

Proceedings of the Sixth Meeting of the European Association of Aquatic
Sciences Libraries and Information Centres (EURASLIC)

held at the Foundation for International Studies, Valletta, Malta, 25-26th April 1996

edited by

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INTRODUCTION

The Sixth EURASLIC Meeting was held in Valletta, Malta, and it was attended by 38 participants from 18 countries and two international organizations. EURASLIC has always been keen to develop its links between Eastern and Western Europe, and through the support of a number of sponsors, and in particular the European Union, it was able to assist librarians from 9 countries to attend.

We are grateful to the Director and staff of the Foundation for International Studies for agreeing to act as hosts, and to the Director of the Euro-Mediterranean Centre on Insular Coastal Dynamics for his support.

A variety of papers were presented, and there were two workshop sessions and opportunities to make contributions in small groups. But the most important part was the informal conversations that took place outside the meeting.

One of the highlights was the now traditional country reports, when we learnt of the present situations in individual countries and libraries. It was good to see the progress that had been made, and to hear of developments across Europe.

With the election of the new Board, EURASLIC now enters a different phase in its life. It must seek to build on the foundations that have been laid, and consolidate the links that it has established with other European organizations.

David S Moulder

**Sixth Meeting of the
European Association of Aquatic Sciences Libraries
and Information Centres**

**Foundation for International Studies, University of
Malta, Valletta, Malta**

25th - 26th April 1996

Final Programme

Co-Sponsors:

Foundation for International Studies, University of Malta

*Euro-Mediterranean Centre on Insular Coastal Dynamics,
Council of Europe/Malta*

European Union MAST Programme

Sponsors:

Cambridge Scientific Abstracts, USA

Elsevier Science Limited, UK

Intergovernmental Oceanographic Commission

*International Association of Aquatic and Marine Science Libraries
and Information Centers (IAMSLIC)*

Official Carrier: Air Malta

Programme

Wednesday 24th April 1996

- 1900 - 2000 *Registration at hotels*
2000 - 2200 *EURASLIC Board Meeting*

Thursday 25th April 1996

- 0830 - 0915 *Registration at Foundation*
0930 - 0945 *Opening Ceremony and Words of Welcome: Dr Joe Cassar, Parliamentary Secretary for Education and Human Resources; Prof Salvino Busuttil, Director-General, Foundation for International Studies, Valletta, Malta; Dr Anton Micallef, Euro-Mediterranean Centre on Insular Coastal Dynamics, Council of Europe/Malta*
0945 - 0950 *Administrative Arrangements: Damian Iwueke, Librarian, Foundation for International Studies, Valletta, Malta*
- 0950 - 1050 Session 1: Papers Chair: Barbara Schmidt, Institut für Meereskunde, Kiel, Germany**
0950 - 1010 *The Med-Info Network: Recent Developments: Antonella Vassallo, Euro-Mediterranean Centre on Insular Coastal Dynamics, Council of Europe/Malta*
1010 - 1030 *Recent Initiatives to Lessen the North-South Information Gap: Charles Galdies, Euro-Mediterranean Centre on Insular Coastal Dynamics, Council of Europe/Malta*
1030 - 1050 *An Online Profile for CEMARE: a Strategy for Publishing on the Web: Joan Baron, CEMARE, Portsmouth, UK*
- 1050 - 1110 **Coffee Break**
- 1110 - 1230 Session 2: Papers Chair: Henryk Ganowiak, Sea Fisheries Institute, Gdynia, Poland**
1110 - 1130 *Online Access to Wide Area Networked Workshop Abstracts: Preliminary Observations on End User Behaviour: Eileen Dillane, Lisa Owen, Margaret Eleftheriou, Institute of Marine Biology of Crete, Greece*
1130 - 1150 *Ocean Science Interactive Series: a New CD-ROM Series from Elsevier Science: Anne Allen, Elsevier Science, Oxford, United Kingdom*
1150 - 1210 *More New CD-ROMs from Elsevier: Marine Literature Review and Fluidex: Sally Stone, Elsevier Science, Oxford, United Kingdom*
1210 - 1230 *Tour of Library: Damian Iwueke, Librarian, Foundation for International Studies, Malta*
- 1230 - 1400 Lunch**
- 1400 - 1420 *Country Reports on Library and Information Activities:*
1420 - 1440 *Internet: the Latest Developments: David Moulder, Head of Library and Information Services, Plymouth Marine Laboratory and Marine Biological Association, Plymouth, United Kingdom*
1440 - 1500 *Intergovernmental Oceanographic Commission Information Developments: Peter Pissierssens, Intergovernmental Oceanographic Commission, Paris, France*
- 1500 - 1545 EURASLIC Business Meeting: David Moulder, EURASLIC President**
Activities Since the Last Meeting; Membership Report; Financial Report; Election of Officers
- 1545 - 1615 Coffee Break**
- 1615 - 1700 EURASLIC Business Meeting: (continued): David Moulder, EURASLIC Past-President**
Future Activities; WWW Pages; Next Meeting; Joint Meetings; Directory Revision
- 1700 - 1730 *European Directory of Marine Organizations, Scientists and their Research Interests - Progress Report: David Moulder, Head of Library and Information Services, Plymouth Marine Laboratory and Marine Biological Association, Plymouth, United Kingdom*
- 1800 - 1900 Tour of historic parts of Valletta City**
1900 - Welcome Reception, sponsored by ICOD

Friday 26th April 1996

- 0900 - 1020** **Session 3: Papers** **Chair: Allen Varley**, Marine Biological Association, Plymouth, United Kingdom
- 0900 - 0920 *UNiverse Project*: Ian Pettman, Formerly Head of Library and Information Services, Institute of Freshwater Ecology and Freshwater Biological Association, Ambleside, United Kingdom
- 0920 - 0940 *NISC CD-ROM Software and Product Developments in the Aquatic Sciences*: Roger Templeman, NISC UK, Didcot, United Kingdom
- 0940 - 1000 *The Library of the Institute of Limnology of the Russian Academy of Sciences: its Current Status and Problems*: Anastassia Ivanova, Library Head, Institute of Limnology, St Petersburg, Russia
- 1000 - 1020 *The Role of the Aquatic Sciences Libraries in Lithuania, Favouring the Research Work in the Field of Natural Sciences*: Dr Eugenija Mileriene and Mrs A Pauikeniene, Fisheries Department, Lithuanian Academy of Sciences, Vilnius, Lithuania
- 1020 - 1050** **Coffee Break**
- 1050 - 1230** **Workshop 1: Preparing a Library Guide: Convenor - Sarah Heath**, Scottish Office Agriculture and Fisheries Department, Marine Laboratory, Aberdeen, United Kingdom
- 1230 - 1400** **Lunch**
- 1400 - 1530** **Workshop 2: EU Funding of Library Projects: Convenor - Ian Pettman**, Former Head of Library and Information Services, Institute of Freshwater Ecology and Freshwater Biological Association, Ambleside, United Kingdom
- 1530 - 1600** **Coffee Break**
- 1600 - 1700** **Session 4: Papers** **Chair: David Moulder**, Plymouth Marine Laboratory, Plymouth, United Kingdom
- 1600 - 1610 *Conceptual Fundamentals of Establishing an International Bank of Bibliographic Data on the Black Sea*: Dr Igor Ivashchenko, Chief, Scientific-Technical Information Department, Marine Hydrophysical Institute, Sevastopol, Ukraine
- 1610 - 1620 *The Development of the Methodology, Preparation and Compiling a Computer Databank of the Black Sea*: Elena Goloshchepova, Engineer, Marine Hydrophysical Institute, Sevastopol, Ukraine
- 1620 - 1640 *Institute of Biology of the Southern Seas and its Scientific Library: 125 years of Tradition and Progress*: Olga Akimova and Olga Klimentova, Institute of Biology of the Southern Seas, Sevastopol, Ukraine
- 1640 - 1700 *Electronic Publishing; some News and Views*: Sally Stone, Elsevier Science, Oxford, United Kingdom
- 1700 - 1730** **Summing up and Closure of Meeting: Ian Pettman, EURASLIC Vice-President**

Sponsorship

We are very grateful for the sponsorship provided by a number of organizations, without whom the meeting would not have been possible:

- Cambridge Scientific Abstracts
for support towards the attendance of a delegate from Eastern Europe
- Deep-Sea Research*, published by Elsevier Science Limited
for support towards the attendance of delegates from Eastern Europe
- Euro-Mediterranean Centre on Insular Coastal Dynamics, Council of Europe/Malta
for sponsoring the reception on the first evening, and for the provision of a computer
- European Union MAST Programme
for support towards the attendance of a number of European delegates
- Foundation for International Studies
for hosting the meeting, and providing support facilities and staff
- Intergovernmental Oceanographic Commission
for assistance in arranging the European Union grant
- International Association of Aquatic and Marine Sciences Libraries and Information Centres
for support towards the attendance of delegates from Eastern Europe

Opening Speech

Hon Dr Joe Cassar

Parliamentary Secretary for Education and Human Resources
Malta

Like any other country, Malta is confronted with the high cost of information collection and dissemination, and the need for adequate information systems and services. These all serve as barriers that hinder access to scientific information in particular.

The need for access to information in the field of marine sciences was however, recognised by Malta as far back as the 1970s when the Library of the International Ocean Institute was set up to support marine research programmes and the training workshops which are organised from time to time by the Institute. Since the 1970s however, Malta has seen several initiatives in the direction of the establishment of marine institutes, programmes and marine libraries. The Library of this Foundation, that of the International Maritime Law Institute at the University of Malta and the Library of the National Aqua-Culture Centre and that of the Malta Council for Science and Technology are among these initiatives. Malta has also had its fair share of training workshops in the field of marine and aquatic sciences. One of those workshops was the one on Aspects of Marine Documentation which was held at this Foundation in November 1992 and led to the setting up of the Mediterranean Marine Information Network. The Network is today housed at the Euro Mediterranean Centre on Insular Coastal Dynamics offices in association with the Library and Documentation Centre of this Foundation. Some of you here today also took part in that workshop.

This meeting of the European Association of Aquatic Sciences Libraries and Information Centres is in line with the 1992 training workshop for marine librarians and documentation officers which took place at this Foundation.

Malta as you all recall was in the forefront in proposing the 'philosophy' of the heritage of mankind in the 1960s which led to the setting up of the United Nations Law of the Sea Convention as it is known today. Since then however, we have continued to focus our attention on promoting dialogue, conferences, seminars and training workshops in the area of marine affairs.

We cannot afford not to be interested in anything connected with marine activity because, being an island, the sea and its resources are our life.

This meeting is therefore necessary as it brings together marine and freshwater librarians, documentation officers, aquatic information workers, scientists and policy makers to discuss marine and freshwater information and their documentation systems. We all come from different technical backgrounds but, at the same time, we share the philosophy that acquiring, processing and providing aquatic information to researchers and policy makers are an essential part of our scientific community. In the area of providing aquatic information, your work is illustrated further by the fundamental point that science feeds on science. If the information that has accumulated in sciences were no longer made available to the scientific community, scientific discoveries may very well lose ground and disappear altogether.

I know that information dissemination through the library has its problems. There is the problem of funding, manpower, infrastructure and even of reliability and durability of the information provided. The problems librarians and information specialists face are numerous. But we must not be discouraged. We should endeavour to do our best with whatever resources are available to us. But to achieve results, all of us have to work together as a team. And this is, of course, the essence of this gathering.

I therefore wish you well in your deliberations in the next few days and welcome all of you to Malta and declare this conference open.

Words of Welcome

Professor Salvino Busuttill

Foundation for International Studies
Valletta
Malta

The need for a cooperative network of aquatic libraries, information and documentation centres in Europe as a mechanism to help in the transfer and exchange of aquatic environmental information has long been felt by information professionals and information users alike.

Pollution, industrialisation, tourism and other pressures on the environment mean that more than ever before, we must commit ourselves to concerted efforts in the management and conservation of the environment. As a result there is an ever increasing need for access to information and the exchange of documents regarding the aquatic environment.

Our aims today are to focus on the various information and documentation aspects of aquatic environmental pollution, protection and conservation and to evaluate experiences with regard to the systems of collecting, collating, documenting, disseminating and sharing aquatic information.

The proper documentation of information is important. It is just not enough to receive, cherish and accumulate work, printed material and documentation. Information must be immediately usable, ready at hand, retrievable. Memory, even good memory, is not enough. Storing, proper cataloguing and listening are also not enough. The marshalling of information focused on the matter in hand is now possible and information technology has become an indispensable tool in dealing with the problems of public affairs.

There is also an environmental crisis, brought about by the over-consumption, negligent use of natural resources, and air, noise as well as water pollution. The Mediterranean Sea is particularly sensitive as a very closed catchment area.

Different countries have different ways of dealing with their environmental problems. In some countries, some programmes have been quite successful, while in many others the situation is even getting worse. Public awareness is one of the key measures in preventing and solving such environmental problems and the libraries, no doubt, play a major role in providing public awareness and understanding of an important national concern, such as that of the protection of the marine and aquatic environment. With regard to documentation on marine publications, we should not forget that there has been an extraordinary increase in the amount of materials published in the past two decades in the field of marine affairs and marine pollution. The rate at which marine scientific documents are produced has continued to accelerate. It is therefore necessary that we should improve our system and technique of documenting these materials.

We also have to think of possible ways of safeguarding the general heritage of mankind for the future generations. Future generations are going to be affected by what present generations do.

Marine-related issues are dealt with at this Foundation by the Euro-Mediterranean Centre on Insular Coastal Dynamics - (ICoD) which forms part of a network of specialized centres pertaining to the Open Partial Agreement of the Council of Europe on Major Natural and Technological Hazards.

ICoD was established within the framework of the Foundation in 1988 as the Euro-Mediterranean Centre of Marine Contamination Hazards where it initially addressed marine degradation in general; it has subsequently re-oriented its objectives and activities towards a greater focus on the interactive processes which occur at the coastal zone and in particular, that of insular areas as represented by island systems.

In its efforts at enhancing its links with various institutions in the Mediterranean, ICoD has devoted a significant part of its effort towards the setting up of specialised regional and worldwide networks. Specialised networks which have been, or are in the process of being, set up include a Mediterranean Marine Information Network (MED-INFO), in association with the Foundation's library, the Mediterranean Automated Environmental Monitoring Network (MEDNET), the recent Mediterranean Island Network (MEDISLE) and the Network on Academic and Cooperative Strategies in Ocean Affairs (SEAWEB). These networks will be the medium through which the centre's current and future educational, training and research activities will be projected and disseminated throughout the Mediterranean.

The Foundation's library is also a specialised documentation centre and legal depository on behalf of the National Library of Malta. Publications and documents issued by the Council of Europe, the European Union, UNESCO, the International Centre for Advanced Mediterranean Agronomic Studies (CIHEAN) and the International Commission for the Scientific Exploration of the Mediterranean Sea (CIESM), are held here and are available for reference to scholars, students and interested members of the public.

I finish by saying that this conference is necessary as it brings together specialists in documentation work to discuss areas of improving acquisition, processing and providing of aquatic information. Information work is a team work. Beyond the technical differences that affects all information professions all of you share the same dedication to providing information to the public.

The MED-INFO Network : Recent Developments

Antonella Vassallo

Euro-Mediterranean Centre on Insular Coastal Dynamics
Foundation for International Studies
Valletta
Malta

Abstract

The reasons for the development of the MED-INFO Network are given, and activities undertaken since its establishment are described. A network directory has been prepared, and a contact network and electronic bulletin board are in course of preparation. The next step will be to develop a regional marine database.

Background to the Network:

- The Mediterranean Marine Information Network (MED-INFO Network) project arose out of a perceived need for a cooperative network of marine libraries, information and documentation centres in the Mediterranean and Black Sea areas;
- it will develop as a mechanism to help in the transfer and exchange of marine environmental information - a need long felt by information professionals and information users alike;
- setting up of the network was proposed during the Training Workshop on aspects of Marine Documentation in the Mediterranean (23-26 November 1992, Foundation for International Studies, Malta).

Response to this Need, and Recommendations Arising from the Training Workshop:

- the collection of and increase in accessibility of the scientific and technical documents relating to marine resources in the region;
- the support of ongoing research through information searching, retrieval services and document supply;
- the recording and dissemination of information about publications related to this region; particularly reports and "grey" literature;
- the provision of mutual support and a forum for marine information staff in the region, encouraging training and sharing of technical expertise.

Following the recommendations, a pilot survey questionnaire was formulated by a group of information experts and sent out to Mediterranean and Black Sea marine libraries and institutions.

Pilot Survey Questionnaire of the Region's Information Sources and Resources

The main aim of the questionnaire was to obtain a clear picture of the existing marine information facilities in the region.

Information was requested on:

Nature of activities of the centre/institute;
Working languages of the participating countries;
Subject areas covered by the library, and library holdings;
Services provided;
Computer facilities and other equipment;
Library publications;
Users of library and information facilities;
Priority needs of the users of such a network;
Participation as user of services provided by, and/or contributor to a Mediterranean Marine Information Network.

Subject Areas Covered by the Participating Libraries:

Aquaculture
Coastal Zone Management
Fisheries (Development, Management)
Marine Biology
Marine Chemistry
Marine Geology
Marine Geophysics
Marine Meteorology
Marine Physics
Marine Policy (Law, Legislation)
Marine Pollution
Oceanography, Chemical
Oceanography, Physical
Remote Sensing

Discussion and Recommendations Arising from the Survey:

- the main activity will involve the establishment of a network of marine information centres;
- the role of ICoD will be to provide information to regional end-users on the availability of marine-related information sources in the Mediterranean and the Black Sea.
- Three main phases are envisaged:
 1. Production of a Network Directory;
 2. Setting up a Contact point or Electronic Bulletin Board;
 3. Production of a Regional Marine Database.

1. Production of a Network Directory

In 1995 the Euro-Mediterranean Centre on Insular Coastal Dynamics published as its first priority in the establishment of a network, a hard-copy directory of those institutes willing to participate in the Mediterranean Marine Information Network.

The directory includes:

Name of contact person and full postal address of the participating Institute;
Telephone, Telex, Telefax and E-Mail Numbers, Cable Addresses;
Working Language(s);
Type of library holdings in the relevant topics;
Subject areas covered by the library;
Services provided by the library;
Library publications.

2. Setting up a Contact point or Electronic Bulletin Board

In preparation at the moment is a home page on the Med-Info Network which can eventually be accessed electronically. We hope to integrate a regular news update page within this.

Of utmost importance is the provision of a means of contact to serve as a link between the various cooperating institutes. As well as containing research news and events on marine-related activities, it will also eventually contain a current awareness bulletin listing regional scientific scientific papers and reports.

3. Production of a Regional Marine Database

The next step in the coordination of the Mediterranean Marine Information Network would be the production of a computer database bibliographic software or a similar product containing the following topics:

- Directory of participants;
- Union list indicating periodical titles and holdings of the cooperating centres;
- Records of the region's published marine literature;
- Index covering regional publications.

This database, to be established in Malta, will be used to provide relevant information to end-users making specific requests.

Further information

Please contact: Antonella Vassallo / Charles Galdies
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Foundation for International Studies
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Malta

Mediterranean Marine Information Network

A Background to the Project

The Training Workshop on aspects of Marine Documentation in the Mediterranean organised by the Euro-Mediterranean Centre on Insular Coastal Dynamics (23-26 November 1992, *Foundation for International Studies, Malta*) highlighted the need for a cooperative network of marine libraries, information and documentation centres in the Mediterranean and Black Sea areas.

In response to this perceived need, the Mediterranean Marine Information Network was created - this forms the basis of a cooperative regional network of marine libraries, information and documentation centres and should doubtless lead to the gradual improvement of services to the marine research community, particularly in "information-poor" areas.

The Network Directory of the Mediterranean Marine Information Network, one of the phases envisaged in the Report *Response To The Pilot Survey Questionnaire Of The Region's Information Sources And Resources* (Euro-Mediterranean Centre on Insular Coastal Dynamics, Foundation for International Studies, Malta), provides a list of contact persons and addresses of those institutes participating in the Network as well as information on the subject areas covered and any services provided by the library.

During the course of 1995/6, the main activity related to this project involved the establishment of a network of marine information centres where the role of ICoD will be to provide information to regional end-users on the availability of marine-related information sources in the Mediterranean and the Black Sea. This year has seen the production and dissemination of the report on the results of the survey questionnaire as well as the production of a Network Directory.

An objective to be reached over the next year would be the preparation of an electronic notice board or homepage containing information and news items relevant to the network members. This should serve as an important link between the various cooperating institutes; as well as containing research news and events on marine-related activities, it will also contain a current awareness bulletin listing regional scientific papers and reports. For those libraries which have no access to electronic means of information networking, the mailing of the contents of this homepage in a hard copy format will be considered.

Finally, the Centre envisages the production of a Regional Marine Database.

Lessening the N-S Information Gap for a Sustainable Mediterranean

Charles Galdies

Euro-Mediterranean Centre on Insular Coastal Dynamics
Foundation for International Studies
Valletta
Malta

Abstract

The problems of assisting sustainable development, particularly for small island states, are discussed. Reference is made to training in Integrated Coastal Zone Management (ICAM), which has been given top priority in developing areas within the region. A network of focal points/centres working on Mediterranean islands in various fields and aspects of coastal zone management has been set up (MEDISLE). Some activities of this network are described.

Introduction

The practicability of the socio-political commitment towards sustainable development is obviously an ambitious and a difficult task; nevertheless, it is now considered to be the only solution towards a true compromise between the ever-demanding, resource-based economy and natural ecosystems. However at the same time, governments are far from the targeted goals, one main reason being the uncertainty in the understanding of ecosystems. The main premise of this approach - the knowledge of the ecological capacity of our ecosystem - is still lacking, particularly in developing Mediterranean countries.

Appropriate training, education and mutual technical assistance are the means to promote and sustain this understanding in the region. There is now a great demand to get hold of, as soon as possible, the basic techniques which standard technology is offering and which would serve to collect data in a synergistic and integrated manner on natural living and non-living resources. The data would then serve to understand the dynamics of ecosystems so as to be able to make predictions of future fluxes. This is the main reason why a number of subject-related institutions are geared towards the training of scientists, technicians, and decision- and policy-makers from developing countries in the appropriate use of new technologies, as well as on the processing and interpreting of data for environmental managers. It is strongly felt that such regional activities should be given top priority.

Education and training in marine sciences within the Mediterranean

UNCED's agenda triggered similar socio-political discussions in the Mediterranean on a regional level in line with Agenda 21. The outcome of this colloquia stressed a number of issues, among which the urgent need to diffuse the knowledge of Mediterranean cultural, economic and social fabric in all the education and training activities in those sectors was highlighted. In this context, training in Integrated Coastal Zone Management (ICAM) within developing areas in the region has been given top priority. Increasing understanding and competence, development of capabilities to assist policy- and decision-makers, provision of research and employment opportunities, and promotion of regional and international co-operation should be the main objectives of these programmes.

