California State Library
Library Services and Technology Act (LSTA)
Fiscal Year 2001/2002

APPLICATION (LSTA 6)

Submit in <u>five</u> (5) copies by 4:30 p.m., Friday**, June 15, 2001**, to Attn: Jay Cunningham, Library Development Services, California State Library, P.O. Box 942837, Sacramento, CA 94237-0001, for mail. (Express <u>delivery</u>: 900 N Street, Suite 500, Sacramento, CA <u>95814</u>). FAX is not acceptable. INFORMATION: Tel. (916) 653-5217.

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1.   Project title: <u>California Explores the Ocean</u>

2.   Applicant name and jurisdiction:<u> University of California, San Diego: UCSD Libraries</u>

3.   Applicant contact:<u> Dawn Talbot</u>   Phone: <u>(858) 534-6213</u>

       FAX: <u>(858) 534-2720</u>   E-mail: <u>talbot@ucsd.edu</u>

4.   District: Assembly <u>   76th   </u>   State Senate <u>   39th   </u>   House<u>   49th   </u>

5.   Population: Client <u> 33.9 million California citizens</u>   Total <u> 33.9 million California citizens</u>

6.   Participants other than applicant:

SIGNATURE	LIBRARY/AGENCY
Robert M. Witty, Director	San Diego Historical Society

7.   LSTA amount requested: $<u> 213,161</u>

8. **Project Summary: complete in space provided.**
   State Plan Reference (e.g. "Goal C. S-T #1"): Goal A. S-T #4_____

In this project we will design, create, and begin to populate a subject-based portal for oceanography in California, one that will accommodate textual, audio, and pictorial resources, and will provide tools that facilitate utilization of these resources by both scientists and the public. The portal will unite disparate resources in a "virtual collection" to which materials can be added in the future by the initial participants as well as others who own significant resources relevant to California oceans and oceanography. The initial site will include:

1. Textual Resources: *The Fish Bulletin*. The California Department of Fish and Game's *Fish Bulletin* is a core resource for the study of fish and fisheries in California. Continuously published as a monographic series since 1919, it contains in-depth monographs as well as an important collection of fish catch statistics spanning sixty years that provide a rich source of information for those who study the utilization and management of California fisheries. Users will be able to search and read this important resource online, and will be directed through the portal to other relevant web-based resources. In addition, using tools the UCSD Libraries have developed for analysis of economic datasets on the Web, users will be able to retrieve and manipulate the catch statistics.

2. Photographs and Oral Histories*: Material from the San Diego Historical Society.* The San Diego Historical Society (SDHS) owns thousands of photographs and dozens of oral histories that document the rise and decline of the California fishing industry. Approximately 5,000 images and over 50 oral history transcripts on topics of popular interest such as tuna fishing, lobster harvesting, agar processing, whaling, etc. will be digitized. Currently this large archive is not easily accessed, even at the Society. Digital media management software purchased for the project will create a searchable database of these images, as well as slide shows that unite them thematically.

3. Ocean Explorations: *Material from the Scripps Institution of Oceanography (SIO) Archives.* The history of ocean ships is a particularly fascinating one, and a topic of many questions to the SIO Archives. HORIZON was one of the postwar vessels acquired by Roger Revelle, SIO Director, as he built the SIO research fleet. H. William Menard, a prominent oceanographer, wrote an illustrated history of the vessel (copyright owned by UC) that will serve as the unifying document for a selection of digitized material including photographs, expedition reports, correspondence, instrument development, and cruise narratives. Access to this material is currently scattered throughout various EAD finding aids. We will create a virtual exhibit of this material and, in addition, assign metadata that will allow users to retrieve this material more directly. Links to content digitized in this project will also be added to the current finding aids. The database design of the portal will allow users to retrieve and organize these materials in ways that will illuminate relationships difficult to view in traditional paper formats.

All material will be digitized in compliance with *California State Library Metadata Standards*, *California State Library Scanning Standards,* and *California Digital Library Digital Image Collection Standards*. We will work with the Online Archive of California (OAC) management to

incorporate into the OAC the data and the metadata created during this project. The project will be evaluated with the assistance of our Advisory Board members, and by scientists and the public to ensure the Web design is meeting its intended purpose.

