired if the Secretariat could contact its counterpart for the Indian Ocean Tuna Commission (IOTC) about this matter. The Coordinator said the IOSEA Secretariat could use IOTC Resolution 09/06 as an approach to seek any available data and at the same time suggest that IOTC participate reciprocally in future IOSEA meetings. The Chair of the Advisory Committee noted that collaboration with IOTC was very important, but also pointed out that the data on bycatch would be difficult to obtain as the space in international fishing vessels designated for IOTC observers was currently being utilised by security personnel due to piracy concerns in the region.

(c) National networks / committees

35. The Coordinator introduced document MT-IOSEA/SS.6/Doc. 12, pertaining to cooperation among government and non-government sectors in the conservation of marine turtles and their habitats, an important element of the IOSEA CMP. The Secretariat had sent a questionnaire to Signatory States to solicit feedback on existing initiatives or actions relating to the establishment and operation of national networks or committees, an exercise also undertaken prior to the previous meeting of Signatory States. Completed questionnaires had been received from eight Signatory States: France, Madagascar, Myanmar, Papua New Guinea, Philippines, United Republic of Tanzania, United Kingdom and United States. The response rate to the current questionnaire lagged behind the substantial positive number received for the last meeting; nevertheless paragraph 10 of the document provided conclusions and observations drawn from the surveys.

36. Among the new responses to the questionnaire, one from the United Republic of Tanzania was singled out as being particularly informative and providing a good example of a country making a concerted effort in the area of inter-agency consultation despite limited resources. The representative of Pakistan announced that his country was in the process of establishing a national committee, and would pass on the details to the Secretariat in due course. The representatives of France and Madagascar indicated their readiness to submit their completed questionnaires shortly.

(d) Sub-regional groups and related coordination mechanisms

37. The Coordinator referred participants to document MT-IOSEA/SS.6/Doc.2-Addendum as guidance for the sub-regional working group consultations, which allowed for exchange of ideas and experiences among the four IOSEA sub-regional designations, namely South-East Asia+, Northern Indian Ocean, Northwest Indian Ocean and Western Indian Ocean.

38. As the groups had found it difficult to cover all points indicated in the outline at the last meeting, the Coordinator suggested that they prioritise their time on matters concerning *new* developments since 2008, rather than allocate time for routine country presentations. Attention was drawn to a substitution to be made in place of point 9, namely: 'How to increase the engagement of IOSEA Focal Points between Signatory State meetings'; and to the importance of discussing the status of sub-regional Focal Points.

39. Each of the four groups met twice during the course of the week, and reported to the plenary on their deliberations through rapporteurs. Annexes 5a-d contain summaries of each group's discussions. Regarding the confirmation of sub-regional Focal Point representation, it was decided in the respective consultations that Indonesia would continue to represent the South-East Asia+ group, India and United Arab Emirates would carry on as representatives of the Northern and Northwest Indian Ocean groups, respectively, while Madagascar would take over as the representative of the Western Indian Ocean group.

(e) Current use and further development of online implementation tools

40. The Coordinator expressed regret that there was not enough time to present in detail some of the online tools that supported implementation of the IOSEA Marine Turtle MoU. However, there had been discussion of some of the tools in the sub-regional groups; while the Bibliography Resource had been mentioned elsewhere in the agenda and the Satellite Tracking Metadabase had been presented in one of the workshops.

Agenda item 8: Consideration of major thematic issues

(a) Proposal for the establishment of a network of sites of importance for marine turtles

41. The Coordinator introduced document MT-IOSEA/SS.6/Doc.7, which gave an overview of the main objectives of the Site Network proposal, described in two accompanying papers. The first paper, Working Paper #1, explained the rationale for the site network and outlined the process for site nomination and evaluation of candidate sites, as well as alternative approaches for coordinated governance of the network sites. The second paper, Working Paper # 2, presented the detailed suite of criteria that would be used to evaluate the suitability of sites for inclusion in the network.

42. Ms. Alexis Gutierrez, representative of the United States and Chair of the Site Network Working Group, gave an account of the history of the proposal since its conception at the Second Meeting of Signatory States in 2004. She highlighted some of the roadblocks and key steps in the development process including, among others, a lack of capacity in the early stages, the creation of an intersessional working group by the Fifth Meeting of IOSEA Signatory States in 2008, and the hiring of a consultant in April 2010 to further develop and refine the proposal in close collaboration with the Secretariat, members of the Working Group, the IOSEA Advisory Committee and other experts. She concluded her remarks by noting that the proposal had progressed significantly and was now ready for the Signatory States to agree to take it to the next phase of implementation. The Coordinator went on to explain that one of the expected outcomes of the present Meeting was the endorsement of the proposal, after incorporation of comments submitted in writing to the Working Group, as well as points raised in plenarydiscussions and further consultations of the Working Group.

43. In the initial feedback, the representative of the Islamic Republic of Iran expressed support for the proposal but sought clarification about the funding mechanism. The Coordinator briefly outlined the three options discussed in Working Paper #1, which envisaged the possibility of limited or no new funding, moderate new funding, or substantial new funding. A few delegates mentioned parallel mechanisms for other species already being undertaken and raised the possibility of synergy among the various initiatives. The representative of Bangladesh noted the existence of a similar network of sites of importance for birds, from which lessons might be drawn. The observer from the Convention on Migratory Species commended the Signatory States for taking the proposal forward and also suggested they take into account comparable mechanisms for birds under CMS and other agreements. The representative of India focused on the benefit of collaborating with non-governmental organisations in the site management and raised the need to clarify how the proposal would be taken forward if it were to be endorsed.

44. Ms. Gutierrez summarised some of the issues that had been raised and addressed in writing or during the consultations, which would form the basis for a resolution to adopt the proposal. It had been clarified that the initiative was non-binding and based on regional cooperation, and that it would seek to avoid duplication of effort. The proposal spelled out the site nomination process, with the timing for submissions set at six months prior to each Meeting of Signatory States. This took into account the capacity of the Advisory Committee to analyse the submissions (with a possibility of engaging outside experts to fill the gaps), and recognised the role of the Signatory States and the potential role of sub-regional groups. It was further clarified that all site nominations must be formally submitted from a government body, and that the evaluation criteria should be considered a "living document' subject to periodic revision.

45. The representative of United Arab Emirates stressed the need to integrate aspects of marine turtle conservation with other conservation efforts. The representative of the United Republic of Tanzania suggested further that the site management plans foreseen under the initiative should also cover other species, to enhance their utility when presented to government authorities.

46. Upon request, a member of the Advisory Committee presented a test case for the evaluation criteria based on the Torres Strait, lying between Australia and New Guinea. He described the characteristics of the area with regard to turtles, pointing out that it could not be declared an MPA due to state legislation that had given indigenous people ownership of the land. However, it might be an example of an area that would benefit from enhanced recognition through a non-binding site nomination.

47. The Coordinator introduced for the Meeting's consideration a draft resolution that would serve the purpose of adopting the Site Network proposal. The representative of United Arab Emirates stressed that site nominations were to be submitted by Signatory States, while emphasising the need to the role of IOSEA in providing technical oversight and international legitimacy to cooperative conservation efforts in the region.

48. On 26 January, the Meeting formally adopted the Resolution to Establish the IOSEA Network of Sites of Importance for Marine Turtles in the Indian Ocean – South-East Asia Region, culminating the extensive discussions held in the margins and presentations made in the plenary. The resolution, reproduced in Annex 6, calls for the establishment of a network of sites of importance for marine turtles, based on a suite of robust criteria, with the formal launch to take place at the Seventh Meeting of IOSEA Signatory States, anticipated to be held in the first half of 2014.

(b) Further development of the IOSEA technical support / capacity-building programme

49. The Coordinator provided an overview of the IOSEA Technical Support / Capacity Building Programme as described in document MT-IOSEA/SS.6/Doc.8. With money secured from the United States' Marine Turtle Conservation Fund, IOSEA had sponsored a training workshop in Mozambique and a national workshop in Madagascar; and another training workshop was planned in Myanmar. Notwithstanding the success of the activities carried out, it had been a challenge for the Secretariat to secure interest in the programme from eligible Signatory States. He sought advice from the Meeting as to whether the Secretariat should continue to seek funding for the programme.

50. Following the presentation, representatives of Bangladesh, India, Maldives, Mauritius and Sri Lanka expressed interest in receiving technical support, while the representative of Madagascar spoke positively about his country's experience with the programme. Specifically, the representative of Bangladesh said his country needed technical support in developing a national database and in satellite tracking, while the representative of Sri Lanka said his country required capacity-building assistance in satellite tracking, data collection and increasing public awareness. As a result of the positive response, the Coordinator agreed to re-circulate application forms for the programme to IOSEA Focal Points, as a first step in the process of trying to secure additional funding.

51. Dr. Jeff Miller, a member of the Advisory Committee, elaborated further on the deliberations that had taken place in the Advisory Committee on the topic of technical support and capacity-building. He had agreed to take the lead in revising the "road map" for delivery of future technical support, in close consultation with other colleagues serving on the Advisory Committee and interested Focal Points. The Committee had acknowledged a pressing need for members of the IOSEA training roster to interact and collaborate more to complement each other and their specific training projects. The planned review would take a more in-depth look into training needs and funding requirements as well as explore ways to build awareness of the training capabilities of IOSEA.

(c) Thematic workshops / expert presentations

52. Two thematic workshops and two expert presentations were integrated into the programme of the Meeting. The workshops covered the topics of: (1) satellite tracking in the IOSEA region; and (2) impacts of climate change on marine turtles and possible mitigation strategies. The format included presentations, question / answer sessions with invited experts, and group discussions among participants. The topics of the two stand-alone expert presentations were spatial planning tools and international data sharing systems.

53. Dr. Peter Richardson organised and facilitated the satellite tracking workshop. He explained that the workshop was not meant to be technical in nature, but rather an analysis of satellite tracking conducted in the region, and how to take advantage of the information it could provide. His introductory presentation described the benefits and shortcomings of satellite tracking, how it supported the IOSEA Conservation and Management Plan, and included details of satellite tracking coverage per species from a regional perspective. He noted that key considerations in undertaking satellite tracking studies were the expense involved, the need to prioritise research, and ethical questions associated with the treatment of the animals being tracked.

54. Following the presentation, a panel of experts comprising Advisory Committee members and other experts fielded questions from the floor, and offered further insights into fundamental questions to be considered before deciding to conduct satellite tracking work. Finally, four sub-regional break-out groups were convened to identify management priorities that satellite tracking might help to address, as well as particular species / populations in need of tracking coverage, and to suggests ways in which IOSEA might support national satellite tracking efforts. A summary report of the workshop appears in Annex 7.

55. Dr. Colin Limpus convened the second workshop on climate change and mitigation strategies, which provided an opportunity for participants to discuss issues of concern regarding management of marine turtles in the context of global climate change. The workshop included three technical presentations (delivered by Dr. Limpus and Dr. Mark Hamann) covering the biological background to global warming impacts on turtle egg incubation, hatchery management in response to warming beaches, and the impact of extreme climate events on foraging turtles and dugongs in eastern Australia. Following the presentations, a four-member expert panel engaged in a group discussion with the meeting participants. The responses stressed the importance of maintaining resilience in the ecosystem, and of obtaining long-term monitoring information which would provide a better foundation for responding with mitigation approaches.

56. The presentation of Dr. Ronel Nel, "Using Spatial Planning Tools to Identify Areas of High Conservation Priority for Sea Turtles", focussed on the need to integrate data collected regionally through spatial planning more efficiently in order to identify high risk areas and high priority conservation areas for turtles. Her presentation included an outline of spatial planning tools, such as GIS and Marxan, together with an explanation of how they could be applied to fill knowledge gaps and analyse socio-economic features, as well as be used for forecasting. A demonstration was given of the process and results of a mapping exercise for turtle nesting sites in the Mozambique Channel.

57. Prof. Pat Halpin delivered the second expert presentation, entitled "OBIS-SEAMAP & SWOT information systems: A tool for exchanging data on sea turtles in the IOSEA region." His presentation included an introduction to three data sharing systems, iOBIS, OBIS-SEAMAP and SWOT, as well as a discussion of relevant tools and technologies for the IOSEA region, and a review of the potential use of data sharing systems in identifying ecologically or biologically significant areas (EBSAs), an activity supported by the Convention on Biological Diversity (CBD).

Agenda item 9: Institutional matters

(a) IOSEA Focal Point roles and responsibilities

58. The Coordinator introduced document MT-IOSEA/SS.6/Doc.11, "Terms of Reference and Guidance for IOSEA Focal Points', explaining that the paper had already been circulated for comment and provisional use since late 2009. The aim was to clarify the general roles and responsibilities of IOSEA Focal Points, and to offer guidance to assist Focal Points in their intersessional work, as well as in the preparation for future meetings of the Signatory States. Following amendments introduced by the representative of the United Kingdom to paragraph 14 and to the introductory paragraph, which were supported by the representative of the United States, the Meeting formally adopted the Terms of Reference and Guidance for IOSEA Focal Points, reproduced in Annex 8.

(b) Proposal for creation of an intersessional executive committee

59. The Coordinator referred delegates to document MT-IOSEA/SS.6/Doc. 14, which invited the Signatory States to consider the merits of strengthening linkages between the four IOSEA sub-regions and the Secretariat through a modest extension of the existing sub-regional Focal Point arrangements. In that regard, he suggested that one approach would be to encourage the sub-regional focal points, the Secretariat and the Advisory Committee chair to interact more frequently to exchange information. There was some discussion as to the need and feasibility of having meetings in person, however the financial implications needed to be considered. The representative of India suggested that the South Asian Association for Regional Cooperation (SAARC) secretariat might play a role in facilitating exchange of information and dialogue in the Northern Indian Ocean sub-region. The Meeting agreed that the suggestion of a periodic conference call, involving the four sub-regional Focal Points, the Chair of the Advisory Committee or his / her representative, and the Secretariat should be captured in the Terms of Reference and Guidance for IOSEA Focal Points (as a new paragraph 9, Annex 2).

(c) Advisory Committee membership and tasks

60. The Coordinator introduced document MT-IOSEA/SS.6/Doc. 13, which described the current membership of the Advisory Committee, anticipated vacancies, and the status of new nominations. Since the circulation of the document in mid-November 2011, only one new nomination had been received, from the United Kingdom, within the 60-day deadline for such submissions. Concern was expressed that two long-serving members of the Advisory Committee were scheduled to stand down after serving their full terms, and the Committee would not maintain its current size because more nominations from Signatory States had not been forthcoming.

61. A proposal from the floor to re-nominate one of the members who was due to stand down prompted a lengthy discussion of whether or not the proposal was in line with the terms of reference of the Advisory Committee (document MT-IOSEA/SS.6/Doc.13, Annex 1) - in particular, whether the 60-day rule for nominations should apply also to re-nominations. A working group, comprising the representatives of India, Malaysia, Pakistan, and Thailand, was formed to review the one nomination that had been received in accordance with the Advisory Committee's existing terms of reference, and to make a proposal of new text for inclusion in the terms of reference that would help to clarify the case of re-nominations.

62. The representative of India chaired the working group and presented its findings and recommendations to the Meeting. The working group recommended that the nomination of Dr. Manjula Tiwari, originally submitted by the United Kingdom, be endorsed by the Meeting. The group also proposed that Advisory Committee members could be eligible for re-nomination and reappointment at meetings of the Signatory States, after being proposed for nomination by a Signatory State, seconded by another and agreed by consensus of the Meeting. It proposed that the requirement of 60-day notice and other documentation be waived in such instances, since the nominee will already have served as a member of the Advisory Committee.

63. After further discussion, the Meeting accepted the proposed changes to paragraph 3 of the Committee's terms of reference. The revised terms of reference for the Advisory Committee are reproduced in Annex 9. With the Meeting's acceptance of the principle of in-session re-nomination, the representative of Jordan proposed that Mr. Ali Al-Kiyumi be re-appointed to the Committee, with his agreement. Similarly, the representative of Philippines proposed that Mr. Bundit Chokesanguan be re-appointed to the Committee, with his agreement. In conclusion, the Meeting formally endorsed the nomination of Dr. Manjula Tiwari and the re-nomination of both Mr. Al-Kiyumi and Mr. Chokesanguan. Finally, the Meeting agreed that the Advisory Chair should write to one inactive member of the Committee with a view to confirming that her position on the Committee would be vacated and possibly filled inter-sessionally.

64. The representative of Australia suggested that the Advisory Committee should meet three days prior to the next Meeting of Signatory States in order to give them ample time to issue the Advisory Committee report. She stated that the report prepared for the meeting was excellent, but it had been finalised too late and would be most beneficial if it were available at the start of the meeting. The suggestion was supported by the representative of the United States.

(d) Collaboration with other organisations

65. The Report of the Secretariat (document MT-IOSEA/SS.6/Doc.5) called attention to working relationships that had been developed, in varying degrees, with various intergovernmantal and non-governmental organisations operating in the region. These included the Indian Ocean Tuna Commission (IOTC), the Southeast Asian Fisheries Development Center (SEAFDEC), the Bay of Bengal Large Marine Ecosystem Project (BOBLME), the Regional Organization for the Protection of the Marine Environment (ROPME), and WWF. The collaboration ranged from sharing information and

provision of advice, participation in relevant meetings, and implementation of specialised project activities. It was noted that there was still scope for greater collaboration, to the extent that secretariat capacity allowed, and reciprocal participation in IOSEA meetings by partner organisations. In the discussion of this item, it was suggested that IOTC, in particular, should be approached with a view to obtaining bycatch data from international fishing vessels.

(e) Timetable for possible amendment of the legal character of the MoU

66. The Signatory States agreed to delete from the agenda of the next meeting consideration of amending the legal character of the IOSEA MoU, while maintaining the option of reinstating it at later meetings upon request of any Signatory. It was also agreed the Secretariat would continue to monitor Signatory State views on the matter, via their national reports, in case it were raised by a majority of Signatory States as warranting discussion at a future meeting. The decision to defer discussion came after the Coordinator informed the Meeting that interest to transform the MoU to a legally binding instrument appeared tepid. The results of an analysis of the latest country reports were similar to a previous poll, with about one-third of the Signatories in favour of upgrading the MoU's status, one-third opposed, and the remainder of those responding having no view. Only 13 Signatories responded to the question over a longer horizon, and the results were inconclusive.

67. The representative of the United Arab Emirates inquired about the feasibility of doing a study of the pros and cons of amending the legal status, and presenting the results at the next meeting. The Coordinator noted that such an approach seemed reasonable, but that securing funding for such an exercise would be difficult in view of the apparent limited interest in moving away from the status quo.

(f) Forthcoming meetings and events of relevance to IOSEA

68. Meeting participants provided details of a number of upcoming meetings and events of relevance to IOSEA, and it was agreed that the Secretariat would share the information via the 'Dates of Interest' calendar on the IOSEA website, which is updated regularly for that purpose.

(g) Next Meeting of the Signatory States

69. The Meeting agreed with the Coordinator's suggestion that the next Meeting of IOSEA Signatory States be held about two years hence, during the first half of 2014. In proposing that time frame, he explained that momentum had been lost due to the much longer than usual three and a half years gap between the present Meeting and the previous one. A considerable amount of time and energy had been spent trying to secure a host country for the meeting, an effort that was ultimately unsuccessful; and the meeting was further delayed on account of the flooding in Thailand.

Agenda item 10: Financial and administrative matters

(a) Review of expenditures and status of voluntary contributions

70. The Coordinator introduced document MT-IOSEA/SS.5/Doc.11 containing information on the status of voluntary contributions, expenditures for 2008-2011 and budget estimates for 2012-2014. He explained that since the Fifth Meeting of Signatory States, held in 2008, IOSEA operational costs had been sustained mainly by the voluntary contributions of five countries: United States, Australia, United Kingdom, France and South Africa. Additionally, an appeal made in Bali to widen the base of the Trust Fund had succeeded in attracting new voluntary contributions from India, Oman, Thailand, Mauritius and Myanmar. The Secretariat continued to benefit from office space and administrative support provided by the United Nations Environment Programme. In terms of staffing, the Secretariat employed a team assistant and had also benefited from several short-term interns and a voluntary placement from

CMS. He explained that more full-time staff was needed, but he recognised that financial constraints made it unlikely that sufficient resources would be made available to fund an additional post.

71. Referring to Annex 1 of the document, containing a table that summarised the status of voluntary contributions, income and grants as of 28 November 2011, the Coordinator noted that the level of voluntary contributions over the past three years had kept pace with expenditures, putting IOSEA in a somewhat better financial situation. However, the financial status was by no means secure due to continuing dependence on a relatively small number of donors. Furthermore, the UNEP administrator of the IOSEA Trust Fund had recommended that the Signatory States establish a modest reserve to ensure programme continuity.

(b) Work programme and indicative budget for 2012-2014

72. The Coordinator presented an indicative budget for 2012-2014, which averaged USD 330,000 per annum, the modest increase being due mainly to a provision for small-scale project activities. That figure was used as a basis for calculating the indicative level of voluntary contribution for each IOSEA Signatory State, according to a modified United Nations Scale of Assessment. He pointed out that the budget included, for the first time, an annual assessment of USD 11,065 for office space. Whereas the IOSEA Secretariat had benefitted from free office space for the past eight years, going forward UNEP wished to treat all co-located entities within the regional office similarly.

73. The representative of France questioned whether the cost of rent was not covered by the 13 percent overhead charge levied by UNEP on each voluntary contribution to IOSEA. She also indicated that France had a reservation about the proposal for a voluntary contribution based on the United Nations scale of assessment which, in its view, may not promote additional voluntary contributions. She inquired about the feasibility for the Secretariat to ask the main donors for financial support for specific projects, which would facilitate negotiations with the French finance authorities and would be easier to justify than a fixed voluntary contribution. Finally, she drew attention to a possible additional source of financial support announced by UNEP during the 10th Meeting of the Conference of the Parties to CMS (held in Bergen in November 2011), consisting of 200.000 Euros available for micro-projects dedicated to CMS species. She requested the Secretariat to provide Signatory States with details about the procedures for accessing the funds, since this might represent a possible source of finance for IOSEA Signatory States / NGOs to launch pilot projects on marine turtles.

74. Regarding the first point, the Coordinator responded that UNEP overheads did not cover office space and that he considered UNEP's request not unreasonable since IOSEA had benefitted greatly from its unique co-location arrangement over the years. On the second matter, he noted that if all Signatory States were to link their voluntary contributions to specific projects, there would be no funds to cover the basic operational costs of the organisation.

75. In the discussion that followed, the representative of Oman thanked the main donors for their continued support to IOSEA. He said his country would continue to contribute to the organisation in the coming years and called on other countries to do so as well. The representative of Mauritius said his country had received a letter from the Secretariat indicating the suggested contribution for 2011 and it planned to contribute that amount. The representative of the United States said her country would strive to meet the indicative amount for the coming years. She requested that footnote 1 in Annex 5 be removed, noting that three different agencies were involved in the United States' contribution. The representatives of Indonesia and the United Kingdom indicated that they were not in a position, during the present meeting, to confirm their capacity to contribute the stipulated amount as this would require further internal consultation. The representative of Australia expressed support for using the indicative table for computing voluntary contributions, but said it must be made clear that the indicated contributions were non-binding.

76. The Coordinator clarified that some Signatory States had indicated it would be helpful, for administrative purposes, to receive a letter from the Secretariat specifying a specific amount for a suggested voluntary contribution. However, this need to send or receive such a letter was not universal. The representatives of Australia and France indicated that they would not wish to receive a letter stipulating a specific amount. Finally, the Meeting endorsed the proposed budget for 2012-2014 and indicative scale of voluntary contributions, reproduced in Annex 10, with the understanding that fulfilment of the programmed budget lines depended on realising the anticipated voluntary contributions.

(c) Additional sources of funding and support for coordination and implementation

77. Using her own country as an example, the representative of Australia suggested that so-called "offsetting arrangements" with major industrial development projects, such as oil and gas exploration, could be explored as a possible new source of funding.

Agenda item 11: Any other business

78. On behalf of IOSEA, the Coordinator paid tribute to two Advisory Committee members, Dr. Colin Limpus and Dr. Jack Frazier, whose lifelong service to marine turtle conservation had preceded the advent of the IOSEA Marine Turtle MoU, and he presented each with a plaque to formally recognise their enormous contributions.

Agenda item 12: Closure of the Meeting

79. The Chairman congratulated the Secretariat for the organisation of a successful meeting and thanked the Advisory Committee for its sound advice. He noted that the IOSEA Marine Turtle MoU had made considerable progress in the recent years, and he expressed hope that activities aimed at marine turtle conservation would continue apace. In turn, the Coordinator thanked the Chairman and the small staff of the Secretariat for their vital support to the meeting. After participants were reminded of a study tour planned for the following day, the Meeting was officially closed at 1730 on 26 January.

ANNEX 1: LIST OF PARTICIPANTS

REPRESENTATIVES OF SIGNATORY STATES

Ms. Lesley Gidding
Director
Species Conservation Section,
Marine Division,
Department of Sustainability,
Environment, Water, Population
and Communities
GPO Box 787
Canberra ACT 2601
Australia

Tel: (+61 2) 6274 1030
Fax: (+61 2) 6274 1897
Email:
Lesley.Gidding@environment.gov.au

Dr. Colin J. Limpus
Chief Scientist
Aquatic Threatened Species
and Threatening Processes,
Environment and Resource Sciences
Division, Department of Environment
and Resource Management
P.O. Box 2454
BRISBANE QLD 4001
Australia

Tel: (+61 7) 3170 5617 (office)
Fax: (+61 7) 3170 5800
Email: col.limpus@epa.qld.gov.au

Dr. Tapan Kumar Dey
Conservator of Forest
Forest Department,
Ministry of Environment and Forest
Ban Bhan, Agargaon,
Dhaka 1207
Bangladesh

Tel: (+88 02) 8181142
Fax: (+88 02) 8119453
Email: deytkcfwild@gmail.com

Mr. Heng Sovannara
Deputy Director
Department Fisheries Conservation,
Fisheries Addministration
#21 21st Tonle Bassac ChamcarMon
Phnom Penh
Cambodia

Tel: (+855) 23 217 205
Fax: (+855) 23 217 205
Email: h.sovannara@gmail.com

Dr. Françoise Claro
GTMF Coordinator
Service du Patrimoine Naturel (SPN),
Museum National d'Histoire Naturelle
57 Rue Cuvier CP 41
75231 PARIS CEDEX 05
France

Tel: (+33 1) 40793789
Fax: (+33 1) 40793793
Email: claro@mnhn.fr

Ms. Claire Jean
Project Executive -
Science Department
Kélonia, l'observatoire des tortues
marines
46 rue du Général de Gaulle
97436 Saint Leu
La Réunion
France

Tel: (+262) 262 34 81 10
Fax: (+262) 262 34 76 87
Email: clairejean@kelonia.org

Mr. Binod Chandra Choudhury
Head, Endangered Species
Management Department
Wildlife Institute of India
P.O. Box # 18, Chandrabani, Dehradun
UTTARANCHAL 248001
India

Tel: (+91 135) 264 0112 -115 x 205
Fax: (+91 135) 264 0117
Email: bcc@wii.gov.in

Ms. Ade Christie
Third Secretary
Embassy of **Indonesia** in Bangkok
600-602 Petchburi Road
Phyathai
BANGKOK 10400
Thailand

Tel: (+662) 252 3135-40
Fax: (+662) 255 1267
Email: adeveronica@gmail.com

Mr. Asghar Mobaraki
Expert Wildlife
and Aquatic Affairs Bureau,
Department of the Environment
Hemmat Highway, Pardisan E-co Park
P.O. Box 14155
TEHRAN 7383
Islamic Republic of Iran

Tel: (+98 21) 88233242
Fax: (+98 21) 882 44571
Email: amobaraki@yahoo.com

Dr. Mohammad Khalil Al-Zibdah
Associate Research Professor
for Marine Environment
Marine Science Station,
University of Jordan - Aqaba Branch
P.O. Box 195
AQABA 77110
Jordan

Tel: (+962 3) 201 5145
Fax: (+962 3) 201 3674
Email: zibdeh@ju.edu.jo

Dr. Mohamed Omar Said
Senior Scientist -
Coast Conservation Area
Kenya Wildlife Service
P.O. Box 82144
MOMBASA 80100
Kenya

Tel: (+254 41) 231 2744/45
Fax: (+254 41) 222 2612
Email: msaid@kws.go.ke

Dr. Pierre Herve Ravelonandro
Director
Centre National de Recherches sur
l'Environnement (CNRE)
B.P. 1739
34 Rue, Rasamimanana Fiadanana
ANTANANARIVO 101
Madagascar

Tel: (+261 32) 022 6161
Fax: (+261 20) 222 6469
Email: phravelona@yahoo.com

Mr. Gulamsarwar Bin Jan Mohamad
Director
Licensing and Resource Management Division,
Department of Fisheries Malaysia
Level 1, Tower Block 4G2,
Wisma Tani, Precinct 4, Federal Government Administrative Centre
62628 PUTRAJAYA
Malaysia

Tel: (+603) 8870 4406 # 4407
Fax: (+603) 8889 1233
Email: gulamsarwar@dof.gov.my

Dr. Mohamed Ali
Minister of State for Fisheries and Agriculture
Ministry of Fisheries and Agriculture
Velaanage, 7th Floor,
Ameer Ahmed Magu
MALE' 20096
Maldives

Tel: (+960) 332 2625
Fax: (+960) 332 6558
Email: mohamed.ali@fishagri.gov.mv

Mr. Devanand Norungee
Principal Fisheries Officer
Albion Fisheries Research Centre
Petite Rivere
ALBION
Mauritius

Tel: (+230) 238 4962
Fax: (+230) 238 4184
Email: dnorungee@mail.gov.mu

Mr. Aye Thwin
Assistant Director
Department of Fisheries
Corner of Bayint Naung Road and Bayint Naung Avenue,
West Gyogone, Insein T/S
YANGON
Myanmar

Tel: (+95 1) 647536
Fax: (+95 1) 647519
Email: athwinwill81@gmail.com

Mr. Ali Bin Amer Al-Kiyumi
Director General of Nature Conservation
Ministry of Environment and Climate Affairs
P.O. Box 323
MUSCAT 100
Oman

Tel: (+968 24) 602 285
Fax: (+968 24) 602 283
Email: alialkiyumi@gmail.com

Dr. Ahmed Mubarak Al-Saidi
Director
Conservation of the Marine Environment Department,
Ministry of Environment and Climate Affairs
P.O. Box 323, Al Kawair
MUSCAT 100
Oman

Tel: (+968) 244 04756
Fax: (+968) 246 91232
Email: amksaidi@yahoo.com

Mr. Muhammad Samar Hussain Khan
Assistant Secretary (Wildlife)
Ministry of National Disaster Management
Building 14-D second floor,
Markaz F-8
ISLAMABAD
Pakistan

Tel: (+92 51) 9262848
Fax: (+92 51) 9262270
Email: samar_baloch@yahoo.com

Mr. Renato D. Cruz
Supervising Ecosystems Management Specialist
Coastal & Marine Management Office,
Protected Areas and Wildlife Bureau,
Department of Environment and Natural Resources
Ninoy Aquino Parks and Wildlife Center, Quezon Avenue,
Diliman, Quezon City
METRO MANILA 1100
Philippines

Tel: (+63 2) 925 8948
Fax: (+63 2) 925 8948
Email: renatodalmaciocruz@yahoo.com.ph

Mr. H.D. (Dayawan) Ratnayake
Director General
Department of Wildlife Conservation
No. 5811/A Jayanthipura Road,
Battaramulla
WESTERN
Sri Lanka

Tel: (+94 11) 2888581
Fax: (+94 11) 2883355
Email: dayawanratnayake@yahoo.com

Mr. Mickmin Charuchinda
Marine and Coastal Ecosystems Specialist
Department of Marine and Coastal Resources
The Government Complex, 5th Fl.,
Building B, Chaengwattana Rd.,
Thungsonghong, Laksi
BANGKOK 10210
Thailand

Tel: (+66 2) 141 1237
Fax: (+66 2) 143 8675
Email: mickmin_charuchinda@yahoo.com

Dr. Maitree Duangsawasdi
Advisor
Department of Marine and Coastal Resources
The Government Complex, 5th Fl.,
Building B, Chaengwattana Rd.,
Thungsonghong, Laksi
BANGKOK 10210
Thailand

Dr. Kongkiat Kittiwattanawong
Chief of Marine Endangered Species Unit
Phuket Marine Biological Center
51 Sakdides Rd., Muang,
P.O.Box 60
PHUKET 83000
Thailand

Tel: (+66 76) 391 128
Fax: (+66 76) 391 127
Email: kkongkiat@gmail.com

Dr. Nawarat Krairapanond
Environmentalist,
Senior Professional Level
Office of Natural Resources and Environmental Policy and Planning
60/1 Phibulwattana 7 Rama VI Road,
Phrayathai
BANGKOK 10400
Thailand

