THE ROLE OF CD-ROM IN LIBRARY AUTOMATION:
APPLICATION OF THE NOAA LIBRARY
AND INFORMATION SERVICE DIVISION
"INTELLIGENT CATALOG" CD-ROM DATABASE

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ABSTRACT

The libraries of the National Marine Fisheries Service (NMFS), South West Fisheries Science Center (SWFC) Laboratories in Honolulu, Hawaii, La Jolla and Tiburon, California are forming the SWFC Information Network (SWFCIN). These three libraries will use the Intelligent Catalog CD-ROM database, produced by Library and Information Service Division (LISD) of NOAA, as an in-house end-user catalog.

This paper describes the integration of the CD-ROM database into the operation of the Honolulu Laboratory Library and
the implications for the SWFCIN. The book and monographic holdings of the SWFCIN will be included in the monthly update of the Intelligent Catalog. Data for the Honolulu Laboratory will be entered into the OCLC database, then down-loaded by the librarian using Procite "OCLC Bibliolink" software, to the librarian's computer and by a commercial CD-ROM producer for production of the Intelligent CD disc. The CD disc will be available for patron searching via a workstation in the library; the Procite files will be available on the librarian's computer for use in collection management, book ordering and circulation. Utilization of the Intelligent Catalog CD-ROM gives the patron powerful search capabilities and access not only to the collection of the SWFC Information Network but the NOAA collection as well. By a cooperative arrangement the SWFC libraries will receive the CD-ROM disc without charge, while the NOAA combination of cooperative agreements and readily available, familiar technology, this system provides a sophisticated level of automation at low cost to the SWFC libraries. In addition the greatly expanded networking translates into decreased library staff labor and faster information access for the patrons. Details of the development of the LISD NOAA CD-ROM database and the library system being developed at the Honolulu Laboratory are discussed.

BACKGROUND

NOAA and the LISD

In July 1970, President Richard M. Nixon proposed the creation of a new agency - The National Oceanic and Atmospheric Administration (NOAA). On October 3, 1970, NOAA was formed. This new Administration joined together three agencies with well respected histories - the National Weather Service (1890), the National Marine Fisheries Service (1871) and the Coast and Geodetic Survey (1807).

In 1971 the library collections of these three agencies were merged into the new NOAA Central Library and the Library and Information Services Division was established. Its mission is to provide scientific, technical and legislative services and products to NOAA scientists, researchers, administrators and others working in NOAA-related disciplines. In fulfilling this mission, the Library formed the NOAA Library and Information Network (NLIN) with more than 25 other independently administered NOAA libraries nationwide. The Central Library also wanted to coordinate access to these varied collections within the Network and so the National Automated Library Information System (NALIS) was born.

In 1975, NOAA joined with Fedlink (part of the Library of Congress) to
create an automated and integrated library system. It was not until 1980 that the Statement of Work was published and not until 1982 that the system was operational! NALIS used a Tandem mini-computer and the program was written in the Tandem programming language. The system had a transmission rate of 300 baud, which would be considered extremely slow by today’s technology. Problems emerged with this system and continued until its demise.

In 1986 the Central Library was closed for renovation and asbestos removal. In 1988, the Central Library brought on board a systems librarian, Lynda Kuntz. The systems librarian reviewed the Library’s automation system and found it lacking in many ways:

1. No vendor support.
2. Communications problems and unacceptable transmission speed (300 baud).
3. Excessive costs—$34,000 per year for hardware maintenance, $10,000 for software maintenance.
4. User dissatisfaction.

"Intelligent Catalog" History and Development

The end of NALIS was near. CD-ROM technology was coming into its own and met the needs of the NOAA Library’s automation plan and could be incorporated into the Network. After extensive research into all areas of integrated library systems, the decision was made to contract with Library Corporation and use their Intelligent Catalog System on CD-ROM. In 1988, the specs were set up and by 1989 the NOAA Library and Information Network catalog (LINC) was installed in several NOAA libraries throughout the country.

The NOAA LINC is a national system – 23 NOAA libraries participate in inputting their records and other NOAA libraries hope to join the system. There are now over 90,000 records which reflect the holdings of these libraries. The NOAA Library and information Network holdings are reflected in the location field and the Catalog contains material catalogued since 1974, although this is currently changing due to several retrospective cataloging projects now in process. Hopefully, in the future the total collections of all NOAA libraries will be included in the CD-ROM catalog.

The NOAA LINC is an intelligent catalog which means that it has a powerful internal logic system that simulates “artificial intelligence” (AI). By using an AI expert system hypertext, syntax analysis and thesaurus substitution techniques, NOAA LINC endeavor to prevent the user from failing to find what is needed.

The NOAA LINC on CD-ROM offers context, sensitive, on-screen help windows and is extremely user friendly. The retrieval speed is excellent and one
cannot get lost. This catalog recognizes any type of entry whether it be a title, 
author, subject or keyword search. It recognizes natural language, dictionary and 
boolean search operators, and inverted trees to interest areas.

The most positive aspect of the NOAA LINC on CD-ROM is that it is flexible 
and can be changed and improved on as technology and the need allows. Many 
improvements have already taken place within the last year. This multi-media 
catalog is the latest information technology to provide interactive searching which 
is user-friendly, provides quick service and is powerful and cost-effective at the 
same time.

