

Report of the Living Resources Committee (LRC)

Chair: Dave Reid (UK)

Rapporteur: Pierre Petitgas (France)

The Living Resources Committee had two sessions to discuss business: on Wednesday, 20 September from 14:00 to 15:30 and Friday, 22 September from 10:00 to 12:30.

Opening

The Chair opened the meeting, welcomed the participants, and Pierre Petitgas (France) was appointed Rapporteur. The agenda was presented and adopted. The Chair mentioned that in the afternoon of 20 September a joint meeting on surveys would be held together with the Resource Management Committee.

Reports of working groups

All Expert Group Chairs were asked to provide reports on their work giving highlights and problem areas, rather than simple repetition of the full activities.

Working Group on Crangon Fisheries and Life History (WGCRAN)

Julian Addison (UK) presented Doc. LRC:10.

The ToRs for WGCRAN were mostly fulfilled. It was noted that while there were good data on landings and catch, the group should collate more biological information on aspects such as growth, maturity, distribution, etc. Predation mortality was considered as very important, and a recent study on this had been completed in Belgium, but has not yet been reported to the WG. This fishery has a high bycatch/discard rate of young demersal fish, and significant progress has been made on gear-based technical measures. It was proposed that a study be made on the impact of these measures on the bycatch rates and on the impacted stocks. WGCRAN requested work from the following WGs:

- WGFTFB – to evaluate impacts of electric fishing and to evaluate impacts of new legislation to reduce bycatch;
- WGEKO – to review impacts of shrimp trawling on benthic habitats;
- WGBEAM – to assess relative efficiency of survey gears.

Study Group on the Biology and Life History of Crabs (SGCRAB)

Julian Addison (UK), Chair of SGCRAB, presented Doc. LRC:13.

The SG met by correspondence in 2005, and this led to some problems of contributions. Most data compiled were on the *Cancer pagurus* fisheries. The problems of defining effort were highlighted in these fisheries. Crab pots are known to have areas of attraction, and if these overlap, simple pot number becomes a poor effort indicator. The WG also highlighted the weak links between the monitoring of disease in these stocks and the assessment implications.

The SGCRAb once again recommended that after 9 years as a Study Group they should be designated a Working Group.

Working Group on Cephalopod Fisheries and Life History (WGCEPH)

Uwe Piatkowski (Germany) presented Doc. LRC:14.

WGCEPH met by correspondence in 2006. The WG noted continuing high cephalopod catches in the ICES area, and also a growing aquaculture sector. The group has largely completed their work on a new *Cooperative Research Report*, and this will be submitted shortly. Some examples were presented to the acclaim of the Committee.

It was again noted that the work of WGCEPH is carried out predominantly by scientists from a university background. As such, this should be encouraged by ICES; however, there remain problems obtaining funding to attend meetings. Recent work has been strongly linked with the EU-funded project CEPHSTOCK, which has helped ameliorate this problem, and a follow-on project, CEPHSTOCK II is in preparation.

Working Group on Fish Ecology (WGFE)

Dan Duplisea (Canada), Chair of WGFE, presented Doc. LRC:06.

The main activities included:

- Developing protocols to aid workers in reporting how they made their analysis and the key issues which might affect their interpretation;
- What properties of a community a large fish indicator is likely to reflect and how to calculate it;
- Spatial distributions of various rare elasmobranch species were determined and are presented in nice maps and graphs of survey abundance. Methods for determining extinction vulnerability were examined;
- Abundance range size relationships were explored in considerable detail for several species using both maps and geostatistical indicators;
- Essential fish habitat was again addressed though we still could not bring a real specialist in this area. Mapping work was done and some ideas about what might be considered EFH were considered;
- Relative catchability by length was estimated for the French Thalassa survey. Total North Sea biomass was also calculated using spatial catchability indices derived from the survey to VPA comparisons;
- Some upcoming nature conservation issues were outlined, including the Water Framework Directive (WFD) and estuarine fishes and the ability of WGFE to deal with the WFD;
- A roadmap for WGFE was developed. It is very broad and defines the kind of work WGFE is able to do. It is deliberately broad so as not to confine the group too much and

also limit its abilities to deal with new issues that could be considered in the group but were not anticipated.

The WG also recommended that:

- An IBTS meeting should be held to rectify data problems; Niels Daan would make an excellent Chair;
- Expand IBTS to include all trawl surveys in the ICES area;
- Work with the multispecies study groups to explore various models for assessing indicators as a simulation environment (get some SGMSNS people to attend WGFE and vice versa).

