



United Nations
Environment Programme



UNEP/GEF South China Sea
Project



Global Environment
Facility

***Reversing Environmental Degradation Trends
in the
South China Sea and Gulf of Thailand***

REPORT

**Seventh Meeting of the Regional Working Group for
the Fisheries Component**

Bangkok, Thailand, 16th – 18th May 2006

UNEP/GEF
Bangkok, May 2006



First published in Thailand in 2006 by the United Nations Environment Programme.

Copyright © 2006, United Nations Environment Programme

This publication may be reproduced in whole or in part and in any form for educational or non-profit purposes without special permission from the copyright holder provided acknowledgement of the source is made. UNEP would appreciate receiving a copy of any publication that uses this publication as a source.

No use of this publication may be made for resale or for any other commercial purpose without prior permission in writing from the United Nations Environment Programme.

UNEP/GEF
Project Co-ordinating Unit,
United Nations Environment Programme,
UN Building, 2nd Floor Block B, Rajdamnern Avenue,
Bangkok 10200, Thailand
Tel. +66 2 288 1886
Fax. +66 2 288 1094
<http://www.unepscs.org>

DISCLAIMER:

The contents of this report do not necessarily reflect the views and policies of UNEP or the GEF. The designations employed and the presentations do not imply the expression of any opinion whatsoever on the part of UNEP, of the GEF, or of any cooperating organisation concerning the legal status of any country, territory, city or area, of its authorities, or of the delineation of its territories or boundaries.

Cover Photo: Community Consultation on the Identification and Establishment of Fish *refugia* in Masinloc, Zambales, Philippines on 30th June 2006 by Mr. Noel C. Barut.

For citation purposes this document may be cited as:

UNEP, 2006. Reversing Environmental Degradation Trends in the South China Sea and Gulf of Thailand. Report of the Seventh Meeting of the Regional Working Group on Fisheries. UNEP/GEF/SCS/RWG-F.7/3.

Table of Contents

1.	OPENING OF THE MEETING	1
1.1	WELCOME ADDRESS.....	1
1.2	INTRODUCTION OF MEMBERS	1
2.	ORGANISATION OF THE MEETING	1
2.1	ELECTION OF OFFICERS.....	1
2.2	DOCUMENTATION AND ADMINISTRATIVE ARRANGEMENTS	2
2.3	ORGANISATION OF WORK	2
3.	ADOPTION OF THE MEETING AGENDA.....	2
4.	REPORTS REGARDING OVERALL PROGRESS TO DATE	2
4.1	STATUS OF THE ADMINISTRATIVE REPORTS FOR 2005: PROGRESS REPORTS; EXPENDITURE REPORTS; AUDIT REPORTS; AND MoU AMENDMENTS	2
4.2	STATUS OF THE REGIONAL SOUTH CHINA SEA META-DATABASE AND GIS, THE PROJECT WEBSITE, AND INITIATIVES TO PROMOTE THE ACTIVITIES OF THE FISHERIES COMPONENT OF THE PROJECT	3
5.	MATTERS RELATING TO THE ACTIVITY OF ESTABLISHING A REGIONAL SYSTEM OF FISHERIES <i>REFUGIA</i>	4
5.1	DIFFERENCE BETWEEN MARINE PROTECTED AREAS AND FISHERIES <i>REFUGIA</i> , PARTICULARLY AS THEY RELATE TO FISHERIES MANAGEMENT IN THE SOUTH CHINA SEA AND GULF OF THAILAND.....	4
5.2	DEVELOPING AN INVENTORY OF CANDIDATE FISHERIES <i>REFUGIA</i> SITES AND THE ROLE OF NATIONAL FISHERIES COMMITTEES AND COASTAL COMMUNITIES IN ESTABLISHING A REGIONAL SYSTEM OF FISHERIES <i>REFUGIA</i>	6
5.3	DEVELOPING AN ONLINE META-DATABASE OF INFORMATION IN SUPPORT OF A REGIONAL SYSTEM OF FISHERIES <i>REFUGIA</i>	8
6.	CONSIDERATION OF THE PROPOSED SOUTH CHINA SEA PROJECT TRAINING ACTIVITIES IN SUPPORT OF THE ESTABLISHMENT OF A REGIONAL SYSTEM OF FISHERIES <i>REFUGIA</i>	8
7.	REVIEW OF A PRELIMINARY FRAMEWORK FOR ASSESSING THE EFFECTS OF FISHING IN THE HABITAT DEMONSTRATION SITES.....	9
8.	FINALISATION OF FISHERIES COMPONENT INPUTS TO THE STRATEGIC ACTION PROGRAMME	9
9.	REVISION OF THE WORK PLAN AND ACTIVITIES FOR THE REGIONAL WORKING GROUP ON FISHERIES.....	10
10.	DATES AND PLACE OF THE EIGHTH MEETING OF THE REGIONAL WORKING GROUP ON FISHERIES.....	10
11.	ANY OTHER BUSINESS.....	10
12.	ADOPTION OF THE REPORT OF THE MEETING	11
13.	CLOSURE OF THE MEETING	11

List of Annexes

- | | |
|----------------|--|
| ANNEX 1 | List of Participants |
| ANNEX 2 | List of Documents |
| ANNEX 3 | Agenda |
| ANNEX 4 | Formats for Reporting Information Regarding Various Categories of Sites for Consideration as Potential Fisheries <i>Refugia</i> |
| ANNEX 5 | Elements for Inclusion in a Revised Strategic Action Programme |
| ANNEX 6 | Work Plan and Timetable for the Regional Working Group on Fisheries 2006 to 2007 |

Report of the Meeting

1. OPENING OF THE MEETING

1.1 Welcome Address

1.1.1 Dr. John Pernetta, the Project Director opened the meeting, at 08:30 am on 16th May 2006, and welcomed participants on behalf of the Executive Director of UNEP, Mr. Achim Steiner; and the Officer-in-Charge of the UNEP Division of Global Environment Facility Co-ordination, Mr. Olivier Deleuze. He extended a warm welcome to Ms. Chee Phaik Ean the representative of the Department of Fisheries Malaysia, noting that this was the first meeting at which Malaysia was represented.

1.1.2 Dr. Pernetta noted that significant progress had been made in a number of areas of the work of the Regional Working Group on Fisheries (RWG-F) since the last meeting including: further development of the theoretical basis for the concept of fisheries *refugia*; publication of guidelines for their establishment as part of the ASEAN SEAFDEC guidelines for the Code of Conduct for Responsible Fisheries in Southeast Asia; and preparation of a number of publications designed to increase dissemination of information regarding the work of the RWG-F.

1.1.3 Dr. Pernetta noted further that the agenda was quite extensive and that due to the anticipated volume of work in 2006 the Project Steering Committee had agreed that two meetings of the group would be convened in 2006. He expressed the hope that despite the heavy workload the meeting would be both enjoyable and productive.

1.2 Introduction of Members

1.2.1 Dr. Pernetta noted once again the strong support from SEAFDEC to the meeting and the presence of a number of observers. He invited participants to introduce themselves to the meeting, and there followed a *tour de table* during which participants introduced themselves and indicated their respective roles in the project. The list of participants is provided in Annex 1 of this report.

1.2.2 Dr. Pernetta proposed and the meeting agreed that Ms. Chee Phaik Ean should be accorded the status of a full member of the meeting rather than merely that of observer.

2. ORGANISATION OF THE MEETING

2.1 Election of Officers

2.1.1 Members were reminded that during the fifth meeting of the Regional Working Group on Fisheries (RWG-F) held on Phu Quoc Island, 11-14 October 2004, Mr. Noel Barut, Focal Point from the Philippines, Dr. Dao Manh Son, Focal Point from Viet Nam, and Mr. Pirochana Saikliang, Focal Point from Thailand were elected as, Chairperson, Vice-Chairperson and Rapporteur respectively. Members recalled that at the last meeting of the regional working group held in Kudat, Sabah, Malaysia 5-8 September 2005, Mr. Pirochana Saikliang, Focal Point from Thailand, Mr. Parlin Tambunan, Focal Point from Indonesia, and Dr. Dao Manh Son, Focal Point from Viet Nam were elected as, Chairperson, Vice-Chairperson and Rapporteur respectively.

2.1.2 Members recalled that the Rules of Procedure state that, the Regional Working Group shall elect, from amongst the members, a Chairperson, Vice-Chairperson and Rapporteur to serve for one year. The rules state further that, officers shall be eligible for re-election no more than once, and therefore Mr. Pirochana, Mr. Parlin and Dr. Son were all eligible for re-election.

2.1.3 The Project Director proposed that in order to facilitate consistency between the seventh and eighth meetings of the Regional Working Group, both of which will take place during 2006, the group elect officers who are available to serve during both the seventh and eighth meetings. Dr. Pernetta then called for nominations for Chairperson, Vice-Chairperson and Rapporteur.

2.1.4 Mr. Barut nominated Mr. Parlin as Chairperson, and Mr. Pirochana seconded the nomination. Dr. Son nominated Mr. Ing Try as Vice-Chairperson and Mr. Pirochana nominated Mr. Barut as Rapporteur. Mr. Parlin, Mr. Try, and Mr. Barut were duly elected by acclamation.

2.2 Documentation and Administrative Arrangements

2.2.1 The Chairperson invited Mr. Paterson, the Project Co-ordinating Unit Member of the Working Group to introduce the documentation available to the meeting. Mr. Paterson reviewed the documents listed in document UNEP/GEF/SCS/RWG-F.7/Inf.2 and noted that these had been lodged on the project website and were also available to participants on CD-ROM. He briefly highlighted the contents of the discussion documents indicating the key issues requiring discussion and decision by the Regional Working Group. Members were invited to table any additional documents including copies of new national outputs if any, and the full list of documents available to the meeting is contained in Annex 2 of this report.

