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SEAFDEC-MFRDMD Highlights 2006



Marine Fishery Resources Development and Management Department
SOUTHEAST ASIAN FISHERIES DEVELOPMENT CENTRE

SEAFDEC-MFRDMD Highlights 2006

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our Vision

- To be a CENTER OF DISTINCTION for the sustainable development and management of fishery resources in Southeast Asia.

our Mission

- To provide assistance to SEAFDEC member countries in matters leading to the sustainable development and management of the fishery resources in Southeast Asia through research, training and information dissemination.

our Functions

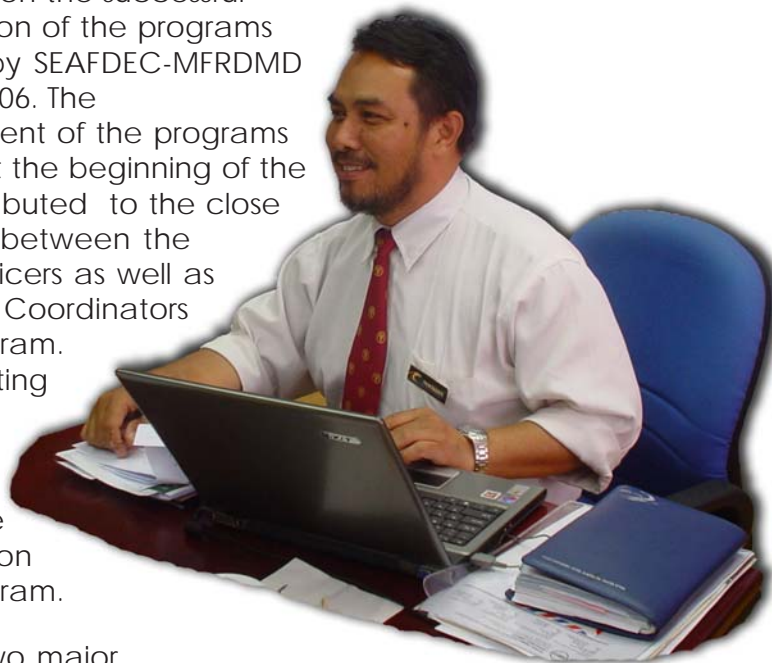
- To provide a regional forum for consultation and cooperation in research and management of fishery resources.
- To coordinate and implement research programs to support sustainable development and management of fishery resources in SEAFDEC member countries through:
 - Monitoring condition and exploitation of the state of fishery resources
 - Providing scientific basis and appropriate guidelines
 - Providing advice on management of fishery resources
- To provide training in the field of stock assessment and fisheries management towards improving the capability of SEAFDEC member countries in the sustainable development and management of fishery resources.
- To publish, disseminate and exchange information through:
 - Regional fora and consultations in research and management
 - Intensification of publications

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Message From The Chief

"...we are pleased to record some of the interesting results from the projects in 2006 especially both the Japanese Trust Fund projects"

In the name of Allah, The Beneficent and The Merciful. My heartiest gratitude to Allah The Almighty, *salawat* and *salaam* to our great prophet Nabi Muhammad and his family. I am thankful to Allah The Almighty on the successful implementation of the programs undertaken by SEAFDEC-MFRDMD in the year 2006. The accomplishment of the programs as outlined at the beginning of the year was attributed to the close cooperation between the Technical Officers as well as the Regional Coordinators of each program. The participating countries have shown their full support in the implementation of each program.



In 2006, SEAFDEC-MFRDMD has undertaken two major programs namely, Special 5-year Program on Sustainable Fisheries for Food Security in the ASEAN Region, and the Japanese Trust Funds. Under the Special 5-year Program, we have two projects, i.e., The Use of Indicators for Sustainable Development and Management of Capture Fisheries in the ASEAN Region; and Development of Integrated Inland Fisheries Management in ASEAN Countries. Meanwhile under the Japanese Trust Funds, there are two projects namely, Information Collection for Sustainable Pelagic Fisheries in the South China Sea (Trust Fund II); and Research for Stock Enhancement of Sea Turtles (Trust Fund IV), the Component II of the R&D on the Stock Enhancement for Species of International Concerns Program.

We are pleased to record some of the interesting results from the projects in 2006 especially both the Japanese Trust Fund projects. The major fishing grounds of SEAFDEC member countries in the South China Sea have been identified and they are located at the near-shore. The sea condition of this region is influenced by the the seasonal wind patterns, and good fishing grounds are located in areas of upwellings and plankton blooms. We also found that the pelagic fishery of the region is fully exploited in some of the sampling sites that we studied.

Through the sea turtle migration study, this gentle giant in the South China Sea will go for feeding to the nearby areas such as Sulu Sea and Riau Archipelago. From consultations with member countries, the cloning of turtle is possible, depending on the technology and expertise that we have.

With the limited funds that we had under the Special 5-year Program, we could just undertake part of the studies as outlined in the plan. However we have completed the guidelines for 'Indicators' project, and we collaborated with Malaysia for the 'Inland Fisheries' project on the cost-sharing basis.

“We hope,
in the future,
to get more
publicity
in the mass
media...”

In the beginning of the year 2006, we saw the launching of our book on sharks and rays in Bandar Seri Begawan, Brunei Darussalam, as well as in Kuching, Malaysia. At MFRDMD we had our Knowledge Management Center (KMC) launched by the SEAFDEC Council Director for Malaysia, Dato' Junaidi Che Ayub. We hope, in the future, to get more publicity in the mass media, especially on the scientific and technical matters, in line with SEAFDEC's vision on visibility.

I would like to record my appreciation to my Deputy Chief, Dr Yoshinobu Konishi for assistance in the implementation of the Japanese Trust Fund programs. To all the officers and staff of SEAFDEC-MFRDMD, I would like to thank them for their contribution towards the successful implementation of the SEAFDEC programs in the year 2006.

Thank you.



Raja Mohammad Noordin bin Raja Omar
Kuala Terengganu
20 February 2007



MessageFromTheDeputyChief



"...the sustainability of fisheries is very important in the region, which can be achieved through good fishery resource management programs."

A tendency of intention of eating sea food annually becomes higher in some developed countries after the occurrence of bird flu and Bovine Spongiform Encephalopathy (BSE) incidences. Naturally, people in the Southeast Asia as well as in the East Asia used to consume much sea food. The status of fisheries industry in these two regions is considerably high based on the domestic supply of sea food and employment as well as the fish trade inside and outside of the regions. Hence, the sustainability of fisheries is very important in the region, which can be achieved through good fishery resource management programs as well as the awareness on the endangered aquatic species.

