

# ICES MIRAC REPORT 2011

ICES ADVISORY COMMITTEE

ICES CM 2011/ACOM:03

## Report of the Annual Meeting between ICES and the Regional Advisory Councils (MIRAC)

25–26 January 2011

Copenhagen, Denmark



**ICES**

International Council for  
the Exploration of the Sea

**CIEM**

Conseil International pour  
l'Exploration de la Mer

## **International Council for the Exploration of the Sea Conseil International pour l'Exploration de la Mer**

H. C. Andersens Boulevard 44-46  
DK-1553 Copenhagen V  
Denmark  
Telephone (+45) 33 38 67 00  
Telefax (+45) 33 93 42 15  
[www.ices.dk](http://www.ices.dk)  
[info@ices.dk](mailto:info@ices.dk)

Recommended format for purposes of citation:

ICES. 2011. Report of the Annual Meeting between ICES and the Regional Advisory Councils (MIRAC), 25-26 January 2011, Copenhagen, Denmark. ICES CM 2011/ACOM:03. 17 pp.

For permission to reproduce material from this publication, please apply to the General Secretary.

The document is a report of an Expert Group under the auspices of the International Council for the Exploration of the Sea and does not necessarily represent the views of the Council.

© 2011 International Council for the Exploration of the Sea

## Contents

---

1	Opening and welcome .....	1
2	Adoption of agenda.....	1
3	Tour-de-table of participants.....	1
4	ICES Advisory Services 2010: Cooperation with RACs, ICES: Participation at RAC meetings during 2010.....	1
5	RAC: Review of Cooperation with ICES 2010. RAC: feedback from the RACs and suggestions for change/improvement.....	2
6	ICES: Benchmarking workshops: feedback from the workshops in 2010 and information on the planned workshops for 2011 and 2012. Involvement of fishers' data/knowledge as input to advice: discussion and proposals on progress .....	2
7	Plan for advice 2011.....	2
8	ICES new MSY based fisheries advice–how ICES appraises its advice giving in 2010? How did it go? How was the advice received? Short presentation and discussion .....	3
9	ICES format of advice .....	3
10	Future needs for advice/MOU .....	3
11	Upcoming Advice 2011; Special Requests.....	4
12	Data Deficiency Initiative .....	4
13	AOB.....	4
Annex 1:	Participants list.....	5
Annex 2:	Agenda .....	9
Annex 3:	List of documents and presentations .....	11
Annex 4:	GAP2 handout.....	12



## **1 Opening and welcome**

---

The Chair opened the meeting, welcomed the participants and mentioned that ICES had experienced staff changes with Poul Degnbol as new Head of the Advisory Services and himself as the new chair of ACOM.

The ICES General Secretary drew attention to the Marine Strategy Framework Directive where RACs could be usefully involved. RACs agreed, but lack the resource to do so. There is a risk that parts of the MSFD may be implemented without the benefit of neutral, quality assured, and peer reviewed scientific advice. RACs are accustomed to receive such advice and could request that a similar process could be implemented in the MSFD.

RACs realise the importance of environmental issues, but their membership has not given them a mandate to get involved and they have limited human and financial resources. RACs recognise that the ICES partnership would be helpful in the context of the MSFD and expressed that view in national meetings. It is expected that the evolution of the CFP and of the MSFD over time will imply that the role of RACs, ICES and environmental commissions will also evolve. There was agreement that quality controlled and peer reviewed work should be the standard as the basis for political decisions for the CFP as well as for the MSFD.

Environmental non-governmental organisations (ENGOS) are not fully involved in all the activities of all the RACs. The reason could be that the discussions are sometimes highly technical and civil society does not have the expertise to get involved in them. Discussing broader issues might help to mobilise ENGOS.

## **2 Adoption of agenda**

---

The draft agenda was adopted with the addition of the participation of young stakeholders at the ICES ASC.

## **3 Tour-de-table of participants**

---

Participants introduced themselves and their organisation.