2.3 Organisation of Work

2.3.1 The Chairperson then invited Mr. Paterson to introduce the draft programme for the conduct of business contained in document UNEP/GEF/SCS/RWG-F.7/Inf.3. Mr. Paterson noted that the meeting was scheduled to take place over three days and that the working group could form small working groups to deliberate on matters overnight should the need arise. He noted that formal sessions of the meeting would be conducted in English and in Plenary.

2.3.2 Mr. Barut proposed and it was agreed that during the period when the Secretariat was preparing the report Ms. Nita Tangsujarivitchit would be available to assist individual members in clarifying issues regarding the budgets and financial reports and in finalising any outstanding reports.

3. ADOPTION OF THE MEETING AGENDA

3.1 The Chairperson introduced the Provisional Agenda prepared by the PCU for the meeting as document UNEP/GEF/SCS/RWG-F.7/1, and the Annotated Provisional Agenda, document UNEP/GEF/SCS/RWG-F.7/2 and invited members to propose any amendments or additional items for consideration.

3.2 There being no proposals for amendment or additions to the agenda the draft as prepared by the PCU was adopted by the meeting and is presented in Annex 3 of this report.

4. REPORTS REGARDING OVERALL PROGRESS TO DATE

4.1 Status of the Administrative Reports for 2005: Progress Reports; Expenditure Reports; Audit Reports; and MoU Amendments

4.1.1 The Chairperson, Mr. Parlin invited the PCU Member to introduce document UNEP/GEF/SCS/RWG-F.7/4, "*Current Status of Budgets and Reports from the Specialised Executing Agencies in the Participating Countries*" and highlight recent developments in relation to the fisheries *refugia* activity of the project that will require each member to discuss individually their administrative reports and budgets with the PCU member on the evenings of the 16th and 17th May.

4.1.2 Mr. Paterson noted that given the plans for further development of the *refugia* concept and identification of a regional system of *refugia* and in identifying the approaches to be used in addressing fisheries threats at the demonstration sites there might be a need to revise the budgets in order to ensure that national level activities involved in developing the *refugia* could be conducted according to the agreed work plan and timetable.

4.1.3 Mr. Barut noted that a major constraint in the Philippines was the finalisation of financial reports that had been previously prepared by an assistant hired through the project. Subsequently following the departure of this assistant it had been difficult to meet the deadlines. Mr. Pirochana noted that he had faced similar difficulties, particularly since he had just been transferred from Bangkok, as Acting Director of Chumphon Marine Fisheries Research and Development Centre in Chumphon Province.

4.1.4 Mr. Parlin noted that following the previous meeting Indonesia had made significant progress and that all the required outputs had now been produced.

4.1.5 Mr. Try suggested that there had been inadequate guidance from the PCU regarding the convening of national meetings, that the concept of *refugia* was not clear and that it was effectively covered by fisheries management areas, closed seasons and marine protected areas. In response Dr. Pernetta noted that the PCU provided generic guidance regarding the tasks of the Focal Points and National Committees, through the Memoranda of Understanding but that it was not appropriate for the PCU to dictate the way in which national activities were conducted, since this was dependent upon the cultural and government context. He noted that the RWG-F was clear on the distinctions between fisheries management areas, MPAs and *refugia* and that the latter reflected management areas that were of importance to critical stages of the life history of commercially important species.

4.1.6 Dr. Yashuhisa Kato, from the SEAFDEC Secretariat noted that there was a need to adapt the regional guidelines on *refugia* as appropriate to each national context and to ensure that fisheries issues were taken into consideration during the development of MPAs. Mr. Paterson noted that it would be necessary to identify and select sites as potential *refugia* through a process of consultations at national and community level, and that there was also a need to consider whether existing MPAs could function as *refugia*.

4.1.7 Mr. Parlin noted that there has been a strong focus in Indonesia on protected areas and that the involvement of fisheries authorities in their identification and adoption was critical to ensuring incorporation of fisheries related issues into MPA management systems.

4.1.8 Dr. Kato informed the meeting about recent activities in Viet Nam that had been initiated by the Prime Minister in an attempt to improve co-ordination between fisheries management and marine protected area management.

4.1.9 Mr. Barut noted that recent conflicts in the fisheries sector in the Visayan Sea had resulted in proposals for total closure of the fishery from NGOs, compared with the existing four month closure (15th November to 15th March). One regional office of the Bureau of Fisheries and Aquatic Resources is in favour of extending the closure to 6 months whilst a second office is opposed to changing the existing situation. Mr. Barut noted that he had introduced the *refugia* concept as an alternative approach, which seemed to be acceptable to all parties. Hence the focus would now be to identify critical areas of habitat that would be regulated and managed rather than adopting a total closure approach to the entire Gulf.

4.2 Status of the Regional South China Sea Meta-Database and GIS, the Project Website, and Initiatives to Promote the Activities of the Fisheries Component of the Project

4.2.1 The Chairperson invited Mr. Paterson to introduce document UNEP/GEF/SCS/RWG-F.7/5, "*Status of the UNEP/GEF South China Sea Project Website, Online Tools, and Activities to Promote the Fisheries Component of the Project*".

4.2.2 Mr. Paterson noted that there are currently in excess of one hundred institutions directly involved in the project, and more than four hundred institutions indirectly involved through individual participation in National Committees and Sub-committees and Regional Working Groups. It is anticipated that this network will continue to grow as the demonstration sites and pilot activities become fully operational. Consequently the PCU had decided to develop a new website with greater potential for use in enhancing co-ordination of this network and dissemination of outputs.

4.2.3 He noted that the project has developed a wide range of outputs, including:

- Knowledge documents,
- An online Geographical Information System and Meta-database,
- English and national-language reviews of the science and management of marine habitats and fisheries,
- A nutrient carrying capacity model for the South China Sea,
- National Action Plans for key marine habitats, and
- 59 meeting reports and numerous discussion documents for these meetings.

4.2.4 Mr. Paterson noted further that, the implementation of demonstration site interventions and pilot activities will see the number of project outputs grow considerably over the next 2 years. There have been a number of key lessons learned in the project, especially in relation to the procedures used for the selection of demonstration sites and the management framework adopted for project implementation. Similarly, the project will continue to promote and support the sharing of lessons learned associated with the demonstration sites and pilot activities during the operational phase of the project.

4.2.5 In attempting to demonstrate the meta-database function on-line during the meeting it was noted that significant amounts of data had been removed and the meeting was informed that SEA START RC had removed all the data due to errors in some entries and that these were being re-entered. Members felt that this was an inappropriate way of addressing the problems and that the database should have been left on line, and the errors corrected in an off-line copy for subsequent up loading.

4.2.6 Members were invited to discuss how the project web site could be used to foster enhanced communication amongst the members of the working group and the wider South China Sea network. It was suggested that a monthly up-date of activities from members could be consolidated by, Mr. Paterson and a link provided in the monthly e-newsletter, to this entry on the fisheries page of the web site.

4.2.7 Dr. Son noted that the level of national activities in the fisheries component was lower in 2006 than in the past and that perhaps monthly inputs would be too frequent. Mr. Pirochana and Mr. Try agreed with this view and suggested that submissions should be made as and when activities had taken place. Mr. Barut noted that numerous stakeholder consultations had been scheduled for the remainder of this year in support of the development of fisheries *refugia* at the local level in the Philippines and felt therefore that monthly submissions were practical in the case of the Philippines.

4.2.8 There followed an extensive discussion of the practicality of making regular submissions and the frequency with which the members could make such submissions. It was suggested, and the meeting agreed that not every country necessarily needed to submit items for inclusion each month but that Mr. Paterson would simply assemble whatever information was submitted and ensure that links to this were provided in the project's monthly e-newsletter.

4.2.9 Dr. Pernetta drew to the attention of the meeting the fact that the Regional Task Force on Legal Matters had agreed to establish four e-fora discussion groups to elaborate on views regarding aspects of the work of the Task Force in order to clarify the common position of members in advance of the next meeting. He suggested and Dr. Kato agreed that perhaps as other agenda items were discussed, topics needing further clarification might become apparent and that these could then be taken up as topics for discussion via such e-fora.

4.2.10 Mr. Parlin invited Mr. Paterson to introduce the two fisheries component papers that had been drafted as "popular" articles to enhance understanding in the region of the concept of fisheries *refugia*. He noted that one addressed the issue of whether Marine Protected Areas could be included in a regional system of fisheries *refugia* and the second on managing the effects of fishing on coastal habitats of the South China Sea and the Gulf of Thailand.

4.2.11 The group was unanimous in agreeing that the production of such articles was extremely valuable as a means of enhancing understanding of the work of the group amongst the wider South China Sea network and the fisheries and environment officers in the region. It was further agreed that following the discussion of agenda item five the main areas of these papers requiring modification and elaboration would become apparent and the group could discuss how and when the modifications could be completed and where the articles should be submitted for publication.

5. MATTERS RELATING TO THE ACTIVITY OF ESTABLISHING A REGIONAL SYSTEM OF FISHERIES REFUGIA

5.1 Difference between Marine Protected Areas and Fisheries *Refugia*, particularly as they relate to fisheries management in the South China Sea and Gulf of Thailand

5.1.1 The Chairperson invited Mr. Paterson to introduce document UNEP/GEF/SCS/RWG-F.7/6, "*Marine Protected Areas and the Concept of Fisheries Refugia Developed by the Regional Working Group on Fisheries*", and noted that this document once reviewed by the RWG-F will be used by the

PCU member during the FAO Workshop on the Use of Marine Protected Areas in Fisheries Management in June 2006.