Tel: (+66 2) 265 6563
Fax: (+66 2) 265 6684
Email: nawarat@onep.go.th

Mr. Somchai Mananunsap
Senior Marine Biologist
Southern Marine and Coastal Resources Research Center, Department of Marine and Coastal Resources
158 Moo 8, Phawong,
Muang Songkhla District
SONGKHLA 90100
Thailand

Tel: (+66 74) 324205
Fax: (+66 74) 312 557
Email: mannaisomchai@yahoo.com

Mr. Apisake Monthienvichienchai
Third Secretary
Development Affairs Division,
International Organizations Department,
Ministry of Foreign Affairs
Sri Ayudhya Rd.,
BANGKOK 10400
Thailand

Tel: (+66 2) 203 5000 ext 12115
Fax: (+66 2) 643 5080
Email: apisakem@mfa.go.th

Dr. Pinsak Suraswadi
Director of Marine Conservation and Rehabilitation Division
Department of Marine and Coastal Resources
The Government Complex Building B 120 Chaengwattana 7 Rd., Laksi
BANGKOK 10210
Thailand

Tel: (+66 2) 141 1342-3
Fax: (+662) 143 9264
Email: pinsak@hotmail.com

Mr. Kitti Wongrak
Attached in Air and Coastal Defense Operations Centre
Air and Coastal Defense Command
Royal Thai Navy,
Air and Coastal Defense Command,
Sattahip,
CHONBURI 20180
Thailand

Tel: (+66 38) 431318
Fax: (+66 38) 431318
Email: Kitti3491@yahoo.co.th

Dr. Thabit Zahran Al Abdessalaam
Director Biodiversity Management Sector
Environmental Agency - Abu Dhabi,
Marine and Environment Research Centre
Al Maamora A
P.O. Box 45553
ABU DHABI
United Arab Emirates

Tel: (+971 2) 693 4661 / 4658
Fax: (+971 2) 446 7966 / 4793
Email: tabdessalaam@ead.ae

Dr. Kelly Macleod
Marine Species Advisor
Joint Nature Conservation Committee (JNCC)
Inverdee House, Baxter Street,
Aberdeen AB11 9QA
United Kingdom

Tel: (+44 1224) 266550
Fax: (+44 1224) 896170
Email: Kelly.Macleod@jncc.gov.uk

Dr. Abdillahi Chande
Manager for Marine Parks and Reserve Unit
Ministry of Livestock and Fisheries Development (MLFD)
Olympio Street Plot No. 950
Dar es Salaam 7565
United Republic of Tanzania

Tel: (+255) (0) 222 150 621
Fax: (+255) (0) 222 150 621
Email: abdichande@yahoo.com

Ms. Alexis T. Gutierrez
Foreign Affairs Specialist
Office of Protected Resources,
National Marine Fisheries Service/NOAA/DOC
1315 East-West Highway
SILVER SPRING, MD 20910
United States of America

Tel: (+1 301) 713-2322
Fax: (+1 301) 713 4060
Email: alexis.gutierrez@noaa.gov

Ms. Marlene M. Menard
Foreign Service Officer
Department of State,
Office of Marine Conservation (OES / OMC)
2201 C Street, NW
Washington, DC 20520
United States of America

Tel: (+1 202) 647-2335
Fax:
Email: MenardMM@state.gov

INTER-GOVERNMENTAL ORGANISATIONS

Ms. Melanie Virtue
Agreement Officer
Convention on the Migratory Species of Wild Animals (CMS)
United Nations Premises
Hermann-Ehlers-Str. 10
BONN 53113
Germany

Tel: (+49 228) 815 2462
Fax:
Email: MVirtue@cms.int

Mr. Suppachai Ananpongsuk
Senior Fishery Researcher
Southeast Asian Fisheries Development Center (SEAFDEC) - Training Department
P.O. Box 97
Prasamut Chedi
SAMUT PRAKAN 10290
Thailand

Tel: (+66 2) 425 6180
Fax: (+66 2) 425 6111
Email: suppachai@seafdec.org

Ms. Haruko Okusu
Programme Officer
UNEP/DELC - Biodiversity MEA Focal Point for Asia / Pacific
UNEP Regional Office for Asia and the Pacific, UN Building 2nd Floor
Rajdamnern Nok Avenue
BANGKOK 10200
Thailand

Tel: (+66 2) 288 2102
Fax: (+66 2) 280 3829
Email: haruko.okusu@unep.org

Mr. Sayan Promjinda
Fishing Gear Technologist
Southeast Asian Fishereis Development Center (SEAFDEC)
Lamephapa, Prasamutjedee
SAMUT PRAKARN 10290
Thailand

Tel: (+66 2) 4256126
Fax: (+66 2) 4256111
Email: sayan@seafdec.org

THAI GOVERNMENT OBSERVERS

Dr. Kanjana Adulyanukosol
Senior Marine Biologist
Marine and Coastal Resources Research Center (the upper Gulf of Thailand), Department of Marine and Coastal Resources
120/1 Moo 6, Bangyapraek,
Muang SAMUT SAKHON 74000
Thailand

Tel: (+66 34) 497073
Fax: (+66 34) 497073
Email: k_adulyanukosol@hotmail.com

Mr. Surasak Thongsukdee
Fisheries Biologist (Professional level)
Marine and Coastal Resources Research Center
(the upper Gulf of Thailand),
Department of Marine and Coastal Resources
120/1 Moo 6, Bangyapraek,
Muang SAMUT SAKHON 74000
Thailand

Tel: (+66 34) 497073
Fax: (+66 34) 497073
Email: surasak43@gmail.com

Mr. Suthep Jualaong
Biologist
Marine and Coastal Rsources Research Center
(the eastern Gulf of Thailand),
Department of Marine and Coastal Resources
309 Moo 1, Tambol Paknam Prasae,
Klaeng District
RAYONG 21170
Thailand

Tel: (+66 38) 661 693
Fax: (+66 38) 661 694
Email: sutep.emcor@hotmail.com

Mr. Teerayut Srikum
Fishing Development Unit,
Department of Fisheries (DOF)
Eastern Marine Fisheries Research and Development Center,
Muang RAYONG 21160
Thailand

Tel: (+66 38) 651764
Fax: (+66 38) 651763
Email: emdec2003@yahoo.com

Ms. Chalatip Junchompoo
Marine Biologist
Marine and Coastal Resources Research Center
(the eastern Gulf of Thailand),
Department of Marine and Coastal Resources
309 Moo 1, Tambol Paknam Prasae,
Klaeng District
RAYONG 21170
Thailand

Tel: (+66 38) 661693
Fax: (+66 38) 661693
Email: junchompoo@yahoo.com

NON-GOVERNMENTAL ORGANISATIONS / ACADEMIC INSTITUTIONS (Order by Country)

Dr. Andrea Phillott
Associate Professor
Faculty of Science,
Asian University for Women
20/G M.M. Ali Road
CHITTAGONG 4000
Bangladesh

Email: andrea.phillott@auw.edu.bd

Ms. Sarah Brook
Flagship Species Officer
Fauna and Flora International (FFI) - Cambodia
#19, Street 360, Bouengkeng Kong 1,
PHNOM PENH
Cambodia

Tel: (+855) 1670 4745
Email: sarah.brook@fauna-flora.org

Ms. Lisa S. Perry
Programme Director
Emirates Wildlife Society - WWF
Business Point Building - Office 301
DUBAI
United Arab Emirates

Tel: (+971 4) 043549776
Email: lperry@ewswwf.ae

Ms. Marina Antonopoulou
Project Manager - Marine Conservation
Emirates Wildlife Society - World Wildlife Fund for Nature (EWSWWF)
Business Point Building - Office 301
DUBAI
United Arab Emirates

Tel: (+971 4) 43549776 Ext: 213
Email: mantonopoulou@ewswwf.ae

Dr. Patrick N. Halpin
Associate Professor of Marine Geospatial Ecology
OBIS-SEAMAP
A324 LSRC Building,
Nicholas School of the Environment - Duke University Marine Lab,
Duke University
Durham, NC 27708-0328
United States of America

Tel: (+1 919) 613 8062
Email: phalpin@duke.edu

ADVISORY COMMITTEE

Mr. Ali Bin Amer Al-Kiyumi
Director General of Nature Conservation
Ministry of Environment and Climate Affairs
P.O. Box 323
MUSCAT 100
Oman

Tel: (+968 24) 602 285
Fax: (+968 24) 602 283
Email: alialkiyumi@gmail.com

Mr. Bundit Chokesanguan
Information and Training Division
Head/Special Departmental Coordinator
Southeast Asian Fisheries Development Center (SEAFDEC)
Training Department,
P.O. Box 97 Phrasamutchedi
SAMUT PRAKAN 10290
Thailand

Tel: (+66 2) 425 6100
Fax: (+66 2) 425 6111
Email: bundit@seafdec.org

Dr. John (Jack) G. Frazier
Research Associate
Conservation & Research Center,
National Zoo, Smithsonian Institution
1500 Remount Rd.
FRONT ROYAL, VA 22630
United States of America

Tel: (+1 540) 635 6564
Fax: (+1 540) 635 6551
Email: kurma@shentel.net

Dr. Mark Hamann
Research Fellow -
Marine Turtles & Dugong Research
School of Earth and Environmental Sciences
James Cook University (JCU)
TOWNSVILLE QLD 4814
Australia

Tel: (+61 7) 4781 4491
Fax: (+61 7) 4781 5581
Email: mark.hamann@jcu.edu.au

Dr. Colin J. Limpus
Chief Scientist
Aquatic Threatened Species and Threatening Processes, Environment and Resource Sciences Division,
Department of Environment and Resource Management
P.O. Box 2454
BRISBANE QLD 4001
Australia

Tel: (+61 7) 3170 5617 (office)
Fax: (+61 7) 3170 5800
Email: col.limpus@epa.qld.gov.au

Dr. Jeffrey Dean (Jeff) Miller
Marine Turtle Specialist
Biological Research and Education Consultants
446 Dearborn Avenue, Missoula
MONTANA 59801
United States of America

Tel: (+1 406) 493 1572
Email: jeffmiller2209@hotmail.com

INVITED EXPERTS

Dr. Petronella (Ronel) Nel
The Nelson Mandela Metropolitan University (NMMU),
Department of Zoology
P.O. Box 77000
PORT ELIZABETH 6031
South Africa

Tel: (+27 41) 504 2335
Fax: (+27 41) 504 2317
Email: Ronel.Nel@nmmu.ac.za

Dr. Peter Richardson
Species Policy Officer
Marine Conservation Society
Unit 3, Wolf Business Park,
Alton Road,
Ross-on-Wye,
HEREFORDSHIRE HR9 5NB
United Kingdom

Tel: (+44 198) 956 6017
Fax: (+44 198) 956 7815
Email: peter.richardson@mcsuk.org

Mr. Syed Abdullah Syed Abd Kadir
Head of Turtle and
Marine Ecosystem Center
Fisheries Research Institute,
Department of Fisheries Malaysia
RANTAU ABANG, DUNGUN
21080 KUALA TERENGGANU
Malaysia

Tel: (+609) 845 8169
Fax: (+60 9) 845 8017
Email: syedjohor@gmail.com

SECRETARIAT

Mr. Douglas Hykle
Co-ordinator/Senior CMS Advisor
IOSEA Marine Turtle MoU Secretariat
c/o UNEP Regional Office for Asia and the Pacific
United Nations Building
Rajdamnern Nok Avenue
BANGKOK 10200
Thailand

Tel: (+66 2) 288 1471
Fax: (+66 2) 280 3829
Email: iosea@un.org

Ms. Patcharin Supitchakul
Team Assistant
IOSEA Marine Turtle MoU Secretariat
c/o UNEP Regional Office for Asia and the Pacific
United Nations Building
Rajdamnern Nok Avenue
BANGKOK 10200
Thailand

Tel: (+66 2) 288 2440
Fax: (+66 2) 280 3829
Email: supitchakul@un.org

Mr. Ari Askakry
Intern
IOSEA Marine Turtle MoU Secretariat
c/o UNEP Regional Office for Asia and the Pacific
United Nations Building
Rajdamnern Nok Avenue
BANGKOK 10200
Thailand

ANNEX 2: AGENDA

1. Welcoming remarks

2. Signature of the Memorandum of Understanding by additional States

3. Election of officers

4. Adoption of the agenda and schedule

5. Statements

6. Reports of the Secretariat and Advisory Committee
   (a) Report of the Secretariat
   (b) Report of the Advisory Committee Chair

7. Review of implementation progress of the memorandum of understanding
   (a) Synthesis of national reports – overview of MoU implementation
   (b) Review of past and current species assessments
   (c) National networks / committees
   (d) Sub-regional groups and related coordination mechanisms
   (e) Current use and further development of online implementation tools

8. Consideration of major thematic issues
   (a) Proposal for the establishment of a network of sites of importance for marine turtles
   (b) Further development of the IOSEA technical support / capacity-building programme
   (c) Thematic workshops / expert presentations

9. Institutional matters
   (a) IOSEA Focal Point roles and responsibilities
   (b) Proposal for creation of an intersessional executive committee
   (c) Advisory Committee membership and tasks
   (d) Collaboration with other organisations
   (e) Timetable for possible amendment of the legal character of the MoU
   (f) Forthcoming meetings and events of relevance to IOSEA
   (g) Next meeting of the Signatory States

10. Financial and administrative matters
    (a) Review of expenditures and status of voluntary contributions
    (b) Work programme and indicative budget for 2012-2014
    (c) Additional sources of funding and support for coordination and implementation

11. Any other business

12. Closure of the meeting

ANNEX 3: STATEMENTS OF SIGNATORY STATES

Opening Statement of the Government of Australia, Department of Sustainability, Environment, Water, Population and Communities

Sixth Meeting of Signatory States to the Indian Ocean - South-East Asian Marine Turtle MoU, Bangkok, Thailand, 23-27 January 2012

Australia welcomes the new Signatory States - Yemen, France, Mozambique, Maldives, and Papua New Guinea - noting that the IOSEA MoU has come into effect in time for these countries to play an active role in the 6th meeting. We are encouraged that further States may be signing the IOSEA MoU at this meeting, or may be considering signing the IOSEA MoU shortly. We strongly support those States to do so - your participation is important to the long-term success of the IOSEA MoU and to the effective conservation and management of marine turtles in the region.

Australia notes the importance of ongoing collaborations with regional initiatives for conservation and management of marine turtles such as The Memorandum of Understanding between Australia and Indonesia (1974) and the Secretariat of the Pacific Regional Environment Programme (SPREP) Marine Turtle Action Plan 2008-2012.

Australia would like to emphasise the wide distribution of marine turtles in the southern hemisphere and as a consequence the overlapping ranges between IOSEA and Pacific populations. Australia, as the ecological link between the South Pacific and South-east Asian regions, believes that it is important to engage the Pacific Island States in marine turtle related issues, encourage the continuation of this valuable and effective MoU and acknowledge the excellent work that the signatories to the IOSEA MoU are undertaking, including conservation actions, research and education.

Australia acknowledges our obligations for the conservation and protection of marine turtles due to presence of globally significant populations in our waters. To this end, Australia will continue to undertake a range of international and domestic measures to implement the Conservation Management Plan, such as habitat protection and reducing mortality as well as building the capacity of Indigenous Australians to manage marine turtle populations.

Australia encourages all Signatory States to focus on achieving conservation outcomes and to use the networks provided by the IOSEA MoU to foster cooperation and partnerships between Range States. This is important because the migratory characteristics of marine turtles mean that one Range State's conservation activities will not be effective unless complementary action is taken by all.

The top three priorities identified by Australia for the region are:

- Reducing direct and indirect causes of mortality
  (e.g., from incidental fisheries interactions and unsustainable levels of traditional harvests);
- Building capacity to strengthen conservation measures; and
- Increasing public awareness of the threats to marine turtles and their habitats, and enhancing public participation in conservation activities.

* * *

Statement of the Representative of the Government of Mauritius,
Mr. Devanand Norungee, Principal Fisheries Officer, Albion Fisheries Research Centre

Sixth Meeting of Signatory States to the Indian Ocean - South-East Asian Marine Turtle MoU, Bangkok, Thailand, 23-27 January 2012

"The Republic of Mauritius does not recognise the Marine Protection Area (MPA) which the United Kingdom has purported to establish around the Chagos Archipelago in 2010.

Mauritius does not recognise the so-called "British Indian Ocean Territory" ("BIOT") which the United Kingdom purported to create by illegally excising Chagos Archipelago from the territory of Mauritius prior to its independence, in violation of United Nations General Assembly Resolutions 1514 (XV) of 14 December 1960, 2066 (XX) of 15 December 1965, 2232 (XXI) of 20 December 1966 and 2357 (XXII) of 19 December 1967.

Under both Mauritian Law and International Law, Chagos Archipelago including Diego Garcia forms an integral part of the Sovereign territory of the Republic of Mauritius."

* * *

**Statement of the Representative of the Government of the United Kingdom,
Dr. Kelly Macleod, Marine Species Advisor, Joint Nature Conservation Committee**

**Sixth Meeting of Signatory States to the Indian Ocean - South-East Asian
Marine Turtle MoU, Bangkok, Thailand, 23-27 January 2012**

"The UK has no doubt about its sovereignty over the British Indian Ocean Territory which was ceded to Britain in 1814 and has been a British dependency ever since. As we have reiterated on many occasions, we have undertaken to cede the Territory to Mauritius when it is no longer required for defence purposes."

* * *

ANNEX 4A: SUMMARY OF DISCUSSIONS OF WORKING GROUP 1 (REVIEW OF CONSERVATION AND MANAGEMENT PLAN OBJECTIVE I)

Chair: Alexis Gutierrez. Participation by: Australia, Bangladesh, India, Malaysia, Mauritius, Philippines, South Africa, Thailand, United States, NGO. Assisted by members of the Advisory Committee: Dr. Frazier, Dr. Miller, Mr. Chokesanguan, Dr. Hamann and Secretariat (part time)

Objective I: Reducing direct and indirect causes of marine turtle mortality (13 items)

Priority Actions Identified:

1. Genetic Stock (GS) assessment. Mapping of genetic stocks within the Region. Geographically trace these GSs and identify / establish a nesting beach or nesting beaches as Index Beach (IB) associated with each GS. The IBs are areas to be regularly monitored / assessed.

Other priority actions listed below impact on Genetic Stocks, these are:

2. Investigation of illegal / legal takes. There is currently a lack of data on the magnitude or effect of illegal / legal takes (particularly on trawl fishing and gill nets) on sea turtle populations. Remedial actions proposed:
   (a) Gear modification (aim to decrease fish catch lost).
   (b) Partnership / collaboration regarding training / capacity.

3. Socio-economic issues (Economic uses and cultural values).
   (a) There are existing socio-economic studies in relation to marine turtle conservation which may be compiled. In areas where there are no socio-economic studies, graduate students may be encouraged to conduct such studies.
   (b) Establish guidelines on sustainable use of sea turtles.

Other recommendations: Possibility of identifying regional targets for the IOSEA CMP

ANNEX 4B: SUMMARY OF DISCUSSIONS OF WORKING GROUP 2 (REVIEW OF CONSERVATION AND MANAGEMENT PLAN OBJECTIVES II AND III)

Chair: Islamic Republic of Iran
Rapporteur: United Kingdom
Participants: France, Jordan, Kenya, Oman, Sri Lanka, Tanzania, Thailand, Australia (Advisory Committee member)

For general discussion, see the last section of this report

Objective II: Protecting, conserving and rehabilitating marine turtle habitats

Critical habitat outside of established protected areas

Paragraph 14 (of document MT-IOSEA/SS.6/Doc. 6): "Only a few Signatory States appear to have measures in place to protect critical habitat outside of established protected areas and little information is given to suggest that these habitats have so far been clearly identified."

The secretariat asked whether the group thought the IOSEA Site Network would address the issue of protecting critical habitat outside already protected areas.

Feedback from group:

1) General support for the network.
2) Concern whether the current scoring and criteria will capture the types of critical habitats known about, but currently without protection.
3) Network has to be a system that will introduce new sites and can be an instrument to bring legal protection, resources etc. where currently lacking.

Priorities:

1) Further work to define foraging grounds (also under objective III) would be important so that they are properly represented in the network.
2) Many nice examples of 'sites' with no legal basis, but being managed by community initiatives. Hope that the network would capture such sites.
3) Enhance / improve protection through development of public outreach / education / effective use of media.
4) Integrated coastal zone management approach – important turtle habitats can be managed and rehabilitated under such programmes.

Other suggestions relating to managing wider threats:

1) Countries should apply for funds for support – workshops / projects to engage locals and fishers in nesting / foraging grounds.
2) IOSEA to contact FAO to raise awareness of fisheries issues and mitigation measures available, such as using TEDs.

Paragraph 15 – Coastal development impacts and mitigation

Priorities:

1) Strengthen legislation and upgrade control systems in countries
2) All activities should go through an Environmental Impact Assessment process (or equivalent) and ensure potentially impacted turtles are given due consideration
3) Identify regional initiatives that are linked to national Governments to influence policies to manage activities in the Coastal Zone (e.g., light pollution, development)
4) Enforcement mechanisms need to be strengthened
5) Exchange of information on successful programmes through a session of presentations at IOSEA SS7

Paragraph 16 – Should seagrass / reef habitats be given more protection

Australia gave a good example of how to incorporate seagrass turtle foraging areas into protected areas. Great Barrier Reef Park is managed through zoning. Assessment and re-zoning every 10 years. For turtles, identifying usage was based on a process of mapping nest sites but also using telemetry data to assess the sea area used between inter-nesting periods. Put in place a 20 km marine buffer zone around the nesting sites for management with respect to turtles (e.g., exclusion of certain fishing activities to protect the seagrass).

Objective III: Improving understanding of marine turtle ecology and populations

Research and Monitoring

Paragraph 17 – Long-term monitoring and index beaches

Priorities:

1) Important that index beach monitoring allows trends to be assessed. Each country should prioritise choice of a few (even 1) index beaches and focus on achieving long-term monitoring.
2) Globally, for each genetic stock of turtle defined as a management unit, there should be a management programme in place. So one approach within IOSEA would be to ensure that there are at least representative index beaches with long-term monitoring within the regional management units to enable turtle status to be assessed at this scale.
3) AC is preparing a pro-forma sheet to try to identify such beaches in the IOSEA region where monitoring exists to assess whether management is working and therefore could truly be considered as index beaches.
4) 'Index beaches' will need to demonstrate long-term monitoring using standard methods.
5) SWOT published a document that outlines minimum data requirements for different types of monitoring. Might be a useful tool to help countries improve monitoring.
6) Resources often limit long-term monitoring, but short-term efforts should not be discounted as they do provide important baseline data.

Paragraph 18 – Genetics

1) Encourage SS to contribute the results of genetic studies the online IOSEA Genetics Directory.
2) Encourage / apply pressure for results to be published in manuscript / report and Secretariat made aware.
3) An AC exercise to summarise and identify gaps in work for presentation at SS7 deemed very important.
4) Countries with genetic studies should be aware of the global haplotype database (?) and newly discovered haplotypes should be contributed to it to ensure broad-scale interpretation and collaboration between countries. The existence of this may need promotion within the IOSEA SS.

Paragraph 19 – Satellite tagging

1) Encourage all SS to contribute tracking data to the website database.
2) Sharing of data through the website would be invaluable and be able to visualise all existing data for a particular species or region etc.
3) Improvements are needed to make the website facility more useful – for example, improve mapping facility. Secretariat needs to work to re-instate the mapping facility on the website and incorporate suggested changes.
4) Telemetry activity needs funding – expensive and should not necessarily take priority over long-term monitoring.
5) Ensure the questions that satellite tagging projects are aimed to address are well defined – therefore, such details and outputs must be included in the national reports.
6) Secretariat could help identify where satellite tagging might be important.
7) Should not lose sight of the importance of flipper tag data – this layer must be reinstated into the IOSEA mapping facility.

General Discussion (per country)

Jordan – mentioned efforts for foraging sites. May propose extension of reef through artificial reef to alleviate problems. Sea grass beds not real issue as Jordan does not have any.

Oman – problematic egg collection and traffic near nesting beaches. Conflict between fishermen and locals on beach.

Iran – main nesting sites are often main fisheries areas.

Kenya – cited a number of WIO initiatives to protect areas e.g., WWF programme of ecological important areas. All of these have MPAs and there is talk of an integrated network along this coast. This could be a pilot study to work for the other regions. Those sites are already monitored and managed.

Advisory Committee (Limpus) – States are autonomous when it comes to conservation and management of immediate coastal waters, but does need cooperation – parallels wider area. Eastern Australia has Great Barrier Reef park, established 1976. Approximately every 10 years, the management zoning of the park is reassessed (see GBRMPA website). Last re-zoning was four years ago. Addressed turtles through process of mapping species nests = reproductive sites. Already these land sites were protected. For the marine areas, they identified a buffer around the significant buffer area (varies between species) and had to compromise on 70 km radius for flatbacks. Eventually agreed on 20 km and appropriate management to reduce threats. They mapped seagrass and drew up trawling and gillnet exclusion areas.

Stranding database identified boat strike areas and was the basis for establishing go-slow zones: range of tools employed. About 50 percent of the coast is protected in this way.

Outside protected areas (e.g., Torres Strait). Indigenous zone land so the government cannot dictate the land management practice. Fishers from Papua New Guinea can come in and undertake fishing activity. Education and guidance are needed. In one example, the traditional owners have identified a turtle courtship area and have put in place a protected area to stop fishing there.

Tanzania – the issue of concern is areas without protection. Beach Management Community – Collaborative Fisheries Management areas are put in place. The communities have been able to close areas (spatial and temporal) to fisheries to protect seagrasses. Monitoring, controls and centres. NGO goes into the community and they agree to demarcate the area (not legally binding).

Malaysia – State authorities set protected areas, but there are some nests outside. Community-based management of nesting and foraging sites. Foraging occurs in some protected marine parks, but some is outside. The local community and fishers work together to manage the areas.

Thailand: 8 nesting sites, of which about 5 are declared as Marine National Parks. Some extend seaward. Most nesting sites are protected by law. Regarding inter-nesting grounds, it is officially declared that trawling should not be carried out. Coral reef habitat is also protected. Mapping of seagrass and main feeding for green turtles and satellite tags have shown that Cm stay within 6 km of nesting beaches. So efforts are trying to incorporate these areas as MPAs – focussing on community based approaches.

Madagascar – lack of scientific knowledge of turtles, especially outside MPAs. Involving local communities is vital especially in monitoring and research of turtles.Village community agreements (Dina) are used by the communities to implement monitoring and research.

Sri Lanka – all species and important nesting sites are protected. Only 10 percent protected coastline, but outside there is protection through laws on activities (killing, trade etc), policing and monitoring. Government collaborates closely with community. Egg collection and hatcheries for locals to participate as source of income. Corals are protected and habitat protected by law – species protection, rather than area-wide protection. Research ongoing in and outside MPAs. Critical habitat has not been clearly identified. Sri Lanka is launching a programme to identify the seagrass and corals etc.

Oman – two protected sites? Outside MPAs fisheries are a problem for nesting turtles, along with other threats.

Thailand feeding grounds: satellite tracking shows turtles tend to migrate and there they are poached. Site Network for protecting such areas might be important. Turtles migrate to Andaman islands where protection is needed.

Iran - Lack of enforcement is problem throughout. Little resource and funding.

Jordan – community based management.

Kenya – noted that despite legislation, enforcement not effective. Beach walls etc. Poverty is a challenge, leading to communities to take turtles. Tourism is an issue, followed by locals. New programme launched – Beach Management Programme.

ANNEX 4C: SUMMARY OF DISCUSSIONS OF WORKING GROUP 3 (REVIEW OF CONSERVATION AND MANAGEMENT PLAN OBJECTIVES IV, V AND VI)

Participants: Cambodia, Maldives, Myanmar, Pakistan, Thailand, USA, CMS, Emirates Wildlife Society-WWF, Advisory Committee (Ali Al-Kiyumi)

Priorities overview:

How can we:

- increase national and international political commitment
- increase community awareness and support
- increase capacity without little or no increase in national government funds
- increase regional interaction and exchange of information, especially on activities with demonstrated results for efficient / effective use of time and resources

Objectives overview and project proposals:

IV. Increasing public awareness and enhancing public participation

A. Education and awareness

HIGH priority. Need to maintain, and increase focus for fishing communities, consumers, tourists.

Project proposal: solicit information from Signatory States via questionnaire for successful initiatives with demonstrated results, describe strategy, identify target audience and outline results achieved.

Directed to:

- Tourists (fighting illegal trade; promoting turtle conservation ecotourism; mobilise customs agency).
- Fishing communities (releasing turtles caught in nets or lines; fighting illegal trade).
- Consumers (fighting illegal trade; promoting turtle conservation ecotourism).

B. Alternative livelihood opportunities

HIGH priority. If people are to stop turtle / egg harvesting and trade in turtle products, they need to be able to make money in another way.

Project proposal: solicit information from signatory states via questionnaire for successful initiatives with demonstrated results, describe strategy, identify target audience and outline results achieved.

Options:

- turtle-based ecotourism (turtle conservation as source of tourism, investment and employment);
- beach monitoring and nest protection (jobs as nesting beach and protected area tour guides);
- other alternatives that could support turtle-based ecotourism (e.g., NGOs as source of micro - capital; artisan training; handicraft production).

C. Promoting public participation - involvement of local communities and stakeholders in planning and / or implementation of conservation and management measures.

HIGH priority. With limited resources, difficult to have successful turtle conservation and management programmes without participation and support of private stakeholders and local communities.

Project proposal: solicit information from signatory states via questionnaire for successful awareness initiatives, describe strategy, identify target audience and outline results achieved.

Directed to:
- Government institutions and agencies (to increase political commitment and support of initiatives).
- NGOs (to assist in developing strategies and finding external funding sources through partnerships).
- Private sector.
- Local communities: increase human resource capacity.

V. Enhancing national, regional and international cooperation

A. Combating illegal trade

Project objectives: increase information available on extent of illegal trade; raise profile of issue to increase national and international commitment; and reduce illegal trade.

Project proposals:
i. compile information on illegal trade from NGOs and other inter-governmental organisations and identify gaps in information and then commission study or request study from TRAFFIC that addresses gaps in information;
ii. increase profile of problem of illegal trade through secretariat outreach that demonstrates magnitude of problem to CITES, International Consortium on Combating Wildlife Crime, Interpol, ASEAN and ASEANAPOL, South Asian Wildlife Enforcement Network (SAWEN), etc.
iii. compile database of national laws to compare / contrast legislation;
iv. request Signatory States to provide details of local training programmes;
v. request Signatory States to provide details on national reviews of compliance with CITES, including strategies, steps and evaluation that includes measurement of results;
vi. request information from Signatory States on what each is doing to combat illegal trade, initiative objective and details, evaluation of what worked, what didn't and assessment of results.

B. Capacity building - strengthening of training programmes / partnerships

How do we build capacity with no expectation of sustained increase in government funding or personnel.

Elements:
- Needs identified (in relation to trained personnel, equipment, infrastructure, programmes support.
- Strengthening national turtle conservation programmes through public-private partnerships (NGOs, corporate social responsibility programmes).

Project proposal: series of webinars, webchats and online forum discussion groups (see www.gotomeeting.com as possible platform) for information exchange and presentations on topics where participants receive information on initiatives that have produced concrete results and details of steps to take to duplicate these results.Suggested presenters: Signatory States, Advisory Committee members.

C. Effectiveness of national policies and laws

Challenges: limited resources, lack of equipment and staff, logistical challenges where large number of sites or remote sites, limited motivation and awareness of enforcement personnel.

How make more effective?: increase skills, personnel, increase funding, support from NGOs, local grassroots organisations and local communities.

How make more effective with little or no increase in government funds or support?

- increase training through proposed webinars exchanging information on successful projects.
- increase personnel by increasing community participation and support.
- increase funds through private-public partnerships – raising money from private companies with corporate social responsibility funding programmes.

Refer project proposals under those items

ANNEX 5A: OUTLINE FOR THE SUB-REGIONAL CONSULTATIONS

Much of the first afternoon of Monday, 23 January, is reserved for consultations in smaller sub-regional groups[1], to provide for exchange of ideas and experience among countries with geographic affinity. The sessions allow for short presentations from countries on significant developments since the Fifth Meeting of Signatory States (August 2008); and for more in-depth discussion of issues arising in the plenary session of the meeting. Unless the group decides otherwise, the respective sub-regional Focal Point is expected to chair each session (i.e. WIO: Comoros; NWIO: United Arab Emirates; NIO: India; SEA+: Indonesia). A rapporteur should be appointed from each group to prepare a summary report and present in plenary the key points arising from the group's discussions. The following common structure is proposed for each sub-regional consultation; however groups are free to add additional agenda points as necessary (within the time available).