In 1998, the Fisheries Agency of Japan started providing trust funds to SEAFDEC for conducting projects with regards to the fisheries issues such as the resources management for sustainable fisheries, and listing of commercial species on the CITES Appendices, that are of concern between ASEAN and Japan. Japanese Trust Fund (JTF) Projects consist of four schemes: 1) promoting establishment of regional fisheries policy in Southeast Asia (JTF I); 2) promotion of sustainable fisheries for migratory fish stock in Southeast Asia (JTF II); 3) project for supporting establishment of sustainable regional fisheries system in Southeast Asia (JTF III); and 4) environment-friendly regional development in Southeast Asia (JTF IV). In 2006, SEAFDEC-MFRDMD continuously implemented two Japanese Trust Fund Projects, namely Information Collection for Sustainable Pelagic Fisheries in the South China Sea (JTF II) and Research for Stock Enhancement of Sea Turtles (JTF IV) in collaboration with SEAFDEC-TD, SEAFDEC-MFRD and participating SEAFDEC Member Countries.

The 5-year program of JTF II Project initiated in 2002 was terminated in 2006. Information of the current status of operation and catch of the purse seine fishery, some biological characteristics of five targeted small-pelagic fishes such as monthly size frequency and reproductive ecology, and maximizing utilization of catches by the purse seine fishery was successfully obtained. The existence of any sub-populations which are useful for the resources and fisheries management is still unclear from the morphometry and DNA analyses. Furthermore, the analysis on the monthly size-frequency data using FiSAT software did not lead to get a reliable result. As a result, the next-phase research on

small pelagic fishes under the JTF II, namely "Tagging Program for Economically Important Pelagic Species in the South China Sea and Andaman Sea" will be implemented in 2007, aiming at revealing the migration routes of these fishes. The information gathered from this project together with data and information from previous programs will be useful for pelagic shared-stock assessment and management.

Under the sea turtle research under the JTF IV program, two main activities, namely tagging using Inconel tag and satellite tracking; and DNA study on the identification of sub-population and multiple paternities were implemented for the green turtles. Considerable records of recovery for sea turtles tagged in the previous program under the JTF I Project from 2001 to 2004 were made during the present program. However, some activities under the JTF IV program are implemented behind schedule of the whole implementing plan. In 2007, we aimed to compile the information of moving behavior, short-term growth and inter-nesting intervals from tagging program.

Finally, I wish to express my sincere thanks to the Technical Officers of the participating SEAFDEC Member Countries and relevant SEAFDEC Departments for their support and I hope their continuous cooperation in 2007 and onward.

Thank you.



Dr Yoshinobu Konishi
Kuala Terengganu
20 February 2007

Staff of SEA FDEC-MERDMD



The Management Team



From left: Mr. Rosidi bin Ali, Mr. Md. Akhir bin Arshad, Dr. Yoshinobu Konishi,
Mr. Raja Mohammad Noordin bin Raja Omar, Ms. Mahyam binti Mohd Isa,
Mr. Raja Bidin bin Raja Hassan and Mr. Che Harun bin Hassan

Special 5-year Program

"...in this new phase, the management of capture fisheries will focus on managing fishing capacity, i.e. reduce fishing effort to control overexploitation of resources...."

MFRDMD has conducted two projects under the Special 5-year Program on Sustainable Fisheries for Food Security in the ASEAN Region from 2006-2010, namely, "The Use of Indicators for Sustainable Development and Management of Capture Fisheries in the ASEAN Region" and "Development of Integrated Inland Fisheries Management in ASEAN Countries."

The Use of Indicators for Sustainable Development and Management of Capture Fisheries in the ASEAN Region

The promotion on the Use of Indicators for Sustainable Development and Management of Capture Fisheries in the ASEAN Region would be accomplished by the end of 2008. The experience gained from the implementation of indicators would then become the pilot process in each member countries. In this new phase, the management of capture fisheries would focus on managing fishing capacity, i.e. reduce fishing effort to control overexploitation of resources. SEAFDEC-MFRDMD would lead member countries to develop indicators for the management of fishing capacity, based on pilot projects.

In 2006, a publication on "Regional Guidelines on the use of Indicators for the Sustainable Development and Management of Capture Fisheries in Southeast Asia" was published as supplementary to "Regional Guidelines for Responsible Fisheries in Southeast Asia."

In order to ensure that the use of indicators is successfully implemented to support the management of fishing capacity in this region, the follow-up actions to apply the guideline would be promoted through dissemination of this guideline to the users. The users would be supervised and trained in implementing the guideline at larger scale. Promotion and training would be supported with some research activities to provide additional information for the implementation of the guideline. Finally, the guideline would be revised from time to time based on feedback from follow-up activities and if necessary should be amended for improvement.



Rosidi bin Ali (Regional Coordinator)

Development of Integrated Inland Fisheries Management in ASEAN Countries

"...sad to say that inland fisheries has becoming less importance in enhancing the economic well being of the country's population."

Preventing further decline of fishes in the inland ecosystem is fundamental to sustainable development as fish and fishing are of central importance to the lives and culture of many people who depend entirely on inland ecosystem as source of animal protein. The overriding threat to future of inland ecosystems is the impact of water management schemes for improving navigation, drainage of wetlands for flood control, construction of dams for hydro-electricity, irrigation

channels for agriculture and the establishment of inter-basin connections and water transfer. Even though these changes have improved transportation, provided flood control and hydro-power, and boosted agricultural output but sad to say that inland fisheries has becoming less importance in enhancing the economic well being of the country's population.

A key to optimizing benefits gained from inland water ecosystem is to promote effective dialogue and consultation between all those involved in water management as well as the users that depend on this limited resource to sustain their livelihood. In such dialogues, the importance of fisheries will be fully understood, the biology of selected certain species taken into account, and mitigation and management of impacts are regularly monitored and improved. Thus more concerted efforts are needed to manage the inland water ecosystem in an integrated approach that would benefit all users. This is a challenge to managers and users of the resources in formulating measures to contain the situation as well as sustaining the inland fisheries resources.