5.1.2 Mr. Paterson noted the need to identify candidate *refugia* sites and consequently the need to consider whether existing MPAs and or current fisheries management areas could be adopted as part of a regional system of *refugia*. He noted that links between habitats and critical stages in fish life cycles were often not considered in the context of establishing MPAs that tended to focus on broader biodiversity goals but at the same time often used the presumed benefits to fisheries as a justification for their establishment. Where an MPA is merely a “no-take area” then it would not necessarily qualify as, a *refugia*, since it would need to be demonstrated that the area was of importance to a critical stage of the life history of the species under consideration.

5.1.3 Mr. Paterson noted that closures whether seasonal, spot or, area-related were classical fisheries management practices that were applied to fishing grounds, regardless of whether or not the fishing ground was of critical importance to the life history of the exploited species.

5.1.4 Mr. Parlin invited the RWG-F to initially consider whether the definition of *refugia* developed during the fifth meeting of the RWG-F was adequate for the purposes of the working group. Mr. Somsak suggested that in order to review the definition of *refugia* the definition of Marine Protected Areas should be reviewed and in response Dr. Pernetta suggested that this had been done during the fifth meeting when the IUCN classification system of marine protected areas had been considered in some detail. During that discussion it had been noted that the IUCN system had categories ranging from full protection, no take areas, through to management areas in which certain fisheries activities took place under a well-controlled regime.

5.1.5 Dr. Kato was of the view that it was less productive to discuss the definitions than to consider how the concept of fisheries *refugia* could be used as a tool in the dialogue between marine fisheries managers and agencies and individuals concerned with the establishment of marine protected areas. He noted in this regard that he was aware that there were ongoing discussions in various countries concerning the designation of, for example 10% of national marine areas as MPAs, through to proposals that all coastal waters to three nautical miles offshore should be designated as marine protected areas. He noted that the present work of the RWG-F provided a basis for fisheries managers in the countries to become engaged in a dialogue with the environment ministries regarding the establishment of such MPAs that took into account fisheries objectives and benefits for the fish stocks.

5.1.6 There followed a wide-ranging discussion regarding the relationships between MPAs, fisheries *refugia*, and fisheries management areas during which Mr. Barut pointed out that in one case in the Philippines an MPA was being designated, the main purpose of which was to protect mangrove habitat as a nursery area for demersal fish stocks. Dr. Pernetta noted that the key purpose of fisheries *refugia* was to focus on management areas that were important to the critical stages of the life cycle of the exploited stocks. He noted that for example inshore seagrass beds often served as nursery areas for offshore demersal fish stocks and that if the habitats were severely degraded by in-shore fishing, then the offshore stock was likely to be dramatically reduced in size.

5.1.7 Mr. Try noted that in the case of Marine Fish Sanctuaries in Cambodia these were normally divided into core, buffer and transition zones of which the core zone would serve as a *refugium*. In response it was noted that this would be true only in a case where the core zone encompassed habitat critical to the fish stock or stocks concerned.

5.1.8 Ms. Chee noted that the Malaysia Marine Parks had been originally established with the objective of conserving fisheries resources and that no fishing was allowed within 2 nautical miles. She noted that the management plans for each marine park included conservation of biodiversity and noted further that recent studies had shown that grouper populations in the Marine Parks were dependent upon mangrove habitats on the mainland as nursery habitat for the juveniles.

5.1.9 Mr. Barut noted that in Table 1 he would like to see the addition of a shorter-term objective under the institutional related goal “*enhanced communication between government authorities and local stakeholders*”. This proposal was accepted by the meeting.

5.1.10 Mr. Pirochana noted that in the case of classical fisheries management measures in Prachuap Khiri Khan, Chumphon, and Surat Thani, Provinces, Thailand, small pelagic fishing grounds were closed to fishing from 15th February to the end of March to prevent capture of spawning individuals, and from 1st April to 15th May they were closed to prevent over fishing of the juveniles. He noted therefore that in his view this area could potentially be identified as, a fisheries *refugia*. Mr. Barut noted that in the Visayan Sea fisheries, a closed season for sardines operated for four months under a Fisheries administrative order and that this also constituted a pelagic nursery *refugia*.

5.1.11 Mr. Parlin noted that marine protected areas in Indonesia were under the jurisdiction of a different government agency from fisheries but that this might change in the future. He invited members to review and revise the preliminary checklist for evaluating if fisheries management areas qualify as fisheries *refugia*.

5.1.12 Members were in general agreement with the checklist presented in Information Box 2 although some views were presented regarding the need to expand these further. Dr. Kato felt that the preliminary checklist was adequate at the regional level but might require amplification if applied in a national context. The meeting agreed with this view and accepted the list as follows:

- Has the site been selected in terms of achieving one or more of the resource-related objectives of the regional system of fisheries *refugia*?
- Can the site be managed in the context of achieving one or more of the institutional goals and objectives for the regional system of fisheries *refugia*?
- Does the management of the area focus on the concept of sustainable use rather than the prohibition of fishing?
- Will the use of the area as a fisheries *refugium* ensure that any required reduction in fishing effort does not lead to an increase in fishing effort or use of inappropriate fishing gears and practices in areas adjacent to the site that are more critical to the life-cycle of the species for which the *refugium* is managed?
- Have the potential benefits and costs to the community of managing the area as a fisheries *refugium* been considered and communicated to fishers?

5.2 Developing an Inventory of Candidate Fisheries *Refugia* Sites and the role of National Fisheries Committees and Coastal Communities in Establishing a Regional System of Fisheries *Refugia*

5.2.1 The Chairperson invited Mr. Paterson to introduce document UNEP/GEF/SCS/RWG-F.7/7, "A Preliminary Inventory of Sites for Consideration as Candidate Fisheries *Refugia* and the Role of National Committees and Coastal Community Consultations in Establishing a Regional System of Fisheries *Refugia*".

5.2.2 Mr. Paterson noted that the framework for the development of a system of *refugia* in the Gulf of Thailand had been approved at the previous meeting and that at this point in time the group was concerned with the identification of candidate fisheries *refugia* and the present document outlined the next steps in the process.

5.2.3 The attention of the group was drawn to the proposed two-track approach for the initial identification of some fisheries *refugia*, i.e., identification of candidate spawning *refugia* for pelagic species and candidate inshore nursery *refugia* for demersal species. Mr. Paterson highlighted the outcome of his review of the national reports, which had resulted in the compilation of data from the national reports regarding spawning areas for key transboundary species.

5.2.4 The Chairperson invited members to consider, and amend as appropriate the format for reporting information about managed and unmanaged areas that qualify as candidate fisheries *refugia*; a timeline for reporting information about managed and unmanaged areas that qualify as candidate fisheries *refugia* for inclusion in a regional system; and, the role of the National Fisheries Committees and Coastal Community Consultations in selecting sites for inclusion in a regional system of fisheries *refugia* from a preliminary list of candidate sites.

5.2.5 The group considered the proposed changes in wording contained in bold in Tables 1 and 3 and agreed to accept these in preference to the original. At the same time it was agreed to drop the words “through restocking” from the amendment proposed to bullet three in column 3 of table 1, and to change “sectors” to “users” in bullet 1 of column 1 in Table 3. The amended wording was thus agreed as follows:

- Increase the use of zoning as a fisheries management tool.
- There will be effectively managed areas that can be used for fish resource enhancement.
- Clear demarcation between different fishing areas for different users (e.g. commercial operators and small scale fishers).

5.2.6 The Proposed format for reporting information about fisheries management areas that may qualify as candidate sites of fisheries *refugia* was then considered by the meeting. Mr. Paterson noted that following an informal meeting over the last weekend Mr. Somsak and Mr. Pirochana had commenced compilation of relevant information for a number of fisheries management areas in Thailand.

5.2.7 Mr. Pirochana introduced this compilation to the meeting which agreed that this served as a useful model for members to identify the kinds of information that could be assembled comparatively easily in order to evaluate whether or not existing management areas were actually *refugia*. He outlined various stakeholder conflicts that were associated with the Prachuap Khiri Khan, Chumphon, Surat Thani area of fisheries management.

5.2.8 Following some initial consideration of the format and resulting contents it was agreed that Mr. Paterson would work overnight in consultation with members to prepare comparable formats for unmanaged areas that might qualify as candidate fisheries *refugia* for consideration by the group in the morning.

5.2.9 Mr. Paterson presented the two new tabulations covering the SCS habitat demonstration sites and pelagic spawning areas. These were considered and discussed at some length, amended and are attached as Annex 4 of this report.

5.2.10 The Chairperson invited members to consider the time required to compile this information and Mr. Paterson suggested that if the information were compiled during the inter-sessional period then the outputs could be consolidated into a single list in advance of, and for consideration by, the eighth meeting in November 2006. He suggested further that a date in early August might be a suitable time for submission of inputs to the PCU. It was noted during discussion that there would be a need for consultations with the local communities in identifying candidate sites for inclusion in the regional system of *refugia*.

5.2.11 Following agreement from the individual members it was agreed that submissions would be made by 18th August following which Mr. Paterson would produce and circulate a synthesis of the inputs by 1st September. By Friday 22nd September members would review and send comments back to the PCU in order that the document could be finalised for consideration by the eighth meeting.

5.2.12 During discussion of the conduct of community consultations Mr. Barut noted that two consultations in the context of the wetlands and mangrove demonstration sites in Palawan had already taken place and that follow-up activities were to be funded through the demonstration site budgets. A further consultation was planned for 2006. He noted the importance of being selective in the choice of communities since it was important not to waste scarce resources by conducting such consultations in areas where local government support was lacking.

5.2.13 Mr. Pirochana noted that ongoing consultations in the context of existing fisheries management areas could be used to consider candidate *refugia*. Dr. Son noted that an initial stakeholder consultation had already taken place in Viet Nam and that further activities would be undertaken during the year. Mr. Parlin noted that an initial discussion in the national committee meeting would be undertaken before the end of May.

