INTRODUCTION

A concise directory of Belgian libraries and information centres – containing marine related information in their collections – is given. This shows a rather diverse and scattered picture, and for many years access to these collections was indeed not always easy. Universities, governmental institutions and private partners have always worked, and are still working ‘at sea’ but ‘cooperation and coordination’ have never been an important issue until recently. One of the consequences was of course that publication of, and access to marine scientific information was a battle in itself. The marine scientist or experienced researcher who already knew what he was looking for, could rely on personal communication, university libraries, and local information points to find his references and data, but all other parties (students, authorities, private partners, general public) have long been left out of this ‘closed’ circuit. A second aspect of poor information dissemination was the lack of references and data on local situations and publications in the local languages, Dutch and French. These publications were produced, but were often buried in private collections, administrations, archives, or even worse... in the dust bin.

However, this is a too negative picture of the situation. The scientific community has taken some excellent initiatives to provide information access for researchers, teachers and students. Two of the major tools developed in the past decade were a collective catalogue of serial publications, a collective catalogue of books, and a system to streamline interlibrary lending.

COLLECTIVE CATALOGUE OF SERIAL PUBLICATIONS

ANTILOPE is the Belgian union catalogue of periodicals held by the Royal (National) Library and other university, research and special libraries in Belgium. The number of
participating libraries increased from 4 in the first edition in 1973, to 31 in 1981 with the first national edition, and to 170 at the end of 1998. The number of titles increased from 6,000 in 1973 up to about 175,000 in 1998. The number of locations increased even more: from 7,700 in the first edition, 40,000 in 1981 up to 390,000 in 1998. A number of foreign library collections were included to streamline interlibrary lending; these collections include:

- TUD - Technische Universiteit Delft (NL) with 7,792 titles
- KNAW - Koninklijke Nederlandse Akademie voor Wetenschappen (Amsterdam - NL) with 24,433 titles
- BLUW - the library of the Landbouwuniversiteit Wageningen (NL) with ca. 45,000 titles
- INIST - Institut national pour l'information scientifique et technique - FR with 25,527 titles
- BLDSC - British Library Document Supply Centre (UK) with 26,507 titles

COLLECTIVE CATALOGUE OF BOOKS

The CCB (Collectieve Catalogus van België / Catalogue Collectif de Belgique) contains almost 4.4 million bibliographic descriptions of monographs held by the most important Belgian academic or scientific libraries. The CCB is part of the Union Catalogue of Belgian Research Libraries, an initiative of the National Conference of University Chief Librarians and the continuation of a project initiated in 1989. The project management was given to the libraries of Universiteit Gent and Katholieke Universiteit Leuven. This catalogue contains two sections, the already mentioned ANTILOPE and the CCB. Both ANTILOPE and CCB are available on CD-ROM or via www.1

Every library supplying its collection to these catalogues is automatically a supplying library for IMPALe, an automated ILL-tool, linked to the ANTILOPE/CCB- catalogue and accessible through the same web pages.2

ACCESS TO DATABASES

A more recent initiative to provide cheaper access to databases is called ELEKTRON. This project was submitted by the Council of Flemish Research Libraries (VOWB) to the Flemish Government (AWI = Flemish Administration of Science and Innovation), and aimed to set up a Flemish network for digital information. The feasibility of this project was investigated during a study, test and starting phase (1996-1998). During this demo-period it was shown that in Flanders there is a large audience for digital information and that an interactive information environment for a large group of users can be realised. In 1999 it was decided to purchase access to the following bibliographic databases:

1 source of information: http://www.libis.kuleuven.ac.be/ccb/
2 Description of ANTILOPE on the webpage: http://lib.ua.ac.be/ANTILOPE/intro.html
The cost was about €2,000,000. Since May 2000 these databases can be used effectively by the institutions (universities, high schools and scientific institutions) for which access is provided.

INFORMATION FOR MARINE SCIENCE IN BELGIUM

The tools mentioned above are mainly suitable for large institutions and communities, such as universities or colleges, catering a broad spectrum of subjects to large groups of researchers and students. However, the (mainly Flemish) community of marine researchers needed more specific information (native language publications, grey literature, publications on local subjects, specialized databases such as ASFA, etc.), and also more metadata concerning the local marine situation. Only two small institutions were dedicated to work in this area, namely IZWO (marine research, ceased activities in 1999) and EAS (European Aquaculture Society). Due to lack of substantial funding (in the case of IZWO), and the mainly international audience and very specific subjects (in the case of EAS), these two organisations were unable to fullfill the demands of the Belgian marine scientists.