The SEAFDEC project on Development of Integrated Inland Fisheries Management in ASEAN Countries aims at developing appropriate approaches in management of inland fisheries; developing guideline for formulating more pragmatic management plan in sustainable utilization of inland fisheries resources; and strengthening community participation in management and conservation of inland fisheries resources

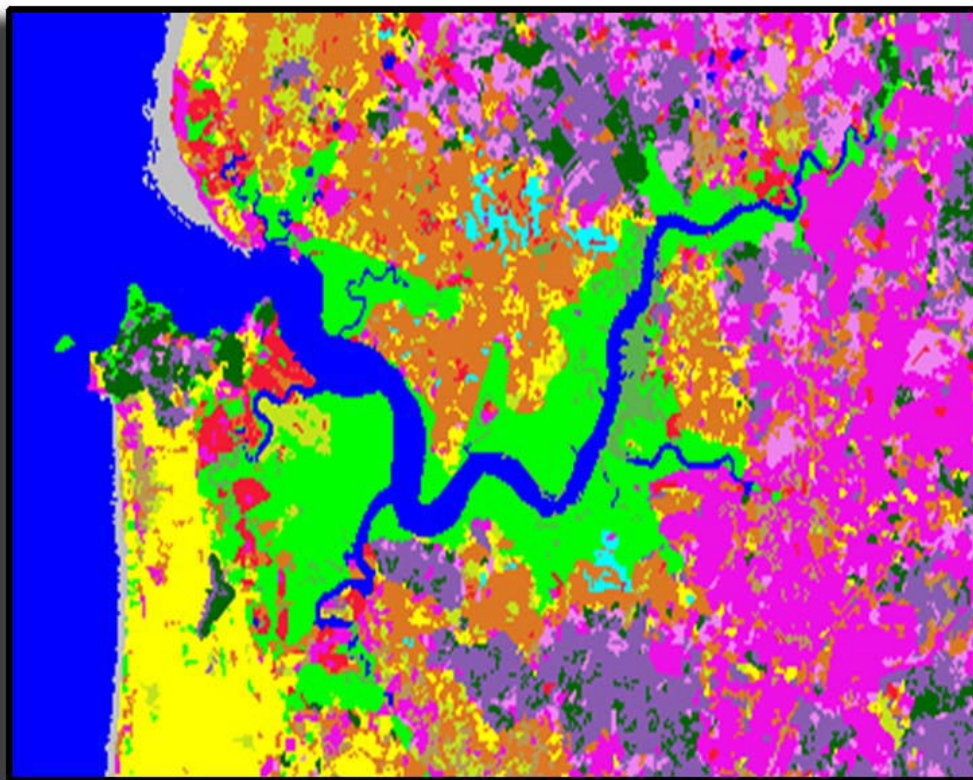
In 2006, a pilot project to compile information and data to develop an integrated approach in managing fisheries resources of inland ecosystem was initiated in Peninsular Malaysia by SEAFDEC-MFRDMD in collaboration with the Department of Fisheries Malaysia and other related agencies. The project is supported under the Conservation of Habitat Ecosystem and Biological Diversity Program of the Ninth Malaysian Plan. Under this program, the pilot project on the inland fisheries management of Merbok river and mangrove estuary covering the compilation of information and data on capture fisheries, aquaculture and other activities; mapping of the study area using the GIS techniques; and the database development and updating.



Mahyam binti Mohd Isa
(Regional Coordinator)



Satellite image of the Merbok Estuary on the west coast of Peninsular Malaysia in the year 2000. Dark red indicates the mangrove forest.



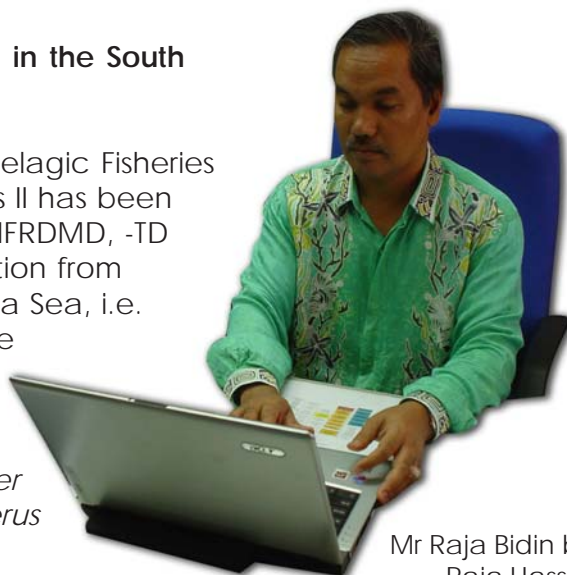
The landuse map of Merbok Estuary analysed using supervised classification shows the extension of mangrove forest in 2000 (light green areas)

Japanese Trust Funds

In the year 2006, SEAFDEC-MFRDMD has implemented two projects under the Japanese Trust Funds, namely, Information Collection for Sustainable Pelagic Fisheries in the South China Sea (Japanese Trust Fund II); and Research for Stock Enhancement of Sea Turtles (Japanese Trust Fund IV). The first trust fund was coordinated by Mr Raja Bidin bin Raja Hassan while the latter was coordinated by Mr Syed Abdullah bin Syed Abdul Kadir.

Information Collection for Sustainable Pelagic Fisheries in the South China Sea

The project on Information Collection for Sustainable Pelagic Fisheries in the South China Sea funded by Japanese Trust Funds II has been undertaken from 2002 to 2006. SEAFDEC-Secretariat, -MFRDMD, -TD and -MFRD have involved in the program implementation from 2002 to 2006. Seven countries bordering the South China Sea, i.e. Brunei Darussalam, Cambodia, Indonesia, Malaysia, the Philippines, Thailand and Vietnam participated in the program. Twenty-six sampling sites were identified in these countries for biological studies on the major small pelagic species groups such as mackerels (*Rastrelliger kanagurta*, *R. brachysoma*) and round scads (*Decapterus maruadsi*, *D. macrosoma* and *D. russelli*).



Mr Raja Bidin bin Raja Hassan
(Coordinator)

In the year of 2006, a Regional Technical Group Meeting was held from 16-19 January 2006. The meeting was held with the objectives to check the data validity, to do some analysis on reproductive biology, to discuss on fish migration and to refresh on the use of FISAT software as well to discuss the format of final report. Sixteen participants attended the meeting which was officiated by the Chief of MFRDMD.



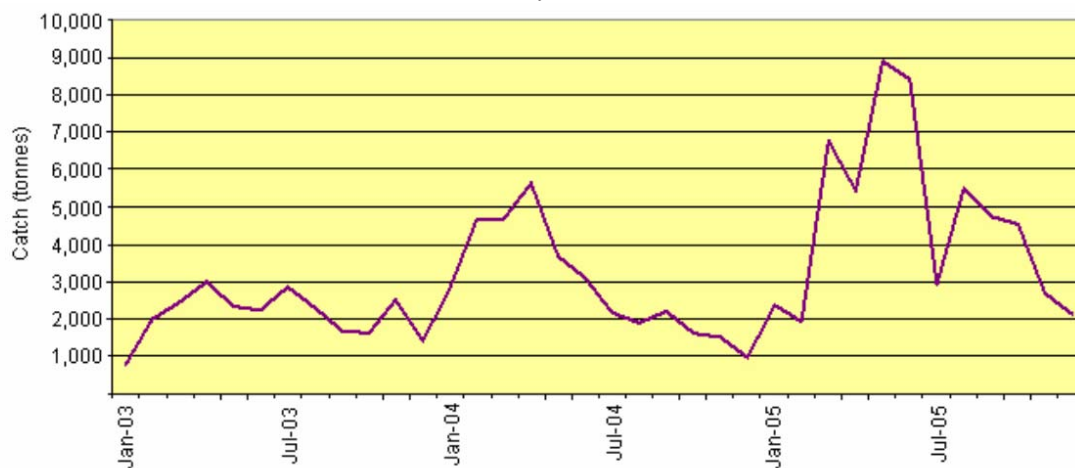
The final meeting for this project, i.e. the ASEAN-SEAFDEC Regional Conference on Pelagic Fisheries and Its Management was held in Siem Reap, Cambodia from 21-23 November 2006. Forty-four participants from Brunei Darussalam, Cambodia, Indonesia, Malaysia, the Philippines, Thailand and Vietnam; SEAFDEC-Secretariat, -TD, -MFRDMD and -MFRD; resource persons from Japan and Malaysia; and observers from Cambodia, Lao PDR, Malaysia and Myanmar

