



## **ABSTRACTS**

**Workshop on Technical Conservation Measures**

**13<sup>th</sup> & 14<sup>th</sup> September 2007 – Dublin (Ireland)**

Profet Policy is being achieved with financial assistance from the European Commission as a Specific Support Action for integrating and strengthening the European Research Area (Contract 0022771)



## PROGRAMME

### Technical Conservation Measures 13<sup>th</sup> & 14<sup>th</sup> September 2007 – Dublin (Ireland)



## 13<sup>th</sup> SEPTEMBER 2007

### OPENING

- 08.30 Registration and Coffee  
09:30 Word of welcome  
09:45 Address and opening Minister for the Marine

### SESSION 1 – POLICY FRAMEWORK

- Chairman : Sean O'Donoghue, CEO, Killybegs Fishermen's Organisation Ltd.**
- 10:00 PROFET Policy Project – Its Relevance to a Technical Conservation Measures Workshop. How a successful project in the aquaculture sector can be transferred and expanded within other fisheries **Richie Flynn**, IFA Aquaculture
- 10:15 Technical conservation measures: what role in the new Common Fisheries Policy? **Ernesto Penas-Ladas**, DG Fisheries and Maritime Affairs
- 10:35 The control and monitoring of technical conservation measures **Conor O'Shea**, Sea-Fisheries Protection Authority, Ireland
- 10:55 Some issues generated by EU policies which impact on technical conservation measures **Ronán Long**, Jean Monnet Chair European Commercial Law, NUI Galway
- 11:15 **COFFEE BREAK**

### SESSION 2 – CURRENT REGULATORY FRAMEWORK AND NEW PROPOSALS

- Chairman: Martin Howley, Chairman, Killybegs Fishermen's Organisation Ltd.**
- 11:45 Commission proposals for new technical measures in the Atlantic and the North Sea **François Theret**, DG Fisheries and Maritime Affairs
- 12:00 The viewpoint of NGOs/ environmental groups on the new proposals **Simon Berrow**, Irish Whale and Dolphin Group
- 12:15 Technical measures can make a significant contribution to the implementation of the new proposals **Dominic Rihan**, Bord Iascaigh Mhara
- 12:30 The reaction of the fishing industry to the new proposals 1. **Mike Park**, Scottish White Fish Producers Association (SWFPA)  
2. **Alan McCulla**, Anglo-North Irish Fish Producers Organisation (ANIFPO)
- 13:00 **LUNCH**

### DISCUSSION

- 14:00 **Moderator: Ronán Long, Jean Monnet Chair European Commercial Law, NUI Galway**  
Panel drawn from morning sessions + Moderator,  
Agenda or list of issues to be compiled during the lunch break  
This discussion is intended to provide the participants with an opportunity to question, explore and expand the themes in an integrated fashion rather than on an individual basis at the end of each presentation.

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**SESSION 3 – CURRENT RESEARCH STATUS**

- Chairman: Richie Flynn, Executive Secretary, IFA Aquaculture**
- 15:00 RECOVERY – Technical Modifications in demersal trawl gear to reduce the by-catches of roundfish, particularly cod **Bob van Marlen**, Wageningen IMARES
- 15:15 NECESSITY – An integrated multi-disciplinary project to reduce by-catches in the European Nephrops fisheries and the by-catch of cetaceans in the European pelagic fisheries **Bob van Marlen**, Wageningen IMARES
- 15:30 DEGREE – An integrated multi-disciplinary project to reduce the mortality of benthic invertebrates caused by demersal trawl gear **Bob van Marlen**, Wageningen IMARES
- 15:45 **COFFEE BREAK**
- 16:00 Can aquaculture contribute to re-stocking marine areas? **Joe McElwee**, IFA Aquaculture
- 16:15 EFIMAS- The inclusion of technical measures in simulation models resulting in more accurate stock assessment **Tom Catchpole**, CEFAS
- 16:30 SURVIVAL – An assessment of the survival of fish escaping from trawl codends and its implications for fisheries management **Mike Breen**, FRS
- 16:45 PREMECS II – Development of predictive model of cod-end selectivity **Daniel Priour**, IFREMER
- 17:00 PROTECT – How effective are Marine Protected Areas? **Anthony Grehan**, Marine Law and Ocean Policy Centre, National University of Ireland, Galway

**14<sup>th</sup> SEPTEMBER 2007**

**SESSION 4 – THE APPLICATION OF RESEARCH**

- Chairman: Bob van Marlen, Wageningen IMARES**
- 09:30 Measuring the effectiveness of technical conservation measures – A case study by the Marine Institute, Ireland **Barry Eustace**, Marine Institute
- 09:45 Incentivising the uptake of technical conservation measures **Barrie Deas**, National Federation of Fishermen's Organisations (NFFO)
- 10:00 The future needs of technical conservation measures **Dominic Rihan**, Bord Iascaigh Mhara
- 10:15 Industry/Science Partnership - The UK Experience **Paul Trebilcock**, Cornish Fish Producers Organisation
- 10:30 **COFFEE BREAK**

**SESSION 5: DISCUSSION AND CONCLUSIONS**

- 11:00 **Moderator: Sean O'Donoghue, CEO, Killybegs Fishermen's Organisation Ltd.**  
A panel drawn from the participants will give their views and reactions to the proceedings of the workshop and, with the aid of the Moderator, the discussion will be open to the floor culminating in a summary of future needs and views on EU Commission technical conservation measures proposals
- 13:00 **CLOSE OF WORKSHOP**  
Workshop rapporteur Michael Keatinge, Fisheries Development Manager, Bord Iascaigh Mhara will close the Technical Conservation Measures workshop with a short address.