## **4 ICES Advisory Services 2010: Cooperation with RACs, ICES: Participation at RAC meetings during 2010**

---

ICES participated in all meetings it was invited to by the five RACs that are users of ICES advice (Baltic, North Sea, North Western Waters, South Western Waters, Pelagic). There is general satisfaction on both sides with the interactions between RACs and ICES. The Pelagic RAC asked that the chair of the WG and the ACOM vice-chair both attend meetings where ICES advice is presented in order to be able to discuss the finer details of the assessments. All participants in workshops, such as benchmark assessments, are full members. RAC members need to consider themselves as such and fully participate. Traditional ICES participants will need to adapt to these new full participants and realise that fishermen and their representative have expertise. It was not clear if it was preferable to have scientists participate in RAC working groups as ICES scientists or as national scientists; there are pros and cons of both.

RACs reiterated their desire to have the possibility to ask directly for ICES advice rather than have to go through the EC.

RACs are moving towards the development of long-term management plans, including evaluations of social and economic dimensions; this implies genuine stakeholder involvement. It is an important new role for scientists to help stakeholders develop options for management plans. Scientists in ports discussing with fishers have been a promising experience. Using scientists creatively is the point. Funding is a problem. An issue here is whether it is more fruitful to have ICES involved or rather national scientists.

## **5 RAC: Review of Cooperation with ICES 2010. RAC: feedback from the RACs and suggestions for change/improvement**

---

The substantive discussion under this agenda item took place under agenda item 4.

## **6 ICES: Benchmarking workshops: feedback from the workshops in 2010 and information on the planned workshops for 2011 and 2012. Involvement of fishers' data/knowledge as input to advice: discussion and proposals on progress**

---

The benchmark assessment workshops planned for 2011 and 2012 were presented. Participants noted that it is important to identify early on how RACs can contribute to the process. The data deficiency initiative, meeting for the first time later in the week, may help in this regard. Benchmark meetings could have a session for stakeholder input early in the process and produce a template. Some future benchmarks could involve the preparation of integrated assessment, either multispecies or ecosystem based assessment. Models that require more data are not necessarily the solution, simpler, more robust assessment models may be more useful.

RACs asked to be informed about the outcome of the benchmark assessment and about events between the benchmark meetings to the EGs and ADG meetings. A combined time table by stock with ICES, STECF and EC and national states including key activities and dates would be very useful. RACs were disappointed when benchmarks reject an assessment without proposing a new and improved one. There remain problems in using non-quantified information and ways of incorporating this information need to be sought. Participants noted that improved assessment and advice does not necessarily mean more complicated models.

## **7 Plan for advice 2011**

---

RACs were asked to not schedule meetings where they expect ICES presentations of advice before the release of advice, because it is not good practice to present draft advice which could change at the stage of the final approval. RACs have access to the advisory workplan 2011 spreadsheet at <http://groupnet.ices.dk/Advice2011/Documents/Forms/AllItems.aspx>. The planned release date is in column "t" of the sheet calendar. This is a live document that changes almost every day. It shows the dates of the various meetings and the release date for the advice.

SWWRAC suggested that the ICES presentation of advice could focus on few stocks where new or alternative management measures are likely or realistic to be consid-

ered. This implies that some stocks would be presented very succinctly. RACs asked for the possibility to participate in ADGs via Webex. ICES is setting the meeting rooms up with the technologies that would allow for that, with audio contact (including the webex document screen) from all rooms and webcam contact possibility in two.

Søren Anker Petersen, ICES, presented the ICES training course on Ecosystem modelling for fishery management and Fisheries management to meet biodiversity conservation needs.

Two RACs participants joined the “Opening Up the Box”-course in 2010 and they were very positive about the course. The RACs suggested that a simple course in fish stock assessment for RACs members could be organised in half a day or a full day. Alternatively, such information could be presented at the same time as the advice.

## **8 ICES new MSY based fisheries advice—how ICES appraises its advice giving in 2010? How did it go? How was the advice received? Short presentation and discussion**

---

The MSY framework and the transition process are well understood by all participants. They understand that the MSY and PA frameworks are complementary and mutually compatible. Participants understood that, generally speaking, if fishing mortality is low enough during a sufficiently long period,  $B_{\text{trigger}}$  will not be an issue unless environmental conditions are unfavourable. Future improvements will include biological and technical interactions and the development of long term management plans for fisheries, not by stock.

## **9 ICES format of advice**

---

The summary sheet should use neutral words. It will be confusing for the readers of the advice to see the word “overfishing” used to describe  $F$  above  $F_{\text{msy}}$  on one line and the words “harvested sustainably” in a different line to describe  $F$  at or below  $F_{\text{pa}}$  in the same sheet.