Technical assistance and technology transfer

The diffusion of technologies suitable for the urgent protection of those ecosystem at risk, the development of environmentally-sound uses of natural resources as well as the efficient and ethically-sound management of cultural patrimony, are being regarded as primary tools to pursue sustainable development in the Mediterranean. The most pressing need is to support initiatives which would give the developing countries in the Mediterranean access to technologies that are cleaner and which waste fewer resources. This would help the local people concerned to: (1) sketch scenarios about the use of sustainably-sound technologies; (2) identify technologies consistent with particular natural, economic and cultural Mediterranean regions; and (3) design co-operation patterns between developed and developing countries.

In view of the above, as well as the recent amendments made to the Convention for the Protection of the Mediterranean Sea against Pollution, the Conventions for the Protection of the Marine Environment and for the Coastal region of the Mediterranean were adopted. With this, new priorities came into the limelight for the Mediterranean, including ICAM, integrated management of natural resources of waste management, agriculture, industry and energy, transport, sustainable tourism, urban development and the environment, prevention and control of marine pollution, conservation of nature, landscape and sites. These priorities have defined the objectives of many non-governmental organisations and other regional institutions with a role to promote sustainable development in the Mediterranean. This was also the case for the Euro-Mediterranean Centre on Insular Coastal Dynamics (ICoD), a specialised Centre under the Council of Europe 'EUR-OPA' Major Hazards Agreement. Three main tasks define the mandate of this Centre: Operational, Training and Communication/Information to assist in, among other things, the protection and sustainability of coastal resources.

1. Integrated Coastal Area Management for semi-enclosed and insular regions

Semi-enclosed and insular coastal areas are under increasing environmental stress from pollution, over-fishing and other forms of degradative processes. The limiting resources present within insular coastal areas of small islands generate special issues and demands due to the close proximity of the continental masses and the immediate influence of their socio-economy, culture and environment. As a consequence citizens of small islands face a dilemma: on the one hand, their desire for cultural, economic and environmental stability, and on the other hand, by the influence of many policies and decisions that are made and which take place on the mainland.

The negative impacts of policies insensitive to island-specific needs are evident: wholesale exploitation of limited resources, particularly around coastal areas, during which process significant pollution on land and coastal waters is generated. Fencing off of beaches for tourist trade is also a common feature. The most important aspect that makes islands unique is their relatively high land/sea interface ratio particularly when compared to the continent. Since the coast is the place where natural and man-made perturbations conglomerate, then its sound management is that much more important and specific.

A crucial need is therefore greatly felt towards sustainable development of small insular areas through the integration of economic, cultural and natural resource concerns achievable through a co-operation of island groups facing similar difficulties and their networking in an effort to share and pool their sparse (human and technological) resources. The implementation of an Integrated Coastal Area Management (ICAM) plan can stimulate and guide the sustainable development of insular coastal areas: it can minimise the degradation of the natural system, provide a framework for the management of multi-sectorial activities and maintain options for future uses of resources, ultimately contributing to the protection and sustainable use of the region's coastal resources. The growing realisation of the relevance of insular coastal dynamics to the understanding of the health and well-being of the general Mediterranean environment, the need to further study and understand insular systems as a representative of the whole, has now been accepted by the scientific and policy-making communities. An initiative to focus attention on this area so as to promote the island sustainability is thus very much called for.

An initiative to focus attention on this area has been set up through a network of focal points/centres working on Mediterranean islands in various fields and aspects of coastal zone management. At the political level, the support of UNESCO and the Council of Europe have been sought because of their already existing interest in this subject, but also as a means to integrate their individual efforts. Coastal

zone management has been chosen as the common denominator of this Network because of two main aspects: (1) its direct and substantial relevance to promote sustainable development of islands; and (2) the vast range of subjects which integrated coastal zone management must necessarily address.

At the operational level, the islands forming this MEDISLE network are having the opportunity to collaborate with other members interested in similar priority areas of study. Vast amounts of data, including scientific, social, cultural, and economic data are required to assist decision-makers in managing the coastal zone in a pro-active fashion.

The objectives of the MEDISLE network are to:

- organise a number of meetings to discuss priority areas of research. This shall be addressed by appointed sub-groups of the island network (MEDISLE);
- identify and design modes of data collection and exchange within the MEDISLE network;
- organise other activities including training, and submit research project proposals for shared action research activities on the above-mentioned priority areas of study.

The main priority areas will be co-ordinated by network subgroups, where the ultimate objective would be to promote co-operation in the decision-making process for a holistic environmental and socio-economic sustainable development within the Mediterranean.

The MEDISLE initiative recognises the crucial need for the sustainable development of small insular areas through the integration of economic, cultural and natural resource concerns through co-operation of island groups facing similar difficulties in an effort to share and pool their sparse resources (human and technological). Unlike most mainland areas, the resources of a small island are so limited that there is little question that they require their special treatment, understanding and research. Such a network will strengthen the collective status of the islands concerned and create that ever important information exchange mechanism as well as increased shared research opportunities. For this reason, the Mediterranean is seen as providing a unique setting for such a network, not only because of its wide range of islands which differ in size, economy and culture and thus offer the real potential for the exchange of experiences and knowledge but also because of its semi-enclosed nature which has given rise to a large interaction of Mediterranean cultures, providing a common thread among Mediterranean islands.

A recent research proposal has been submitted for funding with the objective of enhancing and disseminating the isolated but successful coastal management practices met by individual island institutions onto a regional scale. A study of this kind can provide further understanding on the value of our coastal resources in this region, on their present state and trend, and on the determination and promotion of sustainable development through case study analysis. Such an approach is highly relevant to all major players involved in insular coastal area management: governments, local authorities, the scientific community, NGOs and the general public. The application of ICAM issues to small islands can also be seen as an ideal opportunity to further study this developing science on small microcosms, facilitating subsequent regional application.

Much more important is the need to combat the still existent under-representation of island-related needs at international fora. Unlike the well-developed industrialized nations, small islands are often bereft of a unified voice at the world stage level and make, at best, individual efforts at representation resulting in their inability to influence international or regional policy. The need to represent a common front necessarily envisages a strong network, founded on collective resource sharing and joint initiatives.

2. Prevention and Control of Marine Pollution

Another main priority for developing Mediterranean countries is to change unsustainable industrial processes by setting targets for reducing the amount of hazardous waste produced per unit of manufacture. According to Agenda 21 for the Mediterranean, governments have been urged to work with industry on campaigns to minimise hazardous wastes and on the reduction of other emissions as well as promoting transfer of environmentally-sound technologies and low-waste production methods to those countries in need of such technology. This would necessitate the continuous monitoring and

assessment of the levels of contaminants in coastal waters so as to check the progress of regulatory procedures to control the discharge of wastes into the sea.

Training on this last theme is being realised through a series of bi-annual regional training courses on the applications of ecotoxicology to monitor, assess and control marine pollution. More specifically it is the kind of techniques taught during these courses which have to be up-to-date, but at the same time within reach of most developing regulatory and research laboratories. These range from the analysis of water, sediments and biota, to the interpretation and statistical treatment of results, to the assessment of harmful effects on biological systems (also known as biological-effects monitoring).

Scientists from developing countries are fully supported to participate in these courses. The inclusion of regional scientific experts within the teaching faculty gives an additional "regional flavour" to these courses. The most encouraging comments made following these activities is the personal contacts established between the experts and the trainees, considered as being vital for future reference and collaboration. The value of these activities is often recognised by major regional and international organisation such as the Mediterranean Action Plan (UNEP) and other United Nations institutions such as FAO and UNESCO/IOC because their objectives merge with similar ongoing programmes.

However, it would be a total waste of time and money should these people return to their laboratories and not apply what they have been taught and trained to do. To overcome this obstacle, ICoD has been for the past three years, engaging trainees in inter-laboratory projects to calibrate and compare data which they have collected, using the same techniques taught this time in their own laboratory. Apart from not losing the contact with these scientists, such kind of post-training activities will also stimulate developing laboratories to initiate and often upgrade their technical infrastructure.

Another successful project was an attempt to contribute to the solution of some of the environmental and economic problems posed by the use of tributyl tin as an antifouling paint in marine industries and activities¹. The full title of this project, which was funded under the MedSPA programme of the European Commission, was *Demonstration/pilot and technical assistance project - Environmental impact of tributyl tin (TBT) and development of methods for the treatment of contaminants by biotechnological means*.

Alternative strategies, including restrictions or bans on the use of TBT, have been widely suggested and partially implemented in developed countries. For example, the use of TBT antifouling paints on small boats and leisure craft is banned or restricted in many parts of Europe and elsewhere. However, the rationale underlying this project specifically rejects legislative action as more than a partial solution. Firstly, most of the world's commercial fleet has already been treated, and the problems of disposing of TBT wastes will therefore remain for many years to come. Secondly, apart from promoting the use of new alternatives with less efficacy or which may well turn to be more dangerous, the restriction on the use of TBT by the developed countries may export the pollution problem to developing regional states where environmental regulations on this matter are less or not enforced at all.

This multidisciplinary project had a number of components, being: (1) Evaluation of the levels and impact of organotin in two Mediterranean areas; (2) Isolation and enrichment of micro-organisms from organotin contaminated areas; (3) Bioengineering approach to the reduction of organotin input at source, and development of a biotechnological treatment process for TBT wastes; and (4) Cost-Benefit analysis of the use of organotin and of the remediation process required.

The main result was the design of a pilot physico-chemical treatment able to significantly reduce TBT levels in water by partitioning into membranes and adsorption to solid particulates. A number of important factors have been taken into consideration in its design, these being:

¹ *Since their introduction in the mid-1970s, self-polishing copolymer TBT antifouling paints have established themselves as the method of choice for inhibiting fouling by marine organisms on ships and marine structures. This has resulted in considerable benefits to the world's shipping industry, and hence to the world economy as a whole, not least because of the reduced fuel consumption and longer periods between drydocking. However by the early 1980s it had become clear that TBT was exerting adverse environmental consequences, in particular in the vicinity of marinas and ship repair yards, where concentrations of TBT from antifouling applications were causing damage to marine organisms at levels which were almost too low to be measured by the then available analytical methods.*

1. cost - 10 to 20% above current waste disposal costs;
2. flexibility - the aim is to provide treatment processes appropriate for use at a variety of dockyard situations, both small and large;
3. the nature of the dockyard environment and culture - any apparatus used is to be compatible with the technical and skill scope of the dockyard construction environment and/or surrounding culture;
4. availability and technical support for bought-in equipment.

This project had an important public-awareness raising exercise which was seen as instrumental in introducing the project to an international audience, particularly in developing countries with related industries. This promotion consisted of the dissemination of audio-visual material with a view of acquainting both the scientific and industrial sectors with the problem being investigated as well as the implications of unchecked TBT generation and disposal practices.

It is essential that developing countries get to know such technologies coupled with the economic, technical and managerial skills to use and further develop them. The offer of technologies must include information on their environmental risks, so that countries can make informed choices and imported technologies must be compatible with social, cultural, economic and environmental priorities. In some cases, the combination of imported technologies with local innovations should be also encouraged with the possibility of evolving new technologies.

Development of the CEMARE Web Pages

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Abstract

CEMARE World Wide Web pages on the Internet are described, and future developments are discussed, with particular regard to the needs of the end-users.

Introduction

A fish's eye view of information (Meadows, 1992) is the title of a paper written by Jack Meadows who was Dean of the Humanities and Education Faculty at Loughborough University. The subject of the paper was user studies, and he began the paper with the following story

Many years ago, an undergraduate at Harvard - later to become a well-known humorist - was asked to write an essay on a fishing treaty which had recently been concluded between two countries. He began his reply with the words 'I want to consider this treaty from the viewpoint of the fish'.

Meadows went on to use the analogy of libraries and publishers as the two countries, and library users as the fish. I will use a slightly different analogy, more appropriate to the subject of this paper. On the one hand we have large organizations, like universities, who produce and generate a wealth of information which they wish to disseminate, and on the other hand we have the even larger multi-national software communications companies that are providing the new medium of the Internet/World Wide Web for the dissemination of that information. These then are our two countries, and the people searching for and retrieving that information, the end-users, are the fish.

So who are the end-users? In the same way that there are many different species of fish, there are also many different types of end-users. End-users, unlike some fish stocks today, are on the increase: there appears to be no danger of stock depletion, or stock collapse. However, the number of organisations using the Web to market their products and services is on the increase, so competition for this valuable resource is increasing.

CEMARE is a specialized research group within the Department of Economics at the University of Portsmouth. The Centre was established in the early 1960's to promote multi-disciplinary research into marine resources, with an emphasis on the economic analysis of fisheries. Since then it has developed into a substantial Centre for training, advanced studies, research and consultancy, particularly in fisheries economics.

Who are the end-users of the CEMARE Web pages? In general we can assume that any individual with an interest in the aquatic environment may seek out our pages. More specifically the end-user may be a prospective student, a prospective collaborator in a research project, or a possible future visitor to our library. These are some of the end-users that the CEMARE Web pages are aimed at.

Development of the CEMARE Web Pages

Work began on the CEMARE Web pages in the spring of 1995. The senior computer analyst/programmer (Dave Early), at the Portsmouth Business School (of which CEMARE is a part), was experimenting with publishing on the Web and he was looking for material to use. Coincidentally, he and I were having discussions about a different project, and during these discussions the idea arose to use information about CEMARE for these first Web pages. CEMARE has quite a wide range of printed material, including a centre profile, publications list, and information about various courses run by the centre. The variety of material produced by CEMARE made it a worthwhile exercise, and the fact that all of the information was already on disk and easily transferable into plain text ready for editing for the Web proved to be the deciding factor.

The initial information loaded onto the CEMARE Web pages was drawn from these existing documents, almost without change. We then spent some time studying the pages, seeking comments from staff within CEMARE and within the Business School. One of the immediate conclusions was that what looks attractive and acceptable in one medium, i.e. in printed format, does not necessarily work in a different medium, i.e. on the Web. So we set about editing and re-organising the pages. New pages were introduced to reduce the length of pages and the number of menu pages was increased. The overall aim was to improve the look of the pages (to make them more user-friendly), without losing the information that end-users would eventually be expecting to find. It is a difficult balance: on the one hand one does not want immediately to overload the end-user with information, but on the other hand there is nothing so frustrating as being required to work down several menu levels only to find that eventually one is going to have to write to the organisation for the information required. Since the pages were first released on the Web, early in the summer of 1995, their development has been continuing in response to changes in the Centre and feedback from inhouse end-users. The most recent development has been the introduction of an interactive element, which will be addressed later.

Description of the CEMARE Web Pages

Diagram 1. CEMARE WEB PAGES

Level 1.	Level 2.	Level 3.	Level 4.
	Profile		
	Library		
	Consultancy		
	Publications	Reports	Ordering information
		Miscellaneous Publications	
		Research Papers	Request form
	Staff		
Home Page	Research	ODA/TMAF Project	
		EC/AIR Project	
		MAFF/CF Project	
		BIO/SAMP Project	
		CHA/DAT Project	
		FISH/R&D Project	
	Advanced Studies	MSc Fish. Econ.	
		MSc Fish. Mgt	
		MSc Fish. Ent. Mgt	
		MSc Rec. Fish. Mgt	

Diagram 1 shows how the CEMARE Web pages are currently organised. No links are shown on the diagram because all of the pages are interconnected.

The pages are organised on four levels. From the CEMARE *home* page menu it is possible to select and move to one of the pages in the second level. On this second level some of the pages contain information, e.g. the *profile*, *library*, *consultancy*, and *staff* pages. Other pages present further menus to select from, e.g. the *publications*, *research* and *advanced studies* pages. At the third level, all the pages contain the information referred to. There is a fourth level of pages which provide additional information/options for the users. The *ordering information* page provides the end-user with information on how to order CEMARE publications for which there is a charge. The *request form* page provides the end-user with the inter-active element mentioned earlier. This request form can be used for a variety of requests including for free publications, for collaboration in research, and for general enquiries.

Future Developments

CEMARE publications

Discussions are currently taking place with a view to making the full text of CEMARE publications available on the Web. The advantage of this to CEMARE would be to reduce the costs of producing and distributing these publications, especially those that are currently distributed free of charge. For the end-user the advantage would be no waiting period for the receipt of our publications.

What's new page

Many organisations have a what's new page which contains the latest information on, for example, new publications, new research contracts, forthcoming seminars/ workshops/ conferences, and new staff. Before setting up a page of this nature it is important to ensure that a system is in place for the new information to be collected and passed to the page manager to go on the page; there is nothing worse than having a what's new page with old news.

The pages discussed above contain information generated by CEMARE, and about CEMARE. The next two developments are aimed at utilizing information put on the Web by other organisations, and utilizing the communication facilities of the Web.

Contacts page

At the IAMSLIC Conference in Southampton in October 1995, I volunteered to create a Fisheries Economics Subject Page for IAMSLIC. Initially this page was created by Stephanie Haas, at the Marston Science Library in Florida, and I sent her details of contacts to be included on that page. In March 1996 an identical page was set up within the CEMARE Web pages, and that page is now the IAMSLIC Fisheries Economics Subject Page. The purpose of this page is to provide an access point to other organisations working in fisheries economics, to their libraries, their publications, and their databases. This page is still under development and only a few items are included, as it does take time to `surf' the net finding appropriate contacts, and then checking them out periodically to ensure they have not changed their URLs (Uniform Resource Locator). So whilst the other pages contain information generated by CEMARE, with information about CEMARE, this page is provided as a service to our end-users, those within CEMARE, within the university, IAMSLIC members and other remote users.

Discussion list

A second page that has been suggested as a service to end-users is a discussion list on fisheries economics. A suggestion is all this is at the moment, as there has been no opportunity for further discussions to take place with CEMARE staff.

These are the future developments currently under consideration by CEMARE, and suggestions for more are welcomed from end-users.

A recent development which may influence the appearance and structure of the CEMARE Web pages in the future, has been the setting up of an Internet working party within the Portsmouth Business School at the University of Portsmouth. This working party has been charged with the task of establishing a

standard faculty approach to publishing on the Web. The working party, made up of representatives from various research groups and other factions within the school has been tasked to set a standard for course and research groups, determine who maintains the pages, how it will be done, and who will have overall control. At the first meeting CEMARE was asked to set a standard for advanced studies courses, whilst other Research Group Web pages will be discussed at a later date.

Feedback from End-Users

To return once again to our end-users, our fish. What do they think of our pages? The opinions of our in-house end-users can be trawled quite easily, and their feedback has been most useful. One of the reasons for describing the CEMARE Web pages to EURASLIC colleagues is to invite feedback from some of our remote end-users. Those with access to the Web are invited to examine CEMARE pages and to send me comments using the on-line request form option. The URL is:

<http://www.pbs.port.ac.uk/econ/cemare/>

Conclusion

I have briefly described the current CEMARE Web pages, pages under development, and possible future developments. In conclusion, I hope that for those of you that are about to, or those who are thinking about setting up pages on the Web, that this presentation has been an encouragement. I think it is important that as library and information professionals we are closely involved in the development of our organisation's Web pages, and in the utilisation of the resources of the Web for the benefit of our end-users wherever they may be located. Our traditional role in the collection and dissemination of information can be interpreted in this medium. When I embarked upon this venture I knew very little about the Web; during the last 12 months I have learned a great deal, both through my own endeavours and through the help of colleagues. This I think typifies the spirit of those who work in the field of library and information sciences. They are willing to share their knowledge and encourage the development of their colleagues, the spirit which is typified by EURASLIC.

Reference

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Abstract

An analysis is provided of the use of a set of workshop abstracts, to which access was provided through the IMBC World-Wide Web site. Statistics were kept of the number of users, their identity and country of origin, what parts of the Web site were accessed, and for how long. A number of conclusions are drawn on the success of the project, and the usefulness of making abstracts available in this way.

Introduction

The Mediterranean island site of the Institute of Marine Biology of Crete confers certain advantages to marine science research: these do not, however, include speedy and easy communication. Because of the remoteness of its location, far from the capital of Greece, which itself is on the southern periphery of Europe; because of the erratic deliveries of what is already derisively termed snailmail, the Institute is particularly conscious of the benefits to be derived from online communication. Its Information Design and Development Department had shown interest in the construction of a World Wide Web site in January 1995 but although agreed in principle, the heavy workload entailed forced postponement of this initiative.

The 21st IAMSILIC conference in Southampton in October 1995 had as its theme *Information across the Waves: the World as a Multimedia Experience*. However, most of the contributions concerned electronic online rather than digital offline dissemination. The very rapid spread of the Internet and its potential for research publications were accentuated by the very convincing demonstrations, made mostly by American marine research institutional librarians, of the opportunities via the Internet.

As a direct result of the IAMSILIC Conference, construction of the IMBC Web site was given top priority. By 11th November 1995, the IMBC World Wide Web site (www.imbc.gr) was up and running, and a formal announcement launching the site was made on 27th November. Two of the aims of the site relevant to the present paper are as follows:

- a) to promote the activities and facilities of the IMBC nationally and internationally;
- b) to provide unique services to the marine science community by making available resources such as abstracts, bibliographies and other types of databases such as glossaries and directories.

The site, measured by means of criteria in current use, was more successful than anticipated, with more than 13500 accesses, or 'hits' as they are known, in the first 30 days. It is by counting these hits that the use (and by implication the usefulness) of the Internet is measured. It has been estimated that there are at least 20 million people worldwide, in search of information, entertainment and products. A blend of ignorance and perhaps also some disingenuous disinformation about the financial opportunities has resulted in the Internet being presented in some areas as the modern equivalent of the "licence to print money" of the first UK commercial TV licences. There is a widespread conviction that people will pay money for information, and therefore new sites are being created on the World Wide Web at a rate of about one every minute. According to IMO (1994) *The Internet and the*

European Information Industry (1), 35,000 electronic journal articles are added to the Internet every day.

Nevertheless, a search through the available literature shows that many people express serious doubts about marketing, and the marketing strategies suitable for the Internet. As Sheila Webber of the University of Strathclyde says in *Online pricing: changing strategies in a changing world* (2), "since the beginning of online, pricing has been a problem" and she goes on to describe the pros and cons of methods such as Connect time, output charge, entry fee + hit charge (the latter method favoured by many bibliographic database services). At present it would seem that there is a move towards layering, i.e., charging different prices for each successive layer of information accessed, or what is known as product bundling. This method is offered by many publishing houses: print + CD-ROM + access to full-text journals and abstracts.

Yet it has been discovered (in some cases, the hard way) that the majority of users will almost never pay a subscription fee for access to a Web site. In addition, when much of the information has previously been free of charge, as is the case on the Internet, users do not readily accept information charges, and take great care to avoid them.

In the light of the literature search, the IMBC decided that it was necessary to have more information about user behaviour, to establish whether there were any patterns in the accessing of online information in order to make relatively informed choices as to the best way to continue development, and in particular to examine the usefulness of making a resource such as extended abstracts available online.

Materials and Methods

In February 1996 it was decided to conduct an eight-week investigation into the accessing of a 96 abstract resource base, part of the EU Directorate General XII MAST programme. The survey was designed to elicit details concerning:

- i) the identity of users;
- ii) their country of origin;
- iii) exactly what parts of the web site each user visited;
- iv) how long the visit lasted.