1. **Brief (up to 5 minutes) country presentations highlighting key activities undertaken since 2008**
   e.g., interesting research findings, genetic / satellite tracking results, new protected areas, new conservation centres, innovative community-based conservation programmes, recently introduced management guidelines, significant enforcement problems / actions, etc.

2. **Overview of fisheries interacting with marine turtles**
   (e.g., any new information available on the nature of the fisheries; any results from new studies on fishery-turtle interactions; any new mitigation measures successfully introduced?)

3. **Overview of coastal development issues**
   (e.g., major development projects initiated or planned, with potential impacts on turtles?)

4. **Future (national) planned activities of interest to, and possibly benefiting from collaboration with, other countries of the sub-region**
   (e.g., in relation to satellite tracking or genetics studies, bycatch mitigation trials etc.)

5. **Use of, and possible contributions to, various IOSEA Online Tools: Reporting Facility, Satellite Tracking Metadatabase, Bibliography Resource, Genetics Directory, Projects Database, etc.**

6. **Details of planned meetings, workshops of possible relevance to other countries**

7. **Identification of broader opportunities for sub-regional exchanges, or other financial or technical support**
   (e.g., personnel exchanges for training purposes, collaboration on satellite tracking, joint development and / or distribution of public awareness materials etc.)

8. **Reporting on developments of interest regarding marine turtle conservation activities of other relevant sub-regional / regional organisations**
   (e.g., PERSGA, ROPME, IOTC, WIOMSA, SAARC, SEAFDEC etc.)

9. **Review of proposed nominations to the Advisory Committee**

10. **Confirmation of sub-regional Focal Point representation**

11. **Any other business**
    (e.g., advanced discussion of Agenda item 8a: IOSEA Site Network Proposal)

[1] IOSEA sub-regional designations: **South-East Asia** +: Brunei Darussalam, Cambodia, Indonesia, Malaysia, Myanmar, Papua New Guinea, Philippines, Singapore, Thailand, Timor-Leste, Viet Nam + Australia, China, Japan, Republic of Korea, United States; **Northern Indian Ocean**: Bangladesh, India, Maldives, Pakistan, Sri Lanka; **Northwestern Indian Ocean**: Bahrain, Djibouti, Egypt, Eritrea, Islamic Republic of Iran, Jordan, Kuwait, Oman, Qatar, Saudi Arabia, Sudan, United Arab Emirates, Yemen; **Western Indian Ocean**: Comoros, France, Kenya, Madagascar, Mauritius, Mozambique, Seychelles, Somalia, South Africa, United Kingdom, United Republic of Tanzania.

ANNEX 5B: SUMMARY OF THE WESTERN INDIAN OCEAN (WIO) WORKING GROUP DISCUSSIONS

Present: France (FRA), Kenya (KEN), Madagascar (MAD), Mauritius (MAU), United Kingdom (UK), Tanzania (TNZ), [South Africa] (ZAR), Advisory Committe – Drs Hamann and Frazier.
Absent: Comoros (COM), Seychelles (SEY), Mozambique (MOZ), Somalia (SOM)
Chair: Kenya
Rapporteur: Dr. Ronel Nel

1. Key activities since 2008:

a. Substantial effort on protection, research and monitoring.:

i. *Beach monitoring:* 6 of 7 countries have beach monitoring; with MAU to start soon.

ii. *Flipper tagging:* 5 of 7 countries (none by MAU or UK).

iii. *Satellite tagging:* 5 of 7 countries (none by UK or MAU; MAU soon to follow under SWIOPS C5)

1. [Most of satellite tagging studies published (at least online on IOSEA) whereas much of flipper tagging data not.]

iv. *Index Beaches:* KEN (since the '90s); TNZ (Sea Sense in MPAs); MAD (3 sites; 1 site >10 years); FRA (>30yrs); Moheli 13 years (COM); ZAR (~50 years).

v. *Temperature loggers:* KEN, FRA (31 loggers in Tromelin); ZAR (3 seasons)

vi. *Genetics:* <u>*Planned*</u> – MAD, MAU, KEN, TNZ, FRA (SWIOFPS); <u>*Underway:*</u> **Cm** – KEN, FRA, MAD (Iles Barren), UK, ZAR; **Cc** – FRA (bycaught juveniles), ZAR; **Ei** – FRA (NW Mad); **Dc** – ZAR.

vii. *Fibropapillomas* on **Cm:** KEN (common); MAD (common).

b. New Conservation Actions / Areas:

TNZ: 1 new Marine Park (Park=Zoned) & 4 new Marine Reserves (Reserve = No Take); Community managed conservation areas (CMFA's) now spans the whole coast with four reefs being closed to fishing for 2 years;

FRA: (Mayotte) Marine Park (2010) to protect sea coral reefs, turtles and dugongs;

MAD: Community involvement in conservation expanded (Blue Ventures);

MAU: Action Plan for Turtles (2007) in implemention phase now – partnerships between Govt, NGOs and community; 1 MPA on Rodriquez Isl,

UK: BIOT (Chagos) MPA[1] proclaimed April (2010) a science strategy is to be developed by a Scientific Advisory Group;

ZAR – iSimangaliso Wetland Park – MPA component expanded ~30 km south.

[1] The BIOT MPA is not recognized by Mauritius.

2. Fisheries Interactions:

TNZ (2008) – Closed prawn trawl fishery – fully enforced – sea grass habitat seems to be improving.

KEN: Identified a new fishery – ring nets – potential turtle interaction suspected as well as habitat impacts reported.

UK: through Chagos MPA proclamation all commercial fishing ceased within 200 nm of BIOT in Nov 2011;

FRA: Longline & Purse seine *FAD Regulations* rewritten; no use of nets in FAD construction, *observers mandatory,* bycatch release and reporting obligatory; *Hook Regulations* – circle hooks only, *Pollution control* – all rubbish to be dealt with on-board, *Bycatch ID guides* developed for observers + data requirement stipulated (e.g., turtle measurements), Longline *partnership with Kelonia* to receive all bycaught loggerheads for rehabilitation and release. (Good cooperation and enforcement of these regulations);

MAU: Longline fisheries have adopted IOTC Resolution – thus need to implement migratory measures such as de-hookers, also bycatch data being collected and reported to IOTC,

MAD: Bycatch regulations and mitigation not implemented.

3. Overview of coastal development issues:

KEN: Set-back lines previously not respected, now included in ICZM plan (NC initiative), but still no regulations on light control. Intensive offshore oil and gas exploration taking place.

MAU: CZIEM regulations require EIA which is apparently well-enforced.

MAD – New ilminite mine in south east and exploration for oil;

FRA (Reunion): strong search for 'green energy' e.g., sea water cooling plants or wave electricity generation experiments – effects on turtles unsure; (All) National Action Plan to be done in 2012 for all Esparses Islands.

Looming Port Developments: in KEN, TNZ & MOZ.

4. Future activities of regional interest:

SWIOFPs C5 Satellite tagging about to take place; IOTC Working Group on bycatch and ecosystems potentially useful as source of bycatch data (through the adoption of the turtle resolution); Marine HIGHWAY Programme (IOC) – identification of sensitive habitats and essential ecosystem services; forced oil spill action plan (Polluter Pays Principle) agreed penalties built in. FRA: collaborative research plan on loggerhead genetics (MAD, ZAR, OMAN); TORSOOI online database completed and available (minimum data standards), include detailed nest data, tagging and recapture data + photo ID (Cm & Ei).

5. Online Tools:

Limited awareness of the tools available, especially in other programmes such as Nairobi Convention, CBD or WIOMSA. They can benefit from awareness of it. Further – Nairobi Convention has engaged in a process to review and devise a ICZM protocol for shoreline management but the turtle experts of the region have not been consulted nor has IOSEA been included in the development. Recommendation (to IOSEA Secretariat) to establish a working relationship with, and renew the awareness of turtle related issues particularly to the Nairobi Convention Secretariat.

6. Planned meetings (of regional relevance):

WIOMSA organised – Climate Change and MPA's in the WIO meeting (Cape Town, 8 February 2012). Recommendation (to IOSEA Secretariat) for the concept of the site network (should it be adopted) to be presented / highlighted at the meeting.

7. Broader opportunities of sub-regional exchange or technical support:

Standing Opportunities: SWIOFP, ISTS, Coral Reef Task Force (NC), ICZM Task Force, WIO MTTF (appointments to be renewed after SS6). GTMF – provide technical support (training, awareness).

8. Reporting on developments from other initiatives relevant to turtles:

See above; but felt that the IOSEA interests can be developed better (e.g., IFAW, WCS). Also WIO MTTF *Ex Officio* members to be 're-invited'. The expectation was that the site network may stimulate new interest as there could be concrete, direct ways in which (for example) the IUCN could be included.

9. How to stimulate inter-sessional engagement of the IOSEA SS Focal points:

Attendance of IOSEA side meeting at ISTS; more focused appointees; annual activities particularly at a sub-regional level that could raise awareness (World Wetlands Day) and support fundraising to provide resources for 'regular' sub-regional meetings; annual reporting by the focal point to IOSEA (e.g., concise matrix form); email communication / working group; WIOMSA Conference.

ANNEX 5C: SUMMARY OF THE NORTHERN INDIAN OCEAN (NIO) WORKING GROUP DISCUSSIONS

Brief Country presentations highlighting key activities undertaken since 2008.

Pakistan

Threats: fisheries interface, tourism and development projects.

Legal protection: Wildlife Protection Act 1972, Fisheries Act also offers some protection. Three Ramsar sites have been designated.

Identification of important habitats: only nesting beaches at this stage.

Conservation measures: Reducing mortality, beach protection, egg transport to hatcheries, beach cleaning programmes.

Research and Monitoring: 2006-2008. Two green turtles satellite tagged. From 2008 onwards, 12 more turtles tagged. Migrations documented up to Iran, UAE and India.

Awareness raising and public education: Two Wetlands Centres established (with WWF). Community Participation (with WWF) – local communities trained in conservation and tagging, improved livelihoods, such as ecotourism, promoting biogas and solar, Socioeconomic studies undertaken by Pakistan Wetlands Programme.

Training and capacity building:

- 2010 IUCN strategic plan developed. Workshops on TED use. Biologists trained in UAE, WWF trained Wildlife Department staff on tagging.
- 2010: bycatch reduction training.
- Maritime enforcement agency also trained on TED use.
- NGO partners: IUCN and WWF.

Maldives

Little progress has been possible since 2008, and the main agency responsible for turtle activity (Marine Research Centre) is about to be closed down. Thinking of relocating the programme to the National University, from where it could be carried forward. Maldives stands to gain a lot from turtle conservation as it is very important for tourism industry. There is a lack of dedicated trained people to work specifically on turtles. Would like to rebuild the turtle programme, but have to build capacity within the university.

Threats: taking eggs, coastal development, especially dredging of harbours and resort development. In 2006, there was a decree to ban catching of turtles but it still goes on; enforcement is difficult.

Fishing is not detrimental to turtles at all, since it occurs out at sea without nets. Tourism is not a big threat, as nesting sites are on uninhabited islands.

Despite lack of attention paid, Green and Hawksbills are frequently sighted. Satellite tracking hasn't gone far since 2007; some data are available on the website. Some private parties are undertaking hatching programmes.

Bangladesh

710 km of coastline. Loggerhead, Green, Olive Ridley and Hawksbill are all recorded to nest in Bangladesh. Other species may be present, but nesting sites not identified.

Legal protection: Wildlife Act revision is before Parliament now. Increased punishment for marine turtle offences.

Threats: tourism and stray dog predation and road construction. Nesting sites are decreasing because of tourism.

Illegal smuggling poses a challenge: there have been recent confiscations in India.

Research – Satellite tracking by Marine Life Alliance.

Nest protection programme initiated, and hatchery established by two NGOs. (MarineLife Alliance).

Regional project between Bangladesh and India, Bhutan, which is tiger focused, but also includes marine turtles.

Education awareness target group identified – fisher folks, but training not yet begun.

Sri Lanka

There are 5 species: Green, Olive Ridley, Loggerhead, Leatherback, Hawksbill. The entire coastline is important for turtle conservation.

Protected Areas: Have 12 coastal PAs, of which 6 were declared very recently. More than 10 percent of the coastline is contained within PAs. The plan is to protect at least 20 percent of the country's coastline.

A Turtle Conservation Policy has been drafted, containing provisions for turtle protection, including the prohibition on killing adults or collecting eggs. Enforcement problems can be attributed to a lack of resources (Human and financial).

Threats: by far the most important is habitat destruction, especially through the development of harbours, hotels and beach armouring. Egg collecting, poaching and bycatch are also issues.

Government has given more funds for protection and guarding of nests in situ. Ex situ conservation activities by private organisations for tourism, also benefits conservation.

Community-based conservation programmes in some PAs (with volunteer guides), especially for nest site protection, including tourism. They do some excellent work for conservation.

Research is focusing on population surveys, viability of eggs, hatching rate, satellite tracking, and socioeconomic surveys. New surveys have been conducted in the North and East, now that they can access the region. Lots of information flowing. Some sites very important.

Capacity Building: Many workshops conducted with local and UN experts, especially on Satellite tracking. Turtle conservation is incorporated into in-service training of wildlife staff.

India

Major research projects in genetics and satellite tracking.

1. Genetic profiling of all species over the entire coastline. The results are currently being analysed.

2. Satellite tracking of various species is showing some interesting results, such as that turtles nesting on the Odisha (Orissa) coast use southern Sri Lanka as a foraging ground, while those nesting in Sri Lanka forage around the Arabian Sea. Post-tsunami tracking of leatherbacks is being undertaken in Andaman and Nicobar to find out where they nest since their old nesting sites were destroyed. Individuals were found to migrate to Indonesia and another in the Andaman Islands. Work is ongoing. There is also a plan to put transmitters on Hawksbills in Lakshadweep to determine if they are local or migratory.

Conservation centres: a new education centre opened on the Orissa coast. The PM has announced the plan to establish a turtle research centre on the East Coast.

Communications: The Turtle Action Group has been established, which is a consortium of 77 interested NGOs. Members have been trained to use standardized methodology so that results will be comparable. The Government launched the Wildlife Outside Protected Areas Programme, which will involve NGOs and will provide funds for turtle nesting sites to be declared as conservation reserves.

Turtle conservation activities and awareness are now incorporated into other ministries: e.g., Agriculture, decreasing fisheries related mortality, also armed forces. The Coast guard has a programme which has been running for 15 years.

Fisheries interactions: TED extension programmes for fishers have been run, however, relative mortality has not reduced because of a fear of losing fish in TED gear. Enforcement: problems remain, especially with fishing (artisanal and larger trawlers).

Coastal Development: Pressure on the coastline is immense: The government has proposed that every 30 km of Indian coastline should have a port. Currently, 27 oil companies are exploring along the coastline. However, one harbour has developed a gold standard environmental management plan with the assistance of the IUCN Marine Turtle Specialist Group. (not yet published). One new port has implemented a new turtle-friendly illumination plan, which the Government would like to make mandatory for all ports. The number of developments is massive, so it's a big job.

Regional cooperation: Political relationship with neighbours makes it difficult. However, the Ministry would like to take a lead in the region particularly to run a structured training programme on turtle management.

Other issues:
Turtle Bibliography has been created, with help from IOSEA.
Online reporting of IOSEA has not been used effectively.
Country only wakes up during the Meeting of Signatories. FPs need to be more active.

Broader opportunities: would like SAARC to include turtles in its work programme.

Planned meetings: targeting other Indian ministries, especially those concerned with Hydrocarbon, Agriculture, Earth Sciences, and Ports and Harbours.

Also would like to use the CBD COP (Hyderabad, October 2012) to make turtles a focus in CBD; invite countries to highlight best practice, importance of leatherbacks in the region. Hopefully that will bring other agencies to support a regional programme. Would like GEF regional project to investigate the migration patterns in the region.

Review of Bay of Bengal Large Marine Ecosystem Compliance with the IOSEA Marine Turtle MOU

Recommendations:

More research is needed on species and their numbers, and population structure.
Threatening processes have been operating for decades, and won't go away overnight.

Need continued Government support for research within each country; and need better communication and coordination between countries.

Conservation management issues:
Standarise methods to facilitate data collection.
Standardise regulations concerning beach development and fishing practices.

ANNEX 5D: SUMMARY OF THE NORTHWEST INDIAN OCEAN (NWIO) WORKING GROUP DISCUSSIONS

1. BRIEF COUNTRY PRESENTATIONS HIGHLIGHTING KEY ACTIVITIES UNDERTAKEN SINCE 2008

Sultanate of Oman

1. Provided funds for educating fishermen
2. Developed research programme with OES & SQU
3. Developed satellite tracking system
4. Hawksbill nesting and satellite tracking
5. Nominated a MPA and soon will be declared
6. Visiting center at Ras Al-Had
7. Presentations to local communities (public awareness)
8. Rangers for endorsement
9. CZM part of turtle conservation
10. Flipper tagging, Genetics (DNA) studies and nesting assessment and low enforcement

Islamic Republic of Iran

1. Satellite tracking
2. Genetics for Hawksbill
3. Population identification (international project including Iran)
4. Tagging programme
5. Develop national parks mainly for the nesting turtle sites (MOND)
6. Patrolling of nesting sites during nesting season (Environment Department in Iran)
7. Nesting sites on Kish and Qishm Islands
8. Foraging studies at selected sites

Kingdom of Jordan

1. Enforcement of legislation (Law No. 21 and 22 of ASEZA-gov.)
2. Public awareness programmes (school students and visitors of Aqaba)
3. Basic studies on the turtle's foraging sites
4. Beach patrolling by rangers of Environment Department at Aqaba Special Economic Zone Authority (Gov.) in collaboration with two NGO's (Jordan Society for the conservation of turtles (JSCT) and Jordan society for the conservation of marine environment (JREDS)

United Arab Emirates

1. Satellite tracking for Hawksbill
2. Public awareness programmes
3. Identification of foraging sites in the entire Gulf area
4. Partnership with regional countries, Iran, Oman, Bahrain and Qatar

2. OVERVIEW OF FISHERIES INTERACTING WITH MARINE TURTLES

Islamic Republic of Iran

1. Notable impacts of gill nets on turtles as a by-catch
2. Law enforcement that prohibits turtle capture
3. Plans to use TEDs

Kingdom of Jordan

1. Artisan fishery with rare or no impacts on turtles
2. Biodiversity conservation measures by law enforcement, including endangered species
3. Complete ban of capture fishery in coastal areas

Sultanate of Oman

1. Outreach activities for fishermen
2. Studies on the impacts of fisheries on turtle populations on Masira Island, with US Fish and Wildlife Service and Environment Society of Oman
3. Clean up campaigns for fishery debris on nesting beaches

3. OVERVIEW OF COASTAL DEVELOPMENT ISSUES

Islamic Republic of Iran

Construction in free zone area (ports, resorts etc.); EIA studies before any project

Kingdom of Jordan

EIA studies; Strongly implement ICZM; Big project development (mainly tourism resorts)

Sultanate of Oman

Set back-line (detailed information) required for any coastal project, including EIA studies

4. FUTURE (NATIONAL) PLANNED ACTIVITIES OF INTEREST TO, AND POSSIBLY BENEFITING FROM COLLABORATION WITH, OTHER COUNTRIES OF THE SUB-REGION

Islamic Republic of Iran

Continuous collaboration with neighbouring countries, in addition to WWF and NGO's

Kingdom of Jordan

Continuous collaboration with neighbouring countries, especially within the Red Sea and Gulf of Aden- RSGA region

Sultanate of Oman

Continuous collaboration with neighbouring countries, in addition to WWF and NGO's

United Arab Emirates

Continuous collaboration with neighbouring countries in addition to WWF and NGO's

5. USE OF, AND POSSIBLE CONTRIBUTIONS TO, VARIOUS IOSEA ONLINE TOOLS: REPORTING FACILITY, SATELLITE TRACKING META DATABASE, BIBLIOGRAPHY RESOURCE, GENETICS DIRECTORY, PROJECTS DATABASE, ETC.

Islamic Republic of Iran

Reporting facility use; Follow updates and information

Kingdom of Jordan

Publish research work; Use reporting facility of the IOSEA

Sultanate of Oman

Publish research work; Use reporting facility of the IOSEA

United Arab Emirates

Satellite tracking using metadata base of the IOSEA

6. DETAILS OF PLANNED MEETINGS, WORKSHOPS OF POSSIBLE RELEVANCE TO OTHER COUNTRIES

Islamic Republic of Iran

N/A

Kingdom of Jordan

1. SEASTAR2000 meeting (Bangkok – 2012)
2. Local workshops for public, schools and university students (public outreach)
3. Workshop on biodiversity and screening of future activities for RSGA region (Mar 2012)

Sultanate of Oman

1. Training of trainee at US on turtle conservation issues
2. NGO participation to educate children for turtle conservation

United Arab Emirates

1. Marine Conservation Forum
2. IUCN SSG meeting

7. IDENTIFICATION OF BROADER OPPORTUNITIES FOR SUB-REGIONAL EXCHANGES, OR OTHER FINANCIAL OR TECHNICAL SUPPORT

Islamic Republic of Iran

Satellite tracking, Tagging, Information exchange

Kingdom of Jordan

PERSGA updates and the information exchange with member countries

Sultanate of Oman

Satellite tracking, Tagging, Information exchange with regional relative bodies

United Arab Emirates

Prospects of holding a workshop for the NWIO sub-regional group within the IOSEA SS to foster future collaboration

8. REPORTING ON DEVELOPMENTS OF INTEREST REGARDING MARINE TURTLE CONSERVATION ACTIVITIES OF OTHER RELEVANT SUB-REGIONAL / REGIONAL ORGANISATIONS

Islamic Republic of Iran

No significant collaboration with ROPME

Kingdom of Jordan

Regional Strategic Action Plan developed by RSGA. No feedback yet from the member countries related to the plan implementation

Sultanate of Oman

No significant collaboration with ROPME

United Arab Emirates

N/A

9. HOW TO INCREASE THE ENGAGEMENT OF IOSEA FP BETWEEN MEETINGS

Islamic Republic of Iran

Establish more efficient communication with IOSEA instrument in order to broaden SS and individual country activities.

Kingdom of Jordan

Establish more efficient communication with IOSEA instrument in order to broaden SS and individual country activities. Continuous updates to national FP

Sultanate of Oman

Establish more efficient communication with IOSEA instrument in order to broaden SS and individual country activities.

United Arab Emirates

Establish more efficient communication with IOSEA instrument in order to broaden SS and individual country activities.

10. CONFIRMATION OF SUB-REGIONAL FOCAL POINT REPRESENTATION

No confirmation had been made on this regards.

11. ANY OTHER BUSINESS

Need further discussion.

ANNEX 5E: SUMMARY OF THE SOUTH-EAST ASIA (SEA+) WORKING GROUP DISCUSSIONS

Representatives present: Australia, Cambodia, Malaysia, Philippines, Thailand, and United States

1. Brief (up to 5 minutes) country presentations highlighting key activities undertaken since 2008

In general, monitoring of nesting populations, flipper tagging exercises at selected nesting beaches and awareness programmes are ongoing and continuous activities in the Southeast Asia region.

CAMBODIA

There are 30 beaches available for sea turtle nesting. So far, lack of funding support and limited human resource have resulted in sea turtle conservation and management activities, and public awareness activities having been carried out slowly. Five species of sea turtles were found in Cambodia: namely green turtle *(Chelonia mydas)*, hawksbill turtle *(Eretmochelys imbricata)*, olive ridley turtle *(Lepidochelys olivacea)*, loggerhead turtle *(Caretta caretta)* and leatherback turtle *(Dermochelys coriacea)*. So far, only three species are observed every year: green, hawksbill and loggerhead turtles, of which only hawksbill and green turtles are abundant and come for nesting around some islands, such as Koh Rong, Koh Rong Sanleum, Koh Tang, Koh Pring, and Koh Polowai.

Recently some big sea turtles (green turtles and hawksbills) were caught by accident. In this case some people take them to eat and some people released them back into the sea. Due to lack of awareness of national and international legislation on endangered species, the Department of Fisheries Conservation cooperated with Ford Motor Company to produce some awareness materials, by publishing a pamphlet, writing a book to give to people and school children. However these materials are not enough to create awareness among the local people.

In 2011 the Department of Fisheries Conservation (DCF) and Fauna & Flora International (FFI) cooperated to conduct a study that reviewed some special areas and made some education / awareness activities about conservation matters for local people. The fisheries administration will be continuing to support activities for conserving sea turtles.

Cambodia has completed legislation and laws on fisheries, including endangered sea turtles as well. So the Department of Fisheries Conservation is looking forward to cooperate with national and international NGOs to implement sea turtle and habitat conservation and management in coastal areas, through participation of local authorities, navy, police, etc.

MALAYSIA

Conducted study on stock identification of green turtles in Southeast Asian countries from 2008-2010. A total of 323 tissue samples of green turtle from 18 nesting sites were collected. The study identified 12 genetically breeding aggregations (Management Units) for green turtles throughout Southeast Asia.

Conducted population genetic study of green turtles in selected foraging habitats (Lawas and Sipadan Island of Malaysia).

Satellite telemetry study was carried out on a 5 year old juvenile hawksbill turtle, which was released on Cherating nesting beach on 8 August 2010 and reached Con Dao Island, Viet Nam within 45 days. The last signal was detected on 30 September 2010 and the turtle was still located in Con Dao Island waters.

Conducted satellite telemetry study on adult female green turtle on 15 May 2008. Within 35 days the turtle migrated to Singapore waters and the last signal was detected on 23 May 2009 in Tanjung Piai waters, located on the west coast of Peninsular Malaysia.

Satellite telemetry study was conducted on adult female green turtle at Lawas foraging habitat on 12 February 2011. Signal was detected until 18 April 2011, still located in Lawas waters.

National Plan of Action on Conservation and Management of Sea Turtles in Malaysia was launched on 8 November 2008. The NPOA consists of 15 priorities, 7 objectives, 24 programmes and 78 activities. The NPOA will be reviewed in 2013.

A National Marine Turtle Working Group (MTWG) was established in July 2011. The members of MTWG are: Department of Fisheries Malaysia (lead agency), Sarawak Forestry Corporation, Sabah Parks, Department of Marine Parks, Malaysia Institute of Marine Affairs (MIMA), Universities, World Fish Centre and WWF Malaysia.

Harmonisation of the federal legislation on sea protection for adoption by State authorities in Malaysia.

Organised the following meetings:

- National symposium on sea turtles on 8 November 2008 and a seminar on sea turtle management from 31 May – 2 June 2010.
- Third Regional Technical Consultation on Stock Enhancement of Sea Turtles in the Southeast Asia, on 15-17 October 2008.
- Core Expert Group Meeting on Research for Stock Enhancement of Sea Turtles in Southeast Asia 20-12 October 2009.
- Regional Planning on Research and Management of Sea Turtle Foraging Habitats in Southeast Asia.
- Regional Workshop Research and Management of Sea Turtles in Southeast Asian waters.

PHILIPPINES

Laparoscopy of marine turtles in Tubbataha Reef National Park, Palawan - funded by Conservation International Philippines and conducted by Dr. Nick Pilcher. Results show that the area is a developmental area for green turtles and a lesser degree for hawksbill turtles.

Genetics research in coordination with Japanese Trust Fund and ASEAN-SEAFDEC, for the purpose of identifying management units.

Initial consultation on the establishment of ecotourism in Philippine Turtle Islands. The establishment of ecotourism is one way to address egg collection in the area as well as enforcement of the existing laws on marine turtles.

Integrated Coastal Management. An Executive Order No. 533 was issued by the President to institutionalise ICM in the Philippines. From 2007-2013 funded by UNEP and the Philippine Government, an ICM project was implemented in 7 pilot provinces to institutionalise ICM. The activities implemented include the following: capacity building of national government, local-governments and key civil societies; harmonising existing policies on foreshore areas including mangrove areas; creating sustainable alternative livelihood or enterprise; establishing management plans for marine protected areas (MPAs); applying user's fees and resource rents or valuation of foreshore areas including mangroves, coral reefs and sea grass areas; applying monitoring and evaluation tools to marine protected areas; establishing an MPA network to sustain fishery resources.

THAILAND

Conducted genetic study on green turtles for two populations in Gulf of Thailand and Phuket Island waters. The result indicated there is no significant difference between these two populations.

Conducted study on sea turtle interaction with fishing operation. The results indicate gill net, trawl net are the major fishing gear causing turtle mortality.

Conducted satellite tracking activities - to date approximately 100 hundred turtles of various size and age were involved in these studies.

AUSTRALIA

Australia is currently undertaking a country-wide marine bioregional planning process that should be finalised by the end of 2012. Marine bioregional planning is focused on building knowledge of Australia's oceans and improving conservation and sustainable use of our marine resources. It is also aimed at improving management of whole marine ecosystems, including the interactions of people and industry with marine environments and species. This is sometimes called an ecosystem-based management approach.

Marine bioregional plans are being developed for each of Australia's marine regions and will help improve the way decisions are made in relation to the protection of marine biodiversity and the sustainable use of our oceans and their resources by our marine-based industries. The conservation values of a marine region include all marine species and places that are protected under national environmental law as well as a region's key ecological features. Conservation values are therefore those species, features and places of the marine environment that are important in the context of the government's environmental responsibilities and key ecological features are parts of the marine ecosystem that are considered to be of importance for a region's biodiversity or ecosystem function and integrity. Key ecological features may be habitats or areas of a region, specific benthic or pelagic features, species groups or ecological communities. Marine turtles have been identified in many areas as key conservation values under the marine bioregional plans.

Systematic research including tagging (mark-recapture studies), genetic identification of stocks, satellite telemetry, index beach monitoring, climate change investigations, foraging ecology, physiology and veterinary studies continue within federal and state agencies, indigenous communities, universities, and consultants.

UNITED STATES

Pacific Leatherback Critical Habitat Designation

NOAA announced the designation of additional critical habitat to provide protection for endangered leatherback sea turtles along the U.S. West Coast. NOAA is designating 41, 914 square miles of marine habitat in the Pacific Ocean off the coasts of California, Oregon and Washington. This regulation is currently on file with the Federal Register and is available at http://www.nmfs.noaa.gov/pr/laws/esa/. The regulation will formally publish on January 26th, and will become effective on February 25, 2012.

This designation will not directly affect recreational fishing, boating and other private activities in critical habitat. Critical habitat designations only affect federal projects that have the potential to adversely modify or destroy critical habitat. Critical habitat designations aid the recovery of endangered and threatened species by protecting habitat that the species rely on.

The newly designated critical habitat is made up of two sections of marine habitat where leatherbacks are known to travel great distances across the Pacific to feed on jellyfish. The southern portion stretches along the California coast from Point Arena to Point Arguello east of the 3,000-meter depth contour, while the northern portion stretches from Cape Flattery, Wash. to Cape Blanco, Ore., east of the 2,000-meter depth contour.

Loggerhead Sea Turtle – Distinct Population Segments (DPS):

ESA Threatened - 4 DPS:
(1) Northwest Atlantic Ocean; (2) South Atlantic Ocean; (3) Southeast Indo-Pacific Ocean; (4) Southwest Indian Ocean.

ESA Endangered - 5 DPS:
(1) Northeast Atlantic Ocean; (2) Mediterranean Sea; (3) North Indian Ocean; (4) North Pacific Ocean; (5) South Pacific Ocean.

On March 16, 2010, the agencies proposed to list seven distinct population segments, also known as DPSs, as endangered and two as threatened.

Two of the final statuses, for the Southeast Indo-Pacific Ocean and Northwest Atlantic Ocean DPSs, were changed from endangered in the proposal to threatened. Scientists determined that the Southeast Indo-Pacific Ocean DPS is threatened because the majority of nesting occurs on protected lands and nesting trends appear to be stable. In addition, some of the fisheries bycatch effects appear to have been resolved through requirement of turtle excluder devices in shrimp trawlers, and longline fishery effort has declined due to fish stock decreases and economic reasons. Scientists found that the Northwest Atlantic Ocean DPS is threatened based on review of nesting data available after the proposed rule was published, information provided in public comments to the proposed rule, and further analysis within the agencies. Even so, substantial conservation efforts are underway to address the threats to these DPSs.

Retaining their proposed status, five DPSs were listed as endangered: Northeast Atlantic Ocean, Mediterranean Sea, North Indian Ocean, North Pacific Ocean and South Pacific Ocean. Two others were listed as threatened: South Atlantic Ocean and Southwest Indian Ocean.