RACs suggested that ICES could send a signal that management plans may not work as expected if an assessment suffers from a severe retrospective pattern that is not taken into account when providing advice. The North Sea RAC is preparing a discussion/position paper on MSY in a mixed fishery context.

Progress has to be made on systematically including statements on the quality of the assessment in the summary sheet, based on the quality of the data, the stability of models, and the reliability of projections. Not all the advice is of the same robust validity, e.g. the atlanto-scandian herring assessment is robust while the blue whiting assessment is less robust. At decision time, it is important to know quality and reliability of advice.

## **10 Future needs for advice/MOU**

---

In the MOU with the EC there is a request that ICES produce a non-technical version of the advice. ICES is looking for a scientific journalist who could do this. Simplified versions of the ICES advice have been produced by several countries for a long time.

In the ICES Advice there is a section about input from stakeholders. The ownership for this information might be an issue. RACs have experienced that some text for the section made by the observer at ADGs have afterwards been changed by ICES in the final advice. ADGs could use agreed text on industry views in quotation marks and leave it unchanged.

RACs requested a pilot project for their attendance at EG meetings as observers.

## **11 Upcoming Advice 2011; Special Requests**

---

RACs that have been involved in management plan evaluations have found it useful and informative and they have found the dialogue with ICES and with STECF fruitful. Scoping meetings will be organised early in the process and that is the best place for stakeholder involvement. The ICES and STECF Secretariat will send invitations to all involved RACs regarding the upcoming joint evaluations.

## **12 Data Deficiency Initiative**

---

Barry Deas introduced briefly the joint NS and NWW RAC initiative and the ICES WKDDRAC later in the week. The idea is avoid duplication with the Data Collection Framework, and find ways to include industry knowledge that is not covered by the DCF. This will involve identifying the datasets that are needed to improve the assessments. This could be seen as the initial step in the benchmarking process.

## **13 AOB**

---

With respect to the Marine Strategy Framework Directive, the RACs and ICES have a similar problem of finding how to be involved and contribute, because the implementation legislation is done by each member State. In the CFP, binding legislation is the competence of the EC. The regional conventions such as OSPAR and HELCOM are mentioned in the MSFD as fora for international cooperation. The NWWRAC had experienced being explicitly excluded from the process with the argument that fisheries were already represented.

ICES will in the future fund Stakeholder participation at the Annual Science Conferences, not exclusively young fishermen.



## Annex 1: Participants list

Name	Address	Phone/Fax	Email
Michael Andersen BSRAC	Danish Fishermen's Association Fredericia Nordensvej 3 Taulov 7000 Fredericia Denmark	Phone +45 70 10 9645 Fax Cell: +45 4026 5040	ma@dkfisk.dk
Manuela Azevedo ACOM Vice-chair	INRB - IPIMAR Avenida de Brasilia 1449-006 Lisbon Portugal	Phone +351 213 02 7148 Fax +351 213 025948	manuela@ices.dk
Martin Brebner NSRAC 25th only	NSRAC Secretariat Woodhill House Westburn Road AB16 5GB Aberdeen Scotland UK	Phone +44 Fax +44	Martin.Brebner@aberdeenshire.gov.uk
Rory Campbell NWWRAC	Scottish Fishermen's Federation 24 Rubislaw Terrace AB10 1XE Aberdeen UK	Phone +44 1224 646944 Fax +44 1224 647058	r.campbell@sff.co.uk
Sally Clink BSRAC	Baltic Sea Regional Advisory Council H.C. Andersens Boulevard 37, 3rd Floor 1553 Copenhagen K Denmark	Phone +45 21677248 Fax +45	sc@bsrac.org
Barrie C. Deas NSRAC	National Federation of Fishermen's Organisations 30 Monkgate YO31 7PF York UK	Phone +44 Fax +44	barrie@nffo.org.uk