**RICHIE FLYNN**

### **PROFET Policy Project – Its Relevance to a Technical Conservation Measures Workshop.**

- *How a successful project in the aquaculture sector can be transferred and expanded within other fisheries.*

#### **Abstract**

PROFET POLICY - a Positive Experience for Change

The PROFET concept was first developed by the Federation of European Aquaculture Producers as a means of discovering the true R&D needs of a diverse industry by hosting specific workshops and producing documentation on R&D opportunities. PROFET's aim is to educate and inform SMEs around Europe involved in many different types of production of the opportunities available and to let those producers guide the EU Commission and research institutions to develop R&D schemes and projects which reflect the true needs of the sector. Some examples of the success of this policy in the aquaculture sector and its potential in the wild fisheries industry are explored.

#### **Short CV**

Richie Flynn is the Executive Secretary of the Aquaculture Section of the Irish Farmers' Association. For the past 11 years he has run the Irish Salmon Growers Association, the Irish Shellfish Association and more recently branched out into the freshwater sector with the Irish Trout Producers Group.

Mr Flynn has held the post of Chairman of the EU Commission's Aquaculture Advisory Committee since its inception in 2001.

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**ERNESTO PENAS-LADAS**

## **Technical conservation measures: what role in the new Common Fisheries Policy?**

### ***Short CV***

Ernesto Penas was born on the 11 of November 1952 in Cée, La Coruña, Spain. He is a marine biologist and he worked as a fisheries biologist at the Instituto Español de Oceanografía till 1986. Joined the European Commission in 1986. Director for fisheries in the regional government of Galicia 1990-1993. Since 1993, official in DG Fish, European Commission, working on management of resources and international fisheries management. Since 2004, Head of the Unit responsible for fisheries management in the European Commission.

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**CONOR O'SHEA**

## **The control and monitoring of technical conservation**

### ***Abstract***

The Sea-Fisheries Protection Authority was established on the 1st of January 2007 and is the competent authority for Fisheries Protection in Ireland. The remit of the Authority includes the promotion, detection and enforcement of sea-fisheries and food safety laws, the collection of data on sea-fisheries and food safety and advising the Minister in relation to policy on effective implementation of the relevant legislation. The Authority is independent in the exercise of its functions.

The Authority in cooperation with its Control Partner the Naval Service is responsible for the enforcement of Technical Control Measures in the waters under Irish Jurisdiction and for Irish fishing vessels wherever they operate.

The Issues regarding the enforcement of Technical Control Measures include Consultation with Stakeholders prior to any new Regulation and the provision of information to all stakeholders once a new regulation enters into force for example through the Authorities Consultative Committee. The principle of proportionality is necessary to ensure that Regulation is both practical and enforceable. In the context of current and future regulations there is a need for consolidation and simplification. Finally uniformity in enforcement of all Regulations both nationally and throughout the EU is an important factor in ensuring the sustainability of fish stocks.

### ***Short CV***

Conor O'Shea is a Senior Manager with the Sea-Fisheries Protection Authority and is Head of the Research Planning and Evaluation Unit. Prior to that he was the Regional Manager for the East Coast of Ireland and was responsible for Control and Enforcement in that area. He represents the SFPA at the European Commission Management Committee meetings. He also regularly represents the SFPA at various National and International Technical meetings.

Conor has worked in Control and Enforcement as a Sea Fisheries Protection Officer both ashore and at sea and served in the Irish Naval Service for fifteen years prior to joining the Shore based Inspectorate in 1997.

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**RONÁN LONG**

## **Some issues generated by EU policies which impact on technical conservation measures**

### ***Abstract***

Over the last three decades, one of the key features of the common fisheries policy has been the wide range of technical conservation measures which have been adopted since the early 1980s. Many of these measures have been influenced by developments in other areas of EC law outside the strict confines of the fisheries policy. This paper reviews some of the issues generated by current trends in EU policies which will influence the future direction and shape of technical conservation measures. These include: the environmental policy; the external relations policy; the European maritime policy; and the research policy. Mention is also made of the Draft Treaty establishing a Constitution for Europe. The paper concludes that technical measures can no longer be viewed in isolation but are now one of the principal means by which the EU implements the general principles of environmental protection including the precautionary principle and the ecosystem approach. The paper contends that they will continue to form one of the cornerstones for new approaches to marine resource management such as marine spatial planning and the integrated management of the marine and coastal environment.

### ***Short CV***

Ronan Long read for his PhD at the School of Law at Trinity College Dublin. He holds the Jean Monnet Chair of European Law at the School of Law at National University of Ireland Galway, and is the first recipient of the Michael Manahan Research Fellowship. He is co-author of *Marine Resource Law* (Dublin, 2007), co-author of *Enforcing the Common Fisheries Policy* (Oxford, 2000) and co-editor of *Law, Science and Ocean Management* (Boston/Leiden, 2007). He worked previously for the European Commission (1994–2002) and his current research interest is focused on marine scientific research.

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**FRANÇOIS THERET**

**Commission proposals for new technical measures in the  
Atlantic and the North Sea**

***Abstract***

The Commission is preparing the new the proposal for new technical measures in the Atlantic and the North Sea. The main objectives are to:

- Bring together and, where appropriate, improve the effectiveness of existing technical measures
- Simplify and clarify these rules which are often too complex and difficult to understand and enforce
- Adapt the TCM to context of new CFP in particular: RACs, environment aspects (discards, habitats)

The presentation explains the preparation of the revised technical measures and give examples on what are the intentions of the Commission for the new proposal.

***Short CV***

François THERET (08-08-1957) has a Master in Biology and a Master in Hydrodynamics and a PhD in Hydrodynamics. He was the Head of unit "fishing gear technology" and the Head of "Lorient station" for IFREMER - French Research Institute (1984-2004): where he was responsible for the Development and engineering of fishing gears, Impact of bottom trawls on the seabed, Selectivity studies and Training for fishermen, Administration, inspectors. Beside that he was Member of ICES FTFBWG and participated in several EU projects.

