

THE BIODIVERSITY RESOURCE CENTER: A WORKING MODEL FOR BROAD DISSEMINATION OF BIODIVERSITY INFORMATION IN A PUBLIC SERVICE SETTING

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ABSTRACT

The Biodiversity Resource Center, a multimedia resource center on the public floor of the natural history museum, disseminates information on biodiversity, promotes use of the California Academy of Sciences Library, provides science reference services not available at public libraries, furnishes resources to teachers, and serves as a showcase for current information technologies.

INTRODUCTION

The California Academy of Sciences (CAS) is in an excellent position to provide science library reference services. The Academy Library houses an estimated 180,000 volumes including over 2,100 serial titles and has particular strengths in the subjects of systematics and taxonomy, evolutionary biology, biodiversity, biogeography, natural history, and local and regional natural science. CAS is one of the largest natural history museums in the United States and receives approximately 1.5 million visitors per year. The Academy Library is open to the public, but it is not located on the public floor and therefore the collection does not receive the greatest possible use. The strong library collections serving museums and aquariums are often overlooked by the public and even librarians (Mount, 1986).

In January 1991 the California Academy of Sciences established an experimental "Biodiversity Resource Center" (BRC) on the public floor of its museum. The five primary objectives of the Center are to provide science reference services currently unavailable at school and public libraries; increase public awareness of threats to biodiversity; furnish resources for teachers; promote knowledge and use of Academy Library resources; and provide education and public access to current information technologies. The success generated during the first six months of operation led the Academy to continue funding the Center through the 1991-92 fiscal year.

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MUSEUM RESOURCE CENTERS

Virtually every large museum has a library to support the needs of its research staff. In some cases these facilities are open to the public, or collection access may be provided through cooperative interlibrary loan agreements. Many museums also have activity rooms for children, and interactive computer stations or videos in conjunction with individual exhibits. Museum education departments also provide training for teachers as well as classes for adults and children. A concept still new to the museum community is a staffed multimedia resource center providing a combination of these services.

There are several examples of museum resource centers which provide some of the services listed above. The Saint Louis Zoo has a multimedia resource center for teachers to use in preparing curriculum materials. The Webber Resource Center for Native Cultures of the Americas at the Field Museum of Natural History in Chicago has been in operation since 1987. Staffed by an educator, the Webber Center houses a multimedia reference collection as well as a study collection of artifacts which serves the needs of teachers and museum visitors. The Children's Museum of Indianapolis is in the process of establishing their "Museum-To-Go" program which will establish a lending library of materials devoted to ten separate exhibits within the museum. The Exploratorium, a "hands-on" science museum in San Francisco, has chosen to place the library, which is open to use by teachers, on the public floor of their facility.

The Biodiversity Resource Center is unique among museum resource centers because it is administered through the Academy Library. The other resource centers examined have been the product of museum education departments, or collaborative efforts with museum exhibits personnel.

SERVICES AND RESOURCES

The Biodiversity Resource Center is open Wednesday-Sunday, 10:00-4:00 and accepts reference questions via telephone, mail, electronic mail, and in person. Reference services are provided to Academy visitors, teachers, school groups, research staff, and the public at large. BRC resources are designed to meet the needs of the entire cross section of visitors received by the museum. The Center provides multimedia access to information on biodiversity, endangered species, habitat preservation, indigenous human cultures, conservation of nature and natural resources and science education.

(1) Staff: The Center is staffed by a full-time Librarian, a 20% time library school intern, and 25 part-time volunteers. Initially the Center was to be staffed only by volunteers, but the services of a professional librarian were engaged to insure a consistent level of service. Our experience has been that volunteers are quite helpful but rarely spend enough time in the Center to

learn the collection and become comfortable in providing reference services.

(2) Indexes: Limited space and the goal of becoming a showcase for current information technologies led us to acquire needed indexes in CD-ROM format. The resources available in the Center do not duplicate those available in the Academy Library and represent a well rounded selection appropriate for a variety of academic levels. The CD-ROMs include *Wildlife and Fish Worldwide*; *Water Resources Abstracts*; *Natural Resources Metabase*; *Biological and Agricultural Index*; and *General Science Index*. The BRC also acquires *Current Contents* on floppy disc.