It was felt that this was the minimum amount of detailed user knowledge necessary for informed choices to be made concerning future development. Those responsible for site development and maintenance devised and adapted software able to provide answers to most of the above questions.

At the beginning of February, the IMBC had run a three-day MAST workshop with 150 participants, being also contracted to provide a volume of extended abstracts for each participant. It was decided to make these abstracts available online, a decision made possible for three reasons:

- i) IMBC had hosted the workshop and had already put some information online;
- ii) IMBC had prepared all the abstracts for publication and therefore had all the material on diskette, in a usable format;
- iii) Copyright ownership was not an issue as the MAST organisers readily granted permission to use the materials.

The extended abstracts were online on Friday, February 9, less than a week after the workshop had ended.

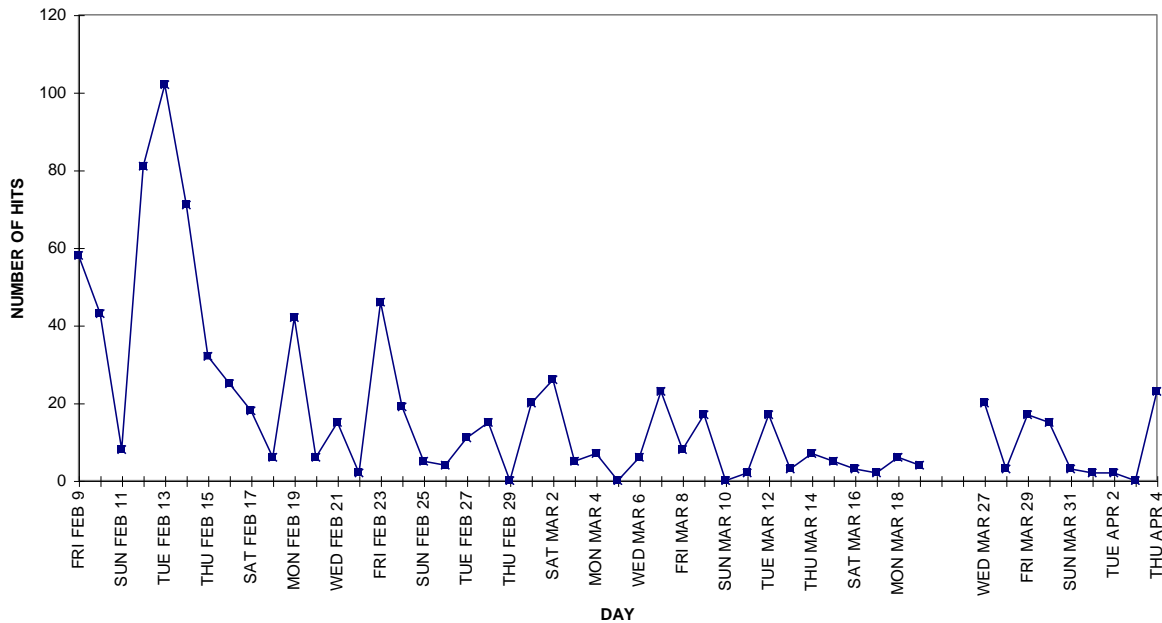
Results

It had previously been decided, from looking at the available literature, that eight weeks was an adequate period to give accurate information concerning numbers of users, identification of users, and possible trends in user behaviour, and that the first eight weeks of availability was the most suitable choice for the obtaining of useful information. Accordingly, on February 9 an announcement

concerning the online availability of the abstracts was made to all participants, and also on relevant online mailing lists.

Ten weeks later, a breakdown of log-ins (Fig. 1) from the selected eight-week period was obtained. From the breakdown, it was not always possible to identify the user, nor even the country of origin because some email addresses bear no features which the software in use can identify. Nevertheless, since the overall results are interesting, and their impact does not depend on identifying individual users of countries, it was felt to be worthwhile to communicate these to other libraries at this point in the European development of online library resources.

FIGURE 1: Number of Overall Hits to MTP Workshop in First 8 Weeks

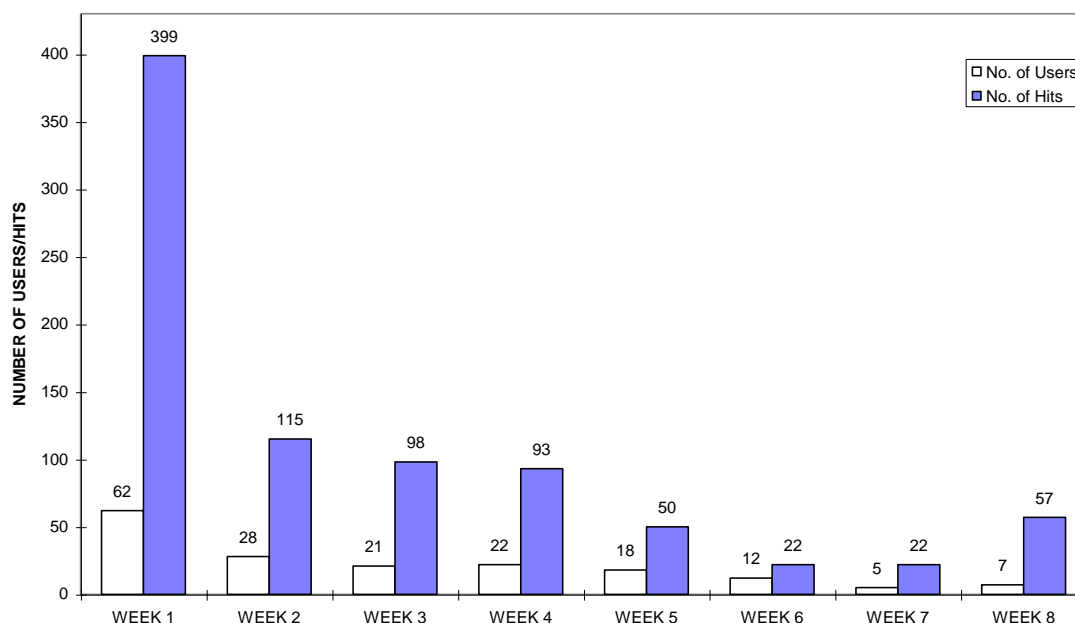


The information obtained also identified which part or parts of the MTP workshop had been accessed by the users, and how much time they had spent browsing at each stage. Using this information it was possible to analyse the data to investigate how and when the abstracts were being exploited by the users, and to identify which projects had generated most interest. Because of a technical problem it was not possible to obtain full data from March 20 - March 26 inclusive, and therefore the data for that week have not been included in the survey.

Figure 1 shows that there was high initial interest, almost four hundred accesses in the first week, then 115 in the second followed by two fairly similar figures in the 90s, then a drop to 50, then even fewer accesses, followed by another slight rise (this latter accounted for by the fact that the Opening Remarks of the MAST Team was put online during that week). Figure 1 also indicates that both the number of hits and the number of users dropped consistently over the first seven weeks of the study, with only a slight increase noted for the eighth week. Throughout the study period there were fewer accesses at weekends, particularly on Sundays.

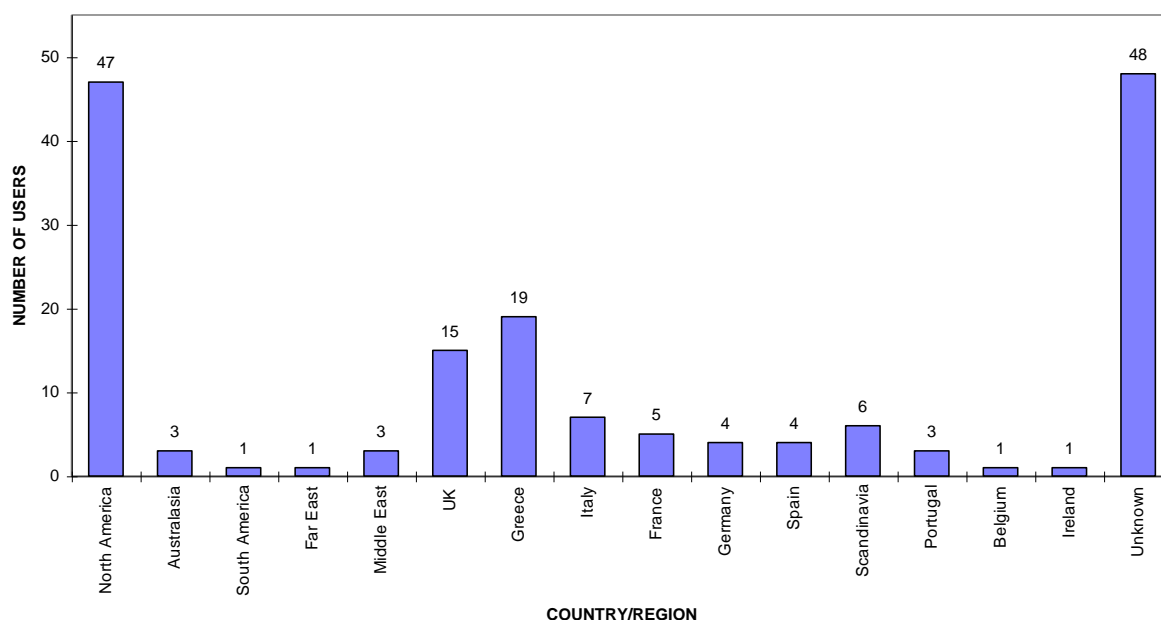
This type of measurement, though it is the type normally used as a criterion of online success or failure, is nevertheless rather misleading, as can be seen from Figure 2. There the number of actual users of the abstracts shows a very noticeable difference. Those who used the abstracts are now seen as comprising a mere 62 out of the initial 400, and this drops to a steady, and declining, weekly rate around the twenties. In this context, however, it must be noted that there were in total less than 150 participants in the MTP workshop. We also recorded individual abstract users, of which there were 175 who made a total of 856 accesses. Where the addresses could be identified to individuals, we found a number of MTP workshop participants, but we also found many non-participants.

FIGURE 2: Numbers of Accesses in Relation to Actual Users of MTP Abstracts, weeks 1-8



Where users can be identified to country (Figure 3) we also found an interesting situation. The first left-hand column shows that from the identifiable users, North America had the highest representation despite the fact that there was only one participant from that region. The Mediterranean countries, and other participants, were reasonably well represented, with quite a number of Greek and British users, and also a significant number from France, Spain and Portugal.

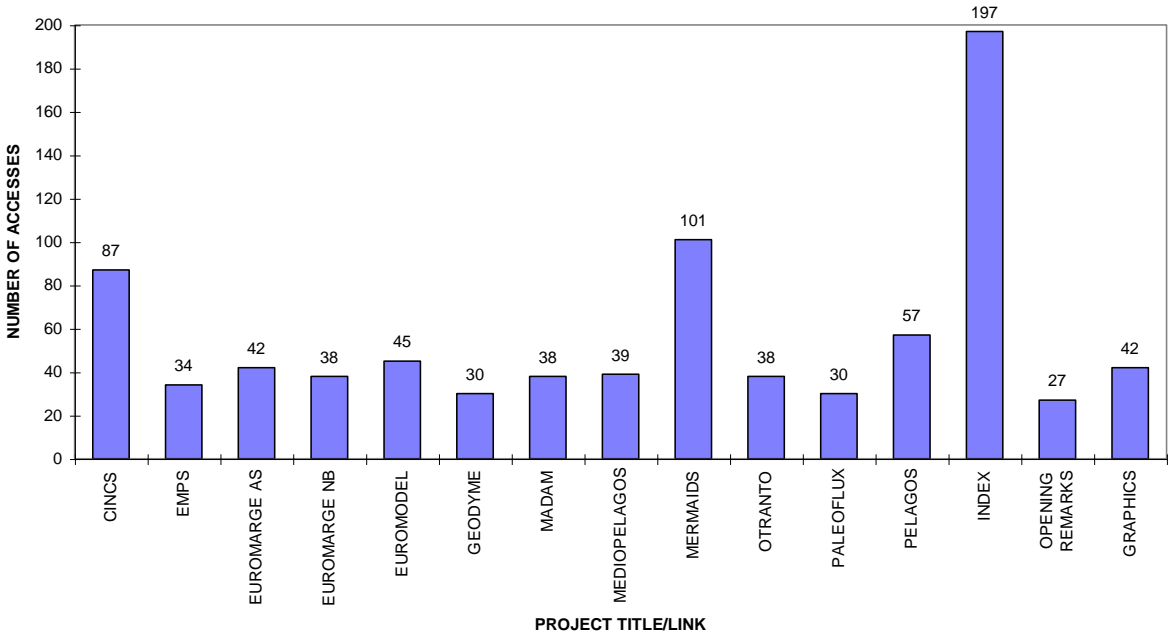
FIGURE 3: Countries/Regions of Origin of Users of Abstracts



The abstracts consulted were then identified (Figure 4). Most accesses, almost 200, were made in order to consult the index. It could be argued that these were users who were not participants and therefore needed to consult the index. The next highest amount of accesses were made to the project MERMAIDS, known to be one of the most successful of the MTP projects. The next highest number of

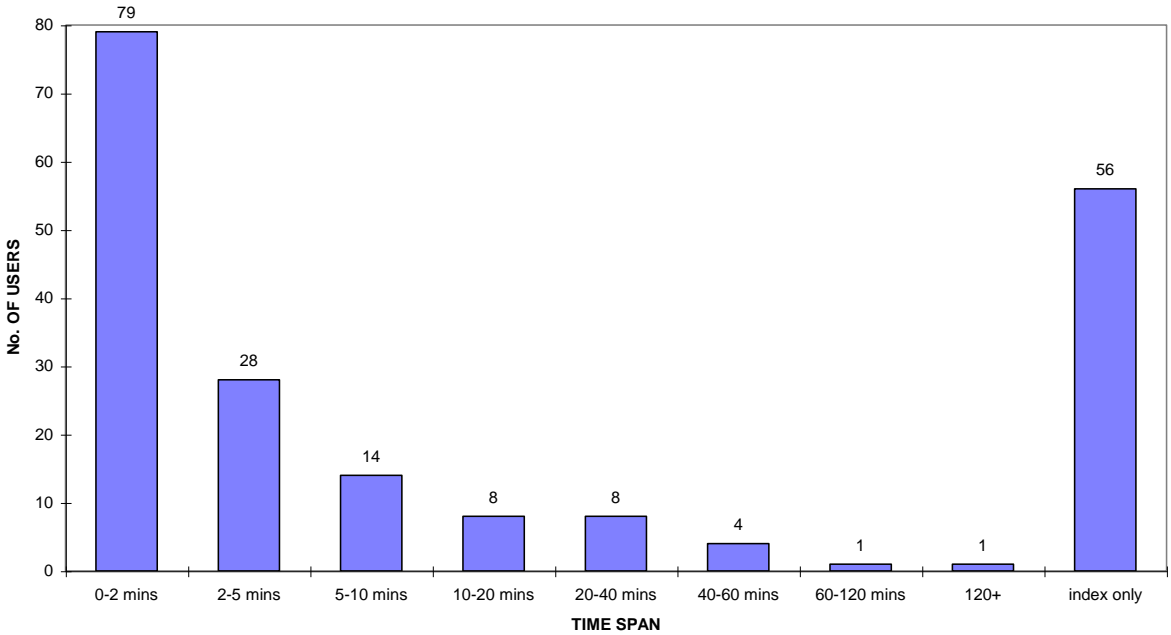
accesses involved the IMBC project, CINCS. Opening remarks and graphics were not added to the site until the fourth week of the study, so figures for these features are not entirely relevant.

FIGURE 4: Numbers of Accesses to Named MTP Projects/Links



From Figure 5 it is possible to ascertain how much time users spent browsing through the workshop link, thereby indicating the degree of interest generated by the abstracts, and their usefulness to the users. While the majority of users spent under two minutes in total, or merely accessed the index, there was also a substantial number who spent a considerable amount of time looking at more details.

FIGURE 5: Amount of Time Users Spent Browsing MTP Abstracts



Discussion

Overall, a number of trends became apparent. Most interest was shown in the first three weeks after the abstracts became available online. The numbers of hits and the numbers of users dropped over the first seven weeks of the study, with only a slight increase over the eighth week, when the Opening Remarks were added. From the daily figures, we also noted that there were consistently fewer accesses at weekends, particularly on Sundays, which again appears to indicate that there were relatively few casual or chance visitors to the abstracts.

It is apparent that large numbers of surfers, or browsers, not our targeted users, were attracted to the site. This can be deduced from the difference between the number of accesses on any given day and the amount of accesses which resulted in the user consulting one of the abstracts under a project title. These data clearly distinguish the more serious users from those who are simply browsing.

Such users, though interested enough to enter (and thus to constitute a misleading hit) cannot be said to constitute a potential market. But from the point of view of publicity and promotion, these users do form part of our wider target audience. In addition, they are probably people whom we could not usually reach by conventional methods. Their interest, probably quite genuine, has already served more than one of the purposes of a Web page, i.e. to enhance the public image of an institution, and to provide information about its activities on the international scene.

Figure 2 visibly demonstrates this discrepancy, and on the surface seems to depict a rather depressing situation, or what would be a depressing situation if we had been relying on recorded high access numbers to provide a potential market for saleable information. Paradoxically, perhaps, we feel that we have succeeded in another of the aims of an effective Web page: to provide a targeted set of users with specialised information in the hope that they will use it.

From the data presented in Figure 3, giving a measure of the popularity of each project, it was quite significant that most accesses were made to the index. This shows that these users were genuinely in search of information, and were not merely browsing. It is also easy to see why the two most accessed projects, MERMAIDS and CINCS, achieved this level of interest. MERMAID'S success has already been explained. Nevertheless, the equally high level of interest in the CINCS project was not entirely unexpected, for several reasons: i) CINCS is an IMBC-coordinated project; ii) IMBC had run the MTP workshop; iii) IMBC made a very large amount of useful information freely available to all comers. Otherwise it can be seen that there was a lower, but fairly uniform level of interest in all the projects.

The relatively short time spent on average by users (less than 5 minutes) could, however, give ample time to print out the abstracts consulted. It is evident from Figure 5 that several users did not print out, nor skim read, but spent quite a considerable time reading. There is also the possibility that those who spent a seemingly insignificant amount of time in the program had simply printed those details of interest to them.

Conclusions

First, our literature search revealed that there is no consensus in respect of pricing, nor of the best method, nor of the profits being made on these transactions.

Second, there were clearly far more overall hits than serious consultations of freely available information. However, this type of access also fulfils one of the aims of a research organisation Web site, so that successfully attracting browsers should not be dismissed out of hand.

Third, contact was made with the serious searcher, the targeted user, who did consult the information, and this is considered to be of major importance at the IMBC.

Fourth, there seems to be an optimum amount of time (about four or five weeks) when interest in such information will be sustained, an important aspect when planning Web site activities.

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Institute of Oceanology
Varna
Bulgaria

The library of the Institute of Oceanology is one of the 48 libraries forming the network of the Central Library of the Bulgarian Academy of Sciences. It was founded in 1977 and had a small collection of books granted by the Institute of Fisheries in Varna from where the first group of scientists came to set up the Institute of Oceanology itself. The first two years the library was run by volunteers from the institute and since 1979 a professional librarian has been appointed.

During the period 1980 - 1990 there was permanent development in the acquisition of books and an increase in the number of journals currently subscribed. There were plenty of books and journals in Russian that were easy to obtain. There were only some financial restrictions concerning Western periodicals and books but anyway we managed to obtain a lot of valuable books and journals mainly in English. It so happened that in 1990 when the social and political changes started science and culture were the branches affected immediately. The funding for literature was so strongly reduced that the subscription for foreign periodicals was terminated in the middle of 1990, and more than a year later only a small part of it was restored. For example: in 1990 we received 30 titles of western scientific journals, 52 Russian, and 22 Bulgarian; and in 1996 only two English journals, 10 Russian, and 10 Bulgarian.

As a part of the Bulgarian Academy of Sciences Central Library Network the library of the Institute of Oceanology was and still is financially and methodologically dependent on it. As a matter of fact after 1990 we were relieved from ideological and some administrative restrictions but chained in economic ones.

After the Fifth EURASLIC Meeting in Gdynia one of the objectives that I started to pursue eagerly was to find funding for library electronic equipment. In those days it appeared to be a difficult task but finally, now, I am happy to share with you that only two weeks ago a computer PCI Pentium 75 MHz and HP Laser Jet 5L were provided for the library. Little by little most people become aware of the need of current information and a fast access to it. As a proof of this I was morally and financially supported by some of the scientists in the institute who during the recent years have been involved in various international research projects. Now the next step is to install suitable software and start using it. However, here I must admit that I lack experience and will need some time and a certain training to get used to the new type of work. So, I would greatly appreciate any kind of advice and help.

Referring to the European Marine Directory Project I have got the approval of the Director of our institute and also the agreement of one of the scientists to take part in the work required for the purpose. What I am afraid of is that again financial difficulties will be encountered. I tried to estimate only postage and printing costs and I failed because just at that time there was a rapid rise of mailing costs and it was announced another one would follow in September. The drastic jumps of prices are a characteristic feature of our country this year and I regret to admit it but the prognoses are not encouraging either. Anyway, I will not give up and will try to do as much as I can in support of the project.

At the end I would like to thank Mr. Ian Pettman who has advised me on the choosing of the proper electronic equipment for the library, and to all members of the EURASLIC Board who supported my attendance at this meeting.

Marine science libraries in Croatia

Vlasta Topolcic

Rudjer Boskovic Institute
Zagreb
Croatia

As a Mediterranean country Croatia has a long tradition in marine research. The Adriatic Sea with about 700 islands, a beautiful coast and a rich flora and fauna offer considerable possibilities for various kinds of research in the marine sciences. It is my intention to present a short report on marine science institutions in Croatia, with their libraries.

The oldest institution in marine sciences is the Center for Marine Research in Rovinj, Istria, established in 1891 as a field station of the Berlin Aquarium. From 1911 to 1969 it was governed by various scientific bodies. Since 1969 it has joined the Rudjer Boskovic Institute, as the Center for Marine Research in Rovinj. It employs 35 scientists. Basic and applied research activities cover a wide range of topics from primary productivity to monitoring eutrophication and pollution. A branch library in Rovinj (the main library being in Zagreb) is a small library with some valuable and unique series of books, such as *Reports on the Scientific Results of the Exploring Voyage of HMS Challenger* and other publications. This is still a traditionally specialized library, the holdings of which are about 14,000 books and, at present, 28 current periodicals. In previous years approximately 380 periodicals were received in exchange for the journal *Thalassia Jugoslavica* issued by the Center. However, owing to the war and political changes, the issue of this journal was interrupted and ended in 1991. New periodical titles and also books in the library in Zagreb and the library in Rovinj are rarely procured owing to shortage of funds. It should be supposed that, at present, 28 current periodicals represent the majority of core journals necessary to the scientists. They also have at their disposal one section of *Current Contents on diskette* (Agriculture, Biology & Environmental Sciences) since access to the multiuser version of Current Contents (OVID programme) installed by the library in Zagreb is practically useless. The telecommunication infrastructure between Rovinj and Zagreb is poorly developed. We hope, however, that this problem will be solved in the near future. As for the library equipment, a recently acquired PC has been in use for running work.