Study Group on Regional Scale Ecology of Small Pelagics (SGRESP)

Pierre Petitgas (France), Chair of SGRESP, presented Doc. LRC:05.

The SG completed its work in 2006. It highlighted the continuing need to carry out research in this subject area, particularly concerning the role of adult behaviour in closing the life cycle and the links to meso-scale oceanographic processes. The former led to the development of the “Entrainment hypothesis” presented at the 2006 ASC (B:07). The latter was the subject of a joint workshop (WKIMS) with OCC. The group updated the species ID cards, detailing the life histories and ecosystem links for a range of small pelagics. The group is seen as providing the pelagic fish perspective currently not covered by WGFE.

The SG proposed that a successor group entitled “Working Group on the Life Cycle and Ecology of Small Pelagic Fish [WGLESP]” should be set up to carry out this work. It was agreed that the new group would meet mostly by correspondence with the aim of proposing regular workshops on relevant subjects. The first of these would be the Workshop on Testing the Entrainment Hypothesis [WKTEST]. WGLESP was also requested to address a particular ToR from WGECON in response to an OSPAR request, and it was agreed that it would meet in 2007 back-to-back with WGFE to address these and other common issues.

Working Group on Seabird Ecology (WGSE)

Stefan Garthe (Germany), Chair of WGSE, presented Doc. LRC:08.

The Chair reported that the relaxed EG participation rules had led to a wider and useful enhancement for the group. It highlighted the continued poor breeding performance of many species in the NW North Sea, although the situation was better in the southern North Sea. The lack of data on seabird diet was highlighted, and those monitoring these populations were encouraged to collect more such data. The group has added a ToR on diseases in seabirds and the transmission of these, particularly in the context of avian flu. The group was tasked to address a ToR deriving from OSPAR on changes in stocks that could be linked to ecosystem change.

Study Group on Stock Identity and Management Units of Whiting (SGSIMUW)

No report was presented for this group.

There is currently no incoming Chair for this group and its continued existence is in doubt.

Stock Identification Methods Working Group (SIMWG)

No report was presented for this group.

As agreed in 2005, the group continued to meet by correspondence, and to be prepared to deal with emerging issues. New requests have been forwarded to examine stock ID issues in red-fish, some shark species, and in some deepwater species. An action plan for these has been agreed and funding may be available from within ICES to support the attendance of members of SIMWG at the appropriate WG meeting.

Study Group on Recruitment Variability in North Sea Planktivorous Fish (SGRECVAP)

Mark Dickey-Collas (Netherlands), Chair of SGRECVAP, presented Doc. LRC:03.

The approach taken by this group was to:

- document the existing knowledge to date;
- determine whether there were significant common trends in the recruitment patterns of the three species;
- investigate potential hypotheses for trends in recruitment;
- consider the available time-series data which could aid testing of the hypotheses.

They were able to carry out this work in general but were limited in drawing conclusions due to the poor support from bio-physical modellers. The most likely hypothesis for the observed recruitment problems was trophic interactions, and this will be investigated in detail at the next meeting PROVIDED the appropriate scientists attend.

Working Group on Elasmobranch Fisheries (WGEF)

Maurice Clark (Ireland) presented Doc. ACFM:30.

Although WGEF is now under ACFM the WG also reported to LRC. The WG has been able to provide management advice and some analytical assessments in recent years. However, ACFM and the WG have agreed that the future emphasis should be on improving knowledge of the biology of the species covered. The group is working on the completion of a CRR on the component stocks and a timeline is being set up for this.

ConC and LRC business

Restructuring discussions

Advisory side

The Committee discussed the new draft plan, with the major comments being:

- LRC agreed that the proposed new layout made sense. However, questions were raised about who drafts the advice? It was felt that the EG should do it and not the review groups.
- There should be national representation in the groups that formulate the advice. How will there be national representation in the review groups?
- Where will the integration occur? In the review group or the advisory group? When should integration occur: after EG or within EG? If within, special requests and participation should be adequate.
- What will the timing be for the advisory group? One meeting per year does not seem realistic.

