EURASLIC

Eighth Biennial Meeting of the European Association of Aquatic Sciences Libraries and Information Centres (EURASLIC)

3 – 5 May 2000

Norwood Hall, Aberdeen, Scotland, UK

NEW SKILLS FOR THE MILLENNIUM

PROCEEDINGS

2000

FRS Marine Laboratory, Aberdeen, UK

FRS Marine Laboratory

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Posters

PREFACE

The Eighth Conference of the European Association of Aquatic Sciences Libraries and Information Centres (EURASLIC) was hosted at Norwood Hall, Aberdeen, Scotland by the Fisheries Research Services (FRS) Marine Laboratory, Aberdeen from 3-5 May 2000.

The Conference, entitled *New Skills for the Millennium,* was attended by over 50 participants from 16 countries within and beyond Europe, and it was especially pleasing to welcome several new European aquatic information specialists to their first EURASLIC meeting. This highly successful Conference marks another landmark in the ongoing development and growth of EURASLIC. An interesting, varied, and busy programme included sessions on: *Career Development/New Skills*; *Electronic Publishing/Electronic Copyright; Electronic Resources for Aquatic Sciences; European Ventures* and *Knowledge Management.* In addition, three scientific presentations by staff from the FRS Marine Laboratory on *Sensory Assessment, Fishing Gear Science* and *Fisheries Management*, provided a welcome balance. Guest speakers included Sandy Norman, UK copyright expert, who spoke about *Copyright in a European Context;* Dennis Nicholson, Director of Research at the Directorate of Information Strategy, University of Strathclyde, whose paper *Building and Organising Digital Libraries* described a number of inter-related projects and introduced delegates to the concept of 'dynamic clumping'. Professor Graham Shimmield, Director of the Scottish Association for Marine Science and Dunstaffnage Marine Laboratory, and Acting Director of the Natural Environment Research Council, Centre for Coastal and Marine Sciences (NERC/CCMS), gave an interesting presentation on the work of the European Marine Society Foundation and various aspects of Knowledge Management were addressed in two papers by Judith Smith, Director of the Centre for Knowledge Management at the Robert Gordon University, Aberdeen, and by Gail Rogers from Scottish Enterprise, whose paper *Implementing a Knowledge Management Culture,* provoked some interesting questions and discussions on the parallels between Information Management and Knowledge Management.

Participants presented country and institution reports, adding to the ongoing record of aquatic information development and provision within Europe. These reports highlighted the fact that there is no longer a clear East/West divide in Europe. Reports referring to cutbacks in staff and services due to financial constraints, came from countries in East, West and Southern Europe, as did the few reporting advances and developments in services. The unrealistic price rises in journal subscriptions, aggravated by fluctuating exchange rates, was highlighted as a particular cause of concern to those struggling to manage on small library budgets.

Participants attended a Workshop on*: User Education and On-line Databases* where they reviewed - ASFA IDS (CSA); Oceanbase (Elsevier) and oneFish (SIFAR/FAO); and attended a parallel session discussed various aspects of user education in relation to online information services in general. It was suggested that librarians and information specialists should become more involved in the development of aquatic information software, and this message was reinforced by the Workshop reports.

The EURASLIC Board and members express their grateful thanks to all the organisations who kindly provided funding and sponsorship for this conference, and to all those involved and who contributed to making this a successful event.

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British and Ireland Association of Aquatic Science Libraries and Information Centres (BIASLIC)

EIGHTH BIENNIAL MEETING OF THE EUROPEAN ASSOCIATION OF AQUATIC SCIENCE LIBRARIES AND INFORMATION CENTRES (EURASLIC)

3-5 MAY 2000, NORWOOD HALL ABERDEEN, SCOTLAND

NEW SKILLS FOR THE MILLENNIUM

Conference Programme

Day One - Wednesday 3 May

Coordinating Chairperson for Day: Jean Collins, Librarian, Fisheries Branch Library, FAO, Rome, Italy

0900-1000 hours	Registration
1000-1025 hours	Coffee
1025-1030 hours	Opening welcome: **Kirstie Gray**, *Communications Manager, Fisheries Research Services, Marine Laboratory, Aberdeen, Scotland, UK*
1030-1045 hours	Review of current EURASLIC activities: **Sofia Goulala**, *Librarian, National Centre for Marine Research, Athens, Greece; President, EURASLIC*
1045-1120 hours	Country reports: **Ian McCulloch**, *Librarian, Institute of Freshwater Ecology/Freshwater Biological Association, Cumbria, England,* ***UK***; **Barbara Schmidt**, *Head Librarian, Institute of Marine Research, Kiel,* ***Germany***; **Maria Kalenchits**, *Librarian, Estonian Marine Institute, Tallinn,* ***Estonia***

Session One: Career Development/New Skills

1120-1140 hours	**David Hyett:** *Librarian, Centre for Environment, Fisheries and Aquaculture Science, Lowestoft, England, UK*: New roles and skills for librarians
1140-1200 hours	**Roger Kelly:** *Head of Marine and Atmospheric Sciences Information Centre, State University of New York at Stony Brook, New York, USA*: New skills for librarians: old skills updated with an attitude.
1200-1220 hours	**Marie-Pascale Baligand:** *National Centre of Agricultural Mechanisation, Rural Engineering, Waters and Forests, Lyon Group, CEMAGREF Lyon, France*: Network collaboration to improve scientific intelligence
1220-1300 hours	Country reports: **Lilian Mex-Jørgensen:** *Librarian, National Environmental Institute, Silkeborg,* ***Denmark;*** **Allen Varley:** on behalf of **Henryk Ganowiak**, *Morski Institute, Rybacki, Gydnia,* ***Poland***; **Lillian Skaar**, *Directorate of Fisheries/Institute of Marine Research, Bergen,* ***Norway***
1300-1400 hours	Lunch

Session Two: Scientific Presentations from FRS Marine Laboratory

1400-1420 hours	**Nicky Shepherd:** *Fisheries Research Services, Marine Laboratory, Aberdeen:* Sensory assessment
1420-1440 hours	**Norman Graham:** *Fisheries Research Services, Marine Laboratory, Aberdeen*: Fishing gear science
1440-1500 hours	**Phil Kunzlik:** *Fisheries Research Services, Marine Laboratory, Aberdeen*: Fisheries management
1500-1530 hours	Tea
1530-1700 hours	EURASLIC business meeting
1730-1830 hours	Whisky Tasting with Mark Lawson of Chivas Regal kindly sponsored by Elsevier Science Ltd

Free Evening

Day Two - Thursday 4 May

Coordinating Chairperson for Day: Barbara Schmidt, Head Librarian, Institute of Marine Research, Kiel, Germany

Session Three: Electronic Publishing/Electronic Copyright

0900-0920 hours	**Elisa Paavilainen:** Information Specialist, *Finnish Institute of Marine Research Library, Helsinki, Finland*: Electronic publishing in the Finnish Marine Institute.
0920-0940 hours	**Clare Allan:** *Science Information Officer, University of Stirling, Scotland*: Electronic journals at Stirling University Library
0940-1000 hours	**Sebastien Saunier:** *National Centre of Agricultural Mechanisation, Rural Engineering, Waters and Forests, Lyon Group, CEMAGREF Lyon, France* CEMEGREF Lyon electronic library: a development in three steps:
1000-1100 hours	Coffee, posters, exhibits and photograph
1100-1200 hours	**Sandy Norman:** KEYNOTE SPEECH, *UK Library Association* copyright advisor, The Library Association, London. Copyright in a European context, followed by question and answer session
1200 -1300 hours	Lunch

Session Four: Electronic Resources for Aquatic Sciences

1300-1345 hours	**Sally Stone:** *Senior Publishing Editor, Ocean Sciences, Elsevier Science Ltd, Oxfordshire, England, UK*

1345-1415 hours **Dennis Nicholson:** *Director of Research, Directorate of Information Strategy, University of Strathclyde, Glasgow, Scotland, UK*: Building and organising digital libraries: projects at the Centre for Digital Library Research

1415-1500 hours **Tina Long:** *Cambridge Scientific Abstracts, Newbury, England*: ASFA IDS

1500-1515 hours Tea

1515-1545 hours **Joan Baron:** Chief Editor and Information Manager, oneFish Community Directory Project, SIFAR/FAO, Rome; **Tim Bostock:** Support unit for International Fisheries and Aquatic Research - SIFAR/FAO, Rome, **Ian Pettman:** Assistant Editor, oneFish Community Directory Project, SIFAR/FAO, oneFish by SIFAR: the participatory approach to fisheries information management in the virtual environment.

1545-1730 hours: BIASLIC Workshop: **Joan Baron:** User education and on-line data bases

i) Introduction: **Andy Barrow** and **Paul Rolfe**

ii) Divide into groups led by **Andy Barrow, Paul Rolfe, Ian McCulloch, Pauline Simpson, Ian Pettman, David Hyett and Emma Harvey** to discuss user education in relation to specific databases

iii) Representative from each group to report back to meeting, five minute presentation each

iv) Workshop summary by Joan Baron

Free Evening

Day Three - Friday 5 May

Coordinating Chairperson for Day: Maria Kalenchits, Librarian, Estonian Marine Institute, Tallin, Estonia

0900-0920 hours Country reports: **Olga Akimov**, *Head of Scientific Library, Institute of Biology of the Southern Seas, Crimea,* ***Ukraine***; and **Soifja Konjevic**, *Librarian, Rudjer Bostovic Institute,* ***Croatia***

Session Five: European Ventures

0920-0940 hours **Jean Collins:** *Librarian, Fisheries Branch Library, FAO, Rome, Italy.* FAO Fisheries library homepage

0940-1000 hours **Ian Pettman:** *Pettman Associates, Cumbria, England.* Pan-European initiatives

1000-1030 hours **Professor Graham Shimmield:** *President EFMS, Dunstaffnage Marine Laboratory, Oban, United Kingdom.* European Marine Society Foundation

1030-1100 hours Coffee

Session Six: Knowledge Management/Other Papers

1100-1130 hours **Judy Smith:** *Director, Centre for Knowledge Management, Robert Gordon University, Aberdeen.* Knowledge Management

1130-1200 hours **Gail Rogers:** *Scottish Enterprise, Glasgow.* Implementing a Knowledge Management culture

1200-1210 hours **Alexei Ushakovsky:** *Chief Knowledge Officer, NPO "Granit-NEMP', St Petersburg.* Knowledge Management initiatives in the workplace: experience of operations in Russia

1210-1220 hours **Maria Filippi:** *CNR Library-Instituto Sperimentale Talassografico Taranto-Italty*: Methodology used to build key-words dictionaries in the field of oceanography, presented by Pauline Simpson

1220-1245 hours **Linda Pikula**, *Librarian: NOAA Miami Regional Library, Miami, Florida, USA:* IAMSLIC review of activities

1245-1300 hours **Alison Bethel**, *Librarian*: *Information Centre Manager: Environment Agency, Bristol, England.* Environment Agency national library and information service

1300-1310 hours EURASLIC 2001 Joint meeting with IAMSLIC Brest, France - Conference close, Sofia Goulala

1310-1330 hours **Helena Azevedo Isidro**, *Librarian*: *Department of Oceanography and Fisheries, University of the Azores.* A Mid-Atlantic Science Documentation Centre ... on its way to the new Millennium

1330-1430 hours Lunch

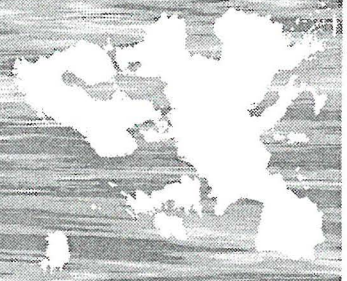
1430 hours Return to Kings College, Aberdeen

1630-1730 hours Optional tour of Old Aberdeen (including King's College) conducted by Dr Grant Simpson, Formerly Reader in Scottish History, University of Aberdeen. This is dependant on numbers.

1930-1200 midnight Drinks reception (kindly provided by Aberdeen City Council Civic Hospitality) Conference dinner followed by traditional Scottish Ceilidh Dance - kindly sponsored by Cambridge Scientific Abstracts (CSA). The Town and County Hall, Town House, Aberdeen.

(Dress smart-casual)

INTRODUCTION



REVIEW OF CURRENT ACTIVITIES

By

Sofia Goulala
President of EURASLIC
National Centre for Marine Research, Aghios Kosmas,
Hellinikon Gr-16604, Athina

Proceedings of EURASLIC VII

- The proceedings of the Athina Conference were published and distributed to all members by the National Centre of Marine Research Library, Athina, Greece.
- Spare copies still available at the NCMR Library

The EURASLIC Web Site

http//atlantis.fl.ncmr.gr/euraslic

Moved and now hosted by NCMR, Greece

- NCMR Library staff maintain and update the site
- Links to relevant information sources

EURASLIC Internet Discussion List

euraslic@machno.hbistuttgart.de

It has been established for EURASLIC members in order to:

- Facilitate requests for publications
- Advertise duplicates
- Exchange expertise
- Notify members of issues related to EURASLIC and aquatic science information in Europe

EURASLIC Newsletter

- Redesigned to incorporate the EURASLIC logo
- Two issues per year (March, October)

EURASLIC Leaflet

- A new information leaflet has been designed and issued

EURASLIC Directory of Aquatic Libraries and Information Centres

- The EURASLIC Directory has been updated
- The Directory contains 527 records
- Accessible through the EURASLIC Website as well as through the IOC Webserver

European Directory of Marine Research Resources (EUDIR)

- EURASLIC members have been encouraged to submit records to EUDIR
- The Greek model developed two versions of the Greek Directory
  - English (for GLODIR), Greek (for local use)
  - Offered to members as an example of how to maintain an in-house directory database

EURASLIC National Representatives

- Guidelines for National Representatives are being revised by the EURASLIC Board
- A new list of EURASLIC National Representatives will be prepared

EURASLIC Membership Directory

- EURASLIC has published its first Membership Directory, distributed to all EURASLIC members

EURASLIC Initiatives

Training

- Interested in a training programme on aquatic sciences information

- Board members cooperated with the University of Brussels on a 2000 international training course in Belgium

Baltic Sea bibliography

- A letter of protest has been sent to the Baltic Marine Environmental Protection Commission, against the decision to terminate the "Baltic Marine Environment Bibliography"

Ariel software

- Negotiated with the RLG Company so that EURASLIC members may acquire the Ariel full-version software at a reduced price

- **Other Activities**

Universe project

European aquatic libraries, members of EURASLIC have been involved in the environmental group

GEMIM committee

The EURASLIC President attended the GEMIM (IOC-Group of Experts on Marine Information Management) Meeting, Washington DC, USA, 31 May–3 June 1999

The Future

Primary EURASLIC goals:

- Increase the membership
- Support training programs
- Network of European aquatic libraries
- Pan-European Aquatic Library and Information Centre

Next Conference

"The 27th IAMSLIC Conference and the 9th EURASLIC Conference" is to be hosted by IFREMER, in October 2001, Brest, France.

SESSION ONE:
Career Development /New Skills

NEW ROLES AND SKILLS FOR LIBRARIANS

By

David Hyett
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Abstract

Wider changes that have had an impact on librarians' roles are considered, including the growth of the information society, shifting patterns of work and developments in information technology. The implications for librarians are discussed. Areas where skills will be needed are identified and include information management, financial management, communication and interpersonal skills.

Introduction

Many recent papers in professional journals and many conferences have been devoted to discussing new roles for librarians. It is useful to start with some quotes and thoughts on this issue.

"In the larger world, outside the covers of professional journals, things are moving too quickly for the luxury of principal role discussions." (1)

"There are so many new tasks for us, and everything is changing so fast, it sometimes feels as if we information specialists are being shot out of the cannon by the information explosion." (2)

Common stands can be found through much of the literature. In particular:

- We are in an era of rapid change
- By the time we have developed the new skills needed, they may have become irrelevant
- There is a blurring of the boundaries between professions, with information now an important component of most jobs
- We should take opportunities when they arise
- Continuing professional development is essential if we are going to equip ourselves with the skills needed

It may be a challenging period, but it is also an exciting one. It is a better time than during 1980s when it was thought that:

- Information technology may eventually make libraries and librarians redundant, and
- Many traditional skills such as indexing and cataloguing would be done automatically by computers.

Clearly there are opportunities to be taken.

Wider changes in society have had a significant impact on the role of librarians. Some of the major developments have been:

- The change from an industrial to an information society, with the resulting increase in importance of information. As a result many more jobs are grounded in information.
- Key feature of the information society have been identified by Nick Moore [3] as:
  - Information intensive organisations, which use information and associated technologies to increase efficiency and stimulate innovation.
  - A significant information sector.
  - Social use of information creating a high level of use, and
  - A learning society, where great importance is attached to life long learning. The need for high levels of information handling skills created the need for high levels of training and education.
- Shifting patterns and position of work in society. In an industrial economy large amounts of time were needed to produce goods and services. This is no longer the case, but the change has resulted in higher unemployment levels instead of creating shorter hours for all. Those still employed often feel the need to work longer hours and develop new skills to maintain their positions.
- The idea of the 'job for life' has disappeared. Training and updating skills is essential to remain employable.
- Rapid developments in information technology have had an impact on virtually every service we deliver, making it difficult to keep pace with technological change.

A comparison of the contents pages from two different editions of the Handbook for Special Librarianship help to demonstrate how our role has developed and changed. The fourth edition [4] in 1975 included chapters on most of the traditional areas of service, such as selection and classification, and also included chapters on some exciting new developments, such as the use of microforms in libraries.

By the time the seventh edition [5] was published in 1997, there has been considerable change and most of the traditional areas of service are not even mentioned. However, this does not mean that old roles are no longer relevant, although technology has altered the way they are delivered.

The seventh edition focuses on management of all types and on delivering user centred services tailored to meet an organisation's information needs. In particular we can note:

- A shift towards information technology
- The growth in importance of information management
- Information skills being used in a wider context, such as records management and data protection
- The importance of general management and marketing skills

Future Roles and Skills

The following skills, needed now and in the near future, are not listed in order of priority. All are likely to be important.

Information Technology

We need to think less about how IT can help to automate library routines and more about what we can do to make it more useful for our organisation and our users. IT departments have often taken the lead in many information development projects, such as Intranets. We need to demonstrate the valuable contributions we can make in these areas.

To develop the skills required we need:

- An awareness of the range of technologies available

- A knowledge of IS applications of IT
- IT support and training
- Knowledge and experience of electronic information delivery, such as e-sources and e-journals

Information Management

Information management presents opportunities for us to use our skills in a broader context. Areas include:

- Intranet information management
- Internet site management
- Knowledge inventories
- Data audits

Management

We need to understand the context in which we work. In particular, we need to consider:

- What is the impact on users of the services provided?
- How is the service perceived in the organisation?

An awareness of the organisation's strategic aims and objectives is needed.

Areas where skills need to be developed include:

- Managing change
- Political and negotiation skills
- The ability to communicate effectively
- The ability to deliver results

Team management and motivation skills are also important. There is a need to:

- Develop skills throughout the team
- Create a team identity
- Build a balanced team
- Deliver services and results

Financial Management

Financial management skills have become even more important as a result of budgetary restraint. This makes effective resource management even more essential. Key areas include:

- Business planning
- Business case development
- Resource accounting
- Financial implications of service developments

Communication and Interpersonal Skills

Libraries need to maintain a good awareness of how people view their services. Services should always be in tune with the business needs of the organisation and used to their full potential. Key areas include:

- Persuasion skills
- Consultancy skills
- The ability to work with user groups
- Writing skills

- Briefing skills
- Presentation skills

Customer Focus

A customer focus is essential to ensure that services remain appropriate to the needs of the organisation. In particular:

- Ensure that services are relevant and meet information needs
- Continually challenge services to ensure that they are continuing to add value
- Analyse service versus benefits
- Market services

Organisation of Information

This is a broad set of skills. We need to be thinking of new and different areas where we can use our traditional skills in new contexts. Areas of opportunity include the following:

- Knowledge management – making sure that knowledge is shared and accessible
- Packaging information in the way the customer wants – adding value
- Integrity of information supply – helping customers determine the value of 'free' information
- Avoiding information overload for our customers

We need to maintain our professional knowledge to be in a position to make a contribution in new areas. There is a need to prove that we can perform this function better than others.

Conclusion

There is an exciting and challenging time ahead, but it will not be easy. The continued pressure on resources will often conflict with the need for services to develop continually and respond to remain relevant. Tough decisions are likely to be necessary about maintaining existing services against developing new ones. Continuing professional development will be an essential tool for keeping skills up to date. Librarians have the necessary skills, but we will need to convince others and take opportunities as they arise.

References

1. **Burns, T.; Rashid, S.** 1999. *The new world of information professionalism.* Information Outlook, **3 (7):** 25-29.

2. **Duberman, J.** 1999. Reflections in a fun house mirror. *Web trends and evolving roles for information specialists*, **7 (2):** 30-33.

3. **Moore, N.** 1999. Partners in the information society. *Library Association Record*, **101 (12):** 702-703.

4. **Batten, W.E.** (ed). 1975. *Handbook of special librarianship and information work.* London: Aslib. 4th ed.

5. **Scammell, A.** (ed). 1997. *Handbook of special librarianship and informationwork.* London: Aslib. 7th ed.

NEW SKILLS FOR LIBRARIANS: OLD SKILLS UPDATED – WITH AN ATTITUDE

By

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Abstract

The world and workplace of the librarian have been changing significantly over the past several years. This change appears to be continuing. What once was unique is now an every day occurrence. What we may be doing tomorrow on a routine basis, we can't imagine.

Is this good or bad? The answer depends upon you, your attitude, your ability to be flexible, your ability to learn and your ability to sell your organisation on the fact that you are a more valuable asset than you were just a few short years ago. This will be one person's attempt to look at some of the skills we must hone and some that we must acquire in order to provide traditionally high levels of service. We must become chameleon-like in some areas in order to meet the needs of our clientele.

Mission Statement

"The mission of the university library is to provide information services in support of the teaching, research and public service mission of the university."

Activities

"All activities of the library are performed for the purpose of serving the clientele, but the circulation and reference departments serve the public most directly." [1]

What Were The Critical Skills

- Acquisition of Materials
- Organisation of Materials
- Dissemination of Materials and Information: Services to Users
- Managing
  - Staff
  - Space
  - Budget

Assumptions

- Basically Still True
- Substantial Change in Form
- Priorities Recorded

New Priorities

- Managing
- SDI
- Teaching
- Organizing
- Staff

Managing Time

- What is TIME?
- "Time which antiquates antiquities and hath an art to make dust of all things"
- "The time which we have in our disposal everyday is elastic; the passions that we feel expand it, those that we endure contract it, and habits fill up what remains."

Where Does Our Time Go?

- Vacation
- Conferences
- Selectors Meeting
- Dept. Heads' Meeting
- Systems Meeting
- University Senate
- Database Review
- Web Page Review
- OPAC Meeting
- New System Meeting
- Vendor Meetings
- Local Conferences
- Regional Meetings
- Communications Meetings
- Miscellaneous Campus Meetings
- Faculty Meetings

The Big User

- E-Mail
- Selective dissemination of information (SDI)

Teaching

- Ourselves
  - New Tools
  - New Techniques
  - New Methods

Teaching

- Our Constituencies
  - New Resources
  - New Access Methods

- The Future
  - New Students
  - Future
  - Librarians
  - Technology
    - **FUTURE SHOCK**

Future Shock ... "The shattering stress and disorientation that we induce in individuals by subjecting them to too much change in too short a time" Alvin Toffler

Organizing

- All the Time
  - *(Never Enough)*

Staff

- Staff Development
  - Generally Honored in Lip Service?

What is Left?

- Never Enough

Do We Have Enough Left?

- And indeed there will be time to wonder, "Do I dare?" and

"Do I Dare"

References

1. **Christianson, Elin B., David E. King, Janet L. Ahrensfeld.** 1991. *Special Libraries: A guide to Management, 3rd ed.* Special Libraries Association.

NETWORK COLLABORATION TO IMPROVE SCIENTIFIC INTELLIGENCE

By

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CEMAGREF Lyon, 3 bis Quai Chauveau, 69336 Lyon Cedex 09, France

Abstract

Cemagref is a French institute in agricultural and environmental engineering. Cemagref reports to both the Department of Education and Research and the Department of Agriculture and Fisheries. It employs about six hundred researchers.

Research work is conducted within four scientific divisions:
- *Freshwater systems management*
- *Water and environmental engineering*
- *Land management*
- *Agricultural and food engineering*

Cemagref has ten regional centres scattered throughout France. In Lyon, researchers work on freshwater systems management and particularly hydrobiology, ecotoxicology, hydrology, hydraulics and water quality.

On each site, librarians work in collaboration with scientists, their main role being to satisfy researcher's information needs.

This paper addresses the new aspects of the librarian's role in Cemagref institute.

Webmaster

In Lyon, the librarian has responsibility for the website.(1) We have to liaise with computer specialists, public relation officers and scientists, design the Web site architecture and a common structure for the research team's web pages. We have to define information that can be circulated on the Intranet and Internet sites. Afterwards we will have to register our website with different engines and promote it.

The development of new information and communication technologies is changing the traditional model of scientific communication, offering various information storage and exchange possibilities to researchers. For example, it was proposed that the last theses that were produced in Cemagref are made available in portable document format (PDF) on Cemagref Web site.

We need to inform researchers about these new possibilities, so that we become an essential link between new information media and the scientific staff.(2)

Network Collaboration

An Intranet web section providing scientific and technical information to researchers and other users has been developed by the Cemagref librarians.(3)

The objectives of this section are:
- To help researchers to find a document in Cemagref
- To guide researchers as they search for information on the Internet (we have selected relevant web sites on fresh water, environmental and all Cemagref

topics. For each site an explanation is given. Chosen links must be the best for each topic. Current Awareness services have been developed

- To provide some tools:

  - To conduct bibliography searches with Current Contents
  - To help scientists to create their own bibliographic databases
  - To prepare bibliographies for scientist's reports
  - To select free databanks for bibliography or fact searches using databases such as UNCOVER, Article@inist, ASFA, Eaudoc
  - To give the means to identify forthcoming conferences
  - To give access to electronic journals (contents pages and full text)
  - To promote use of contents alert
  - To provide access to the Cemagref photographic library

The files are updated on a regular basis and the information professionals are organised within a network structure. For each topic, there is a leader, whose main purpose is to identify the relevant Internet sites, in order to test them with scientists, and then, to promote this selection and later to update these data.

Library staff collaborate in choosing common software and compiling a Cemagref thesaurus has made the organisation of this Intranet Web section easier.

Training

We regularly organise training sessions entitled 'searching on the Internet' for users, in order to make access to information easier. During these sessions, we promote the use of ~~the~~ Intranet Web section.[4]

Scientific Current Awareness

Scientific Current Awareness was conducted for the ecotoxicology research team.

This was carried out in four stages:

1. Collecting information sources in the field. These sources included paper documents, CD ROM, serials, Internet sites, databases and factual databanks such as HSDB, ECDIN and AQUIRE.
   We helped scientists to create their profiles on Current Contents (Agriculture Biology and Environmental Sciences) and on Aqualine on CD ROM.
   All these tools were then displayed on an Intranet page.

2. Working regularly with each scientist of the team to fill out a questionnaire, in order to determine:
   - How often they use these tools
   - How many relevant references they found with each tool that we chose together[6]

   We also looked for overlap between these tools (Current Contents, serials, Aqualine, ASFA).
   We encouraged scientists to update their bibliographies regularly. We optimised the use of these tools and validated the different information sources.

3. We defined a survey organisation chart which showed the frequency of tool use and the search methods used.

4. We used a statistical programme to determine:
   - When and how a subject is developed
   - What were the current subjects of interest
   - Which authors work on these subjects

Conclusion

Cemagref's Intranet success is due to a good collaboration and complementarity between computer specialists, librarians and scientists.[5]

A real dialogue took place between all these people who shared skills.

Information professionals have had to improve their competences on these new information media, they must now have a good command of electronic publishing. My colleague, Sebastien Saunier, will present our work on electronic publishing.

Far from depriving professionals of their work, these new information media allow them to enhance their ability to process and circulate information.

We must adapt to researchers needs and expectations. Some of these users are already very aware of these new media so we must satisfy them. For the others, we need to help them to discover the advantages of such tools.

References

1. *Créer et maintenir un service Web.* 1998. Cours INRIA, 28 septembre – 2 octobre 1998, Pau, ADBS Editions, 294 p.

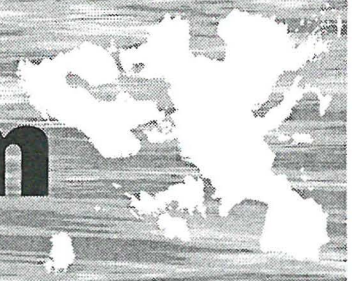
2. De la Vega. 2000. *La communication scientifique à l'épreuve de l'Internet: l'émergence d'un nouveau modèle*, Presses de l'ENSSIB, 253 p.

3. *L'information scientifique et technique et l'outil Internet: expériences, recherches et enjeux pour les professionnels de l'IST*, Le Micro Bulletin Thématique no3, 315 p.

4. **Baligand, M.P. and Cadiou, C.** Navigation et recherche d'informations sur l'Internet, 35 p.

5. CISI'99. 1999. *Les bibliothéques àl'ère des réseaux d'information*, Tunis, 3-4-5 mars.

SESSION TWO:
Scientific presentation from FRS Marine Laboratory



SENSORY ASSESSMENT: ITS ROLE AT THE MARINE LABORATORY

By

Nicky Shepherd
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What is Sensory Assessment?

The use of one or more of the senses to judge, or form an opinion, on some aspect of quality.

Who Uses Sensory Assessment?

Consumers in shops, restaurants and homes use sensory assessment when forming judgements about the quality of the product they are to consume.

An Objective Sensory Method

The Torry freshness scoring system was the first detailed method for measuring fish freshness using an **objective** sensory scale.
EU grading system is based on the same principles.

Principles of Measuring Spoilage

Within a species the sequence of spoilage changes is reproducible under similar conditions- stages can be recognised.

Numbering the stages gives rise to a quantitative sensory scale.

Sensory Assessment of Taint in Fish and Shellfish

A taint is defined as "an odour or flavour foreign to the product"

Where does the taint come from?

Why Measure Taint?

- Food becomes unacceptable to the consumer
- Taint suggests contamination
- Safeguard the consumer
- Protect the seafood market

Exclusion Zones

Food and Environment Protection Act 1985
Prohibits the harvesting of farmed or wild fish and shellfish

Marine Laboratory Aberdeen Involvement

- Chemical analysis of fish for the determination of chemical contamination
- Sensory assessment of fish for the presence of taint

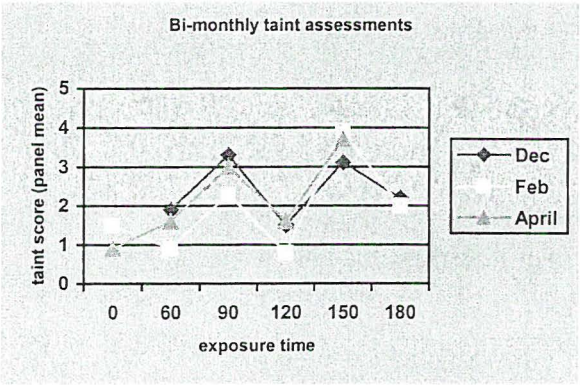
A panel of trained assessors should be regarded as any other laboratory instrument.

When maintained correctly it is capable of producing results which are accurate and statistically valid.

Intensity Scale

0 Absence of taint
5 Extremely strong

Sample deemed tainted when 50% or more of the panel responses are positive.



Summary

Taint is a sensory experience and can only be detected by sensory analysis.
At the Maine Laboratory it is used as a rapid and sensitive screening method, compatible with a Government statutory response to an oil spill or pollution incident.

