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Report of the twenty-third session of the

EUROPEAN INLAND FISHERIES ADVISORY COMMISSION

Wierzba, Poland, 26 May–2 June 2004

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TWENTY-THIRD SESSION OF THE EUROPEAN INLAND FISHERIES ADVISORY COMMISSSION

Wierzba, Poland, 26 May–2 June 2004

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
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PREPARATION OF THIS DOCUMENT

The present text is the final version of the report presented on 2 June 2004 to the participants of the twenty-third session of the European Inland Fisheries Advisory Commission.

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SUMMARY

The twenty-third session of the European Inland Fisheries Advisory Commission (EIFAC) was held in Wierzba, Poland, from 26 May to 2 June 2004, in concomitance with a Symposium on Aquaculture Development − Partnership between Science and Producer Associations. The session reviewed EIFAC's activities since 2002 in the fields of fishery biology and management, aquaculture, protection of the aquatic resource, and social and economic issues. EIFAC revised and decided its future programme of work, and in particular the activities which should be carried out until the next session of the Commission in 2006. The twenty-fourth session will be preceded by a Symposium on Hydropower, Flood Control and Water Abstraction: Implications for Fish and Fisheries.

Distribution:

Participants
EIFAC Members
EIFAC Mailing List
FAO Fisheries Department
FAO Regional Fisheries Officers

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First Vice-Chairperson:	K. Pinter
Second Vice-Chairperson:	P. Hickley
Secretary *ad interim*:	G. Marmulla

SUB-COMMISSION I – BIOLOGY AND MANAGEMENT

Chairperson:	T. Brenner
Vice-Chairperson:	J. Caffrey
Rapporteur:	I. Navodaru
Technical Secretary:	G. Marmulla

Ad hoc Working Parties

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I. OPENING OF THE SESSION AND ADOPTION OF THE AGENDA

1. The Twenty-third Session of the European Inland Fisheries Advisory Commission (EIFAC) was held in Wierzba, Poland, from 26 May to 2 June 2004 under the Chairmanship of Mr Rudolf Müller (Switzerland). The Session was attended by 32 representatives from 15 Members of the Commission, by observers from one non-Member Nation of FAO and also by two observers from international non-governmental organizations. The List of Participants forms Appendix B to this report.

2. The representative of the Polish Ministry of Agriculture and Rural Development, Mr Piotr Stachowiak, opened the Session and welcomed delegates to Poland. His address is included as Appendix D.

3. The Secretary *ad interim* of EIFAC, Mr Gerd Marmulla, welcomed the participants in the name of the Director-General of FAO, Mr Jacques Diouf, and Mr Ichiro Nomura, Assistant Director-General of the Fisheries Department. His statement is included in Appendix D.

4. The Chairperson of EIFAC, Mr Rudolf Müller (Switzerland) expressed his appreciation to the Host Government for hosting this, the second Session to be held in Poland. His address is included in Appendix D.

5. The Agenda which appears as Appendix A was adopted. The documents which were placed before the Commission are listed in Appendix C.

II. SYMPOSIUM ON AQUACULTURE DEVELOPMENT – PARTNERSHIP BETWEEN SCIENCE AND PRODUCER ASSOCIATIONS

6. A Symposium on Aquaculture Development – Partnership between Science and Producer Associations was organized in conjunction with the Twenty-third Session of EIFAC in Wierzba, Poland, and held from 26 to 29 May 2004. The Symposium, which was convened by Mr L. Varadi (Hungary) and chaired by Mr K. Goryczko (Poland) was attended by 72 participants from twenty-three countries. The Symposium benefited from the participation and experience of the Federation of European Aquaculture Producers (FEAP) and the European Aquaculture Society (EAS). The main documentation comprised five invited papers and 37 experience papers and three posters. The report of the Symposium forms Appendix E to this report.

III. BIOLOGY AND MANAGEMENT (Sub-Commission I)

7. Mr T. Brenner (Germany), Chairperson of the Sub-Commission, informed the Commission on progress in the activities agreed upon during the Twenty-second Session of the Commission. The report of the activities was submitted to the Session as EIFAC/XXIII/2004/5 and EIFAC/XXIII/2004/Inf.4.

Joint EIFAC/ICES Ad Hoc Working Party on Eels (Convener: W. Dekker)

8. The EIFAC/ICES Working Party on Eels met in Pasaia (Spain) at AZTI in October 2003. Its Terms of Reference included an update of the information on the status of the stock, an assessment of the impact of fisheries and habitat loss with quantification of management targets for these, development of post-evaluation procedures, and a review of national

management plans in the light of previous advice. A full report of the meeting is available on the ICES web site[1].

9. National reports constituted a valuable source of information, enabling the Working Party to strengthen its role as a clearing-house. The general picture of the eel stock in Europe is one of declining trends: recruitment has declined in the 1980s, and reached a historical minimum in 2001, with no subsequent improvement. Landing statistics show a decline during a much longer period, but these statistics are notoriously incomplete as the stock size, fishing effort and impacts are unknown. National management plans (in place or being developed) do not yet facilitate an adequate recovery regime.

10. The Dutch delegation informed the Sub-Commission that the problem of eels will be placed on the agenda for EU discussion when The Netherlands assumes the Chairmanship of the Commission in July 2004.

11. The Secretariat informed the Sub-Commission that a meeting will be held shortly in FAO, Rome, to address the inconsistencies in eel data.

12. The Sub-Commission agreed that a letter be sent by the Chairman of EIFAC to the EU DGs – Fish and – Environment and to the National Governments of the EIFAC member countries. This letter should explain EIFAC concerns regarding fisheries, habitat, social and economic aspects, and research aspects of eels and urge the EU and National Governments to develop concrete initiatives and take action to conserve this species.

13. The EIFAC/ICES Working Party recommended that:

- "A recovery plan for the European eel stock be compiled and implemented as a matter of urgency and that fishing and other anthropogenic impacts on production/escapement of silver eels be reduced to the lowest possible level until such a plan can be agreed and implemented."
- "Monitoring of recruitment, stocks, fisheries and escapement be sustained at recent levels, whilst a stock recovery plan - including a comprehensive monitoring and research programme - be agreed and implemented."

14. No additional proposal for continuation of the work was presented because any future programme depends on whether political decisions are taken on the EU Eel Action Plan.

Ad Hoc Working Party on Fish Monitoring in Fresh Waters (Convener: P. Hickley)

15. The WP met in June 2002 in Windermere, UK, in association with the Twenty-second Session of EIFAC. This meeting contributed information to assist work by the European Committee for Standardization (CEN) on the draft standard: "Water Quality – Guidance on the scope and selection of fish sampling methods". During the Inter-Session, links were maintained with the Fish-based Assessment Method for the Ecological Status of European Rivers project (FAME). A list of forthcoming fisheries-related conferences was produced and is updated every month. A second meeting of the WP was held in Wierzba, Poland, in May 2004 during the Twenty-third Session of EIFAC.

16. It was agreed that work for the next Inter-Session would focus on completing the document "Best Practice in Electric Fishing" and producing "Guidelines for Sampling Fish in Fresh Waters" which will be designed to give a practical interpretation of the various standards and directives associated with fish monitoring. It was recommended that each

[1] http://www.ices.dk/reports/ACFM/2003/WGEEL/WGEEL2004.pdf).

Working Party should post any documents produced by it, including details of its members, on the EIFAC web site.

Ad Hoc Working Party on Introductions and Stocking (Convener: I. Cowx)

17. During the intersession the WP worked on a review of stocking and introductions in EIFAC countries and impacts and issues relating to current practice. The Convener of the Working Party represented EIFAC at the European Commission workshop entitled "The need for binding rules regarding introductions, transfers and containment of aquatic organisms in aquaculture" in December 2003 and presented a position statement on the EIFAC guidelines for stocking and introductions and the work in progress. The Convener has been requested by FAO to produce technical guidelines on stocking to complement the Code of Conduct for Responsible Fisheries and these will be available to EIFAC. Members of the WP will participate in the session on Invasive species at the Eleventh Ichthyological Congress in Estonia in September 2004 to discuss issues concerning introductions and formulate protocols thereon.

Ad Hoc Working Party on Mapping of Fish Distribution and Aquatic Habitat Quality (Convener: R. Fricke)

18. Following a recommendation of the EIFAC Executive Committee (EXCOM), at its meeting in Rome, 19-21 May 2003, Mr R. Fricke was appointed Convener which he accepted. Based on discussions with Mr Fricke, the Commission agreed to amend the terms of reference as follows:

(i) Production of a pan-European fish atlas for the approximately 600 existing species with special emphasis on the relation between fish and their inland water habitats and on the threat to extinction (approximately 700 pages)

(ii) Maintenance of a catalogue for EIFAC of material available; and

(iii) Advice to countries on preparing such material, using a unified approach

19. Mr Fricke has already started to compile data and will send this material to European colleagues for crosschecking. It is envisaged that the species catalogue will eventually be prepared in printed format. However, information for single countries will be successively made available as soon as possible in electronic format. The Technical Secretary will investigate the possibility of making available through FAO country maps and a map of Europe in a standardized format. Furthermore, interest in, as well as possibilities and costs for, publishing the catalogue through FAO (e.g. the Species Identification and Data Programme) and for making it available through FIGIS will be clarified.

Joint EIFAC/GFCM Ad Hoc Working Party on Management of Sturgeon (Convener: M. Chebanov)

20. The Convener, after consultation with the EIFAC Secretariat and the Chairman of the Sub-Commission, sent a questionnaire to all members of the WP to determine the current status of stocks and their level of exploitation. The questionnaire was also sent to the GFCM Secretariat inviting them to identify experts and to encourage them to share in the efforts of the Working Party. The information resulting from the questionnaire was reviewed at a meeting of the WP held during the Twenty-third Session of EIFAC. Because of the low response to the questionnaire the Convener will re-solicit the information. During the intersession the WP has maintained appropriate linkages with relevant organizations. The WP continues to co-operate with the World Conservation Union (IUCN) and CITES (Convention

on International Trade in Endangered Species of Wild Fauna and Flora). Members of the WP have been involved in the establishment of the new World Sturgeon Conservation Society (WSCS).

21. The Sub-Commission recommended that the following steps be taken:

(i) Gather the missing information.
(ii) Evaluate the existing results for the River Danube and compile a report for distribution.
(iii) Formulate an action plan on sturgeon management as a proposal for EU funding with the assistance of Hungary.