The second institution for marine research founded in 1930 is the Institute for Oceanography and Fisheries in Split with two branch laboratories in Dubrovnik. Whereas the research in Split is oriented primarily toward marine biology and fisheries, the laboratories in Dubrovnik are engaged in microbiota research. The Split library, in spite of its rich holdings, is still a traditionally specialized library which has recently started on adoption of informatics and communication technologies. The laboratory staff in Dubrovnik work under very unfavourable circumstances. 15 researchers have at their disposal only 8 current periodicals with one section of *Current Contents* (Agriculture, Biology...) in standard form without disks. There is no librarian in the laboratories. Connection and browsing data bases through a network will, hopefully, be achieved in the future.

Concluding remarks

This is the present status in the marine science libraries in Croatia. Rudimentary steps are taken to transform a traditional library into a modern one with adoption of informatics and communication technologies. One may ask how scientific research is possible under such conditions. There is no doubt that our libraries are lacking in acquisitions and equipment. However, there are a number of institutions that at present work efficiently without computerization, expecting improvement in the near future.

Country Report for Denmark: Part 1. The Ministry of Agriculture and Fisheries and its Libraries

Søren Elle

North Sea Centre
Hirtshals
Denmark

Introduction

During the last two years there have been some changes in the organization of the Danish libraries concerned with fisheries. I will try to give you a brief overview of the changes.

DIFRES

Three years ago the Danish Ministry of Fisheries was taken over by the Ministry of Agriculture (now the Ministry of Agriculture and Fisheries).

As a result of this, the three Danish public research and advisory institutions under the former Ministry of Fisheries:

Danish Institute for Fisheries and Marine Research (DIFMAR)
The Inland Fisheries Laboratory, and
The Technological Laboratory

were united in a new sector research institution under the Ministry:

The Danish Institute for Fisheries Research (DIFRES)

with the purpose of gathering all research, investigation and data collection, as well as advisory tasks for both the Ministry and the public. Fields of interests comprise just about everything concerned with fisheries: utilization, preservation and management of aquatic resources; stock enhancement and aquaculture; catch handling, processing and quality assurance of fishery products.

The new institute includes five departments:

Department of Marine and Coastal Ecology - placed in Charlottenlund near Copenhagen.
Department of Marine Fisheries - ditto
Department of Fish Biology - at the North Sea Centre in Hirtshals
Department of Inland Fisheries - in Silkeborg (the Danish lake district)
Department of Seafood Research - in Lyngby near Copenhagen

The four main libraries affected by the restructuring were in the fisheries sector. They were:

DIFMARs library in Charlottenlund
The library of the Ministry of Fisheries Technological Laboratory in Lyngby
The Freshwater library in Silkeborg - also serving the Inland Fisheries Laboratory
And last but not least: my own library at the North Sea Centre, also serving one of the former DIFMAR departments.

After the restructuring the new institute DIFRES now fully owns and operate the two libraries in Charlottenlund (serving the departments in ecology and marine fisheries) and Lyngby (serving the department in seafood research) while the two last departments are serviced by libraries under other ownership: The Department of Inland Fisheries in Silkeborg by the library under the National Environmental Research Institute (NERI) (a description of this institute and its libraries will be given later

by its leader Ms. Lilian Mex-Jørgensen); and the Department of Fish Biology in Hirtshals by the library at the North Sea Centre - and I will return to that a little later...

Although the new institute came into existence in January 1995, there are still many questions that need to be settled, and among them the future library structure... In fact it has been the question causing the most heated discussions in the leading circles of DIFRES, in spite of the traditional low status of libraries in organizations that we probably share with most of you.

Therefore there has been no appointment of a leader of the DIFRES library structure; and the discussion on the structure is still undecided: either a centralized structure, with one central book/report/journal depository connected with a number of small IT-units armed only with a PC and an Internet connection; or a continued decentralized library structure with a closer cooperation and resource sharing.

There are no heavy clouds over our heads, but if we look at the horizon we can spot some. The total funding for the new DIFRES is decreasing in the years to come, leaving more of the budget to be earned by external projects and private funding. Should this result in economic problems, library budgets and the library structure could well be affected.

The Library at the North Sea Centre

The reorganizing of the public research structure has also affected my library in the last few years. But first of all a brief description of the Centre:

Placed in 1980 in the most isolated corner in Denmark, seen from the capital - but close to the biggest fishing centres in Denmark, the North Sea Centre was designed as a place to bring together the research, the industry and the organizations in the fisheries sector. At the Centre, therefore, you can find offices of political and organizational organizations in fisheries, small and medium-sized consultants, higher education in fishing and fisheries technology, private and public research institutions, at a place where you can actually (well almost) see the fishing harbour.

The library at the North Sea Centre has been in existence since 1984. It is a private library until the end of 1994 owned and financed jointly by DIFTA (Danish Institute for Fisheries Technology and Aquaculture), a private company approved as a technological service institute; the local department of DIFMAR, and the North Sea Museum. When DIFRES was established, incorporating the DIFMAR department, there were talks on also incorporating the technological institute (DIFTA), and in that light all three partners cancelled the agreement the library was founded upon, as everybody expected DIFTA to join the new DIFRES. Extraordinarily enough they decided to continue as a private company now in direct competition with the public research institute, and even more extraordinary they both accepted to join a new, common library construction with several other NC institutions.

This new construction running the library comprises: The Centre administration; two private consulting institutes, one public research institute; one private museum; the local branch of a university and one international organization (ICLARM). Talk about more than one master...

For the time being, though, my future looks bright: In January I moved to new premises which more than doubled the library area to approximately 150 square meters. It looks as if I actually will get more assistance in the library. My communication and computer equipment are under upgrading. It's almost worrying, until I remember that this is still a test period... and soon the private companies will run into economic problems, or the public institutions change policies

Country Report for Denmark: Part 2. National Environmental Research Institute (NERI)

Lilian Mex-Jørgensen

National Environmental Research Institute
Department of Lake and Estuarine Ecology
Silkeborg
Denmark

In NERI the only "turbulence" has been that the Department of Freshwater Ecology has been divided into two departments:

Dept. of Lake and Estuarine Ecology and Dept. of Streams and Riparian Areas.

I am now in the Dept. of Lake and Estuarine Ecology and I have had a new boss. The library is still library for both departments.

My part of the country report concerns a project that I have been working on for a period. Last year I made a proposal for a project: *European Environment Library Network (EELNET), a scoping study*. The project is one of the Danish support projects contained in the hosting agreement between Denmark and the European Environment Agency (EEA) in Copenhagen. The aim of the project is roughly speaking to establish an environmental network of libraries/information centres to support the EEA librarian.

There are three elements in this scoping study: 1) contact persons, 2) common home page, and 3) access to environmental information. I have identified a contact person from each EC country and they are willing to cooperate. We are connected via an electronic conference. In my project I have suggested (at a later stage) to extend the network to other selected information specialists. As a pilot project I have created a common home page which is intended to be a European environmental information window, one way of giving free access to information. It is still (and will always be) under construction. I have selected information of common European interest to be published via the home page. It is stressed that it is a selection of information including links to environmental resources on the Internet. A list of participants is included, too. The home page is for the time being placed on the NERI server but will be moved to the EEA server when the project is finished. A final report will be forwarded to the EEA in June. While I have been working on the project there has been a substitute librarian in my library but I have been supervising the library during the project period. I will be happy to give further information about my project during the meeting.

URL of my project:

<http://www.dmu.dk/LibraryNetwork/>

URL of NERI:

<http://www.dmu.dk/>

The Library of the Estonian Marine Institute - Two last Years of Activity (May 1994 - April 1996)

Maria Kalenchits

Estonian Marine Institute
Tallinn
Estonia

The latest period has been favourable in general for the developing of marine information services in Estonia. In our library's life the years 1994-1996 could be characterized as the time of new undertakings, developing of new local and international contacts, storing of what we have learned about new library and information technologies.

The policy of the development of the library has found the moral support of our institute's authorities and the financial support of the National Fishery Foundation as well.

Since 1994 the situation regarding literature on marine sciences in Estonia has begun to improve. The Library of the Estonian Marine Institute has been enriched by many valuable publications received through exchange arrangements. The printing of the first issues of the Estonian Marine Institute Report Series in 1995 made it possible to arrange a number of mutually beneficial Exchange Agreements. Unfortunately, the number of our partners is still restricted by the small circulation of our publications and high mailing costs.

For the second year the Library of the Estonian Academy of Sciences has included the marine sciences in the priority topics of library acquisition. Our Institute's scientists have the opportunity to take part in the selection of titles for ordering. The Library of the Estonian Marine Institute has the first right to borrow the new literature on marine sciences from the Library of the Estonian Academy of Sciences using the Interlibrary Lending Service. Our library also uses the EURASLIC Lending Requests to ask for copies from abroad.

Last spring our library was given about 90 boxes of books and valuable periodicals collected by the present and former staff and members of the Marine Biological Association and Institute for Marine Environmental Research in Great Britain on the initiative of Mr. David Moulder. The literature was shipped on board the institute's R/V *Livonia* in the Port of Plymouth on her return voyage from the Antarctic. It has been decided that part of the donated books and periodicals will be transferred to other scientific libraries in Estonia. I would like to take this opportunity to express once more my deepest thanks to Mr. David Moulder on behalf of our institute's scientists and all those with whom we shared this gift. My special thanks also to the Library of the Danish Institute for Fisheries Research for donating to us *ASFA* back issues and to Mr. Ian Pettman for his valuable donation of new periodicals and *ASFA* issues as well.

Let me tell you briefly about other activities and new plans.

During the last few years one of the leading directions of the library's activity has become bibliographic activity. The annotated list of scientific publications of the Estonian Marine Institute's scientists for 1992-1994 was prepared for the HELCOM bibliography last year. Also, a list of the new acquisitions has been prepared every month. From March 1996 the Estonian Marine Institute was confirmed by the *ASFA* Advisory Board as the national *ASFA* partner in Estonia. It is planned to prepare the first set of inputs to *ASFA* at the end of May.

The Library of the Estonian Marine Institute was among the six partners from different European countries carrying out the Survey of potential users of the *Directory of marine organizations, scientists and their research interests* in 1995. We are sure now that there is enough interest in this directory in Estonia.

The programme of close cooperation between the Estonian Marine Institute and the Sea Fisheries Institute in Poland made it possible to have a short *ASF*A training course organized on the initiative of Mr. Henryk Ganowiak. Also, very useful personal training on CDS-ISIS software and work experience in the Plymouth Marine Laboratory was kindly organized by Mr. David Moulder in February 1995.

At the beginning of 1996 the library was equipped with a computer. The CDS/ISIS software is already installed.

Our main efforts for the immediate future will be aimed at the development of the ASFIS Centre in Estonia based on our institute's library. Another planned undertaking is the creation of our library's electronic catalogue. Unfortunately, the last task will not be fully accomplished until the library staff increases. The problem still remaining is the lack of space for the library collections. The intended moving of the Institute into another building is continually being put off. But we are trying to be optimistic and it helps a lot.

Library and Information Services in Finland

Elisa Paavilainen

National Board of Waters and the Environment
Helsinki
Finland

Library and information services are a vital part of the Finnish democracy, both locally and nationally. Access to public libraries is guaranteed for everyone. Further, scientific libraries are open to the man in the street, without requiring that she/he be university staff or student, and people really do use the libraries, because our general level of education is high.

The development of Finnish libraries has been very fast in the last few years. The common EDP-system for the university libraries replaced all kinds of systems. During the early 1990s Finland was the only country in the world where all university libraries were connected to the same EDP-system, which was VTLS/Linnea. The Ministry of Education negotiated and paid for the system and the overall agreement for the hardware. Scientific libraries outside the university world and Ministry of Education have different EDP-systems, the most popular being TRIP and Prettylib.

The increasing research activity of Finnish society demands excellent information services. The explosive growth of EDP-technology and the increasingly user-friendly databases have resulted in more and more customers of libraries using databases for themselves. CD-ROM technique has been introduced in the last six years and the enthusiasm for CD-ROM has spread even more rapidly than the enthusiasm for online searches in the 1970s. The profession of information specialist has changed. She/he will become more and more an expert, a consultant and an instructor, who will support, help and teach the end-users. Information searches have changed because customers are usually very busy and do not want large reference lists, choosing instead precise information and original documents.

Using the Internet, WWW-homepages and different kinds of virtual libraries is very popular in Finnish public and scientific libraries. The employees of libraries are studying how to make sensible use of the Internet and teaching Internet techniques to users.

The libraries in Finland have also had difficulties in the last few years. Economic growth stagnated in the 1990s and the budgets of libraries turned downwards. That is why many university libraries were obliged to cancel important journal subscriptions. The situation is now a little better and more and more scientific libraries have levied service fees. Many earlier State owned libraries now belong to commercial enterprises. Network cooperation is very important to Finnish libraries, because it is the way to unite resources.

Report on the French Group

Marie-Thérèse Panouse

Laboratoire Arago
Banyuls-sur-Mer
France

Since 1982, the French aquatic and marine libraries and documentation centres have held a meeting once a year. The group now has 87 members but is not a registered association. There is a great diversity in the group : the size varies from small documentation centres run by one person only, to larger ones with a staff of two or three, and even to university libraries. Another feature is the wide range of subjects covered. For example: fisheries, aquaculture, pollution, navigation, maritime activities, anthropology, marine history, molecular biology.... The customers can be very different too: students and scientific researchers or a larger and more diverse audience.

The location of the meeting changes every year. One of the members invites the group and therefore it gives the opportunity of visiting the different documentation centres in many parts of France. The programme of the day is devoted to:

- professional information, such as news on *ASFA* and *EURASLIC*;
- results of surveys carried out within the group, for example on interlibrary loan, searches and replies to external requests, hardware and software equipment. This year, the survey was on the running of our libraries and documentation centres.
- Besides, lectures are given on different subjects: the use of bibliometrics, foreign theses and the best way to get them, information on internet, user education and training for bibliographic database searches.

The group has also published a directory of the French marine and aquatic libraries and documentation centres (in 1982 and 1985), a list of our holdings of Japanese serials, and in 1994 a union catalogue of current serials held by 25 libraries of the group.

Now several libraries have access to Internet. Some of them have a *WAIS* or *WEB* site. The list is published as an appendix to this report.

Finally, there is a project of networking the libraries of 13 French marine stations sponsored by the Centre National de la Recherche Scientifique.

List of French Web Sites

Marine Stations

Banyuls-sur-Mer	http://arago.univ-perp.fr
L'Houmeau	http://www.ifremer.fr/general/larochel.htm
Marseille Centre Oceanologique	http://com.univ-mrs.fr
Roscoff	http://www.sb-roscoff.fr
Villefranche-sur-Mer	http://ccrv.obs-vlfr.fr
Wimereux	http://loalit.univ-littoral.fr

Other Institutes

Institut Français de Recherche pour l'Exploitation de la Mer (IFREMER)	http://www.ifremer.fr
Institut National de la Recherche Agronomique (INRA)	http://www.jouy.inra.fr
Bibl. universitaire scientifique Jussieu	http://www.jussieu.fr
Museum National d'Histoire Naturelle. Paris	http://www.mnhn.fr
Institut Français de Recherche Scientifique pour le Développement en Coopération (ORSTOM)	http://www.orstom.fr

List of French E-mails

Organization	Person	E-mail Address
Cemagref Bordeaux	Chantal Gardes	chantal.gardes@cemagref.fr
Cemagref Lyon	Marie-Pascale Baligand	baligand@lyon.cemagref.fr
	Colette Cadiou	cadiou@lyon.cemagref.fr
Cemagref Montpellier	Catherine David	catherine.david@cemagref.fr
Centre d'Ecologie des Systèmes Fluviaux Toulouse	Marie-Hélène O'Donoghue	donoghue@cesf.cemes.fr
CEROV - laboratoire de géodynamique sous-marine Villefranche-sur-Mer	Jocelyne Gosselin	gosselin@ccrv.obs-vlfr.fr
Centre d'Océanologie de Marseille	Yolande Bentosela	bentosel@com.univ-mrs.fr
CREMA L'Houmeau	Evelyne Richard	erichard@ifremer.fr
Département de Géologie et Océanographie - Université de Bordeaux	Olivier Weber	weber@geocean.u-bordeaux.fr
IFP Rueil-Malmaison	Annie Buffeteau-Hejblum	buffeteau@irvax.ifp.fr
IFREMER Brest	François Cabane	fcabane@ifremer.fr
	Jacqueline Prodhomme	bib.brest@ifremer.fr
IFREMER Nantes	Michelle l'Excellent	bib.nantes@ifremer.fr
INRA St Pée s/Nivelle	Pascale Avril	avril@st-pee.inra.fr
	Carole Giansily	giansily@st-pee.inra.fr
INRA Thonon	Véronique Mottin	mottin@thonon.inra.fr
Museum National d'Histoire Naturelle. Ichtyologie	Monique Margout	margout@mnhn.fr
Observatoire océanologique, station zoologique de Villefrance s/mer	Martine Fioroni	biblio@ccrv.obs-vlfr.fr
Observatoire océanologique de Banyuls	Marie-Thérèse Panouse	biblio@arago.univ-perp.fr
ORSTOM Bondy	Brigitte Grebaut	grebaut@horizon.orstom.fr
Service Hydrographique et Océanographique de la Marine Brest	Annie Leconte	leconte@shom.fr
Station Biologique de Roscoff	Maryse Collin	bibdoc@sb-roscoff.fr

German Country Report

Ingrid Renckhoff

Biologische Anstalt Helgoland
Hamburg
Germany

The situation of the German marine science libraries is very similar to that in other western countries: decreasing budgets, and institutions being evaluated and meanwhile being threatened with closure.

In this situation the German Working Group of Marine Science Libraries (AMB = Arbeitsgemeinschaft Meereskundlicher Bibliotheken) is of important assistance to us. The members meet twice a year, and the topics range from every-day problems to cooperation in computer systems or representation in the World Wide Web. The majority of the member libraries use library software, which helps a lot in exchanging data and in giving mutual support. A joint list of journals is a good basis for interlibrary loan.

The Internet address of AMB is:

<http://www.fh-wilhelmshaven.de/terramare/amb.htm>

NCMR Library Report

Sofia Goulala

National Centre for Marine Research
Athens
Greece

The Libraries in Greece that deal with the aquatic sciences have generally a rather small collection on the subject. However, the Library of the National Centre for Marine Research may be considered unique because of the quantity and quality of information available. It has a staff of three professionals.

The Library has some 400 current serial titles, most of which are received in exchange for our journal *Thalassographica*. It also has a collection of books, reprints, pamphlets and expedition reports. The Library provides current awareness services to staff and visitors in a fortnightly Information Bulletin and other printed materials.

The Library of the NCMR has managed to develop an in-house computerized bibliographic retrieval service and at present has in its possession a bibliographic database which is supported by CDS/ISIS and covers the following collections:

- The Greek bibliography, which contains the retroactive bibliography of Oceanography and Fisheries in Greek Seas, Rivers and Lakes. The bibliography was followed by the creation of a unique collection of the actual papers. In this way the reader has access to the primary documents. It is also available in printed form.
- The Library's collection of monographs, books, symposia and theses.

The Library of the NCMR has the 'full support' of Internet connection and is currently preparing a World-Wide-Web page. It has a connection with the Hellenic National Network of Scientific Libraries which offers online document ordering with the active participation of 130 Greek libraries. For documents not included in the collection of the National Network of Scientific libraries, an online Document Ordering Service from Library networks outside Greece is provided by the National Documentation Centre.

We will shortly be in a position to upgrade and improve our facilities and services within our library due to a Greek Government project for the support of the Scientific Libraries.

Country Report from Norway

Wencke Rickfelt Vadseth

Directorate of Fisheries
Bergen
Norway

The Norwegian input centre for *Aquatic Sciences and Fisheries Abstracts (ASFA)* records, was re-established in June 1995. The Institute of Marine Research, Bergen is providing the necessary funding, and our Library of the Directorate of Fisheries, Bergen, will be inputting Norwegian serials, monographs, and also the 'grey literature' relevant to the *ASFA* database. There has been a break in the Norwegian *ASFA* input - 1993-1995, due to lack of funds. As a result we have a backlog of unindexed material that we hope to process as soon as possible. Since the Norwegian input centre is (as yet) the only one in the Scandinavian countries we also try to include relevant material from Denmark, Iceland and Sweden.

In Norway, most of the aquatic libraries are participating in the national database: BIBSYS - consisting of the Norwegian National Library, all the Norwegian University Libraries, and a number of other research libraries. BIBSYS (Bibliotek System) is an integrated library system, and for the participating libraries this database functions as their own library catalogue. Our library is not part of this database (but we are registered as users) and find it a very useful and practical way to search, to request interlibrary loans and copies of journal articles on our PCs. This system is available through World-Wide-Web URL:

<http://search.bibsys.no.5001/zpub.html>

or you can use the Internet address:

genserv@bibsys.no

The Institute of Marine Biology of the University of Bergen and our library are working together on the EMDP (European Marine Directory Project) (the Norwegian part of this project). We are preparing a list of Norwegian marine scientists, and organisations related to marine and aquatic sciences. The questionnaire compiled from the Manuals and guides (1), published by IOC (Intergovernmental Oceanographic Commission), will be sent to all scientists and organisations throughout the autumn of 1996.

The expanding IT (Information Technology) is also in the Norwegian aquatic libraries, contributing to changes of the functions of the libraries:

From: ownership/holdings	to:	access
From: librarian as a custodian	to:	librarian as gatekeeper

With sufficient resources - financial as well as the staff - we librarians will do our best!

Reference

1. Moulder, D.S., McFadden, C., Pissierssens, P., and Reyniers, P., 1994. *MIM Publication Series Volume 3. Standard Directory Record Structure for Organizations, Individuals and their Research Interests*. 35p. Paris: Intergovernmental Oceanographic Commission. (*IOC Manuals and Guides* No. 30, Vol.3)

Poland Country Report (1994-1996)

Henryk Ganowiak

Sea Fisheries Institute
Gdynia
Poland

In the last two years much attention has been given to the creation of the Polish national *ASFA* Input Centre at the Sea Fisheries Institute (SFI) in Gdynia. The tragic death of our colleague L Ludwig, who participated in the training course on *ASFA* Input Methodology in Goa, caused some delay in the realization of this idea. As the staff of our library and information centre was reduced last year to three people, we approached all the Polish aquatic sciences libraries and proposed cooperation in this matter. However only three institutions of eight approached responded positively to our efforts to establish a network. After overcoming many difficulties, particularly in finding a new person to do this (not easy task), we began our activity at the end of last year. As a first stage we began by indexing the serials published by SFI, Institute of Oceanology in Sopot and the Inland Fisheries Institute in Olsztyn. In future, with experience, we shall increase the number of Polish serials monitored for *ASFA*. We started in February this year sending the first set of the *ASFA* input sheets to FAO, submitting them in the traditional manner (in printed form). However FAO informed us that this input should be submitted in machine-readable format using the new ASFISIS/ODIN software. Since we have no experience in using this software we have asked FAO to assist us in training the two of our documentalists responsible for the cooperation with *ASFA*. In response they invited them for a short *ASFA* input methodology training course which will be held in Rome at the beginning of June 1996, just after the *ASFA* Advisory Board Meeting. I hope that this training will considerably improve our cooperation with *ASFA*.

