SEAFDEC Initiatives on Cetacean Sighting in the Waters of Southeast Asia

Sayan Promjinda, Somboon Siriraksophon, Worawit Wanchana, and Nawinee Khumthong

Many questions have always been raised on whether the waters of Southeast Asia really have large cetaceans such as whales in addition to dolphin whales that are often seen in the region’s coastal areas. As it is widely recognized, most large cetaceans are highly migratory species and thus, are not often found on the continental shelves or coastal areas. Recently however, large cetaceans such as the blue whale, fake killer whale, Bryde’s whale, and humpback whale calf, among others, have been frequently found stranded in the coastal areas in the region. The interaction of large cetaceans to the coastal habitats was therefore one of the questions raised during the various meetings of the SEAFDEC Council considering the present declining of crustacean stocks in the waters of Southeast Asia. In order to address such concern, SEAFDEC has continued to gather information on the distribution and composition of cetacean species in the region through a cetacean research program focusing on cetacean sighting in Southeast Asian waters.

Although cetacean research activities are currently being carried out in the region, most of the research works are focused mainly on the conservation of cetaceans and are mostly conducted by environment agencies and NGOs working with the fisheries sector. Meanwhile, the fisheries sectors in many countries of Southeast Asia have developed their respective programs on dolphin conservation as well as on the assessment of the standing stock/population of dolphins in collaboration with the NGOs such as those conducted in the Philippines, Lao PDR, Myanmar, Malaysia, Thailand, Indonesia, Cambodia and Vietnam. However, only very few cetacean research studies are focused on the interaction of cetaceans with the fisheries resources and habitats.

In 2008, SEAFDEC started its “Cetacean Research in Southeast Asian Waters: Cetacean Sighting Program” with support from the Japanese Trust Fund, which aims to: make an inventory of cetacean species found in the Southeast Asian waters through cetacean sighting onboard the M.V. SEAFDEC 2 and respective national research vessels of participating countries; gather information on accidental deaths of cetaceans on the coastal areas of the region; enhance human resources capacity on the cetacean research works in the region; investigate the interaction of migrating large cetaceans to the marine coastal ecosystems and habitats; and disseminate information on cetacean species distribution in relation to their habitats/coastal ecosystems in the Southeast Asian waters.

Current status of cetaceans in Southeast Asia

The Convention on Migratory Species (CMS) has been assessing the standing commitments of the Southeast Asian countries for the conservation of marine mammals such as cetaceans and dugongs that have been exposed to a number of threats (Perrin, et al., 2002). The CMS as an intergovernmental treaty under the auspices of the United Nations Environment Programme (UNEP) which is concerned with the conservation of terrestrial, marine and avian migratory species. In the course of their assessment, the CMS had noted that by-catch and non-targeted catch by both legal and IUU fisheries had been the culprits for the dwindling populations of cetaceans and dugongs in the Southeast Asian waters.
In an attempt to evaluate the efforts of the countries in the region towards conserving the cetaceans and dugongs, two important conferences had been conducted. The First International Conference on Marine Mammals of Southeast Asia was conducted in the Philippines in 1995 where recommendations were raised for the conduct of surveys to improve knowledge on the migratory behavior and distribution of marine mammals, and study on by-catch of cetaceans and dugongs in fisheries; development of marine mammal action plans; and raising awareness of various conservation threats on such mammals. The progress of the Southeast Asian countries on the implementation of such recommendations were reviewed during the Second International Conference on Marine Mammals of Southeast Asia also conducted in the Philippines in 2002, where the associated Workshop on the Biology and Conservation of Small Cetaceans and Dugongs of Southeast Asia discussed the various concerns and research needs of Southeast Asia, and the need to conduct stock assessment of cetaceans and dugongs in the region; study of the stock structure and abundance of the populations including their distribution; and investigation of the impact of by-catch on the cetaceans and dugongs.

**Initiatives of SEAFDEC to promote conservation of cetaceans**

Recently, many large cetaceans have appeared close to coastal habitats in Southeast Asia presumably to feed, but very few works had been done on the interaction between the cetaceans and habitats as well as on the need to clarify the degree of impacts of large cetaceans to the coastal fishery resources. In addressing such concern and based on the recommendations of the Cetacean Research Institution of Japan, SEAFDEC launched a program on the collection of scientific information on the distribution and composition of cetacean species in the Southeast Asian waters using the M.V. SEAFDEC 2 during its planned cruises in the region. Although SEAFDEC has insufficient knowledge and skills on cetacean species, two sighting surveys were carried out. The first was in March 2008 during a cruise from Bangkok to the Andaman Sea, and the second in June 2008 from Thailand to the waters of Brunei Darussalam.

During such sighting surveys, the number of dolphins and whales found along the cruise path was estimated and recorded, to determine the existing density of dolphins and whales populations in the sea waters before future works would be made on the cetacean identification and estimation of the cetacean populations. Moreover, in order to enhance the knowledge of the SEAFDEC staff involved with the cetacean sighting survey, an expert from Japan was invited to join the M.V. SEAFDEC 2 cruise from Bangkok to the Andaman Sea from 23 November to 2 December 2008.