Pacific Islands Regional Office RFP

The National Marine Fisheries Service (NMFS) is soliciting competitive applications for the FY2012 Pacific Islands Region Marine Turtle Management Programme to fund conservation, protection, or management actions supporting recovery of Endangered Species Act (ESA) listed sea turtle species occurring within the Pacific Islands Region (PIR) or aggregations that may be shared between the PIR and other Pacific nations. NMFS will consider internationally-based projects targeting sea turtle populations that originate from the Western and Central Pacific Ocean (i.e., from areas outside U.S. jurisdiction) but which migrate through or forage within the PIR and are impacted by PIR activities managed by NMFS, as well as projects that are otherwise relevant to NMFS management and recovery obligations. The PIR is comprised of the exclusive economic zones (EEZs) adjacent to the State of Hawaii, U.S. territories of American Samoa, Guam, and the Commonwealth of the Northern Mariana Islands (CNMI), and the U.S. Pacific Remote Island Areas (PRIAs) of Jarvis, Johnston, Wake, Howland and Baker Islands, Kingman Reef, and Palmyra and Midway Atolls. Sea turtle species with documented linkages to the PIR include: leatherback *(Dermochelys coriacea)*, hawksbill *(Eretmochelys imbricata)*, North and South Pacific loggerhead *(Caretta caretta)* Distinct Population Segments, green *(Chelonia mydas)*, and olive ridley *(Lepidochelys olivacea)*.

Stamp Out Extinction

The U.S. Postal Service has issued a special semipostal stamp to benefit elephants, rhinoceros, tigers, great apes, and marine turtles under the United States Fish and Wildlife Service's (USFWS) *Wildlife Without Borders* Multinational Species Conservation Funds (MSCF).

Only the fourth of its kind, this stamp is now available in post offices nationwide and will remain on sale for at least two years. President Obama signed the Multinational Species Conservation Funds Semipostal Stamp Act into law in 2010, providing an opportunity for the public to support USFWS' mission to save imperilled species globally. Proceeds from stamp sales will support conservation efforts directed at targeted endangered species worldwide that are of great importance to the American public.

Marianas Tagging

Both green and hawksbill turtles have been documented within the Mariana Archipelago, but only sporadic hawksbill nesting has been recorded in Guam. Green turtles nest typically between March through August with some year round activity documented on the islands of Guam, Saipan, Tinian and Rota (the three largest and southernmost islands of the CNMI). Sea turtles in the Marianas are protected under the U.S. federal Endangered Species Act and local Guam and CNMI laws. The Guam Department of Agriculture Division of Aquatic and Wildlife Resources (DAWR) and the CNMI Department of Land and Natural Resources, Division of Fish and Wildlife (DFW) have monitored nesting activity since 1999. In CNMI, prior to 2009 DFW documented four to eighteen green turtle nests laid per year (DFW unpublished annual reports to PIRO). In Guam, nesting activity is currently documented opportunistically by Haggan-watch, a community-based volunteer network administered by DAWR.

During the 2011 nesting season, in CNMI 31 nests were documented and 4 individual green turtles were observed on Saipan, and no nests were observed on Rota and Tinian though some beaches were not accessible during the time of a rapid assessment. In Guam at least 20 green turtle nests were documented. Of nesting females on Saipan during the summer of 2011, 3 were outfitted with satellite transmitters. One turtle migrated to the Philippines and the second to Japan (Figure 2, DLNR and NMFS unpublished). The third turtle's transmission failed shortly after she began her migration, but her route appeared to follow similar initial trajectory as the turtle which headed to the Philippines. In 2000 and 2007, two post-nesting green turtles were satellite tagged on Guam and they also travelled to the Philippines and Japan, respectively (DAWR unpublished). Additional satellite tracking activities between 2005 and 2007 from other Western Pacific Island nations, including the FSM, Republic of the Marshall Islands and Palau, also suggest regional connectivity exists between the Pacific Islands and the IOSEA Region as some post-nesting females migrated to foraging habitats of Japan, Philippine and Indonesian waters (unpublished satellite tracks).

Genetic samples analysed to date indicate that nesting green turtles in CNMI and Guam are indistinguishable and should be treated as a single management unit (Dutton 2009 unpublished). However, sample sizes are small and additional sampling may reveal other haplotypes. Sufficient information on nesting trend is not available for green turtles in the Mariana Archipelago although anecdotal information from residents suggests that nesting activity has decreased over time, likely as a result of direct harvest, coastal development, and WWII impacts. Illegal harvest and degradation of terrestrial and nearshore habitats continues to be the primary threats to turtles of the Mariana Archipelago.

2. Overview of fisheries interacting with marine turtles

Enforcement activities on foreign poaching of marine turtles, particularly direct capture of hawksbill turtles, was followed-up in consultation meetings with Sabah agencies. The issue was reported in one

of the ASEAN-SEAFDEC meetings, showing that it is regional in scope, involving marine turtles in Malaysia, Philippines and Indonesia.

Study on sea turtle interaction with fishing operations was conducted by SEAFDEC- Training Department, Bangkok as regional programme. Pilot study on the use of circle hook by bottom long line fishermen was conducted since in 2008 in Cambodia, Indonesia, Malaysia, Myanmar, Thailand and Viet Nam. This study will be continued until 2014.

Study on the use of TEDs on shrimp trawlers was actively conducted in Sandakan and Kemaman waters of Malaysia. Promoting the use of TED's was conducted as a regional programme of SEAFDEC- Training Department, Bangkok from 2005 to 2009.

Collection of information on sea turtle interaction with fishing operations in Southeast Asia countries was conducted by SEAFDEC -Training Department, Bangkok. The results indicated that gill nets and trawl nets are the major fishing gears that could cause mortality of sea turtles in the region. Guidelines on how to reduce mortality of turtles caught by fishing gear and guidelines for handling sea turtles caught incidentally were disseminated to Southeast Asian countries.

Collection of information on poaching activities of sea turtles in Southeast Asia have been conducted by SEAFDEC-MFRDMD, Kuala Terengganu. To date, these activities still occur in the region especially by foreign vessels.

Introduction of TEDs by one of the trawl fishing operators in Sabah. This activity was funded by CI Philippines and conducted by Dr. Nicholas Pilcher. It is also for the benefit of the Philippine-Sabah Turtle Islands Heritage Protected Area.

Circle hook research conducted by WWF Philippines with some fishing vessels. Good result on by-catch for marine turtles, but increased by-catch for sharks.

3. Overview of coastal development issues

Beach erosion occurring in Malaysia, Thailand and other countries in SEA is a great issue that impacts the sea turtle nesting populations. This impact may result in the loss of some of the region's nesting beaches for sea turtles.

Rapid coastal development and concomitant increase in light pollution has affected the nesting population of sea turtles in SEA countries.

The Malaysian government has produced guidelines for coastal development with regards to sea turtles populations.

4. Future (national) planned activities of interest to, and possibly benefiting from collaboration with, other countries of the sub-region

SEAFDEC-MFRDMD Malaysia is conducting population genetics studies on hawksbill turtle in Southeast Asian countries. This collaborative study was started in 2010 and will end in 2013. The objective is to determine the sub-population of adult female hawksbill turtles in the region. Tissue samples of adult hawksbill turtles were collected from several nesting beaches in Myanmar, Viet Nam, Indonesia and Malaysia.

SEAFDEC-MFRDMD Kuala Terengganu also conducts population genetics of green turtles in Lawas (Sarawak, Malaysia) and Sipadan Island (Sabah, Malaysia) foraging habitats. A total of 30 and 85 tissues samples of green turtles were collected, respectively. The study was started in 2011 and will end in 2013.

SEAFDEC-MFRDMD Kuala Terengganu is planning to collect information on poaching of sea turtles in Southeast Asia. The format for collecting information will be disseminated to member countries in May 2012. SEAFDEC participant countries will be requested to submit and present the information in the Regional Consultation Meeting in 2013.

SEAFDEC-MFRDMD Kuala Terengganu Malaysia will conduct satellite telemetry studies on sea turtle at Sipadan Island sea turtle foraging habitat in 2012.

5. Use of, and possible contributions to, various IOSEA Online Tools: Reporting Facility, Satellite Tracking Metadatabase, Bibliography Resource, Genetics Directory, Projects Database, etc.

The IOSEA online tools are useful and the website serves as a platform to exchange information among the Signatory States.

In Southeast Asian countries there are two regular regional forums on sea turtle conservation: (i) SEASTAR Symposium on Sea Turtles and Endangered Species organised by DoF Thailand and Kyoto University, Japan and (ii) Regional Technical Consultation Meeting which is organised by SEAFDEC.

In order to enhance the information in IOSEA online tools, it is essential that the information gathered by these two forums is sent to the IOSEA Secretariat for incorporation in the website.

6. Details of planned meetings, workshops of possible relevance to other countries

Several regional fora will be conducted in Southeast Asian countries which could be beneficial for the countries of the sub-region:

The 8th International Symposium on SEASTAR2000 and Asian Bio-logging Science
(The 12th SEASTAR2000 Workshop): 20-21 February 2012, Bangkok, Thailand.

Regional Technical Consultation Meeting on Research and Management Plan on Sea Turtle Foraging Habitats in Southeast Asian Waters: October 2013, Kuala Lumpur.

7. Identification of broader opportunities for sub-regional exchanges, or other financial or technical support

Nothing reported

8. Reporting on developments of interest regarding marine turtle conservation activities of other relevant sub-regional / regional organisations

SEAFDEC is conducting the regional research programme – Research and Management of Sea Turtle Foraging Habitat in Southeast Asian Waters. The activity was funded by the Japanese Government starting in 2010 and ending by 2014. The programme consists of 4 activities; (i) Information collection

on population status of sea turtles in foraging habitat (ii) Information collection on threats to sea turtles in foraging habitat, (iii) Survey on ecological parameters in foraging habitat, (iv) Identifying Stock Composition and Migration Pattern of Sea Turtles in Selected Foraging Habitat and (v) Information gathering on sea turtle interaction in marine capture fisheries.

9. How to increase engagement of IOSEA Focal Point between meetings

As noted elsewhere, in Southeast Asia there two regional meetings that are conducted regularly every year: (i) SEASTAR 2000 Workshop and (ii) SEAFDEC Regional Consultation Meeting in which most of the scientists or focal point in the region participate.

For countries such as Timor Leste and Papua New Guinea which usually do not participate in both regional fora, the group suggested that IOSEA consider the possibility of providing financial support for their participation in both fora.

10. Confirmation of sub-regional Focal Point representation

Indonesia remains the Focal Point of Southeast Asia sub-region.

11. Any other business

The following gaps in expertise were identified among researchers and officers for conducting marine turtle conservation in the region:

Satellite telemetry study – Cambodia, Indonesia, Myanmar, Brunei Darussalam and Viet Nam still need technical assistance for conducting these studies. Most of the countries have limited budget to conduct such studies, since the cost of the equipment is expensive.

Flipper tagging. – Cambodia, Indonesia, Myanmar, Brunei Darussalam and Viet Nam still need funding to purchase the material and as well as manpower to carry out the tagging exercises.

Genetic studies – Currently only Malaysia and Thailand had conducted this study. Other countries have been involved in collaborative work in collecting tissue samples.

Study on the effect of climate change in monitoring nest temperature at turtle hatcheries – Currently only Malaysia and Thailand have conducted studies at selected hatcheries.

Analysing tagging data – Most of the researchers need guidance and technical assistance for analysing the flipper tagging data. In the Southeast Asia region there are some nesting beaches where long term tagging exercises have been conducted for more than 20 years. These nesting beaches are: Selingan Island, Bakungan Island, Talang-Talang Island, Cagar Hutang, Mak Kepit, and Cherating (Malaysia).

Report prepared (with inputs from participants) by

SYED ABDULLAH BIN SYED ABDUL KADIR (MALAYSIA)
RESOURCE PERSON, SOUTHEAST ASIA SUB REGION

ANNEX 6: RESOLUTION TO ESTABLISH THE IOSEA NETWORK OF SITES OF IMPORTANCE FOR MARINE TURTLES IN THE INDIAN OCEAN – SOUTH-EAST ASIA REGION

Adopted by the Signatory States at their Sixth Meeting (Bangkok, 2012)

Recalling that the IOSEA Marine Turtle Memorandum of Understanding encourages cooperative measures for the protection, conservation and management of marine turtles and their habitats throughout the Region;

Recalling further that the Tenth Meeting of the Conference of the Parties to the Convention on Migratory Species (Bergen, November 2011) adopted Resolution 10.3 on the role of ecological networks, which calls upon Signatory States to CMS Memoranda of Understanding to consider the network approach in the implementation of their instruments;

Recognizing the need to identify and promote the long-term conservation of sites of regional value for benefit of marine turtles and their habitats throughout the IOSEA region, while respecting existing national designations;

Appreciating the importance of coordinating efforts with the many other initiatives and programmes at various levels that provide for the designation and protection of sites of importance for biodiversity in the IOSEA region;

Acknowledging the substantial developmental work undertaken by the Secretariat, the Advisory Committee, and the Site Network Working Group to refine the site network proposal since the Fifth Meeting of the Signatory States (Bali, 2008);

Further recognizing the importance of the role of IOSEA in providing technical oversight and international legitimacy to cooperative conservation efforts in the region, and acknowledging the leading role of Signatory States in the designation and active management of sites of importance for marine turtles;

The Sixth Meeting of Signatory States to the IOSEA Marine Turtle Memorandum of Understanding:

1. Agrees to establish the IOSEA Network of Sites of Importance for Marine Turtles, as described in Annex 1;
2. Requests the Advisory Committee to review and, as necessary, revise the Site Evaluation Criteria described in Document MT-IOSEA/SS.6/Doc. 7 / Working Paper #2, prior to the submission of site nominations; and to draw attention to any further adjustments that may warranted in the course of using the criteria;
3. Requests the Secretariat to circulate to all Signatory States, by 31 May 2012, the revised Site Evaluation Criteria for final review and written comment by Signatory States no later than 31 July 2012; with a view to circulating a final version of the Site Evaluation Criteria by 31 August 2012;
4. Encourages Signatory States to begin preparing and submitting site nominations, as of September 2012 until six months prior to the Seventh Meeting of the Signatory States, tentatively anticipated to take place in the first half of 2014;
5. Agrees to consider, at the Seventh Meeting, recommendations of the Advisory Committee for the possible inclusion of network sites, to enable the network to be formally launched in 2014;
6. Decides to establish a steering committee to seek financial support for the implementation of the Site Network and to consider other operational issues that may arise inter-sessionally.

ANNEX 1: Guidance for the Establishment of a Network of Sites of Importance for Marine Turtles in the Indian Ocean – South-East Asia Region

Acknowledgements

A major revision of the IOSEA Site Network proposal was developed and refined by Dr. Eric Gilman (consultant) and Douglas Hykle (IOSEA Co-ordinator) between April 2010 and May 2011. The contents have benefitted from review and comment by members of the Site Network Working Group established by the Fifth Meeting of IOSEA Signatory States, chaired by Alexis Gutierrez (United States); the IOSEA Advisory Committee; and other experts around the IOSEA region. The individual contributions of Ali Al-Kiyumi (Oman), Lee Butcher (Australia), Renato Cruz (Philippines), Dr. Jack Frazier (United States), Jillian Grayson (Australia), Dr. Mark Hamann (Australia), Dr. George Hughes (South Africa), Meera Koonjul (Mauritius), Dr. Ronel Nel (South Africa) and Francesa Marubini (United Kingdom) are gratefully acknowledged. The document has benefitted from further input and refinement by participants of the Sixth Meeting of IOSEA Signatory States (Bangkok, January 2012).

Executive Summary

The Signatory States to the *Memorandum of Understanding on the Conservation and Management of Marine Turtles and their Habitats of the Indian Ocean and South-East Asia* (IOSEA Marine Turtle MoU) have considered options for the establishment and administration of a *Network of Sites of Importance for Marine Turtles in the Indian Ocean – South-East Asia Region* (IOSEA Marine Turtle Site Network). The network will serve as a mechanism for sites to operate more cooperatively and synergistically, both ecologically and administratively, rather than working in isolation with minimal coordination.

The overarching goal of the IOSEA Marine Turtle Site Network is to promote the long-term conservation of sites of regional value for benefit of marine turtles and their habitats.

The IOSEA Marine Turtle Site Network objectives are to:

(i) Provide a regional mechanism to enhance the conservation of sites of importance to marine turtles;
(ii) Derive ecological and governance benefits that are not possible to achieve by managing individual sites in isolation;
(iii) Contribute, through enhanced regional conservation of marine turtles and their habitats, to more effective maintenance of ecosystem services that support human well-being; and
(iv) Catalyse opportunities for participatory resource management and community development centred on marine turtles, through network-wide information exchange.

A number of benefits arising from the site network are critical to achieving regional-scale objectives. These include:

- Optimal use of limited resources for governance. A fully functional network will coordinate available financial, technical and human resources to conduct common training, facilitate exchange of information on best practices, carry out joint research and monitoring, undertake performance evaluation, and encourage adaptive management;
- Enhanced local-to-global scale recognition of the importance of the networked sites, on the strength of a credible selection process. This in turn should catalyse increased support and resources for more effective site-based and regional management;
- Mitigation of adverse socio-economic impacts over a wider geographic scale. Activities incompatible with marine turtle conservation cannot be eliminated entirely, but such activities may be restricted at selected network sites in a way that diffuses adverse impacts across the wider region;

- Protection of ecological connectivity between habitats through strategic spacing and shape of sites; and
- Optimisation of regional resistance and resilience of marine turtle habitats to environmental stress. This will be achieved by including and managing sites containing marine turtle habitats necessary for different life cycle phases, by protecting multiple examples of each habitat type, and by including sites that act as refugia to current and predicted stress.

Countries will be invited to nominate turtle nesting beaches and adjacent areas considered to be important sites for marine turtles and, in doing so, will hopefully have an added incentive to secure additional resources and protection at the sites. However, provision of additional resources is not a binding commitment or obligation upon joining the network. Site nominations must come from governments, to assure the highest level of recognition, but proposals can be drafted by other interested parties.

The need to prepare a baseline site assessment is the only fundamental requirement associated with site nomination. This exercise will be extremely valuable in and of itself, especially if one has never been conducted previously. In addition to helping identify constraints and management gaps, the assessment will lend credibility to the site selection process and will help to match potential donors to specific site needs.

Nominated sites will be recommended to the Meeting of IOSEA Signatory States for inclusion in the network based on an objective evaluation of each submission against a suite of criteria, to be conducted by the IOSEA Advisory Committee.

It is agreed that nominating a site to the network should not impose any new binding financial commitments or any new legal obligations on Signatory States. Beyond that, the structure and operation of the IOSEA Marine Turtle Site Network will depend largely on the financial resources made available for its development. Three possible models are presented to reflect different scenarios - ranging from little or no new funding to substantial investment by interested donors.

* * *

This document serves to: (1) explain the rationale for the site network proposal; (2) present a draft suite of criteria against which to assess sites for possible inclusion in the network; (3) describe a process for site nomination and evaluation of candidate sites; and (4) present alternative approaches for coordinated governance of sites included in the network.

1. BACKGROUND, PURPOSE AND BENEFITS OF AN IOSEA MARINE TURTLE SITE NETWORK

1.1. Background

The *Memorandum of Understanding on the Conservation and Management of Marine Turtles and their Habitats of the Indian Ocean and South-East Asia* (IOSEA Marine Turtle MoU) is a non-binding framework under the Convention on Migratory Species through which States and organisations of the Indian Ocean and South-East Asia region, and other concerned States, are working together to conserve and replenish depleted marine turtle populations for which they share responsibility. The IOSEA Marine Turtle MoU took effect in September 2001 and has 33 Signatory States (as of December 2011). Supported by an Advisory Committee of eminent scientists and complemented by the efforts of numerous nongovernmental and intergovernmental organisations, Signatory States are working towards the collective implementation of a Conservation and Management Plan comprising 24 programmes and 105 separate activities.

Governments and numerous other organisations have undertaken marine turtle conservation activities in the Indian Ocean and South-East Asia region for many decades, allocating substantial financial, institutional and staff resources for this purpose. Impressive achievements have been realised on local, national and regional levels. The establishment of the *Network of Sites of Importance for Marine Turtles in the Indian Ocean – South-East Asia Region* (IOSEA Marine Turtle Site Network) will serve to recognise these past efforts, while more effectively achieving regional-scale ecological and governance objectives that single protected sites cannot achieve in isolation.

The concept of a network of sites of importance for marine turtles has been under development for several years, having been introduced initially in 2004 at the second Meeting of the IOSEA Signatory States. While the development of the site network concept has progressed since the idea was first presented, divergent views persisted about several aspects of the proposal. Among the primary issues were: what would the governance structure of the network entail, how would sites be evaluated for inclusion and ultimately chosen, and what additional obligations, if any, would be required of governments. This document further elaborates these issues for consideration and discussion by the Signatory States.

The present initiative serves to:

- explain the rationale for the site network proposal;
- present a draft suite of criteria against which to assess sites for possible inclusion in the network;
- describe a process for site nomination and evaluation of candidate sites; and
- present alternative approaches for coordinated governance of network sites.

1.2. Context

The IOSEA region is host to six species of marine turtles: Loggerhead *(Caretta caretta)*, Olive ridley *(Lepidochelys olivacea)*, Green *(Chelonia mydas)*, Hawksbill *(Eretmochelys imbricata)*, Leatherback *(Dermochelys coriacea)*, and Flatback *(Natator depressus)*. Across the region, there are several examples of decades-long conservation programmes whose management interventions have contributed to stable or increasing turtle populations. In addition, several countries can boast significant turtle populations that, if not still thriving, have remained resilient in the face of increasingly diverse and escalating human pressures.

However, many of the region's marine turtle populations have declined significantly, some having been almost eliminated. Various factors are thought to have contributed to unsustainable turtle mortality, including: widespread and intense exploitation of eggs, meat and shell, fisheries-related mortality (by-catch), destruction and degradation of critical habitats, pollution, climate change, and inappropriate management practices. Consequently, where marine turtles were once a substantial economic and cultural resource in many parts of the IOSEA region, costly management interventions are now required to protect marine turtles and their habitats.

Marine turtles depend on diverse habitats at different phases of their life cycle, including suitable beaches for nesting and coastal waters for foraging and reproduction. Yet the importance of many of these coastal habitats – critical not only for marine turtles, but for a wide range of species as well as ecosystem services critical for human wellbeing – is often not recognised. Short-term economic interests trump restrictions necessary to ensure long-term sustainability.

A lack of awareness and understanding of the ecological and other values of these unique habitats may lead to inappropriate development of areas at the expense of coastal ecosystem integrity, as well as the conservation of marine turtles. In some areas marine turtles and their habitats may be protected on paper, through appropriate national legislation and regulations, yet the implementation of adequate

conservation measures on the ground is often lacking. In either case, there are adverse impacts for the coastal communities that rely on the services provided by these ecosystems.

Protecting areas critical for the region's marine turtles will simultaneously yield a range of socio-economic benefits for people. Maintaining coastal water quality, protecting habitat used as nursery grounds for seafood species that support commercial and subsistence fisheries, and generally protecting mangrove and reef habitat in a way that reduces threats from coastal hazards – such as erosion, flooding, and strong wave action – is good for humans as well as turtles.

The overarching goal of the proposed IOSEA Marine Turtle Site Network is thus to promote the long-term conservation of sites of regional value for benefit of marine turtles and their habitats.

Site networks, a collection of individual sites operating cooperatively and synergistically, both ecologically and administratively, can achieve ecological and governance benefits that single protected sites cannot achieve in isolation. These include:

- Optimal use of limited resources for governance. A fully functional network will coordinate available financial, technical and human resources to conduct common training, facilitate exchange of information on best practices, carry out joint research and monitoring, undertake performance evaluation, and encourage adaptive management;
- Enhanced local-to-global scale recognition of the importance of the networked sites, on the strength of a credible selection process. This in turn should catalyse increased support and resources for more effective site-based and regional management;
- Mitigation of adverse socio-economic impacts over a wider geographic scale. Activities incompatible with marine turtle conservation cannot be eliminated entirely, but such activities may be restricted at selected network sites in a way that diffuses adverse impacts across the wider region;
- Protection of ecological connectivity between habitats through strategic spacing and shape of sites; and
- Optimisation of regional resistance and resilience of marine turtle habitats to environmental stress. This will be achieved by including and managing sites containing marine turtle habitats necessary for different life cycle phases, by protecting multiple examples of each habitat type, and by including sites that act as refugia to current and predicted stress.

There are many other initiatives and programmes at various levels that provide for the designation and protection of sites of importance for biodiversity in the IOSEA region, including those of The World Heritage Convention, UNESCO's Man and Biosphere Programme, the Ramsar Convention on Wetlands, the Programme for the Red Sea and Gulf of Aden (PERSGA), and the Association of Southeast Asian Nations (ASEAN). IOSEA should coordinate with the aforementioned initiatives in the design and implementation of the IOSEA Marine Turtle Site Network.

1.3. Objectives

The objectives for the IOSEA Site Network are founded on the stated objective of the IOSEA Memorandum of Understanding, "to protect, conserve, replenish and recover marine turtles and their habitats, based on the best scientific evidence, taking into account the environmental, socio-economic and cultural characteristics of the signatory States," (IOSEA, 2009a). The proposed IOSEA Site Network is an important adjunct for fulfilling the six objectives of the IOSEA MoU *Conservation and Management Plan* (IOSEA, 2009b).

The objectives of the IOSEA Marine Turtle Site Network are to:

(i) Provide a regional mechanism to enhance the conservation of sites of importance to marine turtles that might otherwise not be adequately protected, that will attain additional benefits from being in a network irrespective of their current status, and that serve as regional models of effective governance;
(ii) Derive ecological and governance benefits that are not possible to achieve by managing individual sites in isolation;
(iii) Contribute, through enhanced regional conservation of marine turtles and their habitats, to more effective maintenance of ecosystem services that support human well-being; and
(iv) Catalyse opportunities for participatory resource management and community development centred on marine turtles, through network-wide information exchange.

2. SITE INFORMATION SHEET

The completion of a site information sheet is an important prerequisite for the nomination of a site to the network. It provides the justification for a site to be included in the network and is the basis upon which the merits of including a site will be evaluated by the IOSEA Advisory Committee. The sheet includes baseline information on the site; describes the current and / or planned management framework; and identifies any resources already committed or foreseen for management of the site.

The exercise of preparing such an assessment will be extremely valuable in and of itself, especially if one has never been conducted previously for the site. In addition to helping identify current constraints and management gaps, it will lend credibility to the site selection process and will help to match potential donors to specific site needs. A well-prepared site information sheet can also be used to assess management progress at regular intervals.

All site information sheets will be compiled in a searchable database that will be maintained on the IOSEA website for public viewing, thus providing another vehicle for publicising the importance of the site to the international community.

The outline of an *IOSEA Marine Turtle Site Network Information Sheet,* presented in Appendix 1, is adapted from existing site network materials from the Convention on Migratory Species (2007) and the Ramsar Secretariat (2009). In due course, a template will be prepared together with explanatory notes to facilitate the submission and processing of requested information.

3. NOMINATION AND EVALUATION PROCESS

Government agencies will nominate sites to become part of the IOSEA Marine Turtle Site Network by addressing a covering letter to the IOSEA Secretariat, accompanied by the required Site Information Sheet(s). Appendix 2 contains a template for a covering letter that a Signatory State Focal Point may use for this purpose. Nominations may be submitted to the Secretariat at any time, at least six months before the Meeting of Signatory States. Interested nongovernmental organizations, academic institutions and the private sector are encouraged to suggest sites for possible formal nomination by governments, and may assist governmental bodies in the preparation of the Site Information Sheet. However, the formal submission must be made by the national IOSEA Focal Point for the country in whose jurisdiction the site is located. In the longer term, it may be useful to encourage a sub-regional approach to both nomination and evaluation, in order to promote interaction among neighbouring countries as well as familiarity with the sites in question.

The IOSEA Advisory Committee will evaluate all site nominations against a suite of criteria, defined in Section 4. The Committee may call upon independent reviewers / local experts to assist in its evaluation, in cases where specialized expertise and knowledge about a particular site is lacking or where additional capacity is needed to deal with the number of submissions.

Whereas nominations may be submitted at any time, the Advisory Committee will review them only two times per year, for sake of efficiency and to facilitate relative comparisons across sites. These reviews will take place approximately 12 months and six months prior to the regular Meeting of IOSEA Signatory States.

The Advisory Committee will comment on the nominations, suggest any necessary amendments or improvements, and make recommendations to the Meeting of IOSEA Signatory States for inclusion or rejection based on the results of their assessment. The Secretariat will circulate the Advisory Committee's recommendations to IOSEA Focal Points no later than three months prior to the regular Meeting of the Signatory States.

Each Meeting of the Signatory States will have on its agenda the consideration of any new candidate sites, and will either endorse or reject the inclusion of a given site. When relevant, rejections may be accompanied by specific recommendations about what would be needed for the nomination to be approved.

4. CRITERIA TO EVALUATE THE INCLUSION OF SITES IN THE NETWORK

The suitability of including individual sites in the network will be assessed against a suite of criteria, which will help to assure minimum standards and add credibility to the selection process. This is necessary to ensure that the site network meets its rigorous ecological and socio-economic criteria, to promote effective governance of individual sites and the network at large, and to secure confidence among the donor community of the likelihood of success of initiatives conducted at individual sites, as well as network-wide activities.

The selection criteria are divided into four categories: Network-wide, Ecological / Biological, Governance-related, and Socio-economic / Political. A weighting scheme is use to differentiate the relative importance of the various criteria. The maximum value assigned to each criterion determines its relative importance in the overall rating. Points are awarded against each criterion, up to its maximum value. For a site to be recommended for inclusion in the network, it must obtain a minimum score against each of the four categories, as well as a minimum total score.

This design is intended to allow sites that might be deficient in some areas still to be included in the network on the basis of their strengths in other areas, while setting a minimum standard for inclusion. The thresholds are also designed so that both sites with nesting beaches and sites with other habitats would be able to meet minimum thresholds.

A separate IOSEA Site Network Evaluation Criteria paper describes these criteria and the rationale behind them in more detail and defines, for each criterion, a scale that evaluators can use to assess more precisely the merits of a particular submission.

The IOSEA Advisory Committee will use the criteria to: (i) evaluate nominations of new sites; (ii) re-assess the rationale for continued inclusion of existing sites; and (iii) conduct gap analyses for the overall network to identify priorities for inclusion of additional sites. The Site Information Sheet (Appendix 1) provides all the information needed for objective assessment of nominated sites.

5. OPTIONS FOR NETWORKING SITES

It is agreed that adding a site to the IOSEA Site Network should not impose any new binding financial commitments or any new legal obligations on Signatory States. The three models presented below represent a continuum, with implementation measures and network coordination being largely dependent on available financial resources. Different levels of cost are associated with the alternative designs that can be envisaged. Combinations of aspects of the designs presented in these three alternatives are also feasible. Table 2 provides a summary of the continuum of networking activities possible under each of the three Models.

5.1. Model 1: Limited or No New Funding Available

Under this scenario of limited or no new funding, it may be difficult to achieve increased networking of sites. Nonetheless it is expected that regional and international recognition resulting from inclusion of sites in the network will help to raise their profile.

Each site will be inaugurated through a dedication ceremony, including provision of an IOSEA certificate to the Signatory State, and installation of appropriate signage identifying the site's inclusion in the IOSEA Marine Turtle Site Network. A dedicated page for each site will be created on the IOSEA website to publicise its main features. Emphasis will be given to identifying, as concretely as possible, the particular resource needs of each site. It is hoped that this increased attention may lead to additional funding that can be made available for conservation and management interventions at the site.

Even in the absence of significant new funding, ties can be developed among network sites – for example by twinning pairs or larger numbers of 'sister sites'. These sister sites can begin to coordinate their human, technical and financial resources with the aim of conducting collaborative staff training, outreach, monitoring, and management activities.

In the course of applying for inclusion in the network, a site manager and / or collaborators will have conducted basic field and desk research in order to prepare the IOSEA Site Network Information Sheet (Appendix 1). This will serve as a benchmark against which to measure progress and to guide adaptive management - with a goal of maintaining and augmenting the long-term site-specific and network-wide values of the site. Analyses of ecological gaps in the network will help to guide its systematic growth, to ensure that it is achieving the desired objectives.

5.2. Model 2: Moderate New Funding Available

Under this scenario, new funding will be used to increase the networking of all sites through coordinated activities, including financial support to implement formal mechanisms for the coordination and sharing of technical, financial and human resources between subsets of sites in the network. Also under this scenario, new site management plans or improvements of existing plans will be developed for a number of 'model' sites. Available funding will also be used to undertake some prioritized interventions at these sites.