attended the conference, which was aimed at discussing the findings by the participating member countries in terms of fishing operation, catch-efforts, fishing area and the biological information such as spawning season and spawning grounds by gonad maturity analysis and the status of the resources. The resource conditions were also analysed from regional view. The follow-up actions, considerations and recommendations were also discussed. The conference was officiated by Mr Nao Thuok, SEAFDEC Council Director for Cambodia.

The Significant Results

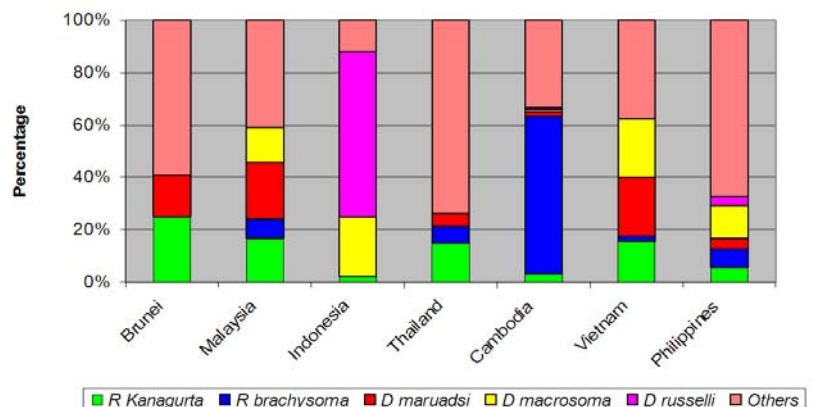
The status of pelagic fisheries in the South China Sea is found to be quite stable with an increasing trend of catches recorded in Thailand, Brunei Darussalam and the Philippines. The catch per unit of effort (CPUE) also recorded the same trend from 2003 to 2005.

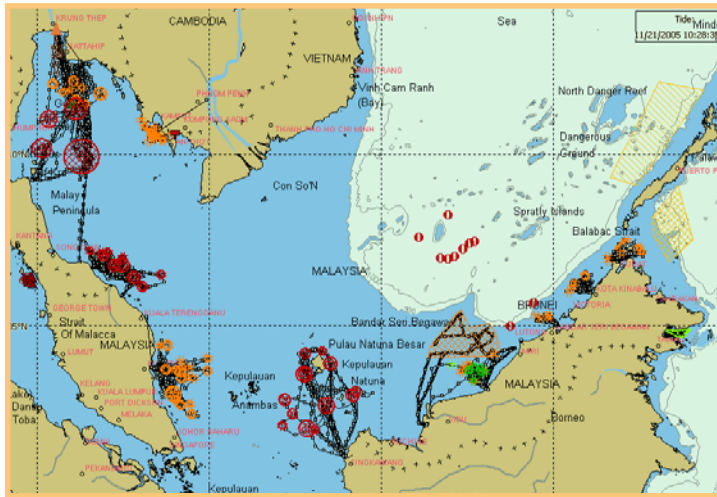
Monthly total catch of small pelagics recorded from 26 sampling sites in the South China Sea, from January 2003 to December 2005



From this study, *Rastrelliger kanagurta* is dominant in Brunei Darussalam and Thailand, *Rastrelliger brachysoma* in Cambodia, *Decapterus maruadsi* in Malaysia and Vietnam, *Decapterus macrosoma* in Vietnam and the Philippines and *Decapterus russelli* in Indonesia.

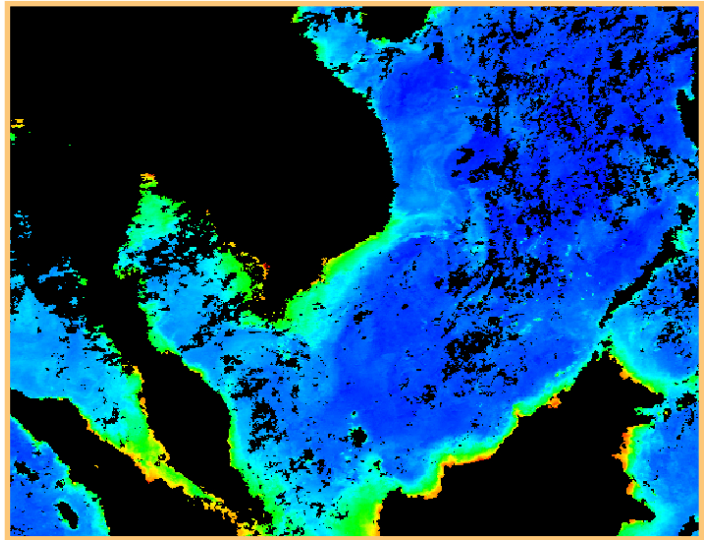
Overall percentage of small pelagics (purse seine) in the South China Sea





The fishing grounds for purse seine fishery in the participating member countries were clarified using the BBO devices and logbooks. Most of the fishing grounds in these countries are located in the coastal area, except for Thailand (and Vietnam), which is in the central Gulf of Thailand.