(3) Databases, Multimedia and Interactive Programs: The commercially available databases acquired by the Center which are appropriate for the general public include: *PCGlobe* (computer atlas program); *McGraw Hill Science and Technical Reference Set* (full text CD-ROM encyclopedia); *Audubon's Birds of America*; *Multimedia Audubon's Mammals*; *Mammals: a Multimedia Encyclopedia* (multimedia CD-ROM products); and *Exploring the Estuary* (interactive Macintosh based program).

(4) Hardware: The CD-ROM products within the Center are housed in two Pioneer 6-Disc CD-ROM changers run by a 386 Zenith machine with a VGA color monitor and 70 MB hard disc. A Macintosh SE with a full screen Radius monitor has been loaned to the Center by NOAA to support their *Exploring the Estuary* program. Other resources include laserdisc and video tape players, two television monitors, photocopier, microfiche reader, laptop computer with modem for BRC staff, dot matrix printer, and an amplifier/speaker for multimedia products.

(5) Online Access: MELVYL (the online union catalog of the University of California System) lists holdings for the BRC and Academy Library and is utilized frequently. The Center also provides access to electronic information services, bulletin boards, and conferences such as EcoNet.

(6) Collection: The Center houses approximately 750 cataloged monographs and periodicals as well as 150 uncataloged newsletters. Approximately 2,000 pamphlets obtained from organizations listed in the *Conservation Directory* reside in over 150 vertical files on subjects such as acid rain, biodiversity, rainforests, vernal pools, whales, and wetlands. Video resources include over 45 laserdiscs and video tapes. Resources emphasize the San Francisco Bay area and California, but are also global in scope.

(7) Handouts: When multiple copies of pamphlets are received from an organization a single copy is placed in the vertical files and remaining copies are made available to the public. Centrally important handouts on topics such

as biodiversity, rainforests, indigenous human populations, cetaceans, wetlands, coral reefs, and endangered species are copied and made available to the public as a service of the BRC.

THE CHALLENGES

Providing reference services in a public museum setting presents several unique challenges. A wide variety of requests are received by Center staff including general information and specific exhibit related questions. Some of these fall outside the scope of Center resources. Reference questions are received from all age levels ranging from grade school children to graduate level researchers. Center visitors often have limited time to utilize BRC resources because they are attempting to see the entire museum during their visit. This restricts their access to reference materials and limits the opportunity for bibliographic instruction. During busier times patrons may also encounter a waiting line to utilize various computer resources.

We address these challenges in several ways. Because of our location on the public floor we expect directional and general information questions and this is one reason why backup volunteer staff are so helpful in the Center. When a question falls outside the bounds of the BRC references we will refer it to the appropriate member of the Academy research staff, the Academy Library or an outside source. When patrons are in a hurry we provide as much bibliographic instruction as possible and in many cases will mail follow-up bibliographies or photocopies from reference works in response to their question. Mailing bibliographies can also eliminate the wait for some computer resources.

QUANTIFYING USE/PROFILING USERS

Daily use statistics for the first nine months of operation have been tallied for questions requiring a response from Center staff and fall into the following categories:

Computer application demonstrations	1,100
Directions	825
Reference	725
Information on the BRC	680
Exhibit related questions	315
Library referrals	125
<u>Other</u>	<u>430</u>
TOTAL	4,200

In an effort to profile the patrons and type of use received by the Center we performed time sampling with help from Dr. Paul Eskildsen of San Francisco State University. For five minutes every hour BRC users were tallied by the activity they were pursuing, their level of involvement, and their age group (child/teen or

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315
125
430
4,200

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- One: Browsing
- Two: Browsing with a greater degree of interest
- Three: Actively interested
- Four: Very involved