Science side

On the science side LRC raised the following issues:

- List of new committees: no particular improvement is apparent. Just system shaking.
- Integration requires interaction and communication. Perhaps a similar structure, but with more communication.
- Communication would be increased by having a meeting of committee and EG Chairs. However, an extra spring meeting may not be realistic; preference for retaining the meeting during or just before or after the ASC.
- The ASC is great and works well: does this indicate that the science side of ICES works correctly? ASC should remain with its theme sessions as it is: no change, please.
- ToRs coming from the advisory side and given to science EGs: communication on these is important to avoid swamping science EGs with advisory work. The bottom-up process should not to be stopped.
- What integration is expected at the committee level? Science committees are at the same level as the review groups on the advisory side. Science committees should be seen as clusters of coherent disciplinary activities. Higher integration would be obtained by communication between committees.

Theme sessions 2005

The committee noted that four theme sessions sponsored by LRC were held at the Aberdeen ASC. These were:

- Multidisciplinary approaches to the identification of stock structure of small pelagics: implications for assessment and sustainable management.
- Elasmobranch fisheries science.
- Advances in reproductive biology: methodology and applications for fisheries science.

- Marine mammals: monitoring techniques, abundance estimation, and interactions with fisheries.

All were well supported with papers and posters and well attended. This speaks well for the commitment and productivity of the LRC community and particularly the conveners.

Theme sessions 2006

Theme sessions proposed by LRC and currently agreed for 2006 are as follows:

- Large-scale changes in the migration of small pelagic fish and the factors modulating such changes. Conveners: Jürgen Alheit (Germany) and Dave Reid (UK).
- Census of Marine Life: Community and species biodiversity in marine benthic habitats from the coastal zone to the deep sea. Conveners: Michael Sinclair (Canada) and Myriam Sibuet (France).
- Evolutionary effects of exploitation on living marine resources. – With RMC. Conveners: Mikko Heino (Norway), Ulf Dieckmann (Austria), and Jeffrey A. Hutchings (Canada).
- Spatio-temporal characteristics of fish populations in relation to environmental forcing functions as a component of ecosystem-based assessment: effects on catchability. – With FTC. Conveners: François Gerlotto (France) and Doug Beare (Italy).
- Use of data storage tags to reveal aspects of behaviour important for fisheries management. – With FTF and RMC. Conveners: David Somerton (USA) and Julian Metcalfe (UK).
- Discarding: quantities, causes, and consequences. Conveners: Marie-Joëlle Rochet (France) and Lisa Borges (the Netherlands).

Theme sessions 2007

Theme sessions proposed by LRC for 2007 are as follows:

- Flying outside the ICES Assessment WG paradigm – Alternative approaches to providing fisheries management advice. Conveners: Julian Addison (UK), João Pereira (Portugal), and Verena Trenkel (France).
- Evolution in the ocean: a missing perspective in fisheries science? – With OCC and LRC. Conveners: Christian Jørgensen (Norway), Erin Dunlop (Austria), and Esben Moland Olsen (Norway).
- Monkfish across the world – common problems and common solutions. Conveners: Jean-Jacques Maguire (Canada), Pilar Pereda (Spain); Rafael Duarte (Portugal), and Helen Dobby (Scotland).
- Marine biodiversity: A fish and fisheries perspective. Conveners: Jim Ellis (UK), Remment ter Hofstede and Henn Ojaveer (the Netherlands).
- The role of sea ice in polar ecosystems. Conveners: Garry Stenson (Canada), Ken Drinkwater (Norway), and Kai Wieland (Greenland).
- Science underpinning stock abundance survey practice. – With FTC. Conveners: Dave Reid (Scotland) and Ken Weinberg (USA).

It was agreed that two theme session proposals are carried forward to 2008:

- Marine biodiversity and ecosystem functioning. Conveners: Carlo Heip and Hermann Hummel (the Netherlands).

- The impact of anthropogenic noise on marine organisms. – With FTC. Conveners: Kjell Olsen (Norway), Edward Trippel (Canada), Tony Hawkins (UK), Peter Tyack (USA), and Peter Liss (UK).