9. **Budget Summary**	LSTA (1)	Other funds (2)	In-kind (3)	Total (4)
a. Salaries & Benefits	$128,161		$65,750	$193,911
b. Library Materials				
c. Operation	$85,000		$ 45,300	$130,300
d. Equipment ($5K+)			$28,665	$28,665
e. Total for Objectives	$213,161		$161,031*	$374,192
f. Indirect Cost				
g. TOTAL	$213,161			$374,192

* Indirect cost taken as an in-kind contribution

10. Client needs and project goals.

10.1. Client needs:

The goal of this project is to improve access by the public and scientists alike, to information relating to California oceans and oceanography. It is evident, from the large number of inquiries received from the general public and from scientists around the world, that materials in the SIO Library, SIO Archives, and San Diego Historical Society currently only reach a fraction of the individuals with an interest in them. Digitizing these materials and providing tools to make them more accessible electronically, will vastly broaden their use. To determine which materials would have the greatest initial benefit, we have consulted with SIO scientists, California Fish and Game Librarians, educators at the Birch Aquarium at Scripps, and archivists and curators at the San Diego Historical Society. With their advice we have selected a range of material types, and a number of key tools, that will provide the foundation for a Web site that will become a core resource for those seeking information on California's oceans. Letters in support of this project are attached as Appendix I. The site will be designed so that additional materials from other repositories can be added in the future.

To insure that the design and content of the site meets the needs of its intended users, we will convene an Advisory Board to help refine our content selection, determine appropriate tools, design the Web site and ensure that the products created will enable the expansion of this site in future years. Two prominent SIO scientists, the Director of the Online Archive of California, and a curator from the San Diego Historical Society have already agreed to serve on this Board. Others from the fisheries and educational communities will be added. The Board will meet twice during the course of the grant and will hold conference calls at least quarterly.

10. 2 Project Goals:

I. Greatly improve access for California citizens to the unique collections of the SIO Archives and SIO Library collections.

II. Provide easy access for California citizens to a selection of ocean related photographs and oral histories from the collections of the San Diego Historical Society.

III. Create a Web site that makes ocean related resources available via a standard Web browser to a wide range of California citizens, with tools that will allow users to manipulate these materials, and a site design that will enable additional, relevant material from these and other collections to be added in the future.

11. Measurable objectives to reach goals.

In order to achieve the Project Goals above, the project will pursue the following specific objectives.

Goal I

- Scan over 16,500 pages of the *Fish Bulletin* to create a digital facsimile of the print artifact from 1919 to date.
- Convert and mark-up the *Fish Bulletin* according to the SGML TEI Lite DTD.
- Convert over 3,000 print-pages of fish catch statistics from the *Fish Bulletin* into ASCII delimited text.
- Convert 1,000 pages of Expedition Reports and mark-up according to the SGML TEI Lite DTD.
- Scan 2,000 non-photographic items from the SIO Archives that illustrate the expeditions of the *Horizon*, including drawings, blueprints, diary excerpts, clippings, etc. Import scanned items into digital media management software. Assign metadata for improved retrieval. Link content to existing EAD finding aids.
- Digitize 1,200 photographs, both black and white and color, from the SIO Archives documenting expeditions of the *Horizon*. Import images into digital media management software. Assign metadata for improved retrieval. Link content to existing EAD finding aids.
- Convert SIO Reference Series #24-3, *The Research Ship Horizon* to html.

Goal II

- Digitize 5,000 selected black and white photographs from the SDHS collections relating to California fish and fisheries, and import into digital media management software
- Create metadata to improve retrieval of SDHS images.
- Scan and OCR 53 oral history transcripts from the SDHS.
- Reformat 26 key oral history analog tapes to digital format for Web access.

Goal III

- Implement a digital media management program to manage and present multimedia digital objects.
- Develop a virtual Web exhibit of the ship *Horizon*, using the digital media management

program's contextual client to relate images to text.
- Develop Web presentation for the images from the SDHS.
- Make Fish Catch data sets available on the Web for searching, browsing, table and graph building, and for downloading and analysis.
- Develop metadata for each collection (photographs, archival resources, oral histories, and text) and map to Dublin Core to facilitate searching across collections.
- Meet with the Advisory Committee at least twice.
- Develop content guidelines, format and metadata recommendations and a DTD for the oceanographic community that will enable content from other organizations to be easily added to this site.

12. Project actions in time sequence.

October – December 2001
For all Goals
- Convene initial meeting of the Advisory Board.
- Hire contract personnel.
- Set up meeting of all personnel involved in the Project to review Goals for the project and discuss timeline and project deliverables. Establish small working groups under overall management of the Project Manager.