Site management plans will contain the following elements, some of which will have been documented already in the original site network nomination (those identified below with an asterisk):

- Executive summary, covering essential issues and key decisions;
- Introduction, defining the site's contribution to the network, purpose of the plan, and legal basis, as appropriate, for the development of the plan;

- Statement of the goal and objectives for establishment of the IOSEA Network site, and its inclusion in the site network, categorizing these into short, medium and long-terms;
- Definition of the site's boundaries, and a geographic description of its setting and accessibility*;
- Baseline inventory descriptions of the site's resources, of relevance to decisions for the site's management*;
- Description of past and present types and levels of activities and resource uses*;
- Documentation of past and current threats to the site's resources*;
- Description of the site's existing legal and management framework*;
- Explore the potential for legal status, as appropriate, and integration in national planning framework;
- Description of stakeholder involvement in the site selection and planning processes and their planned continual involvement in implementation of all aspects of the management plan;
- Statement of policies, plans, actions, inter-agency agreements and responsibilities of individual agencies relevant to meeting the objectives of the protected site and to mitigate threats and conflicts;
- Zoning plan, if relevant, and definition of permitted and prohibited activities within each zone;
- Regulations, where appropriate, to implement the permitted and prohibited activities;
- Contingency plan for emergencies;
- Sustainable financing plan;
- Establishment of data collection / management systems using standardised protocols;
- Methodology for incorporation of results of monitoring, research, evaluation into planning;
- Negotiation, as appropriate, of agreements to achieve a sustainable level of traditional use of marine turtles through a collaborative management framework, that might also provide for alternative livelihoods;
- Process for the preparation of periodic performance assessment, workplans, and reporting;
- Plan for meeting reporting requirements and other obligations of being a component of the IOSEA Marine Turtle Site Network; and
- An assessment of the financial, human and physical resources required to establish and manage the protected site, including: staffing, equipment and facilities, training, budget, outreach and education, monitoring, research, rehabilitation, conservation interventions to address threats, surveillance and enforcement, performance evaluation and adaptive management.

5.3 Model 3: Substantial New Funding Available

Under this scenario, significant resources will be available to implement activities at individual sites and network-wide. Ideally, institutional donors will be attracted to make a major investment in the development and operation of the network, by committing substantial resources towards network-wide coordination activities and fundamental site-based activities, including: infrastructure development, human resource development and capacity-building, conservation interventions, community engagement and information sharing, and networking among sites.

Initial funding will be used to improve network coordination and to implement management plans at selected sites - including a budget for subsequent infrastructure and human resource development, and activities to address priority threats to marine turtles and their habitats. Depending on the nature of the site and the amount of funding available, the following site-based activities are envisaged:

Infrastructure development:

- Construction or upgrading of visitor (information) centre;
- Construction of guard stations, as appropriate;
- Non-expendable equipment procurement and maintenance (e.g., for patrolling on land / sea); and
- Provision of standard beach-management kits (e.g., basic research, monitoring equipment).

Human resource development and capacity-building:

- Recruitment or (re-) assignment of personnel (manager, guards, community outreach / education / development specialists, researchers etc.);
- Specialised staff training (methodology, team building etc.);
- If eco-tourism activities are desirable, an eco-volunteer programme ;
- Acquisition of standard reference materials; and
- Staff exchanges with other network sites and related institutions.

Conservation interventions:

- Temporal or spatial restrictions on habitat use, as appropriate;
- In-situ nest (i.e., clutch / egg) protection; measures to minimise mortality from all sources and to maximise the production and survival of hatchlings;
- Ex-situ nest protection in accordance with defined protocol;
- Habitat restoration / rehabilitation, debris removal etc., as necessary;
- Mitigation of undesirable impacts at or near the site (lighting, vehicles, sand extraction, invasive predators, bycatch etc.);
- Research and long-term monitoring programme (on-site collection of biological and sociological data, genetics, tagging, pollution monitoring etc.); and
- Extraordinary re-introduction programme (e.g., egg exchange between rookeries), when necessary / appropriate, with adequate long-term experimental design and monitoring to measure outcomes (i.e., only as a last resort intervention, to test the efficacy of this approach).

Community engagement and information sharing:

- Education and awareness programme for defined audiences;
- Collaborative management framework, including incentives to involve local communities in benefit-sharing (e.g., managed eco-tourism, alternative livelihood development etc.);
- Initiatives to enhance community welfare (literacy, health projects etc.);
- Engagement of relevant nongovernmental and intergovernmental organisations;
- Information exchange with other network sites; and
- Sharing of data with national/regional / global databases (e.g., IMapS, OBIS).

Networking with other sites:

Participate in formal mechanisms for sharing resources with other sites, including training and implementation of standardized monitoring, sharing resources for surveillance and enforcement, and participating in "sister sites" programme.

Network sites targeted for substantial funding will be expected to designate, and preferably undertake to co-finance, a site manager before any disbursement of funds takes place. The site may already be under some form of management, in which case the existing manager could be co-opted to participate in the new framework; otherwise a new manager will need to be appointed for any new site. Disbursement of funds and administrative arrangements may vary from site to site, depending on the prevailing conditions.

Managers at each site in the network will participate in network-wide coordination of governance activities. Each site will also receive educational and technical materials; assistance in implementing a management plan; as well as support for research, monitoring, training, public outreach and educational activities.

Formal arrangements to institutionalize the networking of sites for all sites in the network will be developed and implemented within the funding available - for instance, to provide for the exchange of information and personnel, and sharing of technical and financial resources for monitoring, surveillance, enforcement, staff training, etc.

Table 2. Potential activities for coordination and integration of sites under each of three scenarios for the IOSEA marine turtle site network.

Activity for networking marine turtle sites	Model 1 – Nominal New Funding	Model 2 – Moderate New Funding	Model 3 – Substantial New Funding
Preparation of a Site Network Information Sheet – providing an ecological and governance benchmark for the site	X	X	X
Issuance of IOSEA certification to designate inclusion of the site in the network	X	X	X
Design, production and installation of sigs identifying the site's inclusion in the network	X	X	X
Site profile page on a newly created Site Network section of the IOSEA website, focusing content to the donor community	X	X	X
Creation of 'Sister Sites' mechanisms to promote sharing of financial, technical and human resources	X	X	X
New or improved site management plans developed for a number of 'model' network sites		X	X
Establishment of ad hoc mechanisms for coordination and sharing of technical, financial and human resources (limited in scope)		X	X
Funding allocated for prioritized interventions at 'model' network sites		X	X
Establishment of more substantial mechanisms for network-wide coordination and sharing of technical, financial and human resources			X
Dedicated site managers appointed at selected sites to help implement coordinated network activities			X
Regional educational and technical materials prepared / distributed			X
Networked sites receive technical, financial and human resource assistance in implementing site management plans			X
Substantial and well-coordinated site-based activities are implemented across the network			X

5.4 Roles of the Signatory States, Advisory Committee and Secretariat

The respective roles of the Signatory States, Advisory Committee and Secretariat need to be elaborated in more detail, however the functional responsibilities may be summarised as follows:

Signatory States (individually, unless otherwise noted):

- Develop proposals for site nominations (i.e., prepare Site Nomination Sheets), in consultation with other interested partners. Focal Points are encouraged to discuss and coordinate nominations at the sub-regional level to facilitate coherence within the network.

- Formally submit the site nominations to the Secretariat, for sites located in their jurisdiction.
- Collectively decide whether or not to accept sites for inclusion in the network, taking into account recommendations made by the Advisory Committee.
- Make arrangements for the inauguration of newly listed sites, in collaboration with the Secretariat.
- Examine the potential for collaboration (e.g., twinning / sister-sites) with other sites, with a view to enhancing coordination and cost-effectiveness of conservation efforts.
- Consider the need and possibility to enhance the protection status of listed sites.
- Consider the possibility of increasing the funding available for the development of site management plans, as well as conservation interventions and research activities, at selected sites.
- Keep under review the operation of the site network, and consider proposals for further improvement.

Advisory Committee:

- Review and evaluate proposals for site nominations against the agreed selection criteria; suggest necessary amendments / improvements; and recommend acceptance or rejection of site nominations by the Meeting of Signatory States.
- Review the existing IOSEA Site Network on a periodic basis.
- Within the framework of the IOSEA Technical Support / Capacity-building programme, offer expert advice / technical support (e.g., at selected sites) upon request of Signatory States.
- Make recommendations for improving the operation of the site network.

Secretariat:

- Advise the Signatory States in the preparation and revision of site network proposals
- Coordinate the review process for the IOSEA Site Network.
- Issue IOSEA certification for newly listed sites and cooperate with Signatory States in inauguration activities.
- Develop and maintain a dedicated section of the IOSEA Website to publicise listed sites, including mention of additional resource needs.
- Encourage interested partners to suggest additional sites for inclusion in the network.
- Work with the Advisory Committee to develop technical / training materials suitable for use at network sites.
- Seek additional funding for implementation of activities at individual sites as well as network-wide interventions.

6. NEXT STEPS

This section briefly describes possible preparatory activities to occur in advance of the launch of the proposed IOSEA Marine Turtle Site Network, and components of the site network, for consideration by IOSEA Signatory States.

6.1. Preliminary Activities

IOSEA Signatory States will be invited to submit proposals of candidate sites from which initially up to ten regionally-balanced sites will be selected. The reason for initially limiting the number of sites included in the network is so that efforts are focused on establishing effective demonstration sites that can serve as models elsewhere. Through their national governments, NGOs (including environmental groups, academic institutions and the private sector) will be welcome to suggest possible sites for formal nomination by IOSEA Signatory States, and to assist in the preparation of relevant documentation.

Although the process of identifying appropriate sites for nomination should be rigorous, country-driven and involve a wide range of stakeholders, one may make use of reviews already undertaken in other fora to begin to draw up master lists of candidate sites, for preliminary consideration. A number of sources are readily available for consultation, and have been used to produce an indicative list of sites (Appendix 3). The indicative list has not been screened against the provisional suite of criteria presented in this document. It is merely a compilation of findings from other reviews to identify some areas of importance for marine turtles. The six IUCN Protected Area Categories, familiar to most protected area managers, may be of value in categorizing the sites that are eventually selected to form the network.

6.2. Criteria Validation

It will be constructive to include a continuum of sites in a validation exercise to assess the provisional suite of criteria, as well as the definitions and assigned weights. The criteria can be tested to confirm whether they meet best professional judgement for a range of sites: from those considered not belong in the network, to those that are understood to be of highest ecological importance and clearly warranting inclusion (e.g., relatively least-disturbed reference sites).

6.3. Gap Analysis

There is a need to conduct national and regional-level gap analyses to establish national and regional priorities for the nomination of new sites for the network. The suite of criteria as well as overarching goal and objectives, provide a framework against which to identify gaps in the site network.

6.4. Sustainable Financing

Under the hypothetical Model 3 scenario, IOSEA Signatory States and the Secretariat should seek up to five years of funding to support the initial formation of the site network, after which time the sites would be expected to be self-sufficient or maintained through direct government and other funding. Capital outlays would be expected to be highest in Years 1 and 2, and substantially less in Years 3-5, to cover ongoing operational costs.

Funding needs at site level will differ from site to site, and country to country, depending on local circumstances. In some countries, a site may already have protected status and conservation programmes and infrastructure in place, and will require funding only to meet incremental improvements. In other countries, a site may be designated that has never before benefited from protection, thus requiring substantial investment.

Conceptually, there are at least two ways of presenting the site network proposal to interested donors and partners:

(1) The proposal could be offered as a complete package to a major donor that is able to provide sufficient funding to cover the network development and coordination costs, as well as the operating costs of a certain number of sites (backed by matching funds, as necessary). Administration and disbursement of funds would be handled centrally, so that the donor would need to have only one point of reference. This approach may be attractive to donors that would like to support interventions in multiple countries, without necessarily having to administer the project funding through separate arrangements.

(2) Alternatively, multiple donors may be interested in and / or may have the means only to support activities in individual sites or countries, or certain aspects of implementation at particular sites. In this case, donors may prefer to deal directly with the site management, and each site will be responsible for the administration of funds received. To assure that funds are still available to cover the basic network

development and coordination costs, a certain percentage of the site's budget should be allocated to the coordinating body. In this way, individual sites can participate in and receive support from the network, while paying their fair share of the associated development and coordination costs.

These two approaches are not mutually exclusive, and the network could embrace both of them simultaneously. To complement the funds provided by major external donors, several sources of matching funds are envisaged:

(1) Voluntary contributions from interested governments, towards the overall operation of the site network (not necessarily linked to a particular site);
(2) Financial and in-kind contributions from a site's host country; and
(3) Financial and / or in-kind contributions from interested non-governmental organizations (particularly those already working in the area or at the site), private sector, academic and research institutions, and communities adjacent to the site.

6.5. Performance Assessment and Adaptive Management

Once the site network is operational, the effectiveness of management interventions can be monitored employing a modified version of a tool for "Reporting Progress at Protected Area Sites" (Stolton, 2007). Performance assessments for the network and for individual sites should be conducted according to an established schedule and methodology. Monitoring data and other information from network sites should be shared and compiled to enable periodic evaluation of the efficacy of conservation interventions and to guide adaptive management.

7. REFERENCES

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8. APPENDICES

Appendix 1. IOSEA Marine Turtle Site Network Information Sheet
Appendix 2. Generic Nomination Letter
Appendix 3. Indicative List of Potential Network Sites

APPENDIX 1. IOSEA MARINE TURTLES SITE NETWORK INFORMATION SHEET

The following text will be reformatted as a template, including text boxes and explanatory notes, to make the information easier to fill in and process.

1. **Date of submission:** The date on which the Site Information Sheet was completed.

2. **Name and address of compiler:** Name and contact information (including affiliation) for the person or people who prepared this information sheet, for formal submission through the national IOSEA Focal Point.

3. **Country:** The name of the country in which the site is located.

4. **Name of site:** The name of the site (alternative names should be given in brackets).

5. **Geographical coordinates:** The geographical coordinates (latitude and longitude) of the approximate centre of the site, expressed in 'decimal degrees' or 'degrees, minutes, and seconds'. If the site consists of two or more discrete units, the coordinates of the centres of each of these units should be given.

6. **General location:** A description of the general location of the site. This should include the site's distance (in a straight line) and compass bearing from the nearest "provincial", "district" or other significant administrative centre, town or city. The population of the listed centre and its administrative region should also be stated.

7. **Area:** The approximate area of the site to be included in the network (in hectares or square kilometers).

8. **Physical features of the site:** A short description of the principal physical characteristics of the site, including the marine turtle habitat types occurring at the site. List the ecosystem types included in the site (nesting beach, foraging habitat, reproductive habitat, migratory habitat) and the approximate area in hectares (or km^2) of each habitat type included.

9. **Ecological resources:** A short description of the ecological resources contained in the site, including noteworthy biodiversity (such as land and seascapes, ecosystem types to genetic stocks of populations).

10. **Socio-economic value:** A short description of the principal social values of the site, especially in relation to marine turtles (e.g., tourism, outdoor recreation, education and scientific research, agricultural production, grazing, water supply, fisheries production). Whenever possible, indicate which of these values are consistent with the maintenance of natural functional processes and ecological character, and which values are derived from non-sustainable exploitation or which result in detrimental ecological changes. Also, assess the future socio-economic potential of the site.

11. **Cultural / traditional importance:** Describe cultural values (e.g., historical associations and religious significance). Describe the relative national cultural / traditional importance of the site, particularly in relation to marine turtles.

12. **Jurisdiction:** The name of the government authority with: (a) territorial jurisdiction over the site, e.g., state, region or municipality etc.; and the name of the authority with (b) functional jurisdiction for conservation purposes, e.g., Department of Environment, Department of Fisheries, traditional owners, etc.

13. **Management authority:** The name, address and contact details of the body responsible for the direct local conservation and management of the site.

14. **Current protected status and governance framework:** Mention any nationally relevant protected area status, international conservation designations and, in the case of transboundary sites, bilateral or multilateral conservation measures which pertain to all or part of the site. If a protected area or reserve has been established, give the date of its establishment and size. If only a part of the site is included within a protected area, the area of marine turtle habitat that is protected should be noted. International designations may include sites listed under the World Heritage Convention, Man and Biosphere Reserve Network, other site conservation networks, etc. If appropriate, list the IUCN (1994) protected areas management category / ies which apply to the site.

15. **Land / ocean tenure / ownership:** Details of ownership of the site and ownership of surrounding areas (e.g., state, provincial, private, etc.). Explain any terms that have a special meaning in the country or region concerned.

16. **Current and past land / ocean uses and activities within the site:** Describe the current and past human activities and land uses within the site. Some indication of the relative importance of each form of land use should be given, whenever possible.

17. **Past and current factors adversely affecting the site's overall ecological character, as well as threats to marine turtles and their habitat at the site:** Describe the human and natural factors affecting the ecological character of the site, both within and in the vicinity of the site. These may include existing, new or changing activities / uses, major development projects etc., which have had, are having, or may have a detrimental effect on the natural ecological character of the site. For all adverse and change factors reported, supply measurable / quantifiable information (when such data exist), as well as information on the scale, extent and trend of the change factor and its impact. This information should provide a basis for monitoring of ecological character of the site.

18. **Conservation and management interventions taken:** Describe conservation and management interventions already taken at the site to address threats. Some of this information may have been recorded in abbreviated form in the IOSEA Site Data Sheets, available online (www.ioseaturtles.org / reporting).

    Describe the management planning process for the site, including any management plan, if this has been developed and is being implemented, including whether it has been officially approved. Describe any other conservation measures taken at the site, such as restrictions on development, management practices beneficial to wildlife, closures of hunting, etc. Include also information on any monitoring schemes and survey methods in place at the site. Indicate any other protected area designation that might already apply to the site (e.g., UNESCO status, nationally or regionally-designated MPA etc.)

    If the site is listed as a Ramsar site, mention if the site is included on, or has been removed from, the Montreux Record and provide details of any Ramsar Advisory Missions that have been undertaken to the site.

    Any application of coastal and marine spatial planning, or integrated coastal / marine zone management planning, involving or affecting the site should be noted.

    Provide a brief assessment of the effectiveness of protected area legislation or status of any protected areas whenever possible. Involvement of local communities and indigenous people in the participatory management of the site should also be described.

19. **Conservation interventions proposed, but not yet implemented:** Provide details of any conservation measures that have been proposed, or are in preparation, for the site, including any proposals for legislation, protection and management. Summarize the history of any long-standing proposals that have not yet been implemented, and differentiate between those proposals that have already been officially submitted to the appropriate government authorities and those which have not as yet received formal endorsement, e.g., recommendations in published reports and resolutions from specialist meetings. Also mention any management plan that is in preparation but has not yet been completed, approved or implemented.

20. **Current / proposed scientific research and monitoring:** Describe any current and / or proposed scientific research and information on any special facilities for research. Describe past and current marine turtle monitoring activities at the site (e.g., tagging, satellite tracking, genetic sampling, surveys, ongoing beach monitoring, etc.). Where relevant, identify the number of years of monitoring that has occurred.

21. **Current / proposed communication, education, and public awareness activities:** Give details of any existing and / or planned programmes, activities and facilities for communication, education and public awareness, including training; and comment on potential opportunities for future educational and outreach activities of the site.

22. **Financial resources available for management of the site and other activities:** Identify financial resources (incuding in-kind contributions) available to address immediate and near-term costs, and financial resources available for longer-term sustainable financing.

23. **Additional resource needs at the site:** Where specific needs are identified (e.g., skilled personnel, specialised training, facilities, field equipment etc.) indicate how marine turtle conservation activities are presently impaired on account of their unavailability (e.g., inability to carry out regular surveys, to conduct certain types of research, to monitor certain parts of the range etc.) This information may be useful for compiling a general picture of deficiencies and resource needs that could be presented to potential programme sponsors.

24. **References:** List key references relevant to marine turtle records and to the site, including management plans, major scientific reports, and bibliographies. When a large body of published material on the site is available, only the most important references need be cited, with priority being given to recent literature containing extensive bibliographies. Reprints or copies of the most important literature should be appended whenever possible. Provide web-site addresses of references where available.

25. **Site map:** The most detailed and up-to-date map of the site available should be appended to the Site Information Sheet in digital and / or hardcopy format. The ideal site map will clearly show the area boundaries of the site, scale, latitude, longitude and compass bearing, administrative boundaries (e.g., province, district, etc.), and display basic topographical information, the distribution of the main site habitat types and notable hydrological features. It will also show major landmarks (towns, roads, etc.). Indications of land use activities are especially useful.

    The optimum scale for a map depends on the actual area of the site depicted. Generally the map should have a 1:25,000 or 1:50,000 scale for areas up to 10,000 ha; 1:100,000 scale for larger areas up to 100,000 ha; 1:250,000 for areas exceeding 100,000 ha. In simplest terms, the site should be depicted in some detail. For moderate to larger sites, it is often difficult to show detail on an A4 sheet at the desired scale, so generally a sheet larger than this is more appropriate. While an original map is not absolutely necessary, a very clear image is highly desirable. A map exhibiting the above attributes will be more suitable for scanning.

APPENDIX 2. GENERIC NOMINATION LETTER

To:
IOSEA Marine Turtle MoU Secretariat
c/o UNEP Regional Office for Asia and Pacific
United Nations Building
Rajdamnern Nok Avenue
Bangkok 10200, Thailand

Reference number <insert number>
<Insert date>

Dear Sir/Madam,

Re: Nomination of a new site in <insert country name> for inclusion in the IOSEA Marine Turtle Site Network

<Insert country name> recognizes the importance of conserving marine turtles and their coastal habitats and wishes to participate in the Network of Sites of Importance for Marine Turtles in the Indian Ocean – South-East Asia Region (IOSEA Marine Turtle Site Network). established under the Convention on Migratory Species (CMS) Memorandum of Understanding on the Conservation and Management of Marine Turtles and their Habitats of the Indian Ocean and South-East Asia (IOSEA Marine Turtle MoU).

It is my pleasure to nominate the following sites <insert name(s) of site(s)> to join this network in order to further the aim of conserving the region's marine turtles and their coastal habitats. The relevant Site Information Sheet(s) and Site Map(s) are attached.

I understand that this application will be reviewed by the Secretariat and the IOSEA MoU Advisory Committee, which may suggest certain amendments prior to its consideration by the next meeting of the IOSEA Signatory States.

Yours sincerely,

<insert name>
<insert position, organization>
<insert contact details>

Enclosures: Site Information Sheet
Site Map

APPENDIX 3. INDICATIVE LIST OF POTENTIAL NETWORK SITES

The following is an indicative list of sites, determined to be areas of importance for turtles (IOSEA, 2005). The following list does not purport to be comprehensive, nor does it make any judgment as to whether a particular site or area would meet the criteria for, or would benefit from, inclusion in the proposed IOSEA Marine Turtle Site Network. The geographic scope of many of the areas included in this list extends beyond what is envisaged for the site network. Non-Signatory States of the IOSEA Marine Turtle MoU, shown in italics, are included for illustration only.

Country	Name of site / area	Remark	Source **
South-East Asia + neighbours			
Australia	Commonwealth Waters: Coringa-Herald NR, Lohou Reef NR, Ashmore Reef, Field Island; Western Australia: ca. 15 sites identified; Cocos Keeling Island; Queensland: ca. 30 sites identified' Great Barrier Reef Marine Park Area: ca. 35 sites identified; Northern Territory: many sites, including ca. 10 specifically identified.	Multiple species; using nesting, feeding and developmental habitats.	1
Cambodia	ca. 30 specific islands and beaches identified in Sihanoukville and Kampot province	Nesting and feeding grounds	1
Indonesia	Raja Ampat region / Bird's Head Peninsula (Jamursba Medi Beach); Aru Islands	Includes region's largest leatherback turtle nesting site	2
Indonesia	Derawan Archipelago (Berau Islands) – Pulau Sangalaki, Pulau Sammana	Largest green turtle nesting rookery in SE Asia	2
Indonesia	Banda Sea / Lucipara cluster	Hawksbill turtles	2
Malaysia	Terengganu and Pahang States	Nesting leatherbacks (former times; almost extinct)	10
Malaysia / Philippines	Turtle Islands (Talang-Talang Besar, Talang-Talang Kecil and Satang Besar; Boan, Lihiman, Langaan, Great Bakkungan, Taganak, Baguan)	Important nesting sites for green and hawksbill turtles; migration corridor. Turtle Islands Heritage Protected Area in place since 1996.	2
Myanmar	Thamee Hla Island, Diamond and Little Coco Islands	Olive ridley turtles	3
Papua New Guinea	Kamiali Wildlife Area, Labu / Busama, Sio, Saidor, Talasea / Kilu, Madang / Long Island, Daru Island, Gasmata, Manus	Nesting and feeding areas	1
Philippines	Tubbataha-Cagayan ridge / Bastera and Beazley reefs	Important migration route for turtles	2
Philippines	Approx. 30 other specific nesting areas identified in Bataan, Zambales, Batangas, Palawan, Occidental Mindoro, Oriental Mindoro, Sorsogon, Catanduanes, Antique, Negros Occidental, Camiguin, Guimaras, Zambboanga de Sur, Davao City, Misamis Oriental, and Siregao del Sur	Mostly green and hawksbill turtles	1

Thailand	Gulf of Thailand: Kram Island, Kra Island; Andaman Sea: Phrathong Island, Khorkhao Island, Prapat Beach, Thaimuang Beach, Maikhaw Beach, Talibong Island, Similan Island	Nesting sites and feeding habitat, for mostly green and hawksbill turtles	1
Viet Nam	Con Dao islands (14 sites)	Green turtle nesting	6
Viet Nam	Nui Chua (Ninh Thuan), Quang Ninh to Kien Giang coastal areas, including Vinh Thuc Island, Minh Chau Beach, Bach Long Vy Island (Hai Phong), Phu Quy Island; Hon Gam-Ba Lang reefs		6, 8
Various (disputed territory)	Spratley Island group	Marine turtle nesting site	
Northern Indian Ocean			
Bangladesh	St. Martin's Island, Sondia and Kutubdia Island, Enani Beach, Maurdarbari (Sundarban)	Mostly olive ridley, some green turtle nesting	1, 3
India	Gahirmatha and Rushikulya beaches, Bahuda and Devi River mouths (Orissa), Krishna and Godavari River mouths (Andhra Pradesh), Tamil Nadu and Gujarat coasts, Kerala and Karnataka coasts, Andaman and Nicobar Islands, Lakshadweep Islands	Olive ridley, green and leatherback turtles migrating	2, 3
Maldives	Nesting islands in most atolls: e.g., Haa Alifu (Mulhadhoo Island); Baa Atoll (Kunfunadhoo, Maadhoo Islands); Ari Atoll (Hukureulhi Island); Laamu Atoll (Gadhoo Island)	Green and hawksbill turtles (nesting / foraging)	2, 9
Pakistan	Sindh (Hawkes Bay, Sandspit) and Baluchistan coasts	Olive ridley and green turtles nesting	3
Sri Lanka	Rekawa, Bandarawatta, Duwemodara, Kosgoda, Kahandamodara beaches etc (about 15 in total specifically identified)	Multi-species nesting beaches	1, 7
Northwestern Indian Ocean			
Eritrea	Fatuma Island group	Green and hawksbill turtles reported	
Egypt	Red Sea Islands	Green and hawksbill turtles (nesting / foraging)	

Islamic Republic of Iran	Booshehr Province: Nakhiloo, Ommolkaram Islands, Nayband Bay; Hormozgan Province: Shidvar, Hendourabi, Queshm, Lavan, Kish, Hormoz Islands; Oman Sea area (Sistan and Baluchestan Province): Kratti, Tang, Pozm, Chabahar, Miami	Mostly green and hawksbill turtles	1
Jordan	Gulf of Aqaba		
Oman	Ras Al Hadd Cape, Masirah Island / Barr Al Hickman, Dimaniyat Islands, Al Hallaniyat Islands	Ras Al Hadd: most important green turtle rookery in Indian Ocean Masirah: largest loggerhead nesting grounds in the world	1, 2
Qatar	Al Ruwais Island and east coast	Green turtles	3
Saudi Arabia	Ras Baridi, Karan and Jana Islands	Green turtles	3
Saudi Arabia	Jubail Marine Wildlife Sanctuary	Largest green and hawksbill rookery in the Gulf	2
Sudan	Suakin Archipelago, Mohammed Qol Islands		4
United Arab Emirates	Murawah Island – Bu Tini Shoals	Feeding populations of green turtles, nesting hawksbills	2
Yemen	Belhaf – Bir Ali coast; Socotra Archipelago	Important turtle nesting / feeding areas	2
Western Indian Ocean			
Comoros	Moheli, other specific islands / beaches	Mostly green turtle nesting	1, 4, 5
France	Europa, Tromelin, Glorieuse	Very high number of nesting green turtles	2, 4, 5
France	Mayotte archipelago	Approx. 35 beaches important for green and hawksbill nesting	4
Kenya	Approximately 25 specific nesting beaches identified, and other 7 areas identified as feeding grounds	Mostly green and hawksbill turtles feeding	1
Madagascar	Northwest / North: Nosy Sakatia, Nosy Iranja, Nosy Hara; Northeast / East: Masoala, Ile Sainte Marie; Southeast: Ankaramany, Enakao, Ibakoko, Eledrato, Anstsotso, Sainte- Luce, Evatraha; Southwest: Nosy Ve, Ifaty, Toliara	Green, hawksbill, loggerhead, olive ridley turtles	1, 2
Mauritius	St. Brandon atoll, Caragados Carajas shoals, Agalega	Nesting and foraging habitat for green and hawkbill turtles	1, 2, 4
Mozambique	Mainland: south coast Maputo Bay - Ponta de Ouro, Inhambane, Inhassoro; Inhaca Island, Bazaruto Archipelago, Primeiras-Segundas Archipelago	Important nesting, foraging and developmental habitat for green turtles; other sites important for loggerhead and leatherback nesting	2, 4

Mozambique channel	Mozambique channel	Important migratory corridor for all species of turtles in the region (especially greens, leatherbacks and loggerheads)	10
Seychelles	Southern islands: Aldabra group (Aldabra / Asomption & Cosmoledo / Astove), Farquhar group (Farquhar & Providence / Cerf)	Important green turtle nesting, and foraging habitat for immature green turtles and hawksbills	1, 4, 5, 10
Seychelles	Amirantes (esp. D'Arros / St. Joseph, Poivre, Alphone/ St. Francois), Granitic islands (Aride, Bird, Cousin, Cousine, Curieuse, Ste Anne) and Platte & Coetivy	Important hawksbill nesting, and foraging habitat for immature hawksbills and green turtles	1, 4, 5, 10
Somalia	Bajuni	Nesting sites for olive ridley, green and hawksbill turtles	2
South Africa	KwaZulu-Natal coast: Maputaland Marine Reserve, St. Lucia Marine Reserve, Aliwal Shoal, Pondoland, Tsitsikamma Nature Reserve, Aghulas Bank	Mostly leatherback and loggerhead turtles	1, 5
United Kingdom	Chagos Archipelago: Peros Banhos Atoll, Diego Garcia, Salomon Atoll, Egmont Atoll, Chagos Bank (Danger Island, Cow Island)	Hawksbill and green turtles nesting / feeding	1, 2
United Rep. of Tanzania	Mafia Island; Zanzibar: Unguja, Pemba Islands	Hawksbill and green turtles nesting / feeding	

** Information sources:

(1) IOSEA Marine Turtle MoU National Reports (Australia, Bangladesh, Cambodia, Comoros, Islamic Republic of Iran, Kenya, Madagascar, Mauritius, Oman, Philippines, *Papua New Guinea, Seychelles, South Africa,* Sri Lanka, Thailand, United Kingdom).
(2) Proceedings of the 2002 World Heritage Marine Biodiversity Workshop (and related background papers: http://international.nos.noaa.gov/heritage) – UNESCO World Heritage Centre, 2003.
(3) A Marine Turtle Conservation Strategy and Action Plan for the Northern Indian Ocean – IUCN, 2001.
(4) A Strategy to Conserve and Manage the Marine turtle Resources of the Western Indian Ocean Region, Mortimer, 2001.
(5) A Marine Turtle Conservation Strategy and Action Plan for the Western Indian Ocean – IUCN, 1996.
(6) Vietnam's First National Workshop on Marine Turtle Conservation, 2001.
(7) Classification of Marine turtle Nesting Beaches of Southern Sri Lanka (Amarasooriya, 2000).
(8) Proceeding of a Training Workshop (2-4 September 2002) on Marine turtle Research, Biology and Conservation in Cambodia, 2004.
(9) Maldives Marine Research Bulletin, 2000.
(10) Personal communication (J. Mortimer).

ANNEX 7: SUMMARY REPORT OF THE SATELLITE TRACKING WORKSHOP BANGKOK, 25 JANUARY 2012

Coordinator: Dr. Peter Richardson, Marine Conservation Society (MCS), UK

I. INTRODUCTION

A PDF of the introductory presentation by P. Richardson will be made available on the IOSEA website.