ELECTION OF OFFICERS

22. The following were elected as Officers of the Sub-Commission: Mr T. Brenner (Germany), Chairperson; Mr J. Caffrey (Ireland), Vice-Chairperson; Mr I. Navodaru (Romania), Rapporteur.

IV. AQUACULTURE (Sub-Commission II)

23. The Chairperson of the Sub-Commission, Mr L. Varadi (Hungary) introduced the activities and achievements of the Sub-Commission, as presented in EIFAC/XXIII/2004/6 and EIFAC/XXIII/2004/inf.5.

Ad Hoc Working Party on Fish Diseases and their Control (Convener: R. Richards)

24. The Sub-Commission decided to discontinue this working party. However, it expects that the proceedings of the 1999 EIFAC/EAFP Health Management Workshop in Rhodes will be published in 2004.

Ad Hoc Working Party on Relationship between Fish Transfers and Fish Health (Convener: E. Hudson)

25. The Sub-Commission considered and approved the proposal for a new Working Party on this topic.

26. It is important that those responsible for fisheries development are fully conversant with the increasing changes in fish health legislation within Europe governing third country imports into the EU. They should also be aware of efforts to harmonize norms by the Office International des Epizooties (OIE).

27. In view of the need for enhanced collaboration between those responsible for developing veterinary health controls and those responsible for fisheries and aquaculture, it was recommended that a new working party be established with the following terms of reference:

- To assemble information and guidance on veterinary health controls operating (both existing and those under development) at national, European and international levels.
- To evaluate and raise awareness of the potential impact of veterinary health controls on fisheries developments across Member Countries using the EIFAC affiliated web pages to cover these matters.
- To disseminate information on fish health concerns relating to fisheries developments in order to influence controls applied at national, European and international levels.

28. Mr E. Hudson offered to convene the working party, inviting participation from national delegates and the European Aquaculture Society. The invitation would also be extended to FEAP, EAFP, the Fish Disease Commission of the OIE and that of the European Commission.

Ad Hoc Working Party on Water Resources Management in Aquaculture (Convener: M. Verdegem)

29. The new Convener of this Working Party, Mr M. Verdegem, informed the Commission that the Working Party will focus on freshwater use in aquaculture, including the use of freshwater in brackish and marine aquaculture. The topic will be divided into three themes:

- Water use in aquaculture,
- Water costs in aquaculture, and
- Future types of water use in aquaculture.

30. Special attention will be given to technologies to reduce water use and costs, to quantify the indirect costs of water use, to compare water use in aquaculture with water use in agriculture and industry, and to set research and training priorities.

31. The Sub-Commission agreed to the proposed workplan.

32. The Sub-Commission discussed possible conflicts between aquaculturists and other water users, and noted the importance of analyzing water use in aquaculture within the context of the Water Framework Directive. Various experts expressed interest in joining this initiative. The workplan and types of output will be determined within a few months.

Ad Hoc Working Party on Organic Fish Farming (Convener: V. Hilge)

33. The convener of the Ad Hoc Working Party, Mr V. Hilge, presented an overview of activities and results achieved. Two questionnaires on the present status of organic fish farming in the EIFAC region were sent to National Correspondents. Organic farming of rainbow trout, brown trout, carp, and perch and eel as supplementary products, in eight countries yields an estimated but unconfirmed total production ranging between 500–1 000 tonnes. Numerous private certifiers have developed their own standards resulting in guidelines with widely differing scope and detail. More uniform and harmonized standards seem desirable both to producers and consumers. Scientific assessment of these standards is still required. For this reason, this initiative should continue, particularly in view of the growing interest in organic fish farming in other regions of the world that may have consequences for the European market.

Ad Hoc Working Party on Market Perspectives of European Freshwater Aquaculture (Convener L. Váradi)

34. Product marketing continues to be a critical issue in European freshwater aquaculture, especially in view of the enlargement of the EU. Recent FEAP work and the Symposium held during this session confirmed the need for further studies. FAO/EIFAC and the European Commission will jointly undertake efforts to organize a Workshop on Freshwater Aquaculture Marketing in 2005 which will focus on new EU member states and accession countries. HAKI at Szarvas offered to host the Workshop. FAO will provide a European market study on freshwater species for discussion at the Workshop. DG Fish will investigate the possibility to cover the travel cost of some 40 workshop participants.

Network of Aquaculture Centres in Central and Eastern Europe

35. Sub-Commission II has been actively involved in the establishment of the Network of Aquaculture Centres in Central and Eastern Europe (NACEE) which presently involves 18 institutions from 12 countries. FAO is considering support for a NACEE workshop to be held late this year. During the Symposium held in conjunction with this session, NACEE held meetings attended by member institutions and observers from other countries. The EAS observer reiterated opportunities for collaboration between EIFAC, EAS and FEAP, and also welcomed the NACEE initiative, in particular to facilitate better involvement of Central and Eastern European countries in European aquaculture development programmes. The IUCN observer also welcomed the NACEE initiative. It was agreed that there is scope for collaboration with IUCN in sustainable development of inland aquaculture and fisheries focusing on Eastern Europe.

36. Sub-Commission II will continue strengthening communication and cooperation with European aquaculture organisations such as EAS and FEAP. It will also contribute to inter-regional cooperation mainly through collaboration between NACEE and NACA (the Network of Aquaculture Centres in Asia-Pacific).

Election of Officers

37. The following persons were elected: Mr L. Varadi (Hungary), Chairperson; Mr J.P. Proteau (France), Vice-Chairperson; Mr P. Lengyel (Hungary), Rapporteur

V. PROTECTION OF THE AQUATIC RESOURCES (SUB-COMMISSION III)

38. The Chairperson of the Sub-Commission, Mr. A. Raat (The Netherlands) presented the activities and achievements of the Sub-Commission as set out in EIFAC/XXIII/2004/8 and EIFAC/XXIII/2004/Inf.7.

Ad Hoc Working Party on Effects of Physical Modification of the Aquatic Habitat on Fish Populations (Convener: M. Zalewski)

39. An international Symposium on Ecohydrology and Physical Fish Habitat Modifications in Lakes was organized on 26-28 November 2003 in Mondsee (Austria). The meeting was attended by 38 participants from 17 countries. The rationale of the meeting was that physical modifications of lake habitats are considered to be one of the major causes of changes in fish communities, biodiversity and productivity. The proceedings of the meeting will be published in the international scientific journal Ecohydrology and Hydrobiology. An “Ecohydrology Task Force” was established at the Symposium to organize a workshop on perspectives of restoration of aquatic habitats and elaborate guidelines for restoration of physically degraded habitats.

40. The Sub-Commission agreed that the Working Party and its cooperation with the UNESCO IHP programme be continued. It also noted that habitat degradation has serious deleterious effects on fish populations and that practical measures to improve the habitat are urgently needed.

Ad Hoc Working Party on Methodologies for Rehabilitation of Lakes and Reservoirs (Convener: H. Lehtonen)

41. The Manual on Rehabilitation of Lakes and Reservoirs for Fish is scheduled to be published by the end of 2004. The papers presented for the manual will be re-edited and

collated during the summer 2004 by Mr I.G. Cowx, to bring the Manual into the style of the previously published Manual on River Rehabilitation. The manual will be published by Blackwell Science. Mr Cowx will approach Blackwell Science, inviting them to discuss a co-publishing agreement with the FAO Publication Sales and Marketing Group.

42. The Sub-Commission noted that publication of the Manual may only be possible if it were sponsored.

Ad Hoc Working Party on Prevention and Control of Bird Predation (Convener: E. Staub)

43. The proceedings of the 2001 Hull International Fisheries Institute/EIFAC Conference on Interactions between Fish and Birds, Implications for Management, were published during the intersession, edited by Mr. I.G. Cowx. The EC funded project REDCAFE (Reducing the Conflict between Cormorants and Fisheries on a Pan-European Scale) published its final report "Reducing the conflict between cormorants and fisheries on a pan-European scale, REDCAFE, Final Report of a Concerted Action funded by the European Union", edited by Mr D.N. Carss[2]. A COST Action to take the REDCAFE network forward has recently been approved in December 2003 by EC. This new project (called INTERCAFE) will build on the REDCAFE network and include more local stakeholders, social scientists, economists and policy-makers. Experts from the EIFAC member countries can participate in the three working parties of the INTERCAFE project. The planning for this project has been started and the project will run for four years. The Sub-Commission underlined the need for a population dynamic model of comorants.

44. The Sub-Commission stressed the importance of guidelines for practical actions and an integrated socio-economic approach. The Sub-Commission noted the very significant social and economic impacts of bird predation on fisheries and aquaculture. It was recognised that other groups were carrying this work forward and decided to convert the Ad Hoc Working Party into a liaison group. Mr E. Staub volunteered to act for EIFAC.

Ad Hoc Working Party on Influence of Management Practices on the Environment (Convener: M. Aprahamian)

45. The Working Party was involved in the publication of the proceedings of the 2002 EIFAC symposium in Windermere. Sixteen papers from the meeting and an overview paper were published in a special issue of Fisheries Management and Ecology, edited by Mr H. Naeve (Vol. 11, No. 3/4, June/August 2004).

46. The Working Party met at Windermere (June 15, 2002) and identified various issues where EIFAC could help by providing advice on issues such as the impacts of stocking, biomanipulation, rehabilitation, impact of fish community management and conservation. The issues identified were addressed to the relevant working parties of Sub-Commission I.

47. Future activities of the Working Party were discussed during the Twenty-third Session. It was decided that the Working Party should continue as a strategic EIFAC liaison group, reporting to EIFAC on priority issues for the working programme of the Commission.

[2] (http://banchory.ceh.ac.uk/redcafe/redcafedocs.htm)

Ad Hoc Working Party on Handling of Fishes in Fisheries and Aquaculture (Convener: A.J.P. Raat)

48. The Working Party prepared a compilation of basic scientific knowledge on the effects of handling of fishes in fisheries and aquaculture (fishing methods, harvest, holding and rearing, use of anaesthetics, slaughter). The document also identifies the relevant Web sites and other sources for information on welfare and handling of fishes and related topics. The Session decided that the document should appear as an EIFAC publication after editing and review. The Dutch delegation offered to sponsor the publication of the document.