The study on the satellite images of chlorophyll and wind shows that the high catches of pelagic fish are generally located in the areas of high phytoplankton densities as well as the upwelling area, especially in the South China Sea basin



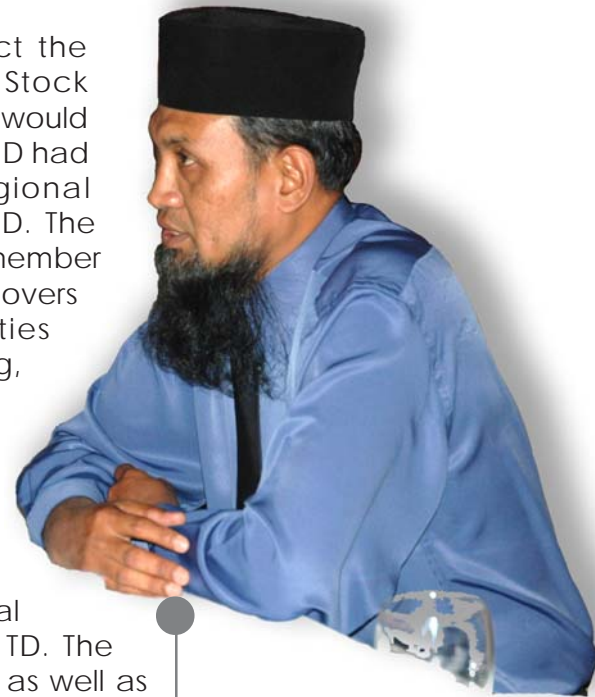
Results from FiSAT analysis showed that growth, mortality and exploitation rates are comparable with findings by other scientists in the region. These estimates need to be interpreted with caution especially if Rn values are small.

Area	Sampling site	K	L_{∞}	Z	M	F	E	Rn
Northern	Cua Hoi (Vn)	1.1	31.24	6.17	1.88	4.29	0.69	0.158
	Rosario (Ph)	1.0	30.98	6.51	1.77	4.74	0.73	0.150
Gulf	Samutprakan (Th)	1.0	27.80	5.25	1.85	3.40	0.65	0.149
	Tok Bali (My)	1.1	27.56	4.79	1.87	2.90	0.61	0.132
Middle	Kuching (My)	1.0	27.69	4.41	1.86	2.55	0.58	0.143
	Brunei	1.0	27.80	7.74	1.85	5.89	0.76	0.120
Southern	Kuantan (My)	1.0	27.60	3.73	1.86	1.87	0.50	0.132
	Palembang (Id)	1.0	27.24	4.63	1.87	2.77	0.60	0.162

Research for Stock Enhancement of Sea Turtles

MFRDMD has been given the responsibility to conduct the Japanese Trust Fund IV Program – Research on the Stock Enhancement of Sea Turtles. The study started in 2005 and would be completed in 2008. As the leading department, MFRDMD had appointed Mr Syed Abdullah S.A. Kadir as the Regional Coordinator, and three Technical Officers from MFRDMD. The Technical Officers were also appointed from all SEAFDEC member countries except Lao P.D.R. and Singapore. The study covers the sea turtle stock identification, multiple paternities detection, tagging and satellite telemetry, head-starting, possibilities of cloning and interaction between sea turtles and fisheries.

In the year 2006, the Regional Meeting on the Progress of Research for Stock Enhancement of Sea Turtles was held from 28 – 29 November 2006, in Kuala Terengganu, Malaysia. The meeting was attended by all the Technical Officers from all participating countries, MFRDMD and TD. The meeting was held to discuss the progress of this program as well as to formulate plan for 2007.



Mr Syed Abdullah bin
S.A. Kadir
(Regional Coordinator)



DNA Study

For the DNA study, most of the tissue samples of green turtles from selected nesting sites in member countries had been collected in 2006. The Standard Operating Procedure (SOP) for the collection of tissue samples had been distributed to participating member countries. We had also analyzed tissue samples of green turtle hatchlings to determine multiple paternities through microsatellite markers. A symposium on the cloning of sea turtles was conducted from 13 -14 March 2006 in collaboration with the Department of Fisheries Malaysia. Possible methodologies and techniques for the cloning study were discussed and compiled. A conceptual framework on cloning of sea turtles was published. Master Plan on Cloning of Sea Turtles had been prepared.



The tissue sample is being taken from turtle

The tissue is preserved in a test tube



Tagging and Satellite Telemetry Study

Tagging using inconel tags had been done in participating member countries. The posters highlighting the SEAFDEC tagging program had been distributed to the public. A hawksbill turtle attached with a Platform Transmitter Terminal (PTT) was released at Pulau Upeh, Malacca, Malaysia on 16 June 2006. A green turtle attached with a PTT was released at Sangalaki Island, Indonesia on 16 September 2006. Similar study was also conducted in Kadongalay, Myanmar on olive ridley. The Regional Coordinator and Technical Officer from MFRDMD have visited this place for PTT attachment from 23-28 December 2006. Unfortunately there was no nesting turtle during that period. The PTT would be attached to this turtle in January 2007 depending on availability of turtle.



The PTT is being fixed on the carapace of a turtle in Sangalaki Island, Indonesia.

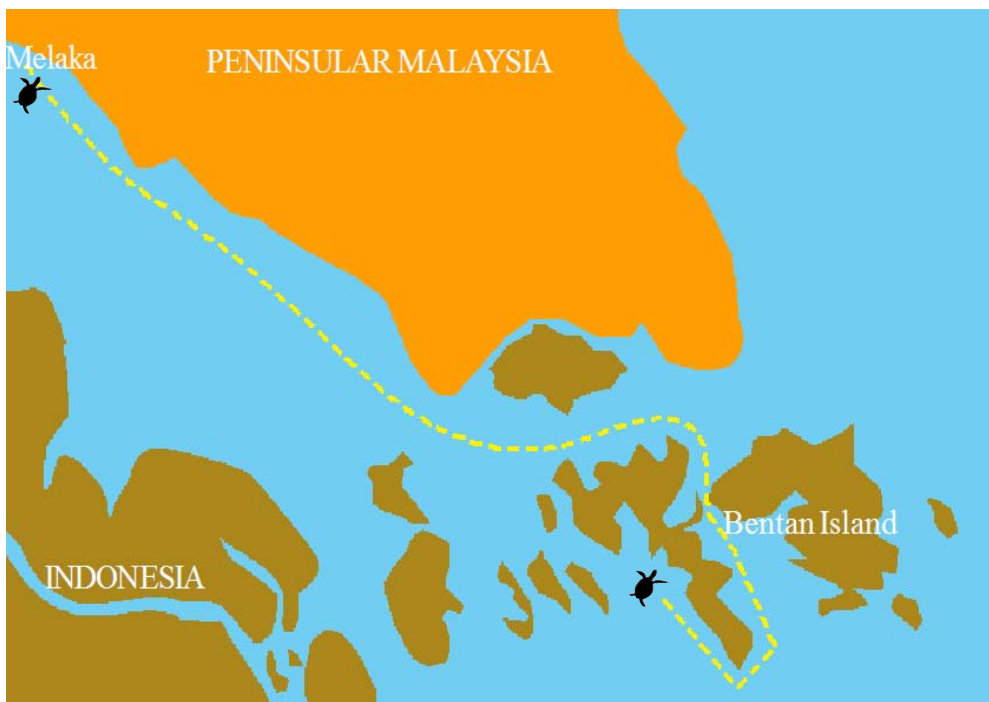


A green turtle with a PTT on its carapace is ready for release into the sea (Sangalaki Island, Indonesia)

A green turtle heading into the sea in Sangalaki Island



Data from ARGOS satellite showed that this turtle stayed in Melaka waters until 10 July 2006, nested two more times and later moved southward towards Johor waters. The turtle was observed at the southern part of Bentan Island in Indonesia on 17 July 2006 and stayed there until now.



