

Creating an Online Monterey Bay Bibliography

Shiela Baldrige
Moss Landing Marine Laboratories
P.O. Box 450
Moss Landing, CA 95039

ABSTRACT

A brief description of Monterey Bay and the various surrounding institutions involved in marine research is provided. The purpose of the bibliography; to update a 1971 bibliography and to automate existing manual files on Monterey Bay is described. The foundation providing grant funding is thanked. Hardware is briefly described. The software, SCI-MATE available from the Institute for Scientific Information (ISI) is described with its application to this particular bibliography. Attempts to download into the bibliography from DIALOG files are described. Future plans for the bibliography; completion, distribution, updating, and sale are discussed.

INTRODUCTION

Monterey Bay lies approximately mid-way between the northern and southern borders of California. A submarine canyon, equivalent in size to the Grand Canyon, bisects the Bay and upwelling during part of the year brings nutrient rich waters close to shore. The Elkhorn Slough (a brackish estuary which stretches 7 miles inland and attracts thousands of migratory shorebirds and ducks, and offers nesting space to pelicans, terns etc. and is a nursery area for many species of fish) enters the Bay mid-way around its shores. These rich waters have attracted much scientific interest over the years, beginning with the exploratory voyage of La Perouse in 1786 and taking on a new surge of interest when Stanford University established the Hopkins Marine Station in 1892. Scientific studies went along quietly and steadily until John Steinbeck and Edward Flanders Ricketts hit the scene in the 1940's when Cannery Row and Doc became known far beyond the borders of California. The Steinbeck novels overshadow the very real and long-lasting contribution that Ricketts made to the study of marine life along the central coast of California.

There are now five institutions around the Bay which are actively interested in research; Stanford University's Hopkins Marine Station, the Naval Postgraduate School, the Monterey Bay Aquarium, the University of California at Santa Cruz and the Moss Landing Marine Laboratories. Several governmental groups including National Marine Fisheries Service and the State Department of Fish and Game also maintain offices and laboratories, in the area. The Moss Landing Marine Laboratories, part of the California State University System, is located at the mouth of the Elkhorn Slough mid-way around Monterey Bay. Over and above our 100 students and eight faculty, the State Mussel Watch pollution group does research at the laboratory, the U.S. Geological Survey maintains an office, as does the local Sea Grant Marine Adviser. Part of the Elkhorn Slough has been declared a National Estuarine Sanctuary and research is taking place there too together with teacher education and docent programs which are being pursued even more ac-

tively at the Monterey Bay Aquarium. All of this is leading up to the fact that a great deal of work has been done in this area over the years, most of which is time consuming to locate with card files and there is a recent very strong upsurge of interest in local marine-related information from both the scientific and non-scientific communities. A bibliography of "Scientific and general papers, reports, books and miscellaneous publications dealing with the Central California Coast" using IBM punched cards was published in 1971 with a supplement in 1972, at which point funds dried up and the things sat until the magic age of computers finally jogged the present librarian into doing something about it.

A grant proposal was written to the David and Lucille Packard Foundation for funding to cover hardware, software, online time for literature searches and a half-time employee for one year. The Foundation funded everything except the hardware, which is against their policy, and I would like to thank them publicly for their support. I could not have done this with my present staff, one half-time person, and accomplishing the same thing through the State would have taken a lifetime of red tape. The person I hired is a student with some computer experience. I could have gone outside and found someone with faster typing skills but I felt then, and still do, that a background in scientific research was more important.

HARDWARE

How to choose hardware? For a neophyte going in to the field, there is a bewildering array of PCs to choose from and everyone with whom you talk seems to use a different make. We finally chose a Compaq Deskpro model 4 with a 20 megabyte hard disk, 650 RAM, and a 12" screen. Some models have a smaller screen but less than 12" is hard on a typist sitting at the machine for four hours a day. We also chose an amber monitor which our typist likes and a Keytronic keyboard, which has a better configuration of keys than the Compaq. This hardware is IBM compatible which I feel is important. It gives some sense of conformity in that, at least at our Laboratory, most of the PCs are either IBMs or compatibles. The printer is an Epson FX 85 dot matrix which is a bit noisy but meets our needs. The computer also includes a 1200 baud smart-modem which we use for literature searches through DIALOG.