49. The report of the March 2004 workshop meeting of the Ad Hoc Working Party in Utrecht (The Netherlands) was presented to the Twenty-third Session. This document identifies the ingredients for a future position statement of EIFAC on handling of fishes. The document further identifies issues of relevance for Working Parties of the EIFAC Sub-Commissions. The Sub-Commission noted the activities of the Council of Europe on handling and welfare of fish. It agreed that Mr V. Hilge will contact Mr R. Rösch to determine wheather he would be willing to act as liaison person between EIFAC and the relevant Council of Europe expert group.

50. The Sub-Commission decided that a document for an EIFAC position statement on handling of fishes will be prepared during the intersession.

Liaison Group on EU Water Framework Directive (WFD) (Liaison Group: I.G. Cowx/A.J.P. Raat)

51. The officers of the Liaison Group reported on activities in member countries with regard to the Water Framework Directive. The Session stressed that EIFAC must have a high profile in fish and fisheries related issues in the implementation of the Directive in member countries. The Session decided to continue the liaison group.

Ecological and human health effects from endocrine disrupting substances

52. Recent developments in the research of effects of endocrine disrupting substances on fishes were reported. It was decided that the Chairperson of the Sub-Commission should continue to have a watching brief on new developments on the effects of endocrine disruptors on fish and fish populations and report relevant information to EIFAC.

Ad Hoc Working Party on Aquatic Environmental Hazard Assessment Criteria and Methods

53. The Sub-Commission decided to discontinue the Ad Hoc Working Party on Aquatic Environmental Hazard Assessment Criteria and Methods.

Election of Officers

54. The following persons were elected: Mr A. Raat (The Netherlands), Chairperson; Mr G. Castelnaud (France), Vice Chairperson and Mr P. Gérard (Belgium), Rapporteur.

VI. SOCIAL AND ECONOMIC ISSUES (SUB-COMMISSION IV)

55. The Chairperson of the Sub-Commission, Mr I.G. Cowx (United Kingdom), informed the Commission of the progress achieved during the inter-sessional period. The report was available to the Session as document EIFAC/XXIII/2004/8 and EIFAC/XXIII/2004/Inf.7.

Ad Hoc Working Party on Recreational Fisheries (Convener: B. Breton)

56. The Terms of Reference for this Working Party were refocused during an Ad Hoc Working Party meeting to formulate a Code of Practice for Recreational Fisheries, an exercise that will be run in collaboration with the European Anglers Alliance (EAA).

57. The following steps were proposed:

- A list of experts at national level will be prepared on the basis of information requested during the Twenty-third Session.
- A questionnaire relating to the general principles for a Code will be circulated in September 2004.
- The information from the questionnaire will be consolidated by early 2005 and discussed at the General Assembly of the EAA in March 2005.
- A meeting of the WP will be run back-to-back with the EAA General Assembly, with potential collaboration from IUCN, to finalize the Code. The final documentation will be made available to the Twenty-fourth Session.

Mr B. Breton will coordinate these activities.

58. The Chairperson of the Sub-Commission IV chaired the session on Recreational Fisheries and Conservation at the Fourth World Fisheries Congress, in Vancouver, Canada, in May 2004. The session attempted to reconcile the position of recreational fisheries in terms of ecosystem management and show the way forward to resolving conflicts between fisheries and conservation.

Ad Hoc Working Party on Socio-Economic Aspects of Inland Fisheries (Convener: M. Sipponen)

59. The Convener of the WP, Mr M. Sipponen informed the Session of progress. He outlined the results from a questionnaire circulated to national experts and EIFAC correspondents. The questions included: definition of recreational fishers; numbers of inland recreational fishers; on-going research; and an assessment of the economic value of inland recreational fisheries. The study showed the high economic and social value of recreational fisheries, although limitations of the methodology were identified. A copy of the report will be posted on the EIFAC website. The inter-sessional period will be used to improve the methodology and finalize the outputs. Efforts will also be made to address the socio-economic importance of the commercial fisheries sector. The final report will be presented at the Twenty-fourth Session.

Other activities

60. The review of the economic value of recreational fisheries in Nordic countries carried out in 1999 and 2000 was published as Toivonen *et al*. (2004), The economic value of recreational fisheries in Nordic countries, *Fisheries Management and Ecology* 11, 1–14. The paper represents an important contribution to the way forward for economic assessment of

recreational fisheries, and could be considered as a framework for similar studies in Europe and elsewhere.

61. The Chairperson of Sub-Commission IV attended a workshop organized by the World Fish Centre in Malaysia in January 2004 on the Ecosystem Approach to Fisheries Management to present a keynote lecture on the issues relating to inland fisheries. This highlighted many of the limitations of this approach when applied to inland fisheries, but also indicated that inland fisheries are already catered for under the catchment management approaches developed in the 1990s. Because of the multifaceted problems facing inland fisheries, it was recommended that a watching brief was set up to inform EIFAC on developments and decide on options for full integration into EIFAC activities at the Twenty-four Session. Mr I. Cowx will coordinate these activities.

62. It has been recognized since the establishment of Sub-Commission IV in 1996 that too few socio-economists are involved in EIFAC. Mechanisms to encourage participation were discussed and the forging of stronger links with the European Association of Fisheries Economists (EAFE) and research institutions and producer associations was recommended. This should be linked to raising awareness of the economic importance of inland fisheries with economists who traditionally work in the marine fisheries sector. This process will be followed up by officers of the Sub-Commission.

Election of Officers

63. The following were elected: Mr I.G. Cowx (UK), Chairperson; Mr M. Sipponen (Finland), Vice-Chairperson; Mr R. Arlinghaus (Germany), Rapporteur.

VII. ADOPTION OF THE SUB-COMMISSIONS PROGRESS REPORTS AND RECOMMENDATIONS

64. The Session adopted the reports and recommendations of the Sub-Commissions.

VIII. ADOPTION OF THE REPORT OF THE SYMPOSIUM

65. The Session adopted the report of the Symposium on Aquaculture Development – Partnership between Science and Producer Associations (Appendix E).

66. The Commission recognized the activities of the European Union (EU), the Federation of European Aquaculture Producers (FEAP), the European Aquaculture Society (EAS), and others, as well as the wide range of issues associated with interactions between science and production.

67. Cooperatives, trade associations and producer organizations/associations are essential mechanisms, not only to improve marketing but also to cover R&D costs that many small farms cannot afford. Targeted research and development programmes have significant benefits for aquaculture producers. Successful partnerships are characterized by good understanding and communication between partners, clear comprehension of their needs and pro-active positions, as well as coherent national and European RTD policies.

68. Producers should be assisted in the organization of representative associations. They should also participate in priority-setting and decision-making processes, and be provided with access to information and education.

69. Partnerships are important in the overall context of promotion of sustainable aquaculture development. Strong professional associations are required to establish and

maintain successful partnerships with scientists. Multidisciplinary approaches should encompass consumer, social and economic issues, and should facilitate cooperation and consultation involving multiple stakeholders.

70. The Commission recommended to Members that:

- durable partnerships be promoted at all levels, highlighting the requirement for skill development and securing financial resources for the operation of producer associations;
- RTD programmes applicable to SMEs and associative groupings be promoted;
- international organizations, such as EIFAC, FEAP and EAS continue working together to demonstrate the benefits of partnerships in the promotion of sustainable aquaculture;
- core funding be sought to promote networking, effective dissemination of research results and communication among inland fisheries and aquaculture stakeholders;
- organizations such as EIFAC address the social and economic influences on the sustainability of inland fisheries and aquaculture.

71. The Commission welcomed the symposium recommendation to continue the approach of promoting partnership consultations between science and production at future symposia, and to widen the scope by including other relevant stakeholders.

IX. ASSESSMENT OF THE ROLE AND FUNCTIONING OF EIFAC

72. Discussion of the document EIFAC/2004/4 “Assessment of the Role and Functioning of EIFAC” led to the following conclusions and decisions by the Commission.

73. EIFAC lacks funds to support its activities. However, the establishment of a special fund within EIFAC would meet with serious administrative obstacles. The Session therefore decided to continue the practice of searching for dedicated funding as the need arises. The establishment of appropriate partnerships with other organizations should help to achieve this. IUCN expressed interest and willingness in participating in such a partnership.

74. The National Correspondents have to play a more active role in promoting national and international collaboration among fisheries scientists, managers and administrators. National Correspondents should maintain a national database of fisheries institutions and fisheries scientists, thus enabling the flow of information to and from these partners. This concerns particularly the announcement of EIFAC symposia and sessions. National Correspondents and their ministries should be briefed on their function by the Chairperson, based on a duty sheet that will be prepared by the Executive Committee, assisted by the Secretariat.

75. Dialogue with the European Commission should be intensified. A mission representing EIFAC should be sent to consult with relevant EC Directorates to influence their policies and programmes on aquaculture and fisheries. Appropriate communication channels should be established wherever possible, and EIFAC should be represented at relevant EU consultations. Ideally, EIFAC should enjoy the same advisory relationship on inland fisheries with regard to the EU as does the International Council for the Exploration of the Sea (ICES) on marine matters.

76. The item “Emerging Issues” should become a standing item on the agenda of EIFAC Sessions and its Executive Committee meetings. National Correspondents have to identify and communicate emerging issues in a pro-active way.

77. The technical and policy output of EIFAC should be more widely disseminated both among Member States and to policy-makers within the States. One mechanism to achieve this might be the establishment of networks within Member Countries. Feedback from the Members defining their expectations concerning the work of EIFAC, is crucial and has to be solicited by the Commission. National Correspondents should better plan and facilitate participation by appropriate national delegates in EIFAC activities, especially at EIFAC sessions. The Chairperson of EIFAC should encourage timely response from National Correspondents, and motivate participation of national delegates in the Commission's activities at all times.

78. Working Party conveners should make full use of the EIFAC list server and the opportunities provided by the EIFAC webpage[3] to promote and disseminate EIFAC activities. Efforts should be made to encourage younger people to participate in EIFAC activities.

79. EIFAC should continue to produce publications of high scientific quality in all fields covered by the Commission. Benefits of such information dissemination include higher motivation of scientists to collaborate, and a wider dispersal of the work of EIFAC. The collaboration that has been established between FAO and some publishers of scientific journals has proven to be a workable alternative and should be considered in future.