DISCARDS AND BY-CATCH IN TRAWL FISHERIES

By

Norman Graham
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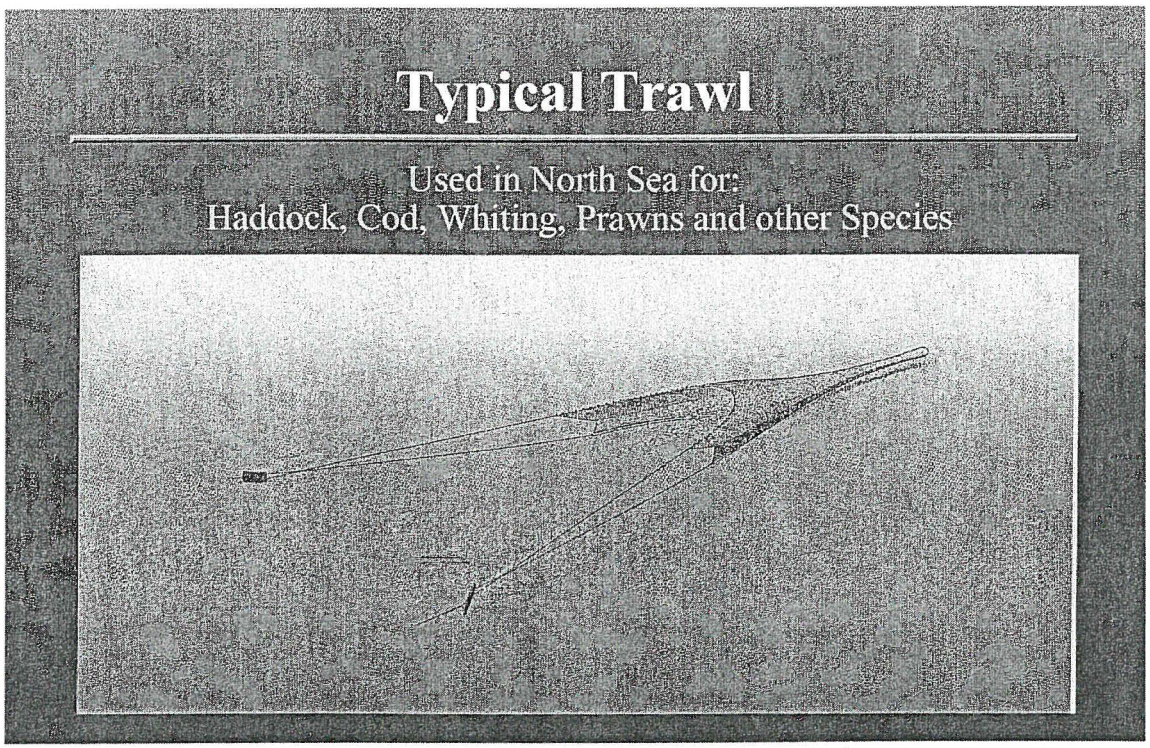
Aberdeen, AB11 9DB



Trawls are Unselective

Use one minimum mesh size to select several species

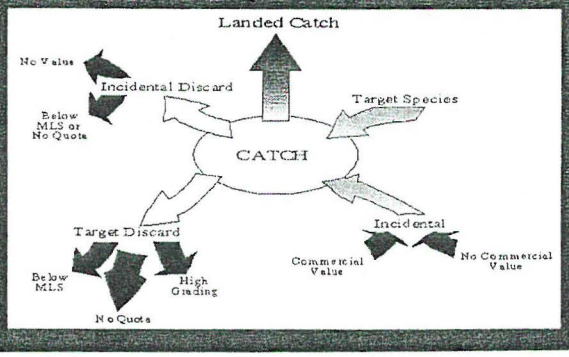
- Poor size selectivity
- Poor species selectivity

Each species has a specific minimum landing size

- Haddock - 30 cm
- Whiting - 27 cm
- Cod - 35 cm

Definitions:

- Discards - the portion of the catch returned to the sea as a result of economic, personal or legal considerations
- By-Catch - Incidental Catch



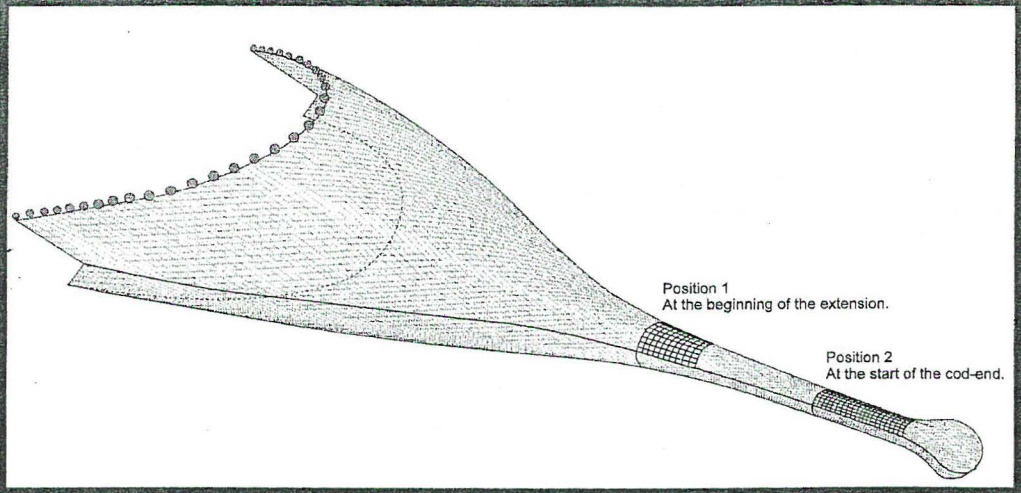
Discard Rates

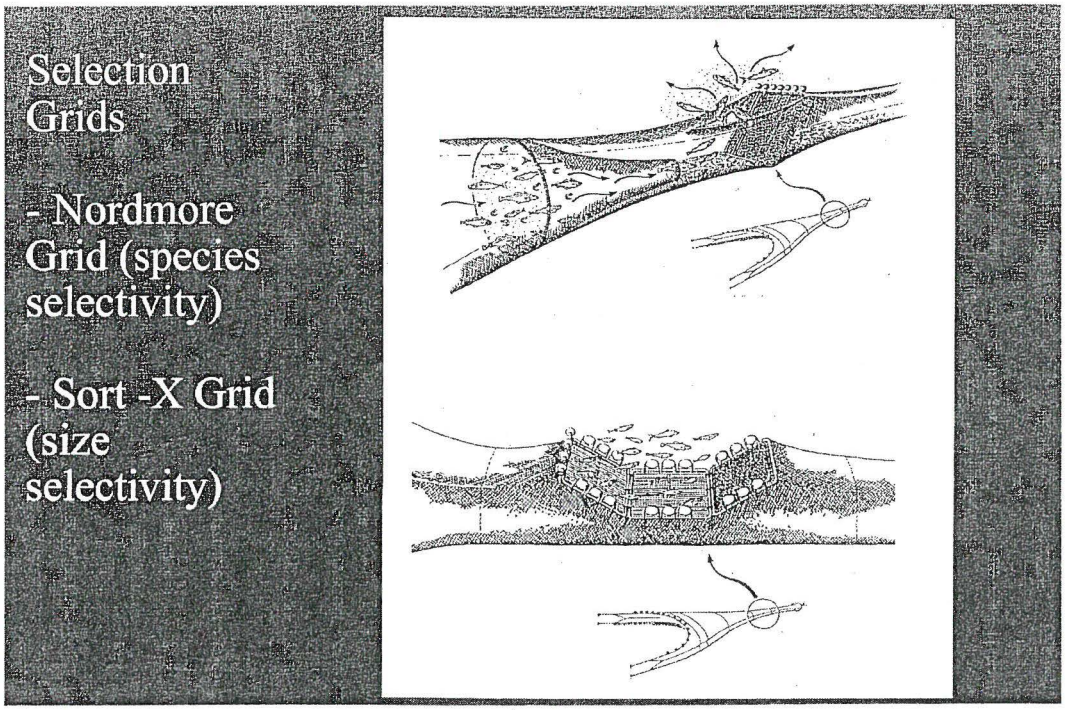
- Haddock typically 40% by number/year
- Whiting typically 50% by number/year
- Information on other species limited

Species Selectivity May be Improved by:

- Use of separator trawls
- Selection grids
- Square mesh and escape panels

Square Mesh Panels





Size Selectivity May be Improved by:

- Increasing mesh size
- Altering mesh geometry
- Reducing twine thickness

Emphasis of Benefits (or the proverbial carrot)

- Improved catch quality - higher prices?
- Access to fisheries
- Potential increase in future catches?
- Price elasticity - initial revenue loss reduced?
- Greening of the industry

International Use of Selectivity Devices (Usage Encouraged by:)

- Discard plans
- Management harvesting plans
- Trade embargo
- Endangered species legislation
- Access rights

Commercial Acceptance (or Industrial Reluctance)

- No perceived benefits to individual operators
- Increased costs - more expensive gear
- Gear rigging complexities - less efficient gear
- Handling problems - reduced fishing time
- Reduction in marketable catch - loss of revenue

No incentive to use - All cost time and money

Enforcement (or the proverbial stick)

- Most simple measures are abided by, however:
- Complex measures = complex law and enforcement
- Sea going enforcement is expensive
- Risk of detection is low
- Measures are often nullified by owners

Conclusion

- Discard rates in trawl fisheries are high (27Mt/Year)
- Reductions can be achieved through gear alterations
- Implementation must be supported by relevant management schemes
- Industrial involvement in development is important

FISH STOCK ASSESSMENT IN THE NORTH EAST ATLANTIC

By

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Fish Stock Assessment

- Data Sources
- Historical Stock Reconstruction
- Forecasts
- Management

- **Official Statistics**
  - total landings by species
  - fishing effort by gear

- **Official Statistics**
  - total landings by species
  - fishing effort by gear
- **Commercial Fishery Data**
  - ages and lengths of landings
  - ages, lengths and quantity of discards

- **Official Statistics**
  - total landings by species
  - fishing effort by gear
- **Commercial Fishery Data**
  - ages and lengths of landings
  - ages, lengths and quantity of discards
- **Research Vessel Surveys**
  - young fish abundance
  - mis-reporting index

Roundfish Market Sampling

Species	Samples	Measured	Aged
Cod	580	66,851	15,068
Haddock	546	186,514	17,782
Whiting	508	123,275	10,876
Saithe	381	25,434	12,424

Roundfish Discard Sampling

Species	Samples	Measured	Aged
Cod	80	7,361	1,685
Haddock	80	120,036	6,362
Whiting	80	52,160	5,104
Saithe	80	2,737	527

Demersal Research Vessel Surveys

Vessel	Area	Month
Scotia	North Sea	February
Scotia	West of Scotland	March
Scotia	North Sea	May
Scotia	North Sea	August
Scotia	Rockall	September

- **Stock size**
  - number at age
- **Fishing mortality**
  - proportion removed at age
- **Recruitment**
  - young fish joining the stock

- **Stock size**
  - number at age
- **Fishing mortality**
  - proportion removed at age
- **Recruitment**
  - young fish joining the stock
- **Stock forecast**
  - catch at age
  - survivors

- **Possible management objectives**
  - prevention of stock collapse
  - maximising yield
  - maximising profit
  - maximise employment (conserve fishermen)
  - conservation of seals
- **The choice of objective leads to your definition of overfishing**
- **Not all compatible**

- **National laboratories, eg MLA**
  - collect data
  - provide scientific expertise
- **ICES Working Groups**
  - assemble international data
  - perform assessments
  - report to ACFM
- **ACFM**
  - quality control
  - provides official ICES advice

- **Customers**
  - national Governments
  - European Union
  - NEAFC
  - industry

SESSION THREE:
Electronic Publishing

ELECTRONIC PUBLISHING IN THE FINNISH ENVIRONMENT INSTITUTE (FEI)

By

Elisa Paavilainen
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Abstract

The National Electronic Library in Finland is a programme launched by the Ministry of Education. Its aim is to support research and teaching in Finland. The National Electronic Library collects electronic materials, such as electronic journals, reference databases and reference books. It also improves information retrieval from the information network and provides common access to information in electronic form.

The library and information service of the Finnish Environment Institute has been a participant in the consortia of The National Electronic Library. Thus, FEI has access to the electronic full text journals of Academic Press, Springer Verlag and EBSCO, a total of 1,800 electronic journals.

On our Intranet, there are links to these journals, as well as links to the tables of contents of environmental journals such as Kluwer, Wiley and Elsevier. On our Intranet , there are also links to the electronic form of journals for which we have a print subscription.

One task of the FEI is to promote environmental awareness. Electronic publishing is one way to do this more effectively. In 1999 FEI began electronic publishing. The venture was new and there has been much to learn. The library and information service has participated in this project with the publication service team. Last year we drew up electronic publishing instructions to authors. PDF is currently used and XML may be used in the future. It is planned to reduce the number of print editions produced and focus on electronic publishing

Electronic Journals

The National Electronic Library in Finland is a programme launched by the Ministry of Education. Its aim is to support research and teaching in Finland. The National Electronic Library was set in motion in March 1997. It collects electronic materials, eg electronic journals, reference databases and reference books. It also improves information retrieval from the information network and provides common access to information in electronic form. (http://hul.helsinki.fi/finelib/english/ index.html).

The library and information service of the Finnish Environment Institute (FEI) has been a participant in the consortia of the National Electronic Library. Thus FEI has an access to the electronic full text journals of Academic Press, Springer Verlag and EBSCO, altogether about 1,800 electronic journals.

In our Intranet there are links of the journals above and also the links of environmental journals with the tables of contents of eg, Kluwer, Wiley and Elsevier. In our Intranet we have also the links of those journals which we can use in electronic form because of the subscription of the print versions.

Many of the publishers have Contents Direct – a service without charge (so far) to the email addresses of the users and it's a very useful and handy service which many of our customers use.

The situation with the electronic journals is at the moment fascinating but also very confused and incomplete. In spite of this, we have arranged courses for the personnel of FEI about the use of electronic journals. Also, the mentor activity among the library personnel has become very important. The biggest problem at the moment is the fact, that we don't have the references of the electronic journals in our collection database, but hold them separately in the library's Intranet home page as a directory format. It's for the sake of the lack of human resources, because it's a question of many hundred titles of journals. It's possible that the National Electronic Library will solve this problem, because the situation is the same in many libraries. Another problem is that these electronic products are very expensive and the libraries of research centres don't receive any subvention of the price like the university libraries do. Besides it seems that from now on we have to pay also part of the salary of our contact person in the National Electronic Library.

We ought to live in a paperless society but it's easy to notice, that the electronic journals have increased the output of articles. It's because the displays are not at the moment effective enough for reading.

We have cancelled some print journal subscriptions but in general our customers use electronic and print forms side by side. Perhaps very soon the time is ripe for changing the culture and using only electronic journals but before this happens there are some problems to solve concerning using of old volumes, (archives) connection services, prices and licence politics.

In the future I wish that the Electronic Library will make a licence agreement at a reasonable price with Elsevier, because they publish many essential environmental journals. I wish too, that in the future it will be possible to profile and choose some parts of the consortium products instead of the whole package offered by the publisher.

Electronic Publishing

The task of the Finnish Environmental Institute is among other things to promote environmental awareness. Electronic publishing is one way to do it more extensively. In 1999 FEI began to transfer its publications to the electronic format. The situation was new and there has been much to learn. It has been important for us, that the electronic publications are easy to find and use for the customers. The printed publications of FEI have an uniform graphic layout and the same principles applied to the electronic versions.

In our institute the publishing activity has been divided into the two sectors, which are the publishing service team and the authors in the divisions. The library and information service has been a participant in this project together with the publication service team. Last year we made the instructions of electronic publishing to the authors. There were, for example, the following questions in the instructions: definitions (eg what electronic publication actually means), process of electronic publishing, copyright, file format (pdf, html), starting page, metadata and Dublin Core, codes and identifiers (like ISBN = International Standard Book Number and URN = Uniform Resource Name), addresses of the electronic publications in the directory tree, transfer of the electronic publications to the outside server and the practice of reference to the electronic publications. So *summa summarum* there were plenty of questions to solve and all of the issues were important. One of the most important is metadata, a description of an information resource in order to identify a resource to meet a particular information need. Also important is the format of the electronic publication. In our instructions we have recommended the PDF (Portable Document Format) format, because it's very useful and the only possibility because of scarce resources. Each PDF document contains a starting page with HTML and Dublin Core to ensure that the document will be found in information searches. Perhaps in the future we can make beside the structural documents using XML (Extensible Markup Language) which is an effective format in the Internet.

At the moment we have to get more experience and knowledge about electronic publishing. Also we have to renew our tools, the microcomputers. We have made cooperation with other institutes which are in the same stage.

Electronic publishing has had a strong effect on the library and information service. Boundaries between library and information service, publication service, www service and press and information service are less visible. Our expertise is needed. Also we have to renew our ADP library system, because we need a more effective archive for saving and searching the electronic publications.

In the future we can reduce the print editions and focus more and more on electronic publishing. However we can't completely give up the print versions because there are citizens who can't use the Internet at the moment, and as FEI is a public research institute, this is a question of democracy.

With each new manuscript we have to decide separately, which format is best for the users: only the printed version, the printed and electronic versions both or only the electronic version.

The electronic publications of FEI are free of charge. We think that they are also a tool of marketing, because after seeing the network version many customers want to buy a printed version, too. In Finland we have several national projects concerning electronic publishing, eg EVA (http://hul.helsinki.fi/eva/english.html) and ELEKTRA (http://renki.helsinki.fi/electra/english.html).

The aim of EVA is to create methods and tools for libraries to collect, register and archive electronic publications distributed on the Internet and to investigate conditions for long-term preservation of them.

The aim of ELEKTRA is to publish, collect, distribute and store national electronic articles and publications.

ELECTRONIC JOURNALS AT STIRLING UNIVERSITY LIBRARY

By

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Abstract

Many libraries are wrestling with difficult issues surrounding the management of electronic journals, and are looking for the best ways to present journals in this format to their users. The paper demonstrates the way these issues are handled at Stirling University Library covering: the library's web page layout; management of usernames and passwords; embedding e-journals into the information gathering process and integration of e-journals into the library catalogue.

Web Pages and Catalogue for E-Journals?

At Stirling University Library (SUL) e-journals appear both on the web pages and within the library catalogue. There are a number of reasons for this duplication.

- Interim solution: cataloguing journals takes considerable effort and time. During a period when many e-journal titles were becoming available to the library through bundled deals it was quicker to let users know that they had access to a list of journals via the library web pages. A hyperlink to the publisher's service was all that was required. This was a quick solution whilst cataloguing, and the issues of how best to do this, could be worked on.
- Central access and information point: the web pages not only hold a series of hyperlinks to e-journal services, they can also be used to collate all the information required for using e-journals in a way that the catalogue cannot. So instructions for the use of different services, access conditions, authentication information, etc could be brought together in one central location for the user.
- No web based catalogue: since SUL did not have a web based catalogue it made sense to have access to web resources actually on the web – making linking to pages as easy as possible.

In general, the way of dealing with e-journals within the library has been an evolutionary process. Even now changes are still being made to our procedures and this is necessary simply to remain up to date in the fast paced environment of electronic publishing.

Stirling University is presently (May 2000) awaiting the installation of a new web based catalogue. We have now also resolved many e-journals cataloguing issues and catalogued the majority of our many current titles. These two major changes will allow us to bring a new cohesiveness to e-journal provision. The current web pages will be much reduced and, if appropriate, hyperlinks created to them from the web catalogue.

SUL E-Journal Home Page

From the library's home page the SUL e-journal page is located within the section Information Resources and beneath the heading Journals, the link reads *Electronic journals for University staff and students.*

The page is divided into the following five sections:

1. E-journals and the library catalogue

The introductory section to the page is a brief explanation of the situation regarding the complementary nature of the library catalogue and the e-journal web pages. Essentially this is that work is on-going in the cataloguing of e-journals and that users should first check the library catalogue to find out if they have access to a particular title. A telnet link to the catalogue is provided on the page to make this as easy as possible. If the title is not included in the catalogue then users should check the e-journal services the library has access to by using the hyperlinks further down the page. It is indicated whether a particular service's titles have been catalogued, so that unnecessary searching is not undertaken.

2. Major sources of titles (bundled deals)

An alphabetical list of hyperlinks is provided to the major services, these have a very brief description of content eg IDEAL – *Academic Press journals (1996-2000). All titles included in the Library Catalogue.* The hyperlink takes the user to a page of information about that service. This page will give a fuller description of content, conditions of access (access from campus only, whether passwords are required, etc), a hyperlink to instructions for use of that particular service, and a hyperlink to the service itself.

3. Individual e-journal titles (not covered by bundles)

Individual titles available outside the main services are divided into four main subject areas, reflecting the Faculty arrangement at Stirling University ie Arts, Human Sciences, Management and Science. These four headings are hyperlinked to A-Z lists of titles for easy browsing. The title lists have hyperlinks to the journal and, where relevant, information about that particular title, this may include conditions of access, password requirements, etc.

4. Major current awareness services

Since the release of e-journals often pre-dates that of the paper version, they are a valuable source of very up to date information. A hyperlink is provided to a list of current awareness services, and details on how to register are provided. These services either provide journal contents pages *via* the web or have an email alert service.

5. Other useful information for using e-journals

One of the aims of the SUL e-journal web page was not only that of an access gateway but also to be a source of all the other auxiliary information required.

Therefore the following were also gathered on the web page:

- Username and password information: whenever particular conditions of access should be met and/or a username and password required this is indicated

- Hyperlink to information about the Acrobat reader, Acroread: since many e-journal articles are available in acrobat format instructions are given on how to download a copy of Acroread.
- Hyperlink to the *Directory of electronic journals, newsletters and academic discussion lists*: access to a web version of this publication allows users to find out about other journal titles that are available electronically.

Management of Usernames and Passwords

A substantial proportion of the time spent on the administration of e-journals is in learning about the various authentication systems different services and publishers use and in management of large numbers of usernames and passwords.

Athens authentication

Where possible the library uses the Athens authentication system. The Athens system is used by all United Kingdom higher education institutions, and an increasing number of users in allied sectors. Athens enables authenticated access to many databases and e-journal services, ie a user has one username and password for many resources. The authentication can be set up so that remote access from off the university campus s also possible. The remote access option is much appreciated in the academic environment which now supports many users who are seldom, if ever, on the university campus.

The SUL e-journal web page includes a hyperlink to a page describing Athens authentication and instructions on how to register to use the system. The pages also indicate when access to a particular title requires an Athens username and password, and these pages are interlinked to a provide in context help.

Non-Athens

Where the Athens authentication system is not available as an option, usernames and passwords are added to an alphabetical master list that is kept at the library enquiry desk. This list is also available to library staff over the university network. We are currently considering making some, or all, of this list available on the university Intranet. However all the security implications of such a move are first being investigated.

Embedding Within the Information Gathering Process

At SUL we do not recommend that the various publishers e-journal services are used as a method of finding literature for a research interest. Although many of the services provide sophisticated search engines, the literature within these services is often from a single publisher or small group of publishers. In the main this means a search is only conducted on a very small subset of the literature available.

Therefore it is still recommended that a user's starting point is the suitable abstracting and indexing publication, whether that be as a database on the web, CD ROM or paper. Once the search has been completed and a selective bibliography compiled then the journal articles themselves should be sought. Increasingly this is not a two stage process since many databases are now linked to the full text of articles.

Librarians have now become very accustomed to using e-journals and understand the place they hold within the literature. However this is not always true for the library user, many students at the university are still learning about this new format of journal articles and how it fits into the information gathering process.

To encourage our users in the subject oriented approach and to clarify the place of e-journals within the information gathering process the library's web pages provide:

- Recommended subject guides

- The steps involved in locating a journal containing an article of interest

Recommended subject guides

The SUL web site includes a list of recommended subject guides for each of the many subjects studied at the University. Each guide has a number of sections including: finding reference works; data; information in journals; specialised information such as conferences, statistics, legislation; and Internet sources. The guides cover printed sources as well as electronic sources.

Locating a journal containing an article of interest

This web page is located within the Journals section of the library site. It gives a four step flow diagram, outlining the series of steps needed to track down a particular article of interest. In summary:

Step 1	Check the Library Catalogue (gives instructions on how to search for journals). If title not found go to next step.
Step 2	Check the e-journal services that have not been fully catalogued. If title no found go to next step.
Step 3	Search SALSER (a web based union catalogue of serial holdings for Scottish university's and other libraries). If title not found – or don't wish to travel to another library go to next step.
Step 4	Use the library's inter-library loan service – page includes hyperlink to web form for making a request. This is automatically emailed to the library and the request is processed.

E-Journals on the Catalogue

Although the development of the web pages was important and they performed a number of roles the ideal goal was always to integrate e-journals into the library catalogue. The fairly rapid creation of the web pages allowed time for the consideration of the best way to catalogue e-journals. The library has now gained considerable experience with this cataloguing, though no doubt there will be more to learn.

Decisions were made on extra MARC fields that should be used for cataloguing e-journals. See Table 1 for a list of these fields and see figures 1 and 2 for samples of how records appear to the user on the library catalogue.

Table 1 Extra MARC fields used at SUL for the cataloguing of e-journals

MARC field	Use in catalogue records
530	Alternative format – used for print and electronic journal Displays as *Availability* Eg *Full text also available from ingentaJournals*
Or 258	Physical description – used for electronic only journal Displays as *Medium* Eg *Computer journal*
856	Path to source eg URL
505	Content note (searchable field) Used for web resources other than e-journals

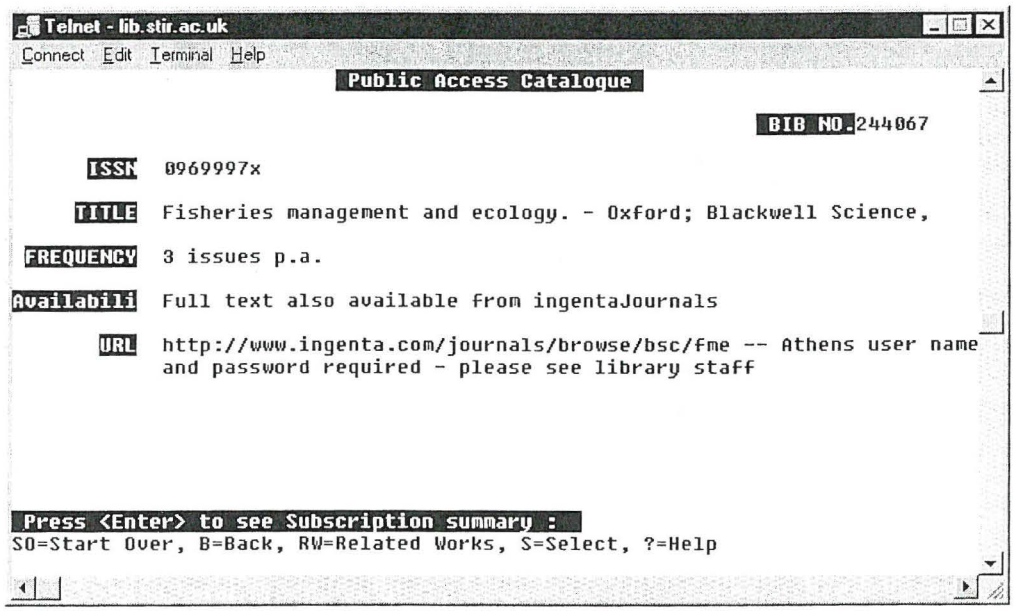
SUL catalogue now contains almost 1,000 e-journal records (electronic only and electronic + print). The catalogue also includes about 1,200 other web resources, for example, reference

works, research sites, web edition publications, organisation home pages and web based databases.

Samples of E-Journal Catalogue Records

Figure 1 Print + electronic journal held at SUL

a. Bibliographic record



b. Copy record

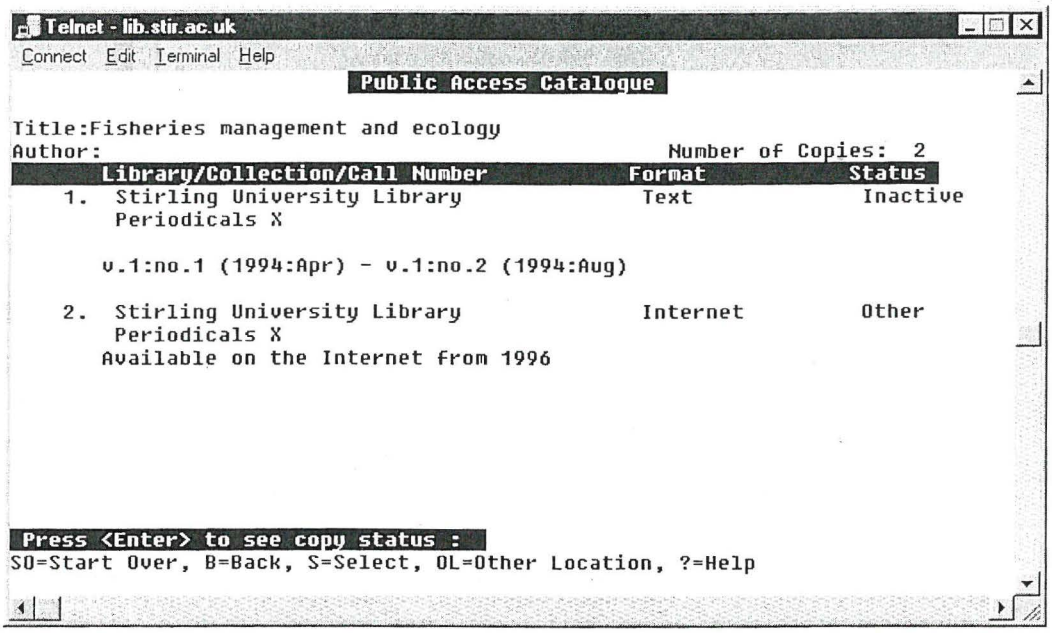
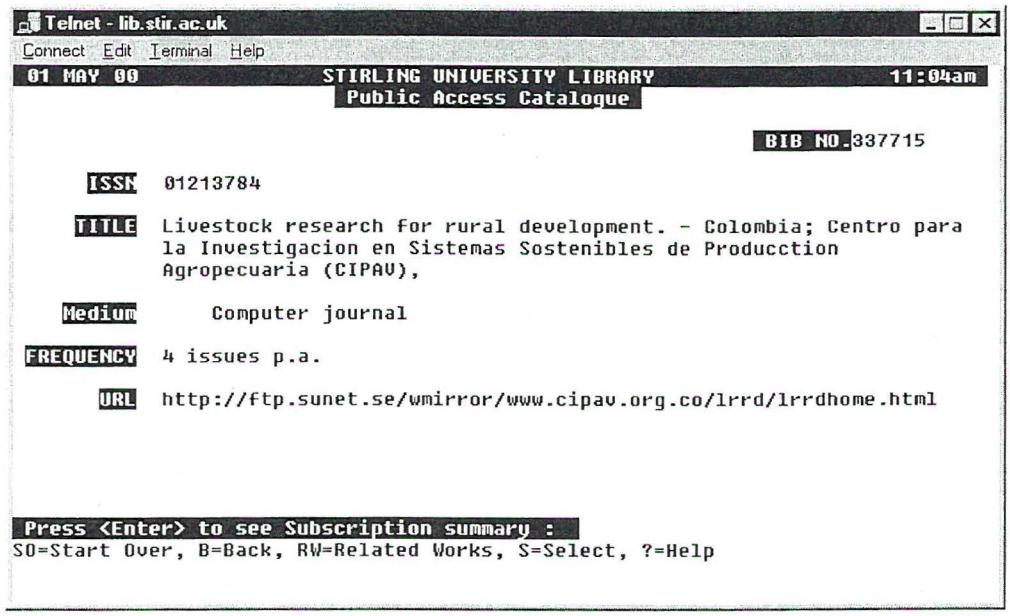
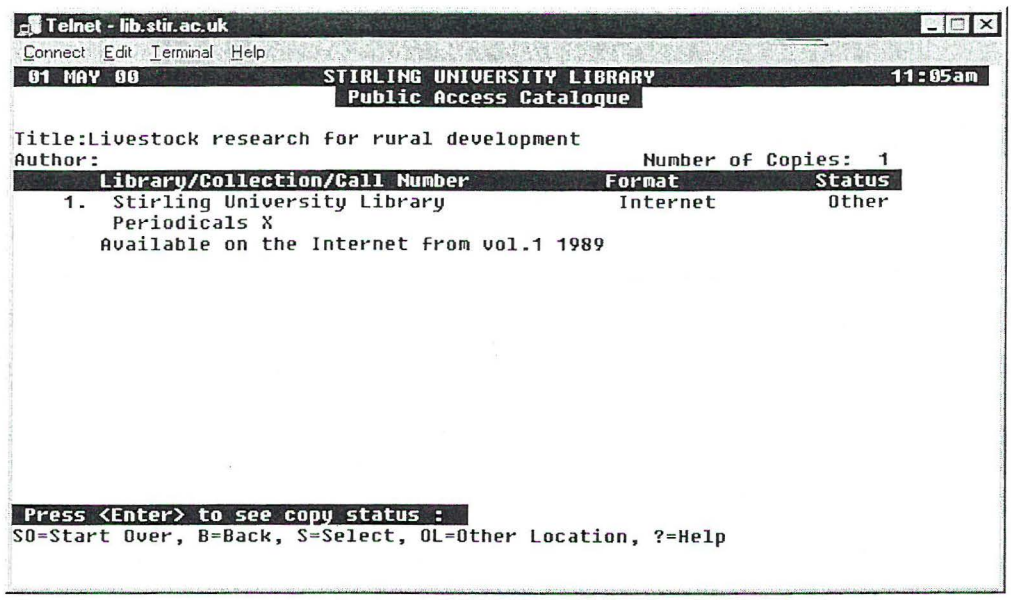


Figure 2 Electronic only journal held at SUL

a. Bibliographic record



b. Copy record



Conclusion

Finally, there is only one firm conclusion that can be made in this area of presenting e-journals to users in a comprehensive fashion. The library will need continually to change and update its methods and procedures for dealing with this type of publication. This article gives only a snapshot in time of the situation at SUL – it will already have changed. As librarians this is the environment we now live (and thrive) in.

References

1. *Stirling University Library* URL: http://www.stir.ac.uk/infoserv/library/ [4 May 2000]

2. *Adobe Acrobat Reader* URL: http://www.adobe.com/products/acrobat/readermain.html [4 May 2000]

3. *Directory of Electronic Journals, Newsletters and Academic Discussion Lists 7th Edition* URL: http://db.arl.org/index.html [4 May 2000]

4. *Athens Access Management* URL: http://www.athens.ac.uk [4 May 2000]

5. *Recommended Resources by Subject* URL: http://www.stir.ac.uk/infoserv/library/elecinf/subject/index.htm [4 May 2000]

6. *Locating a journal containing an article of interest* URL: http://www.stir.ac.uk/infoserv/library/elecinf/subject/locate.htm [4 May 2000]

7. *SALSER – Scottish Academic Libraries Serials* URL: http://edina.ed.ac.uk/salser/ [4 May 2000]

CEMAGREF LYON ELECTRONIC LIBRARY: A 3-STEP DEVELOPMENT

By

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Abstract

CEMAGREF is a French institute in agricultural and environmental engineering. CEMAGREF reports to both the Ministry of Education and Research and the Ministry of Agriculture and Fisheries.

Research work is conducted within four scientific departments:

- *Freshwater systems management*
- *Water and environmental engineering*
- *Land management*
- *Agricultural and food engineering*

CEMAGREF has 10 regional centres throughout France.

In Lyon, researchers work on freshwater systems management and particularly hydrobiology, ecotoxicology, hydrology, hydraulics and water quality.

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Step 1: Intranet Tools For Researchers

First of all, we developed an electronic order form for users to request a document. The request is sent to the librarian's electronic mailbox. From here, the librarian has only to order a copy of the document from another library which holds the document. This system is quick and easy for both customers and librarians to use. It is the first tool researchers have on their desktop; the electronic form almost replaces the paper form. We may create a version for other library partners to enable them to order a copy of a document from us in the same way.

Next, electronic contents of library's journals were made available on our Intranet (listed alphabetically). This means that users can have the contents pages of a journal on their desktop, a few days before the library receives the paper version.

But what are the advantages and the disadvantages of this tool ?

First: changes for librarians

There is no longer paper version of the contents' bulletin. Library staff save both time and a quantity of paper!

At the same time, library staff can provide contents pages of journals for which they have no subscription, and simply order the articles of interest.

What are the disadvantages for librarians? On one hand, the number of customer visits at the documentation centre decreases slightly. On the other hand, we have to train and help customers to use our tools. Finally, librarians have to promote all their new tools.

Second: Changes for users

Users can instantly consult the contents pages of journals provided by the library thanks to a shortcut on their desktop to electronic copies. In addition, alerts can make users aware of the availability of the contents of their favourite journals, even if the library does not have a subscription to these journals. This system is particularly interesting, because users receive tables of contents in their electronic mailbox a few days before the paper version is published. So it is a first step toward scientific current awareness. However, this tool also presents disadvantages. Sometime, users order an article identified in one of these electronic contents pages, but the document is not received by the library until one or two months later (in the worst cases). An other disadvantage is that unless the user has a laptop computer, it is not a portable format, and the information has to be printed out.

Finally, since it is not a push technology, this system needs customers' discipline. If users don't regularly consult electronic contents, they will not be properly informed of the most current information in their field.

In addition, some contents are linked to publishers' web sites. Thus, users could have access to full-text articles from fifteen journals. If they find an interesting article, they could print it rather than photocopying it at the library.

Search engines index tables of contents. As a result, customers can search all the contents pages of the past year using Alta Vista Intranet Search. With this search engine, users can also create their own search profiles by saving search address with their bookmark.

Globally, these new technologies, and tools are well received by users. In particular, links to full-text article are popular. But for most of others customers, time after time, this is an opportunity to learn and use new technologies. The remaining users are those who are not interested in reading contents pages, whether paper or electronic. Providing bibliographies or scientific current awareness is not targeted to them.

These new tools generate new needs. Customers are used to having any articles, contents or anything else the library can provide for them on their desktops quickly. This means that they want more full-text journals, more contents, with more functionalities. But all these services are expensive. It is difficult to get paper and electronic version of a journal unless the electronic versions is free with the paper subscription. The only solution is to form a library consortium. It is a fashionable idea, but probably the most efficient!

To conclude this first step, we must realise that we should no longer presume to know what our users need.