Since 2005 he works for the European Commission - DG Fisheries and Maritime Affairs, Unit "Fisheries conservation: Atlantic, deep sea species, general issues. He is in charge of technical measures issues for the Atlantic and the North Sea.

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SIMON BERROW

## **The viewpoint of NGOs/ environmental groups on the new proposals**

### ***Abstract***

Fisheries management and marine conservation have the same objectives even if the motivation is different. A number of the new technical measures have important implications for the marine ecosystem and its higher predators including marine mammals. These include the establishment of Marine Protected Areas or No Take Zones and attempts to reduce incidental capture through the use of acoustic deterrents. During this presentation I will address these issues and the reality and constraints of an ecosystem approach to management.

### ***Short CV***

Dr Simon Berrow is founder and present co-ordinator of the Irish Whale and Dolphin Group as well as Project Manager of the Shannon Dolphin and Wildlife Foundation in West Clare. He carried out a PhD at Lough Ine Marine Reserve through University College, Cork and has been carrying out research on cetaceans in Ireland since 1989. He also spent 2.5 years on South worked with the British Antarctic Survey carrying out research on albatrosses, petrels, penguins and seals including reviewing the Antarctic Environmental Monitoring Scheme. He has considerable experience of fisheries in Ireland and was author of the recent IWDG Policy Document on Commercial Fisheries. He has over 80 scientific papers in peer-reviewed journals on marine mammals, birds, sharks and other subject.

### ***Contact details***

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**DOMINIC RIHAN**

### **Technical measures can make a significant contribution to the implementation of the new proposals**

#### ***Abstract***

The current EU technical conservation measures regulatory framework within which gear measures are contained is unduly complicated and in reality has done little to improve the selectivity of fishing gears or encourage more responsible fishing practices.

Attitudes on the success or failure of technical measures in general and gear modifications specifically are conflicting. Fishermen and gear technologists largely hold the view that sensible/practical technical gear measures have a key role to improving the state of fish stocks and recent research backs this up. For example the fine-tuning of square mesh panels using relatively low diameter twines and more stable mesh constructions, can increase the L50 for whitefish species including cod significantly provided they are constructed with a mesh size of 120mm. Many scientists and fisheries managers are more sceptical, however, given that technical measures are too easily and openly circumvented to have any real benefit and impacts on the ecosystem are difficult to quantify or take too long a period to be of any consequence.

The reality is probably somewhere in the middle of this but the Commission have openly stated that they currently see only limited opportunities for providing incentives for using selective gears (e.g. increased codend mesh size) given that current gears are recognised to have poor size selectivity for key species, particularly cod. This has hindered the work of gear technologists to encourage the use of more selective gears developed either directly or indirectly and subsequently uptake of such gears has remained relatively low.

The approach, however, being proposed for a new technical measures regulation by the EU, is more encouraging in that it will take the form of an overall framework regulation with detailed measures being implemented through management procedures. Previous experience as has shown that the “one measure fits all” solution will not work with gear measures given the differences in fisheries and gear types and this new approach would allow the progressive evolution of technical measures on a fisheries basis without having to make endless amendments to the regulations. Fundamental to this, though is that there is a commitment by managers in the future within new frameworks to include incentives for fishermen to use proven gears and for fishermen be pro-active in adopting them. Such incentives must be real and tangible in terms of effort or access to fisheries and suitably above baseline levels, otherwise uptake will continue to be low.

***For CV and contact details see summary of his talk in Session 4.***

**MICHAEL PARK AND ALAN McCULLA**

**The reaction of the fishing industry to the new proposals**

***Abstract – Michael Park***

The Scottish sector - working within the rules...

The Scottish catching sector is similar to that of other member states; diverse in method, varied in target species, and comprising both an inshore artisanal fleet and a larger offshore fleet. These fleets have existed in a state of constant uncertainty in both opportunity and regulatory environment, since the adoption of the precautionary principle and introduction of precautionary measures in 2000.

Council Regulation (EC) No 850/98 of 30 March 1998 sets out a basis for the conservation of fishery resources through technical measures, the aim of which is to protect the juveniles of marine organisms. These regulations and many others have been developed over time to a point of extreme, and at times overbearing complexity.

The fleets of Europe have been forced to adapt to change in a variety of ways, as a direct result of these regulations. Now, further commitments from Europe to enhance environmental protection measures in commercial fishing, bring additional challenges. This presentation takes a look at the Scottish approach to changes in the past and considers whether industry's approach to change can be different in the future.

***Short CV – Michael Park***

Michael was a skipper owner of a 26 metre North Sea whitefish vessel for twenty five years, but stepped ashore recently to take up a full time post as Executive Chairman of the Scottish Whitefish Producers Association (SWFPA). Mike held the position of Vice-chairman, then Chairman of the SWFPA for twelve years prior to his new appointment.

He maintains close links with the 'sharp end' of industry and is also Director of the Scottish Fishermen's Federation (Vice President for 4 Years); Director of SFF Services; board member of Aberdeen Fish Producers' Organisation; board member of Seafood Scotland; Chairman of Box Pool Solutions Ltd; Co Vice-chairman and Director of the North Sea Regional Advisory Committee; and recently joined the board of the Sea Fish Industry Authority.

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## ABSTRACTS

### Technical Conservation Measures 13<sup>th</sup> & 14<sup>th</sup> September 2007 – Dublin (Ireland)

#### SESSION 2 – CURRENT REGULATORY FRAMEWORK AND NEW PROPOSALS

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#### ***Abstract - Alan McCulla***

The EC has outlined its thoughts for the future of technical conservation measures for the North-East Atlantic and the North Sea. Another central plank in the EC's current strategy is its action plan to reduce discards.