80. The outcomes of recommendations taken as a result of discussions of the issues raised in document EIFAC/XXIII/2004/4 will be evaluated at the Twenty-fourth Session, for which the Chairperson will prepare a short report.

X. SYMPOSIUM IN CONJUNCTION WITH THE TWENTY-FOURTH SESSION OF EIFAC

81. The Commission agreed that the Symposium to be held in conjunction with the Twenty-fourth Session of EIFAC should concentrate on the impacts of hydropower dams and other structures that modify flow, and matters for mitigating their effects under the title "Hydropower, flood control and water abstractions: implications for fish and fisheries". Mr R. Welcomme agreed to serve as Convener for the Symposium and prepare the prospectus. The Draft Prospectus of the Symposium is included in this report as Appendix F.

82. The Delegate for the Netherlands offered to host a workshop late in 2004 on hydropower-related issues as part of the preparation for the Symposium.

XI. ANY OTHER MATTERS

Illegal, Unreported and Unregulated (IUU) Fishing

83. The Commission agreed that it be represented at the forthcoming IUU meeting in Rome in June 2004. Ms E. Ciccotti will participate on behalf of EIFAC.

Electronic publication of EIFAC documents

84. The Secretary of EIFAC notified the Commission that funding was available to post selected EIFAC documents on the FAO website. The Executive Committee is requested to prioritize from the list of documents.

[3] www.fao.org/fi/body/eifac/eifac.asp

Chairperson's presentation to the Fourth World Fisheries Congress

85. The Chairperson's presentation on EIFAC to the Fourth World Fisheries Congress will be made available at the EIFAC website.

XII. ELECTION OF EIFAC OFFICERS

86. The Commission reelected the following Officers of the Commission: Mr R. Müller (Switzerland), Chairperson, Mr K. Pintér (Hungary), First Vice-Chairperson, and Mr P. Hickley (United Kingdom), Second Vice-Chairperson.

XIII. DATE AND PLACE OF THE TWENTY-FOURTH SESSION

87. The date and place will be determined by the Director-General of FAO in consultation with the Chairperson of EIFAC.

88. The Executive Committee will hold its next meeting in May 2005 in Rome.

XIV. ADOPTION OF THE REPORT AND CLOSING OF THE SESSION

89. There being no quorum, the Report of the Twenty-third Session of EIFAC was adopted by the delegations present and will be sent by the Secretariat to the others members of the Commission for their approval. The Session was closed at 15:50 hrs on 2 June 2004.

Appendix A

AGENDA AND TIMETABLE

1. **Opening and adoption of the Agenda**
2. **Symposium on Aquaculture Development – Partnership between Science and Producer Associations**
3. **Sub-Commission I (Biology and management)**

   Review of intersessional activities:

   - Eels
   - Fish monitoring in fresh waters
   - Introductions and stocking
   - Mapping of fish distribution and aquatic habitat quality
   - Management of sturgeon

   Election of Officers
4. **Sub-Commission II (Aquaculture)**

   Review of intersessional activities:

   - Fish diseases and their control
   - Relationship between fish transfers and fish health
   - Water resources management in aquaculture
   - Organic fish farming
   - Market perspectives of European freshwater aquaculture
   - Network of aquaculture centres in central and Eastern Europe

   Election of Officers
5. **Sub-Commission III (Protection of the aquatic resources)**

   Review of intersessional activities:

   - Effects of Physical Modifications of the Aquatic Habitat on Fish Populations
   - Methodologies for Rehabilitation of Lakes and Reservoirs
   - Prevention and Control of Bird Predation
   - Influence of Management Practices on the Environment
   - Handing of fishes in fisheries and aquaculture
   - Liaison group on EU Water Framework directive (WFD)
   - Ecological and human health effects from endocrine disrupting substances
   - Aquatic Environmental hazard assessment criteria and methods

   Election of Officers

6. **Sub-Commission IV (Social and economic issues)**

   Review of intersessional activities:

   - Recreational fisheries
   - Socio- economic aspects of inland fisheries

   Other activities

   Election of Officers

7. **Adoption of the reports and recommendations from the Sub-Commissions**
8. **Adoption of the Report of the Symposium**
9. **Assessment of the role and functioning of EIFAC**
10. **Symposium in conjunction with the Twenty-third Session of EIFAC**
11. **Any other matters**
12. **Election of EIFAC Officers**
13. **Date and place of the Twenty-fourth Session**
14. **Adoption of the Report**

Appendix B

LIST OF PARTICIPANTS

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Appendix C

LIST OF DOCUMENTS

EIFAC/XXIII/2004/1	Provisional Agenda and Timetable
EIFAC/XXIII/2004/2	Summary Record of Meeting of the EIFAC Executive Committee, Rome, 19-21 May 2003
EIFAC/XXIII/2004/3	Summary Report of the Symposium
EIFAC/XXIII/2004/4	Assessment of the Role and Functioning of EIFAC
EIFAC/XXIII/2004/5	Summary of Progress Report Sub-Commission I
EIFAC/XXIII/2004/6	Summary of Progress Report Sub-Commission II
EIFAC/XXIII/2004/7	Summary of Progress Report Sub-Commission III
EIFAC/XXIII/2004/8	Summary of Progress Report Sub-Commission IV
EIFAC/XXIII/2004/Inf.1	Provisional List of Documents
EIFAC/XXIII/2004/Inf.2	List of Participants of the Session
EIFAC/XXIII/2004/Inf.3	Prospectus of the Symposium on Aquaculture Development – Partnership between Science and Producer Associations
EIFAC/XXIII/2004/Inf.4	Progress Report, Sub-Commission I
EIFAC/XXIII/2004/Inf.5	Progress Report, Sub-Commission II
EIFAC/XXIII/2004/Inf.6	Progress Report, Sub-Commission III
EIFAC/XXIII/2004/Inf.7	Progress Report, Sub-Commission IV
EIFAC/XXIII/2004/Inf.8	FIRI/C942 (Rev.1) Status of World Fishery Resources: Inland Fisheries
EIFAC/XXIII/2004/Inf.9	FIRI/C886 (Rev.2) Review of the State of World Aquaculture
EIFAC/XXIII/2004/Inf.10	List of EIFAC Correspondents
EIFAC/XXIII/2004/Inf.11	Opening Addresses
EIFAC/XXIII/2004/Inf.12	Statement of Competence and Voting Rights by the European Community and its Member States

Appendix D

OPENING ADDRESSES

Address by
Mr Piotr Stachowiak
Head of Inland Fisheries Unit of the Department of Fisheries of Poland.

It is a great honour and privilege to host the twenty-third Session of EIFAC in the Masurian Great Lakes region of Poland. On behalf of the Minister of Agriculture and Rural Development let me welcome you warmly to this region. We have not chosen the place randomly. The inland waters of the Masurian Great Lakes region have always abounded in fish, and formed the basis of their fisheries. It is here, in the waters of thousands of lakes that man had fished long before the Polish State came into being. Numerous tangible traces of that early human activity are exhibited in Polish museums.

As regards historical facts, it is worth remembering that the earliest written records of fish farming in the territory of what is now Poland came from the tenth century AD. Fish ponds for breeding the carp were established as early as the tenth century. Even today some of these facilities are still used for fish breeding, having gone through many stages of modernization. The very first books on fish farming to be written in the Polish language were published in the sixteenth century. In the nineteenth century, Mr Tomasz Dubisz from Silesia introduced a method of carp breeding in ponds that is still used today. We are glad to see that the introduction of extensive fish farming keeps reappearing in EU program documents, drawing upon the Silesian tradition.

The most dynamic advancement in inland fisheries and fish farming in Poland occurred during the years between the First and Second World Wars. The then regulations concerning these human activities were derived from the best solutions in inland fishery management. They do not cease to inspire us today. One good example of such a regulation is the division of flowing waters into *fishing areas* and, as a consequence, the granting of the right to catch fish that facilitates a reasonable and well-balanced management of inland waters resources and also supports the development of modern inland capture fishery and recreational fisheries and fish farming.

This session is a perfect opportunity to reveal that Poland has one of the best professional staffs trained in the field of the inland fishery. Numerous engineers now operating in the states of Central Europe studied in Poland. Several years ago the Inland Fisheries Institute celebrated the fiftieth anniversary of its research activities.

In Poland, the traditions of inland fishery go back for centuries, but this field of activity can by no means can be considered outdated or having limited social, environmental or economic importance. According to recently developed estimates, 11 000 tonnes of rainbow trout and 22 000 tonnes of carp are produced in Poland per year. This is 5 000 tonnes of carp more than in the 14 member states of the European Union before its recent enlargement on 1 May 2004.

Practically speaking, the whole produced amount of carp is sold on the domestic market, which is quite significant. According to the 2002 agriculture census, 10 000 entities and farms dealing with fish cultivation, breeding and catch.

The social and economic importance of recreational fishery can not be under emphasised. According to the data developed by the Inland Fisheries Institute, up to 1 million people practice angling in Poland They catch about 40 000 to 60 000 tonnes of fish in lakes and rivers each year, an amount that is at least ten times higher than the commercial catch in inland waters, done with professional fishing gears. It is estimated that the value of the angling market, together with supporting services, exceeds the value of fish production on fish farms by nearly four times. The fish market in Poland is a receptive one and there are no symptoms of potential overproduction. The balanced development of inland fisheries and aquaculture is both feasible and desirable and only requires proper measures and conditions.

The importance of non-productive functions of earthen fish ponds should be emphasized; they improve the water balance; they provide habitat for rare species of wild plants and animals; they enhance tourist attractiveness of rural areas and they help to preserve biological diversity. In Polish territory, fish ponds alone store as much water as all Polish reservoirs, whose construction consumed public funds, required much engineering effort and in many cases the relocation of villages.

In Poland, we produce large amounts of stocking material of predatory fish, river fish and endangered species. Because of the commitment of researchers and the stocking efforts of fishermen, there are well-balanced populations of the sea trout and *Coregonus* species, which were formerly regarded as endangered and thus requiring special protection.

Following the enlargement of the European Union, many countries will find it easier to use Poland's long experience in the protection and use of freshwater fish resources. We will be glad to share our experience in a successful restoration of sea trout and salmon, and in maintaining eel and vendace populations. Many generations have contributed to this success. Special respect must be paid to the Inland Fisheries Institute and to the fish farmers who cooperate with the Institute. Thanks to their efforts as well as to the subsidies from the Polish government, 1 200 000 salmon and sea trout smolts are introduced into Polish waters every year.