5.2.14 Ms. Chee indicated that in Malaysia an initial review of information relevant to *refugia* would need to be undertaken prior to consultations with stakeholders.

5.3 Developing an Online Meta-Database of Information in Support of a Regional System of Fisheries *Refugia*

5.3.1 In introducing this agenda item Mr. Paterson noted that the entire process of identifying candidate *refugia* would involve the compilation of extensive data and information encompassing a number of areas for which the present regional database was perhaps inadequate. He suggested that the substantive work of the RWG-F could be supported through establishment of a specialised meta-database of information relating to: fish early-life history science; the use of area-based approaches to fisheries management; and, the management of fisheries *refugia* in national waters.

5.3.2 There was unanimous agreement regarding the need for, and value of, such a meta-database and Mr. Paterson indicated that he would commence preparation of a list of specific fields applicable to *refugia*. During discussion it was noted that some of the existing reports and meta-data entries were relevant for inclusion in the new meta-database.

5.3.3 Following completion of this discussion the need for revision of the popular article relating to Marine Protected Areas and *refugia* was considered and the need for a number of minor amendments was noted. It was agreed that all members would provide comments and proposals for change to Mr. Paterson by the end of June. He would revise the document and circulate it for approval on a no objections basis, prior to submitting it to "Fish for the People". It was further suggested that the article could be published in national fisheries journals, in English or in national languages, with cross citation.

6. CONSIDERATION OF THE PROPOSED SOUTH CHINA SEA PROJECT TRAINING ACTIVITIES IN SUPPORT OF THE ESTABLISHMENT OF A REGIONAL SYSTEM OF FISHERIES *REFUGIA*

6.1 Mr. Parlin invited the PCU Member to introduce document UNEP/GEF/SCS/RWG-F.7/8 "*The South China Sea Project Training Programme: Supporting the Establishment of a Regional System of Fisheries Refugia*". Mr. Paterson outlined: the process of development; the aim and *modus operandi* of the South China Sea Project training programme; as well as the procedures proposed for the selection of Implementing Entities and the conduct of training courses. He reviewed the desired content for the two fisheries *refugia* related training courses as identified by the Regional Scientific and Technical Committee, and highlighted the optimum types of trainees and their background. He noted further that SEAFDEC had been identified as the only potential implementing agency for these two courses.

6.2 In discussion of the nature of the trainees Mr. Barut suggested that for the general training on *refugia* the focus should be on local government officials who would be responsible for establishing and managing in-shore *refugia*, whilst training on egg and larval identification should focus on technical personnel in the specialised executing agencies or research institutions. During discussion it was noted that junior officers were appointed in many fisheries departments with responsibility for larval fish identification and that these individuals might be the targets for training.

6.3 Dr. Kato suggested that in his view: the training should focus on training trainers; that one week was probably too limited; and that course materials such as species identification sheets for eggs and larvae would need to be prepared in advance of the implementation of the course; that the training should be linked with the national programmes of SEAFDEC cruises that involved the collection of eggs and larvae. Dr. Kato noted that the egg and larval identification sheets could be produced as an output of the SCS Project.

6.4 Mr. Barut asked whether it would be possible to include a cruise to collect samples and it was indicated that this would need to be decided by the Executing Agency in relation to overall costs of the training activity. It was noted that in principle additional participants beyond those supported through the project grant could be supported by the governments up to whatever limits were set by the facilities available in the Executing Agency.

6.5 During discussion it was noted that numerous publications containing information on larval and juvenile morphology could be used to "cut and paste" and produce identification sheets for a number of important species up to say 100 plus species whilst the training course might focus on a more limited number of important species.

6.6 Mr. Pirochana noted that he felt that training on the *refugia* concept including selection criteria, and methods of evaluating effectiveness was particularly important and that perhaps more senior people should participate in this course in order to deliver training seminars in each country. It was also noted that the SIDA-SEAFDEC training programme on fisheries *refugia* could be integrated closely with this proposed training course.

6.7 It was further agreed that Mr. Paterson would contact appropriate staff in SEAFDEC to discuss these courses and the Project Director would write an initial letter to the Secretary General of SEAFDEC regarding the implementation of these courses.

7. REVIEW OF A PRELIMINARY FRAMEWORK FOR ASSESSING THE EFFECTS OF FISHING IN THE HABITAT DEMONSTRATION SITES

7.1 The Chairperson invited the PCU Member to introduce document UNEP/GEF/SCS/RWG-F.7/19 "*Preliminary Framework for Assessing the Effects of Fishing in the Habitat Demonstration Sites*". Mr. Paterson reviewed the previous deliberations of the RWG-F, the Regional Working Groups for the Habitat Sub-Components, and the Regional Scientific and Technical Committee regarding this matter. He noted that nearly all habitat demonstration sites had highlighted fisheries as a threat and that following discussions during the Regional Scientific Conference a consensus view had emerged of the need for a clearer definition of the difference between the "threats from fisheries" and the "threats to fisheries".

7.2 Mr. Paterson presented the preliminary framework for assessing the effects of fishing on the environment; the effects of the environment on fisheries; and key issues in the study and management of fisheries and habitat linkages.

7.3 During discussion of Figure 1 it was suggested and agreed that "reduced water quality" should be reworded as "change in water quality". There followed an extensive and somewhat inconclusive discussion regarding the distinction between target and non-target species as an outcome of which it was agreed that these should be combined.

7.4 During a discussion of the changes in water quality it was noted that the present diagram included both aquaculture and fish processing activities, whilst in contrast for example the components of habitat change did not include aquaculture. It was agreed that the approach should be consistent across all sub-components and that perhaps aquaculture should be separated as a separate diagram, and/or the "Effects of Fishing" should be reworded as "Effects of Fishing and related activities on".

7.5 In discussing Figure 2 it was noted that an important area of concern was the impact of social conditions on both the environment and the fisheries sector and *vice versa*. It was agreed that figures 1 and 2 should be thoroughly revised to clearly distinguish the effects of fishing from those of aquaculture on the environment and these revised figures would be sent to members for their review and comment.

7.6 The meeting agreed that a first draft of guidelines for assessing the effects of fishing in the habitat demonstration sites would be completed by the end of August. Members would provide comments by the end of September together with case studies of the effects of fishing on the environment. The second draft will be completed for consideration by, the eighth meeting of the working group.

7.7 In considering the revision of the popular article on managing the impacts of fishing on the environment it was agreed that a revised draft would be completed and dispatched to members by 16th June. Members would respond to the PCU by the end of July and the article would be submitted for publication both in Fish for the People and in national journals as appropriate.

8. FINALISATION OF FISHERIES COMPONENT INPUTS TO THE STRATEGIC ACTION PROGRAMME

8.1 The Chairperson invited Mr. Paterson to introduce document UNEP/GEF/SCS/RWG-F.7/10 "*Regional Working Group for the Fisheries Component Inputs to the Regional Strategic Action Programme*". Mr. Paterson reviewed the development of the fisheries component goals, targets, and regional and national level activities to date. He highlighted the advice of the Regional Scientific and

Technical Committee, which had indicated at its' last meeting that the RWG-F should evaluate the wording of all proposed regional and national activities in relation to the revised goals and targets.

8.2 Dr. Pernetta noted that for clarity it might be better to make reference to the ASEAN SEAFDEC Guidelines for Responsible Fisheries in Southeast Asia rather than simply the Code of Conduct. The meeting agreed with this proposal.

8.3 There followed an extensive and detailed consideration of the wording of the national and regional level activities during which they were amended and the list expanded. The agreed list of activities is contained in Annex 7 to this report.

8.4 In closing this agenda item it was agreed that each member would need to develop a national programme of specific costed activities that would implement the broad programme of actions proposed in Annex 7, at the national level. It was noted that this would need to be related to specific sites and that the costings should be realistic and reflect the actual sites of proposed interventions. It was agreed that members would put together such national level programmes for discussion and consideration during the eighth meeting of the working group.

9. REVISION OF THE WORK PLAN AND ACTIVITIES FOR THE REGIONAL WORKING GROUP ON FISHERIES

9.1 The Chairperson invited the PCU Member to introduce document UNEP/GEF/SCS/RWG-F.7/11, "*Work Plan for the Regional Working Group on Fisheries for 2006 and 2007*". Mr. Paterson informed the meeting that he had revised the activities table overnight to take into account prior agreements regarding the submission of outputs and finalisation of various documents.

9.2 The revised work plan was projected and items considered and discussed in detail by the members taking into account discussions under earlier agenda items. The amended tables and agreed work plan and schedule are contained in Annex 6 of this report.

10. DATES AND PLACE OF THE EIGHTH MEETING OF THE REGIONAL WORKING GROUP ON FISHERIES

10.1 The Chairperson reminded the RWG-F that during the sixth meeting it had been decided that, the meeting in 2006 would be convened in Tanjung Pandan, Bangka Belitung Province, Indonesia, which is a fishing port adjacent to the Indonesian coral reef demonstration site. Subsequently it had been agreed by the RSTC that a second meeting would be required given the anticipated workload of the working group.

10.2 Subsequent to this decision it had been decided by the working group to convene the first meeting in 2006 in Bangkok, Thailand. Mr. Parlin informed the meeting that he would be happy to host the next meeting in Belitung as originally planned.

10.3 The members thanked the Chairperson for his offer to host the eighth meeting in Belitung and following discussion of the difficulties of internal travel in Indonesia at the end of Ramadan it was agreed to alter the dates to 1st to 4th November inclusive, subject to clarification from the Chairperson regarding travel arrangements.

11. ANY OTHER BUSINESS

11.1 Mr. Parlin invited members to raise any other matters for consideration by the meeting.

11.2 Mr. Barut raised the issue of the expert members of the group noting Mr. Geronimo Silvestre had been unable to attend the last three meetings due to his other commitments and that he would not be available for the remainder of the project. He proposed that Professor Nygiel Armada be invited to join the group as an expert member in place of Mr. Silvestre. The group accepted this proposal and the Project Director advised the meeting that he would inform the National Technical Focal Points accordingly.