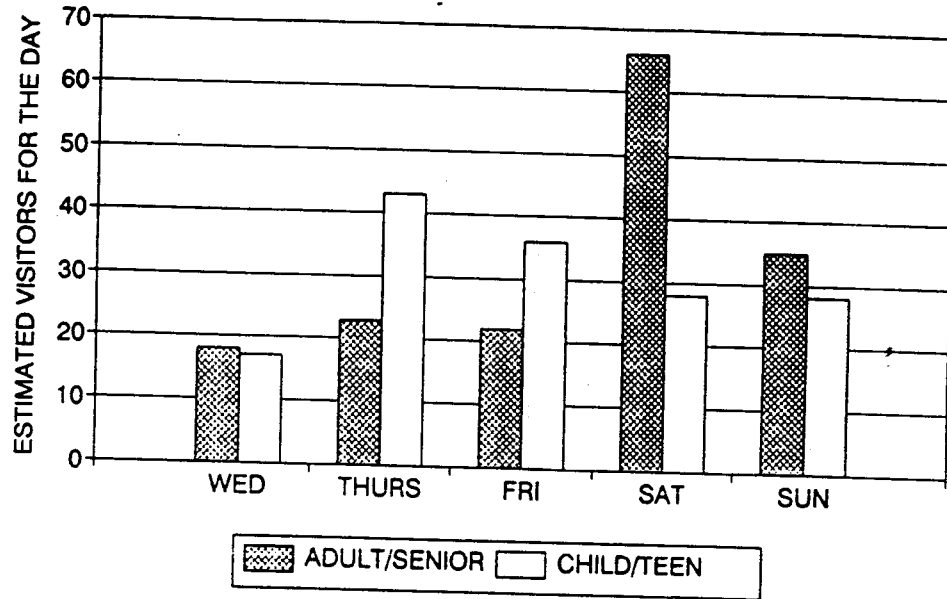


FIGURE 1. Number of Visitors: Age by Day

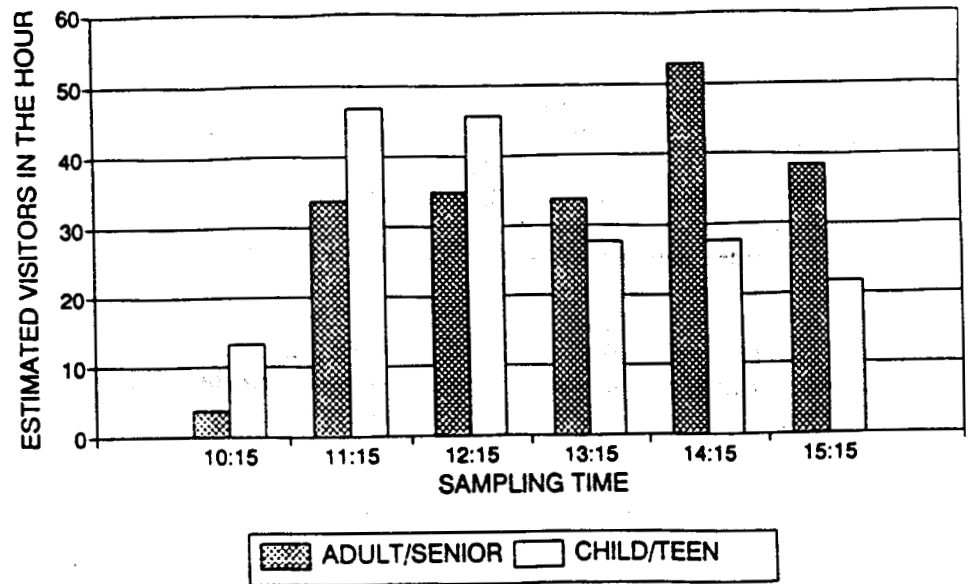


FIGURE 2. Number of Visitors: Age by Time of Day.