The aims of the workshop were to:

- Raise awareness and generate understanding of marine turtle satellite telemetry (SaT);
- Introduce the IOSEA Satellite Tracking Metadatabase and provide an overview of SaT projects in the IOSEA region (http://ioseaturtles.org/satellite_tracking.php);
- Identify gaps in knowledge that could be addressed through future satellite tracking effort;
- Recommend priority populations with respect to future satellite tagging work;
- Produce an IOSEA reference document from the workshop describing conclusions.

The workshop was not intended to be a technical workshop on SaT techniques; a useful collection of presentations on technical aspects can be found at www.seaturtle.org/tagging/workshop2010.shtml and delegates were encouraged to develop working relationships with SaT practitioners in the region before commencing with a new SaT project.

Pros and cons of flipper tagging and SaT

The value of flipper tagging should not be overlooked: flipper tags are cheap, large numbers of turtles can be tagged (an example was given of TCP, Sri Lanka). However, with no effort at the foraging grounds, there tends to be relatively low return numbers and limited information about the animals activity between recaptures. However, with significant research effort on nesting beaches and at identified foraging grounds, one can generate sophisticated and meaningful data (see Limpus et al. 1992). Participants were asked to consider whether existing flipper tag return data available in the IOSEA region had been fully utilised to answer some of the questions that SaT studies may be considered to address.

In contract, satellite tags are expensive and funding is often a determining factor of the number of turtles tagged (i.e., sample sizes tend to be small). There are also additional funds required to support the monthly transmission of data through the satellite (Argos) system. However, there are some free online tools that help with data processing, storage, analysis and management (e.g., seaturtle.org Satellite Tracking and Analysis Tool - STAT).

Both Godley et al. (2008) and McMahon et al. (2011) demonstrate the ever-growing popularity of SaT studies to address sea turtle biology, conservation and management questions.

Which research questions can SaT address?
Priority research areas for sea turtles that SaT could contribute to include (from Hamann et al. 2010):

1. Reproductive biology

1.1. What are the factors that underpin nest site selection and behaviour of nesting turtles?

2. Biogeography

2.1. What are the population boundaries and connections that exist among rookeries and foraging grounds?
2.2. What parameters influence the biogeography of sea turtles in the oceanic realm?
2.3. Where are key foraging habitats?

3. Population ecology

3.3. How can we develop an understanding of sea turtle metapopulation dynamics and conservation biogeography?
3.4. What are the past and present roles of sea turtles in the ecosystem?
3.5. What constitutes a healthy turtle?

4. Threats

4.1. What will be the impacts from climate change on sea turtles and how can these be mitigated?
4.2. What are the major sources of fisheries bycatch and how can these be mitigated in ways that are ecologically, economically and socially practicable?
4.3. How can we evaluate the effects of anthropogenic factors on sea turtle habitats?
4.4. What are the impacts of pollution on sea turtles and their habitats?

5. Conservation strategies

5.1. How can we effectively determine the conservation status of sea turtle populations?
5.3. Which conservation strategies are working (have worked) and which have failed?
5.4. Under what conditions (ecological, environmental, social and political) can consumptive use of sea turtles be sustained?

Examples of previous SaT studies within the region and elsewhere

- Benson et al. (2011) - 89 female leatherbacks tagged on nesting sites in Papua New Guinea, Indonesia and 37 others caught at sea off California using SaT on harnesses. Huge effort has revealed multiple key migration routes and foraging grounds in Pacific.
- Luschi et al. (2006) - demonstrated the importance of integrating environmental datasets with SaT data to show nature of South African leatherback migration between ocean basins, and foraging habitat use. Also demonstrated different migration strategies and foraging sites of different species (loggerheads and leatherbacks) using same nesting beaches.
- Broderick et al. (2007) - repeated tagging of individual green and loggerhead female turtles with intervals of years revealed habitat fidelity and common migration routes. Limpus and Limpus (2001) had also used SaT and flipper tag data to demonstrate loggerhead habitat fidelity.
- Polovina et al. (2006) tracked juvenile loggerhead caught at sea in the Pacific. The research provided information on the activity of a less well-known life stage of sea turtles. SaT is not restricted to studies of mature nesting females.
- McMahon et al. (2007) - demonstrated the types of information that can be collected using SaT in addition to location. Specifically, this paper shows how time-depth-recorders provide insight into diving behaviour and habitat use of sea turtles.
- Witt et al. (2008) - used SaT to look at leatherback inter-nesting habitat use and application to design of protected area.
- Kennett et al. (2004) – used SaT to track 20 green turtles with indigenous communities from a nesting beach and several foraging grounds in the Gulf of Carpentaria, which lay across multiple indigenous sea countries with different community hunting concessions. This data was then used to develop a collaborative turtle use management plan with a number of different indigenous community groups.

- Richardson et al. (2010) - used SaT data from one adult foraging green turtle landed by fishers in Turks and Caicos Islands in outreach aimed at key local stakeholders (fishing community). The tracking of this turtle was publicised with local fisher communities and the promotion of the animal's 5-month, 6,000 km migration led to changes in fisher perspectives on turtle use and management.

SaT in the IOSEA region and what issues need to be considered going forward?

The IOSEA Satellite Tracking Metadatabase is an important resource and provides information on projects in the area, although the database is not exhaustive and delegates were encouraged to report any tracking projects to the IOSEA Secretariat for inclusion in the database. A course mapping analysis of effort (number of turtles tagged) per species per country was presented alongside the regional management unit (RMU) risk / threat analysis maps for each species from Wallace at al. (2010) to show gaps in effort and where they coincided with high risk RMUs.

Questions arising from the presentation for consideration by participants:

- Conservation funding is limited and satellite tracking is expensive, so which priority conservation issues should SaT address?
- Can analysis, publication and sharing of flipper tag return data answer questions and help define questions to be addressed through SaT?
- Does your turtle population need more tracking studies? Would funding be better spent on other conservation actions?
- Which populations should be prioritised in the region and why?
- Do we need to track more male turtles?
- Do we need to track more juvenile turtles?
- What sample size do you need to answer your questions? Can you afford it?
- Which datasets are available for integrated research?
- Are you planning to publish? How, who and where?
- How should stakeholders be involved?
- Are you familiar with developments in technology?
- Have all the ethical questions been considered and methods assessed?
- Should IOSEA develop tracking study planning guidelines and endorse best practice studies?
- How else can IOSEA help with SaT in the region? Invest in the utility of the online database? Hold regional technical SaT workshops?

II. PANEL DISCUSSION / QUESTIONS AND ANSWERS SESSION

Panel: Mark Hamann (Australia), Claire Jean (France), Ronel Nel (Western Indian Ocean Marine Turtle Task Force), B.C. Choudhury (India) and Colin Limpus (Australia).

Question 1. ***J. Frazier (Chair of the IOSEA Advisory Committee) asked the panelists to give their top three considerations that are fundamental before starting a SaT project.***

R. Nel (Chair of the Western Indian Ocean - Marine Turtle Task Force): 1. What is the question you are trying to answer? 2. Which species do you need to tag and how? 3. Can you afford sufficient satellite transmitters and time to answer your question? 4. What work has already been done on the species in the region and what questions were answered? (the IOSEA database could assist with this).

B.C. Choudhury (India): Building on the above: 1. Do you have the know-how? 2. Is this the best option? and 3. Does it have support of other stakeholders with an interest in the area?. Dr. Choudhury then presented a short synopsis of his recent SaT study on olive ridley turtle nesting on

the Orissa coast: One can find support in unusual places! The oil industry can be a source of a lot of funds, as was the case with a case study of the Olive Ridley arribada turtles along the Orissa coast. The nesting sites were known but the distribution offshore was not. In the face of oil exploration in this area, as a precautionary approach to turtle habitat conservation, the initial advice to industry was that no exploration should go ahead. In response, the oil industry invested in research to establish the at-sea distribution of the turtles in their area of interest, thus 70 satellite tags were deployed. Identifying the temporal and spatial use of the area was pivotal in identifying safe zones for exploration. The industry is interested in taking the same approach in other areas. From a scientific viewpoint, the research contributed to an understanding of the pattern of post-nesting migration and the factors affecting migration. The study revealed that turtles nesting on the east coast of India use only the Bay of Bengal area. Those few breeding in southern Sri Lanka probably have some genetic exchange in foraging areas off the south of Sri Lanka only, but they do not seem to enter Bay of Bengal.

C. Jean (France): 1. What is the question? 2. Is SaT really necessary or can other approaches answer the question?, 3. Is it possible to achieve the needed sample size?

M. Hamann (Advisory Committee): Assuming question has been defined, then 1. Can we match the technology to the question (resolution considerations)? 2. Are funds available to tag a sufficient sample size?

C. Limpus (Australia): 1. Have you critically addressed the question you are trying to answer, 2. Have you investigated information available already? This can include recent and archive data and non-turtle information such as geographic data on mapped areas of habitats for example.

Question 2. ***A participant from Oman asked: How do we maximise the longevity of a satellite tag?***

C. Limpus: It's crucial that the right technology is used to answer the specific question. Attachment methods should be fully understood, for example, bio-fouling can be a problem and affects the longevity of the tag and can be mitigated against to some extent. Make sure you maximise the usefulness of the data by integrating with other datasets – telemetry studies benefit from a multi-disciplinary approach.

Question 3. ***R. Nel (panel member) asked: What is the biggest mistake that panel members have made during a satellite study?***

B.C. Choudhury: Not including / informing all stakeholders in the programme; the study could have benefited from input from the fisheries sector, which operates over multiple states.

C. Jean: During the first deployment, researchers did not optimise the parameter settings on the tags and therefore, batteries ran down very quickly and deployments were short. Choose a tested and recommended attachment method and tag duty cycle.

R. Nel: SaT attachment can be very intrusive to the animal, therefore avoid an audience, particularly the media, if inexperienced!.

Question 4. ***A participant from Thailand asked: Can the panel recommend cost savings for countries wanting to start satellite telemetry studies; is it possible to get cheap transmitters?***

M. Hamann: Companies will offer discounts for bulk purchase. However, you also need to consider the cost of the Argos accounts for transmitting the data. IOSEA Advisory Committee members can assist with analytical problems / advice.

C. Limpus: There are other technologies that don't use satellites. There are other systems that are lower cost but have limitations, e.g., archival geo-locator tags, which can store data but don't transmit, so you have to catch the animal again. This might work for inter-nesting animals. They are rechargeable and can be used repeatedly. Also, tags that use mobile phone networks also store data and then download when the animal surfaces within range of the coast (and telephone masts) for data transmission.

P. Richardson asked a series of questions for general consideration:

1. ***Lots of effort has been done, but have we fully utilised it? How can IOSEA assist regional usage of this information?***
2. ***Should IOSEA be more focussed on developing best-practice guidelines?***
3. ***Are there priority RMUs? Populations?***
4. ***The green turtle effort map within the IOSEA database was displayed to show that green turtles, compared to other species, have received a relatively large amount of tagging effort and the question was posed - do we really need to tag more?***

Responses:

R. Nel: Pointed out that the effort has predominantly focussed on adult females and we shouldn't make broad statements about priorities based on this. Future effort is warranted, especially to target males and other age classes.

B.C. Choudhury: Certain management decisions still need information on green turtles – especially fine-scale habitat use.

C. Limpus: Agreed that there are management questions that additional tagging of green turtles will answer. The green turtle is the most utilised and has the most genetic stocks and so there is a need for continued directed studies for the stocks.

R. Nel: New tagging programmes have always led to new discoveries, for example, range extension of a population, so there is a need to continue SaT studies on green turtles in the region.

Question 5. ***A participant from Iran asked: What is a reasonable sample size?***

C. Limpus: Has to be tailored to the question. Consider the number of tags to get representative coverage: a question about long-range migration would require a different 'survey design' to one addressing habitat use.

B.C. Choudhury: Funding is often driving capacity, so must work within available funds.

M. Hamann: Each genetic stock needs defining. Olive ridley studies in India are not particularly informative for Australia because they are a different stock and so Australia needs more studies.

Question 6. ***Follow-up question from Iran: Has there been a comparison between the use of satellite tracks and flipper tags? How does the information compare?***

C. Limpus: Australia holds 100s of records of flipper tags that link nesting sites to distant foraging areas, but such studies do not give the pathway. If you look at these in conjunction with satellite telemetry data, then the *actual* path can be seen.

III. SUB-REGIONAL WORKING GROUPS: SUMMARY OF SaT PRIORITIES

A. WESTERN INDIAN OCEAN (Participants included: France, Kenya, Madagascar, Mauritius, Tanzania, UK)

Management priorities for SaT studies:

- Fisheries interactions along migration routes;
- Links between nesting and foraging sites and priority areas for conservation;
- Integration of local communities into the programmes to raise awareness and attract support;
- Effectiveness of MPAs – do they capture important marine habitats?

Priority turtle populations for further SaT study:

- Chagos Archipelago – nesting green turtles and foraging hawksbill turtles.
- Saint Brandon (Mauritius) – nesting green turtles.
- Madagascar - nesting green turtles (South and Northwest).

Priority IOSEA action:

- Provide a list of the different types of tags available, the data that can be recorded for each, the minimum size and weight of the individual for each type of tag, the manufacturers specifications; contributions to IOSEA website could be made by experts who have these instruments (such as the paper on flipper tag series provided by J. Mortimer).
- Provide a map with all the tracking available in the region, e.g., a new IMAPs or a link / adaptation with OBIS-SEAMAP, to identify the current effort and gaps in coverage.

B. NORTHERN INDIAN OCEAN (Pakistan, India, Bangladesh, Sri Lanka, joined by Myanmar and Thailand – due to possible linkages between these countries and the NIO region).

Management priorities for SaT studies:

- A potential link between turtles of Myanmar & Thailand needs further exploration.
- Hawksbill and green studies to track migrations in turtle-human conflict areas (e.g., Lakshadweeps).

Priority turtle populations for further SaT study:

- Leatherback turtle as priority species, studies need to be expanded in Andaman & Nicobar Islands, Sri Lanka and Myanmar.
- Hawksbill and green turtles in the Arabian Sea.
- Hawksbill and green juveniles in foraging areas (e.g., Lakshadweeps and Maldives).

Priority IOSEA action:

- Sub-regional capacity-building workshop supported by IOSEA Secretariat, perhaps held in Sri Lanka (to include Myanmar and Thailand).
- Secretariat to secure funds to stock and supply transmitters on request based on priority needs.

C. NORTHWEST INDIAN OCEAN (Participants included: Iran, U.A.E., Oman, Jordan)

Management priorities for SaT studies:

- Habitat utilisation of hawksbill and green turtles (latter very few).
- Genetic studies needed to supplement satellite tag studies to help define conservation / management units.
- Tracking data to identify how threats overlap with range.

Priority turtle populations for further SaT study: Green turtles should be prioritised – no clear idea of nesting / foraging populations, especially in the Gulf region.

Priority IOSEA action: IOSEA secretariat should continue to provide technical and financial support for SaT.

D. SOUTHEAST ASIA + (Participants: Cambodia, Indonesia, Malaysia, Myanmar, Papua New Guinea, Philippines, Thailand, Viet Nam + Australia, United States)

Management priorities for SaT studies:

- Need to combine existing flipper tag and SaT datasets throughout the region.
- Hawksbills and olive ridley connectivity throughout region .
- Breeding males throughout the region.
- Cambodia - SaT to determine foraging areas and effectiveness of MPAs.
- Coral Triangle - SaT of all species to determine hotspot for turtles and areas targeted by consumptive use of turtles originating from range of countries.

Priority turtle populations for further SaT study:

- Myanmar (Andaman side) all species.
- Olive ridleys in the Philippines.
- Malaysian west coast – all species.

Priority IOSEA action:

- IOSEA can help by providing funding and capacity building in Myanmar and Cambodia, Timor Leste and Brunei.

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ANNEX: Satellite Tracking Workshop Programme (25 January 2012)

AIMS

- Raise awareness and generate understanding of marine turtle satellite telemetry;
- Introduce IOSEA satellite tracking database and provide an overview of satellite tagging projects in the IOSEA region to date and key findings per species;
- Identify gaps in knowledge that could be addressed through future satellite tracking effort;
- Recommend priority populations with respect to future satellite tagging work;
- Produce an IOSEA reference document from the workshop describing workshop conclusions.

STRUCTURE

Introductory presentation: Basic introduction to the benefits and shortcomings of satellite tracking;

- What information can tracking provide?
- Acknowledgement of conservation priority marine turtle RMUs in region and how tracking fits within the IOSEA conservation action plan;
- Regional overview of satellite tracking coverage per species and highlighting key findings.

Question and answer session with panel of turtle experts

Group discussions to determine priority areas: Attendees break into sub-regional groups (each with attendant expert panel member) to identify priorities turtle populations and study subject areas for future satellite telemetry and outline actions to facilitate future cooperative tracking research through IOSEA.

Group reporting

ANNEX 8: TERMS OF REFERENCE AND GUIDANCE FOR IOSEA FOCAL POINTS

TERMS OF REFERENCE AND GUIDANCE FOR IOSEA NATIONAL FOCAL POINTS

Introduction

This document has been developed to clarify the general roles and responsibilities of IOSEA Focal Points and to make participation in Signatory State meetings more effective. Given periodic turnover of official delegates, it is considered that a document serving as a basic guide to activities before, during and after a Signatory State meeting would be useful. This will allow IOSEA representatives to contribute more effectively to the conduct of IOSEA business between regular meetings of the Signatory States and to better understand the process surrounding the meeting itself – in order to enhance the value of this special event for international cooperation in marine turtle conservation.

The terms of reference are not meant to be prescriptive, insofar as it is recognised that the Memorandum of Understanding is not legally binding and the circumstances for implementation differ from one Signatory State to another. However, they are considered to offer helpful guidance to Focal Points to assist them in the important tasks for which they have been appointed.

Intersessional activities

With a view to maximising efficiency and enhancing outcomes, each IOSEA Focal Point should:

1. Inform the Secretariat as soon as possible about any changes in the personnel responsible for IOSEA matters, so that the Secretariat can ensure that they receive all relevant communications.

2. Take the lead in the establishment and active functioning of a national marine turtle committee or network[1], as appropriate, to bring together representatives of relevant ministries, agencies, departments, and other relevant stakeholders, including research and academic organisations, non-governmental organisations, private sector (such as fishing organisations, tourism organisations, etc.). This Committee should meet periodically to exchange information on marine turtle conservation and to review IOSEA implementation.

3. Oversee the preparation and / or updating of the IOSEA National Report, including the Site Data Sheets, making use of the Online Reporting Facility created for this purpose. The process of soliciting stakeholder inputs to the National Report should begin at least 6-9 months prior to the Signatory State meeting. (The 'Editor' allows Focal Points with password access to make changes to the report at any time.)

4. Identify and delegate appropriate technical specialist(s) for the preparation of periodic species assessments, in accordance with decisions of the Meeting of the Signatory States.

5. Consult the IOSEA website (www.ioseaturtles.org) at least once a month, and preferably more often, to be acquainted with the latest developments from around the region, and to make sure that general information from their country is accurate and up to date.

[1] Programme 6.4c) of the Conservation and Management Plan of the IOSEA MoU encourages cooperation within and among government and non-government sectors, including through the development and / or strengthening of national networks. Progress towards the establishment of such national 'coordinating committees' has been under review since the Third Meeting of the Signatory States (2005); and a special page on the IOSEA website (under 'Membership') is devoted to this important topic.

6. Compile and send periodically to the Secretariat information of general interest on marine turtle conservation activities being conducted in their country, for publication on the IOSEA website, including plans for new work and details of upcoming meetings of interest.

7. Communicate with the respective IOSEA sub-regional Focal Point as and when necessary (ideally, at least twice a year), and respond in a timely manner to requests for information.

8. Identify and describe, in as much detail as possible (in Section 5.4.1 of the national report template), the resources that would be required (in terms of human, equipment, training, etc.) to better implement the provisions of the MoU and CMP within the country and, in particular, identify essential activities that are not being conducted for lack of resources.

9. Solicit funding and support within the national budget and from other sources within the country for implementation of IOSEA-related activities, for attendance at relevant IOSEA meetings, and for voluntary contributions towards IOSEA operational costs, in keeping with decisions of the Signatory States.

10. Where applicable, consider submitting an application to benefit from funding through the IOSEA Technical Support and Capacity Building Programme.

11. Call attention to and promote implementation of the IOSEA MoU in national and international forums, with a view to promoting synergy and avoiding unnecessary duplication of effort.

Before the Meeting of the Signatory States: Preparation

12. An important step in preparing for a Signatory State meeting is to hold national consultations several months before the meeting. Among other things, this will facilitate a review of the national report and compilation of any final inputs. Typically, the Secretariat issues reminders at least six months prior to the Meeting of the Signatory States calling for updates to the national reports to be finalised at least 2-3 months in advance of the Meeting, to enable the Secretariat to prepare an overall synthesis of implementation progress.

13. The Secretariat will circulate a provisional agenda for the upcoming Meeting of the Signatory States at least three months in advance. It is important for the Focal Point to review this document: (1) to be informed of the major topics that will be discussed, as well as the focus of any thematic workshops; (2) to consider proposing additional agenda items and discussion topics; and (3) to offer any other general feedback. Delegates should prepare themselves to discuss national activities in these specific areas, as well as any international or regional initiatives. Delegates who are expected to make a presentation at the meeting will be mentioned in the provisional agenda.

14. Prior to the meeting, Focal Points are encouraged to compile information on new marine turtle conservation and management actions / initiatives that have been carried out in their country since the previous Meeting of Signatory States. This would be a useful preparatory exercise for the sub-regional Working Group meetings, held at the Meeting of the Signatory States, where Focal Points may be called upon to present an update of activity in their country.

15. IOSEA Signatory States have decided that any draft resolutions should be submitted to the Secretariat, for wider circulation (to other delegations, Advisory Committee etc.) at least 60 days prior to the meeting (cf. Report of the Fifth Meeting of the Signatory States). Whereas draft resolutions must be submitted through a Focal Point, they may be drafted by the Advisory Committee or any other interested party. Any exceptions to the 60-day deadline must be agreed by the Signatory States by consensus at the meeting Focal Points should consult with interested partners as widely as possible on the contents of any draft resolution they wish to introduce.

16. An important topic of discussion at the Signatory State meeting will be securing funding and other support for the work to be conducted in the coming year. Focal Points are encouraged to hold internal discussions prior to the Signatory State meeting to explore possible sources of funding that their government or outside organisations may be able to offer. Where possible, Focal Points are requested to come to the Meeting of the Signatory States prepared to indicate the amount of financial resources their Government might be in a position to provide during the next 1-2 years.

During the Meeting: Participation

17. Focal Points should review any resolutions proposed by Signatory States and to provide input as requested by other delegations, the Secretariat, or Advisory Committee. They may be called upon to give feedback on a procedural question, provide information on regional or national conservation and management activities, or discuss proposed activities and priorities for implementing the IOSEA MoU.

18. During the Meeting of the Signatory States, countries of each of the four IOSEA sub-regions will have an opportunity to discuss among themselves their current conservation programmes, priorities, challenges and successes; as well as future plans and opportunities to coordinate at the sub-regional level. Each sub-region will report back to the meeting as a whole.

After the Meeting: Follow-up

19. Focal Points are encouraged to review the minutes and make any suggestions (within a time frame to be agreed at the meeting) for corrections or changes to be incorporated in the final document. This will allow delegates to stay focused on what was decided at the meeting as well as the next steps needed to further the goals of the IOSEA MoU.

20. Focal Points should arrange to reconvene their national committee / network (as appropriate) as soon as possible to keep all parties up-to-date on IOSEA decisions and goals for the coming two years. This should include discussions among national stakeholders as to how they plan to collectively implement the IOSEA MoU requirements at the national level; and make arrangements for future marine turtle conservation actions in light of the results of the meeting.

21. Also as follow-up, Focal Points should submit any outstanding or requested documents to the Secretariat; and should make it a priority to finish updating the national report if this was not done prior to the meeting.

22. To assure continued implementation of the MoU, Focal Points should take personal responsibility to initiate the internal process of securing the financial or in-kind contributions volunteered at the Signatory State meeting. Focal Points should inform the Secretariat within 45 days of the meeting about the status of the voluntary financial contribution.

23. Focal Points should continue to collaborate with sub-regional partners between the periodic Meetings of the Signatory States, with a view to implementing the projects and collaborative activities agreed during the sub-regional discussions.

24. In addition to giving diligent attention to IOSEA matters domestically, Focal Points should work with the Secretariat to promote the conservation of marine turtles and their habitats, as well as the work of the IOSEA, in other relevant forums.

TERMS OF REFERENCE AND GUIDANCE FOR IOSEA SUB-REGIONAL FOCAL POINTS

Introduction

1. The mandate for sub-regional[2] collaboration arises from the Basic Principles outlined in the IOSEA Memorandum of Understanding. Paragraphs 5 and 6 provide for the Signatory States to establish bilateral, sub-regional or regional management plans to support the MoU, as well as to coordinate with sub-regional institutions in the region.

2. The Western Indian Ocean – Marine Turtle Task Force, a collaborative body established in 2008 under the aegis of the IOSEA MoU and the Nairobi Convention, is one example of a sub-regional initiative set-up expressly to support IOSEA implementation. The Task Force has met periodically and has exchanged information intersessionally through e-mail.

3. In South-East Asia, an ASEAN MoU on sea turtle conservation and protection provides a general framework for sub-regional cooperation, with practical activities conducted under the auspices of a long-term SEAFDEC project, once known as the "Regional Technical Consultation on Research for Stock Enhancement of Sea Turtles". The IOSEA Secretariat has actively participated in regular meetings of this consultative group.

4. In 2004, the Regional Organization for the Conservation of the Environment of the Red Sea and Gulf of Aden (PERSGA) drafted a comprehensive Regional Action Plan for the Conservation of Marine Turtles and their Habitats in the Red Sea. The PERSGA plan makes extensive reference to the IOSEA MoU, which was just becoming operational during the period the former was being drafted. PERSGA member States (Djibouti, Egypt, Jordan, Saudi Arabia, Somalia, Sudan and Yemen) have in turn prepared national action plans. Although practical implementation of the Regional Action Plan appears not to have advanced as quickly as desired, it nevertheless serves as a benchmark for monitoring sub-regional marine turtle conservation efforts. The potential for linkages between this PERSGA initiative and IOSEA warrants further exploration.

5. The Regional Organization for the Protection of the Marine Environment (ROPME), based in Kuwait, provides a framework for the eight countries that make up the so-called "ROPME Sea Area" to cooperate on environmental matters. The coastal states concerned are Bahrain, Islamic Republic of Iran, Iraq, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates. ROPME has sought to conclude a separate protocol on biodiversity and protected areas, which might also provide for the development of a marine turtle monitoring and conservation strategy in the ROPME Sea Area. IOSEA was invited to a regional workshop of ROPME member states, organised in Tehran in 2010, to share information and explore possibilities for future collaboration. At the time of writing, it is unclear whether the ROPME biodiversity protocol has been formally adopted or whether an ambitious programme of work on marine turtles has commenced.

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[2] The four IOSEA sub-regions are defined as follows: **South-East Asia** +: Brunei Darussalam, Cambodia, Indonesia, Malaysia, Myanmar, Papua New Guinea, Philippines, Singapore, Thailand, Timor-Leste, Viet Nam + Australia, China, Japan, Republic of Korea, United States; **Northern Indian Ocean:** Bangladesh, India, Maldives, Pakistan, Sri Lanka; **Northwestern Indian Ocean:** Bahrain, Djibouti, Egypt, Eritrea, Islamic Republic of Iran, Jordan, Kuwait, Oman, Qatar, Saudi Arabia, Sudan, United Arab Emirates, Yemen; **Western Indian Ocean:** Comoros, France, Kenya, Madagascar, Mauritius, Mozambique, Seychelles, Somalia, South Africa, United Kingdom, United Republic of Tanzania.

6. Currently, it appears that no comparable mechanisms exist for countries of the Northern Indian Ocean (i.e., Bangladesh, India, Maldives, Pakistan, Sri Lanka) to collaborate in marine turtle conservation efforts, notwithstanding a compelling need for better communication and coordination among national sea turtle conservation initiatives.

7. The IOSEA Signatory States recognised in 2006 that, whether or not formal sub-regional coordination mechanisms are in place, there is benefit in designating specific individuals to try to improve coordination and exchange of information within each sub-region. These individuals also serve as observers to the deliberations of the IOSEA Advisory Committee and they receive intersessional correspondence and documents, as outlined in the Advisory Committee's Terms of Reference (reproduced in part, below).

The following Terms of Reference serve to further clarify the roles and responsibilities of IOSEA Sub-regional Focal Points.

Roles and Responsibilities

8. The Sub-regional Focal Point is expected to maintain regular contact with sub-regional IOSEA members, as well as non-state actors, during the intersessional period between Signatory State meetings. In doing so, the Sub-regional Focal Point can act as a reference point for major activities in the sub-region and possibly identify potential possibilities for cooperation among them. To minimise costs such communication should be conducted as far as possible by email or during other events that involve members of the sub-region.

9. Each sub-regional Focal Point should participate in a periodic conference call, to be organised by the Secretariat, that would involve all four sub-regional Focal Points and also the Chair of the Advisory Committee or his / her representative, for the purpose of sharing information from the respective regions, as well as exchanging information about the current secretariat work programme.

10. The Sub-regional Focal Point should facilitate communication and information exchange among sub-regional members by soliciting information from state and non-state actors, and promoting use of the IOSEA website as a vehicle for dissemination of information to a wider audience. By soliciting and posting periodic articles to the website, and making use of its online discussion forum, members will be kept abreast of marine turtle conservation initiatives in the sub-region that might present valuable opportunities for collaboration.

11. Each Sub-regional Focal Point should organise and conduct a meeting of the members of their sub-region in conjunction with the Meeting of the Signatory States, held at roughly two year intervals.The purpose of this meeting is to form a clearer picture of recent developments within the sub-region. This may be achieved by discussing activities undertaken since the last meeting, exchanging information about conservation measures and projects, recognising challenges and successes, discussing national and sub-regional priorities, and identifying plans and sub-regional goals for the upcoming years.

12. Subject to availability of funding and support, other meetings may be organised at the Sub-regional Focal Point's discretion and with the consent of the members, in addition to the one held during the Signatory State meeting.

13. The Sub-regional Focal Point is expected to report, or to designate a member of the group to report, on sub-regional developments to each Meeting of the Signatory States. This report should highlight the main activities undertaken and outcomes achieved in the sub-region since the previous meeting, summarise the deliberations of the session held in conjunction with the Meeting of the Signatory States, and outline the priority needs and challenges, as well as activities planned for the upcoming two year period.

14. Sub-regional groups should develop annual work plans that identify the specific objectives that the group wishes to pursue over the coming year. This document would guide the ongoing activities of the sub-region and serve as a reference against which to review progress in future meetings.

15. Sub-regional Focal Points are encouraged to attend relevant meetings of related institutions and associations involved with marine turtle conservation in the region; and to encourage other members of the sub-region to attend as well. Wherever possible, a brief report of the main outcomes should be prepared for publication on the IOSEA website.

16. Sub-regional Focal Points should promote collaboration with non-signatory States in the sub-region, with a view to encouraging additional key players to become signatories to the IOSEA Marine Turtle MoU.

Extract from the Terms of Reference of the IOSEA Advisory Committee (adopted March 2006)

" 7. The Advisory Committee may benefit from additional participation in the form of observers from each of the IOSEA sub-regions. The sub-regional observers should attend meetings of the Advisory Committee and receive intersessional correspondence and documents of the Committee. In addition to observing the work of the Advisory Committee, sub-regional observers may provide input, views and comments to the Committee as appropriate.

8. Each sub-regional observer [Focal Point] shall be decided by consensus of the Signatory States of each sub-region, and that decision shall be communicated to the IOSEA Secretariat. The designated individual may be a Focal Point from a Signatory State of the sub-region or another competent person working on marine turtle conservation who would be in a position to: (1) attend meetings of the Advisory Committee and Signatory States (using their own resources to support their attendance / participation), (2) effectively communicate to the Advisory Committee and the Secretariat the views and the issues of concern of the countries of the sub-region they represent, and (3) report back to the other members of their sub-region."

ANNEX 9: TERMS OF REFERENCE OF THE ADVISORY COMMITTEE

Revised and adopted on 26 January 2012

Nomination and Appointment

1. Each Signatory State may nominate one or more individuals from a country other than their own to serve as members of the Advisory Committee. The Secretariat should inform the Signatory States of any vacancies arising from the end of a term or other reasons, such as voluntary resignation. Nominations for any vacancies should be provided in writing to the Secretariat at least 60 days in advance of the Meeting of Signatory States, and should include detailed and complete *curriculum vitae.* The Secretariat should circulate such nominations to all Signatory States. At their meetings, the Signatory States should appoint the members of the Advisory Committee from among the individuals nominated.