Step 2: Electronic Thesis

Since 1998 in Cemagref Lyon, all new PhD theses have been converted to Adobe PDF format (Portable Document Format). Theses represent the best information pool on a very precise research subject. But a thesis (in paper format) is read on average only 2.3 times in its life. Interestingly, each of our six theses have been downloaded more than fifty times since 1998. So there are two advantages to providing theses on electronic format:

- It offers world-wide advantages to disseminator. It promotes research team work all over the world
- It provides a quick desktop access to hard information

After, libraries are responsible for thesis registration and storage. This is probably why most of ETD (Electronic Thesis and Dissertations) projects are initiated by libraries.

Why choose one format and not another ?

There are three main electronic formats for ETD:

- PDF (Portable Document Format). Nowadays PDF is the most widespread and simple format for electronic document dissemination. Acrobat PDF reader is freely available. But Adobe could decide to sell its reader software. What alternative would be available then? In addition, PDF is a final format, which cannot be converted into another format.
- SGML (Standard Generalized Mark-up Language) is a meta-language that is used for creating languages (for example HTML - HyperText Mark-up Language). Moreover, SGML is an international standard, known as ISO 8879. It is complicated to convert a document to SGML format but the advantage is obvious. SGML documents could be converted into any format such as HTML, PDF and XML. Lots of ETD projects wish to migrate to this format.
- XML (eXtended Mark-up Language) XML is derived from SGML and is the optimum for Internet and multimedia applications.

Theses are converted in one of these formats using the PhD student's wordprocessed files.

Finally, there is the issue of copyright. At Cemagref Lyon, PhD students sign an agreement providing the organisation the right to disseminate their thesis. However, PhD students retain the right to stop dissemination or to change anything in the document (in fact, PhD students only give the rights of dissemination to the organisation).

Step 3: The Era of Electronic Formats?

As well as theses, research reports could be available online. This could be a step to a better access to 'grey literature'.

Every research organisation wants to disseminate its research results all over the world. The simplest way is *via* the Internet. So in parallel with scientific journal articles, researchers' reports could be disseminated *via* the library website. In fact, libraries are experienced in this technical knowledge through ETD projects, for example.

Finally, this knowledge could be used for an on-line journal. Cemagref publishes a technical peer-reviewed journal: *Ingénierie - Eau, Agriculture, Territoires - Engineering in water, agriculture and territories.*

Cemagref plans to give on-line access to its journals, which means librarians' technical knowledge is required. It could help us identify and understand publisher's interests.

Conclusion

The electronic era is imminent. The electronic library is no longer a dream. It is a reality. We have to adapt our habits and our tools to users' needs, and users, step by step, will realise the efficiency of an electronic library. Therefore, they expect us to go further and offer more and more tools. I think the only way to reach this objective is to federate our efforts, and I think this is one aim of any consortium. To finish, I would like to invite you to look at our neighbours, in particular the United Kingdom, where the NESLI (National Electronic Site Licence Initiative) was developed, and which seems to be the most advanced country on this subject.

However this wasn't the subject of this discussion!

Bibliography

1. **Beaudry G.** Projet de publication et de diffusion éléctroniques des thèses : proposition d'une collaboration entre les universités québécoises. [On-line] 1998, [10/10/1999]. Available on the Internet : <URL : http://www.pum.umontreal.ca/publ_electr/rapports/bea02/projet_theses.html>

2. **Chaléat P. and Charnay D.** 1999. *Programmation HTML, Javascript.* Paris : Eyrolles, 450p.

3. **Chambers J.** 1999. End-user document supply or who needs an interlibrary loans service? A special library's perspective. *Interlending & document supply,* vol. 27, n° 2, p. 71-79.

4. **Erickson J. and Stoeffler M.** 1999. An SGML/HTML electronic thesis and dissertation library. *Computers and the humanities,* vol. 33, p. 175-184.

5. **Fox E.A., Eaton J.L., McMillan G., et al.** 1997. Networked Digital Library of Theses and Dissertations: An International Effort Unlocking University Resources. [On-line] vol. 3, n° 9 [10/10/1999]. Available on the Internet: <URL: http://www.dlib.org/dlib/september 97theses/09fox.html>

6. **Fox E.A., McMillan G. and Eaton J.L.** 1999. The evolving genre of electronic theses and dissertations. [On-line] [10/10/1999]. Available from Internet : <URL : http://www.ndltd.org/pubs/Genre.htm>

7. **Jacobs N., Chambers J. and Morris A.** 1999. Document Delivery Websites. *Interlending & document supply,* vol. 27, n° 2, p. 65-70.

8. **Lepeutrec C.** 1999. Dossier documentaire : les projets de numérisation et de diffusion des thèses sur Internet. [On-line] 1999, [10/10/1999]. Available from Internet : <URL : http:// www.ccr.jussieu.fr/urfist/these/accueil.htm>

9. **Mermet J.-M., Prudhomme B., Joly M., et al.** 1998. CITHER : un modèle de bibliothèque numérique de mémoire de thèses. *Bibliothèques numériques (Les),* 1998, vol. 2, n° 3-4, p. 51-71.

10. **Saunier S.** 1997. *La documentation au sein d'un pôle de compétences en recherche appliquée : le service de documentation de la Maison de la Télédétection.* : Université Lyon1, 26 p.

11. **Saunier S.** 1998. *Trois outils au service des chercheurs :Access, Endnote et l'Intranet.* : Université Lyon1, 31 p.

12. **Saunier S.** 1999. Les cyberthèses : une réalité ? [On-line], [04/04/2000]. Available on the Internet : <URL : http://www.lyon.cemagref.fr/lyon/doc/these/ cybertheses.pdf>

13. **Teasdale G.** 1998. Le format SGML dans les bibliothèques virtuelles. [On-line] 1998, n°9 [01/12/1999]. Available on the Internet: <URL: http://www.sciencepresse. qc.ca/lbq/lbq9.4.html>

14. **Teasdale G.** 1998. Choix technologiques pour bibliothèques virtuelles : le format PDF et le projet Gallica. [On-line], n° 8 [26/11/1999]. Available on the Internet : <URL : http://www.sciencepresse.qc.ca/lbq/lbq8.4.html>

15. **Teasdale G.** 1998. Introduction au XML (eXtensible Markup Langage). [On-line], n° 10 [26/11/1999]. Available on the Internet : <URL : http://www.sciencepresse.qc.ca/lbq/ lbq10.4.html>

16. **Varoit P.** 1999. *L'édition électronique de la littérature grise du Cemagref de Grenoble.* : Univesité Pierre Mendès France, 67 p.

17. **Weisser C., Baker J. and Walker J.R.** 1997. Problems and Possibilities of Electronic Theses and Dissertations. [On-line], vol. 4, n° 11 [10/10/1999]. Available on the Internet : <URL : http://www.december.com/cmc/mag/1997/nov/etds.html>

Keynote Speech

COPYRIGHT AND EUROPE - HARMONY OR DISCORD?

By

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Agenda

- EU harmonisation programme
- Technological advances
- Rights holders' concerns
- Implementation of WIPO treaties 1996
- Copyright Directive

EU Harmonisation Programme

- Green paper 1988
  - computer programs
  - term of protection extended
  - new right of rental and lending
  - new protection for databases
  - satellite and cable broadcasting
  - private copying

Technological Advances

- Growth of works in digital format
- Internet and www
- Widespread use of computers
- Growing use of digital scanners
- Potential for e-commerce

Concerns of Rights Holders

- Ease of copying - rekeying, digitising, downloading, networking
- Threat to economic rights – piracy
- Fear of republishing
- Everybody is doing it
- Difficult to detect works in electronic form
- Plagiarism

Green Paper 1995

- Copyright and Related Rights in the Information Society

- Internal market concerns
- IP rights - crucial to regulatory system for the information society

Follow-Up Green Paper 1996

- Communication to the Public Right
- Harmonising the reproduction right
- Harmonising the exceptions
  - aiming to control private copying

WIPO

- WIPO Copyright Treaty 1996
- WIPO Performers and Phonograms Treaty 1996
  - rights - communication to the public, reproduction, protection for technical devices
  - exceptions - Berne exceptions still valid in digital environment, scope for new ones

Copyright Directive

- Proposal for a European Council Directive on the harmonisation of certain aspects of Copyright and Related Rights in the information society

Progress of Directives

- Commission proposes a text
- Committees give opinions and suggest amendments
- Parliament has first reading and gives opinion
- Council reaches common position
- Parliament approves (or not)
- Council adopts

Progress of Copyright Directive 1

- 1997 (Dec) proposal issued
- 1998 European Parliament (EP) asks for opinions
- 1999 (Feb) EP has its first reading and votes on amendments

Progress 2

- 1999 (May) amended proposal received
- Council of Ministers working group debate the detail
- Shopping list gets longer
- Final meeting of working group in March 2000

Next Steps

- COREPER (Council of permanent representatives) meeting to thrash out details - April 2000
- Common position likely in May 2000
- Adoption likely by end of 2000
- UK implementation likely by 2002

Why so Long? Why All the Fuss?

- Different traditions among Member States regarding copyright and copying
- Clashes between user groups and rights holders
  - rights holders fear loss of control and severe damage to their markets
  - users fear severe damage to education and research and the threat of 'big brother' total control of information
- Very little harmony

What Does it Contain?

- Broader reproduction right which includes all temporary copying (Art.2)
- Right of communication to the public of works and making available to the public of other subject matter (Art.3)
- A limited range of exceptions and limitations (Art.5)
- Protection against circumvention of effective technological measures (Art.6)

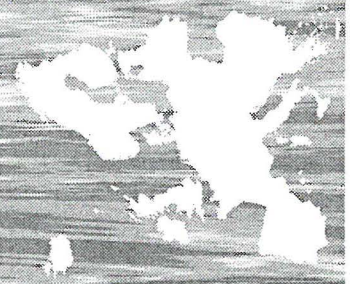
Exceptions from Reproduction Right

- Copying small amounts on paper (not music) plus fair compensation
- Copying onto any medium for private non-commercial uses - plus fair compensation
- Copying in publicly accessible not for profit libraries, educational establishments, museums or archives. Article 5 - exceptions from reproduction and communication to the public right
- Use for sole purpose of illustration for teaching or scientific research - non commercial, must be acknowledged
- Communicating works from their collections on the spot
- Use for benefit of people with disabilities- non commercial and only if really necessary
- Criticism or review quotes

Future - Bleak or Hopeful?

- Government trying to keep status quo
- Consumer groups lobbying hard
- Possibility of changes to fair dealing and library copying
- More reliance on licensing
- No change until 2002

SESSION FOUR:
Electronic Resources for Aquatic Sciences



RESEARCHING AND DEVELOPING VIRTUAL SCOTLAND - A PERSPECTIVE FROM THE CENTRE FOR DIGITAL LIBRARY RESEARCH

By

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Keywords

Scotland; Research Centres; digital libraries; digital learning; networks; digitisation; electronic resources; distributed catalogues; Z39.50; collaborative collection development; virtual universities; virtual libraries

Abstract

Scotland, with its Parliament recently re-established after 300 years, is likely to see the development of a networked service to make electronic information, learning and research materials readily available to all of its citizens as a key aim in the early part of the 21st Century. The newly-created Centre for Digital Library Research [1] at Strathclyde University[2] in Glasgow aims to be a significant player in the process of making the vision a reality, whilst also contributing to international research efforts in the area. Bringing the networked service of the future into being requires collaborative research and development effort in a range of areas - from identifying and documenting current problems and establishing future requirements, to work on major elements of the problem such as user needs and user interfaces, collaborative collection development, content creation and maintenance, inter-operability problems, navigation and integration issues, access control, metadata, and standards and policy frameworks. The Centre is already working with stakeholder institutions, organisations and individuals across the country on a number of relevant projects and initiatives that will contribute to understanding and develop expertise in these areas. Many of them have a practical focus that will help to partially implement the kind of environment envisaged. Examples are GDL (the Glasgow Digital Library project), CVU (Clyde Virtual University project) [3], CAIRNS (Co-operative Academic Information Retrieval Network for Scotland) [4], SCONE (Scottish Collections Network Extension project) and DIO (Digital Information Office project).

1. Introduction: digital libraries and digital learning for all - how do we get there from here?

With research into the issues surrounding the development of digital libraries and digital learning growing in volume and intensity across the developed world, the creation of a Scottish Centre for Digital Library research is a timely development, particularly since Scotland's recently re-established Parliament has been quick to recognise the importance of advances in this area to the economic health of the Nation and its citizens. Based at Strathclyde University in Glasgow, but already working with a large, growing and increasingly cross-sectoral range of institutions and organisations across the country on a number of co-operative projects, the Centre aims to conduct appropriate research with a sound theoretical basis, a focus on practical outcomes, and an understanding of the value of collaborative research in the current context. Over the last two or three decades, advances in information and communications technologies have made the vision of a society in which

information and learning material is readily - if not necessarily freely - available to all a realisable aim, if only in the more developed areas of the planet. For most workers in the field, it has long since ceased to be a question of if, or even when, but of how. *How do we get there from here?* A question which, in its turn, must be transformed into a growing series of ever more specific sub-questions, the answers to which will help direct our collective eye, hand and brain as we seek to shape the developing digital environment both globally and locally. The aim of the Centre for Digital Library Research is to contribute to international efforts in this area, whilst maintaining a particular emphasis on Scottish needs and realities, and on research with practical value in these contexts.

2. Means and mechanisms: the centre and its projects

The Centre for Digital Library Research was formed in August 1999, with the aim of bringing together long-standing University research interests in the digital information area previously spread across two University departments: the University's Directorate of Information Strategy, which includes the Library and the Centre for Educational Systems [6], and the Department of Information Science [7]. Key aims are to 'combine theory with practice in innovative ways' and be 'a centre of excellence on digital libraries issues ranging from information policy and information retrieval to document storage technologies and standards'. Although not made explicit, this is understood to encompass issues and materials relating to digital learning, with the Clyde Virtual University project being the centre piece of efforts in this area. Funding for projects managed by the Centre comes from the University itself and, in some cases, its partners, RSLP (Research Support Libraries Programme), Elib (The Electronic Libraries programme), SHEFC (the Scottish Higher Education Funding Council), JISC (the Joint Information Systems Committee) and the Scottish Office, with the following being a full listing at time of writing:

CAIRNS

CAIRNS is based at the Universities of Glasgow and Strathclyde and aims to integrate the 25 Z39.50-compliant catalogues or information services of CAIRNS sites across Scotland into a service that allows the various distributed services to be searched as a whole or in geographical or subject groups. The intention is to provide a comprehensive union catalogue for Scottish HE without the cost and effort of setting up and maintaining a central database, together with a set of smaller specific sub-sets of this catalogue appropriate to particular purposes (e.g. a particular subject interest) and a means of supporting the ongoing commitment to improving cost-effectiveness through co-operation and resource-sharing.The existence within the clump of servers describing and delivering electronic resources will also enable a limited amount of investigation of cross-domain implications, particularly in respect of CAL packages. The project has three members of staff, with the Project manager and clerical assistant based at Glasgow University and the Technical Support Officer based at Strathclyde. The project will take advantage of the SCURL (Scottish Confederation of University and Research Libraries) WWW/Z39.50 conspectus-based RCO (Research Collections Online) service as the basis of a subject-based dynamic clumping service. This will provide users with a means of navigating intelligently within the CAIRNS distributed catalogue by dynamically generating subject-based sub-clumps of catalogues to search via Z39.50. For further information see the CAIRNS web-site [4] and the CAIRNS gateway [8].

SCONE (Scottish Collections Network Extension project)

SCONE is an RSLP-funded project which aims to aid researchers by extending existing collaborative collection management work carried out within the SCURL framework into new areas and investigating effective models for building and sustaining a co-ordinated Scotland-wide distributed national resource. This would be conveniently accessible to researchers via the CAIRNS distributed catalogue, the Research Collections Online based dynamic clumping service, and SCURL inter-access policies. In addition to enhancing existing online assistance to help researchers identify relevant collections, the project will also aim to provide online information and other facilities to assist library staff in jointly managing collaborative collection management processes in order to get the best out of limited national resources. SCURL's approach to collaborative collection management is based on identifying and recording collection strengths and weaknesses, making this information readily accessible to contributing libraries, and jointly agreeing an approach to sustaining the strengths and addressing the weaknesses. The project will also aim to evaluate this approach with a view to identifying mechanisms for improving its effectiveness. In addition, SCONE will seek to extend RCO data to cover research level collections in the 'new universities' and HE institutions in Scotland, datasets identified in the Scottish Datasets project [9], research related electronic resources identified in the CATRIONA II (Nicholson 1999, p247) project [10], and a range of other material. In a related initiative, also intended to enhance the RCO database, SCURL has recently successfully applied to SOEID (the Scottish Office Education and Industry Department) for additional funding to mount RCO data not currently online, to establish and agree an effective, low maintenance, and possibly distributed, mechanism for keeping the data current, and to investigate extending the data to include collections in public libraries. For further information see the SCONE bid document [11].

GDL

The Glasgow Digital Library is a city-wide initiative funded initially by the Research Support Libraries Programme. It aims to create a wholly digital library to support teaching, learning and research at all levels in the city. The project aims significantly to enhance existing collaboration within the City of Glasgow and to explore the potential of Clydenet (the local Metropolitan Area Network) as a delivery vehicle for content. There is already significant interchange of users between the partners (Glasgow, Glasgow Caledonian and Strathclyde Universities, the Glasgow Tele-colleges Network institutions, and Glasgow City Council Libraries and Archives) and the project will identify, create, mirror and purchase content of common interest to some or all of the partners to create a collaborative, cross-sectoral, digital collection of resources that will be of significant value, both to researchers in the Clydenet area, and to researchers elsewhere with an interest in Glasgow-oriented or Glasgow-based research collections. The particular lessons to be learnt are expected to be in shared digital collection management within a large metropolitan area, the management, distribution and accessibility of locally created, stored or purchased resources, and in the use of the Metropolitan Area Networks in these contexts. A key aim is to create a MAN-based Digital Library service and demonstrator based on shared collections and a co-operative approach to collection development and management. This will be of value both in itself and as a model for other MANs. Integration with CAIRNS will allow inter-MAN issues to be explored. With the SCONE RSLP project also based at the Centre, useful lessons should also be learnt on the inter-relationships between MAN-based (GDL) and national (SCONE) collaborative collection management programmes. The joint digital library will be based initially on electronic resources created by the institutions, on public domain information, and on joint purchases and digitisation initiatives, but the longer-term aim will be to establish the GDL as a virtual co-library of the majority of public institutions in Glasgow and the Librarian

will be expected to play a key role in this process. For further information see the bid document.[12]

GAELS (Glasgow Allied Electronically with Strathclyde)

GAELS is a pilot project based at the Universities of Glasgow and Strathclyde, and funded by the Scottish Higher Education Funding Council. It has two principal aspects. It is a practical project aimed at improving joint access to electronic information services and resources for postgraduate students and staff researchers, and to provide joint WWW-based training materials for postgraduate students. Secondly GAELS has a research function, to investigate problems and issues in the joint provision of such services. The pilot project is examining the provision of these services within the engineering faculties at the universities. The longer term aim is to extend collaborative services and training to all faculties in the two universities. For further information see the GAELS web-site.[13]

DIO (Digital Information Office)

The Digital Information Office is a new division of the Directorate of Information Strategy responsible both for the professional management of electronic resources created within the University and the co-ordination of University wide interest in commercially acquired electronic information resources. The DIO will work with other areas of the University, including the Library and IT Services, to create a metadata repository and associated web-based service interface for the University's electronic resources, including the integration of the local service with the Glasgow Digital Library, CAIRNS and aspects of SCONE (other CDLR projects). Additional tasks will include the development, maintenance and dissemination of policies and standards associated with the creation, description (metadata), storage, organisation, maintenance, security and copyright of digital information, together with the design of training for departmental information managers and the provision of advice on commercial or strategic exploitation possibilities for locally created resources. For further information see the CATRIONA II web-site.[10]

CVU

Clyde Virtual University is a joint venture to develop and deliver Internet-based teaching materials to students at five institutions in the West of Scotland. Founded in 1995 as Europe's first virtual university, CVU combines the academic and technical strengths of Glasgow, Strathclyde, Glasgow Caledonian and Paisley Universities together with the Glasgow School of Art. CVU brings together custom-built tools and materials such as virtual reality educational worlds, online assessment and automated marking, desktop video conferencing,text-based discussion forums and a state of the art virtual library in a unique infrastructure for the provision of education over the Internet. CVU is based at the Strathclyde University Centre for Educational Systems.

Policy Approaches to IPR (Intellectual Property Rights)

The JISC funded study on IPR aims to identify the issues and problems concerning IPR found in HEIs (Higher Education Institutions) and make practical recommendations which HEIs could reasonably be expected to implement. The focus is on copyright, particularly for material in or converted to electronic form. It will do this first by surveying HEIs in the UK and establishing current approaches to the ownership and control of IPR, followed by visits to institutions and organisations. The topic cuts across different functional domains of universities and the study will cover the following areas: IPR in teaching and learning materials; IPR Issues concerning research e.g. publishing of research results on the Internet; IPR Issues concerning terms and conditions of contract and governance. The study

is based at the Strathclyde University Centre for Educational Systems. For further information see the web-site [14].

The BUBL Information Service

BUBL[15] is an Internet-based information service for the UK higher education community which also offers a specialist service to librarians and information specialists. Operating from the University of Strathclyde, BUBL is accessible via the world wide web and is also accessible via Z39.50 at link.bubl.ac.uk, port 210, database Zpub. BUBL had 9.4 million accesses in 1998-99, and has users in 167 countries. Its major services are the BUBL Link/5:15 Internet resource catalogue; BUBL Journals; BUBL UK; BUBL News; BUBL Search; BUBL Mail; BUBL Internet archive; and Acqlink. BUBL is not an acronym. When BUBL was first established in 1990 the name stood for BUlletin Board for Libraries. However it is now known as the BUBL Information Service, or BUBL for short.

3. Forward paths: getting 'there' from 'here'

Taken together these projects form an inter-related and to some extent integrated set of initiatives covering a range of key issues relating to digital libraries and digital learning in 'virtual Scotland', contributing to the task of providing answers to the question 'How do we get there from here?' in the following ways:

3.1 Defining and Describing 'There': Digital Scotland

Drawing on the experience gained from some of the projects described above, a member of CDLR staff recently contributed to the work of SAGIA, the Scottish Library and Information Council's Advisory Group on Interoperability and Access, set up to advise the Scottish Parliament's Advisory Group on 'Digital Scotland' on issues relating to interoperability and access. An early version of the interim advice document created by this group suggested that the aim in attempting to create a digital or virtual Scotland should be:

'a coherent and integrated networked electronic environment in which Scottish citizens can:

- *Reliably discover, locate and retrieve electronic teaching, research and public information materials appropriate to their needs and level of educational development at any particular point in their lives*
- *Do this through a common user interface equally adaptable to different needs and educational levels*
- *Utilise the same common interface to access and fully interact with any such materials without diminution of presentation or function caused by the artificial barriers of variant formats and protocols*
- *Readily use, interact with, and assimilate the content of the materials themselves with minimal prior instruction and training through the use of a limited set of standard navigation icons and instructional tools*

and in which Scottish enterprises, institutions, organisations and citizens can:

- *Readily contribute to the development of materials and services themselves by working within the framework and associated standards*
- *Be assured of compatibility with developing international standards in areas of interoperability and access'*

Once complete, the document will also indicate what is required to bring this 'coherent and integrated networked electronic environment' about - drawing upon recently completed, ongoing, and projected projects and initiatives both within and beyond Scotland to specify appropriate standards, areas requiring research, development, remedial, or 'kick-start' funding, areas requiring further discussion and agreement, and so on as appropriate. The current version of this developing document is available.[16]

3.2 Researching and describing 'Here'

Of course, knowing the ultimate destination is only one key element in the determination of how to go about getting there, another is knowing the place or places of origin well enough to understand the nature and path of the 'journey' that is likely to be required to reach the hoped for destination. Projects and initiatives whose work is relevant here range from past projects such as CATRIONA II and Research Collections Online, through ongoing work such as CAIRNS and SLAINTE (Scottish Libraries over the Internet) [17]to new and developing initiatives such as SCONE and PAIRTS (Public Access to Information, Research and Teaching in Scotland).[18]

Content Creation, Maintenance and Description: Problems and Opportunities

Although it pre-dates the creation of the CDLR, the CATRIONA II project played a key role in identifying problems and opportunities existing within Scottish Universities relating to the creation, maintenance, management and exploitation of quality electronic teaching and research resources. It is also the pre-cursor of the forward-looking Digital Information Office initiative. CATRIONA II investigated questions relating to the university management of locally-created electronic resources from a UK-wide perspective, but within the context of surveys and discussions carried out in Scottish universities. It found that quality electronic teaching and research resources, of significant value or potential value to academics, universities, and the UK Higher Education community in general, were being created at high levels in all types of university. However, since they were not being created with the aim of wider access and use, the materials were mostly not networked, difficult to find, or in difficult to access electronic formats, when they were, and – at least in respect of teaching resources – unlikely to be suitable for reuse by other institutions or even other departments in the host institution. Other common problems were a lack of clarity on the copyright position of resources on university web-sites and a failure to protect potentially valuable university resources from copyright infringement. University management of services offering access to these resources within and beyond the host institution was identified, both as a way of improving the situation so as to extract the maximum value from such material and the effort that goes into creating it, and as a significant step in the practical implementation of institutional Information Strategy in the key areas of teaching and research. Subsequent to the project, Strathclyde University set up a Digital Information Office with the aim of implementing these findings and dealing with a range of associated issues.

A key unanswered question is the extent to which the project findings within Universities are transferable to other environments where teaching materials in particular are or may be created - in Schools, for example, or in the workplace, a question likely to be tackled to some extent when the DIO begins to work with the various participants in the Glasgow Digital Library project and in the context of Glasgow's 'Learning City' initiative.

Indentifying Barriers to Inter-Operability: Cataloguing, Indexing and Z Attributes

As indicted earlier, the CAIRNS project aims to set up and develop the basic core of a distributed union catalogue for Scotland. As part of this effort, it has begun to document various barriers to full interoperability existing in the core CAIRNS libraries (13 Universities, the National Library of Scotland, and East Dunbartonshire Public Library). These fall into the

categories of cataloguing problems, indexing problems, and problems with the behaviour of Z server and Z clients utilised in the libraries, problems that are expected to be reflected and amplified in the Scottish libraries currently beyond CAIRNS.

For example, the following cataloguing and indexing problems have been identified:

- Sites where the whole stock is catalogued and others where it is only partially covered
- Sites using UKMARC, sites using USMARC, sites using other schemes that map to UK or US MARC, and sites using a mixture of these and other 'home-grown' formats
- Sites using one subject scheme, sites using other schemes, and sites using no scheme at all - along with similar differences in the use of class schemes
- Sites using separate author, title and subject keyword indices and sites offering combined keyword indices
- Sites indexing two MARC fields in their author indices, whilst others index 6 or 9 or 12 fields, with similar divergent practices in other indices
- Sites recording and indexing full author surnames and forenames, and sites recording and indexing only surnames, with similar discrepancies in all indices.

The reasons for these differences are historical. The catalogues were developed, not with the aim of interoperating within a distributed union catalogue, but with the aim of serving local user groups, in local circumstances. The effect of the difference, however, is poor interoperability - which is to say that the results obtained from searching the virtual catalogue are not as good as they would be if you were searching one single coherent union catalogue with standardised data. For example:

- Failure to retrieve hits in a given catalogue on an author search can mean either that the library has no items by that author, or that it has but the items have not been catalogued yet, or that it has but that this particular library catalogue will show author hits for surname searches only and show none if the forename is included in the search
- Failure to retrieve hits in any given catalogue for a subject search can mean either that the site has nothing on that subject, or that it has but has no subject index, or that it has a subject index but does not use that particular subject term, or that it has but that its older records don't have subject terms in them
- Finding twice as many hits in one catalogue than in another on a title keyword search may mean that the catalogue holds twice as many relevant items, or it may just mean that the other catalogue does not index as many potentially relevant fields.

CAIRNS has detailed information about these problems in the existing CAIRNS libraries and also plans to investigate the resultant effects on catalogue performance. It is also charting problems with variant and non-standard behaviour of Z servers and clients in the clump and the resultant effects of these on performance. The identification of problems like these - likely to be barriers to the introduction of the kind of Scottish networked environment described by SAGIA (see 3.1 above) - is recognised as being vital to the successful implementation of such an environment and to identifying the mechanisms necessary to bringing it about.

Navigation and Collaborative Collection Development in a Distributed Catalogue

A key element in the description of 'here' as far as the beginnings of a virtual Scotland are concerned is the Research Collections Online database created under the auspices of the Scottish Confederation of University and Research Libraries. This is important because:

- It describes collection strengths in the eight older Scottish university libraries, the National Library of Scotland, and the two largest public libraries (The Mitchell in Glasgow and Edinburgh Central Library) utilising an adaptation of the RLG (Research Libraries Group) Conspectus methodology
- It is seen as the key to navigation in a distributed Scottish union catalogue and is already part of the dynamic clumping mechanism that is at the heart of CAIRNS.[19]
- It is seen as the heart of collaborative collection development between Scottish institutions in the future.

Work within CAIRNS, including discussions with SCURL, SLIC, SLAINTE and others has identified a number of barriers to forward movement in these areas based on the current RCO:

- The need to expand coverage significantly to encompass all elements of a future Scottish union catalogue
- The fact that the original methodology employed to measure collection strengths is considered too labour intensive
- The fact that the original Conspectus subject scheme is unlikely to be popular with the many other institutions whose catalogues will become part of a Scotland-wide distributed catalogue.

These will all be tackled over the next two years within the SCONE project, in conjunction with other key players such as SLAINTE, SCURL, SLIC, SCRAN [20], NGfL (the National Grid for Learning (Scotland)) [21] and SUFI (the Scottish University for Industry) [22].

In addition, the effectiveness of the mechanism to support intelligent navigation has yet to be evaluated, a task to be carried out within CAIRNS in the first half of the year 2000, the aim being to more fully identify requirements for helpful navigation.

Expanding the Cairns Distributed Catalogue

Although the CAIRNS project aims initially at bringing no more than 25 services into the clump at most, its long term aim is to encompass all major Scottish catalogues in an intelligent and integrated way. Some of the problems likely to be encountered in this enterprise have already been covered above. One which has not, but which has been identified by CAIRNS as a key issue, is the problem of handling non-MARC record formats. Currently, the CAIRNS gateway software can only deal with US or UK MARC records or 'OPAC' records. At least one important service - SCRAN - sends out GRS-1 records. In addition, it is possible that new services will come into being that will send out Dublin Core records or IMS records. If CAIRNS is to grow, a means of improving the software to encompass these formats or of changing it for new software must be found.

3.3 How: Linking Users and Content in a Standards Based Environment

Bringing virtual Scotland into being - getting from 'here' to 'there' - requires work in a number of areas:

- User needs and user interface design
- Content creation, development and maintenance
- Inter-operability, navigation and integration, access, and metadata
- Standards
- Policy

The aim of the Centre is to have a portfolio of projects that give it experience of all of these areas and allow it to contribute to the resolution of the various issues they raise - recognising, of course, that success will depend upon the work of many other groups, institutions and individuals, and that collaboration is a vital element in the programme. The current portfolio could be stronger in some of these areas, but largely meets this aim, with CDLR staff involved to some extent in all of the areas listed.

User Needs and User Interfaces

A user in virtual Scotland might be almost any age, of any social and educational background and of any of a possibly infinite number of interest groups and developmental levels. Their needs in respect of information and learning are likely to vary greatly. The nature of their needs in respect of interface facilities, approach and terminology provided by both services and resources (e.g. teaching packages) may also vary greatly. Equally, it is possible that one or a few basic approaches will suffice in this respect. Not enough is known about these and other user-related issues. Significant additional research is required to provide the hard data required to inform decisions regarding interface design, detailed metadata requirements, needs and priorities as regards content, and decisions regarding the extent and nature of any need there may be to utilise user profiles to influence service and resource presentation.

In the absence of a major programme or programmes to investigate this area, the CDLR will aim to obtain illumination and experience of such issues from a range of projects whose scope is more general but whose primary focus is serving users:

- Although intended initially for researchers only, the long term aim of the Glasgow Digital Library is to serve all of the citizens of Glasgow - which is to say, that its users too are likely to be of almost any age, of any social and educational background and of any of a possibly infinite number of interest groups and developmental levels. Although it has no significant funding for user studies, it will conduct user evalutions of its interface and attempt to collect data on users from its members who represent a wide range of user groups. It will also aim to find funding to conduct significant research on user needs.
- User interface design is a major element of CAIRNS and, to a lesser extent, of SCONE. Within both projects, moreover, there is a recognition that navigation within the catalogues of virtual Scotland using the CAIRNS dynamic clumper is dependent as much on knowledge of users as it is on knowledge of collections and collection strengths. Both projects have elements which aim at user evaluation of the CAIRNS interface. CAIRNS will also work with GDL on integrating the CAIRNS national interface with the GDL regional interface
- Clyde Virtual University has significant experience of working within and designing virtual learning environments and also of resource design and continues to work in this area. It is currently working with the Glasgow Development Agency on its 'Learning City' agenda, work likely to be relevant to the GDL
- One aim of the Digital Information Office is to create a metadata repository and associated web-based service interface for the University's electronic resources, including the integration of the local service with the Glasgow Digital Library and CAIRNS
- BUBL has produced an innovative interface to its BUBL LINK service which aims to be usable with minimal training (e.g. all subject terms are known to users before they search). It has also developed automated methods of monitoring user behaviour which may be of value to the above projects and to others.

Collaborative Collection Development and Content Creation and Maintenance

Involvement in issues relating to content - whether it be information service content, learning resources and environments, or research materials and data - ranges from research into and support for collaborative collection development activities in libraries, through the creation and maintenance of electronic teaching and research materials, to innovative approaches to the collaborative purchase of electronic materials, with the following being an illustrative summary of activities:

The Glasgow Digital Library aims to develop the content of its joint digital library for all inhabitants of the City by:

- Identifying resources that might usefully be digitised and seeking funding from a variety of sources to support and develop its digitisation plans
- Encouraging and supporting the creation of electronic teaching, research and information materials in City educational institutions in conjunction with the Digital Information Office project
- Investigating the potential for reducing the costs of subscribing to commercial electronic products by negotiating city-wide licenses
- Mirroring heavily used Internet resources locally.

It will also develop joint maintenance arrangements for digital resources and aims to provide a model for other metropolitan area based digital libraries in Scotland and elsewhere.

The Digital Information Office will aim to encourage the creation of electronic teaching and research materials at Strathclyde University and to encourage standard approaches to its creation that will enable it to be reused both across the University and beyond it. It will also manage a service to handle access to the material, and to protect and maintain it and work with other institutions, particularly in th context of the Glasgow Digital Library project, to encourage similar approaches elsewhere. It will also work with the JISC IPR Study project to develop agreed approaches to managing intellectual propoerty rights in respect of such materials.

The SCONE project has a range of deliverables which aim to support collaborative collection development efforts in Scottish univerities. These include:

- Providing web-based tools to support collaborative collection development efforts
- Expanding the range and type of collections described in the RCO database of Scottish collections
- Examining alternative methods of measuring collection strengths in libraries with the aim of making this more efficient and less labour intensive
- Working with cross-sectoral groups in Scotland on an agreed subject scheme for describing important collections.