Alan McCulla will relate how fishermen in the Irish Sea have not been slow to take up the challenge, tracing back over several years a range of industry initiatives designed to address problems that have been identified at the regional level and culminating in the recent launch of the Irish Sea Enhanced Data Programme. He will discuss the challenges the industry has faced with their previous proposals and the collaborative approach the industry has now adopted in its attempts to seek a sustainable management regime, which as well as safeguarding fish stocks, will ensure a viable fishing industry.

#### ***Short CV – Alan McCulla***

Alan McCulla has been Chief Executive of the Northern Ireland based Anglo-North Irish Fish Producers Organisation for over 15 years. He comes from a fishing industry family and other family members are still engaged with commercial fishing vessels. Over the years he has held a number of voluntary positions with maritime related organisations and has just accepted an invitation to join the Council of the Royal National Mission to Deep Sea Fishermen. He is active within the North-Western Waters Regional Advisory Council; in particular its Irish Sea Working Group, where he was instrumental in proposing the Irish Sea Data Enhancement Programme which has recently been launched. This is the latest in a series of industry/science initiatives sponsored by the Anglo-North Irish FPO that are beginning to receive widespread recognition.

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**BOB VAN MARLEN**

### **RECOVERY – Technical Modifications in demersal trawl gear to reduce the by-catches of roundfish, particularly cod**

#### ***Abstract***

The scientific advice for North and Irish Sea cod (*Gadus Morhua* L.) has called for a drastic reduction in catches a number of years ago. As a consequence, the fishing industry has been faced with the introduction of emergency technical measures and operational restrictions.

The objective of project RECOVERY, involving scientists from Norway, England, Denmark, Belgium, Northern Ireland and The Netherlands, was to develop novel species-selective gear prototypes for three prominent mixed-species demersal trawl fisheries (i.e. otter, beam and Nephrops trawling) in the North and Irish Seas, where cod is an important catch component, while maintaining the fishing opportunities for other species such as haddock and flatfish. The Dutch and Belgian partners focused on the beam trawl, partners in England and Northern Ireland on the Nephrops trawl, while those of Norway, Scotland and Denmark concentrated on the whitefish otter trawl. The gear designs were aimed to minimise the loss (if any) of other target species, and the economic feasibility of the novel designs was also appraised.

One potential solution is to design or modify existing fishing gear so that the capture of cod is minimised while maintaining catches of other commercially important species. This may provide an opportunity for fisheries managers to reduce the fishing effort on cod, while allowing the fleet to operate on its traditional grounds and allow fishing for other species to continue when cod quotas are exhausted. However, it is important that the consequences of any such developments are economically feasible for the fishing industry.

From an early stage several commercial net makers were involved in the work. Additionally, national industry liaison meetings were held on a regular basis to ensure that new designs were acceptable to fishermen. The project ran between 2002 and 2006.

A number of gear modifications showing potential for further uptake will be reviewed.

(RECOVERY “Research on effective cod stock recovery measures”, Contract Q5RS-2002-00935)

***For CV and contact details see next page.***



## SESSION 3 – CURRENT RESEARCH STATUS

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**BOB VAN MARLEN**

### **NECESSITY – An integrated multi-disciplinary project to reduce by-catches in the European Nephrops fisheries and the by-catch of cetaceans in the European pelagic fisheries**

#### ***Abstract***

NECESSITY is a very large project funded by the European Union and involving more than 30 organisations. This consortium of Fisheries Institutes and private companies are working together to provide ways of reducing by-catch of non-target species in Norway Lobster (*Nephrops norvegicus* L.) and also in pelagic fisheries, where the by-catch of cetaceans (dolphins and small whales) is considered a problem.

A variety of different gear modifications such as escape windows and sorting grids are being designed and tested to reduce by-catches, as well as looking at possible changes in fishing strategies in both sectors of the European fisheries. In the case of pelagic fisheries in addition to gear modifications, the use of acoustic deterrent devices designed to scare dolphins away from fishing gear are also being considered.

The biological effects of these solutions on stocks and also the economic effects on fishermen of adopting these new gears are also being studied and it is important to note that the work is being carried out in close co-operation with the fishing industry.

The various potential solutions for the gear types under study will be reviewed and the links between the various disciplines explained and first results presented. The project ran between 2004 and 2007.

#### Major findings:

Nephrops fisheries - Effective gear modifications that can reduce by-catches in Nephrops trawling without affecting the target species catch were developed. However, each sector requires a specific design. The introduction of such techniques is hampered when income losses of fishermen from by-catches that are now released at sea are not compensated.

Pelagic fisheries - It is difficult to avoid the by-catch of cetaceans in pelagic trawls. Excluder devices in nets offer escape opportunities for these animals, but they do not always make use of these. The technical means of observing and recording the behaviour of animals in the net were produced and tested. Observations can be carried out both during the day and night in long hauls and video sequences then stored. No final conclusion can be drawn yet concerning the various experimental excluder devices inside the net as the testing phase was not concluded. Therefore, it is recommended that trials at sea be extended on commercial boats to obtain further information. Effective acoustic deterrents might be developed and some deterrent systems have been identified as being effective on dolphins in the wild. These are now being tested on trawls and observed accordingly.

(NECESSITY “Nephrops and Cetacean Species Selection Information and Technology”, Contract SSP8-CT-2003-501605)

***For CV and contact details see next page.***



**BOB VAN MARLEN**

### **DEGREE – An integrated multi-disciplinary project to reduce the mortality of benthic invertebrates caused by demersal trawl gear**

#### ***Abstract***

The project aims at developing new gears and fishing techniques that have a lower impact on benthic habitats, and quantifying the potential reduction of the physical impact as well as the positive effects on benthic communities. The economic effects on fishermen of adopting these new gears are also being studied, and it is important to note that the work is being carried out in close co-operation with the fishing industry.