11.3 Ms. Chee noted that upon her return to Malaysia she would talk to senior management regarding the administrative arrangements necessary to formalise the position of Malaysia in the fisheries component of the project.

12. ADOPTION OF THE REPORT OF THE MEETING

12.1 The Rapporteur, Mr. Noel Barut presented the draft report of the meeting, prepared by the Secretary during the meeting. The draft report was considered, amended and adopted as it appears in this document.

13. CLOSURE OF THE MEETING

13.1 The Chairperson invited participants to make any closing remarks. Ms. Chee expressed her appreciation to UNEP and the members of the Regional Working Group for inviting Malaysia to attend this meeting. Mr. Ing Try expressed appreciation to the PCU for the good organisation of the meeting, and Dr. Dao Man Son thanked all participants for their collegial approach to the meeting and noted that he looked forward to meeting everyone again in Belitung. Mr. Pirochana noted with appreciation the hard work of all members and thanked Mr. Paterson for his ongoing support to the work of the group.

13.2 Mr. Somsak noted that the cordial atmosphere had contributed to making the meeting very productive. He echoed the welcome expressed to Ms. Chee and looked forward to the ongoing participation of Malaysia in the work of the group. Mr. Nasuri expressed his thanks for the opportunity to participate in this meeting which he felt would be of direct value in his day-to-day work. The Rapporteur expressed thanks to the RSTC in recognising the need for two meetings in 2006 and to the PCU for their continuing support to the meeting.

13.2 In closing the meeting the Chairperson expressed, on behalf of the working group, his thanks to the PCU for their assistance and support to the work of the group. He noted that in Indonesia the idea of *refugia* was a new concept, which he hoped would receive wider support in the country in the future. He thanked Khun Unchalee and Khun Nita for their administrative support to ensuring that all preparations were made efficiently and in time. He wished all participants a safe return and urged members to disseminate the work of the group at the national level.

13.2 The Chairperson formally closed the meeting at 1610 on Thursday 18th May, 2006.

ANNEX 1**List of Participants****Focal Points****Cambodia**

Mr. Ing Try, Deputy Director
Department of Fisheries
Ministry of Agriculture, Forestry and Fisheries
186 Norodom Blvd.
P.O. Box 582
Phnom Penh, Cambodia

Tel: (855 23) 219256; Mobile: 855 11 957 884
Fax: (855 23) 219256, 427048, 215470
E-mail: ttmp.cam@online.com.kh

Malaysia

Ms. Chee Phaik Ean, Senior Research Officer
Head of Aquatic Ecosystems Section
Fisheries Research Institute
11960 Batu Maung
Penang, Malaysia

Tel: (60 4) 626 5824; 626 3925
Fax: (60 4) 626 2210
E-mail: chee@fri.gov.my

Thailand

Mr. Pirochana Saikiang, Senior Fishery Biologist
Chumphon Marine Fisheries Research and
Development Center
408 Moo 8, Paknum Sub-district
Muang District, Chumphon 86120, Thailand

Tel: (66 77) 522 006; 522 007
Mobile: (66) 01 843 9887
Fax: (66 77) 522 006; 522 007
E-mail: pirochas@fisheries.go.th

Indonesia

Ir. Parlin Tambunan, Director of Fisheries Resources
Director General of Capture Fisheries
Jln. Harsono RM No. 3, Gd. B, Lt VI
Ragunan – Pasar Minggu
Jakarta Selatan, Indonesia

Tel: (62 21) 781 1672; Mobile: (62) 81 698 1032
Fax: (62 21) 781 1672
E-mail: dfrmdgf@indosat.net.id;
dgcstat@indosat.net.id

Philippines

Mr. Noel Barut
National Fisheries Research and Development
Institute, Department of Agriculture
940 Kayumanggi, Press Building I
Quezon Avenue
Quezon City, Philippines

Tel: (63 2) 373 6336; Mobile: (63) 917 8385701
Fax: (63 2) 372 5063
E-mail: noel_barut@hotmail.com

Viet Nam

Dr. Dao Manh Son, Vice Director
Research Institute for Marine Fisheries
170 Le Lai Street
Haiphong City
Viet Nam

Tel: (84 31) 837 898, 836 135
Mobile: (84) 91 3329782
Fax: (84 31) 836 812
E-mail: daoson@hn.vnn.vn

Regional Experts

Mr. Somsak Chullasorn
45, Soi Watthana Niwet 4
Sutisan Rd, Huay Kwang
Bangkok 10320, Thailand

Tel: (66 2) 277 5015
Mobile: (66) 09 3872375
Fax: (66 2) 693 1828
Email: papasomsak@hotmail.com

Observers

Dr. Yasuhisa Kato, Special Advisor
SEAFDEC Secretariat
Suraswadi Building
Kasetsart University Campus
P.O. Box 1046 Kasetsart Post Office
Bangkok 10903, Thailand

Tel: (66 2) 940 6335; 940 6326
Mobile: (66) 1 825 5636
Fax: (66 2) 940 6336
E-mail: kato@seafdec.org

Mr. Martin Bjerner
Associate Expert Fisheries Management
SEAFDEC Secretariat, Suraswadi Building
Kasetsart University Campus
P.O. Box 1046 Kasetsart Post Office
Bangkok 10903, Thailand

Tel: (66 2) 940 6326 ext. 132
Mobile: (66) 9 022 1989
Fax: (66 2) 940 6336
E-mail: martin@seafdec.org

Dr. Magnus Torell, Senior Advisor
SEAFDEC Secretariat
Suraswadi Building
Kasetsart University Campus
P.O. Box 1046 Kasetsart Post Office
Bangkok 10903, Thailand

Tel: (66 2) 955 1557; 940 6326 ext. 103
Mobile: (66) 9 962 1819
Fax: (66 2) 940 6336
E-mail: magnus@seafdec.org

Mr. Nazori Djazuli
Head of Planning Division
Secretariat Directorate General of Capture
Fisheries
MOMAF Building 12th Floor
Jl. Medan Merdeka Timur No.16
Jakarta Pusat 10110, Indonesia

Tel: (62 21) 351 9113, 352 1781
Fax: (62 21) 351 9113, 352 1781
E-mail: nozoryfish@hotmail.com

Project Co-ordinating Unit Member

Mr. Christopher Paterson, Expert - Fisheries
UNEP/GEF Project Co-ordinating Unit
United Nations Environment Programme
2nd Floor, Block B, United Nations Building
Rajdamnern Nok Avenue
Bangkok 10200, Thailand

Tel: (66 2) 288 1116
Fax: (66 2) 288 1094
E-mail: patersonc@un.org

Project Co-ordinating Unit

Dr. John Pernetta, Project Director
UNEP/GEF Project Co-ordinating Unit
United Nations Environment Programme
2nd Floor, Block B, United Nations Building
Rajdamnern Nok Avenue
Bangkok 10200, Thailand

Tel: (66 2) 288 1886
Fax: (66 2) 288 1094
E-mail: pernetta@un.org

Ms. Unchalee Pernetta, Programme Assistant
UNEP/GEF Project Co-ordinating Unit
United Nations Environment Programme
2nd Floor, Block B, United Nations Building
Rajdamnern Nok Avenue
Bangkok 10200, Thailand

Tel: (66 2) 288 1670
Fax: (66 2) 288 1094
E-mail: kattachan.unescap@un.org

ANNEX 2

List of Documents

Discussion documents

UNEP/GEF/SCS/RWG-F.7/1	Agenda.
UNEP/GEF/SCS/RWG-F.7/2	Annotated Agenda.
UNEP/GEF/SCS/RWG-F.7/3	Report of the Meeting.
UNEP/GEF/SCS/RWG-F.7/4	Current Status of Budgets and Reports from the Specialised Executing Agencies in the Participating Countries.
UNEP/GEF/SCS/RWG-F.7/5	Status of the Project Website, Online Tools, and Activities to Promote the Fisheries Component of the Project.
UNEP/GEF/SCS/RWG-F.7/6	Marine Protected Areas and the Concept of Fisheries <i>Refugia</i> developed by the Regional Working Group for Fisheries.
UNEP/GEF/SCS/RWG-F.7/7	A Preliminary Inventory of Sites for Consideration as Candidate Fisheries <i>Refugia</i> and the Role of National Committees and Coastal Community Consultations in Establishing a Regional System of Fisheries <i>Refugia</i> .
UNEP/GEF/SCS/RWG-F.7/8	The South China Sea Project Training Programme: Supporting the Establishment of a Regional System of Fisheries <i>Refugia</i> .
UNEP/GEF/SCS/RWG-F.7/9	Preliminary Framework for Assessing the Effects of Fishing in the Habitat Demonstration Sites.
UNEP/GEF/SCS/RWG-F.7/10	Regional Working Group for the Fisheries Component Inputs to the Regional Strategic Action Programme.
UNEP/GEF/SCS/RWG-F.7/11	Work Plan for the Regional Working Group on Fisheries for 2006 and 2007.

Information documents

UNEP/GEF/SCS/RWG-F.7/Inf.1	List of Participants.
UNEP/GEF/SCS/RWG-F.7/Inf.2	List of Documents.
UNEP/GEF/SCS/RWG-F.7/Inf.3	Programme.
UNEP/GEF/SCS/RSTC.6-Sub-Comm	First Meeting of the Sub-Committee of the Sixth Meeting of the Regional Scientific and Technical Committee for the UNEP/GEF Project " <i>Reversing Environmental Degradation Trends in the South China Sea and Gulf of Thailand</i> ". Report of the Meeting. Bangkok, Thailand, 6 th – 10 th February, 2006 UNEP/GEF/SCS/RSTC.6-Sub-Comm.