The Clyde Virtual University project is working on the collaborative creation of electronic teaching and learning materials with the four local universities and other city educational establishments (e.g. the Glasgow School of Art), with the materials presented to users in a jointly developed electronic learning environment. It is working with the Glasgow Development Agency to develop a suitable learning environment for its 'Learning City' agenda. Its activities parallel those of the Glasgow Digital Library and it is expected that the two projects will work to integrate their activities. There is an extent to which the Glasgow

Digital Library will be the library for the Clyde Virtual University, although the exact relationship needs to be investigated and discussed.

The GAELS project has developed considerable expertise in brokering agreement between Glasgow University and Strathclyde University in respect of collaborative collection development in the Engineering area. It has also been active in the creation of jointly produced and utilised learning materials. Its expertise will continue to be developed over the coming year and will also help inform the work of the Glasgow Digital Library project in these areas.

Inter-Operability, Navigation and Integration, Access, and Metadata

The environment in which Scottish citizens will interact with networked resources across the country and beyond it is and will increasingly be a complex one. It is, however, essential that this complexity be largely 'hidden' from the users themselves. They should be able to navigate their way to the resources relevant to their needs speedily and with ease. The environment that they operate in must be flexible, with the underlying complexity this implies, but it must also be straightforward to use and adaptable to the needs of a range of user groups. Application of the standards covered in the next section is one key element in achieving this end. The other key element is practical expertise in understanding, developing and managing the environment itself based on research that encompasses its complexity. This element is addressed partly by individual projects - in particular CAIRNS and SCONE - and partly by the interrelationships between such projects and others like the Glasgow Digital Library and the Digital Information Office. Between them they encompass both a need and an opportunity to understand inter-operability, navigation and integration , access, and metadata issues at and between institutional, regional, national and international levels, as follows:

Interoperability between catalogues is an essential requirement in this distributed environment and is assumed to be built upon broadcast searching via Z39.50 (although BUBL is also looking at other protocols such as LDAP). The key projects here are CAIRNS and SCONE which, between them, are investigating the following interoperability issues:

- Interoperability problems between CAIRNS sites caused by differing cataloguing practices and variations in the quality or completeness of such data
- Interoperability problems between CAIRNS sites caused by differing indexing practices
- Interoperability problems between CAIRNS sites caused by differing and sometimes non-standard implementations of Z39.50
- Long term plans for dealing with such problems, such as aiming to implement the Bath Profile and change cataloguing and indexing practices as and when opportunities arise
- Short term mechanisms for circumventing such problems, such as identifying and implementing ways of sending different versions of a user search to different catalogues to overcome the problems caused by variant practices
- Anticipated cross-sectoral and cross-domain problems, such as the use by some services likely to form an essential part of a future distributed union catalogue for Scotland of record formats not supported by the current CAIRNS gateway, an example being the use of the GRS-1 format used by the SCRAN service
- Questions relating to the interoperability of a Scottish distributed union catalogue with a UK distributed union catalogue and similar catalogues in other countries, including those associated with interoperability between collection level description databases used for navigation purposes.

However, interoperability is also a key concern in the equally complex distributed environment envisaged by the Glasgow Digital Library and the GDL aims to work with CAIRNS and SCONE to address not only interoperability issues within the Glasgow Digital Library but issues relating to accessing the wider domain covered by CAIRNS from the Glasgow Digital Library domain and, possibly, vice versa. It is also probable that there will be a need to ensure inter-operability between catalogues covering different types of materials at institutional level in some cases.

Navigation between levels - from departmental up to international and international down to departmental - is a concern in all of the service oriented projects. Clearly, it is essential that the user be able to navigate easily from departmental pages to institutional pages to pages and databases in the local library, the institutional digital library, the metropolitan area digital library, CAIRNS, and beyond. This requires a common approach to design and a coherent approach to **integration** between services and projects and is recognised as an issue to be tackled jointly. In CAIRNS and SCONE, navigation is effected through the use of the CAIRNS dynamic clumper which uses a database of collections strengths organised by subject to guide users to sub-groups of catalogues in the total catalogue appropriate to a particular user enquiry. It could also be adapted to utilise user profiles, geographical considerations and other data for similar navigational purposes. It is possible that dynamic clumping or a development of it may help address similar issues within the institutions and within the Glasgow Digital Library and even that the ability it has to offer users different views of the network might be used one day to generate from base data alternative service views - institutional, Glasgow Digital Library, CAIRNS and so on.

Access and access control is also an issue for all service-oriented projects. As the digital resources available increase, the picture in terms of access rights and charges will become more complex. Any given resource may be freely accessible and fully re-usable to some users, freely available on a read only basis for others, accessible at a range of costs depending upon status or associations to others, and not accessible at all to some. This is certainly likely to be true at a Scotland-wide level. It will probably also be true to some extent and in some instances within the Glasgow Digital Library. And, whilst it is less likely to be true within institutions as regards institutional users, it is nevertheless certain to be an issue in respect of protecting institutional material from unauthorised external access. Very little work has been done on this as yet, but it is recognised as an issue for the future within the Digital Information Office, the Glasgow Digital Library, and CAIRNS. It has already been addressed to some extent within the Clyde Virtual University project where valuable teaching and learning materials have to be accessible to some but protected from the world at large. One issue to be looked at is whether the method employed in the CVU can be transferred for use in the other projects or whether a cross-sectoral Scotland-wide or UK-wide service is more likely to be appropriate.

Metadata issues are, of course, a key concern in all of this and are likely to be much discussed both within and between projects. Many of the most difficult to resolve interoperability issues identified within CAIRNS relate to incompatibilities between institutions in respect of legacy catalogue data, and metadata is, inevitably, a key concern in the proposed standards framework described in the next section. The projects portfolio of the CDLR provides a rich environment for the identification of metadata issues and an examination of how the issues relate to the standards and vice versa, with the following already identified as areas that require discussion and resolution:

- Can major catalogues like that of the National Library of Scotland be utilised to reduce the cost and effort involved in clearing up metadata based interoperability problems in CAIRNS, including those related to material that is not as yet catalogued at all?
- How can metadata standards in a distributed environment be maintained and monitored?

- Can resource creators such as academics in departments provide adequate, quality, standards-based, cross-compatible metadata for the resources they create or will relying on this mechanism inevitably create interoperability problems?
- Can different organisations serving different user groups agree a common subject scheme that will meet all of their varied requirements (with structured and controlled variations)?
- Is it necessary for metadata covering different types of material to utilise different metadata formats given that most Z39.50 software can only handle a subset of the possible formats?
- How can collection level description metadata best be maintained?

A Standards Framework for Virtual Scotland

The CDLR contribution to SAGIA was mentioned earlier, Amongst other things, SAGIA aims to set out and advise on a standards framework for virtual Scotland. This will entail identifying appropriate standards, preparing guidelines for best practice, identifying areas requiring further research and development, and a range of other appropriate activities under the following headings:

- The Z39.50 standard
- Metadata and catalogue record formats
- Metadata and cataloguing and indexing practices
- A common scheme for describing the subject strengths of collections
- Securing access, authentication and user profiles
- User interface issues
- Electronic format standards
- Resource and service design standards
- Guidelines on intellectual property rights management.

The addition of further headings as the work proceeds is not ruled out. The Centre's portfolio ensures that it is well placed to make useful contributions to all of these areas. Other participants include SLIC themselves, CIGS (Cataloguing and Indexing Group Scotland), NGfL (Scotland), SCRAN, GTN (Glasgow Telecolleges Network), SUFI.

Policy Issues: A Policy Framework for Virtual Scotland?

From user issues, to network hardware and architecture, to content and search and retrieve issues, all of the elements of a networked information service supplying digital information, learning resources and research materials and data to Scotland's citizens have a policy dimension. This fact is reflected in many of the projects described above. Thus:

- The Glasgow Digital Library project is not just concerned with creating content and making it accessible in an organised way but with the creatin of a management structure and policy framework that will allow the concept to be developed and maintained into the long-term future
- Informing and raising key issues with policy makers is a significant element of the CAIRNS and SCONE projects
- The Digital Information Office project aims to influence and shape University policy and strategy in ways that will help foster the creation of electronic learning and research materials in the institution

Involvement in policy considerations and discussions at project level helps ensure that the CDLR will be well-placed to contribute usefully to discussions on this front in a Scottish context if invited to do so. Indeed, it already does so to some extent in the context of CAIRNS and SCONE. One possible additional forum for discussing such issues and contributing to higher level discussions is the meetings of the SLIC Advisory Group on Interoperability and Access described above which may well become involved in discussing and making recommendations of a policy framework as a natural extension of its standards work.

Conclusion

Bringing about a virtual or digital Scotland in which Scottish citizens have readily available access to all of the electronic information, learning resources and research materials and data they require is a realisable aim, but a good deal of research and development work is needed before it becomes an operational reality. Working with a range of organisations, institutions and individuals across the country on a range of projects that allow it to investigate and develop expertise on key issues such as the problems of the current networked environment, the likely nature of the future environment, and the various elements that will help shape it and bring it into being (User needs and user interfaces, Collaborative Collection Development and Content Creation and Maintenance, Inter-operability, Navigation and Integration, Access, and Metadata, Standards and Policy), the newly-created Centre for Digital Library Research at Strathclyde University is already making a significant contribution to this process, although it is far from being the only player in this field. Many of the projects - in particular CAIRNS and SCONE and the Glasgow Digital Library project - focus on practical outcomes that in themselves will help to partially implement the kind of environment envisaged.

References

1. **Nicholson, D.** 1999 University Management of Locally-created Electronic Resources: the CATRIONA II Project *The Electronic Library*, Vol 17, No.4, August 1999

End Notes

1. http://bubl.ac.uk/cdlr/
2. http://www.strath.ac.uk/
3. http://cvu.strath.ac.uk/
4. http://cairns.lib.gla.ac.uk/
5. The Directorate of Information Strategy, managed by the Librarian and Director of Information Strategy, Mr Derek Law, integrates the following, previously separate departments within one directorate: Audio Visual Media Services, the Centre for Educational Systems, the Information Strategy Office, Information Technology Services, Information Systems Administration, and the University Library
6. http://www.strath.ac.uk/ces/
7. http://www.dis.strath.ac.uk/
8. http://cairns.lib.strath.ac.uk/
9. http://datalib.ed.ac.uk/projects/scotinit/
10. http://catriona2.lib.strath.ac.uk/catriona/
11. http://wp338.lib.strath.ac.uk:80/scone/sconebid.htm
12. http://wp338.lib.strath.ac.uk:80/gdl/gdlbid.htm
13. http://gaels.lib.gla.ac.uk/
14. http://www.strath.ac.uk/ces/projects/jiscipr/

15. http://bubl.ac.uk/
16. http://www.slainte.org.uk/Pairts/sintacs.htm
17. http://www.slainte.org.uk/
18. http://www.slainte.org.uk/Pairts/pairts.htm
19. http://wp338.lib.strath.ac.uk/cairns/dynatop.htm
20. http://www.scran.ac.uk/
21. http://www.scet.com/projects/ngfl.asp
22. http://www.scottishufi.co.uk/

oneFish BY SIFAR[1]: THE PARTICIPATORY APPROACH TO FISHERIES INFORMATION MANAGEMENT IN THE VIRTUAL ENVIRONMENT

By

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Abstract

oneFish is a new Internet-based knowledge management system being developed by SIFAR and the UN/FAO (United Nations Food and Agriculture Organization) Fisheries Department in partnership with the World Agriculture Information Centre (WAICENT). The design team has spent the last year developing a prototype that is now undergoing intensive testing by a small group of fisheries specialists. An updated version of the prototype is due for release in early May, with oneFish Version 1 expected during June 2000. An overview of oneFish is presented. Development to date is described, along with new attributes and functionality in progress, and additional attributes and functionality proposed for the future.

Overview - What is oneFish?

oneFish is an Internet-based knowledge management system which provides the end user with the facility to:

- Contribute information in many electronic formats to specific subject areas.
- Add references to information that is not in electronic form.
- Link to electronic information that is stored elsewhere.
- Search and retrieve information, files and other linkages.

It also provides the medium through which individuals and special interest groups can:

- Create virtual offices.
- Communicate through discussions forums.
- Add notes and comments to other people's information.
- Submit news items and dates for the calendar.

Subject specialist Topic Editors will assist in the administration of specific subject areas by editing, adding and ranking the information submitted to them.

[1] The oneFish Community Directory is being implemented by the Support unit for Fisheries and Aquatic Research - SIFAR. SIFAR is funded by a range of donors including: Canada (IDRC and CIDA), Iceland, Norway, the United Kingdom's Department for International Development (DFID), the United Nations Development Programme (UNDP), and the World Bank. SIFAR operates in partnership with the FAO Fisheries Department in Rome.

Participatory Approach to Networking

The concept of oneFish is based on existing popular Web directories and portals, like Yahoo! and Netscape, and builds on the design philosophy of Internet open content directories by encouraging a participatory approach to information collection, storage and dissemination. It organises knowledge into broad subject areas (Topics), and fosters the development of Topic Trees by the user community by allowing them to define Sub-topics and then:

- Add and upload any type of *Knowledge Object* [2], e.g. a research paper, report, article or map.
- Add information about a traditional non-electronic *Knowledge Object*, e.g. a book sitting on a library shelf.
- Add a link to a remote *Knowledge Object*, e.g. an online journal or an institutional or thematic website.

Whilst oneFish builds on the design philosophy of Internet open content directories, the overall concept of oneFish is a natural step forward in the development of aquatic information systems. For many years various groups within the fisheries research community have been developing aquatic information systems. The most successful and enduring of these information systems, for example the *Aquatic Sciences and Fisheries Abstracts* (ASFA) database, are those that allow some input, cooperation and participation by those actually involved in fisheries and aquatic research. Fisheries and aquatic bulletin boards and discussion lists are other examples of `information or communication services' that have grown to be very well used. Once again, this is because they provide avenues via which those working within a specific subject area can communicate, discuss and proffer their ideas and opinions and, primarily, feel that they are influencing the debate.

Subjects Covered

oneFish is perceived as an inclusive, dynamic information tool, encompassing any subject matter within fisheries, aquaculture and related areas, but with a specific focus on fisheries research and development, and promoting overall *'responsive research for responsible fisheries'*. Because oneFish is a community-building tool, it is anticipated that the subject coverage of oneFish will develop and grow according to the needs and requirements of its users. However, from the outset it will include a wealth of information on past and present fisheries projects imported from the FAO/FIPIS (Fisheries Project Information System) database, and more recent fisheries projects in which the FAO is involved. Soon after, more project information will be added, provided by other major donors and fisheries and aquatic institutions, e.g. the European Union (EU), the United Kingdom's Department for International Development (UK/DFID), and the World Bank. The inclusion of this information will provide a greater visibility of what research and development is being undertaken in the fisheries and aquatic sector, and who is supporting, funding and implementing that research. In addition, oneFish will allow researchers and scientists on active projects to foster awareness of their work and more speedily disseminate the interim results of their research by submitting field notes, working papers and other data, and it will also allow users to establish links between individual projects, project outputs and any related information.

[2] oneFish is a knowledge management system, and every item of information added to or uploaded into oneFish is referred to as a *Knowledge Object*. This includes any type of information in electronic form, or a record containing metadata about a piece of information that may be located at a remote site, or be in traditional printed format.

Information Retrieval

To accommodate the many different ways in which individuals perceive knowledge, oneFish offers several innovative approaches to retrieving the information, one of which is the introduction of Worldviews. Worldviews are multiple Topic Trees, each of which leads the user down a unique pathway, but ultimately arriving at the required piece of information. These pathways include: *Theme* - a more formal subject-based approach to fisheries research and development, and *Society* - a more collaborative, people-centred and participatory view. Other *Worldviews* include *Geography*; *Ecosystem*; *Species*; and *People* (and institutions). Whilst a scientist might prefer the *Ecosystem* or *Species* approach, a researcher in the field may find the *Society* route more relevant, and those working in formal institutions might utilise the traditional *Science* pathway the most. To find information on a particular individual or organisation, then the *People* Worldview is the route to take, whilst the *Geography* pathway is a journey through regions, countries and water bodies. In addition to all of these pathways, the search facility will facilitate simple and advanced searching across the whole oneFish domain (Appendix 1).

oneFish Development to Date

oneFish prototype

The oneFish prototype was received on 10th February 2000. Testing began almost immediately. During this early stage, access has been restricted to members of the oneFish team, a small number of information professionals within the FAO, and fisheries personnel at the University of British Columbia (UBC) Fisheries Centre who have been strong supporters of oneFish during the early design and development phase. The comments and suggestions received to date for changes and enhancements to the system have all been fed through to the designer and the WAICENT programmers, and many of these improvements, along with additional functionality will be seen in an upgraded prototype, due for release in early May.

oneFish topics

When the prototype was received it was like an empty shell. Whilst the underlying system and framework had been built, the work of entering Topics, constructing Topic Trees, and populating the site had yet to begin. During the preceding few months the Chief Editor had been researching and defining the traditional fisheries and aquatic subject groups and hierarchies to be included as oneFish Topics, in consultation with a wide range of staff in the FAO Fisheries Department and beyond. Each of the Divisions within the Fisheries Department naturally placed an emphasis on their own areas of management and research, and it was the rôle of the Chief Editor to translate all of the suggestions and recommendations into a broad and balanced reflection of the needs and requirements of the fisheries and aquatic community, as well as to develop cataloguing procedures. Whilst we are fairly content with the overall picture, the top-level Topics and their existing Sub-topics are not yet set in concrete; there may still be room for improvement and we will be interested to receive feedback from EURASLIC members in this respect.

Populating oneFish

One of the primary objectives in the development of oneFish has been to facilitate the regeneration of the FAO Fisheries Project Information System (FIPIS). FIPIS was a DOS based information system created and maintained by the FAO Fisheries Department, and included information on fisheries projects funded by all of the major Donor Agencies. The maintenance and development of FIPIS was carried out by one person in FAO/FI, and as can easily be imagined, became, by 1995, totally unsustainable with the resources available. Yet FIPIS was freely distributed to fisheries organisations and institutes around the world,

and it was an extremely useful tool for identifying and tracking fisheries projects, and related project funding allocations. SIFAR is funded by, and an instrument for, the implementation of tools in support of fisheries research and development, and as such the regeneration of FIPIS was the major motivation behind oneFish.

The first step toward fulfilling this commitment would require the conversion of the 5,460 project records from the original FIPIS system, not only into a format that would facilitate their import into oneFish, but at the same time their automatic cross-referencing to multiple topics relevant to their subject coverage. These records would need to go into a relational database (Oracle8) underlying oneFish, and the database structure would need to reflect both the requirements of the original system and those of the oneFish system.

Many of the FIPIS project records contained a limited amount of information and most contained no keywords at all (which is the facility by which the automatic cross-referencing to topics is planned). Textual reformatting was required, along with the addition of short descriptions and other elements required for project records within oneFish. This major task required the skills of an individual not only with experience of information systems, databases and data conversion, but also with the subject knowledge to enhance and manipulate the source data. Ian Pettman was our man.

It has certainly been a cumbersome task. Because of limited time-scales additional staff were recruited to carry out some of the editing involved, but the majority of the work, which has included the development and construction of the relational database structure, has been carried out by Ian, in close collaboration with Richard Hoad of WAICENT.

All of the original 5460 project records have now been successfully imported into oneFish. This first bulk uploading has provided a substantial amount of data upon which we all can build. The upload was also designed to test the processes involved. With some minor refinements to the system, it will now be possible to repeat this process for project records from each of the major donor organisations (e.g. World Bank, DFID etc.) in order to cover the years since 1995 and to facilitate regular future updates from these organisations.

oneFish Knowledge Objects

In addition to project records, a oneFish *Knowledge Object* might be: an electronic document or file of any description, a website, or metadata about a piece of knowledge. In short, any item of information on any subject matter within fisheries, aquaculture and related areas, that can be uploaded or linked to oneFish. Data can be added using an appropriate Add form, and you can choose from: Add Book; Add Document; Add Map; Add Project; or Add Website. Each Add form has been designed to provide the user with sufficient fields to enter all the information they wish about a specific *Knowledge Object*, and with a minimum number of required fields to ensure correct data identification and quality. The form, along with any linked file, is submitted to the topic editor for acceptance and uploading. In addition to *Knowledge Objects*, oneFish *Media Objects* will include news items, issues and polls on topical issues of current concern, depending on the topic selected. *Media Objects* may be submitted or suggested by registered members, or added by the Topic Editor or Chief Editor.

oneFish Editors

Whilst the Chief Editor has been responsible for developing the top-level Topics, and will continue to oversee the creation of new Sub-topics, volunteer Topic Editors are being encouraged to take responsibility for the content and quality of specific Topic Trees. Each Topic Editor will assess the quality, value, and relevance of each *Knowledge Object* submitted to them. They can edit, add and delete *Knowledge Objects* within their Topic Tree, or forward *Knowledge Objects* to alternative Topic Editors as appropriate. They can also rank *Knowledge Objects* within their topic area and mark them as "Editor's Choice", generate and take part in debates and discussions, and initiate polls on issues of current topical interest.

Future Development

oneFish version 1, is due for release during June 2000 and it is anticipated that it will include 60% of the intended full functionality. An updated version planned for September 2000 should achieve almost full functionality, with an advanced searching facility and a oneFish Thesaurus as tools for both the indexing and search facilities.

Discussions are taking place with the various Donor Agencies to set up agreements and routines for the regular contribution and updating of their project information in oneFish, thus providing the fisheries and research community with an online successor to FIPIS. From June, individuals and organisations will also be invited to register with oneFish and start contributing their own information.

Whilst access to oneFish will initially be constrained by the ability to access the World Wide Web, funding is currently being sought to facilitate output by CD-Rom, and for email delivery of information in specific Topic Trees. oneFish developers are aiming to commence email output by Autumn 2000, and to produce the first CD-Rom output early in 2001, thus broadening the user base by several thousands of potential users in developing countries.

Summary

oneFish offers a new, global participatory mechanism for promoting the sharing and exchange of knowledge relevant to fisheries and aquatic research and development. It combines the attributes of an online directory with those of a traditional database, and provides the added facility of communicating with colleagues via oneFish discussion forums. oneFish will enable the boundaries between research, information dissemination, user needs and participation to be merged in one virtual environment. As oneFish develops it will provide the fisheries research community with the largest fully integrated global collection of information on fisheries research and development. oneFish will be a tool for all and as a result it will grow and develop according to the needs and requirements of those stakeholders - a truly responsive approach to the information needs of the fisheries and aquatic research community in this new millennium.

For more information contact:
oneFish Project
Support unit for International Fisheries and Aquatic Research
FAO Fisheries Department
Viale delle Terme di Caracalla
Rome 00100 ITALY

APPENDIX 1 – ONEFISH WORLDVIEWS AND TOP-LEVEL TOPICS – 25 APRIL 2000

Themes

Aquaculture
Biology and ecology
Fishing operations
Land-water interface
Oceanography and hydrology
Pollution and environment
Product utilisation
Resource assessment
Resource management
Socioeconomics and development

Society

Communication and information
Culture, ethics and gender
Education and training
Institutions and change
Participation
Policy and law
Poverty and livelihoods
Property and resource rights
Traditional knowledge

Ecosystem

Coastal lagoons
Coastal waters
Deltas and estuaries
Lakes and inland lagoons
Mangrove swamps and saltmarshes
Open oceans
Ponds
Reefs
Reservoirs
Rice fields
Rivers and flood plains
Shelf zones
Wetlands and marshes

Geography

Africa
All countries
America
Antarctica
Asia
Europe
Inland waters
Marine areas
Mediterranean countries

Oceania
Pacific Islands

Species

Amphibians and reptiles
Aquatic algae and plants
Aquatic mammals
Bacteria and fungi
Crustaceans
Fishes
Molluscs
Other aquatic invertebrates
Plankton

People

Community-based organizations
Donor organizations
Government organizations
Groups, associations and networks
Individuals
International organizations
Media
National education systems
National research systems
Non-governmental organizations
Private sector
Regional fisheries organization

UNIT FOR INTERNATIONAL FISHERIES AND AQUATIC RESEARCH

By

Tim Bostock
SIFA/FAO Fisheries Department, Viale delle Terme di Caracalla,
Rome 00100, Italy

The Support Unit for International Fisheries and Aquatic Research (SIFAR) was established as an autonomous project within the Fisheries Department at FAO, Rome, in March 1998 in response to previous recommendations of the Fishery Development Donor Consultation and The World Bank's *Study of International Fisheries Research- SIFR* (1992).

SIFAR facilitates the identification, articulation and funding of research proposals through working closely with developing country research systems. The unit acts as a link between these and collaborating donors, helping improve decision making on prioritising national and regional research needs. Through advocating greater integration of research with wider development objectives (especially effective and efficient management, sustainability and livelihoods), SIFAR aims to foster a broadening in the scope of fisheries and aquatic research. The specific objectives are:

- to promote the formulation within partner countries of demand-led research strategies and projects of direct application to the implementation of the Code of Conduct for Responsible Fisheries, which meet policy and technical requirements, and which are in a format appropriate for funding by collaborating donors (see examples in table);

- to stimulate discussion and seek ways in which research-based information can more effectively inform decisions on resource use policy - an essential prerequisite being better selection and prioritisation of research activities, above all involving consultation with user and stakeholder groups.

- to establish an electronic knowledge management network (*oneFish Community Directory*) dedicated to the global fisheries and aquatic resources research community, achieving access by and contributions from partner countries and collaborating donors. This will promote discussion, networking, information sharing and improved priority setting in research. It will also enable collaborating donors to interact rapidly and efficiently with partner country organisations.

The first two objectives require an assessment of the ways in which stakeholders participate in decision making on the research agenda, and how outputs from research feedback to inform policy. The third objective will to some extent be informed by this assessment, and will play a role in assisting collaborating organisations disseminate research results and articulate research concepts and proposals.

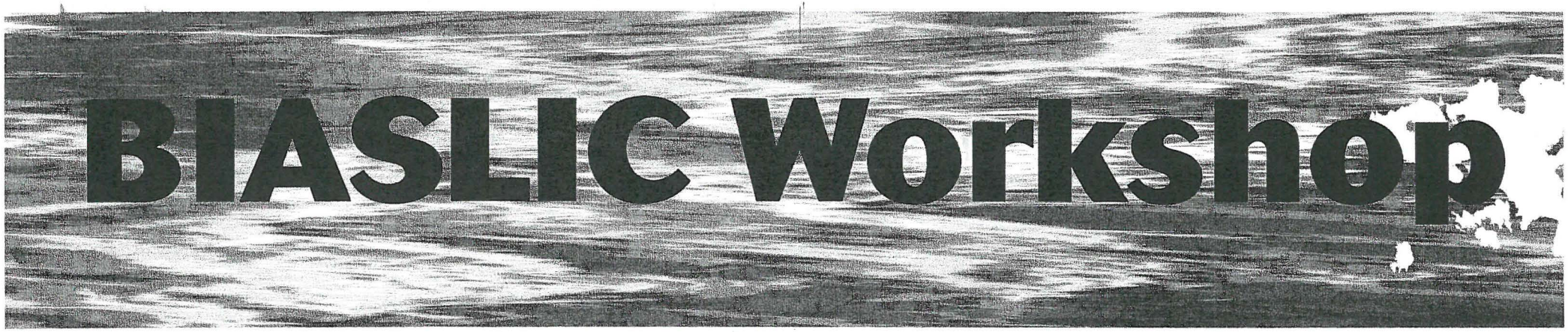
SIFAR has a core budget of around US$350,000 pa which is financed by a range of bilateral and multilateral donors including NORAD, CIDA, The World Bank, Iceland, UNDP, CIDA and DFID.

Web site: www.sifar.org
oneFish: www.oneFish.org

Address:
Support unit for International Fisheries and Aquatic Research
Fisheries Department
Food and Agriculture Organisation of the UN
Viale delle Terme di Caracalla
Rome 00100, Italy
Phone: 00 39 06 570 55959
Fax: 00 39 06 570 56500

Examples of Recent Research Concepts

Country/Region	Title
Orissa State, India	Action research to improve policy processes affecting poor fishing communities
Kerala State, India	Fishery management system prevailing in kerala for coastal fishery and development of suitable management models for sustaining fish catch in coastal waters with special emphaiss on trawl fishing
China	Epidemiology of *Clonorchis sinensis* infection in cultured and captured fish and resistance trial on metacercaria in fish in relation to cooking/eating habits in China
Gaza	Research and Development in the outer fishing zone, Gaza
Nepal 1	Pilot fisheries policy research and development to increase the benefits to poor farmers in hill regions (Phases 1 and 2)
Thailand	Research into incidence and control of foodborne trematode infections in freshwater fish - *Management and Food Studies Components*
Lao PDR	Research into incidence and control of foodborne trematode infections in freshwater fish - *Training and Epidemiology*
Vietnam	Research into incidence and control of foodborne trematode infections in freshwater fish - *Pond Management Component*
India/Korea/China	Research into incidence and control of foodborne trematode infections in freshwater fish - *Diagnostic Methods Component*
West Africa - Sub-Regional Fisheries Commission	Improving research-policy linkages
EU - Sub-Saharan Africa	Thematic network for policy development to enhance maternal nutrition and improve the health and cognitive function of the next generation in Africa (TN/INFANTS)
Nepal 2	Pilot research into aquatic resources management systems to increase and sustain benefits to hill farmers in Nepal (Phase 1 and 2)
Nepal 3	Pilot research into aquatic resources management systems to increase and sustain benefits to hill farmers in Nepal (Phase 1)
Thailand/Regional	Study on health and socio-economic impact of liver fluke infection in Thailand
Thailand/Laos	Freshwater fish consumption in Thailand and Laos helminthiosis control program
Thailand/China/Laos	Emerging trematode infections in captured and culture fish and their impact on human health
Danube Delta	Integrated management of wetlands
West Africa (sub-region) Mauritania; Senegal; Cabo Verde; Guinea; Guinea Bisau; Gambia	Improvement of Research/Policy/User Linkages in six countries of the sub-region


BIASLIC Workshop

BIASLIC* WORKSHOP

ONLINE DATABASES, ONLINE INFORMATION SERVICES AND WEB SITES: from the user education perspective

led by Joan Baron

The purpose of the workshop is:

- To provide participants with the opportunity to study and discuss a particular online database, online information service or web site
- To consider this information product/service from the perspective of their own particular users needs
- To consider ways in which professionals would educate/train their users to use the particular information product/service
- To identify ways in which the product could be improved to improve user education
- To provide feedback to the information service/product provider

The workshop will begin with a short presentation (5-10 minutes) by the Workshop Coordinator highlighting:

1. Types of users and their varying needs, eg:	2. Varying abilities of users, eg:	3. Various aspects of online databases, information services, and web sites, eg:
• Academics • Researchers • Students • Consultants • Commercial • Age groups • Nationality	• Physical abilities • Information skills • Language skills • Computer skills	• User-friendliness • Online help • Manuals • Links • Indexes • Thesauri • Search operators • Languages

Participants will then divide into about eight pre-designated groups:

- Each group will be led by a member of BIASLIC
- Each group will spend 50-60 minutes reviewing one online database, online information service or web site, and compile a draft report on their findings
- At the end of the review session, a representative from each group will report back to the meeting (about 5 minutes each)
- A copy of each review/report will then be passed/sent to the publisher/provider of the information service/product, as appropriate

*British and Ireland Association of Science Libraries and Information Centres (BIASLIC)

Introduction

WORKSHOP ON ONLINE DATABASES, INFORMATION SERVICES AND WEBSITES FROM THE USER EDUCATION PERSPECTIVE

By

Paul Rolfe
Wolfson (Ocean Sciences) Library, University of Wales Bangor, Wales

Thank you for the invitation to share our ideas on user education. I find EURASLIC, BIASLIC and IAMSLIC meetings beneficial because I meet a very varied group of librarians, from many different types of libraries, with different interests and preoccupations. It's very useful for me to be reminded that not all libraries are university libraries.

Something we all have in common, which many previous speakers have referred to, is that we are now going through a period of rapid and profound change in librarianship. I remember being told this at library school, twenty three years ago, before the WWW had been dreamt of. Though it's difficult to believe this now, the profound change in the professional life of librarians at that time was the appearance of the second edition of the Anglo- American Cataloguing Rules. As we now know, even more profound changes have come since then. PCs have appeared on everyone's desk, university libraries provide them in large numbers for their users, and there is ready access to the Internet, the WWW and databases of all kinds.

For librarians working in universities, the Internet has brought about a revolution in the area of user education. It has vastly increased the subject matter of librarianship, and, consequently, the amount of information which we have to give to our students when we teach them literature searching skills. In practice, we have tended to focus on teaching them how to use bibliographic databases, though as this workshop has reminded me, there are other kinds of database, and when I am back at work I will review the emphasis which I give to bibliographic databases.

The reasons for focussing on bibliographic databases are:

- They are the successors to printed indexes and abstracts, a fundamental part of librarianship, and literature searching is a core skill needed by students and academics.

- Apart from their basic usefulness, unlike many WWW sources, bibliographic databases are relatively stable.

There are, of course, upgrades and developments, but it is, all the same, possible to prepare teaching materials, and to be reasonably certain when the time comes to use them, that the databases they relate to, won't have changed beyond all recognition. (Sometime a database supplier will make changes during the summer: this is precisely the period when we are revising our materials for the coming session. On the whole, though changes aren't made overnight and without warning).
But WWW sites as we know, are tinkered with, come and go, are given total makeovers, pages are sometimes "under construction" for long periods, links can disappear, and the site designer can give free reign to his or her creativity. In library instruction about the WWW draw the users' attention to the types of materials and facilities that they may find relevant

and usefu: marine and aquatic organisations' websites, relevant datasets, electronic journals, subject gateways, to give the users some starting points for looking for information on the WWW.

With bibliographic databases, on the other hand, we give more systematic and detailed instruction. We try to ensure that each student, at an appropriate time in his or her degree course is given a grounding in literature searching skills is taught how to use the appropriate bibliographic databases for their subject. We do this by preparing step-by-step guides to each database, with examples of searches, and the students work through these, in a computer room, with a librarian in attendance to give help if necessary. (We are always grateful if a database supplier provides documentation which we can adapt, or use unchanged).One point we try to emphasise to our users is that using a bibliographic database is a transferrable skill. Despite the differences in appearance, format and layout, they can learn to see beyond the surface of things and be aware that it is possible to do more or less the same things on each database; if they know how to search one, they know how to search them all. That is the core of our user education, though it is put in the larger context of the full range of literature searching techniques.

Before preparing a guide to a database, we must of course evaluate it, and insofar as it's possible to find a magic formula, a checklist of items to consider in evaluating a database, we've reduced it to these four.

- Coverage
- Access
- Refinements
- How to search

The first is are fairly unproblematic. We ask: Does this database index the core journals in a field? How far back in time does it go? Which departments in the university is it of relevance to?

For the second we are concerned with ease of access. We have a large number of databases that we encourage students to use, so the fewer obstacles to accessing the database, the better. Ideally, we prefer IP address recognition, with no passwords, and the facility for off-campus access, eg from a PC at home.

By "refinements" is meant facilities such as thesauri and indexes, which help the user to develop a search, and also any additional, specialised fields which the records in a database might have. Examples of these would be geographical area fields, or the fields in some life sciences databases which make it possible to search on taxonomic terms at different levels. Users need to be made aware of any features of this nature. Easy-to-use help screens and documentation are also a refinement which we and our users appreciate.