Theme sessions 2008

Theme sessions proposed by LRC for 2008 are as follows:

- The life history, dynamics, and exploitation of living marine resources: Advances in knowledge and methodology. Conveners: Olav Sigurd Kjesbu (Norway), Pauline Kamermans (the Netherlands), and Ian L. Boyd (Scotland).
- Mid-ocean ridges and seamounts: oceanography, ecology, and exploitation. Conveners: Uwe Piatkowski (Germany), Odd Aksel Bergstad (Norway), Filipe Porteiro (Portugal), Monty Priede (UK), Andrey Gebruk (Russia), and Astthor Gislason (Iceland).
- Marine spatial planning in support of integrated management – tools, methods, and approaches. Conveners: Paul Eastwood (UK) and Robert O’Boyle (Canada).
- Fishing capacity, effort, and fishing mortality: The understanding of fishery dynamics and their links to management. Conveners: Dave Reid (UK), Jos Smit (the Netherlands), Rögnvaldur Hannesson (Norway), and Paul Marchal (France).
- Comparative dynamics of exploited populations in the Baltic Sea and Gulf of St Lawrence ecosystems. – With BCC. Conveners: Brian McKenzie (Denmark) and Dan Duplisea (Canada).

Proposals for symposia

None noted.

Draft resolutions

Draft resolutions were adopted for all working/study and planning groups residing under the Living Resources Committee. Special attention was given to ToRs deriving from ACE and WGECO for WGFE, WGSE, and WGLESP with reference to advice requests from OSPAR.

Any other business

Proposals for new groups

Three proposals for new groups were presented to LRC. Full details and justifications are attached. The proposed new groups are:

1. **Working Group on Life Cycle and Ecology of Small Pelagic Fish [WGLESP].** This group is intended to follow up on the work of SGRESP on the ecology of pelagic fish, with an emphasis on meso-scale oceanographic interactions and on the role of adult behaviour. The group will liaise with WGFE and provide information for pelagic fish currently not covered by WGFE. The other role of the group will be to prepare and define a series of workshops on key subjects. The first of these, WKTEST (see below) is planned for 2007. A full proposal has been put forward.

Terms of reference:

- a) complete the specific work emanating from past activities (e.g. SGRESP, workshop);

- b) present and discuss new results on life cycle spatial patterns, environmental forcing on fish habitats and their modelling;
 - c) maintain overview of developments in the field and report to relevant ICES WGs (especially WGRED);
 - d) provide synthetic contributions from the ICES area to the SPACC programme of GLOBEC, in particular review the outcome of the ICES ASC 2006 Theme Session on Large-scale changes in the migration of small pelagic fish and the factors modulating such changes;
 - e) plan new workshops;
 - f) assess and report on changes in the distribution, population abundance, and condition of pelagic fish in the OSPAR maritime area in relation to changes in hydrodynamics and sea temperature, taking account of work conducted in the fish stock assessment working groups. Coordinate with the WGFE Chair as WGFE is also providing a response to this request (further details on the interpretation and handling of this ToR will be provided by ACE);
 - g) assess and report on the extent to which the changes reported in (f) can be reliably attributed to changes in hydrodynamics and sea temperature (further details on the interpretation and handling of this ToR will be provided by ACE).
- 2. A Workshop on the use of UWTV surveys for determining abundance in *Nephrops* stocks throughout European waters [WKNEPHTV] (Chair: Colm Lordan) to take place in Heraklion, Crete, in April 2007 to:**
- a) Review and report technological developments used in underwater TV surveys for *Nephrops*;
 - b) Compare survey designs employed in different areas and evaluate, where possible, the relative performance of these.
 - c) Report on work addressing outstanding issues influencing the accuracy and precision of TV estimates of abundance, *inter alia*, burrow identification, occupancy rate, counting method, survey data analysis, raising procedures;
 - d) Document the protocols used to conduct surveys across the range of European stocks, highlighting standard practices and 'norms' adopted in UWTV work.
 - e) Investigate and make recommendations on procedures for intercalibration, quality assurance, and the reporting of precision from TV surveys;
 - f) Report on developments in the translation of survey estimates into stock assessment information and catch forecast advice, recommending where additional work is most urgently required;
 - g) Consider the wider utility of the techniques employed in *Nephrops* UWTV surveys for estimation of other benthic species and habitat assessment.

3. Workshop on Testing the Entrainment Hypothesis [WKTEST]

Terms of reference:

- a) document diagnostic case studies in pelagic, demersal, and benthic fish that confirm or reject the entrainment hypothesis;
- b) based on the above further define the understanding of the mechanisms by which life cycle patterns are maintained or change;
- c) report on the consequences of the understanding for spatial fisheries management and recovery plans.

Close

The Chair thanked the Rapporteur for his help with the report of the LRC session and thanked all members for their participation in the discussions.