Goal I
- Let contract with service bureau to convert and mark-up the *Fish Bulletin* (16,500 pages).
- Let contract with service bureau for conversion of the Fish Catch statistics (3,000 pages) from the *Fish Bulletin*. to be triple blind re-keyed into ASCII delimited text.
- Select images and related material from the SIO archives relating to expeditions of the research vessel, *Horizon* documenting the history of oceanographic exploration off the coast of California.

Goal II
- Select 5,000 images from SDHS photo collections relating to oceanographic issues, fish and fisheries, agar processing, whaling, and coastal locations and geography.
- Scan and convert 51 oral history transcripts (1,250 pages) to searchable text using OCR.

Goal III
- Purchase and install digital media management software at both sites to enable digitized images to be searched and displayed using a standard Web browser.
- Train project staff to use digital media management software.
- Develop DTD for project site digital objects.
- Design a mockup site for the *California Explores the Ocean* portal using rapid evolutionary development methodology. This enables us to quickly create a working, usable prototype that focuses on the 20% of the total application that will provide 80% of the core functionality. Design will be an iterative process that will continue for several months as content becomes available to test the user interface.
- Identify key external Web sites that provide support and context to the materials digitized as part of the project, such as the *Fish Pics* database (Biological Resources Division of the U.S. Geological Survey and Instructional Development at the University of California, Santa Barbara); the *FishNet* database (University of Kansas); *Species Profiles: Life Histories and Environmental Requirements of Coastal Fishes and*

Invertebrates (U.S. Geological Survey Biological Resources); and *Marine Sportfish Identification* (California Dept of Fish and Game). Assign metadata to sites.

January – March 2002
Goal I
- Let contract with service bureaus to convert 1,000 pages of SIO Expedition Reports.
- Let contract with service bureau to scan 2,000 pages of text and images related to the SIO Expeditions.
- Let contract with service bureau to scan 1,200 (mostly black & white but some color) SIO Expedition related photographs.
- Assign metadata and add it to the digital media management database.
- Continue content selection and refine selection guidelines.

Goal II
- Let contract with service bureau to scan 5,000 SDHS black and white photographs.
- Digitize analog tapes of 26 oral history recordings. Sound files will be accessible via standard Web-browsers incorporating audio file player software such as Quicktime, Real and WindowsMedia.
- Continue content selection and refine selection guidelines.

Goal III
- Make Fish Catch data sets available on the web for searching, browsing, table and graph building, and for downloading for analysis.
- Continue working with site prototype to improve user interface.

April – June 2002
Goals I and II
- Import digital objects and related metadata into the digital media management database.

Goal III
- Starting from the site prototype, the Web graphic design consultant will develop a professional design for the *California Explores the Ocean* Web site including the user interface, navigation scheme and associated graphics.
- Design the *Horizon* virtual exhibit, using digital media management contextual client.
- Create Web presentations of selected images within the digital media management database.

July – September 2002
Goal III
- Develop guidelines for adding future content to the site.
- Document and make available the DTD and metadata scheme developed for the project.
- Conduct usability testing.
- Install Web statistics software.
- Install WebSurveyor online survey.

13. Personnel requirements and staff training.

13.1 Personnel requirements:

Susan Starr, Associate University Librarian for Sciences, and Dawn Talbot, Senior Associate for Digital Library Program Development, UCSD Libraries will act as Project Administrators, coordinating all administrative aspects of the project, including budget and staffing.

The UCSD Libraries Digital Archivist (currently in recruitment) will serve as the Project Coordinator, overseeing text markup and digitization. The incumbent is a digital conversion specialist and has several years experience with project management and is especially conversant with EAD/SGML and TEI markup.

Deborah Day, SIO Archivist will select all materials to be included in the project from the SIO Archives.

Peter Brueggeman, Director of the SIO Library and subject specialist for oceanography, will work with programming staff and prominent fisheries biologists and oceanographers, to develop the fish catch statistical section of the site. He will also select marine related sites for inclusion into the portal.

Chris Frymann, senior programmer, UCSD Libraries will be the project lead programmer and will provide technical support to project programming staff.

John Panter, Archivist, and Greg Williams, Curator of Photographs, SDHS will select all materials from the SDHS for inclusion in the project and will work closely with the UCSD Libraries Project Manager.

13.2 Staff Training:

Since digitization, with the exception of reformatting the oral history analog tapes, will be outsourced to service bureaus that have demonstrated digital library experience, project participants will not need to become conversant with this routine aspect of the project. An identified training element in this project will be in the use of the digital media management software. The decision to select CONTENTdm as the application for this project was in part based on the relatively short time that it will take to get project participants trained in using this software. We also have on staff a former University of Washington Libraries staff member who is very experienced in using CONTENTdm and will act as a resource during the implementation and training phase. The UCSD Libraries Catalog Department will provide training for staff involved in metadata creation to insure consistent and reliable metadata is created for digital objects in this project and for the future as we continue to augment the collections after the close of the grant cycle.