"How to search" is the most important question to consider in preparing detailed instructions for using a database. We need to note the special features, the advantages and disadvantages of the database, and any ways in which it might differ from earlier databases, or from the users expectations.
We ask: Is it self-evident how to begin a search? How self-evident is it? - (With well-designed search software it is clear at a glance how to begin a search). Does the user need to look at the help screens before he or she can even begin a search? Is there anything contrary to expectations? Is there anything which in addition to being contrary to

expectations, the user could be unaware of, and so not appreciate how the search strategy is operating.

On this question of "expectations", that is, assumptions made by a user on the basis of experience with other databases, I am not saying that simply because something has been done up till now, in the design of search software, that it should be perpetuated, and become a standard - (the QWERTY keyboard is a classic example of a standard that is not the ideal arrangement). My view is that what has been done already may be what common sense would suggest, and if so, software designers should not make changes solely for the sake of change. The ideal shape for the wheel has probably been arrived at, so there is little point in trying a different shape.

The participants then divided into smaller groups to assess six databases of various types, and the workshop concluded with a report to the full meeting from each group.

The databases assessed were:

- Elsevier - Oceanbase
- ASFA from Cambridge Scientific Abstracts
- FAO Website
- WAVES-Canada, Dept. Of Oceans and Fisheries Database
- IOC Website
- oneFish Community Directory

Report of Group 1

REVIEW OF THE ONEFISH COMMUNITY DIRECTORY FOR THE PURPOSE OF USER EDUCATION (HTTP://WWW.ONEFISH.ORG)

By

Ian McCulloch, Maria Kalenchits, Sally Stone, Sue Walker

oneFish is a web based knowledge management system being developed and implemented by the Support unit for International Fisheries and Aquatic Research (SIFAR).

Speed of Loading

The speed was easily high enough to be able to offer a user-education session using the database online, rather than having to previously prepare an offline session.

Screen Layout

The layout of the initial screen was felt to be the biggest problem with the system. It is difficult for the first time user to understand what is being offered, as there is too much available in one place, with insufficient explanation of either the search functions or the underlying data. The review team felt that the inclusion of either a site map or a downloadable help file (perhaps in Acrobat format?) would have gone a long way towards remediating the problem. The result is that a lot of work would have to go into preparing user guides locally. On a positive note, the very professional look of the interface is likely to give end-users confidence in the validity of any retrieved data.

On-Screen Help

As mentioned already, there is no help available from the initial screen, but subsequent searches provide a 'help with searching' link below the new search box. The help provided here does not have internal hypertext links, which would help to solve specific problems, we felt. One point that we did like, however, was the provision of information about retrieved items using "alt" tags, so that a description appeared when the mouse hovered over a link.

Usefulness of Links

The links were felt to be logical, but too few. A consistent set of navigation buttons would have been appreciated.

Contact Information

We appreciated the presence of an e-mail link to the editor of each retrieved topic.

Range of Search Facilities

It was difficult to fully appreciate the range of search facilities, as they were all pushed onto the same screen with little attempt to explain what they all were. The review

team was not always certain what it was that we were searching. Retrieved search results appeared to be automatically grouped by category, which was helpful.

Relevance of Search Results

The results were mostly relevant, and we were impressed with the range of 'knowledge objects' that could be retrieved.

Display of Search Results

Clear and simple.

Other Comments

The one thing that we felt would have made the system easier both to use and to teach would have been much more provision of online or downloadable help.

Report of Group 2

THE ROLE OF THE LIBRARY AS AN INTERMEDIARY BETWEEN THE SCIENTIST AND THE ONLINE INFORMATION SERVICE

By

Pauline Simpson, Lilian Mex-Jørgensen, Ann-Sofi Israelson, Elisa Paavilainen, Kristi Tamm, Marie Pascale Baligrand.

We took the scenario of a librarian setting up an online information service. The intermediary role of the librarian is pivotal and involvement commences with:.

Responsibility

Define that the provision of online information services is the responsibility of the Library as the information provider. The computing section provides the infrastructure and network but the library provides the content.

Selection of Online Service

- Discuss needs with researchers
- Survey services available
- Setup trials of short list - select service vendor
- Identify funding (library/institution)
- Write a proposal - gain support of users
- Negotiate license - individual, consortia , site/campus
- Decide license for web, cdrom network, standalone pc

Access

- Liaise with IT section on network requirements, application software availability (Adobe etc.)
- Design and load web interface to make access to online service easy for users
- Setup IP or password login

Marketing

Alert users to new services:

- Email, divisional meetings, coffee mornings
- Library Bulletin, poster, leaflets
- What's new web page

Training – Librarians

- Refresh training and communication skills

- Attend vendors training workshops
- Computer based learning, On-line demonstration
- Hands on experience

Training – Users

- Design and run training seminars
- One-to-one training
- Compile user guide
- Advice on best databases
- Search tips
- Added value functionality
- Hotlinks to E-journals
- Document delivery
- Alert services
- Link on-line information service to own library provision

The on-going intermediary role of the library is as facilitator, provider, and trainer.

Proceedings of the 8th Biennial Meeting of EURASLIC
Aberdeen, Scotland, 3-5 May 2000

Report of Group 3

THE NEED FOR PRINTED MANUALS AND GUIDES IN SUPPORT OF ON-LINE SERVICES

By

David Hyett, Helena Azevedo Isidro, Nicole Momzikoff, Roger Kelly and Clare Allan

Results of Discussion

The need for printed manuals and guides will vary depending on the user. Users come from different backgrounds, different generations and have different expectations. All of these factors will have an impact on the need for printed manuals.

The group concluded that there was still a need for printed guides, but mainly because on-line help is generally inadequate and not intuitive enough. It was felt that on-line help is generally poor and often appears to have been added as an afterthought.

The need for printed guides will decrease if the quality of on-line help improves. It was agreed that online information services should:

- Ideally be intuitive, educating ourselves and our users,
- Provide split screen help, and
- Provide help that has been adequately tested on users to ensure that it meets their needs.

Report of Group 4

ASFA INPUT CENTRES AND THEIR ROLE IN CONTRIBUTING TO THE AQUATIC SCIENCE KNOWLEDGE BASE

By

Emma Harvey, Ian Pettman, Linda Pikula, Tina Long and Kurt Prentow

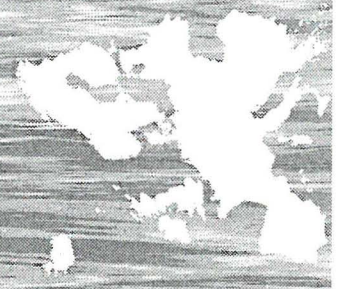
The discussion concentrated mainly on Aquatic Sciences and Fisheries Abstracts (ASFA)product development.

The problem of tracing grey literature through commercial databases was raised. ASFA is one of the main tools for tracing grey literature, especially because addresses and e-mail addresses of authors are usually included in records. Grey literature is monitored by both the ASFA input centres and by Cambridge Scientific Abstracts who also monitor web sites relevant to ASFA's scope. One of the issues that arose in the course of the discussion was whether the increasing amount of grey literature published on-line would increase pressure on CSA's web site monitoring service.

Input centres are able to provide feedback for product development through the national partners. For example input centres can suggest changes to the thesaurus or geographic authority list thus improving the database. However, this type of change can take time to be effected. Feedback concerning errors in the database can often be corrected more quickly by being passed from the partner to the publisher or direct to the CSA especially with the introduction of a user feedback button on the ASFA IDS service.

The group also discussed the practicalities of introducing multi-lingual searching to benefit non-English speakers. Whilst it is easy to translate the search screens into other languages, the database currently remains in English.

SESSION FIVE:
European Ventures



Proceedings of the 8th Biennial Meeting of EURASLIC
Aberdeen, Scotland, 3-5 May 2000

FAO FISHERIES AND AQUACULTURE INFORMATION

By

Jean Collins
Fisheries Branch Library, Food and Agriculture Organization of the United Nations, Via delle Terme di Caracalla, 00100 Rome, Italy

Abstract

The Food and Agriculture Organization of the United Nations (FAO) is charged with the collection, analysis, interpretation and dissemination of information relating to nutrition, food and agriculture. The Fisheries Department of FAO has a global mandate in relation to these activities within the fisheries and aquaculture sectors. A brief presentation of information resources on the FAO Fisheries Homepage is given, with particular reference to fisheries and aquaculture activities in Europe. The need to analyse and interpret an ever increasing volume of information and data in order to facilitate effective decision-making in response to rapidly changing world fisheries and aquaculture presents new challenges. The development of the FAO Fisheries Library Homepage and the possibilities for collaboration with European aquatic science libraries is discussed.

The FAO fisheries homepage http://www.fao.org/fi

The homepage provides multilingual information on all aspects of fisheries and aquaculture, in particular those priority activities and programmes in which the Fisheries Department is involved at the present time. The programmes selected for presentation cover a broad spectrum of the activities of the FAO Fisheries Department, at Headquarters, in Regional Offices and in field projects.

The Code of Conduct For Responsible Fisheries
http://www.fao.org/fi/agreem/codecond/codecon.asp

The Code of Conduct sets out principles and international standards of behaviour for responsible practices with a view to ensuring the effective conservation, management and development of living aquatic resources, with due respect for the ecosystem and biodiversity. The promotion and implementation of the Code is being addressed at all sessions of FAO fishery bodies. Collaboration between European countries on the implementation of the Code is carried out under the auspices of fishery bodies such as the General Fisheries Commission for the Mediterranean (GFCM).

Consultation on the Application of Article 9 of the FAO Code of Conduct for Responsible Fisheries in the Mediterranean Region. Rome, Italy, 19-23 July 1999
http://www.fao.org/fi/meetings/ccrf/art9/r606/english/r606e.asp

and the

European Inland Fisheries Advisory Commission (EIFAC).
http://www.fao.org/fi/body/eifac/eifac.asp

Some FAO Fisheries Projects and Cooperation Within Europe

1. **COPEMED**
   http://www.ua.es/copemed/en/index.htm

   The COPEMED Project was born in 1996 for the advice, technical support and establishment of cooperation networks to facilitate coordination to support fisheries management in the Mediterranean (at a first stage Western and Central Mediterranean). Morocco, Algeria, Tunisia, Libya, Malta, Italy, France and Spain have accepted to adhere to the Project. COPEMED has a duration of 5 years and is financed by Spain through the AECI (Agencia Española de Cooperación Internacional). The main objective is to help the participating countries establish a co-ordinated system for scientific criteria generation and formulation of recommendations allowing the application of the most appropriate strategy for the best resources management.

2. **Information System for Promotion of Aquaculture in the Mediterranean (SIPAM)**
   http://www.fao.org/fi/statist/fisoft/sipam/intro/main.htm

   The SIPAM network consists at present of a Regional Centre, located in Tunis, and ten National Centres located in Croatia, Cyprus, Egypt, France, Greece, Italy, Portugal, Spain, Tunisia, and Turkey.

FAO Fisheries Library Homepage http://www.fao.org/fi/library/library.htm

The Fisheries Branch Library of FAO's David Lubin Memorial Library (http://www.fao.org/library/librarye.htm) provides library and information services to FAO staff and to fisheries and aquaculture organizations and institutions in Member States. Its specialized collections on fisheries and aquaculture include over 1,600 periodical titles and more than 20,000 reports on developing and tropical fisheries. The library prepares specialized bibliographies and carries out bibliographic reasearch. It collaborates with fisheries and aquaculture libraries and information networks in member countries.

The Fisheries Library Homepage is intended as a means of disseminating FAO Fisheries information to external users and of providing guidance to FAO staff on the availability of fisheries information resources worldwide.

Some areas of Homepage development which could be the subject of collaboration between fisheries libraries for the benefit of our users are:

Providing guidance on the availability and use of **Library Databases in Fisheries and Aquaculture** http://www.fao.org/fi/library/bi_datab.htm

Directories of Fisheries, Aquaculture and Related Internet Sites
http://www.fao.org/fi/library/Links.htm

Access to fisheries and aquaculture journals http://www.fao.org/fi/library/journ.htm

Fisheries Library Networks http://www.fao.org/fi/library/lib_netw.htm

Library and information networks provide a forum for the sharing of information resources and expertise. Networks provide mechanisms for strengthening individual libraries, for providing cost-effective access to a wider range of information resources and for the effective dissemination of information to a wider audience.

Details are given of some library networks covering fisheries and the aquatic sciences in different geographical regions. Further details of some of their resource-sharing activities are intended to stimulate increased network participation and promote greater collaboration, with particular emphasis on the needs of libraries in developing countries.

Proceedings of the 8th Biennial Meeting of EURASLIC
Aberdeen, Scotland, 3-5 May 2000

PAN-EUROPEAN INITIATIVES

By

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Abstract

Pan-European initiatives relevant to aquatic library and information centres are reviewed under the two main categories of 'Library Catalogues and Related Services' and 'Development of Internet Information Services'. Some useful tools developed by these initiatives are outlined. Consideration is given to possible opportunities for EURASLIC libraries.

Introduction

> *"EU and National level funding are driving lead edge research into new models for information management and delivery."*

Some of this work has implications and practical applications useful to aquatic library and information centres but, as in most areas these days, the quality varies and the quantity increases. This paper is an attempt to pick out some of the initiatives that may be of interest for our services.

The question underlying this survey, although not specifically formulated, was along the lines of - are these initiatives providing useful tools and ways forward for special libraries such as ours and, if so, what are they?

The relevant initiatives seemed to fall into two major categories:

- development of traditional library tools (mainly catalogues) and services
- development of "Internet Information Services".

Some initiatives attempt to blend these specific categories and combine them with other components (encryption, e-payments etc) to form the building blocks of the future Digital Library. These have been excluded from this overview since the outcomes may be relevant to our libraries only in the longer term.

Library Catalogues and Related Services

There has been and continues to be a large number of initiatives relating to cross-searching library catalogues and providing services (particularly document delivery in various forms) from the cross-search results. The majority of these projects are based around the Z39.50 Search & Retrieve standard, the ISO Interlibrary Loan Protocols and the GEDI proposed standard for Document Delivery.

Several EURASLIC libraries were involved in one of the largest and most ambitious of these - the ***UNIverse project***. The ideas for this project were formulated in 1994 and submitted to the March 1995 Call for Proposals of the European Union 4th Framework, Telematics for Libraries Programme. The proposal was accepted and the project ran from October 1996 to the end of September 1999.

UNIverse project

Full details of the project are available from various papers[1]. In outline, UNIverse aimed to deliver a pan-European 'Virtual Union Catalogue', to demonstrate parallel search and retrieve, and to provide integrated multi-media document delivery services. It was envisaged that 50 libraries would be involved and these were organised into Special Interest Groups (SIGs).

The Environment SIG comprised 7 libraries - all EURASLIC members:

- The Freshwater Biological Association (SIG Co-ordinator)
- Bundesamt fur Seeschiffahrt und Hydrographie
- The Centre for the Economics and Management of Aquatic Resources (CEMARE), University of Portsmouth
- The National Centre for Marine Research, Athens
- The National Marine Biological Library, Plymouth Marine Laboratory
- The National Oceanographic Library, Southampton Oceanography Centre
- The Swedish Environment Protection Agency

The commitment and quality of the work contributed by the librarians from these organisations was much appreciated not only by the SIG Co-ordinator and the Project Manager but also achieved recognition from the EU Review Panel. The Panel described the Environment SIG as "functioning well having established clear objectives and tasks".

The project achieved a considerable amount and the concept is being taken forward in terms of both commercial products and as the basis of services for library consortia. However, these products are complex and require considerable resources in both staff time and finance to implement. Their value to special libraries at this time is doubtful.

Many challenges were encountered including:

- Z39.50 interpretation and implementation variations - mainly resulting in inconsistent search results
- slower than expected take up of the Java programming language
- web browser inconsistencies
- firewalls leading to difficulties in the transmission of electronic document delivery
- existing multilingual thesauri not built to international standards and not Z39.50 compatible
- problems outside the scope of the project eg authentication, copyright, network capacity and performance problems etc.

Most of these problems, having been brought to the attention of the relevant bodies and organisations, are now being addressed in various newer initiatives.

Newer Initiatives

Variations in Z39.50 implementation had raised interoperability issues for several projects. In August 1999, a group of representatives from these projects met in Bath, England to work out solutions that would improve semantic interoperability between Z39.50 systems used in library applications. Makx Dekkers represented the UNIverse and other EU projects. These deliberations resulted in the draft **Bath Profile** released for comment in October 1999. It is hoped that implementation of the final version of this profile by systems developers will overcome the problems that we faced in UNIverse.

Further development of the UNIverse architecture and ideas are being taken forward in four other research projects:

- ***PRIDE*** (EU Telematics for Libraries Programme)
- ***ONE II*** (EU Telematics for Libraries Programme)
- ***Riding*** (UK Higher Education eLib Project - one of the regional 'Clumps' projects)
- ***Agora*** (UK Higher Education eLib Project)

However, these systems do not cater well for catalogues containing analytical and grey literature records. They also tend to require a higher level of resources than most special libraries could justify. Therefore we may have to wait a little longer for a pan-European 'Virtual Aquatic Catalogue'.

WEB Portals/Subject Gateways and Related Services

This is a time of great upheaval for the library profession as the Internet becomes a major medium in the information world.

As we are all aware, the Internet offers the potential of vast resources but the fact remains that it is still hard for people to locate required, high quality, information in a reasonable time frame. In the past few years the issue of resource discovery on the Internet has been the focus of much work by many different communities. A brief overview of some of these initiatives follows.

Search engines

The well known Internet search engines, such as ***AltaVista*** and ***Excite***, rely on automated solutions to resource discovery. They search only a small proportion of the total number of pages on the Internet. For example, the relatively new ***Alltheweb*** site, which indexes more than 200 million pages, is estimated to cover only 25% of all the web pages. Even then, the resulting list of retrieved sites is often far too large and contains a high proportion of irrelevant sources. User frustration is common.

Although search engine development is a very active field, there do not appear to be any specifically Pan-European initiatives. However, the project ***Research and Education Indexing Service for Europe (REIS)*** maintains a very useful Internet page which gives an overview of recent developments in Internet search engines and search engine tools.

Web directories - "humans do it better"

Web directories such as ***Yahoo*** (approximately half a million pages) rely on a team of editors to create directories with each resource described briefly and placed under a subject heading. The number of people in the team tends to dictate the maximum number of pages that can be included.

The ***Open Directory*** is an international attempt to overcome this limitation by using *volunteer* editors from the general public (currently over 6,000 of them). They add resource links and resource descriptions to the directory (currently over 100,000 links). Many of the aquatic topics do not have editors at the present time and maybe there is a potential role here for EURASLIC?

Subject gateways

Subject gateways offer an alternative to the Internet search engines and Web directories.

They are *quality controlled* information services with the following characteristics:

- provision of links to numerous other sites or documents on the Internet
- selection of resources is according to published quality and scope criteria

- intellectually produced content descriptions (ie not automatic extraction) - a good criteria is the existence of intellectually assigned keywords
- intellectually constructed browsing structure (classification)
- manually generated bibliographic metadata for each resource

A number of Internet subject gateways have been developed in Europe and a significant community of libraries involved in gateways is developing. These initiatives are not, of course, restricted to Europe. A comprehensive listing of information gateways is available at the ***Pinakes*** site.

Although there is not a subject gateway specifically for the aquatic sciences at the moment (although there are some at the 'scoping study' stage - more details will follow in the EURASLIC Newsletter when available), the following may be worth visiting if you have not already done so ***AGRIGATE***, ***ELDIS***, ***NOVAGate*** and ***Port***.

Taking the subject gateway concept a little further, as well as being more central to our needs, is ***oneFish*** the new Internet based community knowledge management system being developed by SIFAR, the Support unit for Fisheries and Aquatic Research. This was covered in depth in yesterday's presentation.

Hubs and distributed gateways

Inevitably, as the Internet continues to expand rapidly, it is clear that no single gateway or country can hope to catalogue all the Internet resources available. Several initiatives (both national and pan-European) have arisen in responses to this.

In the UK:

Due to be launched in Late Spring/Early Summer 2000, ***BIOME: The Hub for Internet Resources in the Health and Life Sciences,*** will consist of five subject gateways which will be cross-searchable and cross-browsable at the ***BIOME*** level as well as retaining their own individual entities. These five gateways are:

- ***BioResearch*** - covering biological and biomedical research
- ***OMNI*** - covering medicine
- ***Natural Selection*** - including plant and animal life, ecology and the environment
- ***VetGate*** - all subjects relating to animal health
- ***AgriFor*** - covering agriculture, forestry and food science.

The service will be consortium based. The partners and content providers include:

- The Natural History Museum
- CTI Biology, University of Liverpool
- The Royal College of Veterinary Surgeons
- Oxford University
- Reading University
- BRIL - the Biotechnology and Biological Sciences Research Council Librarians
- The Royal Free Hospital

In Europe:

The ***DESIRE*** project is an international project funded by the European Union. The original aim of ***DESIRE*** was to support the development of new large-scale gateways at National Library level across Europe. Stemming from this work, the focus shifted to research on interoperability and several of the subject gateways have already implemented cross-searching into their working services (eg SOSIG and Biz/ed).

This work is being taken forward in ***Renardus***, a project funded under the European Union 5th Framework Information Society Technologies (IST) Programme. ***Renardus*** partners are drawn from European library and other information-related communities. The aim of the project is to provide users with integrated access, through a single interface, to the subject gateways distributed across Europe. Between January 2000 and June 2002, the project will investigate technical, information and organisational issues, build a pilot system and develop a fully-operational service.

Internationally:

Imesh - International Collaboration on Internet Subject Gateways is a collaborative network to further international collaboration amongst subject gateways. It was formed as a result of the Second European Conference on Research and Advanced Technology for Digital Libraries, held in Crete in September 1998. One of the main aims of ***Imesh*** is to explore the potential for collaborative development of gateways internationally.

Useful tools

Distributed systems and interoperability have been the 'Holy Grail' for many of the information visions and projects to aim for in the last few years. Although developing models, tools and standards continues to be important, many of them have been progressed sufficiently to enable consortia to exploit pan-European and international opportunities. Useful and usable results include:

- *ROADS* - an open-source set of software tools which enable the set up and maintenance of Web-based subject gateways. Developed as part of the UK's Electronic Libraries Programme, ROADS is now freely available for anyone to use. The software includes the database technology required to set up a gateway, the administration centre required to facilitate remote cataloguing and everything else needed to run a gateway.
- *Product Comparison: Information Gateway Software* - a report investigating the availability of resource discovery software for setting up gateways and comparing the products. This report is updated when new softwares are brought to UKOLN's attention.
- *Information Gateways Handbook* - published in October 1999 by the DESIRE project, this is a very useful guide for libraries interested in setting up large-scale subject gateways of their own. It is freely available on the Web.
- *Selection Criteria* - formal quality selection criteria are as essential for collection development in subject gateways as they are in traditional libraries. Examples of selection policies for gateways have been collected by the DESIRE project.

Multi-lingual access

One area where tools have not yet been extensively implemented is that of multilingual access and support. This is an area that one would expect pan-European initiatives. There are two basic issues relating to multilingual access:

- the storing, processing and presentation of information in many languages
- multilingual search and retrieval.

A lot of research has been going on for some time, especially in the retrieval of documents in languages other than that used for the query (cross-language information retrieval). An overview of projects in this field has been produced by the Digital Library Research Group at the University of Maryland.

Nevertheless, existing gateways do not have much to offer (yet) in terms of multilingual support. Quite a few do have a bilingual interface, but more sophisticated

facilities such as multilingual search or browse support, are not often available. So far, little or no use has been made of multilingual thesauri for retrieval.

Multilingual thesauri do not exist for many subject areas. The Environmental Sciences and Aquatic Sciences, however, are in a strong position in this respect with several multilingual tools already available. A scheme is at the planning stage for a 'Common Global Environmental Vocabulary' amalgamating the existing multilingual thesauri from many organisations and further developing such a tool. Details are likely to be made public by September 2000.

New Proposals and Funding

Initiatives to support research and development proposals seem to be moving from the domain specific programmes such as the EU Telematics for Libraries Programme under the 4th Framework. The new focus seems to be on cross-sectoral 'memory institution' projects, ie, the attempt to encourage convergence in technical approaches and applications for Libraries, Archives, Museums and related cultural institutions. This certainly is the case with the European Commission's 5th Framework Programme for Research and Technology. In the UK, library research funding has been transferred to a new body called the Museums, Libraries and Archives Council (MLAC) and the latest calls from the UK Higher Education Funding Council have also reflected this trend.

How funding bodies would react to a joint proposal from say an aquatic library, a data centre and an aquarium is not known at this time. Some EURASLIC members will, I am sure, have begun to addressed these convergent interests and the possibilities of shared network space with other cultural organisations.

Many of you will be aware that within the European Commission Framework Programme 5 (EC FP5), library research now comes under the Digital Heritage and Cultural Content area. If you have not yet updated your bookmark, the URL for the new homepage is: http://www.cordis.lu/ist/ka3/digicult/

Some of you may have proposals in for the call which closes next Wednesday (10th May 2000) - if so, we all wish you good luck.

There are two more calls scheduled for June this year:

- "Trials on new access modes to cultural and scientific content"
- "Virtual representations of cultural and scientific objects".

Conclusions and Possible EURASLIC Actions

Examining the available information on pan-European initiatives has highlighted a bias towards Internet information management and subject gateways. This is hopefully because we have come to accept that the needs and expectations of our users have changed. Potentially, librarians can forge the same role for themselves on the Internet that they have had traditionally - as third party information providers that end-users can learn to trust and rely on when searching for information.

Although the structure for the Internet "library" still resembles a building site, it does not mean that we have to wait until the structure is complete to start our service vision for the future based on this new landscape. Most of the initiatives that have received funding revolve around large national or academic libraries. Most of the subject gateways that have survived for any length of time have the resources of large organisations behind them. They need considerable staff time and investment to develop and maintain and a long term strategy for a sustainable service.

The challenge for most EURASLIC libraries, being smaller units, is how to use their strengths and grasp the opportunities presented by the developments and initiatives within Europe.

We have shown that we can co-operate as well as, if not better than, the national and academic libraries in large scale projects such as UNIverse but the outcomes from such leading edge projects may not be immediately relevant to our daily needs. However, with further EC FP5 calls due in June this year, we may have another opportunity to be involved in research and development if we so desire.

Over many years, we have shown that we can co-operate to produce useful tools for our users that we would not individually have been able to produce or afford eg, ***Aquatic Sciences and Fisheries Abstracts (ASFA)***.

We now have opportunities to co-operate with Internet subject gateways and, by doing so, again bring immediate benefit to our users. There are potentially many ways that we could do this. Some immediate ones that come to mind are:

- we could agree between ourselves who might best cover which aquatic topics as *volunteer editors* for the ***Open Directory*** project. Working as a group we might be able to achieve the beginnings of a subject gateway with the minimum of resources
- if fisheries is central to our users requirements, we could watch the progress of ***oneFish*** and assess when we could make useful contributions to the many possibilities this system should make available
- the Internet based Aquatic Directories will always benefit from more co-ordinated action on our part

The human networks to effectively catalogue the Internet will take many years to build. EURASLIC has a head start, the year 2000 seems to be a good time to consolidate our strengths and develop our skills and services further. The steps from library cataloguing to Internet metadata are not difficult to take.

Bibliography

1. **Smith, N.** 2000. Inside the Digital Library. Exploit Interactive , Issue 5, 6pp.

2. **Pettman, Ian and Suzanne Ward**. 1998. The UNIverse Project - Global, Distributed Library Services. *In: Libraries Without Walls 2:the delivery of library services to distant users. Proceedings of a Conference, Mytilene, Greece, 17-20 September 1997,(ed. P. Brophy, S Fisher & Z.Clarke), pp.157 - 170. London. Library Association Publishing.*

3. **Murray, R; Smith, N; Pettman, I**. 1999. The UNIverse project: a review of progress up to the demonstration phase. In: *New Library World* Vol.100 Issue 1149, pp.153-159).

4. LB-4032 /B UNIverse Third Review Report. September 1999.

5. http://www.ukoln.ac.uk/interop-focus/activities/z3950/int_profile/bath/draft/BathProfilePublicDraft15Oct99.htm

6. The PRIDE Project; http://www.viscount.org.uk/pride/

7. The Riding Project; http://www.shef.ac.uk/~riding/

8. The Agora project; http://hosted.ukoln.ac.uk/agora/

9. http://www.alltheweb.com

10. http://www.terena.nl/projects/reis/isir/reisnews9908isir.html

11. The Open Directory Project;
http://dmoz.org/Computers/Internet/WWW/Directories?Open_Directory_Project/

12. **Pinakes**; A Subject Launchpad; http://www.hw.ac.uk/libWWW/irn/pinakes/pinakes.html

13. AGRIGATE an agricultural information gateway for Australian research workers;
http://www.agrigate.edu.au/

14. ELDIS: the gateway to development information; http://nt1.ids.ac.uk/eldis/

15. NOVAGate: Nordic gateway to information in forestry, veterinary and agricultural sciences; http://novagate.nova-university.org/

16. Port, National Maritime Museum, Greenwich, UK; http://www.port.nmn.ac.uk/

17. **Baron, J., Bostock, T., Pettman, I. and Searle, G.** 2000. oneFish by SIFAR: the participatory approach to information management in the virtual environment.

18. BIOME: The Hub for Internet Resources in the Health and Life Sciences;
http://biome.ac.uk/

19. The DESIRE Project; http://www.desire.org

20. Renardus: Academic Subject Gateway Service for Europe; http://www.renardus.org/

21. Imesh: International Collaboration on Subject Gateways;
http://www.desire.org/html/subjectgateways/community/imesh/

22. ROADS; http://www.ilrt.bris.ac.uk/roads/

23. Product Comparison: Information Gateway Software;
http://www.ukoln.ac.uk/metadata/roads/product-comparison/

24. Information Gateways Handbook; http://www.desire.org/handbook/

25. Selection Criteria: Examples; http://www.desire.org/results/discovery/cat/select_des.htm

26. Cross-Language Text retrieval Systems;
http://www.ee.umd.edu/medlab/mlir/systems.html

EUROPEAN FEDERATION OF MARINE SCIENCE AND TECHNOLOGY SOCIETIES AND THE SAMS/UHIP PROJECT

By

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President EFMS, Director of SAMS and Acting Director CCMS,
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The creation of EFMS:

The Act of Creation of the European Federation of Marine Science and was signed on Friday, December 11, 1998 at the Institut Oceanographique in Paris.

This was done in the presence of observers from other Societies, M. Jean Boissonnas, representative of European Commission's DGXII and M. Laurent d'Ozouville of the Marine Board of the European Marine and Polar Sciences (EmaPS), an activity of the European Foundation of Sciences.

Constitution:

A Council assisted by an Executive Committee will conduct the affairs of the Federation. The Council will consist of one delegate from each Constituent country.

Membership of EFMS:

- **Belgium:** Instituut Voor Zeewetenschappelijk Onderzoek (IZWO), Dr E Jaspers
- **Finland:** Suomen Meriteen Ja-Tekniikan Seura Ry (SMTTS), Dr S Kivimaa
- **France:** Union Des Oceanographes Des France (UOF), Prof. D Viale
- **Germany:** Deutsche Geselschaft Fur Meeresforschung (DGM), Dr K J Hesse
- **Greece:** Greek Oceanographers Association (GOA), Dr Dassenakis
- **Italy:** Associazione Italiana Di Ocealogia E Limnologia (AIOL), Prof. G Albertelli
- **Netherlands:** Nederlandse Oceanografen Club (NOC), Dr H van Aken
- **United Kingdom:** Challenger Society for Marine Science (CSMS), Prof. H Elderfield
  - **SAMS:** Scottish Association for Marine Science
  - **MBA:** Society for Underwater Technology

According to the Statutes, the principles of the Federation are:

- To contribute to the advancement of research and education in marine science and technology
- To disseminate information to promote the advancement of marine science and technology in Europe

The objectives of the Federation are:

- To address jointly European issues of common interest
- To make known the conceptions and needs of its members
- To promote the development and contribution of marine science and technology
- To the European Union research programmes
- To assist the European Union to obtain technical advice from the members of the Federation

- To provide a permanent network between the marine science and technology societies and a common, but not unique, gateway to each of the marine science and technology societies and their national networks.

Executive Committee:

- President: Dr Graham Shimmield (SAMS-UK)
- Vice-President: Professor Lucien Laubier (UOF-France)
- Vice-President: Professor Dassenakis (GOA-Greece)
- Treasurer: Professor Adolf Weber (DGM-Germany)
- General Secretary: Dr Jean-Francois Pavillon (UOF-France)

EFMS Working Groups:

- A comparative study on European systems and high level training in oceanography.
- A professional charter for oceanographers working in Europe.
- A history of European oceanography
- European biodiversity

The way forward:

- The European Conference on Marine Science and Ocean Technology, EurOCEAN 2000, Hamburg, 29 August - 2 September 2000.
- Session on 'Research Policy'
- A marine science plan for Europe - The scientific issues to be addressed.

Dunstaffnage Marine Laboratory

Incorporating the activites of: The Centre for Coastal and Marine Sciences and The Scottish Association for Marine Science an Academic Partner of The University of the Highlands and Islands project

"Science has succeeded for us as a reductionist process and our education has naturally favoured this approach. But coming to terms with large systems is becoming increasingly necessary as well, and education must prepare people for it. Where better than the sea?"

John Smyth, President of the Scottish Environmental Education Council, *Marine Environmental Education*, SAMS, 1999

History and origins:

- Scottish Marine Biological Association created in 1914
- Early work (1884) on marine biology on a barge moored on the Firth of Forth
- Association's Marine Station at Millport, Isle of Cumbrae in the Clyde
- In 1968 transferred to purpose-built laboratory at Dunstaffnage, near Oban

Objective of the Association:

- Develop, promote and support research in marine science
- Facilitate communication through organisation of conferences and seminars
- Support the teaching of marine science in Scotland
- Become an authoritative voice for marine science in Scotland offering views and comment on contemporary issues

Guiding Principles in the Research Programme:

- Conduct high quality marine science, primarily in concert with the NERC mission
- Develop state-of-the-art infrastructure in support of the scientific objectives
- Encourage innovative ideas, particularly by young scientists
- Develop close links with SMEs and Agencies
- To be relevant to Scotland.

SAMS Education:

- Partner of the University of Highlands and Islands project (Marine Sciences degree)
- Argyll College
- University links - teaching and research
- Scottish Marine Group
- Science and Technology week - local primary and secondary schools
- School placements, open days public meetings

UHI Developments:

- 4 Lecturers, 8 PhD students, 4+4 IT posts:
- BSc Marine Sciences
- Research School of Natural Systems Science:
  - Sustainable use of natural resources
  - Biotechnology and biomedicine
  - The environment of the North Atlantic Rim: past, present and future

UHI Service Provision:

- Integrated services
  - video conferencing
  - voice telephony
  - data networking
  - e-mail
  - intranet
  - electronic library/MIS
  - help desk

- Remote access
- JANET and Scottish MANs connection

UHI's Primary Objectives:

- Widen access to quality higher education
- Increase participation using advanced information and communication technologies (ICT)
- Support the region's unique cultural and environmental heritage
- Build an indigenous research and development function in the region
- Be a catalyst for economic and social regeneration

UHI is different:

- A federal institution with a regional campus
- Accessible to all
- Flexible structures

- Seamless progression routes: 'Lifelong learning'
- Capability-based learning

'A new kind of university'

Conclusion:

"Nowhere within our reach presents a more illuminating case of biodiversity in all its manifestations - habitat, species, gene pool, processes, relationships and more. Nowhere is a case for intelligent care more readily demonstrable, given the stage of exploitation which the sea has reached relative to the land, nor is there a better place to explore the holistic nature of the human/environment system"

J Smyth, 1999

SESSION SIX:
Knowledge Management and Other Papers

Proceedings of the 8th Biennial Meeting of EURASLIC
Aberdeen, Scotland, 3-5 May 2000

INTRODUCTION TO KNOWLEDGE MANAGEMENT

By

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Garthdee, Aberdeen

What is Knowledge Management?