So far with about 3000 references entered which is about half the expected total; two faculty reprint collections totalling 3000 references and all the software information plus a couple of games we have taken up 2/5 of space on the 20 megabyte disk. Every week we transfer the data onto a ten megabyte disk. Every week we transfer the data onto a ten megabyte backup tape. Actually being a bit cautious by nature and because we live in the earthquake belt, there are two tapes - one we keep in the library and one I keep at home.

SOFTWARE

Again - where to start? I looked at the literature for various systems, talked to several librarians and scientists and decided to go with the Sci-Mate Software System published by the Institute of Scientific Information. The reasons for the choice were the following:

- 1. A member of our faculty was already using the system for his reprint collection and liked it;
- 2. It had been used by several other scientists I contacted and they were happy with it too;
- 3. It is fast, searching 3000 records in about 20 seconds;

- 4. It is designed specifically for scientific references and will hold 32,000 (records at least this is what I was assured by the Company, but I now think that may not be so). We will be well below that number of records in any of our user files so there shouldn't be a problem;
- 5. It is easy to use (an important point as searching can be done by students and faculty without the necessity of the librarian's time);
- 6. It will search all words on a record not just keywords;
- 7. It has a good support system and when we have had occasion to call, the staff have been helpful;
- 8. It is, or will be, used by other members of our faculty. They will co-ordinate their template with ours and so we will be able to load faculty reprint collection files making them searchable in the library too.

We purchased all three sections of Sci-Mate; the Manager, the Searcher, and the Editor. Sci-Mate is menu-driven, and, as I mentioned earlier, it is very user friendly.

The **SEARCHER** allows an automatic long-on and gives the person searching the ability to form a strategy before going online a savings on time and hence money. References located can then be down-loaded into a work file and printed out after logging off, and then transferred to the **MANAGER** if needed. The Searcher is most useful to people who have done very little searching as it is again menu-driven and leads one through the necessary steps of a search and translates the command words used by the different database. The software also comes with a tutorial for the inexperienced searcher. This feature will be useful later when faculty and students start to do some of their own searching. For a more experienced searcher, the various steps the software takes one through can be very cumbersome (it takes longer) and it is much easier to just revert to the Native Search Mode where one can build up and change strategy as one proceeds. Nevertheless, it is nice to have the other system available if needed.

The **EDITOR**, the third feature, will reformat references to meet required specifications, e.g., a given journal. For the library, at least so far, this has been the least useful, though it could help in preparing subject bibliographies, book lists etc. We have also used it to rearrange references from a search. As I have more time to learn more about it, I will no doubt find more ways to use it.

It seems that for a small library such as ours (6500 monographs, 103 current journal subscriptions plus gifts and exchanges) the Sci-Mate system has many possibilities. I had help this summer from a library school student volunteer who entered as a separate file a section of our map collection which was not well indexed. We can search this file by geographic areas, latitude and longitude, Marsden Number, scale etc. This has made our collection much easier to use. We also have a file of 8000 + reprints which at present are only listed by author. Eventually I want to have these entered too as a separate file so that they can be searched and located easily, keeping in mind that the Manger will search by all words entered not just keywords.

BIBLIOGRAPHY

We decided to use the basic criteria of the previously published edition amended slightly to read: "scientific and general papers, reports, books and miscellaneous publications which deal directly with the Central California Coast." The old bibliography included "indirect" references too e.g. for a species of fish where the research was done in Canada but the species also occurred in Monterey Bay. This was a good idea in theory but was going to make the bibliography unmanageable. Where do you stop? And also, I couldn't see any advantage over just searching

DIALOG directly. The geographical area covered is the Central California Coast from Morro Bay in the south to Tamales Bay in the north, a distance of approximately 200 miles and an area of relative consistency regarding water temperatures and climate, with an overlap of northern and southern faunas. East to west we included bays inlets, sloughs back to the headquarters and the bordering land areas known as the coastal strand, and out to just beyond the influence of the California Current, approximately 1000 kilometers or 650 miles.