14. Public relations plan.

We will look to the Advisory Board to suggest suitable avenues to disseminate information about the project to diverse user communities. Information about the project will be disseminated to the California library community via a presentation at the 2002 California Library Association annual meeting, to the international marine sciences library community through presentations at the 2002 International Association of Marine Science Librarians International Conference (IAMSLIC), and to the California marine sciences library community through a presentation at their regional conference. In consultation with OAC management, we will explore ways to incorporate both the data and metadata from this project into the Online Archive of California. We will email relevant communities announcing this new site and inviting them to link to the site. Once operational the site will be accessible via any Web browser and will reach a diverse and geographically dispersed audience.

15. Statewide significance.

The Scripps Institution of Oceanography (SIO) Library, one of the largest marine science libraries in the world, houses an extraordinarily rich collection of unique resources related to the oceans and oceanography. With 1,100 miles of coastline, oceans have always loomed large in the economy of California; the commercial fishing industry alone is valued at over $800 million annually. SIO, and its Library, serve to support California's marine-related industries. The Library's collections are heavily used, not only by scientists throughout the world, but by the general public who regularly visit the library to consult its resources and take advantage of staff expertise in information sources related to the oceans. One of the goals of the UCSD Libraries is to make the SIO Library collection more accessible to its many potential users. This goal has become more pressing with the recent release of the President's Panel for Ocean Exploration report, "Discovering Earth's Final Frontier: a U.S. Strategy for Ocean Exploration," that identifies a "growing national interest in our seas" and an "acknowledgement that the ocean influences our daily lives in hundreds of ways." To meet the needs of California's citizens for 24/7 access to marine-related information, we need to create a Web site that serve as an electronic complement to the print library, a place where scientists and the public can begin their search for information on California's oceans. At the conclusion of the project we will have gained valuable experience in designing and implementing a subject-based portal that attempts to speak to both scientists and the lay community. Our experience of using off-the-shelf software to integrate access to text with still images, and audio files will be shared with institutions statewide that may have similar interests in developing subject related portals for other subjects.

16. Evaluation.

Evaluation will center on determining the usability of the site for its intended audience. We will use a combination of usability testing with selected scientists, members of the public, and students, as well as an online survey. We will also collect data on usage with the UCSD Libraries Web statistics software. However, as the site will only be available for a few months prior to the end of the grant, we do not expect to have authoritative usage data during the lifetime of this project.

17. Methods of continuation:

A. Local

The UCSD Libraries are committed to using electronic tools to improve access to the resources of the SIO Library for all California citizens, scientists and non-scientists alike. We will continue to maintain this resource and to grow and enhance this virtual collection. At the conclusion of the grant cycle, we will have built the foundation for a portal that we can expand and improve in the coming years. We have already identified a variety of material in the SIO collection that can be added to the portal, including, for example, pictorial and textual material that documents SIO expeditions to the Gulf of California, unique stills and films of fish in the deep oceans, and the story of the development of scientific and scuba diving in Southern California. The San Diego Historical Society has countless additional photos that could be added to the site, archival collections including approximately 50 cubic feet of records of the American Tunaboat Association, and actual artifacts related to California fishing that could be made digitally accessible through this site.

The UCSD Libraries will add into their annual budget the maintenance costs for licensing the digital media management software, as will the SDHS, currently a cost of $3,000 per year per license.

B. Statewide

We will contact other marine-related institutions in California and the San Diego museum community, to invite collaboration to further enhance this portal to California ocean resources. Tools developed as a result of this project will allow integration into this portal of materials from other institutions with significant, related collections.

18. Program budget: LSTA funds requested.

  a. Salaries

SUBTOTAL   ▨▨▨▨▨▨▨▨▨▨▨▨▨▨▨▨▨▨▨▨▨▨▨▨▨   <u>$128,161</u>

  b.   Library Materials:

        None requested

    SUBTOTAL   ▨▨▨▨▨▨▨▨▨▨▨▨▨▨▨▨▨▨▨▨▨▨▨▨▨   <u>$0</u>

  c. Operation

SUBTOTAL   ▨▨▨▨▨▨▨▨▨▨▨▨▨▨▨▨▨▨▨▨▨▨▨▨▨   <u>$85,000</u>

19. Narrative support for budget.

- Staffing:
  Consultants will be hired to provide a professional graphical design and navigation schema for the site as well as to conduct the project evaluation. A project archivist will be recruited by the SDHS to assist with selection and preparation of photographs and oral histories from their collections. Position descriptions for these positions are attached as Appendix 3. Staff working on this project will be housed at the SIO Library and Archives as well as the SDHS. In addition to working space, both institutions will provide all other essential office equipment and functions.