To meet the special needs of the marine scientific community, the Flemish Government decided in 1999 to create the Flanders Marine Institute (Vlaams Instituut voor de Zee, VLIZ). A set of priority actions to be taken by VLIZ were determined. Two of these priorities are fundamental for access to marine information:

- Building the Flanders Marine Data and Information Centre (VMDC). The Centre assembles different types of data and information, implements international standards, and (re)distributes data nationally and internationally.
- Building an information and co-ordination centre for marine research in Flanders. VLIZ functions as co-ordination platform for policy, for the federal and institutional collaboration and for logistic support of the scientific research.

For the country as a whole, and the Flanders region in particular, this is the first time such priorities are actually worked out.

The objectives of the Flanders Marine Data and Information Centre are:

3 source of information:
http://www.libis.kuleuven.ac.be/vowb/pubverslag/ELEktronndercEpEngX.htm
4 http://www.easonline.org/home/en/default.asp
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To provide researchers, the government and those interested, with data and information, in a suitable and prompt way.

To stimulate the network through means of centralisation to a maximum extent of the available data of research groups and governmental authorities, also on an international scale.

To detect needs and to create series of data for interdisciplinary research, taking into account the accepted international standards.

To integrate different types of data, including control of consistency and quality.

To accomplish these objectives, data exchange agreements have to be reached with relevant partners, in first instance with researchers in Flemish universities and federal institutes with similar objectives.

The speed and efficiency with which users can identify, locate, exchange and use marine data and information is an important factor for judging the quality of the services of the Data centre. If possible, the information will be disseminated through the World Wide Web. For specific target groups and datasets, CD-ROMs and DVDs can be provided.

In a first phase, a network of contacts is formed with authorities of the government, research and the private sector that manage data and information and/or dispose of marine scientific expertise, nationally and internationally. This information, together with meta-information about the datasets managed by these authorities, and the project in which they are involved, will be disseminated through the World Wide Web.

In addition, provision of services is also part of the agenda: the expertise of the VLIZ in data and information management can be made available to research groups, to create and disseminate products together. Also data management within the scope of interuniversity research projects and education are being considered.

International activities are undertaken through close collaboration with the Intergovernmental Oceanographic Commission (IOC) of UNESCO. The Data Centre is the National Oceanographic Data Centre (NODC) for Flanders, and it is actively involved in several initiatives of the IOC Committee on International Oceanographic Data and Information Exchange (IODE).

One of the main databases created by VMDC is called IMIS (Integrated Marine Information System). The objective of this database is to provide information on all topics relevant to marine sciences - be it people with their expertise, institutions and their mandate, publications, etc. Multiple gateways to this database (e.g. personal data, institutional information, published references, datasets, projects, conferences, infrastructure, etc.) provide completely integrated search and retrieval facilities. The ultimate purpose of this initiative is to draw a complete survey of the Belgian marine scientific landscape, as well as serving this same community in all its information needs and integrating the multiple marine scientific resources (i.e. information, data, expertise, infrastructure, etc.). Detailed information on IMIS is provided at the
IAMSIC/EURASLIC Conference in Brest, 2001, and will be published in the Proceedings from this Conference.

**International activities related to information for marine science**

In recent years an International Training Course is organised at postgraduate university level, that can lead to an official GGS degree named Master in Ecological Marine Management. This is organised by co-operating universities. In this program a lot of attention is spent to information retrieval, management, and presentation.

Flanders also supports a project that is managed by UNESCO-IOC and that aims to establish a data and information network for marine science in Africa. This is named ODINAFRICA. Several experts from Flanders are involved as contributing experts.

**CONCLUSION**

After a long period of uncoordinated marine scientific activity, the country can finally coordinate all its marine scientific activities by means of the Flanders Marine Institute. In the domain of access to and availability of (marine) information, enormous progress has been made since 1980 (for broad scientific areas) and since 1999 (more specifically for marine related information) with the creation of VLIZ. Extensive information on the Belgian marine scientific community, its current realisations, projects, publications, will be accessible through one central access-point: www.vliz.be.
CONCISE DIRECTORY OF BELGIAN LIBRARIES AND DOCUMENTATION CENTERS PROVIDING MARINE SCIENTIFIC INFORMATION

(entries marked with * manage a collection with a strong emphasis on marine subjects; entries marked ** have a 100% marine-related collection)