The volume of fish stocking is expected to increase as a result of amendments to Polish law and the increasing understanding of the necessity to restore wild fish resources. Both Polish fishermen operating on inland waters and researchers are willing to cooperate in this effort. As we live in difficult times, it is still more encouraging to know that 40 percent of the income from fish capture is allocated by the fishermen for fish stocking to improve the resources.

This investment proves that fishermen obey the principles of a well-balanced and reasonable inland fishing economy. It also provides a sound basis for further development of fish farming in Poland. Production of stocking material is an excellent way to increase the profitability of pond fisheries by diversification of the product range on offer: from fry to adult fish. These changes occur naturally, without introducing vast official programs.

Our inland capture fishery has gone through profound transformations in the last decade. Practically, changes in ownership of this sector have been completed. The manner in which river, lake and reservoir waters are exploited has also altered. The best proof in this respect lies in the data on inland fishery catches and economics. Angling for recreation has become not only an interesting hobby, but provides a significant income to inland fishery entities. It creates jobs that facilitate proper management of waters. Jobs are also created to provide

various services to anglers and in this way raise the added value of inland fisheries. In this respect Maintaining Equal opportunities have to be maintained for all entities interested in exploiting waters intended for fishing or angling.

Our understanding of the potentially diverse forms of the inland fishing economy in Poland might form our contribution to defining priorities for the Financial Instrument for Fishery Guidance in the European Union. A harmonious development of fish farming, inland capture fishery and recreational fishery is the Polish answer to the question of inland fishery management in Europe. We notice that there is potential for the development of inland fishery by modern organization of the fishery market and in the European Union's structural assistance to the sector. Such development cannot be simply ordered or regulated; in the now enlarged European Union its pace depends on the active participation of all market players.

The aid offered by structural funds is expected to facilitate the funding of new activities. For example, with the financial support of the European Union and Poland's budget we intend to help diadromous fish to migrate up and down rivers which have been dammed. It is possible that the activities will be a starting point for joint international efforts aiming at restoration of the Baltic sturgeon. Fish farmers can expect assistance too. Investments in lake fisheries, construction of new ponds and modernization of existing ones will be offered. This assistance aims at increasing the production capacity and improving the conditions in the fishery economy, including the sector's increased competitiveness and profitability. We are convinced that our membership in the European Union will facilitate the recognition of the importance of the inland fisheries and aquaculture, and current EU regulation will be adjusted accordingly to the needs.

The first steps have already been taken in this direction. Early in December last year, the Minister of Agriculture and Rural Development presented his critical opinion as concerned the European Union program of management of eel populations. It is certainly impossible to make up for lost time and to eradicate existing limitations within a few days. Taking into account the professional background of Poland's fishermen, the popularity of angling and our countrymen's culinary taste, we are convinced that there is a potential for further and long term development of inland fishery.

Finally, I would like to wish the members of the Commission and participants of the session a rewarding exchange of ideas.

Address by
Mr Gerd Marmulla,
Secretary *ad interim* of EIFAC

Mr Stachowiak, Representative of the Polish Ministry of Agriculture and Rural Development, Mr Chairman, Distinguished Delegates, Ladies and Gentlemen, it is my pleasure to welcome you, on behalf of the Director-General of FAO, Mr Jacques Diouf, and Mr Ichiro Nomura, Assistant Director-General of the FAO Fisheries Department, to the Twenty-third Session of the European Inland Fisheries Advisory Commission.

First of all, I would like to express our sincere gratitude to the Government of Poland for hosting this Session here in Wierzba on the shores of Lake Beldany in the heart of the beautiful Great Mazurian Lakes area. Far away from any disturbing noises and the hectic life of any big city, the Conference Centre here in Wierzba is the ideal location for our "retreat" during which the work achieved during the last intersessional period, as well as important issues for the future, will be discussed.

Globally there is a growing awareness of the economic and social importance of inland fisheries and aquaculture to satisfy nutritional needs and recreational demands. In Europe we can expect a continued growth of recreational fisheries and of aquaculture. However, we must also take into account the use of freshwater resources to meet other human needs as well as the need to protect and preserve the aquatic ecosystems.

EIFAC is active in all fields relevant to inland fisheries and aquaculture. This is reflected in its four Sub-Commissions that cover biology and management, aquaculture, protection of the aquatic resource as well as social and economic issues. In this way, the Commission continues to serve as a forum for exchange of information and for promoting a common approach to inland fisheries in Europe.

The importance of EIFAC as a forum for discussing topics of high interest to both inland fisheries and aquaculture and for disseminating information that is useful not only to its member countries is again mirrored by the number of participants who have shown interest in the Symposium that accompanies this Twenty-third Session. Indeed, over 72 participants from 23 countries have participated in the Symposium on "Aquaculture Development – Partnership between Science and Producer Associations", a topic discussed so far only among very few experts and now brought to the attention of a wide audience thanks to the courageous proposal to make it the theme of our Symposium this year.

Although most of the European countries are already members of EIFAC, we look forward to the remaining European countries joining the Commission for the benefit of all those dealing with freshwater fisheries and related topics. In this respect, it is a great pleasure to announce that the Republic of Bosnia and Herzegovina has become member of EIFAC since the Twenty-second Session. We are also glad to welcome, for the second time now, the Russian Federation as observer to a session of the Commission.

I am sure that the present session will be fruitful and help advance inland fisheries and aquaculture in Europe, and even on a global scale. EIFAC, as the other similar statutory Regional Fisheries Bodies of FAO, for example CIFA (the Committee for Inland Fisheries of Africa) and COPESCAL (Comisión de Pesca Continental para América Latina), constitutes

an important and useful tool for providing advice to make resource management more sustainable.

Rest assured that we from the Secretariat shall do whatever is possible to facilitate your work during this session as well as EIFAC's work in the future.

Thank you.

Address by
Mr Rudi Muller
Chairman of EIFAC

Mr Stachowiak, Representative of the Polish Ministry of Agriculture and Rural Development, Esteemed Delegates, dear Colleagues, Ladies and Gentlemen. It is my great pleasure to welcome you to the Twenty-third Session of the European Inland Fisheries Advisory Commission in this beautiful Mazurian Great Lakes Area.

On behalf of EIFAC and all the participants, I would like to express my sincere gratitude to the Ministry of Agriculture and Rural Development of Poland for so generously hosting this Session at Wierzba. We have been warmly received and treated with great hospitality, and we appreciate these fine congress facilities. I would like to ask Mr Stachowiak to convey to his Government our appreciation for hosting this EIFAC Session in Poland. I also thank Prof. (Krysztow) Zdanowski, Director of the Inland Fisheries Institute in Olsztyn, for freeing his staff to organise this meeting and to provide the necessary secretarial assistance.

This is already the second time that Poland hosts a Session of EIFAC: 34 years ago, in May 1970, the Sixth Session was held in Krakow, under the Chairmanship of Marcel Huet (Belgium). Ever since Poland joined EIFAC in 1962, this country has been actively involved in the work of the Commission. Let me mention just two of the many Polish fisheries scientists EIFAC has seen. Looking back a long way we find our outstanding colleague Prof. Tadeus Backiel who had been very active for EIFAC from the early 1970s till the mid-1980s, as Chairman of Sub-Commission I, as First Vice-Chairman of EIFAC, and as a wise adviser to us younger people. I heard he is well and still working in fisheries science! And then I would like to mention our dear friend Maria Bninska who had been very actively engaged in the Commission's work. From 1984 till her tragic passing away in the spring of 2001, Maria first served as Chairperson of Sub-Commission I, then Second and finally First Vice-Chairperson of EIFAC. She will always live in our memories.

Since the first Session of EIFAC held in Dublin, Ireland, in April 1960, membership of the Commission has steadily grown from a small group of 14 countries to a fisheries body encompassing almost all of the European states. As of today, the Commission has 34 members, with the European Community as one of the members.

If I say that membership of EIFAC has grown, then I also have to point out that the array of topics and issues with which the Commission deals has significantly changed over the yeas. In the early years of EIFAC, increasing and securing fish production in inland waters as food for humans was among the most important topics. Since then, the focus has gradually shifted – or rather been enlarged – to cover environmental and conservation aspects relating to fish and crayfish, to habitat restoration, and to the respectful treatment of fish. In the 1960s, fish kills and other severe harm to inland waters, caused by acute water pollution, were of utmost importance to member states and thus to the work of EIFAC. In more recent years, with the gradual clean-up of our rivers and lakes, environmental problems have become more subtle and at the same time more difficult to fight. Chronic pollution by a large variety of man-made substances is suspected to have caused problems in reproduction of some fish. River construction and diversion of flows, to the benefit of the energy sector, have seriously altered habitat for fish. And as another example of an environmental issue related to fisheries and conservation but not to pollution: The swell of bird predation that has swept over Europe as a consequence of the unleashed expansion of an initially endangered bird species. Today, bird predation threatens not only fish farms and prosperous inland fisheries. It also threatens

endangered fish species, some of them without any commercial value, in many waters. The need to tackle such difficult problems, where human perception and highly divergent preference play a major role, has led EIFAC some years ago to include social and economic issues in its agenda. These issues have also gained relevance by the growing importance of recreational fishing as an activity far outweighing commercial fishing in inland waters today, both in terms of numbers and economical turnover.

In the past two years since the Twenty-two Session at Windermere, EIFAC has been active in many of its fields of interest. In view of time restriction I will limit myself to just the one or two most prominent achievement in each of the four Sub-Commissions. More complete information, particularly on working parties without or with only little activity, can be found in the respective Sub-Commission Reports that have been made available to the Session.

In Sub-Commission I «Biology and Management», the state and management of the European eel has received great attention. The joint EIFAC/ICES Working Party on Eels (ICES is the International Council for the Exploration of the Seas, ["CIEM = Conseil International pour l'Exploration des Mers"]) met in Spain in October 2003 to discuss, among others, urgent measures needed to prevent the species from further decline. Also in October 2003, the European Commission announced the establishment of an Eel Action Plan, which to a large part would implement the recommendations issued by the Working Party on Eels. However, the most difficult task still lies ahead, i.e. to put the Action Plan into practice. Through its joint working party with ICES, EIFAC will stay focused on this issue.