The project consists of six work packages, as follows:

- WP 1 Management and co-ordination
- WP 2 Modelling and quantification of benthic impact
- WP 3 Otter trawl modifications
- WP 4 Beam trawl and Dredge modifications
- WP 5 Economics
- WP 6 Dissemination and implementation

The various potential solutions for the gear types under study will be reviewed and the links between the various disciplines explained and first results presented. The project runs between 2006 and 2009. (DEGREE "Development of fishing Gears with Reduced Effects on the Environment", Contract SSP8-CT-2004-022576.)

#### ***Short CV***

Masters Degree in Naval Architecture (ship hydrodynamics) from the Technical University of Delft, 1975. Since 1976 working at Wageningen IMARES (former RIVO) IJmuiden, The Netherlands. Experience in gear technology, gear selectivity and economy of fishing gears, and simulation models of fishing vessels. Participation in many EU-projects in gear technology, often as initiator and/or co-ordinator. He is also a standing member of the ICES Fishing Technology Committee, and the Working Group on Fishing Technology and Fish Behaviour, which he chaired from 1987-1993. He was one of the three conveners of the ICES symposium 'Fishing Technology in the 21st Century: Integrating Fishing and Ecosystem Conservation' in Boston USA, 30 Oct - 3 Nov 2006. Working in the "Fisheries" Department as Gear Technology Project Leader.

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## SESSION 3 – CURRENT RESEARCH STATUS

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**JOE McELWEE**

### **Can aquaculture contribute to re-stocking marine areas?**

#### ***Abstract***

The presentation will be on the potential of Aquaculture providing a sustainable fisheries and employment opportunity for those either coming out of or leaving the fishing industry, to include its current and future prognosis and economic potential. This will apply vis a vis inshore and offshore locations.

#### ***Short CV***

Joe McElwee has been involved in Aquaculture in Ireland and the US for the last 22 yrs. He has installed and operated large offshore Salmon farms in Ireland and the US, and has extensive practical experience of operating all types of Salmonid facilities both in Freshwater and Marine conditions. He set up a land based Turbot fish farm in Conemarra in 1997, using Hi-Tech Recirculation equipment and has grown Turbot and Halibut successfully.

He is currently the IFA Aquaculture Development Officer, with the responsibility to help both development in Finfish and Shellfish industries and strive to build a large successful Irish Aquaculture Industry.

#### ***Contact details***

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**TOM CATCHPOLE**

**EFIMAS- The inclusion of technical measures in simulation models resulting in more accurate stock assessment**

***Abstract***

European fisheries are not doing well at the moment. Many important stocks are declining and so are the number of fishing boats and people employed within the fishing industry. At the same time, the management and regulation of European fisheries are becoming more and more complicated every year. In response to this situation, managers such as the European Commission and national authorities are working to develop alternative management evaluation tools and management regimes that take a broader, more long-term perspective and consider not only the biological consequences of managing fish stocks, but also social and economic impacts, for instance on the fishing industry.

EFIMAS will develop and integrate a variety of modelling tools into a robust framework within which to simulate and evaluate a range of fishery management objectives and options.

***Short CV***

Tom Catchpole has done his PhD in Discards in North Sea Fisheries 'Collating data on international fisheries agreements, supervising degree components and science teams, tutoring statistics' at the University of Newcastle-upon-Tyne (2005). At the moment he is a Fisheries Scientist and Technologist at the Centre for Environment Fisheries and Aquaculture Science (CEFAS, UK). He coordinates and undertakes multiple research activities in fisheries technology & advises clients on issues pertaining to fisheries technology and the impact of this technology on sustainable utilisation of marine natural resources.

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## SESSION 3 – CURRENT RESEARCH STATUS

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**MIKE BREEN**

### **SURVIVAL – An assessment of the survival of fish escaping from trawl codends and its implications for fisheries management**

#### ***Abstract***

Project Survival was an international research project, part funded by the EU, which demonstrated that some gadoid fish may die after escaping from trawl codends. This is an important observation because promoting the escape of unwanted and undersized fish through increasing the selectivity of gears is an important conservation tool, used in fisheries management to minimise discarding and ensure fish reach their optimal size before harvesting.

In Norway, mortality was negligible in cod (*Gadus morhua*) and saithe (*Pollachius virens*) escaping through either codend meshes or the “Sort-V” grid and was unaffected by fishing intensity. While, in Scotland, the survival of haddock (*Melanogrammus aeglefinus*) and whiting (*Merlangius merlangus*) was lower and highly dependent upon their size, with the probability of survival being lowest among fish of 15cm in length and less. In any one length class, it was the fish with the smallest somatic weight that were most likely to die following their escape from the trawl. Moreover, the likelihood of survival, for haddock, was significantly reduced for fish escaping at the surface.

Therefore, when employing technical measures fisheries managers should give due consideration to minimising the exposure of juvenile fish (specifically age 0) and fish in poor physical condition to any contact with towed fishing gears. Moreover, selective devices should be used that promote the escape of fish at depth during towing, as opposed to during haul-back where the survival of escapees is poor. At the stock assessment level, it was demonstrated that failure to include escape mortality into the modelling process could result in fisheries managers overestimating the potential benefits of selective devices as technical conservation measures in a fishery.

#### ***Short CV***

Mike Breen finished his PhD in 2004 at the University of Aberdeen. He investigated the mortality of fish escaping from towed fishing gears - a critical analysis.

At present he works for the Fisheries Research Services, Marine Laboratory (Aberdeen, Scotland, UK) and he is the Scientific Coordinator for “Project Survival: An assessment of mortality in fish escaping from trawl codends and its use in fisheries management”. He is also chairman of the ICES Study Group on Unaccounted Fishing Mortality [SGUFM][2004-2007].

#### ***Contact details***

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**DANIEL PRIOUR**

**PREMECS II – Development of predictive model of cod-end selectivity**

***Abstract***

The main finding of PREMECS-II project has been to develop a global model (PRESEMO) for predicting the selectivity of cod-ends.