Honolulu Laboratory Library (Hazel Nishimura)

The Southwest Fisheries Center, Honolulu Laboratory was established in 
1948. Because of its geographical location the Library serves as a focal point of 
exchange for fisheries information in the Pacific. Aside from the SWFC researchers 
the library also serves students and faculty of the University of Hawaii, fishermen 
and state and local agencies. The Laboratory and Library are located on the 
University of Hawaii campus. The library collection consists of approximately 
10,000 books and journals, a large reprint collection and numerous oceanographic 
and meteorological maps and atlases. The Library shares a cooperative interlibrary 
loan policy with Hamilton Library, the graduate library of the University. It also has 
electronic access to Hamilton’s Online Public Access Catalog which contains over 
2.5 million records. Currently the SWFC staff can search both the University’s 
library collection as well as the Honolulu Laboratory Library’s monographs and 
report files through a LAN.

SWFC Network Development

The SWFC is supported by libraries located at Honolulu, Hawaii, La Jolla, 
California and Tiburon, California. In March 1990 the SWFC librarians held a 
meeting at Tiburon, California to define and discuss objectives of which the 
following are central to the growth of the Network:

1. To provide increased awareness, access and use of library 
materials by SWFC staff at Honolulu, La Jolla and Tiburon Laboratory sites.
2. To strengthen cooperation between site library staffs.

3. To insure compatibility and uniformity in developing Center-wide 
computer based library services.
4. To consider and develop various methods of providing shared 
access to library collections between site libraries and staffs.

The meeting facilitated lengthy discussion of technical library issues and 
led toward resolutions of many challenges associated with cooperative networking.
As a result of the meeting a more integrated and comprehensive system for the handling of SWFC information is being developed. The creation of a SWFC Information Network provides a more efficient, cost effective and timely vehicle for information management.

The inherent value of the Network is not limited solely to SWFC personnel, it will also be of use to other fisheries agencies. The creation of the Network prompted the Library and Information Service Division (LISD) of NOAA to offer a cooperative networking agreement, hardware and technical support to the SWFC site libraries.

Linking the SWFC Information Network to the larger NOAA information system has several advantages. The linkage enables SWFC and NOAA personnel to access another level of information, allows the site libraries to benefit from an economy of scale by standardizing hardware and software and allows for a more efficient distribution of labor and duties for all parties involved.

HONOLULU LABORATORY SYSTEM DETAILS

The other SWFC libraries will develop systems similar to the Honolulu library but modified to meet their own specific needs.

Intelligent Catalog

The Intelligent Catalog CD-ROM will be mounted in a PC based workstation. This workstation will be used by the staff for searching SWFC site libraries as well as LISD holdings. The workstation will support a small amount of additional software for library staff use. Each facility will have its own unique identifier to indicate its holdings on the Intelligent Catalog. This will facilitate searching and interlibrary loan at each site library. The Intelligent Catalog disk is currently updated monthly. The frequency of updating along with the powerful search software make it feasible to use the CD as a catalog of the site library holdings as opposed to a card catalog or mainframe based online catalog.

Retrospective conversion

In order to begin the automation project, a large amount of material needed to be weeded and an inventory taken of the collection to identify missing material. Once the weeding process is completed, retrospective conversion of the library records for books and monographs can begin. The OCLC Microcon system was chosen as a cost effective means of retrospective conversion. A photocopy of the Honolulu Laboratory Library shelf list was mailed to OCLC for batch processing and inclusion into the LISD database.
Book Cataloging

Cataloging will be performed by a combination of copy and original cataloging using the OCLC system. Newly cataloged books will be assigned to a new book shelf until the next monthly CD update is received.

Procite and Procite Bibliolink

Records from OCLC cataloging sessions will be batch downloaded into the library Procite database using the Procite OCLC Bibliolink software. This will generate a duplicate database of the Honolulu Laboratory Library holdings as they will appear on the Intelligent Catalog. As records are loaded into the Procite database Bibliolink automatically converts MARC fields to assigned Procite fields. Special fields have been added to the Procite records to facilitate a semi-automated circulation system. This is accomplished by renaming unused default field names, i.e., Duda = date book is due to be returned, Bor = borrower's name, etc. With the Procite search capabilities, it is a simple matter to call up the name of a book and enter the due date and borrower's name. It is also easy to sort on a particular due date, generate a list of patron names and print out overdue notices. Procite and Procite Bibliolink will also be used to share various administrative reports between SWFC network site libraries.

Serials

Currently several serials control packages are being evaluated by the SWFC Information Network to determine which can best be integrated into the system. This process will be made easier by the fact that all SWFC sites utilize the same serials vendor who is able to supply magnetic tapes of serials holdings.

Telecommunications

The Honolulu Laboratory uses a 3COM Local Area Network for telecommunications. This network will allow the library to exchange E-mail messages with the researchers on staff, communicate with the other SWFC site librarians, and communicate with other marine libraries and laboratories through an Sci-Net/Omnet node.

SUMMARY

Because of the number of libraries involved in the NLIN, the frequency of publication, and the number of users served, the Intelligent Catalog CD has become a cost effective means of cataloging and accessing information. Through the economy of scale, the NLIN and the Intelligent Catalog will become more attractive as more libraries participate. This synergistic effect not only brings with it economic benefits but generates better networking, greater cooperation between
agencies, and greater information access for the users. These are some of the factors that motivated the SWFC Information Network to join NLIN and the Honolulu Laboratory Library to use the Intelligent Catalog as an in-house end-user catalog system.

As the technology of CD-ROM production advances and the production costs of CD-ROM databases decrease this information media will play a greater role in breaking the barriers to information flow in new and exciting ways.