<b>Name</b>	<b>Address</b>	<b>Phone/Fax</b>	<b>Email</b>
Poul Degnbol ICES Secretariat	International Council for the Exploration of the Sea H. C. Andersen's Boulevard 44-46 DK-1553 Copenhagen V Denmark	Phone +45 33386763 Fax +45 3393 4215	poul.degnbol@ices.dk
Benoît Guerin SWWRAC	CCR-S 6, rue Alphonse Rio 56100 Lorient France	Phone +33 2 97 88 09 40 Fax +33 2 97 83 33 66	bguerin@ccr-s.eu
Gerd Hubold ICES GS	International Council for the Exploration of the Sea H. C. Andersen's Boulevard 44-46 1553 Copenhagen V Denmark		gerd@ices.dk
Helle Gjeding Jørgensen ICES Secretariat	International Council for the Exploration of the Sea H. C. Andersen's Boulevard 44-46 DK-1553 Copenhagen V Denmark	Phone +45 33386753 Fax +45	hgj@ices.dk
Steve Mackinson GAP project coordinator 26th only	Centre for Environment, Fisheries and Aquaculture Science (Cefas) Lowestoft Laboratory Pakefield Road NR33 0HT Lowestoft Suffolk UK	Phone: +44 1502 524295 <a href="http://www.gap1.eu">www.gap1.eu</a>	steve.mackinson@cefas.co.uk
Jean-Jacques Maguire ACOM Chair	1450 Godefroy Sillery Quebec GIT 2E4 Canada	Phone +1 418 688 5501 Fax +1 418 688 7924	JJ.Maguire@ices.dk
Conor Nolan NWWRAC	NWWRAC Secretariat Ireland	Phone +353 Fax +353	Cnolan@bim.ie

<b>Name</b>	<b>Address</b>	<b>Phone/Fax</b>	<b>Email</b>
Sean O'Donoghue PRAC	Killybegs Fishermen's Organisation Ltd. Bruach na Mara St Catherine s Road Killybegs Co. Donegal Ireland		kfo@eircom.net
Christian Olesen PRAC	Danish Pelagic Producers Organisation PO Box 104 9850 Hirtshals Denmark	Phone +45 9894 4239 / +45 40203239	po@pelagisk.dk
Michala Ovens ICES Secretariat	International Council for the Exploration of the Sea H. C. Andersen's Boulevard 44-46 DK-1553 Copenhagen V Denmark	Phone +45 33386738 Fax +45	michala@ices.dk
Søren Anker Petersen ICES Secretariat	International Council for the Exploration of the Sea H. C. Andersen's Boulevard 44-46 DK-1553 Copenhagen V Denmark		sorenap@ices.dk
Jean-Marie Robert SWWRAC	CNPMEM Comité National des Pêches Maritimes et des Elevages Marins Centre Marée BP 71038 44356 La Turballe France	Phone +33 2 40 11 83 55/+33 6 75 02 91 89 Fax +33 2 28 55 95 30	jmrobert@comite-peches.fr
Alexandre Rodriguez NWWRAC	NWWRAC Secretariat PO Box 12 Dun Laoghaire Co. Dublin Ireland	Phone +353 1 214 4126 Fax +353 1 230 0564	rodriguez@bim.ie

<b>Name</b>	<b>Address</b>	<b>Phone/Fax</b>	<b>Email</b>
Barbara Schoute ICES Secretariat	International Council for the Exploration of the Sea H. C. Andersen's Boulevard 44-46 DK-1553 Copenhagen V Denmark	Phone +45 33 38 67 56 Fax +45	barbara@ices.dk
Henrik Sparholt ICES Secretariat	International Council for the Exploration of the Sea H. C. Andersen's Boulevard 44-46 DK-1553 Copenhagen V Denmark		henriks@ices.dk
Isabelle Viallon EU	DG Fisheries, Unit E 5 B-1049 European Commission Belgium	Phone +32 2 295 62 12 Fax +32 2 299 30 40	isabelle.viallon@ec.europa.eu
Niels Wichmann NSRAC	Danish Fishermen's Association Nordensvej 3 Taulov DK-7000 Fredericia Denmark	Phone +45 Fax +45	nw@dkfisk.dk

## Annex 2: Agenda

---

### Revised Agenda

#### MIRAC (Annual Meeting between ICES and the RACs)

25 January, starts 14:00–26 January, ends 13:00 2011

“Festsalen” in the National Museum, Copenhagen, Denmark

Chair: Jean-Jacques Maguire (ACOM Chair)

#### Tuesday afternoon

14:00–14:45

- 1) Opening and welcome
- 2) Adoption of agenda
- 3) Tour-de-table of participants