Another subject of primary interest within Sub-Commission I is the state and management of sturgeon ["esturgeon"]. This joint EIFAC/GFCM Working Party (GFCM is the General Fisheries Council for the Mediterranean, [CGPM = Conseil Général pour les Pêches dans la Mer Méditerranée]) was established in 2002. It has started to set up a network for information exchange among sturgeon experts. The first results have shown to be promising. Members of the Working Party have also been invited to join in the establishment of two regional projects involving sturgeon fisheries management and protection.

One of the major activities of Sub-Commission II "Aquaculture" is the Working Party on Organic Fish Farming. A questionnaire sent out to investigate the present status of organic fish farming showed that organic fish farming was developing slowly in Europe, although these products fetch prices 20%-50% higher than usual market prices. In a comparative study conducted in Germany it was found that ecologically certified rainbow trout farms had the same low pollution output as conventional farms. Furthermore, there was no difference in product quality of rainbow trout reared either on organic feeds or on conventional feeds. Still, freshwater fish from organic production could satisfy a growing consumer interest. Such production should therefore be actively promoted.

I also would like to mention – as one of the major achievements of this Sub-Commission – the successful organisation and holding of last week's "Symposium on Aquaculture Development – Partnership between Science and Producer Associations". The Symposium has attracted 72 participants from 24 countries. Its results will be presented to the Session tomorrow afternoon.

The Working Party on Handling of Fishes in Fisheries and Aquaculture, located in Sub-Commission III "Protection of the Aquatic Resource", undertook to collate information on the current practice of handling of fishes in fisheries and aquaculture. A workshop convened at Utrecht (the Netherlands) in March 2004 explored how new knowledge, guidelines and codes of practice, regulations and legislation might influence inland fisheries, fisheries management, inland fisheries research and aquaculture. It turned out that at present there is no uniform

"EIFAC opinion" with regard to this difficult and often emotion-laden issue. Possible recommendations on this topic will be discussed by the Session tomorrow morning.

Under the umbrella of Sub-Commission IV "Social and Economic Issues", a review of the economic value of recreational fisheries in Nordic countries was carried out between October 1999 and January 2000. The results of this study have recently been published in the journal *Fisheries Management and Ecology*. The paper represents an important contribution to the way forward for economic assessment of recreational fisheries and could be considered as a framework for similar studies in Europe and elsewhere.

Another important item that needs to be brought forward here is the apparent lack of involvement of social scientists and economists and their fields of study in our work. Efforts should be made to get workers in these fields involved in EIFAC activities, and this will need further discussion during this Session.

Following a recommendation of the twenty-second Session, a document has been drafted by an ad-hoc working group assessing the achievements of EIFAC in general, and more specifically identifying areas where the work of the Commission should be made more pertinent and more effective. I hope that this document, after appropriate review by the Session, will result in a better functioning of EIFAC both in the short and the long run, to the benefit of the member countries.

I had the possibility to represent EIFAC during the Fourth World Fisheries Congress in Vancouver (Canada) in May 2004, and to give a short review on the aims and the work of the Commission.

Last but not least, I would like to thank the Local Organizers: Mr Arek Wolos and his staff from the Inland Fisheries Institute in Olsztyn. They are not only providing us with these unique and superb congress facilities of the Polish Academy of Science here at Wierzba, by the lakeshore and in the middle of the Mazurian Great Lakes area full of pike and bream. They also generously cover the costs for several special events which, I am certain, will make this meeting an unforgettable one (in fact, they have already done so!). Thank you, Arek, for all of this!

Finally, I thank all the Delegates for coming this long way to Wierzba. I have to emphasise that EIFAC depends on your support and active contribution, particularly during the discussions in the Session. So, I am looking forward to a productive and fruitful Session, and I count on your active participation in shaping the way for EIFAC into the next years.

I wish you all a pleasant stay at Wierzba, and I thank you for your attention.

Appendix E

REPORT OF EIFAC SYMPOSIUM ON AQUACULTURE DEVELOPMENT – PARTNERSHIP BETWEEN SCIENCE AND PRODUCER ASSOCIATIONS

INTRODUCTION

A Symposium on Aquaculture Development – Partnership between Science and Producer Associations was organized from 26 May to 29 May 2004 in conjunction with the Twenty-Third Session of EIFAC in Wierzba, Poland. The Symposium was convened by Mr L. Varadi (Hungary) and chaired by Mr K. Goryczko (Poland) and was attended by 72 participants from 23 countries. The Symposium benefited from the participation and experience of the Federation of European Aquaculture Producers (FEAP[4]) and the European Aquaculture Society (EAS[5]). The main documentation comprised five invited papers and 37 experience papers and three posters.

In his introduction to the Symposium, Mr Varadi referred to the objectives and major thematic areas of the Symposium, which were:

(i) To make a broad assessment of the present roles, opportunities and needs of aquaculture producer associations in the EIFAC region.

(ii) To identify the possible contributions by other stakeholders, including in particular, research institutions (natural and social sciences) and government agencies, in support of aquaculture producer associations.

(iii) To propose measures to strengthen participation, activities and positions of aquaculture associations in the management and development of the aquaculture sector.

The major themes were:

- Promotion and definition of research and technology development programmes.
- Human resource development, capacity building and education.
- Promotion of efficient use of resources.
- Comprehensive policies, supportive legal and institutional frameworks based on communication and consultation with the producers as the major stakeholders.
- Enhanced partnership, participation and consultation of all stakeholders in the planning, development and management of aquaculture.
- Development of investment incentives, market studies, product marketing programmes and consumer awareness campaigns.

With specific reference to partnerships between science and producer associations, participants were invited to consider and discuss major issues, experiences, and challenges in such partnerships, as well as opportunities and measures for improvements with a view to formulating findings, conclusions and recommendations by the Symposium.

[4] Federation of European Aquaculture Producers (FEAP): www.feap.info; www.aquamedia.org
[5] European Aquaculture Society (EAS): www.easonline.org

SESSION 1: INVITED PRESENTATIONS

The activities of the European Union (EU), the Federation of European Aquaculture Producers (FEAP), the European Aquaculture Society (EAS), the AquaFlow[6] and AquaTT[7] programmes and Asian experiences demonstrate the wide range of issues associated with interactions between the scientific and production sectors.

The European Community adopted a strategy[8] for the sustainable development of the European aquaculture industry in September 2002 that is now being implemented. The strategy aims to maintain the competitiveness, productivity and sustainability of the aquaculture sector. It also aims to enlarge the knowledge base of the industry, so appropriate partnerships should be promoted at all levels, particularly between science and industry. Cooperatives, trade associations and producer organizations/associations are essential mechanisms, not only to improve marketing but also to cover R&D costs that many small farms cannot afford.

In the past, the European Commission has contributed to strengthening the links between the aquaculture industry and scientists by promoting participation of the industry in research projects and concerted action to disseminate project results through AquaFlow, and by identifying research needs of the aquaculture sector through PROFET[9]. The Sixth Framework Research Programme offers new possibilities to scientists and producer associations to improve their partnerships under the specific measures for small- and medium-size enterprises (SMEs). In addition, the FIFG (Financial Instrument for Fisheries Guidance) regulation has been modified to allow the financing of small-scale applied research initiatives. The European Commission strongly recommends producers and scientists make use of the instruments that exist at community level.

Targeted research and development programmes have significant benefits for aquaculture producers. The FEAP and its members have benefited from a wide range of research programmes supported by the European Commission. In recent years, initiatives have focused increasingly on broader issues such as food safety and environmental improvement. Collaborative research programmes with strong participation of and ownership by producers are of special interest to the European aquaculture sector, where the producers are often required to contribute financially to research projects. Programmes such as the Sixth Framework Programme, Financial Instruments for Fisheries Guidance (FIFG) and the Cooperative Research in Aquaculture and Fisheries Technology (CRAFT) with Industrial Associative Groupings (IAG) can provide support for on-site/on-farm research which is often combined with training and dissemination activities.

The participation of the professional aquaculture sector in RTD programmes is generally driven by its interest in accessing new, economically efficient developments in technology. The main reasons that producers do not participate in such programmes are that they are

[6] AquaFlow : www.aquaflow.org
[7] AquaTT: www.aquatt.ie
[8] Communication from the Commission to the Council and the European Parliament referring to a Strategy for the Sustainable Development of European Aquaculture (September 2002)
http://europa.eu.int/comm/fisheries/reform/aquaculture_en.htm
http://europa.eu.int/comm/fisheries/doc_et_publ/factsheets/legal_texts/docscom/en/com_02_511_en.pdf
[9] PROFET transnational workshops on research needs of the European fish farming sector:
www.feap.info/news/RTD/profet_en.asp

unaware of the possibilities of such programmes and that they fear administrative complications. Overall, successful partnerships are characterized by good understanding and communication between partners, clear comprehension of their needs and pro-active positions, as well as coherent national and European RTD policies.

The AquaFlow network disseminates information on the results and progress of research and technological development programmes funded by the European Union (EU) and nationally. It provides aquaculture producers, decision-makers, administrators, researchers and producer representatives with concise and up-to-date overviews on aquaculture RTD information. It also encourages use of advanced information technologies, including e-mail and the internet, for the transfer of information and the promotion of contacts. Surveys confirmed the active participation of producers in RTD programmes, the very significant demand for RTD information and the expected benefits, such as technological improvements, increased competitiveness, enhanced personnel skills and improved economic returns.

While information sourcing and translation can be costly, willingness to pay for RTD information is varied. AquaFlow efforts on the identification and dissemination of RTD information are effective but should be enhanced by regional initiatives such as the Professional Needs in Aquaculture Research (PROFET) workshops. It was considered equally important that RTD activities be conducted at national level and in languages appropriate to the region.

Aquaculture Technology and Training (AquaTT), a European network for training and technology transfer in the aquaculture industry, works as an aquaculture industry education and training service provider. One of its major focuses is the recognition and accreditation of European aquaculture qualifications using a competency based approach in the WAVE[10] (Working in Aquaculture Validation of Experience) initiative. Other activities include promotion of aquaculture to the general public, promotion of the role of women in aquaculture, networking of students and the development of new training materials. Aquamedia is another source of information on European aquaculture.