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1. DWTI - DIENST VOOR WETENSCHAPPELIJKE EN TECHNISCHE INFORMATIE
SIST - SERVICE D'INFORMATION SCIENTIFIQUE ET Technique
Keizerslaan 4
B-1000 Brussel
Tel 02 519.56.40
Fax 02 519.56.45
E-mail mariette.beirnaert@stis.fgov.be
WWW http://www.stis.fgov.be/
Contact person(s): Mariette Beirnaert; Bertha De Poorter

2. EUROPEAN AQUACULTURE SOCIETY *
Slijkensesteenweg 4
B-8400 Oostende
Tel 059 32 38 59
Fax 0 59 32 10 05
E-mail eas@aquaculture.cc
WWW http://www.easonline.org
Contact person(s): Hilde Joncheere

3. FACULTÉ DES SCIENCES AGRONOMIQUES DE GEMBLOUX
Bibliothèque centrale
Passage des Déportés 2
B-5030 Gembloux
Tel 081 62.21.03
Fax 081 61.45.44
E-mail bibliotheque@fsagx.ac.be
Contact person(s): E. Bauduin
4. FACULTÉS UNIVERSITAIRES NOTRE DAME DE LA PAIX
Bibliothèque universitaire Moretus Plantin
rue Grandgagnage 19
B-5000 Namur
Tel 081 72.46.26
Fax 081 72.46.28
E-mail peb@fundp.ac.be
WWW http://www.fundp.ac.be/institutionlautserlbibliolbump.html
Contact person(s): A.-M. Bogaert-Damin

5. GEMEENELIJK HAVENBEDRIJF ANTWERPEN BIBLIOTHEEK *
Entrepotkaai 1
B-2000 Antwerpen
Tel 03 205.21.92
Fax 03 205.20.21
E-mail jan.lochten@haven.Antwerpen.be
WWW http://www.portofantwerp.be/
Contact person(s): Jan Lochten

6. INSTITUUT VOOR NATUURBEHOUD
Bibliotheek
Kliniekstraat 25
B-1070 Brussel
Tel 02 558.18.11
Fax 02 558.18.05
E-mail bib@instnat.be
WWW http://www.vito.be/emis/felnet
Contact person(s): Lieve Gossye

7. INSTITUUT VOOR TROPISCHE GENEESKUNDE
Bibliotheek
Nationalestraat 155
B-2000 Antwerpen
Tel 03 247.62.41
Fax 03 248.11.33
E-mail sbuys@itg.be
WWW http://lib.itg.be/
Contact person(s): Sarah Buys
8. KATHOLIEKE UNIVERSITEIT BRUSSEL
Bibliotheek
Vrijheidslaan 17
B-1081 Brussel
Tel 02 412.43.12
Fax 02 412.43.46
E-mail stefan.mertens@kubrussel.ac.be
WWW http://www.kubrussel.ac.be/
Contact person(s): Stefan Mertens

9. KATHOLIEKE UNIVERSITEIT LEUVEN
Campusbibliotheek Exacte Wetenschappen
Celestijnenlaan 300 A
B-3001 Leuven
Tel 016 32.24.94
Fax 016 32.29.88
E-mail monique.kumps@wet.kuleuven.ac.be
Contact person(s): Monique Kumps

10. KATHOLIEKE UNIVERSITEIT LEUVEN
Centrale Bibliotheek
Mgr. Ladeuzeplein 21
B-3000 Leuven
Tel 016 32.46.06
Fax 016 32.46.91
E-mail ibl.leeszaal@bib.kuleuven.ac.be
WWW http://www.bib.kuleuven.ac.be/bib/
Contact person(s): Jozef Peeters

11. KONINKLIJK BELGISCH INSTITUUT VOOR
NATUURWETENSCHAPPEN
Bibliotheek
Vautierstraat 29
B-1040 Brussel
Tel 02 648.42.11
Fax 02 648.44.33
E-mail bib@kbinirsnb.be
WWW http://www.natuurwetenschappen.be/science/library
Contact person(s): Laurent Meese
12. KONINKLIJK BELGISCH INSTITUUT VOOR NATUURWETENSCHAPPEN: BEHEERSEENHEID MATHEMATISCH MODEL NOORDZEE EN SCHELDE-ESTUARIUM *
Gulledelle 100
B-1200 Brussel
Tel 02 773 21 11
Fax 02 770 69 72
E-mail info@mumm.ac.be
WWW www.mumm.ac.be