14:45–15:30

- 4) **ICES Advisory Services 2010:** Cooperation with RACs, ICES: Participation at RAC meetings during 2010
- 5) **RAC: Review of Cooperation with ICES 2010.** RAC: feedback from the RACs and suggestions for change/improvement
- 6) **ICES: Benchmarking workshops:** feedback from the workshops in 2010 and information on the planned workshops for 2011 and 2012. Involvement of fishers’ data/knowledge as input to advice: discussion and proposals on progress

15:30–16:00 Coffee

16:00–17:30

#### 7) Plan for advice 2011

- 7.1) ICES: Advisory Plan 2011. Access for RACs to ICES dynamic meeting schedule: are the RACs using this facility and are they finding it useful?
- 7.2) RAC: Timing and future needs for expert advice

17:30–18:00

- 8) **ICES new MSY based fisheries advice** – how ICES appraises its advice giving in 2010? How did it go? How was the advice received? Short presentation and Discussion

Drinks at ICES; **be aware of need to stick to ICES staff member to enter building**

#### Wednesday morning

9:00–10:00

#### 9) ICES format of advice

- 9.1) Advice format
- 9.2) Quality indicators

10:00–11:00

**10 ) Future needs for advice/MOU:**

- Popular version of non-technical Advice.
- ICES: advice in more languages.
- How to involve stakeholders to a greater extent in the process.

11:00–11:30 Coffee

11:30–12:30

**11 ) Upcoming Advice 2011**

- Special Requests
- Management Plan

12:30–12:45

**12 ) Data Deficiency Initiative****13 ) AOB**

13.1 ) MSFD

13.2 ) Young Fishermen participation at the ASC → Stakeholder participation at the ASSC 2011

13.3 ) Evaluation of MIRAC

12:45–13:00: Chair's summary and Closure

### Annex 3: List of documents and presentations

<b>No.</b>	<b>TITLE</b>	<b>AGENDA PT.</b>	<b>RESPONSIBLE</b>
1	Document list		HGJ
2	Agenda	2	HS/HGJ
3	Participant list	3	HGJ
4	ICES participation in RAC meetings and vv in 2010	4	J-JM/(hgj)
6	Benchmark Workshops 2010, 2011 and 2012	6	BS
	Plan for Advice 2011	7	
7a	ICES Work Plan 2011	7a	MO/hgj
7b	RAC Timetable 2011	7b	HGJ
8	MSY based fisheries Advice	8	PD
	ICES format of Advice update	9	
9a	Advice format	9a	BS
9b	Quality indicators	9b	J-JM
	Future needs for Advice/MOU	10	
10	MOU 2011	10	PD
11	Special Requests	11	PD
12	Data Deficiency meeting	12	BD
13a	Changing Policy Landscape	13a	PD
13b	Evaluation Report of the Young Fishermen at the ASC 2010	13b	J-JM/hgj
13c	MIRAC Report 2010		hgj

All documents and presentations are available on the MIRAC 2011 SharePoint site <https://groupnet.ices.dk/mirac2011/default.aspx> to which all participants have access.

## Annex 4: GAP2 handout

---



### GAP<sub>2</sub>, EU FP7 PROJECT – RAC BRIEFING NOTE

**Title: Bridging the gap between science, stakeholders and policy makers.**  
 Phase 2 - Integration of evidence-based knowledge and its application to science and management of fisheries and the marine environment (GAP<sub>2</sub>)

**Project duration:** 4 years, 1<sup>st</sup> April 2011 - 31<sup>st</sup> March 2015  
**Project budget:** €6 million Euros

Framework 7 programme, Capacities part 5, Science in Society  
 Grant agreement no.: 266544

**Co-ordinator:**

Dr. Steven Mackinson

Centre for Environment, Fisheries and Aquaculture Science (CEFAS), Pakefield Road, Lowestoft, Suffolk, NR33 0HT, United Kingdom, Email: [steve.mackinson@cefasc.co.uk](mailto:steve.mackinson@cefasc.co.uk)  
 Phone: +44 (0) 1502 524295, Fax: +44 (0) 1502 524511

**Project manager:** Ms. Suzanna Neville, Cefas, [Suzanna.neville@cefasc.co.uk](mailto:Suzanna.neville@cefasc.co.uk), Phone: +44 (0) 1502 527729

**Consortium:** 37 partners, from 11 different European countries, who work in regional and national government research agencies and fisheries organisations, universities, civil society organisations and media organisations.