Since the middle of 1995 our library and information centre has access to the Internet system. Our e-mail address is as follows:

infolib@miryb.gdynia.pl

In 1995 our Institute organised and partly sponsored the stay at our library and information centre of two of our members: Maria Kalenchits from Estonia and Igor Ivashchenko from Ukraine. Henryk Ganowiak from the SFI in Gdynia attended the 25th *ASFA* Advisory Meeting which was held in Hamburg in May 1995, and also visited the Library of the Biologische Anstalt Helgoland.

In 1996 the Sea Fisheries Institute in Gdynia celebrates its 75th anniversary.

Recent Developments Relevant to the Aquatic Sciences in the United Kingdom - April 1994 to April 1996

Ian Pettman

Formerly Head of Library and Information Services
Institute of Freshwater Ecology and Freshwater Biological Association
Ambleside
United Kingdom

Introduction

This report covers the period April 1994 to April 1996. It is not a comprehensive review but will indicate some of the developments and major trends in Britain and Ireland.

I will start with a summary of the overall national position for both science and libraries.

On the positive side, British politicians of every hue speak of the overwhelming importance of science. Conservatives, Labour and Liberal Democrats have all held functions in the last few weeks to "celebrate the excellence of UK Science, Engineering and Technology".

So everything is fine - except for one thing. No one will put their money where their mouth is! Britain is the only major OECD nation that is now investing less in research and development, as a percentage of GDP, than it was in 1981. Science spending will be cut again in the financial year 1996/97.

The Government has retained the Office of Science and Technology which it established in 1992 and Ian Lang is now the Cabinet Minister responsible for it. However, in 1995 it was moved from the Department of Education to the Department of Trade and Industry, reflecting the Government's position that science should be harnessed to industry and commerce, not academic intellectual endeavour.

At the national library level there have been both positive and negative developments.

On the positive side, in the Autumn of 1994 the government set up a new body - the Library and Information Commission. The Commission is not the national co-ordinating body that the visionaries of the sixties had in mind and that their supporters and followers have lobbied for since, but it is nevertheless welcome as a recognition that there are matters in the LIS field that should be considered on a national basis at a level close to government. It is too early yet to assess the effectiveness of this new body.

Unfortunately, despite the creation of the Commission, the Chancellor failed to award the British Library the £25 million it needs to finish the new building at St Pancras. The library now has to find the money from its own resources. This will lead to cuts to its collection - science journals being high on the list for these cuts. Staff, information technology and preservation work will also be cut.

Despite repeated assurances from the Government that the UK economy is recovering and poised for growth, there are few, if any, signs of recovery or growth in either the aquatic sciences or their library and information services. This seems to be the case in all sectors; government, academic and even the prosperous private water supply sector.

The following is an outline of the developments over this two year period in each of these sectors.

Government Sector

In my last report (1), I mentioned the scrutiny of the efficiency of 53 Government research laboratories undertaken for the government's Cabinet Office. The report of this scrutiny was produced in the Spring of 1994. It did not recommend that any of the laboratories should be privatised. After a consultation period to allow responses to the recommendations of the scrutiny body, the Government seems to have rejected the report totally.

In the Autumn of 1995 the Government announced that it was re-examining the possibility of selling off these laboratories with another review - the "Prior Options" review. The Government has only outlined four possible outcomes: abolition, privatisation, contracting out or rationalisation. There is no option to say the organisation is doing fine and should be left alone! This review has been split into three parts and the report of the first group was due in early April 1996, the second in July and the third in December 1996.

The Research Councils

The six research councils (see ref.1) are less independent of the government now than they were before April 1994. The creation of a Director-General of all the research councils in 1993 seems to have been a clever way of unifying them without having to abolish them formally or to openly change their status to make them less autonomous. Slowly but surely power is being concentrated in Whitehall. Government is now telling research councils and scientists what research they should do.

As those of you who attended the 21st IAMSLIC Conference in October 1995 will know, the Institute of Oceanographic Sciences Deacon Laboratory of the Natural Environment Research Council has moved from Wormley to Southampton. It has joined with the University of Southampton in a new venture - the Southampton Oceanography Centre (SOC). The move was undertaken at the beginning of October 1995 and His Royal Highness The Duke of Edinburgh officially opened the Centre on 17th April 1996. Pauline Simpson achieved the impossible by moving house, moving a library and running an international conference simultaneously!

All of the marine and freshwater institutes remaining in the research councils are being scrutinised under the Prior Options review mentioned above. Their futures are unclear.

The library services of each Institute have survived so far and they continue to try and push developments ahead despite the unknowns. The Head of LIS at the Institute of Freshwater Ecology (Ian Pettman) has taken early severance in February 1996 in a downsizing exercise.

Ministry Laboratories

The Ministry of Agriculture Fisheries and Food have also been reorganizing. They have set up a Central Science Library in York. The Assistant Librarian at the Torry Laboratory in Aberdeen has taken early severance and the library is scheduled to close in August 1996.

The Scottish Office Agriculture and Fisheries Department, Marine Laboratory in Aberdeen is scheduled to become an "Agency" in 1997.

Private Sector Organizations/Water Supply

The librarians from the water supply and regulatory bodies of England, Wales and Scotland continue to meet on an annual basis. At the last meeting in the Autumn of 1995 most of them seemed to be facing continuing problems of funding and staffing.

Since that meeting, two of the Water Authorities in England and Wales have made successful bids for control of the regional electricity utility company. These amalgamations have led to considerable shedding of jobs in both of the dual function utility companies formed. At this time the effects on the libraries is unknown.

On the 1st April 1996 the regulatory body for England and Wales, the National Rivers Authority, was merged with Her Majesty's Inspectorate of Pollution (HMIP), the Drinking Water Inspectorate and

several other smaller organizations to form the Environment Agency. The effects on LIS services and bought-in services from other aquatic libraries under the existing "Technical Services Agreements" remains to be resolved.

In Scotland the government has taken the first steps towards privatization of water supply, despite a very high degree of opposition from all sectors. On 1st April 1996 three new water and sewage authorities took over control of these services from the Regional Councils. The three authorities are the East of Scotland Water Authority, the West of Scotland Water Authority and the North of Scotland Water Authority. The River Purification Boards have now become a part of the Scottish Environment Protection Agency. Again, effects on LISs are not yet known.

On a slightly more positive note:-

The private research organization for water supply and sewage, WRc plc, has set up a multi-media information section. Their first product is a CD-ROM on *Lead in water*. Although the library does not seem to have had a lot of involvement, a bibliography is included on the CD-ROM taken from AQUALINE.

The Freshwater Biological Association, a private research association and a charity, has issued a new "Development Plan 1996" setting out its objectives for the future and how it means to achieve them (2).

University/Academic Sector

Although most libraries in this sector have problems stretching their budgets to cover all the services they are required to supply, it is still a very active sector, particularly in development projects relating to the electronic library. In my last report (1), I outlined the two studies undertaken in the UK in 1993 relating to the state of the LIS systems at that time. One of these, the Follett report has been the catalyst for a wide range of Information Technology projects. UK aquatic libraries have been involved in bidding for both the Autumn 1994 and Autumn 1995 calls for proposals. Although we have had little or no real success in terms of funding, our projects have been well received.

As mentioned in the Government Sector section above, the Library of the Institute of Oceanographic Sciences Deacon Laboratory was moved to Southampton in October 1995 and is now the National Oceanographic Library of the Southampton Oceanography Centre - a joint Southampton University/NERC venture.

The academic sector is also being encouraged by the government to integrate more with the private sector. I can therefore, close this section with a topical note for this EURASLIC meeting. Following over 8 years operation as a successful "cost centre" within the University, Stirling Aquaculture (STAQ) became a limited liability company, 100% owned by the University in November 1995. I will be interested to see how the LIS (provided by the University Library) benefit from this. STAQ is now developing a large commercial finfish hatchery at the site of the former desalination plant on the island of Gozo. It is expected that this hatchery will commence operations in Autumn 1996. There will be a small facility for research and development and strong links are expected between STAQ and the National Aquaculture Centre of Malta.

International Organizations

The 21st Conference of IAMSLIC was held in Southampton In October 1995 and was a well attended and successful conference. The proceedings should be available later this year.

The LIS at Plymouth Marine Laboratory continues its role of UK national input centre for ASFA and co-ordinates the other three UK input organizations (CEMARE, FBA and SOAFD). David Moulder continues to be active on the ASFA Board and attended the Board meeting in Hamburg in 1995.

Conclusions

We trained hard, but it seemed that every time we were beginning to form up into teams we would be reorganised. I was to learn later that we tend to meet any new situation by reorganising, and what a wonderful method it can be for creating the illusion of progress while producing confusion, inefficiency and demoralisation.
Petronius, AD 66

This has become a clichéd quotation in the UK but it is unfortunately still likely to reflect the LIS situation in most sectors of the UK aquatic sciences for the foreseeable future.

We live in a world where the ability to cope with change is essential for survival. The aquatic library and information services in the United Kingdom are in the throes of major changes of their science organizations. Until these changes to the science structure are clarified, it will be difficult for the libraries to respond in logical ways and to restructure themselves to reflect the new reality. This they will have to do before the new millennium. It is to be hoped that they will consider the total European picture during this process.

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Internet: the Latest Developments

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Abstract

The section from a previous paper on possible uses of the Internet is updated, some additional tools to improve access are highlighted, and information on some new resources is provided.

Introduction

A brief overview of the development of computer networking and in particular Internet, together with the protocols governing its use, and the uses which could be made of it, was given in the paper presented at the EURASLIC meeting in Gdynia in 1994 (1). This paper updates the section on possible uses, highlights some additional tools to improve access, and provides information on some new resources. Estimates of the number of Internet users vary considerably, but it is thought that there are now over 40 million users worldwide.

Internet can be defined as:

A collection of computer networks that spans the world, connecting government, military, educational and commercial organizations, as well as individual people, to a wide range of computer services, resources and information. A set of network conventions and protocols and common tools are used to give the appearance of one large network, even though the computers that are linked use many different softwares, and come from different commercial firms.

Internet Software

It is not feasible to give information on all the software that is available for use with Internet, or which can be obtained from Internet. However it is clear that the area of greatest growth is in connection with the World Wide Web (WWW). Probably the most common software now used is from the firm Netscape. Full information on the software can be found on the Web at the following address:

<http://home.netscape.com>

But this assumes you have some Web software already! For those who wish to write for information, the address is:

Netscape Communications Corporation
501 East Middlefield Road
Mountain View
California 94043
USA

The ultimate collection of Windows software can be found at:

<http://www.tucows.com>

There are links to access the software through many European countries, and the software included covers antivirus scanners, HTML editors, mail, movie viewers, networks, plug-in modules, search engines and much more.

One of the most common softwares used to preserve the format of a page, and one which allows the easy transfer of pages across the Internet, is Adobe Acrobat. This software can be found at the following address:

<http://www.adobe.com/acrobat/readstep.html>

Accessing Internet by E-mail

Over half of the countries with Internet access only have an E-mail connection. However it is still possible to access Internet for FTP, Gopher, Archie, Veronica, Usenet, Whois, Netfind, WAIS and World Wide Web even if you only have E-mail access, or the response from the Internet is very slow. *Dr Bob's Guide to Offline Internet Access (2)* is available in about 30 languages. It provides information on how to use all of the above services by E-mail, with examples for each. It is done by sending commands in an E-mail message, waiting for a reply, and then sending another command. By sending messages and receiving responses, it is possible to obtain the required information. It is clearly not an ideal way of obtaining information, as it is a very slow process, but it does make the resources of Internet available to the user, who only use E-mail.

A copy of the *Guide* can be obtained by sending an E-mail message to the address:

mailbase@mailbase.ac.uk

Put nothing in the subject line of the message. Put this line in the body of the message:

send lis-iis e-access-inet.txt

Newsletters and Journals Available Through Internet

There are many journals which are now available through Internet, and some are only available on Internet. Among those of relevance are:

Canadian Journal of Fisheries and Aquatic Sciences

The full text of the *Canadian Journal of Fisheries and Aquatic Sciences* is available free until January 1997 through the Internet at:

<http://www.nrc.ca/cisti/journals/cjfas.html>

The journal must be read with the Adobe Acrobat reader, since the articles are distributed as PDF files.

Fish and Fisheries Research

Fish and Fisheries Research (FFResearch) is the first worldwide, on-line, peer-reviewed, scientific journal devoted to the dissemination of current investigations on the biology and ecology of freshwater and marine fish and fisheries. Original research findings covering all scientific areas of fish research, fishery science and fisheries management will be included. A section for reports and scientific news will be issued in cooperation with the Marine Resource Service of the Food and Agriculture Organization (FAO) in order to assist managers worldwide to monitor fishery resources. Up-to-date information on assessments of the state of world fisheries, new fishery management techniques that are being tried out and summaries of national and international reports on stock analyses and fisheries will be included. The whole information package may be accessed at the following address:

<http://www.lsoft.com/ffresearch>

Text only access, to your mailbox, can be obtained by sending two messages to listserv@segate.sunet.se, with nothing in the subject line, and the following messages in the body of the message:

subscribe ffresearch-contents yourfirstname yoursurname

and subscribe ffreports-news yourfirstname yoursurname

Marine Watch

This is a quarterly international news journal, now offered online providing full coverage of the most current in marine events. It is available at:

<http://www.marinewatch.com>

US Water News

Although the electronic US Water News online will carry archived issues of the regular monthly print edition, it will also publish stories not found in the regular print edition. Also included will be an online discussion group, the USWN Bookstore, links to other water information sites, meeting and conference locations and dates, etc. It can be accessed at:

<http://www.uswaternews.com>

Discussion Groups, E-Mail Lists and Listservs

Peter Pissierssens gives information on the IOC Listservs which are now available, and the resources which can be accessed through the IOC Homepages via the Web, in his paper in these proceedings.

WWF-World Wide Fund for Nature

In order to help enable you to stay involved and act to preserve our environment, the WWF Global Network will provide you with information through E-mail alerts. Relevant lists cover Climate Change, Endangered Seas, and Endangered Species. More information can be found at the following address:

<http://www.panda.org/action/maillist.htm>

Discussion Groups

There are thousands of discussion groups now accessible through Internet. If you are interested in getting a complete list, send an E-mail message to the address:

listserv@american.edu

You should leave the subject line blank, and in the body of the text send the message:

lists global

If you have WorldWideWeb access:

<http://www.tile.net/tile/listserv/index.html>

Reference Lists

The Aquaculture/Environment Interactions Bibliography is a searchable database of over 4,800 references. An online version is now available at the Institute of Marine Biology of Crete Web site:

<http://www.imbc.gr/library/ae/ae.html>

The Aquatic Plant Information Retrieval System (APIRS) is a database of 41,000 records on freshwater macrophytes. You can also access line drawings, photographs, and link with other relevant sites. The address is:

<http://aquat1.ifas.ufl.edu>

or you can Telnet to:

128.227.242.241

and logon as guest.

Publishers

If you want access to information and catalogues from publishers then use the following address:

<http://www.lights.com/publisher>

You can search for publisher's names, or browse through country lists. Some publishers include both books and journals, and for journals there may be tables of contents pages.

General Sources

Here are just a few relevant sources:

IAMSLIC Homepage

You can access the IAMSLIC homepage, which has information on the work of IAMSLIC, including its regional groups (such as EURASLIC). It also has links to many sources relevant to librarians and information scientists. The address is:

<http://www.uwyo.edu/lib/iamweb.htm>

World Digital Chart

This homepage provides access to the US Defense Mapping Agency's Digital Chart of the World dataset, and it has been prepared jointly with the UNEP/GRID-Arendal and the Department of Surveying, Agricultural University of Norway. Links are included to other Digital Chart of the World online resources including mapping and maps. The address is:

<http://ilm425.nlh.no/gis/dcw/dcw.html>

Infohydro

The World Meteorological Organization (WMO) has established a Hydrological Information Referral Service (Infohydro). Infohydro is a metadata database, covering national and international organizations dealing with hydrology and their activities; the principal international river and lake basins of the world; networks of hydrological observing stations of countries; and international databanks related to hydrology. There are also links to other relevant organizations and services. The address is:

<http://www.wmo.ch/web/homs/hwrphome.html>

E-mail Addresses

If you need to find an E-mail address for someone, try the following address:

<http://www.whowhere.com>

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2. Rankin, "Dr Bob", 1996. *Accessing the Internet by E-mail: Doctor Bob's guide to offline Internet access.* Tillson: New York, Dr Bob.

IOC's World Wide Web Server

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Abstract

The development of the IOC's involvement with the World Wide Web is described. The objectives are explained, information on access is given, and some of the services provided are illustrated with screen images. A CD-ROM version which will contain WWW browsing software, allowing users in developing countries to become familiar with the features of the Web is under consideration.

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Abstract

The history of the development of the International Directory of Marine Scientists is briefly explained. Since that time a number of national and regional directories have been prepared. The discussions within GEMIM are described, with particular reference to the development of a standard directory record structure format. Developments within Europe to prepare a European Directory have included a survey of potential users which showed strong support for such a Directory. The next steps are to encourage the preparation of more national and regional databases, utilizing the standard directory structure format. These databases can be merged together to form the Global Directory.

History of the International Directory of Marine Scientists

The first version of the International Directory was published by the Food and Agriculture Organization (FAO) in 1970. It had been prepared in accordance with the recommendations of a Scientific Committee on Oceanic Research (SCOR) Executive Committee which met in October 1967, and which had said that:

The principal purpose is to provide a reference list of scientists involved in oceanographic work. Secondary purposes include the indication of oceanographic activity in various specialities and countries, and the provision of addresses of laboratory directors and holders of office in international organizations. Listed scientists should have their principal interest in some field of marine science and should have published scientific papers in this field during the last several years. Laboratories and international organizations, whose directors or officers are listed, should be devoted primarily to some aspect of marine science...

The first edition contained 5,745 individuals from 91 countries. FAO continued to maintain and update the computerized register, as persons and institutions sent addenda and errata.

A second edition was published in 1977, under the co-sponsorship of FAO and the Intergovernmental Oceanographic Commission (IOC), and with the assistance of SCOR. IOC and SCOR had sent letters to national contacts and committees, requesting the submission of up-to-date lists of marine scientists in each country. The information received was added to the Aquatic Sciences and Fisheries Information System (ASFIS) Expert Register in a machine-readable form, and printouts from the augmented database were presented to the participants at the Joint Oceanographic Assembly and SCOR General Meeting in Edinburgh, United Kingdom for verification. The second edition contained about 11,000 individuals from 63 countries. Where countries had not submitted new lists, the data submitted for the 1970 Directory were suppressed to exclude out-of-date information.

The third edition of the Directory was published by Unesco in 1983, with 18,000 individuals and 2,500 institutions from 104 countries, and a separate section on international organizations. Entries consisted of organization name, address, telephone number, names of research staff and keyword subject descriptions of their research interests. There were also surname and broad keyword subject

indexes. The directory was prepared through a cooperative effort of many organizations across the world, with the responsibility for preparing each country's entries being given to FAO, IOC and Unesco focal points. The text of the directory still exists in electronic form, although it is now of course very out of date.

National/Regional Directories of Marine Scientists

Since 1983 a number of countries and regional or international groups have published directories updating and expanding the information in the International Directory, e.g.:

Chua, T.E., Agulto, M.A.A., Guarin, F.Y. & Guerrero, S.C., 1989
Directory of Institutions and Scientists in the ASEAN Region Involved in Research and/or Management Related to Coastal Areas. xxi, 373p. Manila: International Center for Living Aquatic Resources Management.

Commission of the European Communities, 1994
European Directory of Research Centers in the Fisheries Sector. vii, 616p. Dordrecht: Kluwer.

Corral, J., 1994
Ciencias y Tecnológicas Marinas. Catalogo de Investigadores Espanoles. vi, 417p. Madrid: Ministerio de Agricultura, Pesca y Alimentacion.

Morcos, S. & El-Sayed, M.K., 1990
Directory of Marine Scientists and Marine Environmental Centres in the Arab States. xii, 213p. Nairobi: United Nations Environment Programme. (*UNEP Regional Seas Directories and Bibliographies* No. 34)

Varley, A., Pettman, I, Simpson, P. & Toland, G., 1992
Directory of Marine and Freshwater Institutions, Scientists and Research Engineers in the United Kingdom and Republic of Ireland. vi, 171p. Windermere: Freshwater Biological Association for Britain and Ireland Association of Aquatic Sciences Libraries and Information Centres (BIASLIC).
[This Directory also exists as a CDS/ISIS database]

RECOSCIX-WIO, 1996
WIODIR Western Indian Ocean Directory of Marine Scientists. Mombasa: Regional Co-operation in Scientific Information Exchange in the Western Indian Ocean Region (RECOSCIX-WIO)
[This directory exists as a CDS/ISIS database]

GEMIM Initiatives

The IODE Group of Experts on Marine Information Management (GEMIM) has discussed the preparation of directories at many of its meetings. At its meeting in Wormley (GEMIM-III) it recommended the preparation of a standard directory record structure, noting that some regional directories (BIASLIC [British Isles] and WIODIR [Western Indian Ocean]) had been prepared using the micro-CDS/ISIS software. It was agreed that the directory structure should be independent of the software used, and David Moulder from the Plymouth Marine Laboratory chaired a group which worked on such a structure. The final report of that group was published and distributed in 1994 (IOC Manuals and Guides No.30, Volume 3, 1994).

At the meeting of GEMIM in Washington (GEMIM-IV) the revision and updating of the 1983 Unesco directory was discussed, and it was agreed that it was not feasible to develop a global directory in a centralized manner, given the size of the task. It was instead suggested that the merging of national/regional directories would be an appropriate way forward, if they could be converted into the standard directory record structure format.

European Directory Initiatives

Plymouth Marine Laboratory has been involved in discussions on international and regional directories for many years, devising and preparing the CDS/ISIS database for the BIASLIC Directory, as well as coordinating the discussions on the standard directory record structure. As a result of discussions with members of the European Association of Aquatic Sciences Libraries and Information Centres (EURASLIC) the MAST (Marine Sciences and Technology Programme) of the European Commission was approached, with the idea of a European Directory. At around the same time IOC in Paris also approached MAST with a similar proposal. It was suggested that the project build on the experience gained at Plymouth in preparing the BIASLIC and EURASLIC (European aquatic sciences libraries database) by constructing a list of addresses, and sending out questionnaires for completion as had been done in the past. The EURASLIC network would be used to coordinate the input from individual countries, for merging and editing at Plymouth.