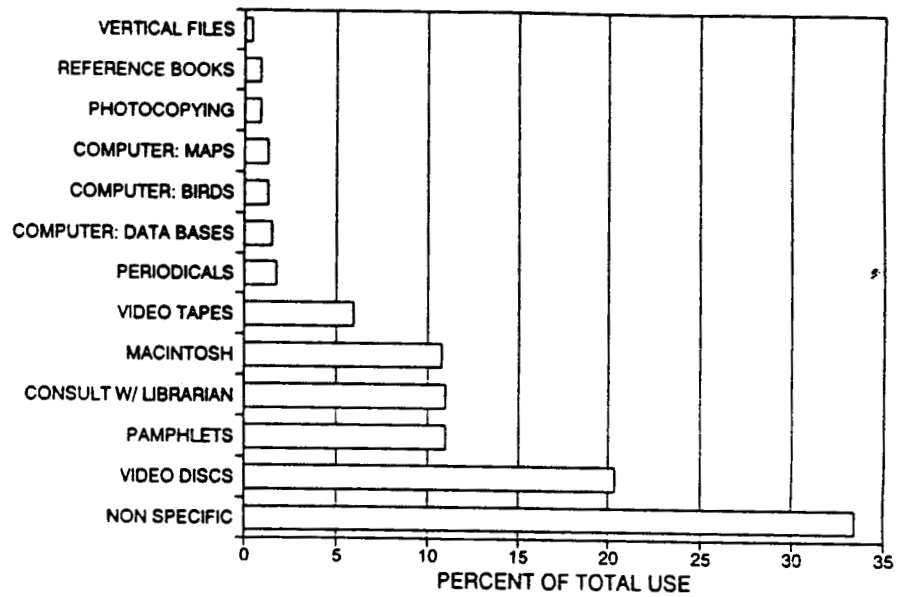


FIGURE 3. Overall Resource Usage

Over the course of 11 days a total of 53 samples were taken and while not appropriate for statistical study the results provide us with valuable information on Center use. Due to docent led tours of student groups on Thursdays and Fridays we found a higher percentage of children/teen users on those days, while a higher percentage of the weekend users were adults and senior citizens (Figure 1). Additionally, we see that the majority of morning users are youngsters while the afternoon visitors contain a higher percentage of adults (Figure 2). This data aids in planning programs for the BRC. We can provide programs for younger individuals during weekday mornings and adult level materials at other times.

One goal of our sampling was to determine which BRC resources received the greatest use. Predictably, video tapes and video discs received a great deal of use by those browsing the Center. The interactive *Exploring the Estuary* program on the Macintosh machine was also heavily used. Handout materials as well as consultation with the Librarian were also important activities (Figure 3). Figure 3 also shows that we were unable to discern which multimedia or database products received the most use (maps, birds, databases). A low percentage of total use for these resources is due to the fact that only one user at a time can participate in these activities, where as other resources can be accessed by several patrons simultaneously.

The reference sources and vertical files may seem to receive a low degree of use, but as Figure 4 shows, they are used at a very high level of involvement. Overall, approximately 40% of Center users browse the Center relatively quickly and another 15% use resources at level two involvement. However, patrons at level of involvement three or four constitute 45% of BRC users indicating that Center resources are receiving serious use (Figure 5).