Surveys of aquaculture producer associations in Asia, conducted by the Network of Aquaculture Centres in Asia-Pacific (NACA[11]), showed the wide range of approaches and purposes, and organizational and working patterns adopted by such associations. These also displayed different levels and modes of representativeness, independence, participation and consultation, empowerment and policy influence. Key issues include communication and cooperation with governments, scientific institutions and other parties, as well as supportive legislation and enabling environments facilitating and promoting such associations.

It was recognized that producers, in particular small-scale farmers, should be assisted in the organization of truly representative associations. They should also participate in priority-setting and decision-making processes and be provided with access to information, and training and education to enhance their skills. In some European regions such assistance, including advice and capacity-building in scientific, technical, financial and economic aspects of aquaculture is required. In this context it was noted that the recently established Network of Aquaculture Centers in Eastern Europe (NACEE) now includes research institutes and universities in 12 Eastern European countries.

10 WAVE: http://www.aquatt.ie/aquattinitiatives/currentinitiatives/wave.php
11 Network of Aquaculture Centres in Asia-Pacific (NACA): www.enaca.org

SESSION 2: PARTNERSHIP EXPERIENCES BETWEEN SCIENCE AND PRODUCER ASSOCIATIONS

Producer associations and producer organizations have existed since early in the nineteenth century and have responded to changing production methods, markets and economic systems that have placed increasing pressure on smaller producers.

Producer associations and organizations are characterized as follows:

- A producer association is a legally constituted group of companies that provides a forum for cooperation and development of opinion.

- A producer organization is a cooperative that controls production and marketing by its members.

The level of organization, representativeness and effectiveness of producer associations varies throughout Europe, where there are strong national associations and regional federations as well as associations which are still growing in membership and influence.

Experiences of partnerships between science and the production sector were generally good, although awareness and communication of issues, problems and solutions can be further enhanced. This can be achieved through regular communication between partners, by formalizing consultations and participative coordination processes. Equally, efforts should be made to create conditions for the successful implementation of the outcomes of partnerships and stakeholder consultations. For the purposes of sectoral management, it can be important that consultation fora are institutionalized in order to facilitate partnerships and enhance involvement of stakeholders in information collection, knowledge building, policy development and decision-making.

Participants gave the following examples of partnerships between producer associations and science:

- provision of information to farmers;
- identification of producers' research needs;
- formulation of national and pan-European research agendas;
- environmental management and monitoring of shellfish production;
- market chain cooperation;
- restocking of lakes;
- identification of scientifically-sound criteria and parameters;
- provision of the quality of inputs used in aquaculture (e.g. feeds, seed, water, skills) and culture-based fisheries;
- training of producers;
- integrated management of lagoon fisheries and aquaculture;
- development of national aquaculture sector development strategies;
- identification of bottlenecks in policy and regulation and diversification of production;
- genetic strain improvement;
- organic carp production.

Examples of multi-stakeholder partnerships were: the management of lagoon fisheries in France and Italy which involve producers, scientists, processors, sellers and government authorities, a carp production consortium and a multi-functional carp farm in Hungary.

Aquaculture research increasingly addresses social and economic issues. These include financial management, product marketing, food safety, consumer preferences, integration with local area and regional management, and institutional, legal and governance aspects. Social science assessment methodologies are being increasingly applied. They examine interactions among stakeholders, analyze fishery product chains, identify development potentials in local and regional contexts and facilitate stakeholder participation, consensus building and policy formulation and implementation.

In some Eastern European countries and Turkey the willingness of aquaculture producers to adopt new information technology, such as e-mail and internet, is still fairly low; however, projects in some countries such as Russia are currently addressing this gap.

Many aquaculture scientists and individual producers are still production oriented and do not pay enough attention to the financial, marketing and quality aspects of the production processes. Market driven production is still not common in some Eastern European countries and Turkey, but efforts are under way to increase experience and to apply effective farm management for the production of competitive aquaculture products.

Partnerships to establish marketing chains for fishery products can enable producers to respond more effectively to consumer demands. Successful chains require cooperation among producers, their associations, scientists, wholesalers, the processing industry and retailers.

There may be a growing role for producer associations in providing regular technical, economic and financial advice to members, particularly on the economic and technical feasibility of “new” production systems developed by science or others in the industry. Partnerships between associations and science can assist aquaculture producers in: production (stocking density, feeding regimes), technologies (water efficient and environmentally friendly systems), management (to enhance skills in farm and business management), economics (e.g. cost-benefit analyses and economic feasibility studies) and marketing (such as related to low market prices, accessing market information).

New entrants in the aquaculture industry seem to have difficulties in obtaining unbiased and reliable information on production systems. There are still questions as to whether or not a producer association would be the most appropriate place to obtain the essential information for starting a new business in aquaculture and whether a producer association would be interested in assisting new entrants as more entrants would increase competition for the producer associations’ members.

The sometimes limited relationship between science on one hand and producer associations and individual aquaculture producers on the other, raises questions as to whether scientists charge too much for their services, for example water quality measurements, whether scientists do not market their services in the best way or do not respond adequately to the demands of the industry.

In addition to already established partnerships between science and aquaculture producer associations, broader and enhanced partnerships should be developed that include processing, marketing and retail businesses, NGO’s, Governments and other key stakeholders.

SESSION 3: NEW SCIENTIFIC RESULTS FOR PRACTICAL APPLICATIONS

Consumer and food safety issues were recognized as a major priority for aquaculture producers and scientists. The food safety management model presented highlighted the need and opportunities for proactive and preventative management and communication approaches. Procedures such as HACCP should be introduced at farm level and producer associations may assist producers in their implementation. Consumer awareness of the quality and safety of aquaculture products should be enhanced. Scientists can assist producers in identification of hazards and management measures. Consumers should be made aware of such food safety management measures as are applied in aquaculture.

Production of sturgeon in Russia has increased significantly through aquaculture and culture-based fisheries techniques. This expansion is supported through R&D, stock assessment and monitoring efforts which also include the establishment of a living gene bank and domestic broodstock of eight species and various hybrids, as well as the development and extension of advice on optimal hatchery technologies. Research was conducted in collaboration with producers on the application of diludine in radio contaminated carp in Belarus. This research showed its possible use as an effective agent to remove the effects of radionuclides, as well as to increase productivity, stimulate growth, prevent malformations and reduce mutagenic effects of environmental pollutants, thereby contributing to increase economic efficiency of the farmers' production.

Experiments on the effects of low stocking densities of grass carp on the pond ecosystem indicated that the use of grass carp might not always be helpful to reduce biomass of aquatic plants and that mechanical control of macrophytes may be preferred for pond management. Comparison of temperature data in carp ponds recorded over 45 years showed fluctuations which may have affected overall carp production. Basic research on a new sturgeon hybrid showed its potential for aquaculture but more research will be needed to confirm its viability and acceptability by consumers. Research on freshwater mullet in Tunisia indicated that the enrichment of mullet fry food with lecithin could be helpful during an acclimation period prior to their introduction in freshwater lakes in order to avoid the death of fry through loss of lipid reserves and to maintain membrane structures in freshwater. Researchers, in collaboration with the Polish Anglers Association, conducted long-term research on restocking of rheophilic cyprinids in Polish rivers, using pond aquaculture methods and artificial spawning technologies. As a result there has been an increase in number of pond farms producing fluvial cyprinids.

Participants discussed the differences between theoretical and applied research and the use of research outputs in practice. There is a need for research results and scientific terminology to be translated into language which can be easily understood by producers. Ideally, every aquaculture research paper should include a simple language summary of its main findings and practical applications.

SESSION 4: AQUACULTURE AND FISHERIES

The strong linkages between aquaculture and fisheries are illustrated by the fact that both sectors are involved in enhancement and rehabilitation schemes aimed at monitoring and improving fish stocks in inland waters.

The role of aquaculture is to produce food and generate income. However, some irresponsible aquaculture practices can harm the environment. Management practices have improved and environmental awareness in the sector has grown significantly. This has created the climate for responsible aquaculture. Furthermore, aquaculture is proving beneficial for the conservation and enhancement of endangered stocks (such as sea trout, salmon and anadromous whitefish). Aquaculture may also help increase public awareness of the importance of aquatic resources.

The decrease in aquaculture production in the Romanian Danube delta in the mid 1990's was attributed to the decrease in state subsidies, an increase in protected bird populations, reed invasion of ponds causing high costs for farmers and market liberalization which have led to a decrease in the demand for the cultivated Chinese carp.

The problem of market liberalization seems to be more of an Eastern European problem due to the fact that species produced are not always the ones demanded by the consumers. The changed market situation is forcing aquaculture producers to look into the possibilities of culture of non-traditional species. Science is assisting the aquaculture producers in this change through applied research.

Governments appear to have difficulties in involving aquaculture producers in planning and policy development if the producers are not organized in associations. The lack of producer associations in some Eastern European countries makes it hard for government and science to find partners that can contribute with new insights to discussions.

Aquaculture producers in some Eastern European countries are having difficulties with accessing credit and investment, as bad experiences of the past influence the willingness of banks to finance new investments in the sector.

The value of the catch by recreational anglers in the inland waters in Poland was estimated to be higher than of both commercial inland capture fisheries and aquaculture together; further research is needed to clarify this. Recreational fisheries is also important in terms of the number of people involved and its financial contribution to restocking activities in Western and Eastern European countries.

The UK, the United States, France, Poland, Ireland and Sweden all provide examples of partnerships and cooperation arrangements between anglers associations and governmental agencies. In some western European countries there is evidence of regular change in the species favoured by recreational anglers, for example, stocking of rainbow trout for fly fishers or carp for coarse anglers.

The construction of hydro-electric dams in major rivers in Turkey caused destruction of sturgeon habitat and led to a decrease in production. This, together with overfishing and insufficient enforcement of regulations is threatening sturgeon stocks with extinction.

Careful monitoring of environmental conditions and activities focused at maintaining genetic diversity should be promoted to assist governments in conservation of stocks, captive breeding and stocking programmes.

Attention was drawn to Aquainnovation[12], an example of a partnership between science and producer associations and other stakeholders at pan-European level. This new partnership was set up in a project format, aiming to establish a network of stakeholders that should address the gaps in international transfer of technical information that is essential for SMEs.

The large variety of networks, producer associations and organizations described made it very clear that associations should adapt themselves to the local situation and the socio-economic situation of their members.