- 'Knowledge Management caters to the critical issues of organisational adaption, survival and competence... Essentially it embodies organisational processes that seek synergistic combination of data and information processing capacity of information technologies, and the creative and innovative capacity of human beings'

Definition of 'Knowledge'

- 'A fluid mix of framed experiences, values, contextual information and expert insight that provides a framework for evaluating and incorporating new experiences and information. It originates and is applied in the minds of knowers'

Explicit Knowledge

- Often referred to as 'hard' knowledge
- Embedded in documents, databases, records and drawings
- Easily identified
- Relatively easy to place a value on explicit knowledge

Tacit Knowledge

- The knowledge that we, as individuals have acquired through experience and learning
- Because it is highly personal it is difficult to formalise and communicate
- Enables us to recognise familiar patterns and helps us to make connections between what happened before and what is happening now

Knowledge as a Corporate Asset

- People are valuable to their organisation because of their experience more than because of their educational qualifications
- Knowledge Management is the only lever which can give sustainable advantage
- Knowledge assets increase with use
- How can organisations 'know what they know'?

Knowledge Capital

- Assets captured in the experience and learning of individuals
- Intellectual capital can include patents, trademarks and copyrights

- Intellectual capital is 'the sum of everything that everybody in a company knows that gives it a competitive edge; a collective brainpower, a composite of knowledge, information, intellectual property and experience' (Tom Stewart)

The Learning Organisation

- Adaptive learning
- Continuous experimentation and feedback
- A culture where people are not afraid to admit mistakes and learn from them
- Sharing knowledge through informal and formal communication

Mapping an Organisation's Knowledge

- Using 'maps' which point people to where information and knowledge resides
- Identifying crucial relationships
- 'Yellow pages'
- Databases

Working Culture

- Fostering an environment where people feel their contribution is of value
- What are the drivers for people at work?
  - earning a good salary
  - feeling that they can contribute something
  - recognition
  - continued support

Encouraging A Culture of Knowledge Sharing

- Linking career reviews and salary increments with contribution to the knowledge pool
  - creating a culture which does not attach blame to mistakes
  - giving people the opportunity to share their experiences
  - using Knowledge Champions

Methods of Knowledge Capture

- Buying it in
- Creating communities of best practice
- Changing the management structure
- Using individual diaries and logs
- Debriefing sessions (AARs) and exit interviews

Methods of Knowledge Sharing

- Storytelling

- Using IT solutions
  - intranets
  - databases
  - e-mail discussion groups

Government Recognition of Knowledge Management

- White Paper on competitiveness emphasises the shift towards a 'knowledge economy'
- Enterprise and Knowledge Management unit within the DTI
- Creating a Competitiveness Index
- Establishing a Competitiveness Council to advise the Secretary of State for Trade and Industry

Changes in Working Patterns

- Working population is ageing
- People change careers more often
- Organisations are losing knowledge and experience as people leave, retire or are made redundant

Proceedings of the 8th Biennial Meeting of EURASLIC
Aberdeen, Scotland, 3-5 May 2000

IMPLEMENTING KNOWLEDGE MANAGEMENT IN SCOTTISH ENTERPRISE

By

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Scottish Enterprise (SE)

- Scottish Government's development agency
- Established 1991
- Integrated network comprising SE national and 13 Local Enterprise Companies (LECs)
- 'To help the people of Scotland create and sustain jobs, prosperity and a high quality of life'

Why Knowledge Management?

The challenge of the knowledge economy:

- For business
  - pace of change, globalisation, technology
- For individuals
  - lifelong learning, downsizing
- For governments
  - innovation, enterprise

First Steps

- Insight from others
- Establishment of knowledge development group
- Initiatives from Business Information Centre
- Senior management buy-in

Senior Management Paper

- Why we need to change
- Positive business benefits
- SE as a knowledge organisation
  - is this something we should aspire to
- What we need to deliver this vision
  - not a detailed action plan, much already in place
  - acquire, store, share, use

SE Response

- SE to become an exemplar knowledge organisation
- SE to become an exemplar e-business

Challenges

- Scale of business transformation
- Clear corporate leadership
- Ownership of change
- Co-ordination of initiatives
- Communications
- Appropriate organisational structures
- Skills and people resources

Opportunities

- Service to customer
- Learn more about our customers needs
- Adapt rapidly to market changes
- Ability to deliver more with 'the same'
- Cost savings
- Wider reach

Early Lessons

- Lip service makes genuine buy in harder
- Play down the IT side
- Assume nothing !
- Need to have staff buy-in

Staff Buy In

- Leadership
- Empowering end users
- Knowledge Competition
- 'What's in it for me'
- Network involvement
- Different methods of managing knowledge
- Allowed, able and willing

Skills Required

- Information literacy
- Computer literacy
- Information management
  - Acquisition
  - storage and retrieval especially codification
  - dissemination
- Networking
- Communications

KNOWLEDGE MANAGMENET INITIATIVES IN THE WORK PLACE. EXPERIENCE OF OPERATION IN RUSSIA

By

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(Not Presented)

Summary

The following report is devoted to problems that have arisen before me during my work in the position of Chief Knowledge Officer since 1996, in a firm engaged in the development and manufacture of ecological monitoring vessel systems for surface water. The firm was established in 1991 on the basis of a large shipbuilding science research institute that is almost 80 years old. In 1998 the company set up its own library that is headed by me. There are only about 1,000 books in the library, but it has got huge databases on Russia's surface waters environmental characteristics (The Baltic Sea, Gulf of Finland, Volga River) that were recorded by the company equipment. The information regarding water environmental issues is supplied from the new works exhibitions in the two Russia's great libraries - Russian National Library and the Library of the Russian Academy of Sciences, as well as from the famous environmental conferences, exhibitions and symposiums that take place in Russia and abroad. Searches are carried out on the Internet.

About 3,000 considerable information sources a year are selected. Then they are applied in company's developments. These sources include about 20 magazines, 200 Russian scientific and technical magazines and 100 foreign scientific magazines, thesis summaries and conference and congress reports.

I discovered about EURASLIC in 1999 and now I'm striving to enter the association and set up contacts with my colleagues abroad.

While processing the data I face the problems of an information gap between the time when the data is published and the time when the article/book/report is available. Other problems include full coverage of the topic, picking out significant data, taking into consideration natural informational noises and losses, etc.

I have evaluated these problems while accomplishing tangible tasks, for example, preparing equipment for operation in the North Sea and in the Mediterranean. I deem it necessary to inform EURASLIC members about these problems and about the data search opportunities that I have.

I hope that I will be admitted to EURASLIC. Contacts with your Association will give me a unique opportunity to make my work much more efficient.

Proceedings of the 8th Biennial Meeting of EURASLIC
Aberdeen, Scotland, 3-5 May 2000

METHODOLOGY USED IN ORDER TO BUILD KEY-WORDS DICTIONARIES IN THE FIELD OF OCEANOGRAPHY, MARINE BIOLOGY AND AQUATIC POLLUTION MONITORING

By

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Presented by Pauline Simpson

Abstract

The author has made a key-words index selection, the result of a specialized library documents indexing. This was to create some specialised indexes useful in the field of oceanography, marine biology and aquatic pollution monitoring. As a final result there is a collection of bilingual and trilingual dictionaries. There is not a strict hierarchic order, so that a better flexibility is allowed for the retrieval of the documents. The methodological procedures described are referred to the monographics and serials keywords selection indexes, which make up the dictionaries. The articles indexing (13,000 documents ca.) is still in progress.

Key Words

Indexing, oceanography, marine biology, specialised dictionaries/vocabularies.

Introduction

The actual library database is a mixture between the Rica Cataloguing rules, the ISBD and the Database 4 software. The aim was to get the printed results not only by Author order, but also by key-words list. The monographics lists is bilingual (Italian/English), whereas the serials and articles lists are trilingual (Italian/English/French).

In the near future all data will be changed in a Windows, in order to use them on-line, a third language (French) has been added to the key-words indexes.

Methodology

The documents indexed have made up roughly three sub-indexes (Ref : Sigle Report CNR-ISTTA no 21 dd 21-11-91):

a) Key-words index selection (of documents listed)
b) Taxonomic index (of documents owned by the library and listed)
c) Guidelines and subject categories indexes.

The first two subindexes are bilingual (Italian/English), the third one in English only. This because many terms adopted have been selected from the ASFA indexes and ASFA Thesaurus, from the SIGLE Manual 2nd edition part (Subject to category list).

Concerning the taxonomic index for the scientific terminology classification (taxa, species, etc) the following have been used:

D'Ancona U.-Trattato di zoologia.UTET, Torino, Italia, 1953.

Sarà M.-Zoologia. Cacucci, Bari, Italia, 1976.
Cognetti G., Sarà M., Magazzù G.-Biologia marina. Calderini, Bologna, Italia, 1999.

The reasons why the key-words have been used are as follows:

a) A free approach (not hierarchic) of terms and terminology
b) A different type of user (students, researchers, local users etc)
c) The lack of up-dated information science and IT technologies, plus the lack of personnel to use a Dewey Decimal Classification systems
d) Owing to the type of user, some are not qualified to use the library fully
e) Many documents have an historic value only
f) Some books are rare editions (from 19th century down to 16th century 'in folio' editions)

The third sub-index is mostly a handy manual for non-specialised users, who need a comprehensive guide and at the same time an easy one for information retrieval.

For the linguistic form of the key-words terminology there have been used mainly:

Italian language: Dizionario Palazzi-Dizionario Garzanti
English language: McGraw Hills, Hazon, Webster's Collegiate Dictionary
French language: Dizionario Zanichelli.

From the Key – Words Index to the Key-Words Dictionary

Clash between theoretical aspects and software limitation.

The key-words dictionary is the final and most developed stage of the key-words thesaurus which undergoes a continuous updating and enlarging.

The dictionary allows a research from a main subject to a specific one and *vice versa*, retrieving the terms associated to the same subject.

In the field "CHIAVE" (=Key-word) under the key-word ALGAE you can find the subject or type or phylum or family or order or genus or species or ALGAE only if the document is to be retrieved as a general one. The term ALGAE is like a main heading from which all the sub-classes start from.

In the "key-words index selection" the Key-words have no hierarchic order, but are derived from the indexing.

EXAMPLE: Acantocefali, Vermi
Acanthocephala, Worms

In the 'taxonomic index' the key-words are grouped according to the main classes where they belong to.

EXAMPLE: ALGHE; ALGAE
Clorificee; Chlorophyceae
Corallinacee; Corallinaceae

And so on.
It's the user who chooses which one to use, according to his/her needs.
In the 'guidelines and subject-categories index' there are described the activities connected with the key-words, besides the family.

EXAMPLE: ARTHROPODA
Conservation technique

Culture
Products
Technology

All these examples refer to the monographics dictionary (bilingual (Ref: Sigle Report CNR-ISTTA no 21-Libr.inf. dd. 11-10-91).

The 'guidelines index' is an improvement and enlargement of the fields connected to the main key-word. From many documents, though, one main key-word cannot express the whole concept or the subject is so large/specialized that the 'guidelines index' can integrate it.

EXAMPLE: BIOLOGY
Economic Biology
Evolutionist Biology
Experimental Biology
Marine Biology
Tissue, Cellular, Molecular Biology

Anatomy and morphology
Development and maturation
Ecology
Geographical treatment
Pathology
Physiology

General Observations on The Sub-Indexes

The main feature of the key-word sub-indexes is a great flexibility.

Summarising, we can say in the 'key-words index' the selecting work is made, in the 'taxonomic' one the idea of something specific is developed, in the 'guidelines' one information is given about fields of knowledge connected to the specific field searched.

Many users search for documents on a species or sub-species X, but they do not know its class, family, phylum ... from which one could easily retrieve information about the species searched for, a search which is possible using the indexes.

The users seem to be quite satisfied with the key-words and taxonomic indexes, and the retrieval percentage is quite high.

The users are the ones who pick the 'guidelines index' up, as they have the need of a specific retrieval, but they are not acknowledged with the similar fields of knowledge connected.

Flexibility and updating are the strong peculiarities of the dictionary, making it extremely useful.

The trilingual index (serials) (Ref.: Sigle Report CNR-ISTTA no.30-MF.Library dd.30-12-92) (Languages: Italian/English/French) is divided in:

a) key-words index
b) similarity index
c) vocabulary like index (Ref.: Sigle report CNR-ISTTA no.33-MF.Library dd.15-2-93).

The key-words index is the result of the indexing of the serials content or its main subject. The similarity-correlation index is the synthesis of the key-words deriving from the key-words index. They are connected together and describe the fields of knowledge connected and/or the different ones in any serial indexed.

The vocabulary like index is the completion of the main key-word together with the subject lists which are connected to it.

The structure is similar to a thesaurus but with no hierarchic order, its aim is that of ease of use. For the choice, synthesis and terminology control, information has been taken from ASFA Subject index, the Asfis Thesaurus, Sigle Manual ... Cataloguing rules and Lessico internazionale di scienze della terra del CNR.

Conclusions

The key-words dictionaries made have no hierarchic order, like a real thesaurus; this is due to the limited amount of key-words used.

However, in order to build the key-words dictionaries, the constructing system used goes from a downwards tendency to an upwards one, as terminology is derived from the documents indexing. (Danesi, 1990). Following the key-words dictionaries creation, the need has come out to make up a classification system scheme having many disciplines referred to the field of aquatic sciences (Ref.: Sigle Report CNR-ISTTAno.84-MF.Library dd.2-3-98). The system is made up a main class with each sub-class, where each subject is examined more deeply. Each sub-class is marked by a letter which follows the word MAR (=Sea) and the number of the main class.

For example: MAR01 Oceanography-oceanology
MAR01a Marine environments

To each main class a sub-class follows. Some sub-classes have been enriched much more, as they cover the research fields of the Library and Institute.

This is the list of the main classes:

MAR01	OCEANOGRAPHY – OCEANOLOGY
MAR02	MARINE ECOLOGY
MAR03	STRATIGRAPHY
MAR04	OCEANS
MAR05	POLLUTION
MAR06	SEA LEGISLATION
MAR07	ANALYTICAL CHEMISTRY APPIED TO AQUATIC POLLUTION MONITORING
MAR08	FISHERIES AND ITS PRODUCTS
MAR09	METEOROLOGY AND CLIMATOLOGY
MAR10	WATER
MAR11	SEA
MAR12	AQUACULTURE
MAR13	ECOLOGY
MAR14	MICROBIOLOGY
MAR15	ALGOLOGY
MAR16	LIMNOLOGY – HYDROGRAPHY

The aim of the key-words dictionaries, it is to be said once again, is to be a very useful tool to both specialised and non-specialised users and to be always updated and enriched.

Bibliography

1. ASFA Pts 1,2-1989-92; Subject indexes of volumes from 1989-1992. Aquatic Sciences and Fisheries Abstracts. Cambridge Scientific Abstracts, Bethesda, MD, USA.

2. ASFIS Thesaurus. 1986. Aquatic Sciences and Fisheries thesaurus. Cambridge Scientific Abstracts, Bethesda, MD, USA, 1986, 418 p. Asfis Reference Series n.6, Rev. 1, USA.

3. CNR. 1984. Lessico internazionale di scienze della Terra. 1984. CNR, Milano, edizione italiana, 216p.

4. **Cognetti, G., Sarà, M., Magazzù, G.** 1999. Biologia marina. Bologna, Calderini editore, 596p.

5. **D;Ancona, U.** 1953. Trattato di zoologia. Torino, UTET editore, 1102p.

6. **Danesi, D.** 1990. Bibliografia di thesari italiani. Boll. Inf.AIB, Ns, n.XXIV, N1.

7. **Dabesu, D.** 1990. La variabili del thesaurus. Gestione e struttura. IFNIA, Firenze. Quaderni del Laboratorio Thesauri, 1, 118p.

8. **Filippi, M., Tartaro, N.** 1991. Key-words dictionary (Monographies). Dizionario dei termini chiave (Monografie). Sigle Report CNR-ISTTA n. 21 – Libr.Inf. – 11-10-91.

9. **Filippi, M.** 1992. Indice trilingue delle riviste in campo oceanografico dell'Istituto Talassografico di Taranto.Sigle Report CNR-ISTTA n.30-MR.Library –30-12-92.

10. **Filippi, M.** 1993. Dizionario trilingue nel settore oceanografico.Sigle Report CNR-ISTTA n.33-MF:Library-15-2-93.

11. **Fillipi, M.** 1998. Schema di classificazione nel campo delle scienze aquatiche.Sigle Report CNR-ISTTAn. 84-MF.Library –2-3-98.

12. **Sara, M.** 1976. Zoologia. Bari, Cacucci editore, 683.

ISSUES OF COMMON INTEREST — EURASLIC/IAMSLIC

By

Linda Pikula
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Linda Pikula, IAMSLIC President-Elect gave an excerpted account of IAMSLIC President Stephanie Haas' State of IAMSLIC, and then spoke on 'Issues of Common Interest'.

From President Stephanie Haas:

A month Into the new millennium

- Two thoughts come to mind as IAMSLIC moves into the 21st century:
- Remember to ask of any new endeavor "Why is this an interesting question?"
- Visionary tasks dreamt in solitude, die in solitude.

From Woods Hole came many interesting questions, which are now posed as visionary tasks to IAMSLIC members throughout the world. We are in a time of considered thinking for the questions are not easy, but the outcomes will be of great interest.

Eight Committees to study the paths IAMSLIC may take in the 21st century have been formed:

1. First Council of Singers
2. IAMSLIC Task Force on Special Interest Groups
3. ILL/IAMSLIC Web Interface
4. Electronic Resources
5. Archives
6. Subject Analysis
7. Training Committee
8. Web Committee

I will discuss three of these committees and their tasks: The First Council of Singers, ILL/IAMSLIC Web Interface and the Training Committee.

The First Council of Singers is charged with recommending three primary initiatives for IAMSLIC in the next two to three years. They will consider IAMSLIC involvement in cooperative programs to support marine/freshwater information exchange in developing countries. They will also consider information products that IAMSLIC should be creating.

After the Executive Board Reviews these recommendations, they will be submitted for discussion to the membership and action consensus.

The ILL/IAMSLIC Web Interface Committee is charged with determining an infrastructure to support a web-based interlibrary loan/document delivery system for IAMSLIC and to make recommendations to the Executive Board concerning the most efficient and cost effective means for filling requests. A four tier system has been proposed: Partnering, Regional Groups, Last Resort Contracted Library, IAMSLIC listserv.

The Training Committee is charged with determining training needs of members, including the need for paper-based or computer-based learning within the IAMSLIC community, particularly for developing countries. They are tasked to complete a web based survey on training needs, and to develop training programs to deliver at the annual or regional conferences. They are also tasked with compiling a directory of training opportunities.

Thank you for inviting me here to the EURASLIC Conference in this lovely, friendly city of Aberdeen. How many of you are also IAMSLIC members? (show of hands, over half of the delegates).

I believe EURASLIC and IAMSLIC have many issues of common interest, and I want to invite you to cooperate on these issues. I put the question to you and your Board as to how we can cooperate on products and services. How can we consolidate our strengths and develop our skills and services?

You are all invited to attend the IAMSLIC 2000 Conference "Tides of Technology" September 30th through October 5, 2000. Hosted by the Institute of Ocean Science, Fisheries and Oceans Canada, Sidney, BC, Canada. Conference headquarters will be the Harbour Towers Hotel, Victoria, BC, Canada.

URL http://siolibrary.ucsd.edu/iamslic/2000home.html

Workshops will be held Saturday and Sunday in Document Imaging, and a Digital Licensing Seminar is planned. Our Training Committee will be conducting concurrent workshops on Wednesday afternoon. Topics are currently under discussion, but will include a workshop for the Solo Librarian and a training program on Mastering the Art of Presentation.

I hope to see many of you there!

Proceedings of the 8th Biennial Meeting of EURASLIC
Aberdeen, Scotland, 3-5 May 2000

ENVIRONMENT AGENCY
NATIONAL LIBRARY AND INFORMATION SERVICE

By

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Presentation Outline

- The organisation
- History of library & information services in the agency
- Service objectives
- Achievements so far
- Future direction

The Organisation

- Formed in 1996 - from NRA, HMIP and local authority Waste Management functions
- Responsible for ' protecting the environment' through
  - regulating industry
  - influencing to achieve improved environmental management / developing the 'science ' through research and monitoring

Facts and Figures

- Remit is England / Wales
- DETR are sponsoring government department
- Approximately 10,000 employees
- Head Office in Bristol / 8 regions
- Approximately 90 offices

LIS History

- Little!
- Some regions ran ' libraries' inherited from NRA
- Lack of 'library' culture, little sharing of information resources or knowledge about information needs
- Waste/duplication no knowledge of resources purchased

LIS History

- 1996 - Vision by Head of SATIS
- 1997 - Report produced by consultants
- 1997 - Business case produced
- 1998 - Head of NLIS appointed
- Recruitment continuing

NLIS Structure

- Sits within SATIS Directory
- Head Of NLIS
- CCU - Central Coordinating Unit
- Regional Information Centres

Service Objectives

- Providing access to up to date and appropriate information to help agency staff do their jobs - primarily an internally facing service
- Supporting the delivery of environmental information to external customers - working with customer contact staff
- Provide good value for money

Achievements So Far

- National Service set up in April 1998 - to provide consistent services across Agency
- Team of 23 staff, dispersed across the Agency
- Network of 9 Information Centres developed
- Library management system (OLIB) implemented

More Progress

- Improved access to information about resources - OLIB database being rolled out to desktops
- All purchasing of books/journals now managed by service - reduces duplication
- Development of electronic information resources - Dialog/Datastar/Cambridge Scientific Abstracts etc.

Information Provision

- Presentations and talking to users
- Induction
- Roadshows
- Information points/nodes
- Training

The Future

- Still proving that we are needed
- Changing culture - sharing information
- Developing our subject expertise, a just in time rather than a just in case approach
- End user access to information - through intranet
- Changing roles - LIS staff will be enablers rather than gatekeepers

Intranet and Knowledge Management

- Pilot intranet in place - since January
- Service has managed content elements of pilot project
- Will manage intranet in future - information management skills recognised
- Intranet will underpin the emerging Knowledge Management strategy

Conclusion

- Agency is gradually recognising the value which a well managed LIS can bring
- Managing knowledge/information and data rising up the agenda
- Good news for us!

Proceedings of the 8th Biennial Meeting of EURASLIC
Aberdeen, Scotland, 3-5 May 2000

A MID-ATLANTIC DOCUMENTATION SCIENCE CENTRE ON ITS WAY TO THE NEW MILLENNIUM

By

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A mid-Atlantic documentation science centre... on its way to the new millennium
Library and Documentation "Professor Ávila Martins".

A rather small, but specialised and updated scientific documentation centre with an important bibliographic assets for researchers, professors and students

"A notable exception to this is the young library at the University of the Azores at Horta where donations and formal exchanges for their in-house journal has allowed the establishment of a useful small library for marine biology, fisheries and oceanography."

In "A review of the Marine Sciences in Portugal", by the Scientific Committee nominated by The British Council in Portugal, 1993

Subjects

- Ocean/sea and marine organisms
- Marine environment
- Fisheries and stock assessment
- Marine ecology and biodiversity
- Marine chemistry and ecotoxicology
- Hydrothermal vents

Obtained through:

- Acquisitions
- Signatures
- Exchange
- Gifts

Acquisitions

- Paper monographs - books, encyclopaedias, dictionaries and reports
- CD-ROMs – encyclopaedias, databases and books
- Offprints of scientific papers
- Microfilms
- Maps
- DVDs

Signatures

- Ca. 30 scientific periodicals/ year
- Access to TRIP databases (from KARI server at the University of Oslo), allows online search of Nordic Libraries and Information Centres Databases
- Aquatic Sciences and Fisheries Abstracts (ASFA) since 1992, with retrospective data since 1978

Exchange

- *Archipélago – Life and Marine Sciences*
  - University of the Azores scientific journal
  - sent to ca. 120 similar libraries and institutions, as well as to its Advisory Board and referees
  - exchange with publications of other institutions
- EURASLIC & IAMSLIC member
  - duplicates exchange all over the world

Gifts

- From the Centre of the IMAR (Institute of Marine Research) of the University of the Azores, the Regional Government of the Azores and scientific partners
- Scientific journals offered by collaborators, with special relevance to *Marine Ecology – Progress Series*, from a retired British professor
- Academic thesis from different levels, languages and origins, mainly those conducted by DOP/UAÇ

Publications

- *Archipélago – Life and Marine Sciences* - University of the Azores scientific journal
- DOP/UAÇ contributions
- Five series of DOP/UAÇ reports (*Arquivos do DOP*) - studies, cruise reports, statistics, documentation and internal reports

From 1976 to 1999

- With ca. 300 linear meters this library had to extend itself until its roof limits, to about 3,30 meters high, despite all library recommendations

- Evolution from 1983 to 1999 (assets)

1999 fund

- Ca. 3,100 monographic volumes
- Ca. 16,000 scientific offprints
- Ca. 540 titles of periodicals (most of them incomplete)
- Ca. 300 maps
- More than 200 CD-ROMs (encyclopaedias, books, software and databases)
- Some DVDs

1999/2000... on its way to the new millennium (1)

- Electronic management of bibliographic data information – DOCBASE® (windows version since late 1999), in ISBD and UNIMARC export format
- Library databases access through Intranet improved by a new net server

1999/2000... on its way to the new millennium (2)

- Acquisitions through e-mail and internet
- Library databases access through internet
- Digital loan service
- Library space to be improved by movable racks

EURASLIC/IAMSLIC... expected improvements

- Duplicates lists and requests through e-mail
- Better definition of postage payments
- Enlargement of exchange partners net
- Other initiatives to approach partners

Acknowledgements to

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Country Reports

Proceedings of the 8th Biennial Meeting of EURASLIC
Aberdeen, Scotland, 3-5 May 2000

United Kingdom

RECENT DEVELOPMENTS RELATING TO THE AQUATIC SCIENCES IN THE UNITED KINGDOM – MAY 1998 TO APRIL 2000

By

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Abstract

This report attempts to summarise developments both in UK science policy and in the library sector, with particular reference to the aquatic sciences. Issues relating to the government sector, the private sector and the academic sector are addressed. Developments in the aquatic research associations and librarians groups are also covered, and some conclusions are drawn.

Introduction

This report covers the principal developments in this area over the last two years, and is intended to be a guide to the general course of events rather than a comprehensive review. I will start with the overall national picture for library and information services, and for science in general.

Reflecting the fact that Government and other web sites in the UK are now providing much more in the way of real information than the 'shop window' approach often taken in the past, I have included a list of URLs at the end of this paper. Much more information about items in this report is available online.

Since the last report [1] the Labour government of the UK has largely continued as it began. After honouring their commitment to the budget of the previous administration, some increases in public spending were made in 1999, and there has (as yet) been no return to the continual round of reviews and efforts to privatise science laboratories, although it is certainly not off the agenda. In 1998, the Comprehensive Spending Review [2] provided substantial new money for science, with the aim of increasing the science budget by 15% over three years. Some stability in the funding of the Natural Environment Research Council has been achieved by setting the budget for three years in this way, rather than the year-by-year approach previously adopted, and also by linking the budget to the rate of inflation. Unfortunately, despite 1998 recommendations that the Office of Science and Technology be moved to the Cabinet office, to be "at the centre of Government", it has remained within the Department of Trade and Industry (DTI). There is concern that the next Comprehensive Spending Review (due next year) will not be so beneficial to science, being driven by the DTI's priorities.

In July 1999, following the devolution of the Welsh and Scottish executives, the Chief Scientific Adviser's Committee (CSAC) became the principal committee at official level dealing with issues relating to science, engineering and technology.

The Government has declared its intention to modernise and improve all Government services. Given the Prime Minister's comment that "the knowledge-driven economy is the economy of the future" there is an expectation that information will be seen as a vital part of any modernisation. One example is the National Electronic Library for Health, a digital library aiming to provide easy access to best current knowledge and improve health and healthcare, clinical practice and patient choice. The National Grid for Learning has been

established both to provide a structure of educationally valuable content on the Internet and to develop the means to access that content in schools, libraries, universities, workplaces, homes and elsewhere.

In the library world, the British Library completed its move to new premises at St Pancras in June 1999. In April 1999, its research budget was transferred to the Library and Information Commission, which was itself superseded by the Council for Museums, Archives and Libraries at the end of March 2000. The council is now responsible for providing financial support for and disseminating research (including development and innovation) in information, library and related fields. The Council is also responsible for the "People's Network", which will oversee the linking of all public libraries, described by the Secretary of State as "our street-corner universities", by 2002.[3,4] The National Training Organisation for Information Services was set up in 1999, to oversee a range of vocational qualifications.

The two principal associations for library and information workers in the UK have agreed to merge. The Institute of Information Scientists and the Library Association have both received support at their 1999 AGMs for the merger to go ahead. An implementation working group has been established to decide on the exact nature and structure of the new organisation.

Government Sector

Research Councils

On 1st April 2000, the Institute of Freshwater Ecology (IFE) merged with three other Institutes to form the Centre for Ecology and Hydrology. This leaves the Freshwater Fisheries Laboratory in Pitlochry as the only laboratory in the UK dedicated exclusively to freshwater research. The library services of the four Institutes, (the IFE, the Institute of Hydrology, the Institute of Terrestrial Ecology and the Institute of Virology and Environmental Microbiology) have now merged into a single service, covering nine site libraries with seven professional staff. The marine research institutes continue to co-operate under the umbrella of the Centre for Coastal and Marine Sciences. Linda Noble was appointed as Head of the National Marine Biological Library (NMBL) at Plymouth Marine Laboratory in 1999, after David Moulder's move to the World Maritime University.

Environment Agency

In April 1998, the Environment Agency established its National Library and Information Service, with eight regional libraries and a head office, and a team of 21 staff now in place. The library management system is Fretwell-Downing's OLIB.

Ministry Laboratories

In the last year, the Centre for Environment, Fisheries and Aquaculture Science (CEFAS) has relocated its library to new purpose-built accommodation, and developed a records management rôle on combining with the registry. Having recently completed an Information Services Review, a new one has now started.

Private Sector Organisations and Water Supply

The library and information staff of the water supply and regulatory bodies continues to meet annually. The last meeting was 13th July 1999, with sixteen attendees. The two most popular topics were relocations and take overs by multinational organisations.

The Water Research Centre (WRc), a private company since water privatization, continues to provide a research and development consultancy to the water industry, and now hosts the Environment Agency R and D Dissemination Centre, a useful tool for tracking down Environment Agency reports.

University and Academic Sector

Encouraged in part by the Anderson Report [5] many electronic library and hybrid library projects are currently underway in the academic sector. These are listed and described on the eLib web pages. Electronic journals are a cause of delight and dismay for librarians in all sectors, and the National Electronic Site Licensing Initiative (NESLI) has been a useful exercise for both librarians and publishers. The Distributed National Electronic Resource is an attempt to provide a managed environment for accessing quality assured information resources on the Internet which are available from many sources. These resources include scholarly journals, monographs, textbooks, abstracts, manuscripts, maps, music scores, still images, geospatial images and other kinds of vector and numeric data, as well as moving picture and sound collections.

Research Associations

The Freshwater Biological Association (FBA), the Marine Biological Association (MBA) and the Scottish Association for Marine Science (SAMS) continue to support research in the aquatic sciences. In January 1999 Dr Roger Sweeting became Chief Executive of the FBA and has instigated measures to increase both membership and the services offered to members, including the appointment of a Membership and Information Officer.

BIASLIC

The Britain and Ireland Association of Aquatic Sciences Libraries and Information Centres (BIASLIC) continues to meet annually, and the minutes of the meetings are now available on the BIASLIC web pages. Work is in progress to make a union list of serial holdings available via the web, and the holdings of four institutions are currently searchable, with a fifth in the process of being added. At the last meeting (November 1999) it was noted that most of the reports from individual institutions talked of cutbacks and precarious situations. As a result, a press statement was released, an abbreviated form appearing in *Fishing News,* 10th December 1999.

ASFIS

The NMBL at Plymouth Marine Laboratory continues as the UK National Input Centre for *Aquatic Sciences and Fisheries Abstracts*, co-ordinating the input of the other two organisations providing data, the Centre for the Economics & Management of Aquatic Resources (CEMARE) and the Freshwater Biological Association.

Conclusions

The last two UK country reports have noted great changes, both in national science policy and in libraries. There has been a little more stability in the last two years, but information workers in this country, as in the rest of the world, must clearly accept that changes in structures and in practices are inevitable and to be welcomed. Sharing our experiences of these changes with our European colleagues not only benefits us, it enables us to enhance the services we offer to our users.

References

1. **Simpson, P. & Pettman, I.** 1998. Recent developments relating to the aquatic sciences in the United Kingdom: April 1996 to April 1998. In: *Proceedings of the 7th biennial meeting of EURASLIC, Athina, Greece, 6-8 May 1998.* (eds E. Charou, J. Baron & D. Kazepis), p. 209-212. Athens: National Centre for Marine Research.

2. Her Majesty's Treasury. 1998. Comprehensive Spending Review: New Public Spending Plans 1999-2002. Cm 4011. London: HMSO. Available online at http://www.hm-treasury.gov.uk/pub/html/csr/4011.htm

3. Library and Information Commission. 1997. *New Library – the people's network.* http://www.ukoln.ac.uk/services/lic/newlibrary/full.html

4. Library and Information Commission. 1998. *Building the new library network.* http://www.lic.gov.uk/publications/policyreports/building/index.html

5. Joint Funding Councils' Library Review: Report of the Group on a National/Regional Strategy for Library Provision for Researchers (The Anderson Report). http://www.ukoln.ac.uk/services/elib/papers/other/anderson/

URLs

1. BIASLIC – http://www.ife.ac.uk/biaslic
2. British Library – http://www.bl.uk
3. Centre for Coastal and Marine Sciences – http://www.ccms.ac.uk
4. Centre for Ecology and Hydrology – http://www.ceh.ac.uk
5. Centre for the Economics & Management of Aquatic Resources - http://www.pbs.port.ac.uk/econ/cemare
6. Centre for Environment, Fisheries and Aquaculture Science – http://www.cefas.co.uk
7. eLib: The Electronic Libraries Programme – http://www.ukoln.ac.uk/services/elib
8. Environment Agency – http://www.environment-agency.gov.uk
9. Institute of Information Scientists – http://www.iis.org.uk
10. The Joint Information Systems Committee – http://www.jisc.ac.uk
11. Library and Information Commission – http://www.lic.gov.uk
12. Library Association – http://www.la-hq.org.uk
13. National Electronic Library for Health – http://www.nelh.nhs.uk
14. National Grid for Learning – http://www.dfee.gov.uk/grid
15. National Marine Biological Library – http://www1.npm.ac.uk/library
16. NESLI – http://www.nesli.ac.uk
17. People's Network – http://www.lic.gov.uk/pno
18. The UK Office for Library and Information Networking (UKOLN) – http://www.ukoln.ac.uk
19. WRc – http://www.wrcplc.co.uk

Estonia

INTERSESSIONAL (1998–2000) ACTIVITIES IN MARINE INFORMATION IN ESTONIA

By

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In Athina in 1998 I reported that they library of the Estonian Marine Institute was the only EURASLIC library in Estonia. Thus, our efforts have been directed at getting other Estonian libraries acquainted with EURASLIC activities and to enlist new members.