2. If there are more nominees than necessary to constitute the Advisory Committee, the Signatory States shall make every effort to appoint members by consensus following close consultation. If every effort to appoint members of the Advisory Committee by consensus fails, the Signatory States shall appoint members of the Advisory Committee by election (voting).

3. Advisory Committee members should serve for a period of two regular Meetings of the Signatory States, and should be eligible for re-nomination and reappointment at subsequent Meetings of Signatory States, after being proposed for nomination by a Signatory State, seconded by another and agreed by consensus of the Meeting. The requirement of 60-day notice and other documentation may be waived in such instances, as the nominee will have served as a member of the Advisory Committee.

4. Should a vacancy arise intersessionally, the Advisory Committee may propose a replacement for consideration by the Signatory States. The proposal shall be communicated to Signatory States via the Secretariat, and shall be accompanied by the same supporting documents as would be required for a regular nomination. In the absence of an objection of any Signatory State, received within 30 days of the communication from the Secretariat, the interim appointment will be considered as having been accepted, and will become effective immediately. If an objection is raised by a Signatory State, the procedure may be repeated, as appropriate, until an acceptable nominee is identified. The term of appointment of the provisional nominee shall expire at the end of the next meeting of Signatory States. The provisional nominee should be eligible for nomination and appointment to the Advisory Committee, as a full member, at that meeting.

Size and Composition

5. The Advisory Committee should have up to 10 members. In appointing the Advisory Committee, Signatory States should strive to achieve a balance among the areas of expertise set forth in the Memorandum of Understanding (marine turtle biology, marine resource management, coastal development, socio-economics, law, fisheries technology, and other relevant disciplines), as well as an equitable representation of sub-regions and gender, to the extent possible.

6. The Advisory Committee should select a chair, who should be the principal point of contact between the Advisory Committee and the Secretariat.

7. The Advisory Committee may benefit from additional participation in the form of observers from each of the IOSEA sub-regions[1]. The sub-regional observers should attend meetings of the Advisory Committee and receive intersessional correspondence and documents of the Committee. In addition to observing the work of the Advisory Committee, sub-regional observers may provide input, views and comments to the Committee as appropriate.

8. Each sub-regional observer shall be decided by consensus of the Signatory States of each sub-region, and that decision shall be communicated to the IOSEA Secretariat. The designated individual may be a Focal Point from a Signatory State of the sub-region or another competent person working on marine turtle conservation who would be in a position to: (1) attend meetings of the Advisory Committee and Signatory States (using their own resources to support their attendance / participation), (2) effectively communicate to the Advisory Committee and the Secretariat the views and the issues of concern of the countries of the sub-region they represent, and (3) report back to the other members of their sub-region.

Meetings

9. To minimise costs, the Advisory Committee should conduct as much of its activity as possible through electronic communication. Regular meetings of the Advisory Committee should occur immediately prior to the regular meetings of the Signatory States, also to minimise travel and meeting costs. At the direction or approval of the Signatory States, the Advisory Committee may hold additional meetings.

10. The Advisory Committee Chair should participate in the meetings of the Signatory States, and may also participate in the meetings of related and associated agreements and organisations that the Signatory States deem relevant to the work of the MoU. The other members of the Advisory Committee are encouraged to participate as observers in the meetings of the Signatory States.

Mandate and Tasks

11. The purpose of the Advisory Committee is to serve and assist the Signatory States in the implementation of the Memorandum of Understanding. Members of the Advisory Committee serve in their individual capacities, rather than as representatives of Governments or organisations with which they also may be affiliated.

12. The Secretariat should serve as a clearinghouse of requests from the Signatory States for advice from the Advisory Committee.

13. As set forth in the Memorandum of Understanding, the mandate of the Advisory Committee is to "provide scientific, technical and legal advice to the Signatory States, individually and collectively, on the conservation and management of marine turtles and their habitats in the Region." The Signatory States may request the Advisory Committee to give priority to certain activities and tasks, which may include, but are not limited to, actions to:

[1] **South-East Asia** +: Brunei Darussalam, Cambodia, Indonesia, Malaysia, Myanmar, Papua New Guinea, Philippines, Singapore, Thailand, Timor-Leste, Viet Nam + Australia, China, Japan, Republic of Korea, United States; **Northern Indian Ocean:** Bangladesh, India, Maldives, Pakistan, Sri Lanka; **Northwestern Indian Ocean:** Bahrain, Djibouti, Egypt, Eritrea, Islamic Republic of Iran, Jordan, Kuwait, Oman, Qatar, Saudi Arabia, Sudan, United Arab Emirates, Yemen; **Western Indian Ocean:** Comoros, France, Kenya, Madagascar, Mauritius, Mozambique, Seychelles, Somalia, South Africa, United Kingdom, United Republic of Tanzania.

- Evaluate and provide advice, at the request of any Signatory State, on any conservation and management programme proposed or implemented within the State;

- Provide advice to the meetings of Signatory States on the adoption of additional conservation and management actions and on revisions to the Conservation and Management Plan;

- Evaluate, at the request of any Signatory State, the efficiency of different measures proposed or implemented to reduce the capture and incidental mortality of marine turtles in fishing operations;

- Promote the use of standardised marine turtle research techniques, monitoring programme data collection, and data storage and reporting;

- Review scientific reports, annual reports of the Signatory States, and other appropriate documents to assist the Secretariat in assessing progress in the implementation of the Conservation and Management Plan;

- Bring to the attention of the Signatory States significant new information relating to the conservation and management of marine turtles;

- Respond to requests for advice from Signatory States in the fields of socio-economics and law related to the implementation of the Memorandum of Understanding;

- Seek input from other individuals and bodies, as appropriate, in responding to requests for advice, e.g., from the Marine Turtle Specialist Group of the World Conservation Union (IUCN), the Southeast Asian Fisheries Development Center (SEAFDEC), etc;

- Assist Signatory States in the development of projects and initiatives so that regional, sub-regional and local concerns and interests are taken into account;

- Provide such other scientific, technical and legal advice relating to the implementation of the Memorandum of Understanding as the Signatory States may request, individually or collectively;

- Make recommendations regarding other fields of expertise needed within the Advisory Committee to assist with its work; and

- Provide a report on its activities, prior to scheduled Meetings of the Signatory States.

ANNEX 10: IOSEA BUDGET FOR 2012-2014 AND INDICATIVE SCALE OF VOLUNTARY CONTRIBUTIONS

IOSEA Marine Turtle Memorandum of Understanding
Budget Estimates for 2012 - 2014 (in US Dollars)

Budget line	2012	2013	2014	Total
10 Personnel				
1100 Professional Staff				
1101 Co-ordinator / Senior CMS Advisor (1)	*175,000	*179,000	*176,000	
Salary covered by IOSEA Trust Fund	149,000	153,000	151,000	453,000
1201 Project activities arising from Leatherback Assessment	10,000	5,000	0	15,000
1202 Project activities arising from Loggerhead Assessment	0	10,000	5,000	15,000
1203 Site Network Development activities	20,000	10,000	10,000	40,000
1220 Unspecified consultancies	10,000	7,500	10,000	27,500
1300 Administrative Support				
1321 Team Assistant - balance paid from IOSEA Trust Fund (2)	19,500	21,500	23,000	64,000
1600 Travel on official business				
1601 Secretariat travel	25,000	26,500	28,000	79,500
1999 Personnel Subtotal	**233,500**	**233,500**	**227,000**	**694,000**
30 Meetings				
3301 Meeting of Signatory States + Advisory Committee (3)	0	0	125,000	125,000
3302 Strategic planning session (4)	0	0	0	0
3999 Meetings Subtotal	**0**	**0**	**125,000**	**125,000**
40 Equipment and Premises				
4100 Expendable equipment				
4101 Miscellaneous supplies (if not from UNEP / ROAP)	500	500	500	1,500
4200 Non-expendable equipment				
4201 Office equipment (computers, peripherals)	2,500	0	2,500	5,000
4300 Premises				
4301 Rent, maintenance costs	11,065	11,065	11,065	33,195
4999 Equipment and Premises Subtotal	**14,065**	**11,565**	**14,065**	**39,695**
50 Miscellaneous Costs				
5100 Operation and Maintenance				
5101 Operation / maintenance computers (c/o UNEP / ROAP)	0	0	0	0
5102 Operation / maintenance of copier / fax (c/o UNEP / ROAP)	0	0	0	0

5200 Reporting Costs				
5201 External production of info material (if not from UNEP / ROAP)	0	5,000	7,500	12,500
5300 Sundry				
5301 Routine Telephone, Fax, Postage (c/o UNEP / ROAP)	0	0	0	0
5303 Contingency	1,500	1,500	2,000	5,000
5999 Miscellaneous Costs Subtotal	**1,500**	**6,500**	**9,500**	**17,500**
SUBTOTAL	**249,065**	**251,565**	**375,565**	**876,195**
6000 UNEP programme support costs (13%)	**32,378**	**32,703**	**48,823**	**113,905**
GRAND TOTAL	**281,443**	**284,268**	**424,388**	**990,100**

(1) CMS will contribute € 19,200 (approx. USD 26,000) per annum towards salary cost in exchange for CMS advisory services, through 2014.

(2) Funded from UNEP programme support costs, up to USD 24,500 p.a.; amounts reflect balance to be paid from IOSEA Trust Fund.

(3) Total meeting cost may be reduced by earmarked contributions / grants.

(4) Estimated at USD 15,000; to be fund entirely through extra-ordinary contributions.

Indicative scale of voluntary contributions, based USD 330,000 average annual budget*

No.	Signatory State	Current UN scale %	Scale adjusted to 100 %	Amended scale adjusted to 100 %	Indicative Voluntary Contribution
1	Australia	1.933	4.81217	12.12121	40,000
2	Bahrain	0.039	0.09709	0.34260	1,131
3	Bangladesh	0.010	0.02489	0.15152	500
4	Cambodia	0.003	0.00747	0.15152	500
5	Comoros	0.001	0.00249	0.15152	500
6	Eritrea	0.001	0.00249	0.15152	500
7	France	6.123	15.24310	15.15152	50,000
8	India	0.534	1.32938	4.54545	15,000
9	Indonesia	0.238	0.59250	2.09071	6,899
10	Iran (Islamic Republic of)	0.233	0.58005	2.04679	6,754
11	Jordan	0.014	0.03485	0.15152	500
12	Kenya	0.012	0.02987	0.15152	500
13	Madagascar	0.003	0.00747	0.15152	500
14	Maldives	0.001	0.00249	0.15152	500
15	Malaysia	0.253	0.62984	2.22248	7,334
16	Mauritius	0.011	0.02738	0.15152	500
17	Mozambique	0.003	0.00747	0.15152	500
18	Myanmar	0.006	0.01494	0.15152	500
19	Oman	0.086	0.21410	1.51515	5,000
20	Pakistan	0.082	0.20414	0.72033	2,377
21	Papua New Guinea	0.002	0.00498	0.15152	500
22	Philippines	0.090	0.22405	0.79061	2,609
23	Saudi Arabia	0.830	2.06627	7.29114	24,061
24	Seychelles	0.002	0.00498	0.15152	500
25	South Africa	0.385	0.95845	7.57576	25,000
26	Sri Lanka	0.019	0.04730	0.15152	500
27	Thailand	0.209	0.52030	1.21212	4,000
28	United Arab Emirates	0.391	0.97339	3.43474	11,335
29	United Kingdom	6.604	16.44054	12.12121	40,000
30	United Republic of Tanzania	0.008	0.01992	0.15152	500
31	United States of America	22.000	54.76860	24.24242	80,000
32	Viet Nam	0.033	0.08215	0.15152	500
33	Yemen	0.010	0.02489	0.15152	500
	Total	**40.169**	**100.00000**	**100.00000**	**330,000**

* Based on standard UN scale modified to approximate historical contributions of past donors; minimum contribution of USD 500 applied to developing / least developed countries; and pro-rated contributions from previous non-contributors.

ANNEX 11: REPORT OF THE SIXTH MEETING OF THE IOSEA ADVISORY COMMITTEE, 21-22 JANUARY 2012

Agenda item 1: Welcoming Remarks

1. The IOSEA Coordinator, Douglas Hykle, welcomed to Bangkok the members of the Advisory Committee (AC) as well as the observers present. Dr. Frazier thanked the participants for their attendance, noting that it often required travelling long distances and sacrificing significant time from other professional and personal obligations. He observed that there was an enormous amount information and many topics to cover during the two-day meeting.

Agenda item 2: Admission of observers and adoption of the agenda

2. Meeting participants, including observers, were briefly introduced (Annex I). The provisional agenda was adopted without amendment (Annex II). However, it was pointed out that certain agenda points should receive considerable attention, particularly topics where the Committee was in a unique position to help advance certain tasks, such as agenda items 3(d) on technical Support, capacity building and standardisation, and 3(e) which concerned the species assessments.

Agenda item 3: Secretariat overview of arrangements for the Sixth Meeting of the Signatory States (SS6)

3. The Coordinator provided an overview of the arrangements for the 4-day Meeting of Signatory States which would immediately follow the AC meeting, noting that planning for the function had taken a long time due to difficulty in identifying a host country and in securing the necessary funding. The flooding in Bangkok, and particularly the resultant inoperative IOSEA website over a period of two months, added further difficulties to the organisation of the Meeting. Representatives from 23 or 24 Signatory States (out of a total of 33) were expected to attend, somewhat lower than the usual turnout. Also of note, there were six new member States since the last Meeting of the Signatory States in August 2008, namely France, Malaysia, Maldives, Mozambique, Papua New Guinea and Yemen. The Coordinator explained that among the planned activities of the present Signatory State meeting were two thematic workshops, which would have input from some members of the Advisory Committee. The meeting would conclude with a field excursion to Koh Mannai, an island important in Thailand's turtle conservation efforts.

Agenda item 4: Discussion of SS6 agenda items requiring Advisory Committee advice / interventions

(a) Overview of IOSEA MoU Implementation and site-based information

4. The Coordinator introduced the "Overview of IOSEA MoU Implementation" (document MT-IOSEA/SS.6/Doc. 6), which provided an exhaustive analysis of the national reports submitted by Signatory States. It was complemented by a second document containing "Site-Based Information on Species, Habitats, Threats and Mitigation Measures" (document MT-IOSEA/SS.6/Doc.6.1). The SS6 meeting would be asked to focus mainly on the executive summary and Document 6, Part 1, which summarised the main findings. Particular attention would be paid to the final columns of Table 1, which presented observations, suggestions, and recommendations put forward by the Secretariat. Given the enormous amount of information in these documents, the Committee agreed after lengthy discussion to identify priority issues and to provide recommendations with regard to important follow-up activities to be conducted by Signatory States.

(b) IOSEA Priorities

5. Seven key priority follow-up activities had been identified from the Secretariat's analysis of national reports, each one requiring specific work. In some cases, members of the Advisory Committee could help advance the work; in other cases the dedicated research of a student (preferably a graduate student) and / or a consultant engaged by the Secretariat would be the most effective means to obtain high quality, up-to-date information. The priority topics included updating and evaluating specialised technical information, compiling information on major regional threats to marine turtles, setting up an effective system for monitoring the long-term status of marine turtle populations, developing a better understanding of major drivers of threats to marine turtles, and insuring the most efficient and effective use of resources. Each of the seven priorities with recommended follow-up action is discussed separately.

6. Management of tagging information: The Committee strongly recommended that flipper tags used in the IOSEA region be distributed from centralised, permanent agencies, such as national, regional or sub-regional organisations that could also serve as managers of the respective data bases. Working examples of this type of arrangement could be found with the Secretariat of the Pacific Regional Environment Programme (SPREP), the Southeast Asian Fisheries Development Center (SEAFDEC), and in the national and state systems of Australia. One of the many advantages of a centralised system is the guarantee of the consistent use of high quality tags made of resistant materials, suitable for the special needs of marine turtle studies. Further considerations with regard to flipper tagging are given in Annex III.

7. Identification and mapping of genetic stocks in the IOSEA region, and establishment of essential long-term monitoring procedures: The Committee considered it essential to have adequate procedures in place for long-term monitoring to be able to assess trends in population size, and thereby evaluate the effectiveness of conservation interventions. This topic comprised two aspects: identification and mapping of genetic stocks for each species in the IOSEA region, and establishment of at least one appropriate index nesting beach for each genetic stock of each species. With regard to the former, Dr. Limpus offered to consult with Dr. Nancy FitzSimmons, a geneticist with extensive and unique experience in the IOSEA region, to create a listing and geographic mapping of known and suspected genetic stocks for each species in the IOSEA region.

8. The Committee noted that a widely accepted method for long-term monitoring of trends in population size – essential for evaluating conservation status – is to establish an index beach on which standardised monitoring methods for estimating turtle numbers are conducted regularly over decades; recognising that there must be a long-term commitment by the responsible agency to conduct the index beach monitoring, despite financial and other challenges that may occur over the years. A draft questionnaire for establishing and evaluating index beaches is provided in Annex IV.

9. Compiling information on major regional threats to marine turtles: Three very serious sources of threat to marine turtles in the IOSEA region were identified: (1) illegal directed take of turtles, (2) indirect legal take in legal fisheries, and (3) directed legal take of turtles, which raised considerations of sustainable levels of exploitation.

10. Illegal directed take of marine turtles: With reference to Document 6 - Part II, p. 33, para. 9, the Advisory Committee considered it a pressing need to understand the scope (geographic, taxonomic, economic, etc.) and magnitude of illegal fishing as it relates to marine turtles and their habitats. Some fundamental questions that need reliable answers are:

- How does illegal fishing impact marine turtles and their habitats?
  - What types of illegal fishing impact marine turtles and / or their habitats?
  - What nations have illegal fishing impacts on marine turtles?
- What management incentives have been employed by Signatory States to mitigate illegal fishing impacts on marine turtles and their habitats?
- What and where are the markets for illegal fishing on marine turtles?
- What recommendations are needed to begin to reduce negative impacts of illegal fishing on marine turtles?

Practical ways to advance with these steps could include commissioned reviews (e.g., in collaboration with TRAFFIC, fisheries sector, community-based etc.) as well as prescribed student projects (e.g., in the form of semester-long review / coursework, or Masters or PhD level theses).

11. Indirect takes in legal fisheries: Indirect takes of marine turtles in legal fisheries are well established threats. Unfortunately, the information available in IOSEA national reports is not adequate to be able to develop well substantiated mitigation and management plans and actions. To better understand these negative impacts on marine turtles, the following actions are necessary:

- Collect and compile data on turtle bycatch in legal fisheries, and report on levels of fisheries (e.g., effort, gear type, etc.) and the impacts on turtles;
- Where there is uncertainty regarding minimum / optimal data, the Advisory Committee can provide guidance on the minimum data that must be available and reported on;
- Examples of data, data sources, and data gathering methods from different countries in the IOSEA region should be sought.

These actions should be undertaken by Signatory States, with support from dedicated studies, such as by specialists from pertinent fisheries organisations, students, consultants, and others.

12. Directed legal takes and considerations of sustainable levels (Document 6 - Part II, p. 40, para. 20): Where directed take of marine turtles and / or their eggs is legal, there is an urgent need to provide local managers and management authorities with guidelines on the level of take that would not endanger the long-term existence of the populations being exploited. Some fundamental questions that require credible answers are:

- What minimum proportion of clutches / eggs must be allowed to produce viable hatchlings that recruit into the sea, to ensure that the exploited population is sustainable?
- What is the relative impact of the take of turtles of different age and size classes on attaining sustainable levels of exploitation of a genetic stock?
- What is the proportion of nesting turtles that can be taken for human exploitation without risking population decline?

13. Developing a better understanding of major drivers of threats to marine turtles: The Secretariat's detailed analysis of IOSEA National Reports found considerable importance attached to three programmes of the Conservation and Management Plan (CMP) that are focused on socio-economic activities: Reducing adverse economic activities (Objective 1, Programme 1.3); Developing alternative livelihood opportunities (Objective 4, Programme 4.2); and Promoting public participation ("stakeholder involvement") (Objective 4, Programme 4.3). Because the driving forces behind conservation problems are socio-economic, and not necessarily natural history issues, it is essential that management authorities and other involved parties in all Signatory States understand these forces.

14. While useful for showing the critical importance of these socio-economic issues, the Committee considered the information given in the national reports is inadequate for a complete and systematic understanding of these very complex issues, and recommended that specific studies be conducted. The key components for responding to these needs include:

- Compilation of descriptive details from the IOSEA region relevant to the fundamental socio-economic concerns / issues;
- Compilation of information relevant to the fundamental socio-economic concerns issues, from published sources, independent of the geographic location of the work;
- Evaluation of alternative livelihood approaches relevant to specific cases within the IOSEA region;
- Design of investigation for establishing reliable socio-economic foundations for specific cases within the IOSEA region.

The execution of these diverse tasks could involve diverse modalities, including: academic research projects (e.g., graduate student theses) and commissioned work.

15. Ensuring the most efficient and effective use of resources: The Committee observed an urgent need to put into place objective and regular evaluations. Among the specific questions that need to be answered are:

- How have results from research and / or monitoring been used to improve management of either target or bycatch species?
- Are periodic reviews mandated by current management plans? If "yes", how frequently is this done?
- How are the results from research and monitoring communicated to other parties, such as other government agencies, NGOs, researcher organisations, etc.?

Different methods could be used. The Committee encouraged Signatory States to arrange regular, independent evaluations of their research, monitoring and management programmes, to ensure that desired objectives are being realised. Focused work on certain aspects of this question can be conducted by specialists in this issue; these could include students (e.g., MSc and PhD candidates) and / or consultants.

16. Over the course of its two day meeting, members of the Advisory Committee made different observations and recommendations germane to priorities for the IOSEA Marine Turtle MoU. These "fundamental considerations" can be summarised as follows. It is necessary to constantly remind ourselves of the objective of this agreement, namely to *"protect, conserve, replenish and recover marine turtles and their habitats, based on the best scientific evidence, taking into account the environmental, socio-economic and cultural characteristics of the Signatory States"*. The IOSEA agreement exists to promote regional cooperation to meet the above objective. The Conservation and Management Plan, with its six objectives, 24 programmes, 105 activities, is very ambitious; thus there is an urgent need to prioritise actions. We must do everything possible to nurture collaborations and synergy, and diverse levels with diverse organisations and stakeholders; we must constantly strive for the highest quality of information; and there is a pressing need to develop objective, independent evaluations of activities conducted under the aegis of the IOSEA. It is important also to point out that these considerations are intimately related to the development of an IOSEA Strategic Plan (a first draft of which was produced in February 2009).

(c) Site Network proposal

17. The Committee briefly discussed the status of the site network proposal (document MT-IOSEA/SS.6/Doc. 7), to be deliberated subsequently by the Signatory States, noting that the concept of a network of important marine turtle sites had been introduced and accepted at the Second Meeting of the Signatory States (2004). During the ensuing period there had been many discussions and revisions of different proposals, including a consultancy and an intersessional working group since SS5. The Secretariat mentioned that further comments had recently been received from a Signatory State. It was suggested that the evaluation criteria be kept under periodic review and be treated as a "living document", subject to revision as necessary.

(d) Technical Support / Capacity-building and Standardisation

18. The Committee observed that diverse methods of training and capacity building could be used, varying from regional courses and symposia, including core modules, to training activities tailored to specific needs of an identified audience. The Committee attached particular importance to the unique value of graduate level training, with the view to nurturing highly trained and competent individuals who would subsequently serve as resident, in-country trainers. The Committee identified a need to have a clear institutional vision for the training / capacity building activity, for example by a "certification" process for IOSEA trainers. Particularly, a greater need for Advisory Committee integration was identified. Given the ever-present problem of limited resources, there were repeated suggestions to try to organise training / capacity building activities to coincide with other related events – such as other training activities and / or marine turtle symposia – so that costs and organisational work could be significantly reduced.

19 After lengthy discussion, it was agreed that Dr. Miller would revise and recirculate Annex 4 of document MT-IOSEA/SS.6/Doc.8 among IOSEA roster of training experts and country representatives, to come up with the best way to deal with this activity and engage Signatory States. He would then analyse the results and consult with the Advisory Committee about putting together a document to advance the process. Among the substantive points brought up during the debate was the pressing need for members of the IOSEA training roster to interact and collaborate more, to complement each other and their specific training projects. Other suggestions included taking a more in-depth look into training needs and funding requirements, as well as finding ways to build awareness of the training capabilities of IOSEA.

(e) Species Assessments for leatherback and loggerhead turtles

20. The meeting was informed on the status of the leatherback and loggerhead assessments. It was agreed that the leatherback assessment, finalised in 2006, needed to be updated, at least in terms of basic threats and progress made in conservation actions. Dr. Ronel Nel consented to take on this task, with the hope of providing a final draft for comment by April 2012. The finalisation of the loggerhead assessment had been complicated by other assessments of this species that were initiated recently, and the need to avoid needless duplication of effort, and also take advantage of the most recent of information relevant to the conservation of loggerhead turtles within the IOSEA region. It was agreed that Dr. Hamann, coordinator of this assessment, would attempt to consult with Signatory State representatives, particularly during the sub-regional consultations, to advance the final aspects of data compilation.

21. The observation was made that while the IOSEA Advisory Committee was developing a loggerhead assessment, other organisations had taken on the same task - unfortunately without communicating with the IOSEA. This led to a discussion about the validity of IOSEA investing time and effort in these assessment activities. It was pointed out that IOSEA has a unique role in providing pragmatic, up-to-date information and guidance for conservation and management of marine turtles and their habitats in the IOSEA region, which is not captured in other assessment work. In this light it was agreed that the IOSEA species assessments should be especially relevant to the management and conservation needs in the region.

22. It was pointed out that a particular need for more useful species assessments, as well as other IOSEA activities, was access to much more complete and thorough information from relevant fisheries organisations that are active in the IOSEA region. In this light, the Committee requested that Signatory States do everything possible to encourage these fisheries organisations to enhance their capacity to collect information on marine turtle bycatch and make it fully available to Signatory States and IOSEA Secretariat.

(f) National networks / communities

23. The Chair pointed out that the IOSEA Conservation and Management Plan requires Signatory States to "encourage cooperation within and among government and non-government sectors, including through the development and / or strengthening of national networks" [CMP Activity 6.4 c]. He further observed that no government agency, in any country in the world, has adequate resources (human, logistic, financial, etc.) to be able to comply with the numerous and diverse tasks required by the CMP. Hence, it is essential to nurture the greatest possible communication, collaboration, and cooperation at the national level. The Coordinator informed the meeting that a questionnaire on national networks / committees was distributed to all IOSEA Focal Points, but it did not elicit as positive a response as a questionnaire that was sent out prior to the last Signatory State meeting in 2008. To facilitate this essential task, the Committee recommended that the issue of nurturing national marine turtle networks / committees be clearly articulated in the "Terms of Reference and Guidance for IOSEA Focal Points" (document MT-IOSEA/SS.6/Doc. 11).

(g) Thematic workshops planned for SS6

24. The Coordinator introduced the two thematic workshops to be held at SS6: (1) Satellite Tracking and (2) Climate Change Impacts on Marine Turtles and related Mitigation Strategies. The workshops were scheduled to be held in parallel. However, based on anticipated demand, the convenor of the climate change workshop had agreed to hold an additional session in the evening, making if possible for delegates to attend both workshops if they so desired.

(h) Sub-regional consultations: suggestions for enhancing outputs and follow-through

25. The Coordinator reviewed the plan to allow for consultations at SS6 in smaller sub-regional groups, to provide for exchange of ideas and experience among countries with geographic affinity. In the last meeting of Signatory States, some of the groups were constrained by the amount of time allocated to country presentations. He suggested that the sub-regional focal points needed to be firm in setting the agenda and that the outline in document MT-IOSEA/SS.6/Doc. 2 – Addendum be used as guidance for running the consultations. In a related note, some committee members discussed the merits of changing some of the sub-regional alignments due to geographic affiliations.

(i) Data quality

26. The Committee noted that data quality was an overarching concern in turtle conservation efforts and encouraged Signatory States to make all efforts to ensure the highest quality of information provided in diverse reports. A clear example of this need was shown in the Secretariat's observations concerning site-based information on species, habitats, threats and mitigation measures (document MT-IOSEA/SS6/Doc 6.1). This issue was also relevant to the fundamental concepts, mentioned earlier in the meeting.

Agenda item 5: Advisory Committee membership, chairmanship, functioning

27. The Committee was advised that two of its members would be standing down and that the Secretariat had received only one new nomination that conformed to the Advisory Committee's terms of reference. A discussion ensued about setting a procedure for considering nominees during intersessional meetings. It was pointed out that there was a need for the Advisory Committee to have a diversity of disciplines, not just turtle biologists. The possibility of meeting more frequently than just before SS meetings was also discussed. Some members supported holding annual meetings on an optional basis, only when needed, while others suggested that video-conferencing was an option to pursue and thus save on costs. In another matter, the Chairman called for increased communication among Committee members when meetings were not in session. The need for clarity in function and decision regarding the Advisory Committee was emphasised. The Committee noted that at the end of SS6, the new committee would meet to elect its chair.

Agenda item 6: Report of the Chair to the Meeting of Signatory States

28. It was noted that on 23 January the Chairman would be invited to report orally to the Meeting of the Signatory States on the main issues considered during this Advisory Committee meeting.

Agenda item 7: Other business

29. There being no other items of business, the Chairman thanked participants for their contributions and adjourned the meeting.

ANNEX I: LIST OF PARTICIPANTS TO THE SIXTH MEETING OF THE IOSEA ADVISORY COMMITTEE

Mr. Ali Bin Amer Al-Kiyumi
Director General of Nature Conservation
Ministry of Environment and Climate Affairs
P.O. Box 323
MUSCAT 100
Oman

Tel: (+968 24) 602 285
Fax: (+968 24) 602 283
Email: alialkiyumi@gmail.com

Mr. Bundit Chokesanguan
Information and Training Division Head / Special Departmental Coordinator
Southeast Asian Fisheries Development Center (SEAFDEC)
Training Department,
P.O. Box 97 Phrasamutchedi
SAMUT PRAKAN 10290
Thailand

Tel: (+66 2) 425 6100
Fax: (+66 2) 425 6111
Email: bundit@seafdec.org

Dr. John (Jack) G. Frazier
Chairman
Research Associate
Conservation & Research Center,
National Zoo, Smithsonian Institution
1500 Remount Rd.
FRONT ROYAL, VA 22630
United States of America

Tel: (+1 540) 635 6564
Fax: (+1 540) 635 6551
Email: kurma@shentel.net

Dr. Mark Hamann
Research Fellow - Marine Turtles & Dugong Research
School of Earth and Environmental Sciences
James Cook University (JCU)
TOWNSVILLE QLD 4814
Australia

Tel: (+61 7) 4781 4491
Fax: (+61 7) 4781 5581
Email: mark.hamann@jcu.edu.au

Dr. Colin J. Limpus
Chief Scientist
Aquatic Threatened Species and Threatening Processes, Environment and Resource Sciences Division,
Department of Environment and Resource Management
P.O. Box 2454
BRISBANE QLD 4001
Australia

Tel: (+61 7) 3170 5617 (office)
Fax: (+61 7) 3170 5800
Email: col.limpus@epa.qld.gov.au

Dr. Jeffrey Dean (Jeff) Miller
Marine Turtle Specialist
Biological Research and Education Consultants
446 Dearborn Avenue, Missoula
Montana 59801
United States of America

Tel: (+1 406) 493 1572
Fax:
Email: jeffmiller2209@hotmail.com

Ms. Alexis T. Gutierrez
Foreign Affairs Specialist
Office of Protected Resources,
National Marine Fisheries Service / NOAA / DOC
1315 East-West Highway
SILVER SPRING, MD 20910
United States of America

Tel: (+1 301) 713-2322
Fax: (+1 301) 713 4060
Email: alexis.gutierrez@noaa.gov

Ms. Marlene M. Menard
Foreign Service Officer
Department of State,
Office of Marine Conservation (OES / OMC)
2201 C Street, NW
Washington, DC 20520
United States of America

Tel: (+1 202) 647-2335
Email: MenardMM@state.gov

Dr. Petronella (Ronel) Nel
The Nelson Mandela Metropolitan University (NMMU),
Department of Zoology
P.O. Box 77000
PORT ELIZABETH 6031
South Africa

Tel: (+27 41) 504 2335
Fax: (+27 41) 504 2317
Email: Ronel.Nel@nmmu.ac.za

ANNEX II: AGENDA OF THE SIXTH MEETING OF THE IOSEA ADVISORY COMMITTEE

1. Welcoming remarks
2. Admission of observers and adoption of the agenda
3. Secretariat overview of arrangements for the Sixth Meeting of the Signatory States (SS6)
4. Discussion of SS6 agenda items requiring Advisory Committee advice / intervention
    (a) Overview of IOSEA MoU implementation (Doc. 6) and site-based information (Doc 6.1)
    (b) IOSEA priorities
    (c) Site Network proposal
    (d) Technical Support / Capacity-building & standardisation
    (e) Species Assessments: leatherback (retrospective) and loggerhead
    (f) National networks / committees
    (g) Thematic workshops planned for SS6
    (h) Sub-regional consultations: suggestions for enhancing outputs and follow-through
    (i) Data quality
5. Advisory Committee membership, chairmanship, functioning
6. Report of the Chair to the Meeting of Signatory States
7. Other business

ANNEX III: SUMMARY OF SPECIAL CONSIDERATIONS ON FLIPPER TAGGING

Marine turtles are slow growing, long-lived animals. If we wish to follow individual turtles throughout their life span, then tags used for flipper tagging need to be made of a material that can last for decades when immersed in seawater. Typically, a marine turtle is decades old when it commences its adult breeding life and can be expected to have a breeding life spanning an additional 20+ years. It is not uncommon for some individual turtles to skip 4 to ten years between breeding seasons. For a tagging-recapture programme to be effective, the tag must have a high probability of remaining readable on the turtle across these types of time periods.