The MAST Programme agreed to fund a survey of a sample of possible users, to ascertain the need for such a Directory, and to find out what sort of information would be needed, and what use would be made of it. This work showed strong support for the concept. The European Marine and Polar Science (EMaPS) Secretariat, based at the European Science Foundation (ESF) in Strasbourg also has an interest in this Project, as it has a requirement for a similar database, to cover Marine and Polar organizations. Its database is at a similar stage of development, and there is considerable overlap in the information required.

Discussions are now being held between EURASLIC and a number of European and national organizations to find the necessary funding for the project to proceed. It is expected that a project proposal will be presented to the EU MAST Programme in early 1997, with the support of IOC and EMaPS.

The Next Steps for an International Directory

So far as the International Directory is concerned, the aim is to stimulate the development of regional or national Directories, using the standard directory record structure format. In this way any databases that are created can be merged together to gradually form the Global Directory. A Directory has been prepared for the WIODIR region; there is a draft Directory for the CEA region, and there are some national Directories. The European Directory can be seen as a major component towards this goal of an International Directory. The aim is to produce a database that can be loaded on an appropriate computer (for example the IOC WWW server) for access via Internet. There would also be the possibility of a CD-ROM or printed copy, if the appropriate funding can be found, and the possibility of making available national subsets to appropriate organizations.

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Project UNlverse - An Introduction

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Abstract

The UNlverse project, which it is expected that the EU Telematics Information Programme will fund, is described. Its overall aim will be to set up pan-European demonstrations of multiple, geographically distributed library catalogues acting as one seamless information source to the end user. The involvement of EURASLIC members in the project, and the implications of the project for EURASLIC, are given.

Introduction

UNlverse is the acronym given to a proposal submitted to the European Commission's Telematics Applications Programme - Sector 5: Libraries. It is a wide-ranging and complex project. Its overall aim will be to set up pan-European demonstrations of multiple, geographically distributed library catalogues acting as one seamless information source to the end user.

In the time available, I can only give you a quick overview. I will try to:

- sketch in some background
- list the main aims of the project
- indicate some of the major partners
- discuss the reasons UNlverse is important to EURASLIC
- indicate the possible next steps.

Background

There have been tremendous advances in database access over the last few years. Hence, the majority of our users now have ever widening expectations regarding access to the world's literature and data sources within their particular subject interests.

Despite the continuous growth in the quantity of information, most users assume that somebody somewhere has provided the necessary means to trace the existence of all the information in their field - a sort of "universal union catalogue". As information professionals, we know that the union catalogue concept, although fine in principle, invariably fails in practice. When we undertake information retrieval work for our users we utilize our knowledge of a range of database sources and a network of librarians and their catalogues in our searching.

However, end-user access to various databases on CD-ROMs and/or over the Internet has, in many user's eyes, removed the need for an intermediary such as a librarian to assist them with their retrieval work. Unfortunately, if they attempt in depth searching, they soon find that they come up against a range of problems:

- having to search a range of different databases
- each database requiring a different search strategy
- each having a different record display

- they may be in different languages
- there will be overlap and duplication of records
- having retrieved records, the end-user still usually has to go to their librarian for an interlibrary loan (ILL) or to organise document delivery.

This is not an ideal world from either the user's or the librarian's point of view. As providers of proactive and progressive information services, we are constantly looking for ways to give our users wider access and more choices. Within the financial constraints imposed on most of our libraries, how can this be done?

Many projects are addressing particular aspects of the overall problem. Some examples are:

CANAL	IRIS
DALI	ONE
EDIL	SOCKER
EURILLA	TRANSLIB
EUROPAGATE	USEMARCON

plus several G7 initiatives

So far, there has been no attempt to combine this work, plug the gaps and demonstrate a large scale application.

Project UNlverse proposes to do this. The full title of the project is *Large scale demonstrators for global, open distributed library services*. It was submitted to the second call for proposals to the EU Telematics Applications Programme of the 15 March 1995. The proposal was accepted for Funding Negotiations in October 1995 and, after some redrafting, a final version was submitted in April 1996. This has been approved and accepted within the Libraries Programme budget. Final quality checks remain to be completed in Brussels but we expect that the contract will be signed in autumn 1996 and work could then commence immediately. It is envisaged that the duration of the project will be 30 months.

Main Aims

The main aims of the project are:

1. To bring together and further develop software and systems to enable large numbers of distributed library catalogues in Europe (or it could be global) to be accessed and utilized as if they were a single logical entity.
2. To establish large pan-European subject based consortia of libraries in two subject areas as demonstrators. The chosen subject areas are:

Technology
Environmental Sciences

[There will also be three National demonstrators and two Supplier demonstrators. These will not be considered in depth in this presentation. They will, however, back-up the subject consortia]

3. The catalogues of these libraries will provide the "apparent" union catalogue. This will form the database for:

- i. Search and retrieval of bibliographic records
- ii. Document delivery (with the capability to handle multi-media)
- iii. ILL
- iv. Collaborative cataloguing

Services i, ii and iii will be designed for both end users and librarians; iv is envisaged as being for librarians only.

4. The UNlverse system will:

- simultaneously search all the different catalogues;
- de-duplicate retrieved records;
- display in a unified format;
- enhance record display;
- transliterate or translate.

5. The system will be based on client/server architecture with a high specification UNlverse Client software. A World Wide Web (WWW) server will also be developed. This will have limited functionality compared with the full UNlverse Client software but will allow maximum user exposure to the system.

6. All aspects of the system will be based on recognised standards, e.g.:

UNIMARC	(for records)
UNICODE	(for language)
Z39.50/ISO 10162/3	(for search & retrieve)
ISO 10160/1	(for ILL)
X400	(for messaging)

7. There are 70 specific "deliverables" detailed in the Technical Annex (mostly software and specifications) but the practical key deliverables will be:

- a large scale implementation of distributed library services, and the experience so gained
- an implementation of an advanced open software architecture for global information delivery
- contributions to the further development of the standards process

Who Will be Involved?

There are six Full Partners from four EU member states (Denmark, Greece, Ireland and the United Kingdom). Five of these are libraries and one is a Small-Medium size Enterprise (SME).

There are 11 Associate Partners from seven countries (Denmark, Greece, Ireland, Luxembourg, Netherlands, Norway and the United Kingdom). Seven of these are libraries and four are SMEs.

There will be a large user group of up to 54 further libraries still to be chosen. These can be from any country in the geographical area of Europe.

Of the 17 Partners and Associate Partners, 11 have participated in previous EU Framework Programmes. The remaining six are new to EU Framework Programmes.

Why is UNlverse Important to EURASLIC?

In the initial stages of putting the proposal together, the question was "why is EURASLIC important to the project UNlverse?"

Both questions are valid and I hope that the following points will provide some of the answers:

1. Environmental science covers a very wide range of topics - in order to get more meaningful results from the demonstrator stages it was considered desirable to narrow the scope initially.
2. The aquatic sciences had a registered geographical Europe wide (i.e. not just EU Member States) libraries group - EURASLIC - which could be built in to the project.
3. FOUR EURASLIC member libraries are either Partners or Associate Partners in UNiVerse. Two in the Technology Subject Interest Group (SIG) - Danish Technical Knowledge Centre and Technical University of Delft - and two in the Environment SIG - Southampton Oceanography Centre and Freshwater Biological Association.
4. Up to FIVE more EURASLIC libraries could be involved when the User Group is formed.
5. The "deliverables" from UNiVerse should open up new avenues for aquatic information services, both in Europe and globally - EURASLIC members will be poised to exploit/develop these.
6. A dissemination and liaison programme will run throughout the project to make the results known throughout both the libraries and user communities. This will provide further recognition and public relations/advertising for EURASLIC.
7. The experiences gained and the contacts made should assist EURASLIC libraries in gaining further development funding.

The leader and coordinator of the Environmental SIG will be your Vice President, Ian Pettman. His responsibilities will include:

- recruitment of participants
- selection of catalogue and client server providers
- distribution of Environmental SIG user group funds
- reporting on activities

Next Steps

1. As I stated in the introduction, this presentation can only give you a brief overview of the project. A more detailed description will be presented as soon as the contract is signed. This will be made available to all EURASLIC members.

2. Within the first few months of the contract the Environmental SIG will be seeking from the EURASLIC libraries:-

- two Z39.50 Server Sites
- three UNiVerse Client Sites

Although the demonstrators will not be operational from a users perspective until 18 months after the start date, it will be important for the above sites to be involved from the beginning so that they can contribute to the specification of the systems.

Financial provision will be made to cover the cost of attending meetings.

3. When the demonstrators are operational I will be encouraging all EURASLIC libraries to try using the system and to submit constructive criticisms.

4. If all the software and systems work well, EURASLIC libraries will have the prospect of being able to maximise the use of the hundreds of aquatic library catalogues throughout Europe (and globally if required). New avenues of cooperation will be possible if we wish to exploit them.

Project UNlverse could bring a range of benefits to EURASLIC libraries. It is my hope that we will ALL gain from it.

Roger F Templeman

NISC UK
Didcot
UK

Abstract

Bibliographic CD-ROM publisher NISC has recently made significant enhancements to its advanced retrieval software system ROMWRIGHT™. The introduction of the P.I.C.™ feature improves retrieval efficiency by including plural, international spelling and compound word variants in natural language searches. NISC's unique composite record construction software is used in the production of anthology collections of several related databases integrated into one CD-ROM product. NISC products relevant to the aquatic sciences are described. NISC Information Services Company Limited was established in the UK in March 1996 to market NISC CD-ROM products in its territory which includes Malta, the UK, France and Italy.

Introduction

NISC (National Information Services Corporation) was founded in 1988 in the USA to publish full-text and bibliographic databases on CD-ROM. Over 100 databases covering topics in the sciences, arts and humanities are now available, including a number of interest to the aquatic sciences community. CD-ROM is now a widely accepted medium for the distribution of large bibliographic databases, typically containing hundreds of thousands of records. NISC CD-ROMs provide convenient and cost-effective access to data using the powerful yet friendly retrieval software system ROMWRIGHT™. CD-ROM technology allows users relaxed access to data on their desktop or laptop PCs free of communications and mainframe access costs, and the need to wade through voluminous printed indexes. NISC is expanding from its US base by setting up semi-autonomous companies elsewhere: already such companies have been established in Mexico and South Africa, and recently NISC UK has been set up. Each company or 'NISC' has responsibilities for marketing existing products and generating new products from locally-produced databases.

The ROMWRIGHT Software

Information Today (Jacso, 1995) recognised NISC as producing the 'best non-multimedia company performance'. This assessment was based on the quality of NISC's products, its database compilation software and the ROMWRIGHT system. The CD-ROMs are designed for use on IBM PC hardware running under the DOS operating system and can be used either on standalone machines or on local area networks. There is a comprehensive manual describing the software, and also much on-screen context-sensitive help available.

Well-established features

ROMWRIGHT is designed for intuitive use by beginners, experienced users and professionals who require sophisticated search tools. Users may use any of three search modes: NOVICE, ADVANCED and EXPERT (set-searching). It is possible to swap between modes during searching. These modes, and the other features of the software, are common to all NISC products. All the features normally expected for natural language searching are provided: these include Boolean operators (for use both within and between fields), range searching, plural searching, wildcards and proximity/adjacency operators. For some products, where the database supplier has provided numerical index codes (for example Geosystems' *GeoSEARCH* and *HydroROM* databases) the user can perform searches on the fields containing numerical codes as well as the natural language fields. Code ranging is supported.

During the entry of a search character string in a field, an automatic index window (the AUTODEX™) pops up on the screen as soon as three characters have been typed. This window displays a menu of the index terms alphabetically close to the entered string and the highlighted term may be added to the search using the computer's 'Insert' key. This saves typing the whole of long search strings and avoids initiating searches for words not present in the database. It also previews terms which will be included when truncation (wildcard) is employed. Once a term has been inserted the next term in the AUTODEX is highlighted and may also be inserted, ORed with terms already entered.

Users have a choice of modes in which they may display the hits they have achieved - these modes give different amounts of detail. There are also flexible printing and downloading to disk facilities that can be used to create a permanent record of the results of searches. Some features can be set to suit local requirements: the optional facilities include automatic plural searching, output styles and system clock display.

Thesaurus-based searching

Some databases use a thesaurus of descriptors (keywords) used by the database supplier as the control vocabulary to index the component records. The thesauri typically have a hierarchical structure, with narrower, broader, related and equivalent terms. Examples are *Geosaurus* (Templeman, 1989) from Geosystems, and the *ASFA (Aquatic Sciences & Fisheries Abstracts)* thesaurus. For those CD-ROM products which include a thesaurus, NISC has automated the thesaurus so that a user may move around it to select terms to include in searches. Navigating the thesaurus is made easy by choosing to display its tree structure on the PC monitor. The explode operator allows searches to include narrower and/or related terms automatically.

The P.I.C. enhancements

The P.I.C. variant searching module which is supplied with NISC product updates mastered after March 1996 provides automatic searching for Plural/singular forms, International and other spelling variants and different constructions for Compound words. Efficient searching requires retrieving every relevant record. Too often useful records are missed when using conventional retrieval software because of the occurrence of these types of variants in the searched text. P.I.C. finds the variants and so gives more hits with less typing.

Examples of such variants from the aquatic sciences are:

Plurals/singular: entering a plural form will retrieve the singular form as well, and vice versa, e.g.

dambo/dambos
oceans/ocean

Spelling variants: all forms will be retrieved by entering just one form, e.g.

paleocean* also finds palaeocean*, paleocean*, palaeocean*

This feature will also find equivalents, e.g.

chairperson finds chairman and chairwoman.

Compound word spelling: all commonly used constructions will be retrieved, e.g.

groundwater also finds ground water and ground-water
paleocean* will find palaeo-ocean*, paleo ocean*, etc.
sea-level will find sea level and sealevel.

These features can be disabled if required. This is achieved by entering the search word enclosed in double quotation marks, eg using "color" will not find colors or colour.

Researchers whose first language is not English, but who have to work in English, find P.I.C. particularly helpful, because it often includes variant forms of which they have no knowledge.

NISC Products for the Aquatic Sciences

Established products

Marine, Oceanographic & Freshwater Resources (MOFR)

MOFR is the best oceanic resource available. It is an anthology of 795,000 records covering marine, estuarine, brackishwater, freshwater and seabed resources. It provides access to eight major databases (including *ASFA parts 2 & 3* and *Oceanic Abstracts* from Cambridge Scientific Abstracts, a subset of *GeoArchive* from Geosystems, and databases from the Institute of Oceanographic Sciences/Proudman Oceanographic Laboratory (UK), the Plymouth Marine Laboratory/Marine Biological Association (UK) and NOAA) and to a number of small datasets. The *ASFA Thesaurus* is fully automated and can be accessed via the keywords or basic search fields. NISC has used NODC's (National Oceanographic Data Centre) and *FISHLIT*'s databases of taxonomic names to expand upward taxonomic names indexed in the component databases (from genus and species to family, class, order and phylum). NISC has also used the *ASFA Serials Monitoring List* to expand journal name abbreviations to full titles.

The power of the P.I.C. enhancements is amply demonstrated using two of the examples from above with the March 1996 release of *MOFR*. Entering "ground water" in the title field in the advanced search mode recovers 3,399 records. Omitting the double quotes (that is invoking P.I.C.) retrieves 10,739 hits. An even more striking example is "sealevel" which gives 37 hits, whereas P.I.C. finds 4,422 hits!

Aquatic Biology, Aquaculture & Fisheries Resources (ABFR)

ABFR is an anthology of some 480,000 records including three large databases (*ASFA Part 1*, *Fisheries Review* and *FISHLIT*) and five small ones (including NOAA's *Aquaculture* and Castell's *Nutrition References*). Thesaurus-searching facilities are provided with the *ASFA Thesaurus*. Like *MOFR*, *ABFR* features serials name and taxonomic expansion.

Fish & Fisheries Worldwide (FFW)

The *FFW* anthology of 155,000 records contains the same databases as *ABFR* with the exception of *ASFA Part 1*. It does not provide thesaurus-searching features.

Oceanographic & Marine Resources (OMR)

OMR is essentially *MOFR* without *ASFA parts 2 & 3*, and without thesaurus-searching facilities.

Water Resources Abstracts (WRA)

WRA has 300,000 records of which about 90% were compiled by the USGS Water Resources Scientific Information Centre (WRSIC) between 1966 and 1994. Most of the rest of the records are from Cambridge Scientific Abstracts' *Water Resources Abstracts* for the period from 1994. *WRA* also includes a USGS reports datafile and the IRIS database from Environmental Quality/Instructional Resources Center, Ohio. Thesaurus-searching facilities are provided using the WRSIC thesaurus.

Wildlife Review/Fisheries Review (WRFR)

WRFR contains two large databases (*Wildlife Review* and *Fisheries Review*) combined with the *Fish and Wildlife Reference Service File* and a small file of book reviews to give 375,000 references. It features detailed keyword indexing.

Water Resources Worldwide (WRW)

WRW is an anthology with 387,000 records of which 250,000 are supplied by WATERLIT from the South African Water Information Centre, CSIR. The other two databases featured are dormant: they are the Canadian AQUAREF (1970-1992) and the Dutch DELFT HYDRO (1977-1987). Thesaurus-searching capabilities are provided using the WATERLIT thesaurus.

New products

HydroROM

HydroROM is a low cost product with some 200,000 references. Most of the items come from Geosystems' GeoArchive database; the 900 other items are the relevant entries in the British Geological Survey's library serials holdings list. Thesaurus-searching facilities are provided using the 24,000 term Geosaurus which includes detailed subject and geographical sections. Another example of the value of P.I.C. is provided by searching HydroROM for wastewater: "waste water" produces 235 hits, P.I.C gives 913.

The subjects covered by HydroROM are hydrology, oceanology and geomorphology. Hydrology is taken to include all components of the water balance, mathematical hydrology, hydrometry, hydrological extremes, surface water, the unsaturated zone, groundwater, limnology, hydraulics, hydrogeochemistry, water resources, glaciology, wastewater, engineering, environmental hydrology, policy and instrumentation. Oceanology includes ocean dynamics, marine geology, marine surveys and exploration, marine geochemistry, physical oceanology, ocean floor, pollution, coastal engineering. Geomorphology covers fluvial, karst, glacial, coastal, and aeolian processes and pedology.

Essential Fisheries Abstracts (EFA)

EFA is one of a number of ABSEARCH Essential Life Sciences Series databases published by NISC. These databases provide full references and abstracts reproduced verbatim from the best publications in their respective fields. EFA covers *Transactions of the American Fisheries Society*, *Canadian Journal of Fisheries and Aquatic Sciences*, *North American Journal of Fisheries Management*, *Fisheries*, *Progressive Fish-Culturist*, and *Journal of Aquatic Health*. The coverage of the first three is from 1945.

Related products

There are other NISC products with some aquatic sciences content which will be of interest to specialists or to libraries covering broader subject areas such as the earth sciences. These include:

Animal Behavior Abstracts;

Arctic and Antarctic Regions;

Ecology Abstracts;

Environmental Periodicals Bibliography;

Environmental Impact Statement Digests;

Pollution Abstracts;

Species Information Library;

Women, Water & Sanitation (full text);

GeoSEARCH (this is HydroROM plus extensive coverage of geology, minerals and petroleum to total 800,000 records).

Acquiring new databases and generating composite records

NISC is always looking for additional high-quality electronic databases for publication on its CD-ROMs. Databases may be bibliographic or full-text, previously published or otherwise. Even if a database is already published on CD-ROM or online, integrating it with the NISC software will give the database added value. Small files can be combined with related files to produce an 'anthology' volume. For example the *Fish Viruses and Diseases* database contributes about 1,000 records to *ABFR* and *FFW*. The symbiotic relationship between NISC and the database supplier brings financial and data dissemination benefits to both parties (Crampton, 1995).

A major inconvenience for users of conventional multi-database CD-ROMs arises from having to sift through references included in more than one of the component databases. NISC, unlike any other vendor, has eliminated this problem with its duplicate detection and composite record building software. This merges duplicate references into one composite record which removes redundant data while preserving the unique information from each record used to create the composite record. The screen output indicates the source database for all the information displayed.

With anthology CD-ROMs the user by default searches all the databases concurrently, including the composite records file. However, by Boolean combination of the required database names from the database field, a user can select any desired combination of databases.

The role of NISC UK

NISC UK was incorporated as a private limited company in the UK in March 1996. Its remit is to market all existing NISC products to customers in its 'territory', and to publish new ones using databases compiled in its territory. Marketing includes advertising, monitoring the progress of free trials, after sales support and distribution of updates (issued quarterly for most products). NISC UK's first products will be *GeoSEARCH* and *HydroROM*, both based on Geosystems' *GeoArchive* database. NISC UK's territory includes all parts of the UK, Eire, France, Italy, Malta and Monaco as well as a number of island states worldwide. European countries outside NISC UK's territory must continue to deal directly with NISC in the USA.

NISC UK can be contacted by email (rt@nisc.win-uk.net), telephone (+44(0)1235 810440) or fax (+44(0)1235 810441). The full postal address is:

C13 Didcot Enterprise Centre
Hawksworth
Southmead Industrial Estate
Didcot
Oxon OX11 7PH
UK

Future plans

i) NISC plans to introduce online access to its files in 1996. This will be in addition to its CD-ROM product services and will employ six methods:

1. WAIS
2. Z3950 file server
3. Telnet
4. Direct dial
5. World Wide Web home page
6. DOS/WIN client server

Methods 1 & 2 will be through Cambridge Scientific Abstracts' Internet Database Service.

ii) *ABFR* will be considerably enhanced for its next update by the addition of the CAB (50,000 records) and *AGRIS* (130,000 records) aquaculture subsets.

iii) *Marine Literature Review* is a new CD-ROM product from Elsevier Science covering all aspects of marine science. It contains the entire contents of *Oceanographic Literature Review* plus relevant material from *Fluid Abstracts: Civil Engineering* and *Ecological Abstracts*. It is produced in association with NISC using ROMWRIGHT as the search engine.

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The Library of the Institute of Limnology of the Russian Academy of Sciences:
its Current Status and Problems

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Russia

Abstract

A brief history of the Institute of Limnology is provided, including information on the establishment and present situation of the library. Some thoughts on future developments are presented.

Introduction

The Institute of Limnology (IL) of the Russian Academy of Sciences (RAS) is the oldest limnological establishment in Russia. It is situated in St.-Petersburg, and is already more than 50 years old. All these years the institute has been studying lakes in the territories of the former USSR and Mongolia. Today the main objects of the study are the small lakes of the Northwest of Russia, the Gulf of Finland and Ladoga, the largest lake of Europe. Scientists of the Institute have accumulated and generalised a huge amount of material on the geography and history of the lakes, and on the influence of natural and anthropogenic factors on the life of reservoirs. The library of the Institute of Limnology is 40 years old and it could be considered as a young book collection, but for the fact that it was founded as a branch of the Library of the Academy of Sciences (LAS) of the USSR. Since the moment of its creation the library of the IL has been a part of the Central Library System (CLS) of LAS. The library of the IL has a branch at Punnuss limnological station (100 km away from St.-Petersburg), its small collection consisting of 7,000 books and magazines. CLS of LAS began to be formed in the 1930s and this process was completed in the 1970s.