13. KONINKLIJK MUSEUM VOOR MIDDEN AFRIKA
Leuvensesteenweg 13
B-3080 Tervuren
Tel 02 769 52 11
Fax 02 769 56 38
E-mail biblit2@africamuseum.be
Contact person(s): Lucienne Di Mauro

14. KONINKLIJKE BIBLIOTHEEK ALBERT I
BIBLIOTHÈQUE ROYAL ALBERT I
Keizerslaan 4
B-1000 Brussel
Tel 02 519.54.68
02 519.55.40
Fax 02 519.54.54
E-mail loanserv@kbr.be
WWW http://www.kbr.be/
Contact person(s): F. Van Wijnsberghe

15. LUC/RESCICIX
Universiteitsbibliotheek
Universitaire Campus, Gebouw D
B-3590 Diepenbeek
Tel 011 26.81.29
Fax 011 26.81.26
E-mail annie.kuppens@luc.ac.be
Contact person(s): Annie Kuppens
16. SEA FISHERIES DEPARTMENT - DEPARTEMENT VOOR ZEEVISSERIJ
Ankerstraat 1
B-8400 Oostende
Belgium
Tel 059-34 22 50
Fax 059-33 06 29
E-mail info@dvz.be
WWW http://www.dvz.be/
Contact person(s): Frank Redant

17. UNIVERSITÉ CATHOLIQUE DE LOUVAIN
Fac. des sciences exactes. Bibliothèque
Place des Sciences 3
B-1348 Louvain-la-Neuve
Tel +32-10-47 22 47
Fax +32-10-47 21 64
E-mail vancaster@cse.ucl.ac.be
WWW http://www.sc.ucl.ac.be/BSE
Contact person(s): Francoise Pensis-Vancaster

18. UNIVERSITÉ DE LIÈGE
Place Cockerill 1, bât. A3
B-4000 Liège
Tel 04 366.52.10
04 366.52.33
Fax 04 366.57.02
E-mail pret.interbib@ulg.ac.be
WWW http://www.ulg.ac.be/libnet/pretint.htm
Contact person(s): M.-Th. Paques-Ledent

19. UNIVERSITÉ DE MONS-HAINAUT
Bibliothèque Sciences - Médecine
Avenue du Champ de Mars 6,
B-7000 Mons
Tel 065 37.36.47
Fax 065 37.36.45
E-mail bibliotheque.fsfmp@umh.ac.be
WWW http://www.umh.ac.be/Bibli/biblio.html
Contact person(s): Jean Pierre Petitjean

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20. UNIVERSITÉ LIBRE DE BRUXELLES
Bibliothèque
Campus du Solbosch Bât. D
50, av. F. Roosevelt CP 174
B-1050 Bruxelles
Tel 02 650.20.54
E-mail pib@ulb.ac.be
WWW http://www.bib.ulb.ac.be/BST/
Contact person(s): Hervé Gilson

21. UNIVERSITEIT ANTWERPEN
Universitaire Instelling Antwerpen
Bibliotheek
PB 13
B-2610 Antwerpen (Wilrijk)
Tel 03 820.21.52
Fax 03 820.22.48
E-mail michele.vandeneynde@ua.ac.be
WWW http://lib.ua.ac.be/
Contact person(s): Michèle Van den Eynde

22. UNIVERSITEIT GENT
Centrale Bibliotheek
Rozier 9
B-9000 Gent
Tel 09 264.38.57
Fax 09 264.41.96
E-mail libservice@ac.rug.be
WWW http://sfxserv.rug.ac.be/
Contact person(s): Sylvia Van Peteghem

23. VLAAMS INSTITUUT VOOR DE ZEE **
Victoriaalaan 3
B-8400 Oostende
Tel 059 34.21.30
Fax 059 34.21.31
E-mail janh@vliz.be
WWW http://www.vliz.be/
Contact person(s): Jan Haspeslagh
24. VLAAMSE MILIEUMAATSCHAPPIJ
Documentatiecentrum
A. Van de Maelestraat 96
B-9320 Erembodegem
Tel 053 72.64.42
Fax 053 71.10.78
E-mail n.luypaert@vmm.be ; d.notebaert@vmm.be
Contact person(s): Nicole Luypaert, Dina Notebaert

25. VRIJE UNIVERSITEIT BRUSSEL
Centrale Bibliotheek
Pleinlaan 2
B-1050 Brussel
Tel 02 629.25.03
Fax 02 629.39.72
E-mail pnieuwen@vub.ac.be
WWW http://www.vub.ac.be/BIBLIO/
Contact person(s): Paul Nieuwenhuysen