A migratory route of a hawksbill turtle fitted with a PTT from Pulau Upeh, Malacca released on 16 June 2006

A green turtle attached with a PTT was released at Sangalaki Island, Indonesia on 16 September 2006. The turtle immediately moved towards Sabah. On 30 July 2006 it was observed at the southeast of Sabah near Pulau Tambisan and stayed there until now.



A migratory route of a green turtle fitted with a PTT which was released from Pulau Sangalaki, Indonesia on 16 September 2006

Symposium on the Cloning of Sea Turtles: Methodologies and Challenges

The symposium jointly organized by SEAFDEC-MFRDMD and Department of Fisheries Malaysia was held from 13-14 March 2006 in Putrajaya, Malaysia. It was officiated by Dato' Junaidi bin Che Ayub, the SEAFDEC Council Director for Malaysia, and participated by Malaysian scientists and researchers majoring in many fields such as genetics, molecular biology, cytogenetics, biology and physiology of sea turtles from various institutions. The objectives of the symposium are:

- i. to formulate the appropriate techniques for implementing the research program on advanced reproductive biotechnology (ARB),
- ii. to identify the challenges in implementing the research program and the follow-up action,
- iii. to identify Malaysian scientists for implementation of research on advanced reproductive biotechnology, and
- iv. to formulate the Master Plan on Research of Cloning of Malaysian Sea Turtles.



The symposium is being officiated by the SEAFDEC Council Director for Malaysia (left) and the participants of the symposium (right).

Human Resources Development Program

Industrial Training

Eighteen students from various universities in Malaysia, majoring in fisheries, marine science, remote sensing and biotechnology have undergone their industrial training program at MFRDMD from April-June 2006. These students have been placed under the supervision of various researchers of MFRDMD throughout the program.



Workshop on Analysis of Morphometric Measurement for Stock Identification.

This workshop, held from 15-21 August 2006 at SEAFDEC-MFRDMD, was facilitated by Dr. Kei'ichiro Iguchi from National Research Institute of Fisheries Science, Nagano, Japan. The workshop was attended by Mr. Syed Abdullah Syed Abdul Kadir and Ms Chua Chia Min from SEAFDEC-MFRDMD as well as a participant from Fisheries Research Institute. The objective of this workshop is to enhance knowledge and skills on the statistical method for identifying the sub-population of marine fishes through morphological measurement.



Workshop on Adobe Pagemaker 7.0

Twelve technical staff of MFRDMD attended the Workshop on Adobe Pagemaker 7.0, which was held from 15-17 August 2006 at the Computer Room of MFRDMD.

Course on Geographical Information System (GIS) and Remote Sensing

Mr Sallehudin Jamon has attended the training course on GIS and remote sensing at Universiti Teknologi Mara, in Shah Alam, Malaysia from 4 – 15 December 2006.

Training Course on Geomatica 10

The training course on the satellite image processing software, Geomatica 10 was held on 17-18 December 2006 at the Computer Room of MFRDMD. Mr Ku Kassim Ku Yaacob, Mr Sharum Yusof and Mr Zulkifli Talib attended the course, which was facilitated by Mr Khairul Nizar Baharudin from Jurupro Sdn Bhd.



**TECHNICAL VISIT TO TONLE SAP, CAMBODIA
ON 24th NOVEMBER 2006**

Special Events

Launching of the book “Sharks and Rays”

The book entitled “Sharks and Rays of Malaysia and Brunei Darussalam” co-authored by the late Dr Kazunari Yano, Mr Ahmad Ali and others was launched at the regional level by Acting Minister of Industry and Primary Resources of Brunei Darussalam, Dato Paduka Hj Hamdillah bin Hj Abdul Wahab; during the 38th SEAFDEC Council Meeting in Bandar Seri Begawan.



The Acting Minister of Industry and Primary Resources of Brunei Darussalam (right) and the co-author Mr Idris Abdul Hamid (left) of the book during launching.

In Malaysia, the book was launched by the Assistant Minister of Food Industries, Datuk David Teng on behalf of the Chief Minister of Sarawak, Malaysia; on 26 June 2006 during the National Fisheries Symposium – 2006.



Mr Ahmad Ali (right) and Mr Albert Chuan Gambang (middle) showed the newly recorded circle blotch pygmy swell shark to Datuk David Teng.

The book is dedicated to the hard work of the late Dr Kazunari Yano (Seikai National Fisheries Research Institute, Japan) who had passed away on 4 April 2006.

Launching of the SEAFDEC-MFRDMD Knowledge Management Centre

The Director-General of Fisheries Malaysia, Dato Junaidi Che Ayub who is also the SEAFDEC Council Director for Malaysia, launched the Knowledge Management Center of MFRDMD on 19 June 2006. In his speech he hoped that this upgraded facility would be useful not only to the staff of MFRDMD, but also to the other fishery researchers and the nearby local community.



SEAFDEC COUNCIL DIRECTOR FOR MALAYSIA AND THE STAFF OF SEAFDEC-MFRDMD DURING LAUNCHING OF THE KMC

Books on sharks, rays and chimaeras launched

WB Fraser

CHING: THE Fisheries Department yesterday launched a book on sharks, rays and chimaeras found in waters of Malaysia and Brunei.

The 591 pages book entitled "Sharks and Rays of Malaysia and Brunei" was the outcome of a six-year (1999-2004) comprehensive study by the Fisheries Department and the Brunei Fisheries Development Centre.

sive economic zones (EEZ) and also the freshwater bodies of the two countries.

The authors comprised research officers from the Fisheries Department and published by the Marine Fishery Resources Development Department and South East Asian Fisheries Development Centre.

Assistant Minister of Food

Pehin Sri Abdul Taib Mahmud at the opening of the 4th National Fisheries Symposium here.

Simple terms are used in preference to technical jargons where possible and a glossary and annotated diagrams of generalised sharks, rays and chimaeras are included to assist in understanding the terminology.

General readers can start

description. A total of 110 species of chondrichthyan belonging to 17 families of sharks (56 species), 12 families of batoids (52 species) and one family of chimaera (two species) have been identified. There are maps showing of their capture locations, information on habitat, distribution, biology, reproduction, fishery as well as economic importance of

ing, Fisheries Department deputy director general Ibrahim Saleh said the book would be a fascinating source of information to the region and "an indispensable compendium of information pertaining to Malaysia and Brunei biodiversity."