Published Reports supplied in hard copy (available on the Project Website www.unepscs.org)

UNEP/GEF/SCS/RSTC.6/3	Sixth Meeting of the Regional Scientific and Technical Committee for the UNEP/GEF Project " <i>Reversing Environmental Degradation Trends in the South China Sea and Gulf of Thailand</i> ". Report of the Meeting. Report of the Meeting. Batam, Indonesia, 8 th – 10 th December, 2005 UNEP/GEF/SCS/RSTC.6/3.
-----------------------	--

- UNEP/GEF/SCS/PSC.5/3 Fifth Meeting of the Project Steering Committee for the UNEP/GEF Project *"Reversing Environmental Degradation Trends in the South China Sea and Gulf of Thailand"*. Report of the Meeting. Batam, Indonesia, 12th – 14th December, 2005 UNEP/GEF/SCS/PSC.5/3.
- UNEP/GEF/SCS/RWG-SG.6/3 Sixth Meeting of the Regional Working Group on the Seagrass Sub-component for the UNEP/GEF Project *"Reversing Environmental Degradation Trends in the South China Sea and Gulf of Thailand"*. Report of the Meeting. Bolinao, Philippines, 27th – 30th September 2005 UNEP/GEF/SCS/RWG-SG.6/3.
- UNEP/GEF/SCS/RWG-CR.6/3 Sixth Meeting of the Regional Working Group on the Coral Reefs Sub-component for the UNEP/GEF Project *"Reversing Environmental Degradation Trends in the South China Sea and Gulf of Thailand"*. Report of the Meeting. Masinloc, Philippines, 22nd – 25th August 2005 UNEP/GEF/SCS/RWG-CR.6/3.
- UNEP/GEF/SCS/RWG-M.6/3 Sixth Meeting of the Regional Working Group on the Mangroves Sub-component for the UNEP/GEF Project *"Reversing Environmental Degradation Trends in the South China Sea and Gulf of Thailand"*. Report of the Meeting. Busuanga, Philippines, 1st – 5th August 2005 UNEP/GEF/SCS/RWG-M.6/3.
- UNEP/GEF/SCS/RWG-W.6/3 Sixth Meeting of the Regional Working Group on the Wetland Sub-component for the UNEP/GEF Project *"Reversing Environmental Degradation Trends in the South China Sea and Gulf of Thailand"*. Report of the Meeting. Sihanoukville, Cambodia, 12th – 15th September 2005 UNEP/GEF/SCS/RWG-W.6/3.
- UNEP/GEF/SCS/RWG-F.6/3 Sixth Meeting of the Regional Working Group on the Fisheries Component for the UNEP/GEF Project *"Reversing Environmental Degradation Trends in the South China Sea and Gulf of Thailand"*. Report of the Meeting. Kudat, Sabah, Malaysia, 5th – 8th September 2005 UNEP/GEF/SCS/RWG-F.6/3.
- UNEP/GEF/SCS/RWG-LbP.6/3 Sixth Meeting of the Regional Working Group on the Land-based Pollution Component for the UNEP/GEF Project *"Reversing Environmental Degradation Trends in the South China Sea and Gulf of Thailand"*. Report of the Meeting. Ninh Hai, Ninh Thuan, Viet Nam, 18th – 21st July 2005 UNEP/GEF/SCS/RWG-LbP.6/3.

Documents tabled during the meeting:**Popular Articles**

1. "Can Marine Protected Areas be Included in a Regional System of Fisheries *Refugia*?" [Draft]
2. "Managing the Effects of Fishing on Coastal Habitats of the South China Sea and Gulf of Thailand" [Draft]

CD-ROM

1*CD-ROM containing:

- Package of the SCS Meta-Database Template files
- SCS Meta-Database Template Installation Guide
- SCS Meta-Database Updating Guide
- SCS Nutrient Carrying Capacity Model User Manual
- SCS Project Website User Manual
- RWG-F-7 Meeting Documents
- Reports of the RWG-F meetings (1-6)

Thailand: "Thai Fishery Laws", by Coastal Habitats and Resources Management Project: CHARM, November 2005, 106pp. in hard copy.

Philippines: Flipchart: "General Information of Coastal Resource Management", 34pp.

SEAFDEC: "Regional Guidelines for Responsible Fisheries in Southeast Asia – Supplementary Guidelines on Co-management Using Group User Rights, Fishery Statistics, Indicators and Fisheries *Refugia*", March 2006, in hard copy.

ANNEX 3

Agenda

- 1. OPENING OF THE MEETING**
 - 1.1 Welcome Address
 - 1.2 Introduction of Members
- 2. ORGANISATION OF THE MEETING**
 - 2.1 Election of Officers
 - 2.2 Documentation and Administrative Arrangements
 - 2.3 Organisation of Work
- 3. ADOPTION OF THE MEETING AGENDA**
- 4. REPORTS REGARDING OVERALL PROGRESS TO DATE**
 - 4.1 Status of the Administrative Reports for 2005: Progress Reports; Expenditure Reports; Audit Reports; and MoU Amendments
 - 4.2 Status of Regional South China Sea Meta-Database and GIS, the Project Website, and Initiatives to Promote the Activities of the Fisheries Component of the Project
- 5. MATTERS RELATING TO THE ACTIVITY OF ESTABLISHING A REGIONAL SYSTEM OF FISHERIES *REFUGIA***
 - 5.1 Difference between Marine Protected Areas and Fisheries *Refugia*, particularly as they relate to fisheries management in the South China Sea and Gulf of Thailand
 - 5.2 Developing an Inventory of Candidate Fisheries *Refugia* Sites and the role of National Fisheries Committees and Coastal Communities in Establishing a Regional System of Fisheries *Refugia*
 - 5.3 Developing an Online Meta-Database of Information in Support of a Regional System of Fisheries *Refugia*
- 6. CONSIDERATION OF PROPOSED SOUTH CHINA SEA PROJECT TRAINING ACTIVITIES IN SUPPORT OF THE ESTABLISHMENT OF A REGIONAL SYSTEM OF FISHERIES *REFUGIA***
- 7. REVIEW OF A PRELIMINARY FRAMEWORK FOR ASSESSING THE EFFECTS OF FISHING IN THE HABITAT DEMONSTRATION SITES**
- 8. FINALISATION OF FISHERIES COMPONENT INPUTS TO THE STRATEGIC ACTION PROGRAMME**
- 9. REVISION OF THE WORK PLAN AND ACTIVITIES FOR THE REGIONAL WORKING GROUP ON FISHERIES**
- 10. DATE AND PLACE OF THE EIGHTH MEETING OF THE REGIONAL WORKING GROUP ON FISHERIES**
- 11. ANY OTHER BUSINESS**
- 12. ADOPTION OF THE REPORT OF THE MEETING**
- 13. CLOSURE OF THE MEETING**

ANNEX 4

Formats for Reporting Information Regarding Various Categories of Sites for Consideration as Potential Fisheries *Refugia*

BACKGROUND

During the sixth meeting of the Regional Working Group on Fisheries it was agreed that the overall goal of the regional system of fisheries *refugia* was to improve the use of spatial approaches in fisheries management in order to make the exploitation of fish stocks more sustainable and to maintain habitat integrity. There was further agreement that specific objectives might include: the protection of spawning, nursery and feeding areas of critical importance to the maintenance of fish stocks and the integration of fisheries management objectives into protected area management objectives. The latter will necessitate close co-ordination between fisheries and environmental agencies; preventing degradation of habitats and consequent loss of important species; and wider use of zoning as a fisheries management tool (Table 1).

Table 1 Goal, objectives and expected outcomes for a regional system of fisheries *refugia*.

Goal	Objectives	Expected Outcomes
The goal is to: <ul style="list-style-type: none"> • Improve the use of spatial approaches to fisheries management for sustainable use of fish stocks and maintenance of habitats. 	The objectives are to: <ul style="list-style-type: none"> • Protect spawning and nursery areas, • Integrate fisheries management into protected area management (coordination between fisheries and environmental agencies), • Enhance fisheries resources and their habitats, • Prevent degradation of habitats and loss of important species, • Increase the use of zoning as a fisheries management tool, • Build awareness amongst fishers of ecosystem-fisheries links, • Identify life history of fishes, and to • Promote the role of sub-populations in stock resilience. 	The expected outcomes are that: <ul style="list-style-type: none"> • Fisheries resources can continue to be used by current and future generations, • Fish population size will increase, • There will be effectively managed areas that can be used for fish resource enhancement; • Socio-economic conditions of fishing communities will improve, and that • Food security will be enhanced.

The priorities, fisheries problems, and anticipated challenges associated with establishment of a regional system of *refugia* were reviewed, and it was generally concluded that the concept of *refugia* is not well understood by fisheries managers in participating countries, and that there is a need to disseminate information concerning this concept more widely (Table 2).

Table 2 Priority *refugia* types, key fisheries problems that *refugia* may assist in resolving, and the challenges that are anticipated in developing a system of *refugia*.

Priority <i>Refugia</i> Types	Key Fisheries Problems <i>Refugia</i> may Assist in Resolving	Anticipated Challenges in the Establishment of <i>Refugia</i>
The priority <i>refugia</i> types are: <ul style="list-style-type: none"> • Areas important to spawning stock/broodstock at times of spawning, • Areas important to species with heavily depleted stocks, and • Areas used as spawning, nursery, and/or feeding grounds. 	<i>Refugia</i> may assist in resolving the following fisheries problems: <ul style="list-style-type: none"> • The capture of juveniles, • The capture of broodstock in areas (and at times) of spawning, • The use of inappropriate fishing gear and practices, • The poor management of fish habitats, particularly in spawning and nursery areas, and • Conflicts among resource users. 	It is anticipated that the following challenges will be encountered in the establishment of a system of fisheries <i>refugia</i> : <ul style="list-style-type: none"> • Overcapacity, especially in the small-scale sector, • Resistance from fishers/fishing communities (stakeholders), • Lack of scientific data and experience, • Difficulty and costs associated with research, data and information collection, • Poor collaboration between the responsible national level agency and the local government, • Encroachment during periods in which fishers are excluded, • Identifying the appropriate size of the <i>refugia</i>, and • Enforcement of management measures and regulations prohibiting use of illegal or destructive fishing gear, in order to prevent the unnecessary capture of juveniles sourced from the <i>refugia</i> areas.