### Summary

GAP<sub>2</sub> is about making a difference to an issue of significance to the whole of society; the wellbeing of the marine environment and the sustainability of fisheries upon which society depends for food. It builds on the relationships, processes and plans arising from GAP<sub>1</sub> by enabling actions that promote stakeholder participation in the debate on and development of research knowledge and structures relevant to emerging policy on fisheries and the marine environment.

From its inception, GAP<sub>2</sub> has demonstrated good practice in stakeholder engagement processes, with stakeholders being fully involved in developing research ideas, planning work and defining the roles that they will play. A broad range of stakeholders will participate, including actors from civil society organisations, research institutions, universities, national and regional ministries and media organisations. Their work will involve: participatory research actions that integrate the knowledge of stakeholders and scientists and render it useful for management and policy development, critical evaluation of the participatory processes and incorporation of the lessons learned into systems of research and decision making. Global networks will be developed to enable trans- and international cooperation on comparing and establishing good practice. Both the research activities and stakeholder engagement processes have direct relevance to reforms of the Common Fisheries Policy and implementation of the Marine Strategy Framework Directive.

The value of the GAP<sub>2</sub> lies in its ability to demonstrate in a tangible way, how by working together to address issues of shared concern, scientists, stakeholders and policy makers can improve governance on issues of importance to society. The outcomes from GAP<sub>2</sub> will provide a concrete realisation of specific Science in Society objectives for engaging the public in research, enabling effective two-way communication between scientists and other stakeholders, and helping to make policy based on scientific evidence and research knowledge. It will contribute to the aim of the Science in Society programme to enhance democratic debate with a more engaged and informed public, by providing better conditions for collective choices on scientific issues relating to sustainable management, conservation of ecosystem integrity and biodiversity of the marine environment.



<b>RAC</b>	<b>GAP2 CASE STUDY</b>
NSRAC	<p>No.3. Climate change effect on the inshore and Wadden Sea brown shrimp fishery (AWI with Cooperative of Neuharlingersiel and Association of small deep-sea - and inshore fishery within the national fishery association Weser-Ems e.V, Lower Saxony, Germany)</p> <p>No. 4. Management plans for herring in ICES IIIa and adjacent areas; perceptions of stocks and fisheries. (DTU-Aqua in association Jakfish)</p> <p>No. 12. Collaborative discard sampling in the Dutch flatfish fisheries (Josien Steenbergen, Imares with Dutch Fish product board (PVis))</p> <p>No. 13. Long term management plans and the ecosystem approach in the North Sea (Steven Mackinson, Cefas with NSRAC)</p>
Baltic RAC	<p>No. 4. Management plans for herring in ICES IIIa and adjacent areas; perceptions of stocks and fisheries. (DTU-Aqua in association Jakfish)</p> <p>No. 11. Mapping Baltic Fisheries in support of Marine Spatial Planning (Robert Aps, Utartu with Estonian Fishermen Association)</p>
Pelagic RAC	<p>No. 4. Management plans for herring in ICES IIIa and adjacent areas; perceptions of stocks and fisheries. (DTU-Aqua in association Jakfish)</p>
High Seas RAC	<p>No.7. Conservation and management issues of tuna fisheries around FADs. (Laurent Dagon IRD, Gala Moreno Azti with Orthongel and Anabac)</p>
Med RAC	<p>No. 8. Spatio-temporal distribution of fishing effort and biological resources in the Northern Adriatic Sea: towards the identification of fish habitats and management proposals in the framework of a participatory approach (Sasa Raicevich, ISPRA and Simone Serra, Unimar and others)</p> <p>No. 9. Management of the trawl industry in the Maltese 25nm Fisheries Management Zone (FMZ). Leyla Knittweis (MCFS) with Maltese fishers cooperatives</p> <p>No. 10. Ecological impact and alternative management strategies for the NW Mediterranean red shrimp (<i>Aristeus antennatus</i>) fishery (Joan Baptista with Regional Federation of Fishermen Organisations of Girona)</p>
SWWRAC	<p>No.2. Mapping habitats and fishing grounds in coastal ecosystems of Galicia (Juan Freire UDC with Federación Galega de Confrarías de Pescadores)</p>
NWWRAC	<p>No.1. Sustainability of brown crab stocks - with studies on behaviour and migrations (Paul Hart University of Leicester with Cornish Fishermen's Association, South Devon and Channel Shellfishermen Association LTD)</p>