PRESEMO, is a model-based method to assess selectivity without the need for experimental fishing. It is able to generate artificial selectivity data comparable to that produced by sea trials in assessing cod-end selectivity using the covered cod-end technique. This information can then be used to assess the impact of proposed technical conservation measures.

***Short CV***

Daniel Priour is a mechanical engineer with a Ph.D. He has participated in EU-projects as partner or as coordinator. Since 1996, he coordinated 2 EU-funded research projects around the modelling of trawl selectivity, (FAIR CT 96 1555 and Q5RS-2002-01328). He is mainly involved in the modelling of fishing gears with the objective to improve their selectivity and reduce their impact on the environment. He is in charge of the development of FEMNET which is a model dedicated to structures made of cables, bars and netting. He is member of the steering committees of DEMAT and IMAM.

***Contact details***

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## SESSION 3 – CURRENT RESEARCH STATUS

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**ANTHONY GREHAN**

### **PROTECT – How effective are Marine Protected Areas?**

#### ***Abstract***

Marine protected areas (MPAs) are currently seen as a tool for both fisheries management and marine environmental protection. However, although many potential benefits of MPAs have been identified, little empirical evidence exists to demonstrate the full potential of MPAs in a temperate water setting. This is partly due to insufficient scientific knowledge and tools for MPA selection, design, implementation, monitoring and evaluation. In particular, the coupling between fisheries management and environmental protection requires further attention.

PROTECT is an interdisciplinary research project involving 17 European institutions aiming to strengthen the decision basis regarding potential use, selection, development and management of MPAs in Europe, as part of an ecosystem-based approach to fisheries management. The research is based around three case studies covering a range of ecological, economic and fisheries management scenarios. The case studies are: Baltic cod, sandeel, cold-water coral conservations. We will present an overview of progress to date in the project.

#### ***Short CV***

Dr. Grehan is a Senior Research Fellow in the Department of Earth and Ocean Sciences at the National University of Ireland, Galway. Dr. Grehan obtained his PhD in Zoology in Ireland before undertaking post-doctoral studies at the Université Pierre-et-Marie-Curie, Paris VI (Laboratoire Arago, Banyuls) and at the Université du Québec in Rimouski and Montreal, Canada. Dr. Grehan is a deep-sea biologist and is particularly interested in the ecology and conservation of cold-water coral reefs and the sustainable management of deep-sea resources. He is former chair of the Irish Coral Reef Task Force - a cross sectoral forum that brought the need to conserve Irish coral reefs to the attention of the media and policy makers in Ireland.

Dr. Grehan has over 14 years experience of working in European funded marine projects and currently co-ordinates the cold-water coral case study within the FP7 Specific Targetted Research Project 'PROTECT' (the Role of Marine Protected Areas in Ecosystem Conservation and Fisheries Management). Dr. Grehan is a member of the International Council for the Exploration of the Sea (ICES) working groups on Deep-Sea Ecosystems and Marine Habitat Mapping and chairs an EC Scientific, Technical and Economic Committee for Fisheries (STECF) working group evaluating the effectiveness of marine protected areas as tools in fisheries management.

#### ***Contact details***

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**BARRY EUSTACE**

**Measuring the effectiveness of technical conservation measures – a case study by the Marine Institute, Ireland**

***Abstract***

Technical Conservation measures (TCMs) have the potential to reduce fishing mortality by reducing unwanted catch. Gear trials were conducted by Bord Iascaigh Mhara (BIM) in June 2005 as part of the EU funded NECESSITY project (CT-2003-501605) to assess the potential benefits of using a coverless trawl in a standard 80mm Nephrops trawl. Results from these trials indicate that substantial reductions in by-catch are possible without compromising the catch of the target species. However, the putative effect of this TCM on fishing mortality of the caught stocks has received little attention to date. The analysis presented here has been conducted as part of the EU funded EFIMAS project (CT-2003-502516) to evaluate the potential effect of such TCMs on whitefish stocks in the Celtic Sea (VIIe-k).

For this paper we have focused on whiting in the Celtic Sea which showed the largest reduction in catch numbers with the coverless trawl in these trials. Stock projections were simulated using F-PRESS (Fisheries Projection & Evaluation by Stochastic Simulation), a simulation tool for evaluating fisheries management strategies. Our results indicate that while a difference in stock development can be shown in a stochastic projection, following the introduction of the coverless trawl on the Nephrops fleets, such a difference is difficult to detect when assessment uncertainty is added. We then try to answer, given the volume of whiting catch by fleet segment, and the assessment uncertainty; how big would the effect of the technical measure have to be, such that we could measure a difference (with confidence) in spawning stock biomass (SSB) over 10 years. The results raise some interesting questions on how we can evaluate the merit of measures which we can demonstrate by experiment to have an effect, but from which we may not be able to detect any stock benefit.

***Short CV***

Barry Eustace is a Fisheries Scientist at the Marine Institute in Ireland and a graduate of Biology and Computer Science from NUI Maynooth. He is currently working on the EU funded EFIMAS project, focusing on by catch and selectivity in the Nephrops fishery in the Celtic Sea.

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## SESSION 4 – THE APPLICATION OF RESEARCH

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**BARRIE DEAS**

### **Incentivising the uptake of technical conservation**

#### ***Abstract***

This short paper highlights the fact that although considerable progress has been made in the design of more selective and environmentally friendly fishing gear its take up and use has been disappointing. There is an intrinsic problem also in an approach which relies on the detailed prescription of legal and illegal fishing gear that can sit uncomfortably across a wide range of fishing vessels.

It is necessary to find ways instead that prescribe outcomes and allow flexibility in achieving those outcomes. Much has been said about how to align economic incentives to support management objectives but concrete progress has been slow.

The idea of incentivising cod avoidance through annual vessel plans that, if approved, would secure exemption from the costly and economically perverse effort control regime is discussed.