Furthermore, for the analysis of the status of cetacean works in the region, the Regional Workshop on Information Gathering and Cetacean Research in the Southeast Asian Waters was conducted by SEAFDEC on 30-31 July 2009. The Workshop was aimed at providing a forum for the SEAFDEC Member Countries to share and exchange information related to their conservation efforts on cetaceans, and national issues related to cetacean research. Specifically, the Workshop aimed to: review and discuss the cetacean research programs in Southeast Asia; gather cetacean data/information as inputs for the check list on cetacean species existing in the Southeast Asia waters based on results of sighting surveys by the countries and SEAFDEC; identify the whale/dolphin watching spots existing in the Southeast Asian waters, share/exchange information on the stranding of large cetaceans in the coastal areas and seashores of the countries in the region; and discuss the interaction of large cetaceans to the coastal resources/habitats.
In addition, SEAFDEC conducted actual sighting surveys using the research vessels of SEAFDEC Member Countries. When the Philippine Bureau of Fisheries and Aquatic Resources (BFAR) conducted a marine research survey in Philippine waters using its research vessel, the M.V. DA-BFAR on 16-26 August 2009, two SEAFDEC/TD staff were allowed to join the survey onboard the research vessel. Such initiative was meant to collaborate with the staff of BFAR for the cetacean sighting research survey; and to disseminate and exchange information on cetacean sighting methodology adopted by the BFAR scientists onboard the M.V. DA-BFAR with.

In 2010, cetacean information was again gathered through the shipboard surveys using SEAFDEC Member Countries’ research vessels and the M.V. SEAFDEC 2, specifically during its cruise from SEAFDEC/TD to the eastern part of the Gulf of Thailand on May 2010, followed by the second cetacean cruise in July to August 2010 from TD to Sarawak waters, and the third cruise in September to October 2010 from TD to Brunei Darussalam.

In addition, cetacean sighting surveys were also conducted during the two cruises of M.V. SEAFDEC from TD to Phuket port near the Andaman Sea and during the deployment of Tsunami warning system in the EEZ of Thailand in the Andaman Sea in December 2010. The data recorded during the sighting surveys is shown in Box 1.

<table>
<thead>
<tr>
<th>Cruise No.</th>
<th>Destination</th>
<th>Survey Route</th>
<th>Lat/Long</th>
<th>No Observed</th>
<th>Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>28-1/2008</td>
<td>Andaman Sea</td>
<td>Gulf of Thailand - Singapore Strait - Malacca Strait - Andaman Sea</td>
<td>Lat 3.25-8.50, Long 096.22-103.77</td>
<td>213</td>
<td>Unidentified dolphins, Unidentified whales</td>
</tr>
<tr>
<td>29-3/2008</td>
<td>Brunei Darussalam</td>
<td>Gulf of Thailand - South China Sea - Brunei waters</td>
<td>Lat 5.01-10.96, Long 102.08-114.43</td>
<td>56</td>
<td>Unidentified dolphins, Long-beaked common dolphins</td>
</tr>
<tr>
<td>DA-BFAR</td>
<td>Philippine waters</td>
<td>Mindanao Sea - Camotes Sea - Visayan Sea - Sibuyan Sea - Mindanao Sea</td>
<td>Lat 9.74-12.60, Long 122.20-126.18</td>
<td>22</td>
<td>Unidentified dolphins, Common bottle nose dolphins, Sperm whale, Spinner dolphins, Melon head whales</td>
</tr>
<tr>
<td>FRV Chulabhorn 5</td>
<td>Andaman Sea, Thailand</td>
<td>Andaman Sea</td>
<td>Lat 8.07-8.18, Long 095.47-095.50</td>
<td>30</td>
<td>Short-finned pilot whale, False killer whale</td>
</tr>
<tr>
<td>35-3/2010</td>
<td>Sabah and Sarawak waters</td>
<td>Gulf of Thailand - South China Sea - Sabah-Sarawak Seas</td>
<td>Lat 3.49-7.18, Long 111.01-116.17</td>
<td>70</td>
<td>Common bottle nose dolphins, Spinner dolphins</td>
</tr>
<tr>
<td>36-4/2010</td>
<td>Brunei Darussalam</td>
<td>Gulf of Thailand - South China Sea - Brunei waters</td>
<td>Lat 5.07-5.37, Long 113.50-114.19</td>
<td>4</td>
<td>Unidentified whales, Unidentified dolphins, Bottle nose dolphins</td>
</tr>
</tbody>
</table>
In order to develop the human resource capacities of the ASEAN countries on cetacean stock assessment methodology, SEAFDEC/TD with the collaboration of Department of Marine and Coastal Conservation (DMCR) and the Ministry of Natural Resources and Environment of Thailand, and Fisheries Research Agency of Japan, the Regional Training Program on Cetacean Information Gathering and Research Methodology on Cetacean Stock Assessment was organized in November 2010 at Chonburi Province, Thailand. Representatives from the SEAFDEC Member Countries including staff from universities in Thailand and from SEAFDEC participated in the workshop, which specifically focused on cetacean stock assessment and abundance estimation techniques, i.e. photo identification and sighting data as well as on relevant topics, e.g. forensic identification for whales and dolphins, linkages between cetacean abundance and environmental features, among others. In addition, the proposed Regional Handbook on Estuarine/Riverine Cetacean Stock Assessment Methodology by Photo Identification is now being produced in collaboration with the DMCR which is intended to be released before the end of 2011.

References


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