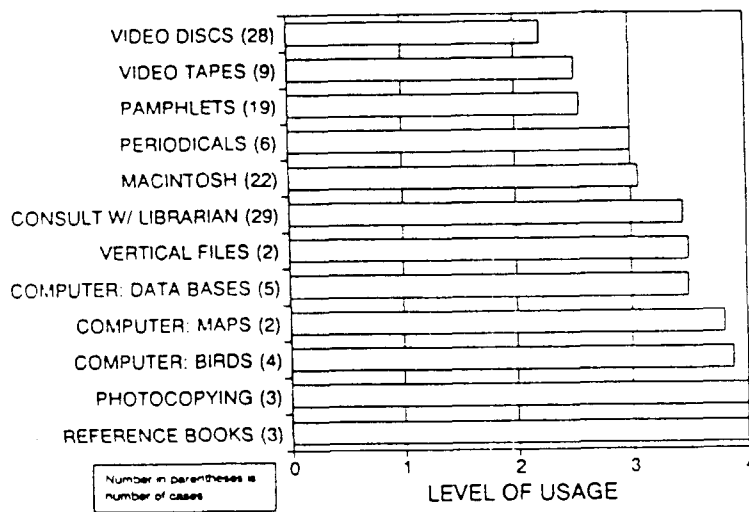


Figure 4. Average Level of Usage by Resource

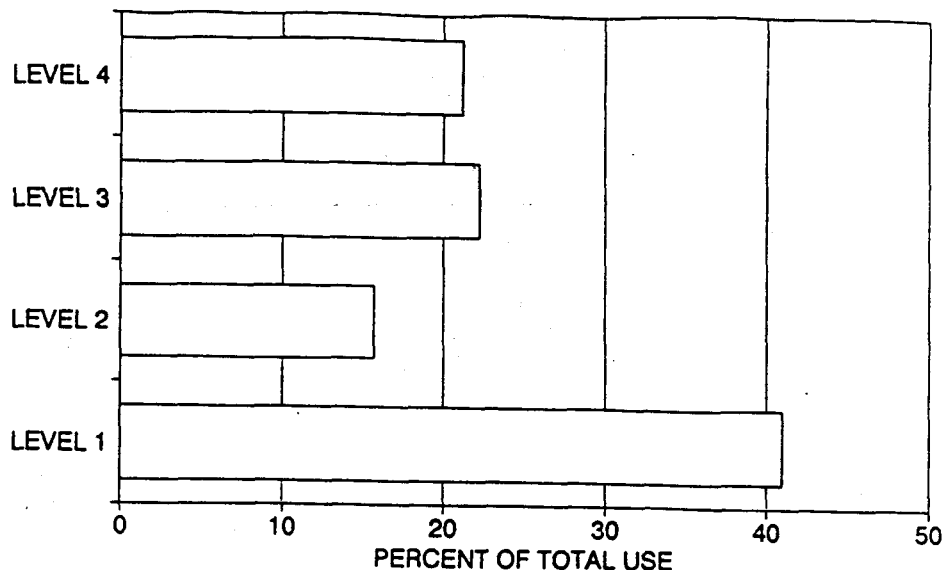


Figure 5. Overall Level of Use.

An additional study was performed by a member of the California Academy of Sciences Education Department as part of a museum studies class. Based on interviews with 75 BRC users and 75 Academy visitors she found that 76% of BRC users and 84% of general visitors did not realize that the Academy had a library. Regarding the development of the BRC, users suggested that the Center would benefit by being in a more prominent location with better signage. Some also suggested that the name was somewhat confusing and that a written guide to the Center would be helpful (Mackinney, 1991).

DISSEMINATION OF MARINE/AQUATIC BIODIVERSITY INFORMATION

The dissemination of information on biodiversity is not easily handled by school or public libraries because they do not possess the necessary reference base. Based on the amount of original cataloging performed in OCLC for BRC acquisitions and the increasing number of interlibrary loan requests received, the BRC appears to house a unique and very timely collection. Clearly, the BRC and California Academy of Sciences Library possess the necessary resources and with 1.5 million visitors per year this facility is in a position to disseminate information to a very large number of people.

To reach an even larger segment of the population several forms of outreach have been undertaken. Mailings of the BRC brochures have been made to the over

500 "Educator Members" of the Academy. As a resource for teachers the Center has the capability of reaching an even larger segment of the population. School groups are also welcome to use the Center.

FUTURE PLANS

(1) Expand computer resources and acquire specialized databases relating to biodiversity and endangered species including *RareFind*, the California Natural Diversity Database and corresponding GIS developed by the California Department of Fish and Game, and the *California Endangered Species Information System* bibliographic database developed by the Bureau of Land Management containing 2,500 articles on 112 endangered species.

(2) Explore the possibility of dial-up access to our CD-ROM indexes for local San Francisco schools.

(3) Pursue the development of a lending library in conjunction with San Francisco Public Library.

(4) Undertake multi-cultural outreach by providing Spanish language translations of our handouts on biodiversity as well as a multi-language handout containing a definition of biodiversity.

(5) Track usage received by each CD-ROM product to aid in future collection development decisions.

REFERENCES

MacKinney, Lisa Hubbel . 1991. *Evaluation Study: Visitors' Stated Information Needs and Perceptions of the Biodiversity Resource at the California Academy of Sciences*. Student report, Center for Museum Studies, John F. Kennedy University.

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