#### ***Short CV***

Barrie Deas present position is Chief Executive of the National Federation of Fishermen's Organisations. Other functions:

Advisory Committee for Fisheries and Aquaculture Europepeche	- Member of Plenary Committee
North Sea RAC	- Vice President
	- Member of Executive Committee
	- Chairman of Demersal Working Group
North Western Waters RAC	- Member of Executive Committee
External Waters RAC	- Member of Executive Committee

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**DOMINIC RIHAN****The future needs of technical conservation measures****Abstract**

Improved gear selectivity, the need to reduce unwanted by-catches and reduce environmental impact has been the subject of extensive research particularly in the last decade as stocks have become under increasing pressure and the actual priorities for gear technology research are not expected to change much over the next number of years. However, within a new technical measures regulatory framework, there will almost certainly be a need for a different approach to carrying out practical and relevant gear technology research.

Targeted local management initiatives for particular fisheries or areas and large-scale pilot projects on a fishery-by-fishery basis as encouraged under the new EFF seem potential alternatives. Under such projects a possible approach would be to adopt a target based approach as mandated by the EU. In the first instance scientists, managers and fishermen would carry out a “fisheries audit” or “environmental impact assessment” collectively to define the characteristics of each fishery (fleets, gears, target species), identify the problems and possible solutions and agree the targets e.g. reduce discards to 5% of landings. This initial audit would identify all possible ways of meeting the targets set and may include avoidance of areas, voluntary tie-ups or gear modifications. Research into potential gear modifications identified should proceed in the form of collaborative trials to develop and fine tune gears appropriate to the specific fisheries with gear technologists acting more as facilitators to demonstrate the gear options available and how to rig them correctly rather than as extensive data collection exercises. Such projects should be carried out with industry but also should be partially funded by industry to encourage active participation and give a sense of ownership. This “toolbox” type approach would obviously require good control and enforcement to prevent circumvention of the measures but if the benefits of using environmentally friendly gears are proven and responsible practice is rewarded, then self-regulation will play a key part in compliance. The output from such research from a gear perspective is “real” solutions developed by fishermen to react to problems identified in their fisheries rather than as general solutions developed in different areas with different gear types and forced on fishermen through badly thought out legislation as is the criticism often levelled currently at current gear research.

**Short CV**

Dominic Rihan graduated with a B.Sc (Hons) in Fisheries Science, University of Plymouth (UK, 1989) and took up a position as a Fishing Gear Technologist, with Bord Iascaigh Mhara in 1990. He served as Secretary of a CFP Review Advisory Group set up by the Irish Minister for the Marine before reverting to his role of Gear Technologist in the Fisheries Development Division (1991-1993). He assumed the role of Marine Technical Executive (2002), overseeing R&D projects to develop and promote selective fishing gears, introduce new or innovative fishing gears, as well as advising the Irish Government, RACs and fishing industry. He has been a member of the ICES-FAO Working Group on Fishing Technology and Fish Behaviour for a number of years and took over as chairman of this Group at the beginning of 2007.

**Contact details**

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## SESSION 4 – THE APPLICATION OF RESEARCH

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**PAUL TREBILCOCK**

### **Industry/Science Partnership - The UK Experience**

#### ***Abstract***

Industry Science Partnerships:

- Where we have come from –issues of conflict and problems;
- What we have done –establishing first science/industry partnerships;
- Successes –Monk stock assessment in area VII, beam trawl trials;
- Where we go now –potential applications of the partnership approach.

#### ***Short CV***

Paul Trebilcock is the Chief Executive of CFPO.

From a fishing family, Paul has also been involved professionally in the fishing industry for more than ten years. He has a deep understanding of quay side realities as well as the political complexities of the fisheries involved.

As CEO for one of the largest producer organisations in England Wales and Northern Ireland, Paul is responsible for managing the majority of UK quota opportunities in the Western approaches and Celtic sea, as well as marketing catches. The CFPO has long been recognised as one the most pro-active and visionary fishermen's organisations in Europe and continues to be at the fore-front of innovative fisheries management.

#### ***Contact details***

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## LIST OF ATTENDANCE

Technical Measures Workshop  
13<sup>th</sup> & 14<sup>th</sup> September 2007 – Dublin (Ireland)

### List of attendance

	TITLE	FIRST NAME	LAST NAME	COMPANY/ORGANISATION
<b>Belgium</b>				
1	Mr	Ernesto	Penas-Lado	DGFish
2	Mr	Francois	Theret	DGFish
3	Ms	Sasja	De Bruyne	Department Agriculture and Fisheries
4	Ms	Joke	Charles	European Aquaculture Society
5	Mr	Luc	Corbisier	European Association of Producer Organisation
6	Mr	Courtney	Hough	Federation of European Aquaculture Producers
7	Ms	Catherine	Pons	Federation of European Aquaculture Producers
8	Ms	Margreet	van Vilsteren	Federation of European Aquaculture Producers
9	Mr	Emiel	Brouckaert	Rederscentrale
10	Mr	Louis	Vantorre	Rederscentrale
<b>Denmark</b>				
11	Mr	Flemming	Kristensen	Danish Fishermen's Association
12	Mr	Michael	Andersen	Danish Fishermens Association
13	Mr	Gilles	van de Walle	Eurofish
14	Ms	Birgitte	Riber Rasmussen	Ministry of Food, Agriculture and Fisheries
15	Mr	Hugo	Andersson	NSRAC
16	Mr	Bengt Olof	Eliason	NSRAC
17	Mr	Frederick	Lindberg	NSRAC
18	Mr	Henrik	Svenberg	NSRAC
<b>Europe</b>				
19	Mr	John	Crudden	European Anglers Alliance
<b>France</b>				
20	Mr	Thomas	Diaz	CAPSUD
21	Dr	Michel	Goujon	CPMEM
22	Mr	Antoine	Le Garrec	Euronor
23	Dr	Daniel	Priour	IFREMER
24	Mr	Jacques	Bigot	Marins Pecheurs
25	Mr	Jacques	Pichon	NWWRAC
26	Ms	Dominique	Thomas	OP CME (Cooperative Maritime Etaploise)
27	Mr	André	Gueguen	OPOB
28	Ms	Gaëlle	Kervalla	PelagicRAC
29	Mr	Marc	Ghiglia	UAPF
<b>Ireland</b>				
30	Mr	David	Murphy	AquaTT
31	Ms	Marika	Reuver	Aquatt
32	Ms	Patricia	Comiskey	Bord Iascaigh Mhara
33	Mr	Emmet	Jackson	Bord Iascaigh Mhara
34	Mr	Michael	Keatinge	Bord Iascaigh Mhara
35	Mr	Dominic	Rihan	Bord Iascaigh Mhara
36		Representative		Clogherhead Fishermen's Co-operative
37		Representative		Clogherhead Fishermen's Co-operative