The guiding principles for the *refugia* system, criteria for *refugia* identification and selection, and indicators for use in assessing the effectiveness of *refugia* were also reviewed (Table 3).

Table 3 Guiding principles for the *refugia* system, criteria for *refugia* identification and selection, and indicators that can be used to evaluate *refugia* performance.

Guiding Principles	<i>Refugia</i> Identification and Selection Criteria	Indicators that can be used to evaluate <i>refugia</i> effectiveness
<p>The following principles should be used to guide <i>refugia</i> development:</p> <ul style="list-style-type: none"> • Clear demarcation between different fishing areas for different sectors (e.g. commercial operators and small-scale fishers), • Ensure that socio-economic impacts of establishing <i>refugia</i> are addressed, • Collaboration between relevant government agencies and other stakeholders, • Ensure preservation of habitat integrity, • Clarification of definitions with existing similar systems, such as MPA, closed seasons and areas etc, and • Local community must participate in management. 	<p>The following criteria should be used to identify and select <i>refugia</i>:</p> <ul style="list-style-type: none"> • Areas important to species with heavily depleted stocks, and • The use of the area as spawning, nursery or feeding grounds. 	<p>The following indicators could be used to evaluate <i>refugia</i> performance:</p> <ol style="list-style-type: none"> 1. <i>Management related</i> <ul style="list-style-type: none"> • Management responsibility delegated to the community, • Enhancement of the ownership over the fish resources by the community, • Acceptance of the <i>refugia</i> system at the regional level, 2. <i>Resource related</i> <ul style="list-style-type: none"> • Density of pelagic species eggs/larvae in the area of <i>refugia</i> at the time of spawning, and • Mean length at first maturity for the species for which the <i>refugia</i> were established.

Based on the outcomes of the Sixth Meeting of the RWG-F, the Secretariat of the Southeast Asian Fisheries Development Center (SEAFDEC) invited the Project Co-ordinating Unit to develop guidelines on fisheries *refugia* for inclusion in the ASEAN-SEAFDEC Regional Guidelines for Responsible Fisheries in Southeast Asia. These guidelines have now been published as part of the ASEAN-SEAFDEC Regional Guidelines on Responsible Fisheries in Southeast Asia.

Fisheries *Refugia* in the Context of the South China Sea and Gulf of Thailand

The activity of establishing a system of fisheries *refugia* for the Gulf of Thailand is based upon the emerging body of evidence that the existence of natural *refugia* is a basic element explaining the resilience of fishery stocks to exploitation. Gulf of Thailand fish stocks are subjected to high levels of fishing effort, such that stocks of most commercially important species are considered fully fished or overexploited. Maintenance of natural *refugia*, or creation of *refugia* in cases where natural *refugia* no longer exist, should be important priorities for the management of fisheries in this area, and may act as effective buffers against uncertainty and recruitment failure, of which the latter is especially relevant in terms of food security.

At the most general level, the identification of fisheries *refugia* in the South China Sea and Gulf of Thailand must consider the:

- Life-cycle of the species for which *refugia* are being developed,
- Type(s) of *refugia* scenario(s) that relate to the species for which *refugia* are being developed, and
- Location of natural *refugia* and appropriate sites for the establishment of [artificial] *refugia*.

Juvenile and Spawning *Refugia*

The two main life history events for fished species are reproduction and recruitment. Often, these events involve movement between areas, and some species often pelagic fishes, migrate to particular spawning areas. Many species also utilise specific coastal habitats such as coral reefs, seagrass, and mangroves as nursery areas. In terms of the effects of fishing, most populations of fished species are particularly vulnerable to the impacts of high levels of fishing effort in areas and at times where there are high abundances of (a) stock in spawning condition, or (b) juveniles and pre-recruits. These impacts are intensified in instances where small-scale fishers and commercial fishers share the same stock, leading to disputes of the relative impacts of each group. An example is where juveniles and pre-recruits are

caught in inshore areas by small-scale fisheries, and commercial fishers catch adults of the same species offshore. In this instance, high levels of fishing effort in inshore waters may drive growth over-fishing¹, while the same circumstances in offshore areas may cause recruitment over-fishing of the same stock². The use of juvenile *refugia* to protect fish during the juvenile and pre-recruit phases of their life-cycle can assist in the prevention of growth over-fishing. Whereas spawning *refugia*, may assist in the prevention of recruitment over-fishing.

It was agreed during the Sixth Meeting of the Regional Scientific and Technical Committee in December 2006 that the RWG-F should take a two-track approach to the identification of fisheries *refugia*. The first track would involve a review of known spawning areas for pelagic and invertebrate species, with the aim of evaluating these sites as candidate spawning *refugia*. Information regarding the spatial dynamics of pelagic fish and invertebrate populations, oceanographic features, fish behaviour, and fishing effort dynamics will be used to determine the optimum locations and sizes of spawning *refugia* in the Gulf of Thailand. The second track is the evaluation of each of the project's habitat demonstration sites as potential juvenile/pre-recruit *refugia* for significant demersal species. These juvenile *refugia* will be aimed at reducing the impact of growth over-fishing and will be identified using information regarding the catch and size composition of small-scale and commercial fisheries operating in or adjacent to habitat demonstration sites.

Deliberations of the seventh meeting of the Regional Working Group on Fisheries

Document UNEP/GEF/SCS/RWG-F.7/6 "*Marine Protected Areas and the Concept of Fisheries Refugia Developed by the Regional Working Group on Fisheries*" containing a preliminary checklist for evaluating if fisheries management areas qualify as fisheries *refugia* was considered during the seventh meeting of the RWG-F which recognised that a number of existing fisheries management areas in the region could potentially be included in a regional system of fisheries *refugia*, and a draft table for use in collating such information was provided in document UNEP/GEF/SCS/RWG-F.7/7. This table (Table 4) was reviewed and a preliminary data set from Thailand was used to test the utility of the format (Table 5). On the basis of the review of these materials it was agreed to adopt the format for use by all countries in tabulating data relating to existing fisheries management areas.

In addition two additional formats were developed and agreed during the meeting, one relating to the existing South China Sea habitat demonstration sites (Table 6) and the second relating to spawning areas for important pelagic species (Table 7).

¹ Growth over-fishing is caused by levels of fishing beyond that required to maximise yield per recruit, and typically involves a size at first capture in the fishery that involves an unsustainably high percentage of juveniles and pre-recruits being captured.

² Recruitment over-fishing is "a level of fishing in which the adult stock is reduced to the extent that recruits produced are insufficient to maintain the population".

Table 4 Proposed format for reporting information about fisheries management areas that may qualify as candidate sites of fisheries *refugia*.

Country	Province/State	Geographical Location	Type of Management Area ³	Species for which the Area is Managed	Importance of the Area to the Life-Cycle of the Species for which it is Managed	Objective of the Management Area ⁴ and Associated Management Measures

³ Enter **SC** for Spot Closure (short-term closure), **CS** for Closed Season, or **FMZ** for a Fisheries Management Zone of a Marine Protected Area.

⁴ Enter **JN** for Juvenile Nursery, **SA** for Spawning Area, and **MR** for areas used to safeguard Migratory Routes.

Table 5 Fisheries management areas that may qualify as candidate sites of fisheries *refugia* in Thai waters of the Gulf of Thailand.

Country	Province/State	Geographical Location	Type of Management Area	Species for which the Area is Managed	Importance of the Area to the Life-Cycle of the Species for which it is Managed	Objective of the Management Area ⁵ and Associated Management Measures
Thailand	Prachuap Khiri Khan, Chumphon and Surat Thani provinces (September 24, B.E. 2542)	A conservation area of approximately 26,400 km ² offshore of Prachuap Khiri Khan, Chumphon and Surat Thani provinces	CS : 15 February – 15 May (15 February – 31 March : spawning and breeding seasons); (1 April - 15 May : nursery season) <ul style="list-style-type: none"> All kind of trawls used with motor vessels except trawls used with only one motor vessel of which the length is not more than 16 meters and fishing only on night time Gill nets and entangling nets used with a motor vessels in fishing by method of entangling for catching mackerel or by other similar method All kind of surrounding nets used with motor vessels Push nets used with a motor vessel of more than 16 meters in length 	Several commercially important fish species.	According to the study of life cycles of some aquatic animals, they spawn, breeding and their larvae nurture in this area	To protect the spawner and juvenile fish species
	Gulf of Thailand (July 20, B.E. 2515 and February 18, B.E. 2517)	Within a distance 3,000 m from the shore line and of 400 meters surrounding a place of all kinds of stationary gear permitted for fishing in the sea or Gulf or bay in any province	Trawler, push net and dredge with any motor vessels by any method	Several commercially importance fishes species	nursery grounds	Maintaining the productivity of near shore waters
	Gulf of Thailand (November 14, B.E. 2534)	Gulf of Thailand	To prohibit the use of all purse seine which the mesh less than 2.5 centimetre operated in night time	Several commercially importance fishes species	Attract a juvenile fishes	To minimize the catch of small fish

⁵ Enter **JN** for Juvenile Nursery, **SA** for Spawning Area, and **MR** for areas used to safeguard Migratory Routes.