- Software:
  In order to easily manage our virtual collection, comprised as it is of textual, audio, and pictorial resources, we have included the license of multimedia digital collection management software for both the UCSD Libraries and the SDHS. Only one license will be requested from LSTA funding. The second license is contributed as in-kind.

  The suggested licensed product is CONTENTdm (http://www.contentdm.com/)

developed at the University of Washington. A member of the UCSD Libraries staff is very experienced with this software and will act as a resource for installation and training. Several institutions, including museums, libraries, corporations and organizations in both the private and not-for profit arena are running this software. It has been used most successfully in projects that have a number of similarities with ours (http://www.contentdm.com/collections.html), is competitively priced, and can scale up to handle collections of millions of items without degradation in retrieval time. A license for the SDHS is included to enable them to continue improving access to the full range of the Society's rich collections even after the grant cycle is complete.

- Digitization:
  We have elected to outsource the digitization to service bureaus rather than do this time consuming and routine operation in-house. This approach will be quicker and more cost effective. By contacting several vendors for quotes we were able to secure a competitive quotation for the project. Conversion of text will be handled by Pacific Data Conversion Corp. and photographic imaging by either Luna Imaging Systems Inc. or UCLA Photographic Services. All bureaus selected have long-term experience in high quality digital library projects. A significant portion of the digitization costs is being born by UCSD as detailed in the in-kind contributions breakdown above. We have suggested double blind re-keying of the Fish Catch statistics (3,000 pages) from the *Fish Bulletin*. This is deemed necessary since numeric data, unlike text, needs to be as accurate as possible. Triple blind re-keying is guaranteed to an accuracy rate of 99.995%.

- Travel/Overnight
  Travel expenses are being requested for travel and overnight accommodation for Advisory Board members not resident in San Diego to attend two Board meetings as well as for travel to a Los Angeles services bureaus being used to digitize artifacts from the SIO Archives and the SDHS. Such items are considered too valuable to send via regular carriers.

- In-kind
  The UCSD Libraries and the San Diego Historical Society have shown their commitment to the project with extensive in-kind contributions. Most significant are the salaries of staff from both institutions that are being contributed to this project. The UCSD Libraries will take the lead in the project and will provide project support to participants at the San Diego Historical Society. Subject specialists and archivists will select materials, assign metadata, and create virtual exhibits/slide shows. Highly trained and experienced technical staff from the UCSD Libraries Software Engineering and Systems departments will provide programming support for the Web site.

  Equipment:
  A high-end workstation will be purchased for the Project manager consisting of a PC with extended RAM, fast CPU speed, and 100 MB hard disk. Adobe PhotoShop and Adobe Acrobat
  will be installed. _

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Since UCSD will manage all administrative and financial oversight for the project including contracting for digitization, the 10% indirect cost that UCSD does not collect has been credited as an in-kind contribution.

20. Certification.

a. I affirm that the jurisdiction or agency named below is the legally designated fiscal agent for this program and is authorized to receive and expend funds for the conduct of this program.

b. I affirm that any or all other agencies participating in the program have agreed to the terms of the application/grant award, and have entered into an agreement(s) concerning the final disposition of equipment, facilities, and materials purchased for this program from the funds awarded for the activities and services described in the attached, as approved and/or as amended, application.

(Signed): _____   _____
　　　　　Authorized representative (For schools, should be Principal/Supt.)   Date

(Printed):
Name and title

Organization: University of California, San Diego _____

_____

Street/mail address:

_____

City: __La Jolla__   County: San Diego   ZIP+4: 92093

Telephone: FAX:

INTERNET E-mail:

JLC:jlc
A:LSTAAPP6A.001

APPENDICES

Appendix 1
Letters of Support

Richard Rosenblatt,
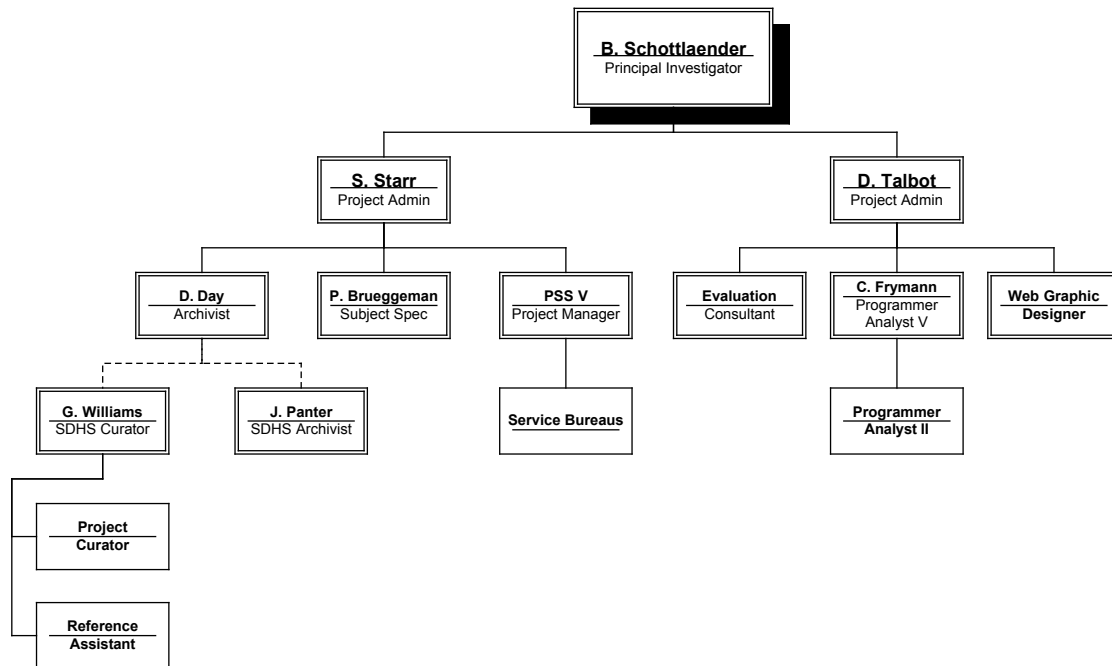Professor of Marine Biology, Emeritus, UCSD

Joan Parker
Librarian
Moss Landing Marine Laboratories

Richard A. Schwartzlose
Fisheries Oceanographer, retired, SIO

Jan Mason
Fisheries Biologist
Pacific Fisheries Environmental Laboratory, (NOA)

Appendix 2

Project Organization Chart

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                          B. Schottlaender
                          Principal Investigator

            S. Starr                              D. Talbot
          Project Admin                         Project Admin

   D. Day      P. Brueggeman     PSS V      Evaluation   C. Frymann     Web Graphic
  Archivist    Subject Spec   Project Manager Consultant  Programmer     Designer
                                                          Analyst V

 G. Williams    J. Panter    Service Bureaus            Programmer
SDHS Curator  SDHS Archivist                            Analyst II

  Project
  Curator

 Reference
 Assistant
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Appendix 3
Position Descriptions for Contract Staff

Web Graphic Design Consultant

The consultant will develop a visually clean, professional, graphical treatment for the *California Explores the Ocean* Web site. This includes design of the user interface, the navigation scheme and associated graphics. Skills needed include experience in user interface design, ability to use standard image creation and manipulation tools such as Adobe Photoshop and Macromedia Fireworks to create web pages and associated graphics. The graphical treatment should meet UCSD Web Guidelines and follow the UCSD Graphic Identity Guidelines.

Evaluation Consultant

Consultant will be responsible for developing an evaluation plan that will verify the extent to which the objectives of the project have been met. The consultant will assess the value of the *California Explores the Ocean* Web site to the community using appropriate evaluation methodologies such as online and in-person surveys and analysis of Web site usage statistics that will be gathered automatically from installed web usage software. A written report is expected for inclusion into the final grant report. Skills needed include a working knowledge of user survey methodologies and demonstrated experience in conducting usability testing. It is desirable that the successful applicant will have library experience and have worked in a team-based environment. The position requires excellent communication skills, both written and oral. The incumbent must be able to set priorities and adhere to strict deadlines.

Project Archivist

Incumbent will report to the SDHS Photo Curator and will provide assistance with selection of photographs for the project, will research and assist with development of associated metadata, and will prepare selected photographs for digitization by the service bureau. This person will also scan and OCR the selected oral histories and will assist with the creation of the associated metadata.

Appendix 4
Technical Infrastructure