	TITLE	FIRST NAME	LAST NAME	COMPANY/ORGANISATION
38	Mr	Cecil	Beamish	DCMNR
39	Ms	Josephine	Kelly	Dept of the Marine
40	Cdr	Tom	Doyle	Fisheries Monitoring Service
41	Lt- Cdr	Ken	Minehan	Fisheries Monitoring Service
42	Mr	Michael	Kirwan	Fisherman
43	Mr	Richie	Flynn	IFA Aquaculture
44	Mr	Joe	McElwee	IFA Aquaculture
45	Mr	John	Ward	IFPO
46	Mr	Dave	Garforth	IFQC Ltd
47	Mr	Joe	Maddock	Irish Fishermen's organisation
48	Mr	Gerard	O'Flynn	Irish South & West Fish Producers organisation
49	Dr	Simon	Berrow	Irish Whale and Dolphin group
50	Mr	Cathal	Boyle	Killybegs Fishermen's Organisation Ltd
51	Mr	Michael	Cavanagh	Killybegs Fishermen's Organisation Ltd
52	Mr	Sean	Conneely	Killybegs Fishermen's Organisation Ltd
53	Mr	Patrick	McClenaghan	Killybegs Fishermen's Organisation Ltd
54	Mr	Charles	McDaid	Killybegs Fishermen's Organisation Ltd
55	Mr	Eamon J	McHugh	Killybegs Fishermen's Organisation Ltd
56	Mr	Barry	Eustace	Marine Institute
57	Dr	Anthony	Grehan	National University of Ireland, Galway
58	Dr	Ronan	Long	National University of Ireland, Galway
59	Mr	Jim	Condon	Sea-Fisheries Protection Authority
60	Ms	Anita	Doherty	Sea-Fisheries Protection Authority
61	Mr	John	Falvey	Sea-Fisheries Protection Authority
62	Mr	Andrew	Kineen	Sea-Fisheries Protection Authority
63	Mr	Pat	McGarvey	Sea-Fisheries Protection Authority
64	Mr	Conor	O'Shea	Sea-Fisheries Protection Authority
65	Mr	Declan	Quigley	Sea-Fisheries Protection Authority
66	Mr	Peter	Whelan	Sea-Fisheries Protection Authority
67	Mr	Dominick	Gallagher	SFPA
68	Mr	Seamus	Gallagher	SFPA
<b>Netherlands</b>				
69	Ms	Karen	Dijkstra	Directorate of Fisheries of the Ministry of Agriculture
70	Mr	Derk Jan	Berends	Dutch Fishermen Organisation
71	Mr	Anton Hendrik	Dekker	Dutch Fishermen Organisation
72	Mr	Geert	Meun	Federatie van Visserijverenigingen Northsea Fishermen's Organisation
73	Mr	Bob van	Marlen	Wageningen IMARES
74	Mr	Erik	De Graaf	Maritiem BV
75	Ms	Nathalie	Steins - Oosterling	PO
76	Mr	Willem	de Boer	
<b>Northern Ireland</b>				
77	Mr	Alan	McCulla	Anglo-North Irish Fish Producers Organisation



## LIST OF ATTENDANCE

Technical Measures Workshop  
13<sup>th</sup> & 14<sup>th</sup> September 2007 – Dublin (Ireland)

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	TITLE	FIRST NAME	LAST NAME	COMPANY/ORGANISATION
<b>Poland</b>				
78	Mr	Krzysztof	Stanuch	Pelagic RAC PAOP
<b>Scotland</b>				
79	Dr	Mike	Breen	Fisheries research Services
80	Ms	Ann	Bell	NSRAC
81	Mr	Derek	Duthie	Pelagic RAC
82	Mr	Rory	Campbell	Scottish Fishermen's Federation
83	Mr	Ian	Gatt	Scottish Fishermen's Federation
84	Mr	Alex	Wiseman	Scottish Pelagic Fishermen's Association
85	Mr	Mike	Park	Scottish White Fish Producers Association
<b>Spain</b>				
86	Mr	Hugo	Gonzalez	ANASOL
87	Mr	Borja Velasco	Tuduri	MAPYA
88	Mr	José Manuel Fernández	Beltran	OP LUGO
89	Mr	Victor	Badiola	OPPAO
90	Mr	Juan Carlos	Corrás	PESCAGALICIA
<b>United Kingdom</b>				
91	Mr	Asiedu	Berchie	Recent Graduate Ghent University
92	Dr	Tom	Catchpole	CEFAS Lowestoft
93	Mr	Paul	Trebilcock	Cornish Fish Producers Organisation
94	Mr	Barrie	Deas	National Federation of Fishermen's Organisations
95	Mr	Jim	Portus	SWFPO
<b>Isle of Man</b>				
96	Mr	Tom	Bryan-Brown	