Table 5 cont. Fisheries management areas that may qualify as candidate sites of fisheries *refugia* in Thai waters of the Gulf of Thailand.

Country	Province/State	Geographical Location	Type of Management Area	Species for which the Area is Managed	Importance of the Area to the Life-Cycle of the Species for which it is Managed	Objective of the Management Area ⁶ and Associated Management Measures
	Chonburi province (June 26, B.E. 2518)	Sattahip Bay, Chonburi province	Used any kind and any size of fishing appliance in fishing by any method	Department of Fine Arts shall, on the next occasion, bring them as well as an ancient boat out of the water for national education	Diving and searching for ancient objects or objects of art	To prevent such precious remains of ancient boat or ancient object sunk in that area from being damaged by the fishing
	Chonburi province (June 26, B.E. 2518)	Koh Loi in Sriracha district, running straight to Sampayue Rock and passing Luem Island, Maravichai Island, Rin Island, back sides of Lai Kram Island, Chuang Island and Chan Island, Chang Klua Island and Rade Island, until meeting with Chong Same San lighthouse in the locality Sattahip District, Chonburi province	Used any kind and any size of trawls, push nets, La-wa, Chip, Shrimp push nets, Krill push nets and all kinds of bag-nets, with motor vessels September 1 to the end of February	Several commercially importance fishes species.	This area are shelters and habitats of young aquatic animals	To conserve such aquatic animal varieties from being caught or destroyed in an inappropriate amount and for the efficient and sustainable utilization of marine resources
	Songkhla, Southern Gulf of Thailand	Offshore of Songkhla	<i>FMZ</i> : Zone management (0-3 nautical mile from shore line is a zone for small scale fisheries, 5-12 nautical mile, operating zone for anchovy light fishing boat which the length less than 14 meter and more than 15 nautical mile is operating zone for anchovy light fishing boat which the length 14-16 meter and 3-5 and 12-15 nautical mile are buffer zone)	Anchovy fisheries and small scale fisheries or artisanal fisheries	Fisheries management zone for anchovy fisheries	To reduce the conflict between small scale fisheries and anchovy fisheries with light luring (Anchovy lift net, falling net and scoop net with light luring)
	Samut Sakhon Province (June 17, B.E. 2518)	Gulf of Thailand, in the locality of Tambol Pantai Norasing, Tambol Kokkham and Tambol Bang Ya Praek, Samut Sakhon Province	Use all kinds and all sizes of shellfish dredges or other similar appliances of similar use, with motor vessels, in fishing of bivalves by any method whatsoever	Bivalves (Short neck clam)		To protect habitat or nursery ground of bivalves

⁶ Enter **JN** for Juvenile Nursery, **SA** for Spawning Area, and **MR** for areas used to safeguard Migratory Routes.

Table 6 Proposed format for reporting information regarding the UNEP/GEF South China Sea Project’s Habitat Demonstration Sites that are critical inshore nursery *refugia* for important demersal species.

Country	Habitat Demonstration Site	Important Demersal Species for which the Site is Critical Inshore Nursery Habitat	Fishing Gears and Practices Used in the Area of the Site	Existing Fisheries Management Measures in the Area of the Site

Table 7 Proposed format for reporting information regarding locations in the South China Sea and Gulf of Thailand that are utilised by important pelagic species for spawning.

Country	Geographical Location	Important Pelagic Species that Utilise the Area for Spawning	Fishing Gears and Practices Used in the Area	Existing Fisheries Management Measures in the Area

ANNEX 5

Elements for Inclusion in a Revised Strategic Action Programme

BACKGROUND TO THE STRATEGIC ACTION PROGRAMME GOALS & TARGETS

The Regional Working Groups have a defined responsibility over the next two years to further elaborate those portions of the regional SAP that relate to the mandate of each working group. This task is to be executed in conjunction with the further elaboration and high-level approval of National Action Plans addressing the major issues and concerns of Fisheries in the Gulf of Thailand, Land-based Pollution and the critical habitats of mangroves, seagrass, coral reefs and coastal wetlands.

This process of elaborating the SAP goals and targets was initiated during the fifth meetings of the working groups in 2004 when the first review of draft national action plans was undertaken and the specific targets and goals of the regional SAP were reviewed in the light of work completed during the preparatory phase. During the fifth meeting, the RSTC considered and reviewed the goals and targets established by the regional working groups and provided advice and comment regarding their further elaboration and development in order to improve the goals and targets. The Regional Working Groups subsequently revised their goals and targets, and a summary of developments in relation to the fisheries component to date is provided in Table 1.

Outcomes of the Sixth Meeting of the Regional Scientific and Technical Committee

During the Sixth Meeting of the Regional Scientific and Technical Committee, Mr. Pirochana Saikliang, Chairperson of the Regional Working Group on Fisheries, outlined the Regional and National-level activities identified for the achievement of the goals and targets for fisheries, but noted various difficulties with the wording of some of these, including the use of the terms "common resources" and in collaboration with other relevant institutions promote the "standardisation of fisheries related statistics" and "information exchange" which was unclear.

It was noted by the RSTC that the actions had in fact been identified in the fourth meeting of the RWG-F and the standardisation of fisheries related statistics had been the topic of a number of recent SEAFDEC meetings. It was agreed that the RWG-F should evaluate the wording of all activities in relation to the revised targets and target dates since it had been some time since these were initially discussed by the RWG-F.

Discussions during the Seventh Meeting of the Regional Working Group on Fisheries

An important task for the Seventh Meeting of the RWG-F was this evaluation of the identified actions in order to ensure that these were consonant with recent developments resulting from the work of the RWG-F. Following a detailed and exhaustive consideration of the original list of actions these were revised and amended and are presented below.

In addition the RWG-F agreed that members would proceed to develop a programme of national level actions that were site specific and costed for consideration during the Eighth Meeting of the working group in November 2006.

Targets⁷

- By 2012 to have established a regional system of *refugia* for the management of priority, transboundary, fish stocks and endangered species.
- By 2012 to have prepared and implemented fisheries management systems in the identified *refugia* based on, and consistent with, the ASEAN SEAFDEC Regional Guidelines for Responsible Fisheries in Southeast Asia.

⁷ Extracted from document UNEP/GEF/SCS/RWG-F.6/3.

Regional Level Activities⁸

- Review the compatibility of existing national policy frameworks against existing international/regional instruments (with emphasis on the ASEAN SEAFDEC Regional Guidelines for Responsible Fisheries in Southeast Asia). This should lead to identification of gaps and directions for improvement of the national policy frameworks to harmonize them with international/regional instruments.
- Designate fish *refugia* in addition to, or in conjunction with managed coastal habitat areas. These *refugia* should be developed by fisheries related agencies to promote their impacts on rehabilitating resources and in achieving the objectives of fisheries management. Build Information and Education Campaign (IEC) and alternative livelihood programs as necessary for affected fishing communities. Draw lessons from these activities/experiences to define protocols for establishment of a wider system of *refugia* for fisheries management purposes.
- Identify fish stocks or areas requiring bilateral, multilateral, and regional management collaboration.
- Identify regionally important areas requiring special protection and appropriate fishing technology to reduce impacts on endangered/threatened species (e.g. marine turtles, dugong) in the region.
- Identify, develop and establish joint fisheries management frameworks between and among neighbouring countries utilising shared stock through dialogues and consultations.
- Develop criteria for selection of marine habitats and areas (*refugia*) critical to the maintenance of regionally important fish stocks, particularly those of transboundary importance.
- Identify and prioritise specific areas for future management and protection and develop regional and national action plans to develop a regional system of *refugia* for maintenance of regionally important fish stock.
- In collaboration with other relevant institutions promote the standardisation of fisheries related statistics and information exchange.

National Level Activities (the activities should be consistent with related activities proposed at the regional level)⁹

- Evaluate the effectiveness of fisheries management systems.
- Evaluate the status and trends of fisheries resources in relation to catch efforts and availability of resources in defined areas.
- Reduce the use of fishing gear and practices that damage ecologically sensitive areas with the long term aim of removing and replacing them with more environmentally acceptable fishing gear and practices.
- Review compliance with international and regional fisheries agreements and guidelines.
- Promote the application of the Regional Guidelines for Responsible Fisheries in Southeast Asia through workshops, awareness building, translation into national languages and education of people.
- Develop educational and public awareness materials on sustainable fishery practices.
- Implement programmes to provide information on sustainable fishery practices among small and artisanal fishing communities, and commercial fisheries operators as appropriate.
- Train technical fisheries staff in the identification of fish eggs and larvae.
- Design and establish a programme for identifying important spawning and nursery areas.
- Establish *refugia* in areas identified as critical habitats for the life cycle of fisheries resources.
- Establish in selected *refugia* sound management systems, which can be tested to determine if they are leading to sustainable exploitation of resources and reduction of conflicts between groups of fishermen.

⁸ Extracted from document UNEP/GEF/SCS/RWG-F.4/3.

⁹ Extracted from document UNEP/GEF/SCS/RWG-F.4/3.

ANNEX 6

Work Plan and Timetable for the Regional Working Group on Fisheries 2006 to 2007

BACKGROUND

The work plan and timetable as approved during the Sixth Meeting of the RWG-F was considered and revised during the course of the Seventh Meeting of the Regional Working Group on Fisheries to take account of recent progress in the following areas:

- The establishment of a regional system of fisheries *refugia*,
- Development of guidelines for assessing and managing the effects of fishing in the context of the habitat demonstration sites,
- Promotion of fisheries component activities at regional and international levels.

Table 1 places the tasks of the group into clear and easily understood task areas. The task completion dates are aimed at ensuring that the necessary outputs from the national and regional levels are available for consideration at the eighth meeting.

Table 2 presents the schedule of meetings for 2006 including the proposed changes to the timing of the eighth meeting of the RWG-F.