We began by entering citations from the original printed bibliography of 2500 + , then adding theses and faculty publications. Many student term papers were included in the printed bibliography and we have continued this policy. We have created a sub-file for these papers which must be accessed separately thus avoiding many references which are of varying worth being listed in a standard search. By this time the student typist had a much better idea of what should be included and an index had been developed. There are two components to the index which we based on terms used in Oceanic Abstracts.

- 1. A straight alphabetical list with "see" and "see" also references and
- 2. A systematic-like index which guides the user from the general to the more specific e.g.:

ECOLOGY

Communities

Distribution

Introduced Species

Migration

Seasonality.

This second component also alerts users who want to cover all bases that they should include all terms listed under a given general heading. I am trying to make the bibliography as easy to use as possible so that the uninitiated can come in and start to search with the minimum of instruction. From this point we started to search DIALOG for 1972 + references.

DIALOG

After some experimenting we decided to search by geographical terms only, e.g., San Francisco Bay, Monterey Bay, Central California. This worked well with the ocean related data bases such as Oceanic Abstracts and Aquatic Sciences and Fisheries Abstracts but NTIS came up with some weird ones even though in that case we further defined the geographic search terms with "marine, freshwater, brackish, estuarine" etc. It turns out that there is a general heading "Mechanical, Industrial, Civil and Marine Engineering" so we came up with references such as "how to people into buses and out of their cars!" We tried downloading from the NTIS data base full references including abstracts and descriptors onto a work file and then transferring the references into the Manager but there was so much "cleaning up" to do that we decided just to retype them according to the fields we were using and add our own key words. Was this a good decision? I don't know. We could have used just the basic citation but, looking back, I think that NTIS was the wrong data base to try. I would welcome your input as we still have a long way to go. Transferring the references straight into the files means that we can no longer use the Editor to sort and this will become increasingly important as we search the Manager and which to rearrange the references located.

We are now half-way through the time allotted for the project and we have accomplished a lot, due in no small part to a hardworking and conscientious student. There are still many references to enter, then he will visit the other research libraries in the area to pick up theses, special publications, and etc. which do not appear in bibliographies or data bases. Then there will be much cleaning up to do to eliminate duplications and etc. I have been proof-reading as we have been going along plus adding or questioning keywords, etc. This has taken much more time than I had thought and there have been many missed lunch hours trying to keep up with the typist. This has been one problem. Others have been underestimation of DIALOG search time and the cost of printing or downloading references. I also did not allow as much time as I should have for backing up, correcting mistakes, keeping up with index entries, and just plain "how should we handle this" talk time.

Moss Landing is a small, specialized marine science library and the primary purpose of the project is to make information of interest to our faculty and students easily available. The software, keywords, template and fields used are all geared towards this. When completed, copies of the bibliography either complete or in part will be made available to the other Monterey Bay libraries, hopefully free of charge, and to other libraries at cost. Copies will be either on floppy disks, tape or paper. I will soon be writing another grant proposal for ongoing funding to update on a regular basis and to make these updates also available to interested parties. I also want to start a file for our Reprint Collection.

The bibliography, in spite of the fact that it is pretty far from complete is already being used and even at this point it is a start for new students just coming in to the area who have no knowledge of previous research. One feature I like is that the Master's Theses are given a lot more exposure. They tend not to be listed anywhere else, at least ours are not, and there is much good work which is buried there. At the present time, it is not used unless the information is passed along by word of mouth. As for the future the Laboratory has just acquired a Micro VAX system and this will open up even more possibilities for the use of the Bibliography both within our own campus and further afield. I should warn those not already captured that computers can become very addictive.