Only two types of flipper tags are currently available which can be expected to remain on turtles across many years: titanium tags and inconel tags. All other types of flipper tags (aluminium, monel, plastic) have a limited retention time on turtles in the sea.

Only titanium and inconel tags are recommended for use as the primary flipper tags within marine turtle tagging studies in the IOSEA Region. No other types of tags can be expected to survive more than a decade on a turtle. Probability of recognition of individual turtles across long recapture intervals can be improved by applying more than one tag to the turtle.

The primary function of flipper tagging in marine turtle research and monitoring projects is to allow the identification of individual turtles. Once individual turtles are identifiable, it is possible to:

- Use tagging to census the number of turtles visiting a particular beach within a nesting period.

- Use recaptures of tagged turtles to determine spatial dispersal and migration of turtles:
  - Migration linkages between foraging areas and distant nesting beaches.
  - Sequential habitats used during developmental migration of immature turtles.
  - Changes in nesting beaches by individual turtles within and between breeding seasons.

- Use mark-recapture studies to quantify:
  - Renesitng interval (days between successive clutches in a breeding season);
  - Remigration interval (years between successive breeding seasons);
  - Number of clutches laid by a turtle during a breeding season;
  - Growth rates;
  - Population recruitment rates, annual survivorship and population size at a particular study site, based on mark-recapture modelling;

With additional analysis,

- growth data can be modelled to estimate the age to first breeding;

There are therefore both short-term and long-term data to be gained from flipper tagging studies. When turtles are correctly tagged with titanium or inconel tags, recaptures of these turtles are likely to occur across at least 30 years. This interval of return of information from tagged turtles is typically longer than the duration of most university studies and longer the period of involvement of managers employed by government agencies for turtle conservation.

To maximise the value of long-term data available from flipper tag returns, it is imperative that tags be dispersed from centralised tagging ‘agencies’ that are also custodians of the tagging data and subsequent tag recovery data. The tagging agency should be identified by the return address on the back of the tag.

Short-term tagging studies not linked to long-term management of tagging databases are not recommended.

It is strongly recommended that there be Regional tagging agencies. For example:

- The Secretariat of the Pacific Regional Environment Programme (SPREP) coordinates the purchase, dispersal and data security for turtle flipper tagging projects within the Pacific Island Nations. All tags used have a common prefix and SPREP return address. Tag recoveries reported to SPREP and reported on to the national focal points and study teams responsible to the respective tagging projects. This database has been functional for 20 years.

- Within Australia, individual States and the Commonwealth have agreed prefixes to identify their tag series: CA = Commonwealth of Australia; NS = New South Wales; QA = Queensland; WA = Western Australia, each with the respective return address. Each state manages its own database. Queensland is also custodian of the back-up database for the Commonwealth and Northern Territory tagging projects and a number of historical tagging studies in the region. Each agency regulates tagging studies by academics, NGOs and community groups to use tag series supplied by the respective management agency. Centralised coordination of turtle tagging data has been in place in Australia for more than 40 years.

- Within the ASEAN region, the Marine Fishery Resources Development and Management Department of the Southeast Asian Fisheries Development Center (MFRDMD / SEAFDEC) provides flipper tags and consolidates tag data from ASEAN member countries within the framework of a long-term fisheries / research project. Contact person: Mr. Syed Abdullah Syed Abdul Kadir, MFRDMD / SEAFDEC, 21080 Chendering, Terengganu, Malaysia, syedjohor@gmail.com

It is critical that tag numbers are not duplicated within an ocean basin. See the IOSEA website < http://ioseaturtles.org/flippertags.php> for a detailed summary of tag series used by more than 20 countries within the IOSEA region, as well as a paper offering general information on flipper tags and tag series, authored by Dr. Jeanne Mortimer.

ANNEX IV: QUESTIONNAIRE FOR IDENTIFYING NATIONAL INDEX SITES FOR MONITORING MARINE TURTLE POPULATIONS

Country: Species: Date prepared:

References identifying the genetic stocks or management units (Author and year):

Name of stock					
Are there index beaches for each stock (Y/N); How many (number)					
	1	2	3	4	5
Name of index beaches by stock					
Census method for index beach					
Year of first census					
Year of last census					
Additional comments					
Published report (author & year)					

Reference list for reports and publications identified above:

1.

2.

3.

4.

5.

Supply a set of summary tables and / or graphs for the census data from each index site.

EXAMPLE: Questionnaire for identifying national index sites for monitoring marine turtle populations (sample from Australia).

Country: Australia Species: *Caretta caretta* Date prepared: 21 Jan 2012

References identifying the genetic stocks or management units (Author and year): Limpus et al. 2005

Name of stock	SW Pacific					
Are there index beaches for each stock (Y/N); How many (number)	Yes: 6					
	1	2	3	4	5	6
Name of index beaches by stock	Woongarra Coast (including Mon Repos)	Heron Island	Wreck Island	Lady Musgrave Island	Northwest Island	Wreck Rock beaches
Latitude						
Longtitude						
Census method for index beach	Total nightly tagging for the nesting season	Total nightly tagging for the nesting season	Total nightly tagging for 2 weeks and mid nesting season (last 2 weeks of December)	Total nightly tagging for 2 weeks and mid nesting season (last 2 weeks of December)	Total nightly tagging for 2 weeks and mid nesting season (last 2 weeks of December)	Total nightly tagging for 5 weeks during mid nesting season
Year of first census	1970	1974	1977	1971	1977	1978
Year of last census	continuing	continuing	continuing		continuing	continuing
Additional comments	6 small crescent beaches in a continuous rocky shore.	1.6 km beach	1.7 km beach	XXX km beach	5 km beach	22 km of mainland beach
Published report (author & year)	Limpus, 2008; Limpus and Nicholls, 2000; Chaloupka et al. 2008	Limpus, 2008	Limpus, 2008	Limpus, 2008	Limpus, 2008	Limpus, 2008

Reference list for reports and publications identified above:

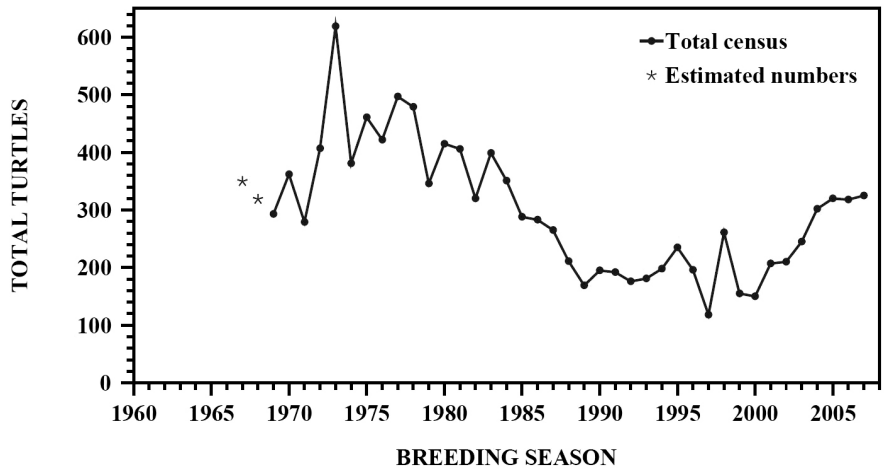
Chaloupka, M., Kamezaki, N., and Limpus, C. J. (2008). Is climate change affecting the population dynamics of the endangered Pacific loggerhead sea turtle? *Journal of Experimental Marine Biology and Ecology* 356, 136-143.

Limpus, C. (2008). A biological review of Australian marine turtles. 1. Loggerhead turtle, *Caretta caretta* (Linnaeus).(Queensland Government Environmental Protection Agency: Brisbane.)

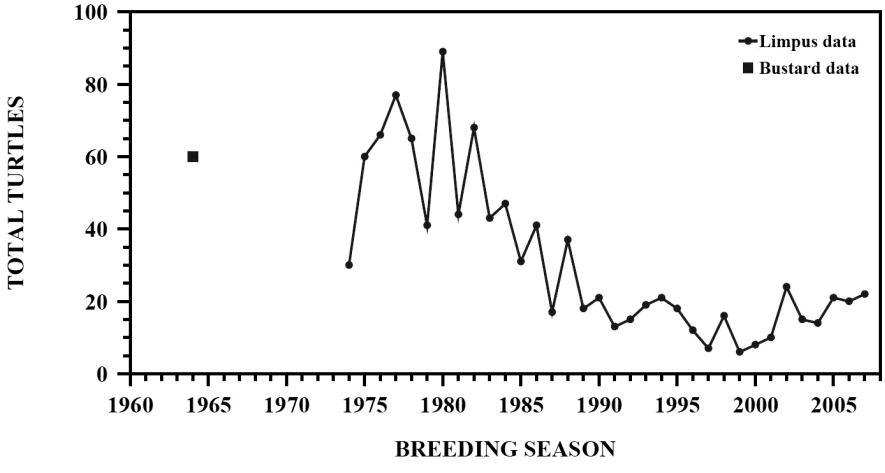
Limpus, C. J., Boyle, M., and Sunderland, T. (2005). New Caledonian loggerhead turtle population assessment: 2005 pilot study. In "Proceedings of Second Western Pacific Sea Turtle Cooperative research and Management workshop. Volume II. North Pacific Loggerhead sea turtles." (Ed. Kinan, I.) pp. 77-92. (Western Pacific Regional Fisheries Management Council. Honolulu.)

Supply a set of summary tables and graphs for the census data from each index site.

Figure 1. Total annual loggerhead turtle, *Caretta caretta,* nesting population at index rookeries measured by total annual tagging census.

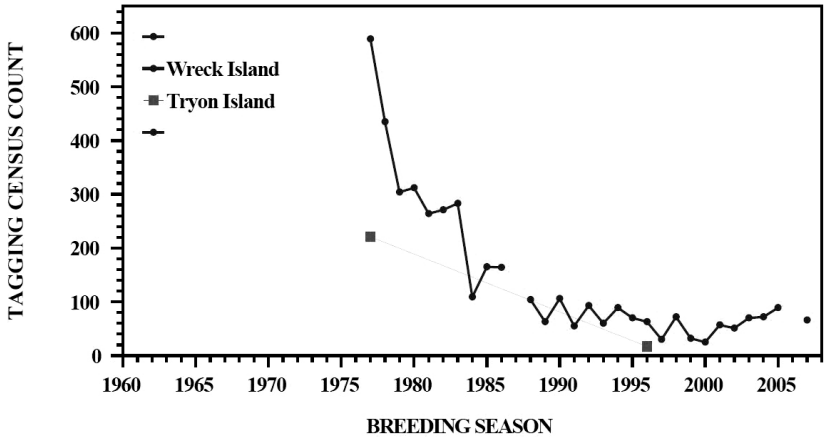


1a. Woongarra Coast, including Mon Repos

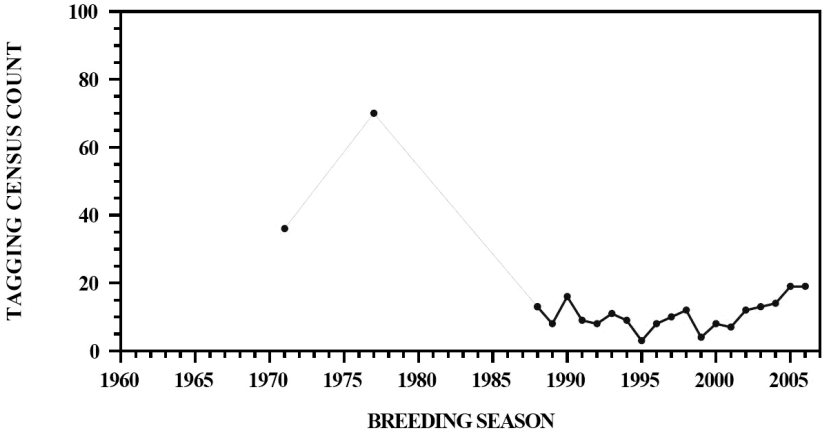


1b. Heron Island

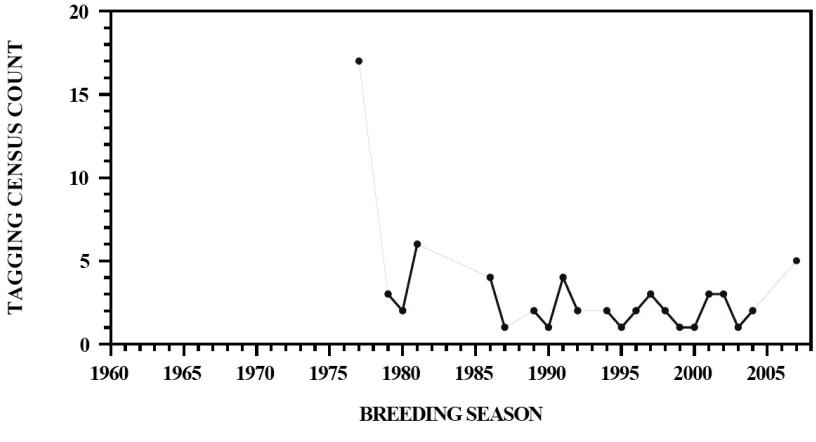
Figure 2. Annual number of loggerhead turtles, *Caretta caretta*, recorded nesting at index rookeries measured by tagging census at the peak nesting season census period during the last two weeks of December



2a. Wreck Island and Tryon Island

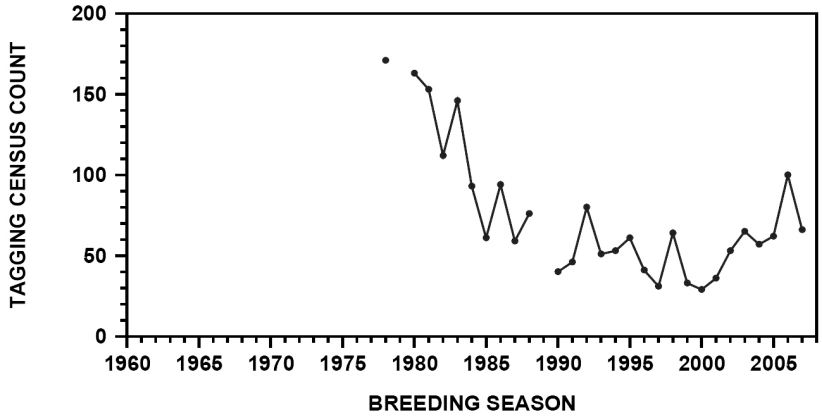


2b. Lady Musgrave Island



2c. Northwest Island

Figure 3. Annual number of loggerhead turtles, *Caretta caretta,* recorded nesting at an index rookery measured by tagging census at the peak nesting season census period during five weeks in December and January



3a. Wreck Rock Beaches

ADDENDUM TO THE REPORT OF THE SIXTH MEETING OF THE ADVISORY COMMITTEE

1. By tradition, the Advisory Committee convenes briefly following the close of the Meeting of the Signatory States, primarily to discuss arrangements for the chairmanship. A quorum of existing members of the Advisory Committee (Al-Kiyumi, Chokesanguan, Frazier, Limpus, and Miller) met informally on the evening of 26 January 2012.

2. Dr. Miller, seconded by Dr. Limpus, proposed that Dr. Jack Frazier continue as Chair for another term.Dr. Frazier accepted the nomination and was duly re-confirmed as Chair of the Advisory Committee.

ANNEX 12: ACTION POINTS ARISING FROM THE SIXTH MEETING OF SIGNATORY STATES

The following action points have been extracted from the Report of the Sixth Meeting of the Signatory States (Bangkok, Thailand, January 2012) and related meeting outputs. The activities have been divided into three categories: (1) Implementation guidance / support; (2) Institutional; and (3) Administrative. In each table (sorted by Action Theme and Lead Actor, respectively), the nature of the follow-up activity is identified along with the actors to whom the activity is addressed. In most cases a corresponding paragraph reference in the SS6 report is indicated; along with additional remarks.

TABLE 1. Sorted by Action Theme

Action theme	Action primarily directed to:	Activity	Report para.	Remark
Implementation guidance / support	Signatory States Secretariat	IG1. Signatory States with national conservation plans should submit them to the Secretariat for posting on the IOSEA website, as models for others to consider.	16	Suggestion of Bangladesh representative
Implementation guidance / support	Signatory States Advisory Committee Secretariat	IG2. Five main priority areas for IOSEA to address in the current biennium are: (1) investigation of illegal direct take of marine turtles; (2) identification of index beaches associated with genetic stocks; (3) capacity-building in support of Signatory State efforts; (4) investigation of indirect take (incidental capture) in legal fisheries; and (5) socio-economic considerations, particularly stakeholder engagement.	18-29	
Implementation guidance / support	Secretariat Advisory Committee Signatory States	DETAIL: IG2a. Investigation of illegal direct take of marine turtles Suggested mechanisms: Commissioned reviews (e.g., in collaboration with TRAFFIC, CITES, fisheries sector and community-based studies) and prescribed student projects (ranging from semester-long reviews / course work, to Masters or PhD level theses).	20-21	
Implementation guidance / support	Advisory Committee Signatory States	IG2b. Identification of index beaches associated with genetic stocks Initial steps: Dr. Colin Limpus to collaborate with Dr. Nancy FitzSimmons to create a listing and geographic mapping of known and suspected genetic stocks for each species in the IOSEA region.	22-23	Sample template for describing index sites is given in Sixth Advisory Committee meeting report, Annex IV

Action theme	Action primarily directed to:	Activity	Report para.	Remark
Implementation guidance / support	Advisory Committee Signatory States Secretariat	IG2c. Capacity-building in support of Signatory State efforts Suggested mechanisms: regional courses, core modules, tailored training activities, graduate-level training, certification of trainers etc. Dr. Jeff Miller will revise and recirculate within the AC a "Draft road map for the further development of the IOSEA Marine Turtle Training Course / Capacity-Building Programme", and develop a proposal to advance the process with Signatory States.	24-26	
Implementation guidance / support	Signatory States Advisory Committee Secretariat	IG2d. Investigation of indirect take in legal fisheries: Suggested mechanisms: collection and compilation of data on turtle bycatch in legal fisheries; better reporting on levels of fisheries and their impacts on turtles. Advisory Committee to provide guidance on the minimum data requirements. Examples of data, data sources, and data gathering methods from different countries in the IOSEA region should be sought.	27	
Implementation guidance / support	Secretariat Advisory Committee Signatory States	IG2e. Socio-economic considerations (specifically with regard to public participation and stakeholder engagement): Suggested mechanisms: compilation of best practices and lessons learned (among Signatory States), perhaps undertaken by a graduate student.	28	
Implementation guidance / support	Advisory Committee Signatory States Secretariat	IG3. Signatory States and others to send comments on draft loggerhead assessment to Dr. Mark Hamann (Advisory Committee), who hopes to finalise the document by mid-2012. The Secretariat will circulate the next version to Signatory States prior to the document's finalisation.	30-32	
Implementation guidance / support	Advisory Committee Secretariat Signatory States	IG4. Dr. Ronel Nel to finalise review of 2006 leatherback assessment, including an analysis of progress and gaps, as well as project concepts arising from existing recommendations. Updated document to be completed and circulated in April 2012 (after review by Advisory Committee).	33	
Implementation guidance / support	Secretariat	IG5. Secretariat to contact Indian Ocean Tuna Commission (IOTC) secretariat to seek any available data on marine turtle bycatch and to encourage reciprocal IOTC participation in future IOSEA meetings.	34	

Action theme	Action primarily directed to:	Activity	Report para.	Remark
Implementation guidance / support	Advisory Committee Secretariat	IG6. Advisory Committee to review and, as necessary, revise the Site Evaluation Criteria; and draw attention to any further adjustments that may warranted in the course of using the criteria.	*	* Site Network Resolution, para. 2
Implementation guidance / support	Secretariat Signatory States	IG7. Secretariat to recirculate application forms for the IOSEA Capacity-Building / Technical Support Programme, and to seek funds to support its extension - based on positive feedback from countries having beneifited already and expressions of interest from Bangladesh, India, Maldives, and Mauritius.	50	
Implementation guidance / support	Advisory Committee	IG8. Members of the IOSEA Advisory Committee training roster to interact and collaborate more to complement each other and their specific training projects.	51	
Implementation guidance / support	Signatory States	IG9. Focal Points are encouraged to follow the "Terms of Reference and Guidance for IOSEA Focal Points" adopted at SS6.	58	Reproduced in Annex 8 of SS6 meeting report
Implementation guidance / support	Secretariat	IG10. Secretariat to provide Signatory States with details about procedures for accessing UNEP funding for micro-projects aimed at conserving CMS-listed species (as announced at CMS COP10).	73	Signatory States have been notified by email of 4 April 2012
Implementation guidance / support	Signatory States	IG11. Where relevant, Signatory States are encouraged to explore "offsetting arrangements" with major industrial development projects as a possible new source of marine turtle conservation funding.	77	Suggestion of Australian representative
Implementation guidance / support	Signatory States	IG12. Signatory States and others to take account of specific management priorities for satellite tracking studies, turtle populations, and IOSEA-led action in each of the four IOSEA sub-regions, as identified by the working groups in the Satellite Tracking workshop.	*	Reproduced in Annex 7 of SS6 meeting report
Institutional	Signatory States	IN1. Signatory States should collaborate to secure more funding for projects and encourage States with high seas fleets to join the IOSEA Marine Turtle MoU.	9	Suggestion of US representative
Institutional	Signatory States Supporting partners	IN2. Signatory States to begin preparing and submitting site nominations, as of September 2012 until six months prior to the Seventh Meeting of the Signatory States.	*	* Site Network Resolution, para. 4

Action theme	Action primarily directed to:	Activity	Report para.	Remark
Institutional	Signatory States Advisory Committee	IN3. Signatory States to consider, at the Seventh Meeting, recommendations of the Advisory Committee for the inclusion of network sites, with a view to launching the Site Network at SS7.	*	* Site Network Resolution, para. 5
Institutional	Signatory States Secretariat	IN4. Steering committee to be established to seek financial support for the implementation of the Site Network and to consider other operational issues that may arise intersessionally.	*	* Site Network Resolution, para. 6
Institutional	Advisory Committee Secretariat	IN5. Advisory Committee should meet three days prior to the next Meeting of Signatory States, so that the AC report can be available at the start of SS7.	64	
Institutional	Signatory States Secretariat	IN6. Next Meeting of IOSEA Signatory States to be held about two years hence (during the first half of 2014).	69	Signatory States are encouraged to submit expressions of interest to host the meeting, preferably by the end of 2012.
Institutional	Signatory States Secretariat	IN7. Having endorsed the proposed budget for 2012-2014, Signatory States are encouraged to make voluntary contributions in line with the agreed indicative scale. Secretariat to inform SS accordingly, as appropriate.	76	
Administrative	Secretariat Signatory States	AD1. Secretariat to circulate to all Signatory States, by 31 May 2012, the revised Site Evaluation Criteria for final review and written comment by Signatory States no later than 31 July 2012. Final version of the Site Evaluation Criteria to be circulated by 31 August 2012.	*	* Site Network Resolution, para. 3
Administrative	Secretariat Signatory States (sub-regional Focal Points) Advisory Committee	AD2. Secretariat to organise a periodic conference call with the four sub-regional Focal Points (Indonesia, India, U.A.E., Madagascar) and the Chair of the Advisory Committee (or his / her representative).	59	First call is proposed for May 2012, after clarification of Focal Point arrangements for Indonesia and India.
Administrative	Advisory Committee Secretariat	AD3. Advisory Chair to write to one inactive member of the Committee with a view to confirming that the position will be vacated and possibly filled intersessionally.	63	Secretariat has already welcomed one newly appointed AC member (duly acknowledged)

TABLE 2. Sorted by Lead Actor / Action Theme

Action theme	Action primarily directed to:	Activity	Report para.	Remark
LEAD ACTOR: SIGNATORY STATES				
Implementation guidance / support	Signatory States Secretariat	IG1. Signatory States with national conservation plans should submit them to the Secretariat for posting on the IOSEA website, as models for others to consider.	16	Suggestion of Bangladesh representative
Implementation guidance / support	Signatory States Advisory Committee Secretariat	IG2. Five main priority areas for IOSEA to address in the current biennium are: (1) investigation of illegal direct take of marine turtles; (2) identification of index beaches associated with genetic stocks; (3) capacity-building in support of Signatory State efforts; (4) investigation of indirect take (incidental capture) in legal fisheries; and (5) socio-economic considerations, particularly stakeholder engagement.	18-29	
Implementation guidance / support	Signatory States Advisory Committee Secretariat	IG2d. Investigation of indirect take in legal fisheries: Suggested mechanisms: collection and compilation of data on turtle bycatch in legal fisheries; better reporting on levels of fisheries and their impacts on turtles. Advisory Committee to provide guidance on the minimum data requirements. Examples of data, data sources, and data gathering methods from different countries in the IOSEA region should be sought.	27	
Implementation guidance / support	Signatory States	IG9. Focal Points are encouraged to follow the "Terms of Reference and Guidance for IOSEA Focal Points" adopted at SS6.	58	Reproduced in Annex 8 of SS6 meeting report
Implementation guidance / support	Signatory States	IG11. Where relevant, Signatory States are encouraged to explore "offsetting arrangements" with major industrial development projects as a possible new source of marine turtle conservation funding.	77	Suggestion of Australian representative
Implementation guidance / support	Signatory States	IG12. Signatory States and others to take account of specific management priorities for satellite tracking studies, turtle populations, and IOSEA-led action in each of the four IOSEA sub-regions, as identified by the working groups in the Satellite Tracking workshop.	*	Reproduced in Annex 7 of SS6 meeting report

Action theme	Action primarily directed to:	Activity	Report para.	Remark
Institutional	Signatory States	IN1. Signatory States should collaborate to secure more funding for projects and encourage States with high seas fleets to join the IOSEA Marine Turtle MoU.	9	Suggestion of US representative
Institutional	Signatory States Supporting partners	IN2. Signatory States to begin preparing and submitting site nominations, as of September 2012 until six months prior to the Seventh Meeting of the Signatory States.	*	* Site Network Resolution, para. 4
Institutional	Signatory States Advisory Committee	IN3. Signatory States to consider, at the Seventh Meeting, recommendations of the Advisory Committee for the inclusion of network sites, with a view to launching the Site Network at SS7.	*	* Site Network Resolution, para. 5
Institutional	Signatory States Secretariat	IN4. Steering committee to be established to seek financial support for the implementation of the Site Network and to consider other operational issues that may arise intersessionally.	*	* Site Network Resolution, para. 6
Institutional	Signatory States Secretariat	IN6. Next Meeting of IOSEA Signatory States to be held about two years hence (during the first half of 2014).	69	Signatory States are encouraged to submit expressions of interest to host the meeting, preferably by the end of 2012.
Institutional	Signatory States Secretariat	IN7. Having endorsed the proposed budget for 2012-2014, Signatory States are encouraged to make voluntary contributions in line with the agreed indicative scale. Secretariat to inform SS accordingly, as appropriate.	76	

LEAD ACTOR: ADVISORY COMMITTEE

Implementation guidance / support	Advisory Committee Signatory States	IG2b. Identification of index beaches associated with genetic stocks Initial steps: Dr. Colin Limpus to collaborate with Dr. Nancy FitzSimmons to create a listing and geographic mapping of known and suspected genetic stocks for each species in the IOSEA region.	22-23	Sample template for describing index sites is given in Sixth Advisory Committee meeting report, Annex IV

Action theme	Action primarily directed to:	Activity	Report para.	Remark
Implementation guidance / support	Advisory Committee Signatory States Secretariat	IG2c. Capacity-building in support of Signatory State efforts Suggested mechanisms: regional courses, core modules, tailored training activities, graduate-level training, certification of trainers etc. Dr. Jeff Miller will revise and recirculate within the AC a "Draft road map for the further development of the IOSEA Marine Turtle Training Course / Capacity-Building Programme", and develop a proposal to advance the process with Signatory States.	24-26	
Implementation guidance / support	Advisory Committee Signatory States Secretariat	IG3. Signatory States and others to send comments on draft loggerhead assessment to Dr. Mark Hamann (Advisory Committee), who hopes to finalise the document by mid-2012. The Secretariat will circulate the next version to Signatory States prior to the document's finalisation.	30-32	
Implementation guidance / support	Advisory Committee Secretariat Signatory States	IG4. Dr. Ronel Nel to finalise review of 2006 leatherback assessment, including an analysis of progress and gaps, as well as project concepts arising from existing recommendations. Updated document to be completed and circulated in April 2012 (after review by Advisory Committee).	33	
Implementation guidance / support	Advisory Committee Secretariat	IG6. Advisory Committee to review and, as necessary, revise the Site Evaluation Criteria; and draw attention to any further adjustments that may warranted in the course of using the criteria.	*	* Site Network Resolution, para. 2
Implementation guidance / support	Advisory Committee	IG8. Members of the IOSEA Advisory Committee training roster to interact and collaborate more to complement each other and their specific training projects.	51	
Institutional	Advisory Committee Secretariat	IN5. Advisory Committee should meet three days prior to the next Meeting of Signatory States, so that the AC report can be available at the start of SS7.	64	
Administrative	Advisory Committee Secretariat	AD3. Advisory Chair to write to one inactive member of the Committee with a view to confirming that the position will be vacated and possibly filled intersessionally.	63	Secretariat has already welcomed one newly appointed AC member (duly acknowledged)

LEAD ACTOR: SECRETARIAT

Action theme	Action primarily directed to:	Activity	Report para.	Remark
Implementation guidance / support	Secretariat Advisory Committee Signatory States	IG2a. Investigation of illegal direct take of marine turtles Suggested mechanisms: Commissioned reviews (e.g., in collaboration with TRAFFIC, CITES, fisheries sector and community-based studies) and prescribed student projects (ranging from semester-long reviews / course work, to Masters or PhD level theses).	20-21	
Implementation guidance / support	Secretariat Advisory Committee Signatory States	IG2e. Socio-economic considerations (specifically with regard to public participation and stakeholder engagement): Suggested mechanisms: compilation of best practices and lessons learned (among Signatory States), perhaps undertaken by a graduate student.	28	
Implementation guidance / support	Secretariat	IG5. Secretariat to contact Indian Ocean Tuna Commission (IOTC) secretariat to seek any available data on marine turtle bycatch and to encourage reciprocal IOTC participation in future IOSEA meetings.	34	
Implementation guidance / support	Secretariat Signatory States	IG7. Secretariat to recirculate application forms for the IOSEA Capacity-Building / Technical Support Programme, and to seek funds to support its extension - based on positive feedback from countries having benefited already and expressions of interest from Bangladesh, India, Maldives, and Mauritius.	50	
Implementation guidance / support	Secretariat	IG10. Secretariat to provide Signatory States with details about procedures for accessing UNEP funding for micro-projects aimed at conserving CMS-listed species (as announced at CMS COP10).	73	Signatory States have been notified by email of 4 April 2012.
Administrative	Secretariat Signatory States	AD1. Secretariat to circulate to all Signatory States, by 31 May 2012, the revised Site Evaluation Criteria for final review and written comment by Signatory States no later than 31 July 2012. Final version of the Site Evaluation Criteria to be circulated by 31 August 2012.	*	* Site Network Resolution, para. 3
Administrative	Secretariat Signatory States (sub-regional Focal Points) Advisory Committee	AD2. Secretariat to organise a periodic conference call with the four sub-regional Focal Points (Indonesia, India, U.A.E., Madagascar) and the Chair of the Advisory Committee (or his / her representative).	59	First call is proposed for May 2012, after clarification of Focal Point arrangements for Indonesia and India.