"This is the first of its kind in this region with colour pictures and descriptions that aid in the identification of

Tumpukan R&D

aja, benih ikan import bantut kemajuan industri perikanan – Taib

ER SIBON

CHING: Taib dan B. ikan yang terpuak diimport dari negara adalah antara faktor yang dikenali panti sebagai penggerak utama kepada kemajuan industri perikanan di Sarawak, kata Menteri Pehin Sri Haji Taib Mahmud.

Beliau menyarakkan agar satu dekaran baru perlu dilakukan untuk memulihkan keadaan.

Kita perlu menumpukan lebih banyak dalam pembangunan dan penyelidikan (R&D) supaya kita dapat meningkatkan kualiti dan saiz ikan yang terpuak diimport dengan harga yang mahal.

Secara langsung ini telah menyebabkan industri perikanan di sini agak ketinggalan, kata beliau ketika merasmikan Simposium Perikanan Kebangsaan Ke-4 sebuah hotel terkemuka di sini.

Perkara yang beliau dibacakan oleh Menteri Muda Industri Makanan Datuk David Teng.

Menurut Ketua Menteri, pelabur-pelabur juga kurang berminat dengan industri yang dianggap mempunyai masa depan yang cerah.

Menurut Ketua Menteri, pelabur-pelabur juga kurang berminat dengan industri yang dianggap mempunyai masa depan yang cerah.

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LANCAR... Menteri Muda Industri Makanan Datuk David Teng melancarkan buku bertajuk Sharks and Rays selepas merasmikan Simposium Perikanan Kebangsaan Ke-4 (Nafis) 2006 di Kuching semalam. Turut kelihatan Timbalan Ketua Pengarah Perikanan Malaysia Ibrahim Saleh (kedua dari kiri). LAGI BERITA DAN GAMBAR DI MUKA 3

DARI MUKA 1

"Dalam pada ini, kita mesti berusaha memajukan sektor akuakultur, pemrosesan dan pemasaran ikan laut dalam.

"Jika kita mengembangkan sektor-sektor ini maka industri perikanan di negeri ini mampu memberi pulangan yang begitu besar sekali sehingga memencah berbilion-bilion ringgit setiap tahun katanya.

Beliau percaya dengan sapanya kemudahan kepada penangkapan ikan laut dalam di Tanjung Manis hingga tahun ini pasti memberi satu imbuh kepada nelayan-nelayan tempatan.

"Faster kita mahu melihat lebih banyak perkhidmatan hebat di antara nelayan dan pelabur katanya.

Pehin Sri Taib berkata, menjelang 2010, industri akuakultur terpuak menyumbang sebanyak RM707.7 juta setahun dengan pengeluaran sebanyak 38,605 tan metrik setahun.

"Kita mempunyai potensi yang cukup baik dalam sektor akuakultur kerana kita mempunyai 150,000 hektar kawasan yang sesuai untuk tujuan ini lebih-lebih lagi di kawasan pesisir dan muara-muara sungai di negeri ini.

"Pada keseluruhan industri perikanan mampu menyumbang sebanyak RM1.776 bilion setahun kepada ekonomi negeri ini," katanya.

Beliau berkata dalam Rancangan Malaysia Ke-10 (RMK-10) sebanyak RM60 juta akan diperuntukkan kepada negeri ini untuk industri perikanan dan R&D.

Sementara itu, Ketua Pengarah Jabatan Perikanan Malaysia Datuk Jundi Che Ayub berkata kemuncak industri perikanan akan memuncak lebih kepada aktiviti industri terpuak agar dapat menyumbang sebanyak RM4.78 bilion setahun menjelang 2010.

"Kita juga akan berusaha meningkatkan pengeluaran para nelayan kita," katanya.

Taka ucapan beliau dibacakan oleh simbolisasi Ibrahim Saleh.

Antara yang hadir dalam simposium tersebut ialah Pengarah Jabatan Perikanan Negeri Haji Lee Sui Han.

Pencerobohan EEZ Sarawak terkawal

CHING: Inin - Kebanyakan nelayan asing yang menceroboh masuk ke kawasan Zon Ekonomi Eksklusif (EEZ) negeri ini adalah terdiri daripada warga Vietnam, kata Pengarah Jabatan Perikanan Negeri Haji Lee Sui Han.

Sebelum ini, kebanyakan pencerobohan ke kawasan EEZ, negeri ini terdiri daripada rakyat Thailand.

Tren menunjukkan bahawa pencerobohan nelayan asing ke kawasan EEZ kita sekarang berti daripada warganegara Vietnam. Sampai yang bulan Mei lepas, kita telah berjaya menangkap 10 buah kapal nelayan asing ini, kata Lee kepada pemberita selepas majlis pelantikan Simposium Perikanan Kebangsaan Ke-4 ini hari ini.

Majlis tersebut diemppirkan oleh Menteri Muda Industri Makanan Datuk David Teng, Ling Chi yang mewakili Ketua Menteri Pehin Sri Haji Abdul Taib Mahmud.

Tetapi Lee tetap optimis bahawa pencerobohan terhadap EEZ, negeri ini masih dalam keadaan terkawal.

"Sekarang ini, keadaan masih terkawal dan kita percaya kes-kes pencerobohan nelayan asing ke kawasan EEZ negeri ini akan lebih terkawal dengan peningkatan kerjasama di kalangan agensi-agensi penguat kuasa di negeri ini," katanya.

Sementara itu, Lee percaya sumber perikanan di negeri mampu bertahan dengan adanya pelabur yang rajin.



MINAT... Menteri Muda Industri Makanan Datuk David Teng melawat tapak pameran Nafis 2006 di Kuching semalam. Turut kelihatan Timbalan Ketua Pengarah Perikanan Malaysia Ibrahim Saleh (kedua dari kiri). LAGI BERITA DAN GAMBAR DI MUKA 3



多 在 沐 膠 民 都 非 法 捕 魚 已 經 受 到 嚴 厲 處 理 。

鄧 倫 奇：進 口 價 高 砂 宜 研 製 水 產 飼 料



Collaborative Programs

Resources Survey

SEAFDEC-MFRDMD has provided assistance to the Fisheries Research Institute Malaysia in the Fishery Resources Survey of the West Coast of Peninsular Malaysia on February – March 2006. The assistance provided was on hydroacoustic surveys and fisheries-oceanographic linkage study.



Malaysian Technical Cooperation Program – Fishery Resources Management

The researchers and staff of SEAFDEC-MFRDMD had participated in the Malaysian Technical Cooperation Program (MTCP) from 19 June to 2 August 2006. This 45-day training course on Fisheries Management was organized by the Department of Fisheries Malaysia and attended by 15 trainees from Africa and Asia.