What does the Library of the Institute of Limnology Gain from being a Member of the LAS System?

- Entry in the general catalogue;
- Inclusion in a net-work of international book exchange (3190 partners in 90 countries of the world);
- Common system of the training of personnel;
- System of staff management and staff promotion.

The Present Situation

Today the library of the Institute of Limnology is a unique book collection on limnology that consists of 70,000 documents including the classical works on limnology. For example: Forel, F.A. *Le Leman. Monographie limnologique*. Lausanne, 1895 and modern works by Hutchinson G.E., Straskraba M., Jorgensen S.E., Margalef R. and others. The repertoire of magazines (about 1,000 names) corresponds to the aims of the library, too. Most widely accepted by the readers are the journals *Limnology and Oceanography*, *Water, Air and Soil Pollution*, *Canadian Journal of Fisheries and Aquatic Sciences*, *Journal of Paleolimnology* and some others. The reference book fund of the library includes the editions of the State water cadastr. The scientific reports and dissertations are also stored in the library.

The scientists of the institute, understanding the role of the library in creation of the correct professional orientation of young scientists, take care of opening its funds. The scheme of the systematic catalogue (SC) was changed according to the problem to be solved by the Library. It differs slightly from UDC. The leading scientists of the Institute of Limnology, such as academician S.V. Kalesnic participated in the composition of the scheme of SC. The scheme of the systematic catalogue was shown in my paper at the last conference of IAMSLIC (1).

Thus, the library plays an important role in the scientific life of the IL. It is a collection of classical works on limnology, besides it is the place where one can get acquainted with current literature in ones own and adjacent areas of knowledge, and where a variety of information relevant to the problems of scientific activity of the Institute are assembled.

Future Possibilities

All this, and also the personality of librarians, who by virtue of the above mentioned reasons are not merely guardians of the book collection, but active participants of the scientific process create the information environment. We, librarians of the Institute of Limnology, very well understand what are the information requirements of our readers. Frankly speaking, we are frightened by the probability to be converted from a live source of information into a memorial. It is these feelings that have brought me to the tribune of the International conference.

Joining the global information space is vital for our library. Internet could let us remain in the channel of modern information processes. On the other hand, the potential of the library of the IL in the area of limnological education and for the study of reservoirs of Europe and Asia is extremely great. In the library there are bibliographical data bases on lakes of Northwest of Russia, on the Gulf of Finland, and on the great lakes Ladoga and Onega, on works of the Institute's scientists, on abstracts of dissertations. These developed and have been supported using the DBMS (data base management system) ISIS. We are ready to co-operate, in whatever way will let us better adapt for the uniform information system EURASLIC and IAMSLIC.

To tell the truth, it is not easy for us to work now. Insufficient financing has a dramatic impact on everything: the salary is not paid to us on time, the acquisition of books and magazines is reduced, there is no computer in the library. But we hope, that this situation is only temporary and with the help of our colleagues difficulties can be overcome. Besides common air and water oceans we all are surrounded by the ocean of information. The librarians are pilots in this ocean. This problem faced us through all centuries: it is still there on the threshold of the third millennium. So we shall do our duty!

Reference

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The Role of the Library of the Lithuanian Academy of Sciences Favouring the Research Work in the Field of Natural Sciences

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Abstract

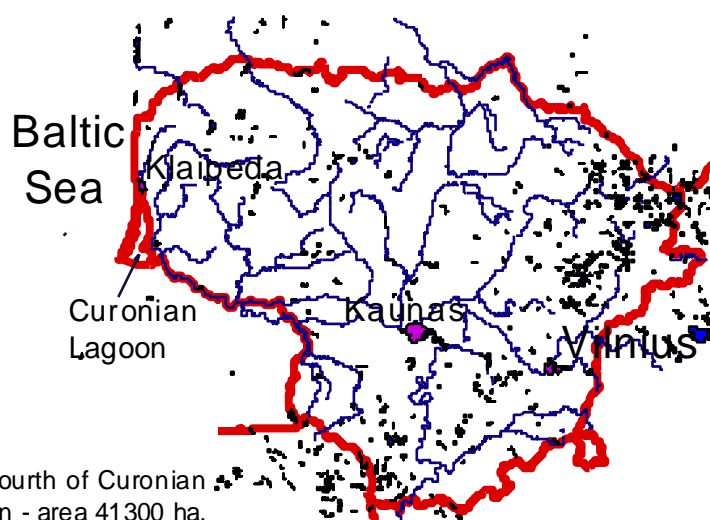
A brief history of the Library of the Lithuanian Academy of Sciences is given. The present situation is described, with information on the stock and services. Some details of the libraries of the Institute of Ecology, University of Vilnius and Joint Research Centre of the Environment Protection Ministry are also given.

Introduction

The Lithuanian libraries related with aquaculture, freshwater and marine sciences can be divided into three different groups:

1. Libraries of academies, universities and other educational institutions belonging to the Ministry of National Education, for example the Library of the Lithuanian Academy of Sciences and the Library of Vilnius University;
2. Libraries of research institutes belonging to the Lithuanian Academy of Sciences, for example the Library of the Institute of Ecology;
3. Libraries belonging to different ministries or government departments, for example the Library of the Environment Protection Ministry.

Lithuania is locked on the Baltic sea with a maritime border of only 99 km. Compared with other Baltic coastal states, the maritime area is one of the smallest. Lithuania is a wet territory (Fig.1).



One-fourth of Curonian Lagoon - area 41300 ha.
Inland waters - 82000 ha.
161 lakes and reservoirs (26500 ha) are used for the development of the intensive fishery.

Figure 1. Graphic presentation of the map of Lithuania

The Role of the Library of the Lithuanian Academy of Sciences

The stock of documents in academic libraries is the main source of information satisfying the scientific - informational requirements of biology science specialists and scientific workers. The aim of the Library of the Lithuanian Academy of Sciences is assisting in every possible way for Lithuanian Academy of Sciences institutions to organise science-research work and providing with scientific literature the science specialists and scientific workers. This Library is leading for the Lithuanian Scientific Libraries from the very first days when it was founded in January 1941. Indeed, there is a well-selected collection of current regular series, which included marine and fisheries science and were printed by the Lithuanian Academy of Sciences. Papers prepared in the research institutes have been published in the current series *Ecology* and *Biology* - printed from 1990, 4 copies per year. The series *Science of Lakes* and *Hydrology Research* have been printed before the series *Ecology* and *Biology*. The annuals *Baltica* (8 volumes printed from 1963) and *Geography* (28 volumes printed from 1958) were published as a part of the above mentioned series *Science of Lakes* and *Hydrology Research*. The main completing source of publications on oceanography and fisheries sciences were Lithuanian book-collecting enterprises, free copies received from the former Soviet Union and the former Soviet Lithuanian Republic, subscriptions to periodical issues, exchange publications with other libraries in Lithuania and abroad and issues provided by foreign countries' Libraries.

Having some experience in organising information resources in the fields of science the Library of the Lithuanian Academy of Sciences is supporting the research institutes of Lithuania. The branches of the Library of Lithuanian Academy of Sciences were established in the Lithuanian institutes for the convenience of scientists. The literature in the branches is completed according to the subjects of the institutes' work. Unfortunately, due to the high costs of computer technology, the small libraries are still working in the traditional manner, without computers.

In order to save money, from 1976 the foreign countries' periodical issues have been subscribed co-operatively among the Libraries of Lithuania, Latvia, and Estonia Academies of Science. When the Soviet Union fell into pieces, this activity finished. The main problems facing this activity at this moment are losing a good relation with former Soviet Union libraries due to the great distances and bad service traditions.

During the last year the Library of the Lithuanian Academy of Sciences served 14,501 visitors. They visited the library 193,212 times and 1,210,151 copies have been delivered to readers.

The literature of the biological sciences including marine and freshwater research in Lithuania is completed in the following libraries:

LIBRARY OF LITHUANIAN ACADEMY OF SCIENCES

ZYGIMANTU 1/8

2632 Vilnius

Director: Juozas Marcinkevicius

Tel. (3702) 62 95 37

Fax. (3702) 22 13 24

LITHUANIAN NATIONAL LIBRARY OF M. MAZVYDAS

Gedimino pr. 51

2635 Vilnius

Director: Vladas Bulovas

Tel. (3702) 62 90 23

Fax. (3702) 62 71 29

LIBRARY OF LITHUANIAN ACADEMY OF AGRICULTURE

Gedimino pr. 19

2000 Vilnius

Director: Renata Niauriene

Tel. (3702)62 11 03

LIBRARY OF THE MINISTRY OF THE ENVIRONMENTAL PROTECTION

A. Juozapaviciaus 9

26000 Vilnius

Director: Danguole Mejeriene
 Tel. (3702) 72 26 62

THE ECOLOGY INSTITUTE LIBRARY

Akademijos 2
 2600 Vilnius
 Director: Antanina Paliukeniene
 Tel. (3702) 72 92 43
 Fax. (3702) 72 92 57

LIBRARY OF VILNIUS UNIVERSITY

Universiteto 3
 2600 Vilnius
 Director: Birute Butkeviciene
 Tel. (3702) 2635

In fig.2 the graphic structure of aquatic related research institutions in Lithuania is shown.

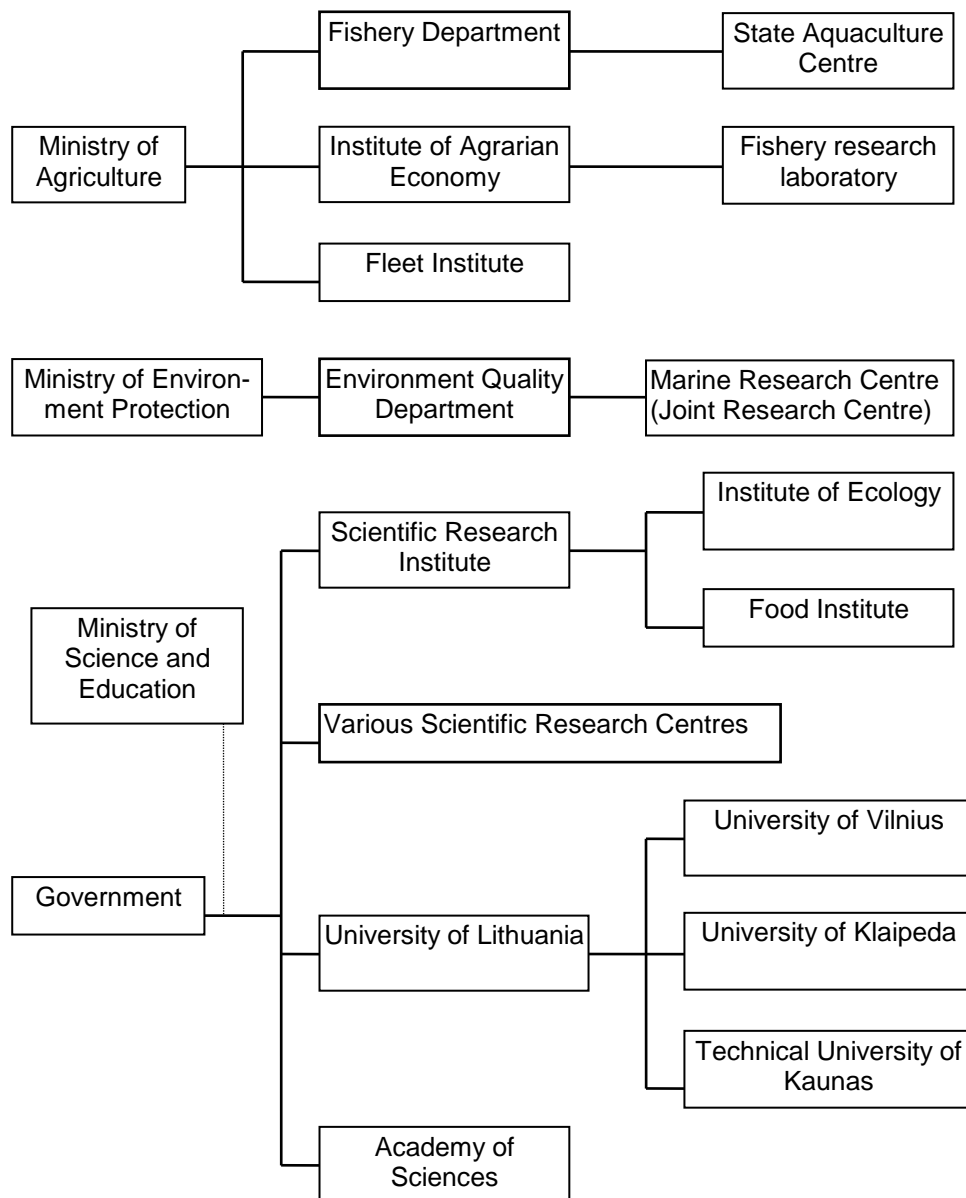


Figure 2. Graphic structure of aquatic research institutions in Lithuania

Institute of Ecology

The main research trends are:

- Regularities of the functioning of aquatic ecosystems of Lithuania;
- Research into the fauna of Lithuania, interaction of animal populations, their relationship with the environment, regularities and mechanisms of adaptation and evolution;
- Co-ordinating of fundamental ecological research in Lithuania.

The institute is trying to fill some of the gaps in fishery research, which were raised after the restoration of independence. In the former days many of the activities were performed from institutes in Riga (Latvia) or Kaliningrad (Russia). The institute co-operated with other Lithuanian institutions: the Universities of Vilnius and Klaipeda. The institute also has some contacts with foreign institutions and former colleagues in Russian institutes.

However, at the moment the situation is sad: they have difficulties in getting information about international conferences, international research programmes and scholarships and exchange programmes.

The institute has no money to subscribe to the foreign journals and it is therefore difficult to follow the forefront of international research. They are fortunate to have contacts with a Norwegian institute, which regularly sends *Current Content* (FAO issue of list of content from leading international scientific journals).

The Library of the Ecology Institute

The Institute of Ecology has a library, which is a branch of the Library of Academy of Sciences. The library serves all scientists, working in that institute. Unfortunately, the library's collection consists only of printed material. The libraries receive no publications on CD-ROM, and have no E-mail, because the libraries do not have computers.

The libraries of institutes that deal with the aquatic sciences have small collections on the subject. The total size of the collection is about 10,000 books, 8,688 issues from foreign countries and 60,510 journals.

At the present time three persons have a professional qualification. The library needs support for the computers.

Fishery Research Laboratory in Klaipeda

This is under the Lithuanian Institute of Agrarian Economy. During Soviet times it served as a specialised laboratory under the Fisheries Institute of Kaliningrad. The main fields were electrofishing and hydroacoustics and fish behaviour, and the laboratory had a library. In 1991 all laboratory equipment, instruments, and computers were transferred to Kaliningrad. Today the laboratory serves as the institute dealing with fishery investigations and they have to co-operate with other institutes in Lithuania. The library was abolished and the scientists of the institute are using the service of the Library of Klaipeda University and the Library of the Academy of Sciences.

University of Vilnius, Faculty of Natural Sciences

The university has a central office that should collect information about foreign grants, projects, scholarships, etc. It was found to be of little help for the students and staff of the Biological Department because it actually gets very little relevant material. They can follow foreign literature abstracts via a list of articles published in Russia (in Russian) covering research world-wide. However, the university receives one copy of all modern textbooks, which the teachers and students can read at the library.

Scientists from the Ecology Cathedral at the University of Klaipeda carry out investigations on Baltic Sea coastal ecology, streams, and fulfil monitoring of the Curonian Lagoon. One third of the scientists' time is spent on research, two thirds on lecturing.

In the last year the majority of the universities in Lithuania have a remarkable contact with western research institutes. Despite the contacts they still need assistance of foreigners, especially with technical assistance (equipment) and textbooks. They hope that in the future they can cope with the problems of not being able to pay for abstracts journals by getting information on CD-ROMs and via E-mail.

Joint Research Centre (Environment Protection Ministry)

This carries out basic marine and oceanographic research. Their research works are printed in various journals of foreign countries. The centre has its own periodical publication and library in the ministry. The library is very specialized. The library collection is mainly used by the scientists working on environmental protection, and now includes about 12,000 books, periodicals, and reports. The main part of the purchased collection consists of works by Valdas Adamkus and Vaclovas Diauly - Lithuanian nationality scientists published in USA in English. The appropriate languages for the library are Lithuanian, English, German and Russian.

The library collection in Lithuanian and Russian is organised using UDC, in English using INFOterra (1990 3rd edition).

The library collection mainly consists of the following subjects:

- atmosphere
- freshwater
- oceans and coastal areas
- pollution and wastes.

In the aquatic section literature is collected in the following order:

1. oceanology, ichthyology
2. oceans biology
3. pisciculture, fishery
4. watering place protection
5. Baltic Sea monitoring and etc.
6. freshwater

The library has a well-completed collection of periodicals. The main parts of the periodicals collection consists of gifts. The library works in the traditional manner, without computers.

The library co-operates and exchanges publications with other Lithuanian libraries - the Technical Library, and the National Library of M. Mazvydas.

Conclusion

Due to the financial situation in Lithuania, the development of fundamental research is impossible without regular, objective and reliable information about fundamental science. It is becoming difficult not only for research institutes, but also for the whole libraries. However, the libraries belonging to the institutes still work in the traditional manner, without computers. The libraries cannot acquire the necessary publications on CD-ROM, nor on-line connections to databases that are available from other organizations and institutions. The computerization of institutes' libraries becomes one of the most important tasks for the future. Only large libraries in Lithuania such as the National Library of M.Mazvydas, the Lithuanian Technical Library and Vilnius University Library can use computers, photocopiers, fax machines etc.

Workshop 1: Preparing a Library Guide

Convenor: Sarah Heath

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Abstract

This short paper accompanies a workshop which explains the various points to consider when planning a library guide. It also offers some guidance as to the areas which should be covered when compiling a guide to a library or information centre.

General Considerations

Audience - who is the guide aimed at?

- All library users?
- Existing users?
- New users?
- Students?
- Visitors?

The style and content of the guide will vary depending upon whom it is aimed at, so this needs to be decided at an early stage.

Version - is this to be an update of an earlier guide, or an entirely new venture?

- If it is a new project, you will need to plan more time to accommodate the additional work involved.

Detail - how much detail is required?

- Is information relating to the library catalogue, classification scheme etc. available elsewhere in the library? If so, only a brief explanatory note will be needed. If the guide is to be the only instructional guide available, you will need to go into more detail.

Language - what are the linguistic needs of your users?

- Does the guide need to be written in more than one language?
- Does it need to be understood by users with a limited command of your language?

You may need to canvass the opinions of your users and/or the library committee to answer these questions.

Budget - how much money is available for producing the guide?

- How long do you expect the guide to be?
- Do you want to have the guide commercially printed?
- Do you want to include colour photographs?
- Is the guide to be bound?
- What size of print run will be required?

Format - what format is the guide to be in?

- Loose leaf, stapled together?
- Loose leaf, collated with a plastic spine?
- Bound?
- Other?

Coverage - what needs to be covered?

- Will the guide include an overview of the organisation which the library serves?
- Should it include any other information?

Style - does your organisation have a "house style" for publications?

- Do you need to produce the guide in a specific style, i.e. fonts, cover design and layout, logos, etc?

You will need to discuss these matters with your organisation's editor or the person responsible for publications.

Layout - how do you want to present the information?

- Do you want to organise the areas to be covered into sections, i.e. Library Resources and Library Services?

Compiling the Guide

Once you have addressed the questions in the previous section, you will be ready to start. If you are having the guide commercially printed, you should get estimates for the cost of the work from two or three different printers. This will give you an idea of the costs involved. You may wish to discuss a timescale for the project with your line manager.

Areas to Cover in the Guide

The following is a general list of the areas to cover in your guide. Obviously, every library is different, so your list may vary:

- Introduction: A brief introduction to the library written by the librarian. This could include an overview of the organisation, including its functions.
- Hours of opening: Also include days of the week e.g. Monday - Friday.
- Address: Include library address, telephone and fax numbers, e-mail and web page addresses.
- Building plan: Include a simple plan indicating where the library is situated in the building.
- Library layout: Design a coded plan of the library which indicates where things are e.g. enquiry point, book collection, periodicals etc. Areas can be shaded or numbered. Remember to include a key!
- Library staff: Names, photographs and positions of library staff. You could also mention what they deal with, e.g. Inter-library loans, enquiries etc.
- Subject areas: List the main subject areas covered in the library.
- Resources and services available in the library: These should be presented in the most logical and helpful way for the users. It may be appropriate to organise them under separate headings, as has been done below.

Library Resources

- Books: How many books/monographs are in the collection. How are they arranged, i.e. what classification scheme is used? If it is not provided elsewhere in the library, you may wish to explain how to use the classification scheme at this point.
- Are there any Special Collections or antiquarian books?
- Catalogue: How are the books accessed? You can introduce your library catalogue, expand card or computerized here, using examples and screen dumps if possible.
- Subject Index: You should mention the subject index as a key to the collection. How is it presented - hard copy/cards accessible on a computer?
- Periodicals: How many current periodical titles do you have in the library? How are they arranged? How are they accessed? If you have a periodicals management system, is it a stand alone system, or is it modular and linked to the library computerized catalogue? How can a user find out if a periodical part has arrived?
- Are periodicals circulated?
- CD-ROM databases: What databases are available? How are they accessed? Is help available? Again, if no other guides to using the CD-ROM databases are available, you should include one here.
- On-line databases: If access to on-line databases is available to library users as a resource which they can use themselves, it should be mentioned here. A guide to the databases and notes explaining how to use them should be included if one is not available elsewhere in the library. If on-line searching is a service provided by the library, it should also appear under Library Services (the next heading).
- Current contents, and other current awareness bulletins: If the library subscribes to any of these, they should be mentioned here. If they are computerised, such as *Current Contents on Diskette*, instructions for use should be given.
- Special collections, antiquarian books, bibliographies, translations, videos, cassettes, slides, microfilms: You may wish to draw attention to these under separate headings.

Library Services

- Enquiries: You should say where the enquiry point is, and if appropriate mention the name of the member of staff who deals with enquiries. Some libraries guarantee a minimum time in which enquiries will be dealt with. If this is the case, the details should appear here.
- Loaning: At some point in the guide, the library's loaning policy should be discussed, i.e. whether or not the library loans items at all, which items are not for loaning, the maximum number of loans a user may have at a time, loan periods and list of fines (if applicable). You should also mention where users should go for loaning/returning.
- Inter-library loans: You should say what arrangements the library makes for inter-lending, and which member of staff should be approached. You should also mention any costs involved and likely time-scales (e.g. it may take 3-4 weeks to receive an item, or a 24 hour service may be available).
- On-line searching: Whilst many libraries allow users to search CD-ROM databases themselves, most don't allow free access to on-line databases such as DIALOG. Instead, most of us perform searches on behalf of our users. If the library provides on-line searching as a service, you should mention the member of staff who deals with this, the range of databases available and the charging policy, if charges are made.