SESSION 5: RECOMMENDATIONS

The participants reiterated the importance of partnerships in the overall context of promotion of sustainable aquaculture development, in particular in the implementation of the provisions of the FAO Code of Conduct for Responsible Fisheries[13] and the FEAP's Code of Conduct for European Aquaculture[14].

More focus is needed on the dissemination of technical information to aquaculture producers. Most scientific publications are not easily accessible to aquaculture producers and the main research findings require translation into accessible language in popular magazines. Another way of disseminating essential information is through workshops, meeting and conferences where private sector aquaculture producers can discuss and exchange experiences with scientists.

Strong professional associations are required to establish and maintain successful partnerships with the scientists. A multidisciplinary approach is required, whereby increasing attention is given to consumer, social and economic issues. Because of this, there is a trend towards broader cooperation and consultation involving multiple stakeholders, including potential investors. There is a need to access professional management and communication skills within the producer associations, a requirement that accompanies sectoral development and new market and consumer demands. Support is needed to develop and consolidate the producer associations in those countries where aquaculture is developing or changing.

Stronger national associations are needed to respond to legislative, market and consumer demands and to be able to respond to the requests for better self-regulation. Achieving this requires partnerships with science and efficient communication and networking. While such circumstances exist and are quite strong at the European level, efforts are needed to improve dissemination and cooperation at the most basic levels.

The symposium recommended that:

[12] Aquainnovation: www.aquainnovation.net
[13] FAO Code of Conduct for Responsible Fisheries: http://www.fao.org/DOCREP/005/v9878e/v9878e00.htm
[14] FEAP's Code of Conduct for European Aquaculture:
http://www.feap.info/FileLibrary/6/FEAP%20Code%20of%20Conduct.pdf

- Durable partnerships be promoted at the local, national and international levels, highlighting the requirement for skill development and securing financial resources for the operation of producer associations.
- Awareness of the European Union RTD programmes applicable to SMEs and associative grouping be promoted and their potential application for partnership creation/consolidation be implemented.
- International and intergovernmental organizations, such as EIFAC, FEAP and EAS continue work together to demonstrate the benefits and contributions of partnerships in the promotion of sustainable freshwater aquaculture.
- Core funding be sought to promote networking and to overcome language barriers that limit effective dissemination of results and communication among inland fisheries and aquaculture stakeholders.
- Organizations such as EIFAC address the social and economic influences on the sustainability of inland fisheries and aquaculture.

Scientists and aquaculture producers associations should jointly take into account the consequences that research can have for their future activities, as some research outcomes might negatively affect development of the sector.

The importance of partnerships among producer associations at national level was highlighted and the current restructuring of national federations of associations in France and Denmark were given as examples.

Participation should be sought from stakeholders that represent nature conservation as many partnerships lack a partner representing conservation or environmental approaches.

Participants congratulated EIFAC and the organisers of this symposium for selecting the topic of “aquaculture development-partnership between science and producer associations”. It was concluded that partnerships between science and producer organisations are important not only for the further development of the aquaculture industry but also for the development of inland fisheries. It was recommended that EIFAC continue this approach at future symposia, and even widen the scope of the symposia by including other relevant stakeholders.

It was also recommended that EIFAC consider new ways to stimulate active interaction between the diverse interests represented at the symposium, while keeping focussed on the meeting’s objectives and themes. Future meetings could include parallel sessions and specific workshops, to increase time-effectiveness and the quality of the final recommendations. Such an approach will stimulate contributors to the meeting to better focus on the respective topics.

One of the main challenges for partnerships between science and producer associations is to establish and maintain effective communication. Funding constraints for applied research are common, as some consider that the sector should contribute to its own applied research programmes and activities. Nevertheless, government funding for aquaculture research is still needed.

Some large aquaculture feed producing companies in Europe have established very effective dissemination systems for their applied research and provide information and advice to aquaculture producers on many more issues than feeding regimes.

The use of simple, non-specialist language for the dissemination of aquaculture information from science to aquaculture producers is essential and adds value to newsletters and internet based tools such as, for example, AquaFlow and Aquamedia.

Participants drew attention to the lessons that can be learned from outside the European region. In particular the advances in Asia in co-management and the value of Asian approaches can be valuable for Europe. Because of this interregional exchange of information is also required.

It was also concluded that:

- there are strong linkages between aquaculture and fisheries;
- both are strongly involved in rehabilitation schemes aimed at improving fish stocks in inland waters;
- the changing market situation forces aquaculture producers to look into the possibilities for the culture of other species;
- the large variety of networks and producer associations shows that the local social and economic situation of its members are basic determining factors for the activities of the association; and
- recreational fisheries are important for the development of aquaculture, the rehabilitation of fish stocks and for the economy.

Appendix F

DRAFT PROSPECTUS

HYDROPOWER, FLOOD CONTROL AND WATER ABSTRACTION: IMPLICATIONS FOR FISH AND FISHERIES

BACKGROUND

Modification of flow in rivers and streams by hydropower plants and other water resource development schemes is increasing across Europe. This process is being accelerated by recent trends to promote small hydropower installations in many countries. However, the damming of rivers and the control of water that accompanies the operation of power plants, prevention of flooding, and abstraction of water for agriculture and domestic supply, cause serious damage to the aquatic ecosystem, despite the claims by certain lobby groups that hydropower is a sustainable source of energy. Impoundments upstream of dams may create new fisheries opportunities, but are also associated with environmental impacts on fish through changes in habitat and in hydrology. Serious and lasting impacts are experienced downstream of dams, through changes of the morphology of the rivers and the flow conditions within them, as well as through interruptions to migratory pathways of fish species. Other aspects of concern to EIFAC in this context are the responsible handling of fish and the distribution and spread of fish diseases. Because numerous stakeholders recognize the importance of these issues across Europe, EIFAC will hold a Symposium to explore the issues, problems and mitigation measures to reduce the impact of such activities.

AIMS

The main aim of the Symposium will be to review the impact on fish and fisheries of activities that modify river hydrology, specifically hydropower plants, flood control measures and water abstraction; examine mitigation and rehabilitation practices; and consolidate social, economic and legal issues.

OBJECTIVES

The objectives of the Symposium will be to:

1. Review the scale and diversity of the impact of flow-modifying structures and activities on fish populations.
2. Review ways to avoid or mitigate for the impacts of such structures on fish. These might include: decommissioning of dams; provision of upstream and downstream fish passage facilities; the setting of environmental flow criteria and the provision for releases to maintain fish populations and habitat.
3. Advise on guidelines to avoid or minimize the negative impacts of such structures on fish and to ensure equitable allocation of water among fisheries and other users.
4. Develop information for policy- and decision-makers to increase awareness of the impacts of such structures.
5. Facilitate dialogue between decision makers, engineers and fisheries interests on the operating of such structures.

THEMES

1. To assess the scale and distribution, current locations and local characteristics of hydropower generating structures in Europe with respect to their impacts on fisheries.

2. To assess dam removal, the distribution and efficiency of fish passes, fish guidance systems and of management measures for minimizing effects of such structures on fish populations and fisheries.

3. To examine the methodology and approaches for setting ecological flows for fish, especially potamodromous, diadromous and threatened species.

4. To assess social and economic evaluations of the balance between power generation and other flow related activities as against fishery-based livelihoods and ecological resources.

5. To evaluate existing and proposed guidelines and legal mechanisms that regulate the interface between fisheries and activities that impact on river hydrology.

PARTICIPATION

The Symposium is intended to attract environmental and fishery scientists, those involved in policy- and decision-making on the allocation of water, engineers and representatives of the water and power generating industries. Contributions are sought from the Member Countries of EIFAC, other international and stakeholder organisations, and other countries with experience and interest in these problems.

ORGANIZATION

The Symposium will be organized in six sessions. Each Session will begin with a 30 minute review paper by the session leader synthesising the material presented. This will be followed by 15 minute presentations of selected experience papers. The oral presentations will be supplemented by posters as appropriate.

SESSIONS

Session 1: Assessment of issues and impacts

The session will review the scale and diversity of the interactions between power generation, flood control and water abstractions with fish and fisheries. Contributions should address present and planned activities in the EIFAC member countries that have significant effects on river hydrology.

Session 2: Rehabilitating and mitigating mechanisms

This session will consider strategies for the mitigation of the effects of river and flow regulation. These may include, among others, passes for upstream and downstream movements of fish, maintenance of spawning substrates, rehabilitation of channel diversity, reconnection of floodplains and decommissioning of dams.

Session 3: Environmental flow criteria; methodology and practice

This session will examine current methodologies for the assessment of flow criteria for the conservation of fish and fisheries. It will also accept case studies that evaluate the successes and shortcomings of existing methods, and that explore the scientific basis for environmental flow criteria. Flow issues should also consider drawdown in impoundments as well as hydropeaking and other flow patterns in rivers.

Session 4: Social, economic and conservation issues

This session will attempt to place value on the balance between power generation and other flow-modifying activities as against fishery-based livelihoods and ecological resources. It will also explore the social and conservation implications of changes in fisheries and river structure arising from flow alterations.

Session 5: Guidelines, regulations and legal aspects

This session will review current and planned guidelines, regulations and legal approaches with a view to advising decision makers on the effectiveness of such mechanisms in the equitable allocation of water between fisheries and the various flow modifying human activities.

Session 6: Conclusions and recommendations

This session will draw conclusions and formulate recommendations from the material presented at the symposium.

STEERING COMMITTEE

Chairperson from Host Country		
Convener of the Symposium		R. Welcomme
Session leaders:	Session 1	S. Schmutz
	Session 2	M. Larinier
	Session 3	I. Cowx
	Session 4	G. Castelnaud
	Session 5	T. Brenner
Technical Secretary		G. Marmulla

The twenty-third session of the European Inland Fisheries Advisory Commission (EIFAC) was held in Wierzba, Poland, from 26 May to 2 June 2004, in concomitance with a Symposium on Aquaculture Development – Partnership between Science and Producer Associations. The session reviewed EIFAC's activities since 2002 in the fields of fishery biology and management, aquaculture, protection of the aquatic resource, and social and economic issues. EIFAC revised and decided its future programme of work, and in particular the activities which should be carried out until the next session of the Commission in 2006. The twenty-fourth session will be preceded by a Symposium on Hydropower, Flood Control and Water Abstraction: Implications for Fish and Fisheries.

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