In December 1998 the relevant information was sent to the libraries of five Estonian scientific, governmental and educational organisations who, at least in part cover the marine sciences. Around the same time a paper introducing the library of the Estonian Marine Institute was published in a leading Estonian professional journal *Raamatukogu*. The paper was aimed at persuading the librarians from special libraries to scientific institutions in Estonia to join the Section within the Estonian Librarians Association.

I am glad to inform you that as a result of the efforts of some enthusiastic members of the above-mentioned Association, the Section of Special Libraries was registered in autumn 1999 in Estonia. Presently, the Section involves about 50 special libraries, among which nine members represent special libraries, related to the natural and environmental sciences. This means that we now have a forum in Estonia to exchange ideas, discuss our problems, and make new links between special libraries. Joining this section has opened up new possibilities for librarians to continue professional development in Estonia.

Other good news is that in March 2000 the Library of the Ministry of the Environment of Estonia became an associate member of EURASLIC. The library is unique for its specifics on the scale of Estonia with publications covering subjects such as water, ambient air, the Baltic Sea, marine environment, nature conservation, fishery, biological diversity, wastes, sustainable development, environmental status reports, environmental policies and strategies, environmental economics, EU legislation, etc. The library was established in 1994 with the aid of Germany, Sweden and United States. Today the library's collection has increased to approximately 6,000 items of periodicals, books, videos and CD-ROMs. The users of the library are mostly the employees of the Ministry, the people of its 34 subordinate institutions, teachers, scientists, journalists, students, pupils, etc. The library has good relations with the library of the Swedish Environmental Protection Agency with regard to exchange of publications and advanced training. Good cooperation with the US Environmental Protection Agency has been maintained. Mrs Kristi Tamm, the librarian is sure that joining EURASLIC and participating in the conferences will be of mutual benefit for the Library of the Ministry of the Environment and as well as for the other EURASLIC libraries. She hopes that this will help her to enhance the specific activities at the Ministry's library.

I would also say some words about the library of the Estonian Marine Institute. The last two years were quite intensive for us. In the summer of 1998 the library was moved into a renovated building with much better conditions for users and staff, and improved safety for the library collections and computer software.

As an ASFA partner, the library continues to submit the Estonian records into the ASFA database. The Estonian partner has participated at the ASFA Advisory Board Meeting 1999 in Silver Spring, USA. Since 1999 the library has had access to the ASFA database *via* the internet.

The scientific activity of the library is presently concerned with the analysis of the Estonian Marine Institute publications as a part of evaluation of scientific activity of the institute. According to the accessible literature it seems that similar investigations are rather rare in marine libraries. Thus, the general methodology has to be adapted to the idiosyncracies of marine information and to the local needs.

Such indices as the real/average number of publications per scientist and per department, data on language, place of publication, type and volume, data on number of co-authors and their geographic location, number of publications reflected in major databases (such as *Current Contents, Science Citation Index, Biological Abstracts, ASFA*), and on the other parameters such as academic degree, age, length of service in the department and gender will enable us to conduct the comparative analysis of scientific productivity of different departments for the years 1992-1999, and to indicate the reasons influencing the scientific productivity at the institute. The reasons for choosing one or another periodical edition for publishing are also going to be investigated. The citation analysis based on the *Science Citation Index* data is aimed to clear up the sphere of influence and interest to the Estonian marine research. The justification of the self-citation as well as the co-authorship trends will also be investigated.

The results of the work could be used by the institute authorities for design of the scientific and personnel policy of the institute. The scientists are also interested in the results, which can help them in their publishing activity.

I am going to keep you informed through the EURASLIC Newsletter on how the work advances. I would be very glad to discuss the matter with colleagues from other institutions having experience in similar field.

Denmark

COUNTRY REPORT – DENMARK

By

Lilian Mex-Jørgensen[1] – and Kurt Prentow [2]
[1]National Environmental Research Institute, Departments of Lake and Estuarine Ecology and Streams and Riparian Areas, Silkeborg, Denmark
[2]North Sea Centre Library, Hirtshals, Denmark

Overview

This report covers the three libraries of the **Danish Institute for Fisheries Research** (DIFRES) (situated in Charlottenlund, Lyngby and Silkeborg), the **North Sea Centre Library** (situated in Hirtshals), and the library of the **National Environmental Research Institute** (NERI) - mainly the Departments of Lake and Estuarine Ecology and Streams and Riparian Areas (situated in Silkeborg).

Today the typical librarian's work tends to move to jobs including general information dissemination *via*, for instance, webpages on internet/intranet. Thus, as librarians we are getting accustomed to many new aspects of the electronic world. We have, of course, searched on-line for information in databases for several years but are now additionally involved in the world of electronic journals, electronic publishing, webpages and information management in a broader perspective.

For some of us, the **intranet** and **webpages** have become facets of our daily work, and we are quite happy with it and find it natural to solve the tasks involved - it is simply information management *via* a new medium.

In general, the current trend in Denmark moves towards the formation of **'library consortia'**, i.e. a number of libraries decide to co-operate to obtain full text access to electronic journals from various scientific publishers. Another area of co-operation is access to a **gateway** to a database containing full text journals and other subject-specific information.

Thanks to the support from the Danish Government, we have at least for a trial period, been able to keep pace with the electronic development and obtain electronic full text access to journals without additional expense. What will happen when the trial period ends in about two years, nobody knows. However, when you as a professional or a scientist have become used to being able to pull down desired information in less than no time, it will be a serious step backwards if electronic access is discontinued - with or without governmental support. Ultimately, it is a political decision whether or not to support (more or less) free access to scientific electronic information for university and governmental research. It will be quite interesting to see at which price and access level the publishers will agree.

Small and medium sized libraries are co-operating to obtain cheaper prices. During the autumn of 1999, the five libraries covered by this report attempted to initiate a co-operation with a number of other small-sized libraries within the food technology, agriculture and fisheries sectors. The purpose was to establish a joint gateway to electronic journals. However, owing to very different information needs and technical information levels the attempt did not succeed.

Staff/Library Situation

At the **North Sea Centre Library**, **Kurt Prentow** replaced Søren Elle on 1 May 1999. One of the main partners of this library, DIFTA, closed on 1 April 2000 as a consequence of financial difficulties. Part of DIFTA is currently being reconstructed. The library continues to function as a joint library to institutions (including the Hirtshals branch of DIFRES) and companies situated at the North Sea Centre.

NERI consists of three libraries – two situated in the western part (among these the Silkeborg library) and one in the eastern part of Denmark. The libraries cover most environmental subjects.

At the eastern NERI library, a possible integration with the library (environmental subjects) placed at the same locality is being closely examined. It is not yet known to what extent such an integration will influence the cooperation between the three libraries. Unfortunately, as a consequence of the uncertain future one of the librarians has already found a new job.

Poland

POLAND COUNTRY REPORT (1999-2000)

By

Henryk Ganowiak
Sea Fisheries Institute, Gdynia, Poland

Presented by Allen Varley

Over the last two years in most of the Polish EURASLICs member's aquatic sciences libraries, the process of the computerisation of the card catalogues has been completed.

In some of the centres and libraries the process of modernisation of hardware and software has been carried out.

As a result of the increased and improved input to ASFA of Polish literary achievement in the aquatic sciences, the Sea Fisheries Institute (SFI) has obtained a free subscription for ASFA on CD ROM.

In some of the libraries and information centres, intensive arrangements are being made in connection with the anticipation of the Poland's entry to the European Union. In order to achieve this goal, Polish library standards must conform with the existing western European standards. In the frame of these arrangements the specialists of the information centre of the SFI in Gdynia are preparing a Polish vocabulary of the *Multilingual Illustrated Dictionary of Aquatic Animals and Plants* published by Fishing News Books and the Office for Official Publications of the European Communities. It brings together more that 1,500 species.

One of the library and scientific information specialists of the SFI spent two months in Sweden (December 1999 January 2000), in order to be acquainted with the new organisation and methods of work used in big Swedish university libraries (Stockholm, Uppsala, Lund, Linköping and Norrköping).

As a result of the governmental organisational changes in Poland, taking place starting from 1 January 2000, the Sea Fisheries Institute has been subordinated to the Ministry of Agriculture and Food (before it was submitted to the Ministry of Transportation and Maritime Economy).

Proceedings of the 8th Biennial Meeting of EURASLIC
Aberdeen, Scotland, 3-5 May 2000

Norway

THE LIBRARY OF THE DIRECTORATE OF FISHERIES AND THE INSTITUTE OF MARINE RESEARCH

By

Lillian Skaar
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Overview

This year the Directorate of Fisheries and the Institute of Marine research can celebrate their 100th anniversary. Our library is therefore about 100 years old.

The original aim for the Directorate was the following, which I find rather sweet: "...in general to have its attention to all that may serve promotion and development for the Norwegian Seafisheries and conduce the realisation of the arrangements that for this purpose seems suitable".

The Directorate of Fisheries is, nowadays, providing, on an expert basis, all necessary statements and reports, first and foremost for the Minister of Fisheries. To cover these duties the Directorate is built up with an administrative branch and a research institute, the Institute of Nutrition. The Institute of Marine Research was a part of the Directorate until September 1989 when it was made a detached research institute. Our library serves them all.

The Directorate's tasks cover a wide field as for example legal matters and fishing activities, fishery economics and statistics, engineering, quality control and aquaculture.

The Institute of Marine Research aims at supplying the necessary basis for the best possible use of the ocean and its resources. For the fishing industry the most important factor is the biological production in the ocean, as a basis for fisheries and catches.

The Institute of Nutrition investigates fish for human consumption. It also examines polluted and poisoned fish. Research is conducted into vitamins and fats, proteins and amino acids. In co-operation with the Institute of Marine Research, the Institute of Nutrition investigate appropriate ways of feeding farmed fish.

In the beginning the library comprised only a few books placed in several offices and departments, and for a period, in two libraries. Eventually, in 1990, we managed to get the whole collection in to one library.

We serve both scientists, students and private individuals from all over the country, not only on scientific questions but maybe a question about " what happened to the boat that my uncle owned in 1950?"

From the year 2000 we are a part of BIBSYS, one of the two major union catalogues in Norway.

BIBSYS

BIBSYS started up in 1972, and is a Norwegian library system for about 70 academic and research libraries in our country. The system includes references to approximately seven million books and publications.

The database is a union catalogue for the library collections of all the BIBSYS members. Each library catalogue and index their collections into BIBSYS. On the average of 70,000 search requests are processed every day. The local databases can be searched individually, but the union database is the default search domain.

BIBSYS is at present working on a strategy concerning electronic publications - BIBSYS wishes to act as an agent to the collective agreements for making the electronic journals available for all the BIBSYS libraries. A web-based interface to the catalogue is available freely to anyone with Internet access, and you can choose between Norwegian and English as a command language

The internet address is:
http://www.bibsys.no

ASFA

Our library is the only Norwegian input centre to ASFA.
Norway is one of the 27 national ASFA partners.
Generally, the ASFA national partners give their input to the publishing partner CSA in computer readable format. Due to shortage of staff we have chosen to pay CSA to record the Norwegian entries.

Accordingly, we send the documents to CSA, and they prepare and process the input for ASFA.
In return the subscription price of ASFA is reduced according to the amount of records sent per year.
Since 1997 the Norwegian contribution has been about 300 entries each year.
Our ASFA-librarian is working once a week monitoring and picking up relevant documents and records published in Norway and sending it to CSA, Bethesda.

GLODIR

Last year we had some financial support that made it possible for us to fulfil our so-called
GLODIR-project.

We had already received information on 229 Norwegian scientists. These entries were recorded in the first half of 1999.

Corrections are now the responsibility of the scientists themselves.
By April 2000 there were 247 Norwegian entries in GLODIR.

Proceedings of the 8th Biennial Meeting of EURASLIC
Aberdeen, Scotland, 3-5 May 2000

Ukraine

STEP BY STEP TOWARDS WHAT?

By

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My first acquaintance with EURASLIC was in 1994. The resulting communication with the colleagues from abroad was encouraging and stimulating; it was a fresh impulse to revise the past and to begin reorganising. After having taken practical training at the library of Plymouth Marine Laboratory, I felt a strong desire to change the rhythm and the model of work at my own library and the, given the success, at all marine and aquatic libraries of Ukraine. I wished to advance at every flank and to win the battle. I wished to gain the victory immediately. A then I heard wise words from David Moulder. He said 'step by step, please'. I am still grateful for this advise.

Now I would like to briefly describe this step-by-step advancement.

The First Step

1994 was marked by two events: the library got its first computer, and I took a training course in Plymouth. I gained the experience in general management and in the operation and programming of CDS/ISIS. My sincere thanks to Allen Varley for his patience and the words of encouragement at teaching me.

On my coming back home, I initiated a series of actions for compiling an electronic catalogue at my library.

In 1995 an opportunity appeared to connect to the internet. We did not miss the chance and began exploring the possibility to broaden our horizon. In the same year we joined ASFA, and FAO provided us with another computer so that we could adhere to standards in our work. Owing to our partnership with this organisation, the library has got a complete CD set of ASFA and since 1999 the on-line access to this valuable source of scientific information.

By 1999 the library of our Institute could provide prompt access of the interested researchers to the abstracts through ASFA CD and on-line as well as reprints of scientific publications from EURASLIC and IAMSLIC.

The absence of steady financial support from the state to the IBSS made me begin search of other financial sources which would allow to enlarge the technical base (computers, printers, Xerox apparatus) of the library. Having looked through the Report on Diagnostic Procedures and a Definition of Minimum Requirements for Providing Information Services on a National and/or Regional Level where the IODE Group of Expert in Marine Information Management, I decided to compose a draft version of a project and to venture formal. I did what I could and began waiting for a resolution. I waited a long time.

The Second Break Through

In 1998 International Renaissance Foundation (IRF), the Representation of the Soros Foundation in Ukraine, announced a project contest 'Developing Internet in Ukraine' for Ukrainian libraries.

It was our chance to receive a grant. The project I submitted was titled "Organising a centre for providing access to the information base of the internet and disseminating electronic publications on environmental protection and ecological problems among the libraries and non-governmental organisations of Crimea and Ukraine".

In 1999 the implementation of the project began. Strictly speaking, by that time we had created a consulting nodule which served other libraries. We had also drawn up a CDS/ISIS – based programme for an electronic catalogue. Sine then the program has been distributed among marine and aquatic libraries and other interested users. Fully realising the importance of connecting to the internet many other libraries, especially those dealing with aquatic sciences, we decided to get a robust library server for connecting the libraries of Sevastopol and Crimea to the internet. In doing this, we would fulfil an essential task set by the Information Centre.

Another task of utmost importance was to ensure the dissemination of electronic publications. Therefore, under the aegis and with the financial support of the International Renaissance Foundation a consortium of the largest libraries and information centres was organised in Ukraine which made possible to have access to full texts electronic versions of scientific journals by Springer.

Another consortium of Ukrainian libraries was created under the aegis and with the support of the Institute for Open Society (Hungary) and EBSCO, the largest publishing house in the world. Through this, in the end of 1999, we got access to more than 3,000 full-text electronic journals and some other publications in social and natural sciences. The medical database MEDLINE is also open to users.

The scientific Library of IBSS participates in both the consortia.

To cope with the current and long-range tasks having been set to the Information Centre, our library has got a number of essential technical devices such as four computers, a library server, several photocopying devices and printers; two of the computers are connected to Internet. Our web site is as follows: http://library.iuf.net.

Let me describe briefly what services we provide to scholars, post-graduates, university students, non-governmental environmental organisations and libraries.

- Access to Springer electronic publications.

We have described how to access and search in detail. Spring electronic publications for Internet users who are in touch with the provider of the Institute of Biology of the Southern Seas.

We provide information to those who do not have Internet access. This includes the list of Springer high-rating electronic journals on the problems of aquatic sciences and ecology. In compiling the list we took into account the information gathered before about journals which would definitely be requested by concerned libraries and scholars. The library subscribed to the contents pages of these journals. The contents pages are available in electronic version and on the paper; the former are sent to libraries or other users by e-mail, the latter by regular mail. The readers order full texts of the Springer electronic publications after acquainting with the contents and making their choice.

- Access to the ASFA CD and on-line.

- Acquaintance with contents and abstracts of scientific journals published by Elsevier, Springer, Kluwer, Inter-Research, Academic Press and others.

The Scientific Library of IBSS has got a subscription to contents high-rating journals highlighting advances in marine and aquatic researches and published by Elsevier, Springer, Kluwer, Inter-Research, Academic Press and others. The Centre offers an opportunity for users to have copies of the contents through e-mail or regular mail as well as to look through the contents directly at the library. Those who may be acquainted with the contents through Internet, are provided with e-mail address of the publishing houses. The number of

cooperating publishing houses will grow. We are receiving requests for contents pages of journals which have not been put on the list as yet.

- Receiving reprints from journals on marine and aquatic researches within the framework of international Inter-Library Loans.
- Access to EBSCO information search system.

The information Centre takes and handles requests for finding information in need in EBSCO database. Libraries and users connected to the IBSS server are permitted to make the on-line search by themselves.

The Centre serves the users by using stocks of the library, giving requested reprints, and through inter-library loans. The list of foreign periodicals available in the scientific library is accessible through our web site.

We offer the following services to Libraries:

- Connection to the library server of the Institute of Biology of the Southern seas;
- Software for compiling and updating the library catalogue worked out with the employment of Micro CDC/ISIS;
- Consulting and training courses in the modern library management and operation to librarians.

Our web site also informs interested librarians about the professional library associations of the world (such as EURASLIC and IAMSLIC).

The Centre has just begun operating; we shall be enlarging the range of our services and potential to fully satisfy the demands of the users.

Our recent ambition is to have all marine and aquatic libraries of Ukraine joined together. Today this integration is blocked due to the financial instability of the majority of Ukrainian institutes. Many scientific libraries do not have computers and hence the access to the internet and e-mail. A pressing problem is the generally meagre salary of the librarians, who do their regular and extra work being guided by sheer altruism and enthusiasm.

Croatia

RUĐER BOŠKOVIĆ INSTITUTE, ZAGREB, CROATIA: LIBRARY REPORT

by

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Several Croatian scientific institutions are involved in aquatic research: the Institute of Oceanography and Fisheries, Split (with the Department in Dubrovnik), the Ruđer Bošković Institute, the Faculty of Science, the Department of Geophysics and the Hydrographic Institute of the Republic of Croatia. Both the libraries of the Institute of Oceanography and Fisheries and the Ruđer Bošković Institute are Euraslic members. These two libraries work together on a common Project CNS (The Croatian Natural Sciences Information System) with the purpose of creating a virtual library with all the relevant data accessible through the network.

The Ruđer Bošković Institute has two Departments for Marine Research: Center for Marine and Environmental Research in Zagreb and Center for Marine Research in Rovinj. The library in Rovinj maintains a large collection of books and journals dealing with marine science.

The library of the Ruđer Bošković Institute has been established in 1950. It is the biggest scientific library in the Republic of Croatia. Our collections cover the fields of physics, mathematics, electrical engineering, chemistry, biology, medicine, environmental and marine science. The library holds about 30,000 books, and 500 theses. The number of the current periodicals is 400, and the total number of the titles is 920. Our users are researchers, engineers, scholars and students.

The library is involved in several projects. The Croatian Natural Sciences Information System (http://prirodo.irb.hr) has started in 1995 and is co-ordinated by the Institute Ruđer Bošković Library. The purpose of the project is to create an union online catalogue in the field of science and make the databases accessible through the network. At the moment 23 libraries are involved in the project, among them the library of the Institute of Oceanography and Fisheries-Split.

The Ruđer Bošković Institute Library is also included in the CARNet information research projects (Croatian Academic Research Network) The projects are developing and supporting the network and the information infrastructure of the academic and scientific research institution. The CARNet has been supporting several projects. The RBI Library carries out the project entitled: 'Center for Online Databases CARNet'. (http://nippur.irb.hr/ovid/) . The project has began in 1995 and was designed with the aim of becoming the first national service, which would provide a free network access to the commercial databases to users. The Online Database Center is hosted and managed by the IRB Library, and has grown to be a bibliographic service for the entire academic community of the country. The following Databases are available at the moment: Current Contents, Medline, Agricola, Inspec, Eric, Core Biomedical Collection, Evidence-Based Medicine Review .

The RBI Library also conducts the project "Croatian Scientific Bibliography" (http://bib.irb.hr), created with the purpose of collecting all the scientific works produced in Croatia, as the result of the work on the projects of the Ministry of Science and Technology

In 1999 the RBI Library has become a Croatian regional center for the International Geosphere-Biosphere Programme (IGBP)

One of our priorities is maintenance of the library site (http://library.irb.hr). We have been present on the world wide web since 1994. All the librarians are involved in the creating and maintaining of web pages. We try to make our pages (we offer over 1,500 pages on our Web site) as informative as possible. The pages contain various information about library, its services and activities, online catalogues, electronic archives etc. All pages are both in Croatian and English language. Some of the most important library pages are as follows:

Online catalogues (http://nippur.irb.hr/eng/catalogs.html) - library online catalogues of books and periodicals as well as union catalogues. There is also a 'List of current periodicals' (http://nippur.irb.hr/eng/lista.html) with direct links to home page of each journal.

Science on Internet (http://nippur.irb.hr/hrv/resources.html#zni)- divided into subfields and covering all the subjects of science including oceanography, oceanology and marine science.

Library and Information Sciences (http://nippur.irb.hr/eng/knjiznicarstvo.html), Library Conferences, Electronic library journals, Libraries in Croatia, Libraries around the World etc., are very useful and informative pages for librarians.

A full-text of the Institute's Annual Report could also be found on the Web (http://nippur.irb.hr/izvjestaj/) with the description of the research programs in the field of marine science.

We hope to develop all our services in the near future, start some new, as well as improve co-operation with our colleagues by becoming a more active member in EURASLIC.

Acknowledgement

I wish to express my sincere thanks to Ms. Sofia Goulala for including my name on the list, the IOC (Intergovernmental Oceanographic Commission), and all the members of EURASLIC for sponsoring my attendance at the VIII Euraslic Conference.

Poland

Jadwiga Zdanowska
Inland Fisheries Institute, Olsztyn (Poland)

(Not Presented)

Thank you very much for the invitation to attend the VIIIth EURASLIC CONFERENCE in Aberdeen, 3-5 May 2000. I am sorry but I can not participate in the conference for many reasons. I wish you interesting discussion and I hope to meet you next time.

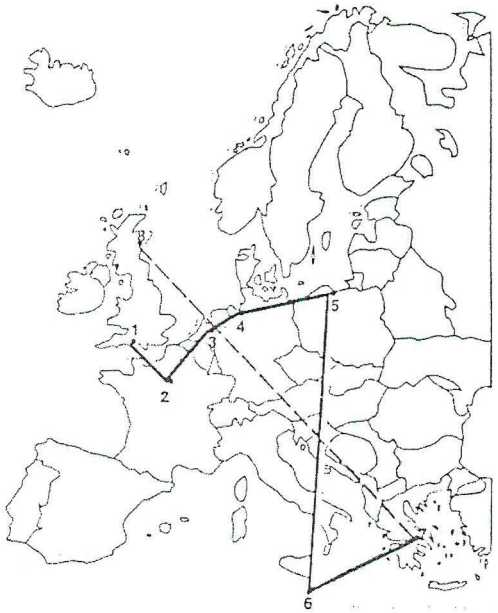
I would like to exchange with you some reflections about situation in Poland. Over the last ten years an increase of interest in computer information sources has been observed, which is apparent from recent conferences. One of these was Infobases'99 Conference, which was held in Gdansk (Poland), 30 August - 1 September 1999. The subject of the conference was the presentation and dissemination of databases for different scientific fields.

The second conference: The Vth Information Forum, was organised in Zakopane (Poland), 18-21 October 1999. This conference had a somewhat wider range. Its main idea was: Information in society of the new millennium. At this conference I presented a report about EURASLIC: *International cooperation between libraries and information centres within the scope of fisheries and aquatic sciences*. I enclose a brief version of it. (p141).

This year there are some meetings concerning integration of information activities in Poland. All these meetings are part of the preparation taking place before enter to the European Union.

I wish you all many successes during the VIIIth EURASLIC Conference.

EURASLIC – współpraca europejska bibliotek i ośrodków informacji



Spotkania EURASLIC: 1 - Plymouth, 1988 (Wlk. Brytania), 2 - Paryż, 1990 (Francja), 3 - Lelystadt, 1991 (Holandia), 4 - Bremerhaven, 1992 (Niemcy), 5 - Gdynia, 1994 (Polska), 6 - Valletta, 1996 (Malta), 7 - Ateny, 1998 (Grecja), 8 - Aberdeen, 2000 (Wlk. Brytania)

EURASLIC - European Association of Aquatic Sciences Libraries and Information Centres, czyli Europejskie Stowarzyszenie Bibliotek i Ośrodków Informacji z zakresu Nauk o Środowisku Wodnym to organizacja, która powstała w celu skupienia wszystkich instytucji europejskich posiadających zbiory biblioteczne i prowadzących działalność informacyjną o określonej tematyce (rybactwo, hydrobiologia, hydrologia, oceanografia).

Pierwsze spotkanie organizacyjne odbyło się w 1988 r. w Plymouth (Wielka Brytania), a następne w innych krajach, początkowo nieregularnie, ale już od 1992 r. – co dwa lata (mapa)

Obecnie stowarzyszenie skupia 550 instytucji zlokalizowanych w 23 krajach Europy. Oprócz praktycznie wszystkich krajów zachodnioeuropejskich należą do niego także Polska, Węgry, Bułgaria, Rosja, a także Litwa, Łotwa, Ukraina.

W Polsce ośrodków, które specjalistycznie mieszczą się w tematyce ogólnie mówiąc „wodnej" jest co najmniej kilkanaście. Są to instytuty Polskiej Akademii Nauk, uczelnie z wydziałami rybackimi, a w pionie instytutów naukowo-badawczych resortowych wymienić trzeba:

- Instytut Rybactwa Śródlądowego
- Morski Instytut Rybacki
- Instytut Meteorologii i Gospodarki Wodnej
- Instytut Medycyny Morskiej i Tropikalnej
- Instytut Ochrony Środowiska
- Instytut Geologiczny – Oddział Geologii Morza.

EURASLIC organizuje spotkania, których celem jest wymiana doświadczeń zawodowych, wymiana informacji, nawiązanie współpracy, usprawnienie obiegu informacji, uzgodnienie możliwości wymiany czasopism czy udostępniania zbiorów bibliotecznych, współpraca przy tworzeniu baz danych (np. w ramach ASFIS).

Współpracę międzynarodową zawsze da się przełożyć na działania poszczególnych instytucji czy osób, ma ona wymierny charakter i niesie za sobą określone korzyści. Istnienie w sieci organizacyjnych powiązań międzynarodowych daje możliwość rozpowszechniania polskich osiągnięć naukowych, a obecność w światowych obiegach informacji stwarza szansę na zaistnienie w nauce na liczącym się poziomie.

Jadwiga Zdanowska
Instytut Rybactwa Śródlądowego

(Skrót referatu wygłoszonego na V Ogólnopolskiej Konferencji FORUM INFORMACJI – Zakopane - 18-21 października 1999 r.)

A country report for Germany was given by Barbara Schmidt
(Institute of Marine Research, Dusternbrooker, Weg 20, D-24105 Kiel)

Commercial Presentations

ASFA UPDATE ON CSA'S INTERNET DATABASE SERVICE

By

Tina Long
Cambridge Scientific Abstracts, European Office, Newbury,
Berks, RG14 1LA

Who is Cambridge Scientific Abstracts?

- Privately owned 30 year old company
- Bibliographic database and abstracts journal publishers
- 60 databases - materials, engineering, environment, computers, aquatic, life sciences, social sciences
- Print, CD, onling, Internet
- Internet pioneer, innovator and established leader

Major Databases on IDS

- Aquatic Sciences and Fisheries (ASFA)
- Biological Sciences
- Biotechnology and BioEngineering
- Computer Information and Technology
- Environment Sciences and Pollution Management
- Linguistics and Language Behaviour Abstracts
- Materials Science Collection (with M/DEX)
- Sociological Abstracts
- The Complete Cambridge Sciences Collection

The ASFA Database

- 750,000 records
- 1978 to present
- 4,000 journals in 50 language monitored
- Books, reports, grey literature
- Internet, CD, Online and Print

ASFA Partnership

- 4 UN Agencies
  - FAO
  - UN Division for Ocean Affairs and the Law of the Sea
  - UN Environment Programme
  - UNESCO Intergovernment Oceanographic
  - Commission

More Partners

- 4 International Partners
  - International Centre for Living Aquatic Resources management
  - International Council for the Exploration of the Sea (ICES)
  - IUCN - The World Conservation Union
  - Pacific Islands Marine Resources Information System (PIMRIS)

World-wide Input Centres

- 30+ Input Centres
- Plymouth Marine Laboratory in UK

New Input Centers 2000

- Bulgaria
- Chile
- Cote d'Ivoire
- Korea
- Peru
- Morocco

New Electronic Only Data

- Input from US National SeaGrant Depository
  - *Ensuring greater coverage of North American grey literature*

- Meaning for EURASLIC community?
  - *Cooperative Ventures with European Databases?*

New Records

- IOC Science and Communication Centre on Harmful Algae
  - *Records Dating back to 1920's*

Expanded Coverage

- More and more non-English abstracts
  - Prior to 2,000, emphasis on German, French and Spanish
  - Now adding Croatian, Norwegian, Portuguese, Italian and Slovenian

- Appear in 'Abstract Field'

New Search Features for ASFA on IDS

- French Translation
- Interactive Thesaurus PLUS
  - Taxonomic Terms
    - Over 250,000 Latin Terms
    - Mainly Aquatic, not restricted to aquatic species
    - Many terms have common names
    - Few new thousand terms added each year!