- World Wide Web: If you have access to the Web you should explain how it can be accessed, and from which terminal. A list of appropriate Web addresses would be useful (e.g. ICES, FAO, University Departments, other aquatic research organisations)
- If you don't allow users to access the Web, but are willing to conduct searches for them, you should say what the procedures are.
- Bibliography preparation: If the library prepares bibliographies for users, the details should be listed, i.e. the member of staff to be approached, the range of sources likely to be used, the time scale involved and the cost, if any.
- Translation: If translating is available as a library service, again, the name of the member of staff involved should be mentioned. It would be useful to list the languages which are translated, and if applicable, the fees involved.
- Student facilities: Some libraries provide special induction course for students, to enable them to make the most of the library. If your library does this, it should be mentioned here.
- Photocopying: Even if the library staff don't photocopy articles for library users, the users need to know what the arrangements are, and where to find the photocopiers.
- This is a good place to draw attention to Copyright legislation.
- Circulation: Many libraries circulate journals and other items to library users. If your library provides this service, or something similar, it should be mentioned.
- Current awareness: If the library provides any in-house Current Awareness services, the details should be listed.

Finally, it is worth reminding library users that as librarians we are there to help them.

Workshop 2: EU Funding of Library Projects

Convenor: Ian Pettman

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Abstract

This workshop was structured in the same way as Workshop 1, i.e. an introductory talk by the convenor, group discussions in the same four groups as Workshop 1 concluding with reporting back to the meeting and general discussion.

European Union Funding of Library and Information Service Projects

Welcome to Workshop 2. The first workshop focused on a very practical task relevant to all our individual libraries. It was immediately useful to us all. This workshop will concentrate more on Europe wide library service development rather than normal local operational activities. The emphasis will be more on policy and principle than immediate practicality.

Objectives of Workshop

Today we will NOT BE trying to:

- identify all the relevant EU programmes or projects;
- give training in the application techniques to maximise the chances of success in gaining EU contracts;
- give training in project management for EU contracts.

These may be useful things for EURASLIC to consider for future meetings but that may depend to a certain extent on the outcome of today's deliberations and discussions.

Our main aims for today WILL BE to:

- assess EURASLIC's attitude to EU funding and its willingness to utilize EU opportunities;
- look at some of the barriers to involvement and assess EURASLIC's options to surmount these;
- look at some of the more immediate EU funding possibilities and begin to define a programme of action both for the immediate and the long term future.

Why Should EURASLIC Consider EU Funding?

Although EURASLIC is an organization for geographical Europe, not just EU member states, there are several reasons why EU funding may be considered important for the development of EURASLIC's aims:

- i. Many EU calls for proposals are not restricted to just EU member states;

- ii. The only major source of pan-European funding relevant to library development (the EU will not fund normal operating costs) is the EU through the programmes of the European Commission;
- iii. Virtually every EU programme has an "information" element i.e. there are a lot of potential opportunities;
- iv. EURASLIC is already involved in EU programmes - but in an ad hoc way;
- v. Another major library call is scheduled under the Telematics Programme for 1996. Now is the time to be preparing for it if we wish to be successful.

The two or three members who took EURASLIC into the UNlverse project (see earlier paper) did so because it seemed to them to be the next logical step forward for EURASLIC. They had no "strategic plan" or guidelines other than the byelaws to work on. This is the first opportunity to discuss EURASLIC's attitude to EU library programmes. How should EURASLIC approach such development projects? Should the organization be involved and if so what procedures should be followed? Are the byelaws sufficient or should we have more detailed guidelines or even a strategic plan? This is the first area that I would like you to consider in your working groups.

The Barriers

Let us assume for the moment that we see EU funding, in principle, as useful to EURASLIC in pursuing its aims. Most people who have grappled with submitting proposals to an EU "Call for Proposals" indicate that there were problems to be overcome. The following are the most common problems noted:

1. Respondents own time.
Most EURASLIC libraries are small to medium size and time is already at a premium in supplying daily services. Is involvement likely to be worthwhile in terms of return on time invested?
2. The cost to respondents of participating.
Not all costs are recoverable, particularly at the bid preparation stage. Some individuals may find that they are personally out-of-pocket during this time.
3. Resource availability.
A range of support resources will be necessary e.g. copying, faxes, travel budgets etc. - for most of our organizations these resources are already under strain.
4. The process of preparing a bid.
The respondents have to be sure that they read all the documentation in the call for proposals very carefully and include all the elements that the EU is looking for, ensuring that they are structured in the right way.
5. Bureaucracy of the bidding process.
Having compiled a bid, there is a very bureaucratic method for submission which must be followed to the letter - one missing element and the bid can be rejected. At first sight this is formidable - but it is penetrable!
6. Finding out about relevant programmes.
It is quite possible to find out about relevant programmes but you have to be committed continuously.
7. Finding partners.
There are many ways to go about this - but it can be a time-consuming task to find the best partners for a particular bid.
8. Lack of expertise.

Broadly based information technology expertise often has to be brought in from outside the library profession.

9. Time constraints imposed by the funder.
Time-scales are usually very short.
10. Politics.
A wide ranging problem area which I do not wish to dwell on today - suffice it to say that political astuteness is very valuable.
11. Lack of project management skills.
Some submissions fail because the Commission lacks confidence in the proposers' abilities in this area.
12. Language barriers.
Most EU programmes use English as the working language. Proposers are asked to provide an English translation if they submit a proposal in another language.
13. Commercial confidentiality.
This can crop up at unexpected times!
14. Development focus.
This is often IT based and may be outside the required strategy of your library. Normal operational costs are not usually covered nor developments of a purely local or national character.
15. Cost to organization of participating.
In most programmes the EU only provide 50% of the funding, the remainder being supplied by the proposer's organization. Cash flow can also be a problem because the Commission only pays a small proportion of its contribution in advance.
16. Mismatch of goals.
If what you wish to achieve does not match the Commission's themes, aims and objectives for a particular call for proposals, you are unlikely to be successful.

I know that this looks a daunting list but they will not all apply to any one submission. This is the second area that I would like you to consider in your working groups. Can EURASLIC do anything to assist its members in overcoming some of these barriers? In the time available you may wish just to concentrate on one or two of the above. I would suggest that 4,6,7,9,11 and 12 may be useful to choose from.

I will expand a little on numbers 4 and 6 in order to give you some pointers for your discussions.

Sketch Map of European Programmes

The EU undertakes much of its work through funding programmes.

There are eight key themes that underlie all EU programmes:

- development of Europe as a leading economic player internationally;
- assistance to Less Favoured Regions (LFR) of the EU to enable them to share in the prosperity of Europe as a whole;
- assistance to areas with industries in decline;
- completion of Single Internal Market
- training, exchange and educational opportunities;

- maintenance and development of Europe's cultural, social, architectural and related heritage;
- promote the idea of the "European citizen";
- an openness in making available and disseminating information about the EU.

In addition to these key themes, each programme has its own main aims and each "call for proposals" within any programme has its own specific objectives. Potential bidders should be fully aware of all the themes, aims and objectives for any call before they construct their proposal.

There are potentially many programmes from which EURASLIC members could benefit. Would it be useful to try and maintain an updated "map" of these? One approach is to consider them in categories and an example of helpful categories with one or two examples of current programmes in each category is given below:

1. Research and Technological Development (RTD)
 - TELEMATICS Programme
 - LIFE Programme
2. Assistance to Business and Industry
 - EUROPARTENARIAT
3. Regional and Structural Aid
 - IRIS
4. Cultural Activities
 - KALEIDOSCOPE-2000
 - ARIANE
5. Information Activities
 - INFO2000
6. Education and Training
 - SOCRATES
 - LEONARDO DA VINCI
7. Development Aid
 - TACIS
8. Professional Issues
 - CITED

It is unlikely that any one member of EURASLIC can or should keep up to date on all the relevant programmes. How could we approach this?

There are no shortages of sources of information. There are many national sources:

- a. National Focal Points
- b. National Awareness Partners
- c. European Documentation Centres
- d. European Reference Centres
- e. EuroInfo Points
- f. Carrefours
- g. EC Depository Libraries
- h. Offices of the EU

Then there are the European bodies:

- I. EBLIDA

The European Bureau of Library, Information and Documentation Associations is by far the most active organization monitoring EC developments of relevance to libraries and lobbying on behalf of the sector. *EBLIDA Newsletter* and *Hot News* are essential services for anyone seriously considering involvement.

- ii. European Information Association
A useful source of contacts on European information matters.
- iii. EUSIDIC
The European Association of Information Services.
- iv. EIIA
The European Information Industry Association.
- v. EFLC
The European Foundation for Library Cooperation.

Plus all the databases, printed abstracts, journals, monographs and guides far too numerous to be listed here.

Should EURASLIC be members of some of these? Are there other options?

Having considered some aspects of this area, we can now move on to the third of our objectives for the workshop.

Action Plan

We can consider this in two sections - immediate action and medium/long-term policy.

Immediate Action.

1. UNiverse Project

EURASLIC is an integral part of the above proposal. During the thirty months of this proposed project many EURASLIC libraries can contribute. There will be a range of levels of potential involvement at different stages of the work - from the provision of a full Z39.50 Server site, through being a UNiverse Client site, to using the World Wide Web site and making constructive criticism.

This project could also be used by EURASLIC to evaluate the usefulness of EU funded projects to its aims - a sort of cost/benefit analysis.

The working groups may like to consider this point and the way that involvement in UNiverse may best be handled within EURASLIC.

2. Telematics for Libraries: 2nd Call for Proposals

The initial timetable for this was 15th June 1996. This now seems very unlikely. The most probable dates will be either 15th September 1996 or 15th December 1996.

We know the EU general key themes.

We know the main aims of the Libraries Programme. These are detailed in the document *Telematics Application Programme (1994-1998) Work Programme* issued on 15 December 1994.

We know that the 2nd call is intended to be larger (in ecu terms) than the first.

We do NOT YET KNOW the specific objectives of this call. We can predict that it will continue to build on progress so far. It will, therefore, still wish to:

Continue to accelerate the move from collection-based to access-based services, by means of resource sharing, interconnecting and networking.

In your working groups you may wish to discuss how EURASLIC might prepare for this call or any other relevant call that you may be aware of.

Medium/Long Term Policy

EU Programmes do not emerge from thin air. They are the end results of years of discussion, debate, political manipulation and lobbying. The LIS community as a whole tends to have little involvement in the formulation of these programmes - tending rather to react to rather than contribute to the forming of programmes. We cannot, therefore, be too surprised if the aims and objectives of any particular programme do not suit our requirements.

Discussions on the next Framework (1998 - 2002?) have already begun but they are in the very early stages.

The working groups may wish to consider whether EURASLIC should be involved directly or through some other organization such as EBLIDA. If so, what exactly does EURASLIC want to see done in Europe? What are the priorities for action? What would have the most effect? What would we be lobbying for?

You have been very patient listening to me. I would be very grateful if you would now split into your four groups for the discussions.

Feedback from the Discussion Groups - Summary

It was generally considered that the topic had been very wide and that it had been very difficult to give considered opinions in the time available.

Many of the delegates felt that involvement in development work was beyond their resources and possibly their remit as individual research centre library and information units.

It was agreed, however, that the Byelaws did not preclude EURASLIC from involvement with EU funded projects and that the EU should be one of the organizations that EURASLIC applies to but not the only one since EURASLIC membership was broader than EU member states.

It was also agreed that the EURASLIC Board should be consulted before EURASLIC's name was used in a project bid. Since time-scales are normally short for the submission of bids, the Board may need to give consent before the membership is consulted. The membership should definitely be consulted if there appears to be any conflict of interest.

A strategic plan was not thought to be necessary but some extra organizational structure might be helpful. It was suggested that the Board should consider the setting up of a specialist group for advising members on funding in general and that a member(s) of this group specialise in EU funding. It was considered that continuity of expertise in this group was important and that elections every two years might not be appropriate for this. The Board should consider a statement of purpose for this group and a suitable structure.

The possibility of running training sessions for various aspects relating to funding was also considered. It was suggested that the programme organiser for the next meeting might bear this in mind.

On the final area for consideration, it was considered better if EURASLIC undertook any lobbying that this should be done direct and not through another organization.

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Abstract

The history of the Institute of Biology of the Southern Seas as a research institution dates back to 1871. It was the first endeavour of this sort in Russia, the third in Europe, and the fifth in the world. At present IBSS is a complex structure that encompasses a large number of scientific and supporting departments and a scientific library. The library of IBSS is the oldest among libraries of the institutes of the Ukrainian Academy of Sciences. The main goal of the library is to collect publications on hydrobiology of the Black and Azov Seas, the Southern seas and oceans. The total book stock numbers 150,000: 75,900 of these were published abroad. The Scientific Library is now destined to unite marine libraries of Ukraine into a well-co-ordinated system.

The Institute of Biology of the Southern Seas (IBSS) is of interest and significance both in point of research tradition and architectural design. The building of IBSS is among the essential sights shown to those who visit Sevastopol, be they tourists, businessmen or officials. The history of IBSS as a research institution dates back to 1871 when Sevastopol Biological Station was founded. It was the first endeavour of this sort in Russia, the third in Europe, and the fifth in the world. About a hundred years later, in 1963, Sevastopol Biological Station was reorganized into the Institute of Biology of the Southern Seas, and since then it has been within the network of the National Academy of Sciences of Ukraine. At present IBSS has a complex structure which encompasses a large number of scientific and supporting departments and a scientific library. The institute has two branches, one in Odessa and the other in Kara-Dag. The research fleet has two research vessels, *Professor Vodyanitsky* and *Academician Kovalevsky*, which perform a variety of work in the Black and Mediterranean Seas and sometimes in more distant waters. Research cruises make the exposition of the Institute's Aquarium more fascinating and complete. The diversity of the research work conducted at IBSS has been generously contributed to by many glorious investigators among which are N.N.Miklukho-Maklai, who was the actual founder of Sevastopol Biological Station, and many others.

We distinguish seven periods in the history of IBSS. The first period, 1871-1905, is remarkable for the achievements in floristic and faunistic studies, comparative anatomy, embryology, evolutionary embryology and physiology. The second, 1905-1914, was marked by considerable progress in investigations of benthic biocenoses of the Black Sea. During the third period, 1922-1941, research interests focused on hydrobiology and patterns of distribution of commercial marine organisms, primarily fish. It was in the 1920s that the depth of the occurrence of the hydrogen sulphide zone was revealed at different locations of the Black Sea. The fourth period, 1945-1958, was the time of the post-war restoration of Sevastopol Biological Station. New research trends were developed, and much attention was paid to the primary production and trophic status of the Black Sea. V.S.Ivlev greatly contributed to experimental ecology by launching a series of researches in physiology of plankters, covering such aspects as nutrition, migration, and metabolism. Yu.G.Aleyev established the principles of functional and ecological morphology of nekton. For the first time a hydrologo-synoptic survey employing a large number of ships was made that studied the relationships between the distribution of plankton and fish stocks. The span from 1958-1980 was remarkable for intensive studies of the structure and function of plankton and benthic ecosystems in the Mediterranean Sea, the Atlantic and Indian Oceans. Among research tasks were the assessment of primary production and energy flux in

food chains, better understanding of the taxonomy of algae, invertebrates and fish, and the biology and migrations of squids in the Indian and Atlantic Oceans. Special emphasis was laid on applied ecology and radioecology. The sixth period covers the 1980s. It was then that the increasing eutrophication and pollution of the Black Sea with heavy metals, persistent organic substances, oil, and Chernobyl radionuclides brought about the necessity for expanded environmental studies. The present period shows the vital importance of international cooperation. The concept of sustainable development gave rise to comprehensive researches in the Black Sea and adjacent water areas, and there is a great demand for assessment of various impacts on the drainage and coastal areas.

IBSS has been a participant in many international projects and programmes. At present the most important ones appear to be NATO TU-BLACK SEA and BIODIVERSITY programmes, GODAR, ACOFS and JGOFS associated activities, and some other projects related to coastal zone ecological survey, monitoring and conservation. Our scholars can be found in many countries of the world, working under contract with research institutes and centres. Their papers regularly appear in reputable scientific journals abroad, in the journal *Ekologiya morya* (Ecology of Sea) and in series of anthologies and monographs which are published by the institute.

The Scientific Library of IBSS

The Library of the Institute of Biology of the Southern Seas was created in 1871 and is the oldest among libraries of institutes of the Ukrainian Academy of Sciences. In the rich library resources one can find many rare and valuable books, those published in 1766-1800 among them. The main goal of the library is collecting publications on hydrobiology of the Black and Azov Seas, the Southern Seas and oceans. The comprehensive stock includes valuable books from private collections of many Russian scholars, and the German zoologist M.Hartmann. Recently, the library received a collection of books as a bequest made by T.S.Petipa, Corresponding Fellow of the Ukrainian Academy of Sciences. The subject catalogue embraces hydrobiology, hydrochemistry, ecology, oceanology, botany, ichthyology, microbiology, general zoology, parasitology, physiology, and biochemistry of water organisms. The library is a regular subscriber to scientific journals published in Russia and Ukraine and abroad. The total book stock numbers 150,000, 75,900 published abroad. Based on the bibliography collected concerning hydrobiology and ecology of the Black and Azov Seas, a bibliographic index has been compiled and published in steps in the years 1917 to 1988. The issues were entitled as *The Biology of the Black and Azov Seas; Anthropogenic Eutrophication of the Black Sea and its Effects; Hydrogen Sulphide of the Black Sea*, and a number of others. The staff of the library are seven qualified librarians having experience in German, French and English.

Since 1994 the Library of IBSS employs the advanced methods such as CDS/ISIS adjusted to conform to the experience that has been already gained at marine libraries of Europe. Practical experience that one of us (O.Akimova) gained through a training course taken at the Library of Plymouth Marine Laboratory allowed the successful creation of five databases at IBSS. To make these databases understandable and accessible to users abroad, the titles were translated into English. One of these days the on-line Internet services will also be launched. Another item of good news is that in 1996 the staff of the Scientific Library of IBSS joined the Ukrainian ASFA Input Working Group. The Scientific Library is now going to unite the marine libraries of Ukraine into a well-coordinated system. A recent project outlines the range of works and services to be provided by marine libraries to institutes of the Ukrainian Academy of Sciences. The most urgent goals to be achieved are general use of computers and computer-based techniques and development of home on-line networks.

This autumn the Institute of Biology of the Southern Seas will celebrate its 125th anniversary. We hope that the guests will find Sevastopol and Crimea worthy to come to and the hosts worthy to stay with. It would be fine to see all of you again on that festive occasion.

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Sixth Meeting of the European Association of Aquatic Sciences Libraries and Information Centres -
Summary of Meeting and Closing Remarks

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Ambleside
United Kingdom.

It is my great pleasure, as your Vice-President, to be asked to summarize this sixth meeting of EURASLIC. All our thanks go to so many people who made this meeting not only possible but successful and constructive for its duration. I will not attempt to thank everyone by name because I would be certain to forget someone. The organizers, the sponsors, chairs of sessions, contributors (presenters of papers, country reports, demonstrations and displays, and workshop convenors), and the administrators of the Foundation for International Studies - they have all worked hard to make this meeting a success and, on your behalf, I thank them all.

The EURASLIC Board strives to progress the Association's work between the bi-annual meetings and I would like to take this opportunity to thank the retiring members of the Board who have all done a tremendous amount of work in these formative years of the Association. This is especially so for our retiring President, David Moulder, who has tirelessly driven EURASLIC forward during his term of office. We will also miss the drive and energy of Henryk Ganowiak, Marie-Thérèse Panouse and Brit Skotheim who have contributed so much in their respective posts on the Board.

[Various presentations were made at this stage.]

From this meeting we welcome five new members of the Board - Bent Gaardstrup as our new President, Kirsten Djørup our new Secretary, Monique Margout as Treasurer and Joan Baron and Barbara Schmidt as Representatives. I look forward to working with them, on your behalf, as EURASLIC moves towards the next millennium.

Let us take a few minutes to remind ourselves of some of the things EURASLIC has achieved since that inaugural meeting at Plymouth in 1988:

- we formulated byelaws so that we could be officially registered as a Europe-wide Association for co-operation;
- we have made good use of this forum on a regular basis for Inter Library Loan, gift and exchange of materials and the sharing of technical expertise;
- we have held six successful meetings in different locations around Europe including a joint one with the International Association;
- as well as the network of contacts we have been able to make at these meetings, they have given our members the chance to both give papers and to have them published in the ensuing Proceedings;
- we have produced an extremely useful *Directory of European Aquatic Sciences Libraries and Information Centres* which is constantly updated. The two printed editions produced so far have been well received by both members and the European library community as a whole;
- the *EURASLIC Newsletter*, although produced at irregular intervals, keeps members informed between meetings;

- considerable effort has been expended since the 1994 meeting in Gdynia in seeking support funding for a *European Directory of Marine and Freshwater Institutions, Scientists and Research Engineers*. This work is continuing with a proposal to the European Union MAST Programme to assist with funding for the marine aspects;
- as we have heard during this meeting, EURASLIC has been included in the bid for Project UNiverse under the EU Libraries Programme;
- preliminary work has been undertaken to gain funding to support training workshops.

I hope that you agree with me that this is excellent progress to date. This meeting has shown the determination to maintain the forward momentum and has presented the Board with a challenging list of projects to pursue. Some of these arose from the discussions in the Business Meeting as one would expect. It was, however, gratifying to see others developing from both papers and workshops. The Board has been charged with:

1. continuing to pursue funding for training courses and, if successful, laying plans before the membership;
2. revising the list of "National Representatives" and encouraging greater participation;
3. designing a new membership brochure and arranging for the National Representatives to get it translated into as many European languages as practical;
4. seeking ideas for and deciding on a logo for EURASLIC;
5. organizing the next revision of the *Directory of European Aquatic Sciences Libraries and Information Centres* and pursuing funding for its publication;
6. investigating the need for and present position relating to mounting a "Discussions List" on the Internet;
7. designing a World Wide Web home page for EURASLIC and organizing the necessary access;
8. continuing to pursue the production of a *European Directory of Marine and Freshwater Institutions, Scientists and Research Engineers*;
9. improving the quality and frequency of the *EURASLIC Newsletter*;
10. organizing a specialist group from within EURASLIC to advise members on funding opportunities;
11. investigating Silver Platter's pricing increases for ASFA and organizing EURASLIC's responses to both Silver Platter and the ASFA Board;
12. encouraging the production of a trial *Occasional Publication* so that the membership can assess the use/requirement for such a publication series;
13. arranging for the editing of the proceedings of this meeting and finding funding for its publication;
14. the Treasurer is to look into alterations to the membership renewal system in order to eliminate the problems of bureaucracy some members face within their organizations
15. the Conference Committee, brought into being by yesterday's Business Meeting, is to consider the submissions by the three potential host organizations for the 1998 meeting, decide on the venue and inform members as soon as possible. They will also consider the possibility of making it a joint meeting with a similar organization, whether to extend the meeting to three days, as well as choosing any relevant themes, organising the programme and seeking sponsorship.

We are set for a busy and exciting two years and we look forward to seeing you all again in 1998.