Symposium on Cloning of Sea Turtle

SEAFDEC-MFRDMD has co-organized the Symposium on Cloning of Sea Turtle on 13-14 March 2006. The symposium, discussing the possibility of cloning of sea turtle was participated by prominent scientists in Malaysia.

Research on Artificial Reef for the Soft Bottom Area

SEAFDEC-MFRDMD researchers led by Mr Ahmad Ali have provided their technical expertise to the Department of Fisheries Malaysia in the Research on Artificial Reef for Soft Bottom Area and Tetrapod Reef Development and Deployment.



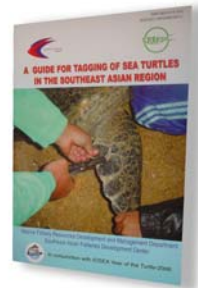
The artificial reef for soft bottom is being deployed in Kedah waters.

Our Publications

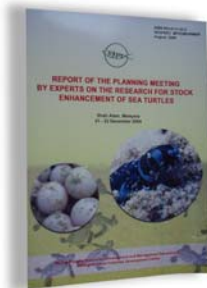
In 2006, SEAFDEC-MFRDMD published several books and monographs as follows:



Report of 4th Technical Consultation Meeting of Trust Fund II



A Guide for Sea Turtle Tagging in the South East Asian Region



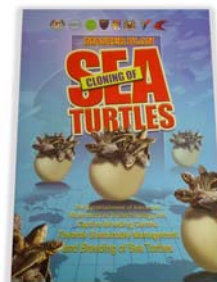
Report of Planning Meeting by Experts on the Research and Development of Stock Enhancement of Sea Turtles



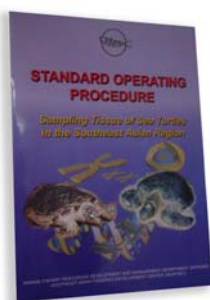
Report of RTC on Finalization of Implementation Plan on Research for Stock Enhancement of Sea Turtles, April 2005



SEAFDEC-MFRDMD Highlights 2005



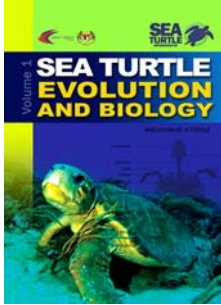
Master Plan Cloning of Sea Turtles



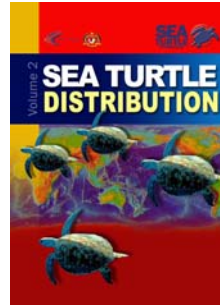
Standard Operating Procedure on Sampling Tissue of Sea Turtles in the Southeast Asian Region



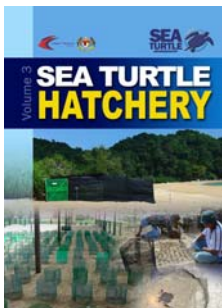
Research on Artificial Reef on Soft Seabed



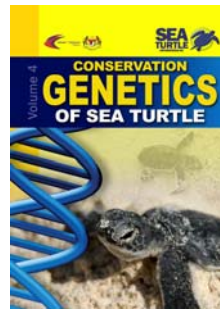
Sea Turtle Information Kit (Vol 1 - Evolution and Biology)



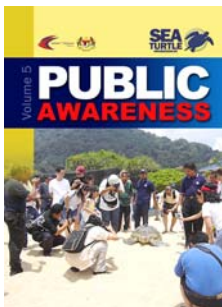
Sea Turtle Information Kit (Vol 2 - Distribution)



Sea Turtle Information Kit (Vol 3 - Hatchery)



Sea Turtle Information Kit (Vol 4 - Conservation Genetics)



Sea Turtle Information Kit (Vol 5 - Public Awareness)



Malaysia NPOA - Shark

Our Visitors

In the year 2006, more than 100 visitors have visited SEAFDEC-MFRDMD. There were 4,200 world-wide visitors who have visited our website.

In early June MFRDMD received a courtesy visit of the Captain and crew of Tenyo Maru, a training vessel of the University of Tokai, Japan. The vessel was on a scheduled visit to the South East Asian countries as parts of its training program.



Tenyo Maru

Who's Who

Name	Position	Fields of Expertise / Tasks	E-mail
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New Facilities

Knowledge Management Center

The Knowledge Management Center (KMC) is formerly the library of SEAFDEC-MFRDMD. Since the rapid progress of SEAFDEC activities at the regional as well as national levels, the role of this library has changed from just providing the service as 'a library' to a knowledge center. This center provides library services and assists users in their research, provides information needed by the researchers of SEAFDEC-MFRDMD on ad-hoc basis and database management.



South China Sea Marine Fisheries Repository Center

This center, formerly the Taxonomy Laboratory will be officiated next year. This center functions as the reference center for fish species from the South China Sea. The upgraded center has a gallery and a preparatory laboratory.

Seminar Room

The seminar/meeting room can accommodate up to 20 persons and is equipped with WLAN and multimedia projector. The users can view the South China Sea scenery from this room.

Training Room

The Training Room, which can accommodate 20 trainees, equipped with WLAN and multimedia projector, can be utilized for any training activities conducted at regional or national level.

Closing the Year 2006

In summary, we close the year 2006 with achievements of some of which we leave the readers to judge their merits or outstandings. We managed to publish many books, conducted regional workshops and conferences, and undertake research on sea turtles and pelagic fisheries.

We completed the projects on the identification of indicators as well as inland fisheries information gathering.

All these achievements would not have been realized without the hard work of all the Regional Coordinators from MFRDMD and Technical Officers of participating Member Countries. The achievements are also attributed to the close cooperation between MFRDMD and SEAFDEC Secretariat as well as fellow SEAFDEC Departments.

We are grateful to Allah The Almighty for all our achievements.

We look forward to presenting more successful results in the year 2007.

SEAFDEC

The Southeast Asian Fisheries Development Center (SEAFDEC) is an autonomous intergovernmental body established as a regional treaty organization in 1967 to promote fisheries development in Southeast Asia. SEAFDEC aims specifically to develop the fishery potentials in the region through training, research and information services to improve the food supply by rational utilization and development of the fisheries resources. Its services cover the broad areas of fishing gear technology, marine engineering, fishing ground surveys and stock assessment, post-harvest technology as well as development and improvement of aquaculture techniques. SEAFDEC is currently made up of 11 Member Countries, namely Brunei Darussalam, Cambodia, Indonesia, Japan, Lao PDR, Malaysia, Myanmar, the Philippines, Singapore, Thailand and Vietnam; and has the Council of Directors, composed of nominees from Member Countries, as policy-making body to provide directives and guidance on activities of the Center. The Center has a Secretariat as its administrative arm, and four technical Departments.



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