Web Resources Database

50,000 indexed Web sites, searched automatically in:

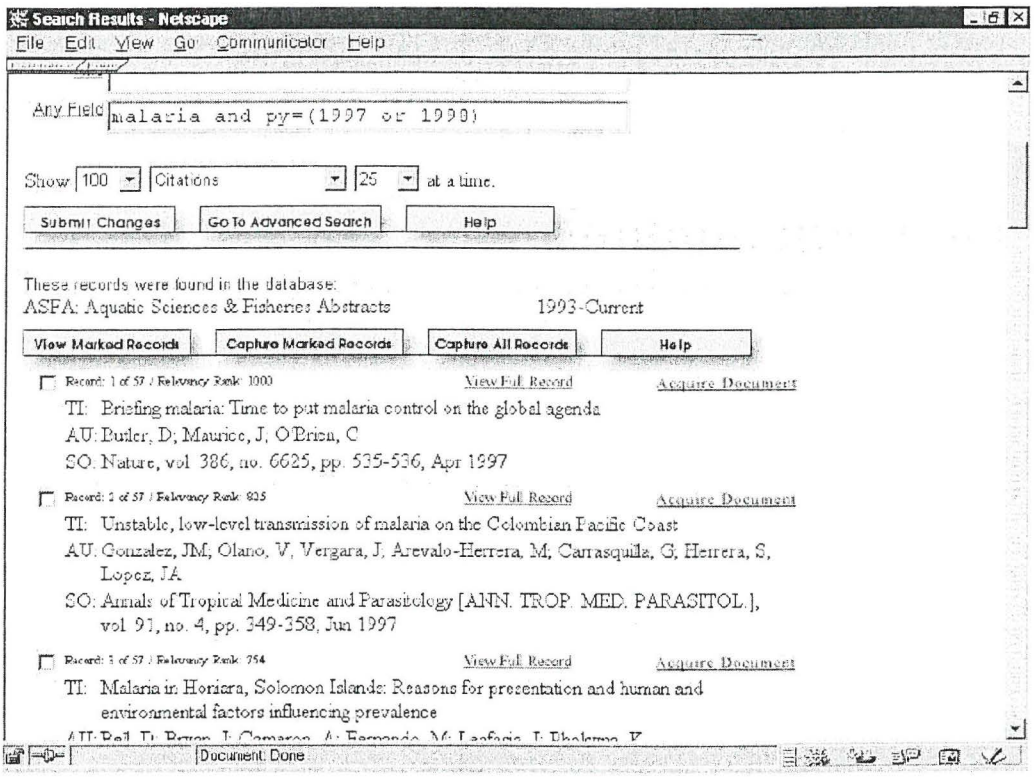
- Aquatic sciences
- Biological sciences
- Environmental sciences

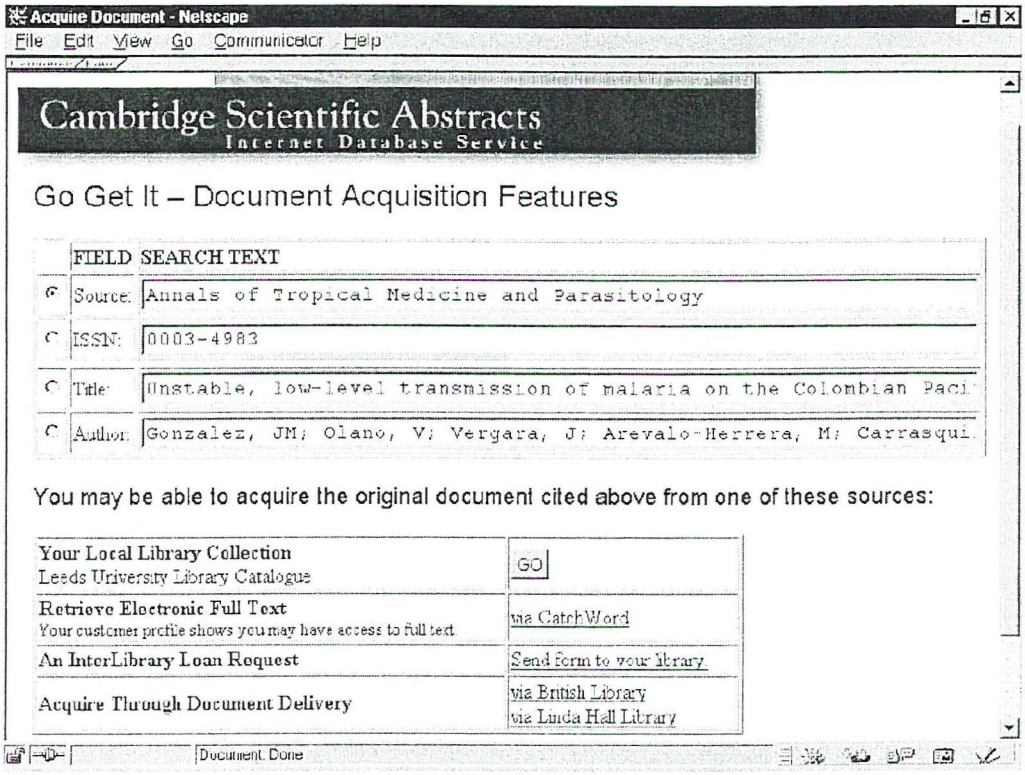
Recent References Related to your Search

- Searched automatically
- Covering 1,200 core journals
- Updated daily
- Covering:
  Environmental Sciences, Aquatic Sciences and Biological Sciences

Fulltext Linking

- Academic Press IDEAL
- SwetsNet
- Catchword RealPage
- Springer-Verlag
- Kluwer
- Elsevier Science
- HighWire Press




Acquire Document - Netscape
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FIELD SEARCH TEXT
Source: Annals of Tropical Medicine and Parasitology
ISSN: 0003-4983
Title: Unstable, low-level transmission of malaria on the Colombian Paci
Author: Gonzalez, JM; Olano, V; Vergara, J; Arevalo-Herrera, M; Carrasqui
You may be able to acquire the original document cited above from one of these sources:
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via CatchWord
An InterLibrary Loan Request
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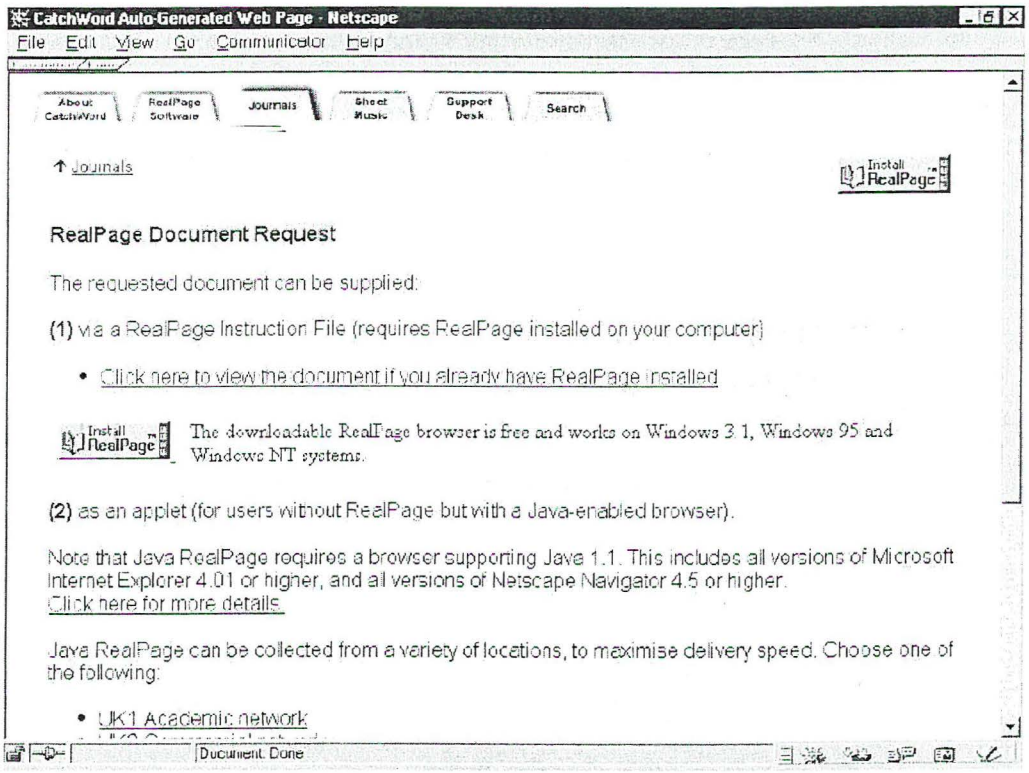
Acquire Through Document Delivery
via British Library
via Linda Hall Library
Document: Done


CatchWord Auto-Generated Web Page - Netscape
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Journals
Sheet Music
Support Desk
Search
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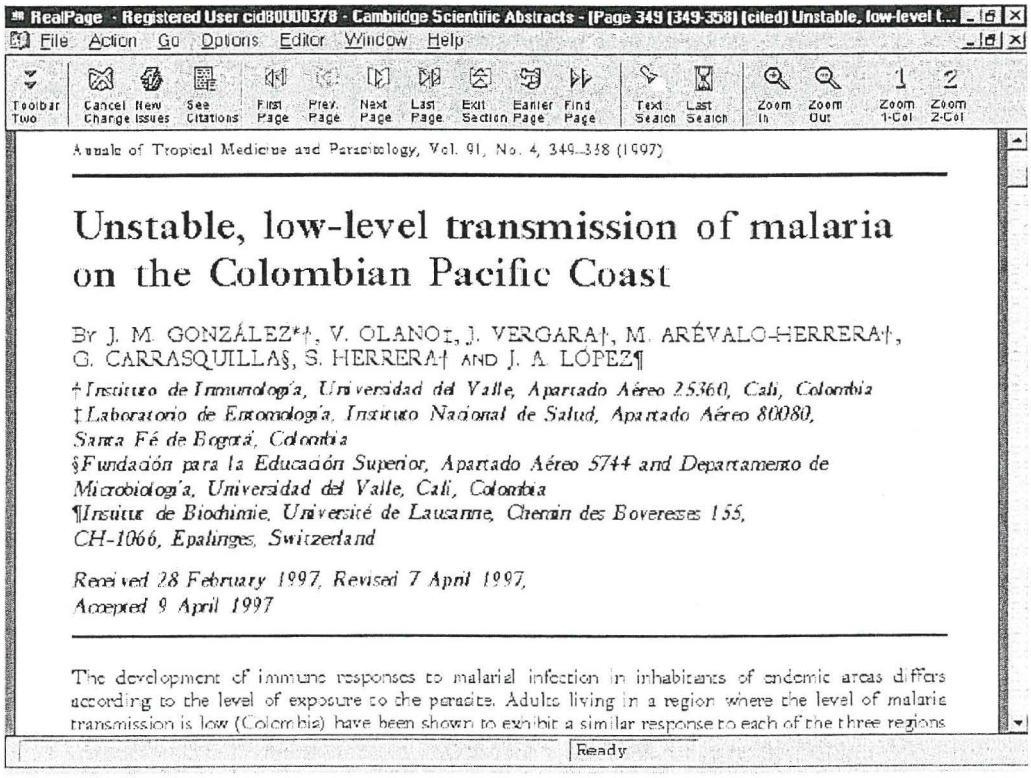
RealPage Document Request
The requested document can be supplied:
(1) via a RealPage Instruction File (requires RealPage installed on your computer)
Click here to view the document if you already have RealPage installed
Install RealPage
The downloadable RealPage browser is free and works on Windows 3.1, Windows 95 and Windows NT systems.
(2) as an applet (for users without RealPage but with a Java-enabled browser).
Note that Java RealPage requires a browser supporting Java 1.1. This includes all versions of Microsoft Internet Explorer 4.01 or higher, and all versions of Netscape Navigator 4.5 or higher.
Click here for more details
Java RealPage can be collected from a variety of locations, to maximise delivery speed. Choose one of the following:
UK1 Academic network
Document: Done



Fulltext Linking *soon...*

- EBSCO
- Dawson's Information Quest
- Others

Document Acquisition Features

- Link-to-Holdings
- Link-to-Fulltext
- Inter-Library Loan
- Document Delivery
- Requirements set via password-controlled administrative module

IDS Demo Version 5.2

- Based on Alta Vista
- Released - June 2000
- No change in overall look, just more functionality

CSA European Office

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Phone: +44 1635 262711
Fax: +44 2635 262717
e-mail: eurosales@csa.com
Technical Issues: eurosupport@csa.com

- http://www.csa.com
- http://www.csa1.co.uk

AN OCEAN OF INFORMATION AT YOUR FINGERTIPS

By

Sally Stone
Senior Publishing Editor, Ocean Sciences, Elsevier Science Ltd, Oxfordshire, England, United Kingdom

OCEANBASE

on

SCIENCE DIRECT®

An ocean of information at your fingertips

1. Getting Started:

- Go to www.sciencedirect.com and Login.
- Select 'Marine Science & Technology' as your Home Page.
- Click on 'search', and choose 'Oceanbase'.

2. Searching:

a. Basic Search: Easy form for simple queries

Searchable fields	(Segment names):
Abstract, Title, Keywords	(default – searches access all these fields)
Abstract	
Authors	
Index Terms	(general subject index)
Regional Terms	(geographic index terms)
Species Terms	(biological index terms)
Title	(of Journal article or book chapter)
Journal Names	
ISSN	

Combine search terms with Boolean connectors:
Wildcard characters

!variable number of characters	behav! Retrieves behaviour, behaviour, behavioral, etc.
*any single character or no character	colo*r Retrieves color or colour
	transplant* retrieves transplants but not transplantation

AND	when both terms must appear	breakwater and bay
OR	when at least one term must appear	salinity or density
AND NOT	exclude terms	pollution and not hydrocarbon

Proximity connectors

W/nn	indicates distance between words (any order)	fish w/3 stock
PRE/nn	terms must appear in specific order	ecological pre/3 model*
W/SEG	terms must appear in same segment (field)	fish! W/seg stock

b. Enhanced search: Dialog box to use full ScienceDirect command language with field names, proximity connectors and wildcards

Searchable fields (Segment names)	Query Examples
Abstract [1]	abstract (kelp and communit*)
Authors	authors (miller g!)

Searchable fields (Segment names)	Query Examples
Affiliation[2]	affiliation(university of colorado)
Index Terms	index-terms(stratigraphic correlation)
Species Terms	species-terms(anguilla anguilla)
Regional Terms	regional-terms(Atlantic)
Title	title(food web* w/3 pelagic)
Journal Name	journal-name(deep sea research)
ISSN	issn(0967 0637)

(1) You can search/limit your search to document type (e.g. journal article), number of references (e.g. 62 refs), language of article (e.g. in german).

(2) Author e-mail address is searchable in the Affiliation Field via the Enhanced Search.

c. Search hints:

- Choose the most specific terms possible to avoid retrieving too many records (system limit: 1,000 records);
- Author names: Include wildcard characters and proximity operators (see above) to retrieve variant forms (with and without initials)
- Avoid very broad or general words — cell, behaviour etc.
- Include synonyms or alternative word forms — magnetic resonance imaging or mri
- Singular words also retrieve most plural and possessive forms — antibiotic gets antibiotics
- Stopwords are ignored — the, an, he, she, it, because, when
- For Greek letters, use English equivalents — for •, use beta
- Super- and subscripts are ignored — for H_20, use H20
- Accents and diacritical marks are not used — for köller, use koller
- Non-alphanumeric characters are not searchable — for high-risk, use high risk
- System is not case-sensitive

3. Alerts:

Oceanbase is a unique bibliographic database covering the global research and engineering literature for all areas of marine science. You can save a search as an Alert to be notified by email when articles of interest are added to Oceanbase that match your search profile. An Alert can be scheduled to run daily or weekly. To create an Alert, just define and run a search. When you receive your search results, save the search as an email Alert by clicking on the link. You can define up to 10 Alerts and the results from each are accessible for 30 days.

4. Full Text Articles:

Many of the Oceanbase records offer a link to the full text article in the ScienceDirect database. Click on 'Article' to retrieve the full text HTML version or Journal Format-PDF if you wish to print off.

5. Reference Linking:

Once you have retrieved an article, you may wish to scroll down to the reference list. From the Reference List, you can link to Abstracts and further Articles.

Asia Pacific
E-mail: asiainfo@elsevier.com.sg

Europe And Africa
E-mail:nlinfo-f@elsevier.nl

Unites States and Canada
E-mail: usinfo-f@elsevier.com

Japan
Info@elsevier.co.jp

Latin America
E-mail: elsevier@campus.com.br

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Posters

Fisheries Periodicals in the FAO Library Review of an International Collection

ABSTRACT

The paper discusses a complete review of almost 2000 periodicals titles on fisheries, aquaculture and related aquatic sciences held by FAO's Fisheries Branch Library, the most comprehensive and relevant collection of fisheries-related literature in the world.

The review process used present and past FAO strategies to identify a series of relevant criteria for evaluating the relevance and importance of each title. The review process and recommendations are relevant to many library situations - not only national fisheries institutions but also specialist libraries in many fields.

ANALYSIS

A Core Collection of over 1700 titles was identified. Listings of titles are included in the Circular. 200 titles were identified for disposal. The review confirmed the effectiveness of previous collection policies, and the strategy-based approach formed an appropriate basis for a future collection policy and maintenance strategy. The paper discusses issues such as alternative access to periodicals via digital means, collection development, maintenance and disposal policy.

RECOMMENDATIONS

Some general points relevant to periodicals collection policy in many specialised libraries:

- Organisational strategy should be the main determinant of collection policy.
- Collection policy should be defined in a Collection Policy Statement .
- A review of collection policy should take place when strategy changes.
- The transition from print to electronic access should be evaluated in terms of cost-effectiveness and long-term goals. For the present, the 'hybrid' library remains the best option.

THE AUTHORS

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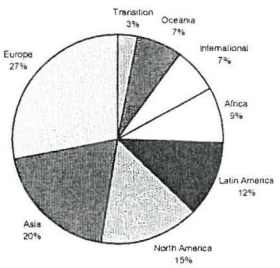
Telephone: +44 15395 33950.
E-mail: ip@ceh.ac.uk.

Jean Collins, Librarian, Fisheries Library, David Lubin Memorial Library, FAO, Via delle Terme Caracalla, 00100, Rome, Italy.
Telephone: +39-06-57054742
E-mail: fi-library@fao.org.

FAO FISHERIES LIBRARY

Within FAO's global strategic objectives of sustainable food security, the Fisheries Department is the international agency for fisheries. The library collection is unique in the breadth and depth of its coverage of fisheries and aquaculture in the developing world.

Countries of publication of periodicals in FAO Fisheries Library



AN OUTLINE FOR A COLLECTION POLICY STATEMENT

An outline collection policy statement might cover:

Introduction
- Purpose and audience
- Institution and clientele served
- Mission Statement and Goals

Overview of collection
- History
- Subject – emphasis and de emphasis
- Collection locations

Organisation of programme
- Staffing, liaison, budget
- Management of collection
- Equipment and technical support

General collection management
- Types of publications: eg rare and archival material, languages and translations, institutional publications, popular/scholarly
- Access: eg multiple copies, reserve/reference, access policy

Analysis of subject collection
- Collection levels
- Languages

PUBLICATION DETAILS

Pettman, I.; Collins, J. Fisheries Periodicals in the FAO Library: Review of an International Collection. ***FAO Fisheries Circular,*** **No 951. Rome, FAO. 1999. 54p. FIDI/C951. ISSN 0429-9329.**

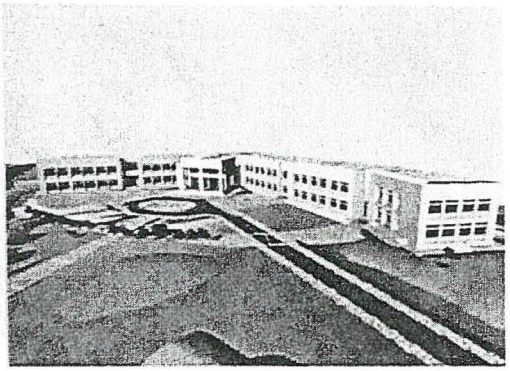
Copies of the Circular are free to delegates.

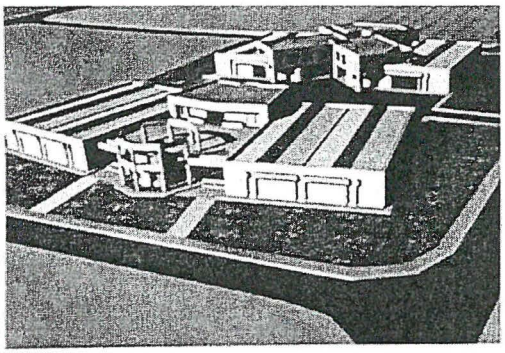
Food and Agriculture Organization of the United Nations

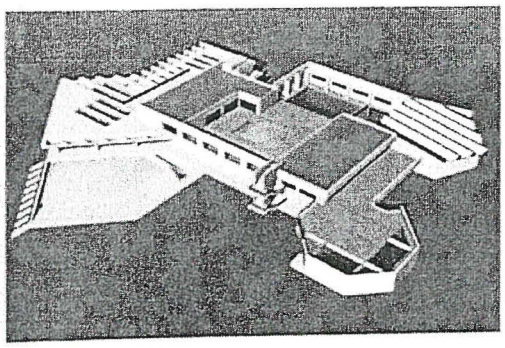
Organisation des Nations Unies pour l'alimentation et l'agriculture

Organización de las Naciones Unidas para la Agricultura y la Alimentación

INSTITUTE OF MARINE BIOLOGY OF CRETE IMBC







INSTITUTE OF MARINE BIOLOGY OF CRETE
ΙΝΣΤΙΤΟΥΤΟ ΘΑΛΑΣΣΙΑΣ ΒΙΟΛΟΓΙΑΣ ΚΡΗΤΗΣ

IMBC LIBRARY REPORT

FOR THE 8th EURASLIC MEETING
(Aberdeen, 4-6 May 2000)

*Stefanakis E.

*Institute of Marine Biology of Crete, 71 003, P.O.Box 2214, Heraklion, Crete, Greece

BACKGROUND

The IMBC Library was created in 1989 when the newly established Institute moved to the present harbour site in Heraklion in the island of Crete and constitutes the second library in Greece on the aquatic sciences. Provision was made for its collection of marine science literature to be housed in what was then a very small library. It was not, however, an easy time to set up a library as soaring costs for books and journals forced the rationalization of library resources on a worldwide scale.
However, some small-scale funding for the collection had been forthcoming from the NATO Science for Stability programme TISHECO and so a start was made.

LIBRARY RESOURCES

In Greece, aquatic libraries are attached to research institutions and generally are rather small. New establishments concentrate on collections of journals specific to scientific user needs.
The IMBC hard copy collection remains very small, roughly 700 books, more than 7000 reprints and 18 journals. The major areas covered are:

- aquaculture
- environment impact assessment
- environmental studies
- fisheries biology and management
- fisheries technology
- marine biology
- marine chemistry
- marine ecology
- marine geology
- marine mammals
- marine microbiology
- marine pollution
- oceanography

It also contains two CD-ROM databases:

- World Biodiversity
- Aquatic sciences and fisheries abstracts (ASFA)

No computerization development was possible until 1993 when IMBC was linked to the University of Crete library database, transforming the situation overnight. The outpost down in Heraklion harbour at last had the opportunity to join the ARIADNE Network of Greek academic and research centres and ARIADNET, which links Greece to the rest of the world.

IMBC COLLECTED REPRINTS

Three volumes of Collected Reprints (1987-1991, 1993-1994 1995) have already been compiled, with a third Volume (1995-96) almost ready for distribution. These have been widely distributed throughout Europe. The IMBC is seeking to establish links in collaboration in the exchange of journals and publications with other libraries, which specialize in marine sciences. Towards this end, in a new initiative for the Greek research libraries, the IMBC has made the abstracts of these Volumes freely available online and provided easy facilities for ordering reprints.

ONLINE BIBLIOGRAPHIC SERVICES

Within two months of the construction of the IMBC World Wide Web site (November 1995) a decision was made to provide free online access to abstracts from Workshops, seminars, and symposia hosted by IMBC. To date, the extended abstracts from the MAST MTP workshop (Feb 1996), the 28th EMB Symposium and MEDCOAST 95 have been available in this way, enabling thousands of users throughout the world to have direct access to these materials.
From 1997 the IMBC library has been also linked up with HERMES information system created by the Greek National Documentation Centre. This system contains the Union Catalogue of Scientific Periodicals in Greek Libraries. This database can be used online to locate details of journals held in more than 200 scientific libraries in Greece. Article requested during this latest period amount to almost 2000.

LIBRARY PROJECT

Since October 1996 the IMBC Library has participated in the EPET Program run by the General Secretariat for Research, Industry and Technology. The aim is to extend and upgrade the existing infrastructure, mainly in the state-of-the-art electronic equipment which is nowadays regarded as essential to cover future needs for participating in national and international networks in the 21st century. In the framework of the above-mentioned Programme the library has been able to purchase:

- A new building comprising 60 m2
- Library furniture from BT]
- Installation server (Sun Ultra-1 @167MHZ)
- Installation software to the server
- Library software Geac Advance V6.7, Z3950 server Geoac
- Installation system RAID 8GB to the server
- RAID = system of hard-disks with security level without losing the data in the event that a hard disk is destroyed.
- Installation CD-ROM Server 7 units to share CD-ROMS with LAN
- Installation WEB server
- Optical scanner Fujitsu 3097 E with ADF
- Rank Xerox 5334 copier
- 1 Laser printer HP 5si MX
- 1 Epson stylus color 800
- 1 DOT MATRIX Star LC24-10
- 2 Barcode scanner

LIBRARY TOOLS

The library uses the following tools:

- Anglo-American Cataloguing Rules, 2nd Edition 1998 Revisions_1993 Amendments Electronic Version 1.0/ CD-ROM format
- DEWEY for Windows CD-ROM Version and DDC 21 print version
- CDMARK Bibliographic
- CDMARK Subjects
- CDMARK Names

FUTURE PLANS

The library of IMBC as a member of the Greek Research Libraries Consortium will have access until the end of month in 3000 E -Journals full text from the above publishers:

- ELSEVIER SCIENCE
- SPRINGER -VERLANG
- ACADEMIC PRESS
- KLUWER
- MCB

At the end of the 2001 it is anticipated that the IMBC library will move to new premises comprising 300m2 within the new IMBC building. The new library will be fully equipped for the 21st century and will have the latest version of the library automation system Geac Advance as well as new hardware.
It is hoped that by the end of 2000 the library will have a new Web page and a new OPAC fully searchable via the WWW.

International Oceanographic Data & Information Exchange

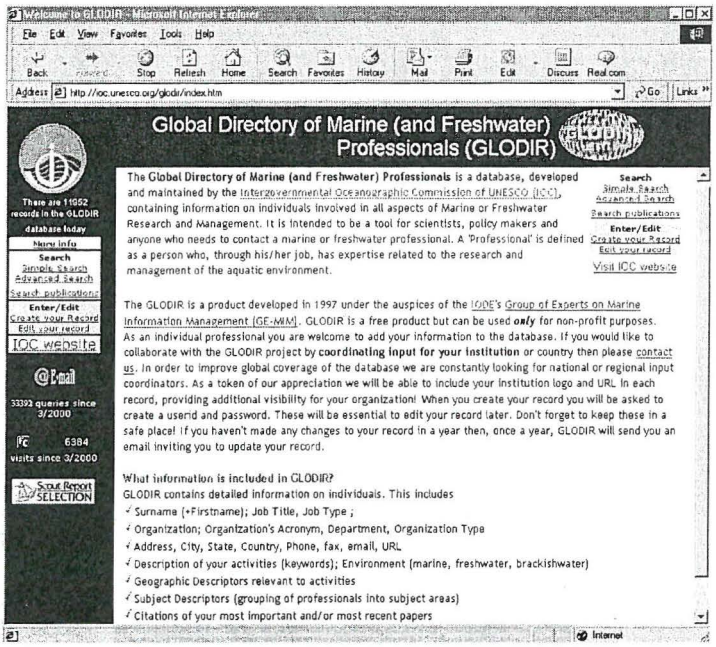
Global Directory of Marine (and Freshwater) Professionals

The Global Directory of Marine (and Freshwater) Professionals is a database, developed and maintained by the Inter-governmental Oceanographic Commission of UNESCO (IOC), containing information on individuals involved in all aspects of Marine or Freshwater Research and Management.

It is intended to be a tool for scientists, policy makers and anyone who needs to contact a marine or freshwater professional. A Professional is defined as anyone who, through his/her job, has expertise related to the research and management of the aquatic environment. The GLODIR is a product developed in 1997 under the auspices of the **IODE's** Group of Experts on Marine Information Management (GE-MIM). GLODIR **is a free product but can be used only for non-profit purposes**.

What information is included in GLODIR?

http://ioc2.unesco.org/glodir/

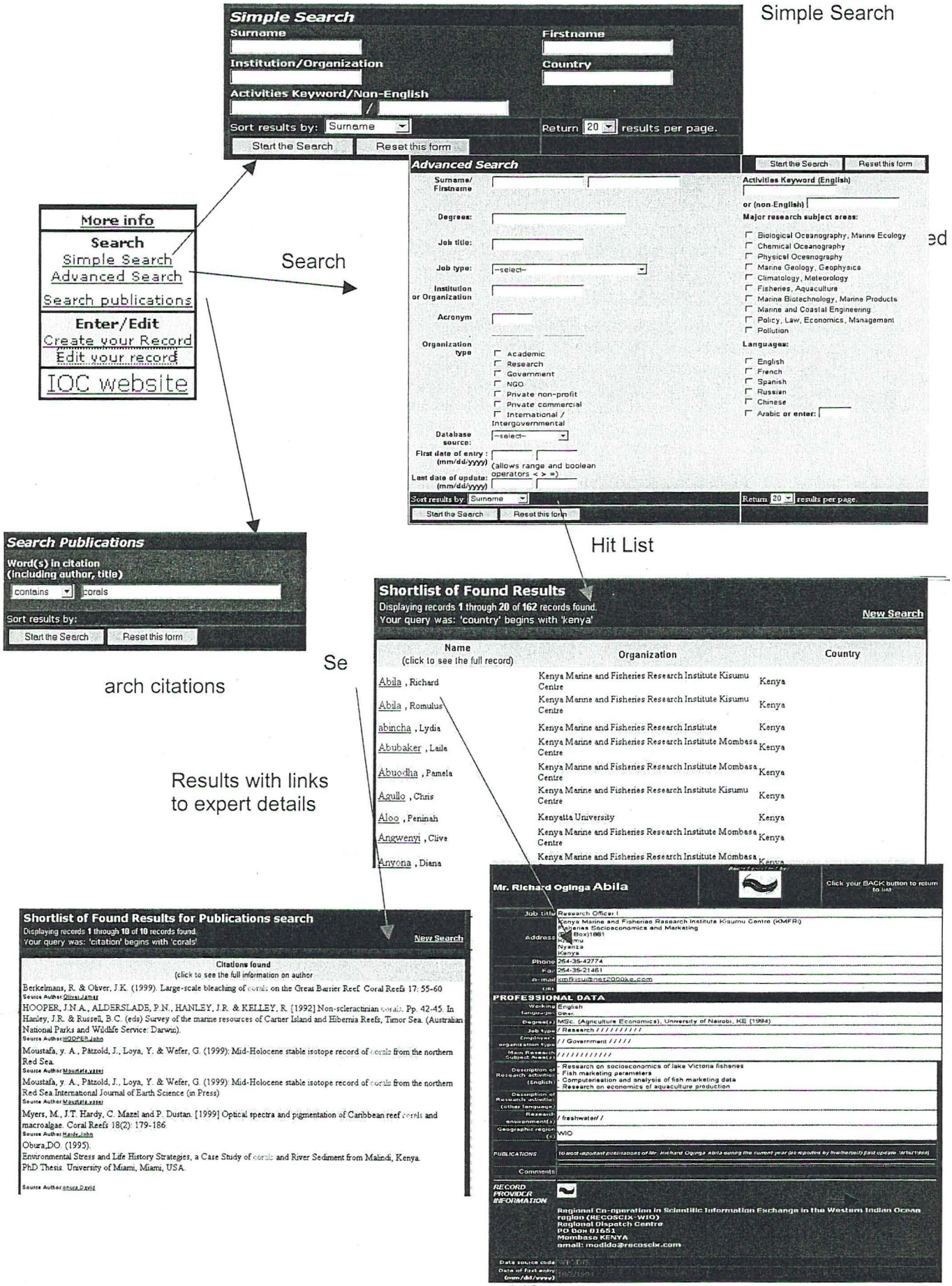


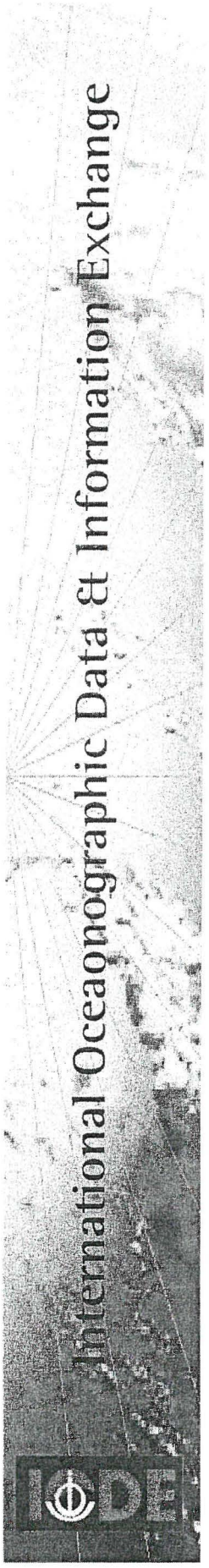
GLODIR contains detailed information on individuals. This includes

- Surname (+Firstname); Job Title, Job Type
- Organization, Acronym, Department, Organization Type
- Address, City, State, Country, Phone, fax, email, URL
- Description of your activities (keywords);
- Environment (marine, freshwater, brackishwater)
- Geographic Descriptors relevant to activities
- Subject Descriptors (grouping of professionals into subject areas)
- Citations of your most important and/or most recent papers

International Oceanographic Data and Information Exchange
Intergovernmental Oceanographic Commission of UNESCO (IOC)
1 rue Miollis, 75732 Paris Cedex 15, FRANCE. Tel : +33 (1) 45 68 40 46 Fax : +33 (1) 45 68 58 12
Email : p.pissierssens@unesco.org IODE URL : http://iode.org or http://ioc.unesco.org/iode

Searching GLODIR





GLODIR statistics

On 10 October 2000 GLODIR:

- Contained nearly 12,000 expert records
- Contained nearly 15,000 citations of scientific papers

During the period January-October 2000, GLODIR received over 34,000 queries.

Global Directory of Marine (and Freshwater) Professionals (GLODIR)

- ***Need to find marine or freshwater research & management expertise?***
- ***Need to find the address of a fellow scientist?***

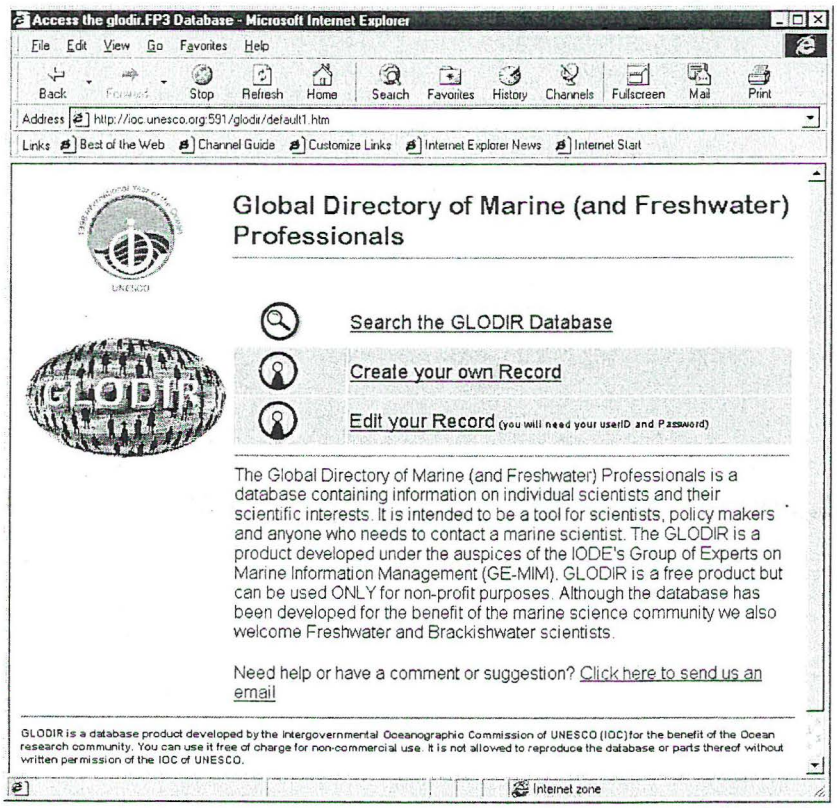
Find it in GLODIR!
Are you in GLODIR!

The Global Directory of Marine (and Freshwater) Professionals is a database, developed and maintained by the Intergovernmental Oceanographic Commission of UNESCO (IOC), containing information on individuals involved in all aspects of Marine or Freshwater Research and Management. It is intended to be a tool for scientists, policy makers and anyone who needs to contact a marine or freshwater professional. A Professional is defined as anyone who, through his/her job, has expertise related to the research and management of the aquatic environment.

The GLODIR is a product developed under the auspices of the **IODE** Group of Experts on Marine Information Management (GE-MIM). GLODIR is a free product but can be used only for non-profit purposes.

How to access GLODIR?

http://ioc2.unesco.org/glodir/



What information is included in GLODIR?

GLODIR contains detailed information on individuals. This includes

- Surname (+Firstname)
- Job Title
- Job Type *(Training/Education, Research, Data Management, Information Management & Library, Natural Resource Management, Operational Support, Institutional Management, Decision Making & Policy, Extension Services (Public Awareness))*
- Organization. Organization's Acronym, Department
- Organization Type (Academic, Government, NGO, Private non-profit, Private, International/ Intergovernmental)
- Address, City, State, Country
- Phone, fax, email, URL
- Description of activities (keywords)
- Environment (marine, freshwater, brackishwater)
- Geographic Descriptors relevant to activities\
- ASFA[1] Subject Descriptors (you can choose from a list of over 300 codes). The ASFA codes enable you to group professionals into subject areas.

How to Search GLODIR?

Click on **'Search the GLODIR database'** in the main menu.
You can search the database on a variety of fields:

- Surname (+Firstname)
- Job Title
- Job Type
- Organization, Organization's Acronym
- Organization
- City, State, Country
- Description of activities (keywords)
- ASFA Subject Descriptors (from a picklist)
- Environment
- Geographic Descriptors

How to enter your own data?

The IOC has made several agreements with national or regional organizations who take responsibility for the collection and management of information on individuals in their country or region. Details on these national and regional arrangements can be obtained from the IOC (see below). However, if you have access to the WWW then you can also submit your own data directly on-line through the URL http://ioc.unesco.org:591/glodir

After clicking on **'Create your own Record'** in the main menu you will be presented with an on-line form. The first task will be to create your own UserID and Password. These will be needed when you want to edit your record later (they should be considered as your PIN numbers. Don't loose them!). After filling the first form you will also be asked to proceed to a second step where you will select ASFA Subject Descriptors which best describe your subject areas.

How to edit your record?

After clicking on **'Edit Your Record'** you will be asked for your UserID and Password. After passing this checkpoint you will be presented with an on-line form containing your record information for editing.

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[1] ASFA = Aquatic Sciences and Fisheries Abstracts

Requirements

- Javascript(*) capable web browser (eg Netscape Communicator 4.05, MS Internet Explorer 4.0)

(*) Netscape: to enable Javascript: go to Preferences, Advanced: select 'enable javascript'

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or visit the **IOC website**:

http://ioc.unesco.org

or visit the **IODE website**:

http://ioc.unesco.org/iode

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