

Senate Committee on Ways and Means
Budget Requests for Supplemental Budget 2004 – 2005
January 8, 2004

Program I.D. and Title: UOH-881, Aquaria

I. Introduction

A. Summary of Program Objectives

Act 184 (SLH 1995) designates the Waikiki Aquarium as the State Aquarium, and further provides that the objective of the UOH-881 program is to enrich the lives of people of all ages by providing public programs, education, research, and exhibits of the aquatic life of Hawaii and other regions. The State Aquarium at Waikiki is administered through the University of Hawaii-Manoa Chancellor's Office.

B. Description of Program Objectives

1. Education Programs

Marine science education programs offered by Waikiki Aquarium reach a large target audience. Last year 34,555 school students, teachers, families, and individuals received marine science instruction from our three full-time instructors, two University of Hawaii student workers, 20 affiliate staff from Hawaii's research, education and environmental communities, and more than 30 trained volunteers. Many more were reached through on-site interpretation at our outdoor reef exhibit staffed by approximately 40 volunteers, statewide through collaborations with the DOE Distance Learning and KidScience Programs, environmental news coverage and contributions to natural history programs (e.g. Animal Planet), as well as internationally through our web site. Science literacy and conservation education are the primary emphases of these programs.

Over 100 program offerings each year include:

- Docent-assisted school visits and outreach programs
- Exhibit interpretive programs
- Laboratory experiences and workshops for students and teachers
- Natural history field trips
- Snorkel ecotours
- Shoreline fieldtrip planning services
- Special lectures & services
- Natural History lecture series
- Educational video programs
- In-service teacher workshops
- Public information services—on-site and website inquiries

Modest tuition fees are charged for most programs, but Aquarium admission for Hawaii school students remains free. The most-recent accreditation team from the American Zoo and Aquarium Association reported that our *“education program is particularly good: Waikiki dedicates more staff with many more programs than many larger facilities....(and) the University*

acts as a resource in providing students, forums, and consulting staff that many zoos and aquariums can only hope to acquire.” The Aquarium’s designated status as a national Coastal Ecosystem Learning Center promises greater access to national education resources for Hawaii residents.

The Waikiki Aquarium conducted highly successful eco-tours to Midway Atoll from 1999-2001, in collaboration with the U.S. Fish and Wildlife Service and the University of Hawaii, Hilo. This program allowed participants the opportunity to tag sharks as part of a research project. When Midway Atoll National Wildlife Refuge closed its ecotourism operations in Spring 2002, summer shark research and family week classes were redesigned and offered in different venues (Christmas Island and Hawaii Institute of Marine Biology). Education staff also consulted on the design of exhibits and programs for the new Hanauma Bay Educational Center and the Northwestern Hawaiian Islands Ecosystem Reserve Interpretive Center in Hilo.

2. Exhibits

A \$500,000 renovation of the Aquarium’s signature South Pacific Marine Communities exhibits commenced on September 4th, 2001, with a grand reopening in June, 2002. All of the costs associated with this renovation project were covered by sponsorships from local and mainland contributors. This new gallery incorporates computer-based graphics with state-of-the-art life support for marine life, including giant clams and corals that have been in our collections for >20 y, as well as 140+ other species displayed nowhere else in Hawaii.

The Aquarium’s exhibits include one of the largest and most diverse collections of living corals in the world; mahimahi; endangered Hawaiian monk seals; endemic Hawaiian coastal plants; and many species exhibited nowhere else in the United States, including Hawaiian freshwater fishes and endemic fishes from Midway Atoll. The Aquarium debuted weedy seadragon and potbellied seahorses in 2002, both species reared by AZA colleague aquariums. Two invertebrate species were also exhibited for the first time last year: the big fin reef squid and the bobtail squid.

Ecology, natural history, biological diversity, and conservation are emphasized throughout the Aquarium, in exhibits and programs. Exhibit concepts, design and execution are carried out entirely by staff who have received national awards for excellence, e.g., the AZA MACE award for conservation presented to the Waikiki Aquarium for the “Corals Are Alive” exhibition.

3. Research Programs

The Hawaii Revised Statutes stipulate that the University maintains a research laboratory at the State Aquarium. The proximity of the Aquarium to the Manoa campus provides easy accessibility for UH researchers in need of running seawater, holding tanks, and life support for unique species. Our reference collections include a library with over 1,000 volumes and reprints, still images of marine life, underwater digital video footage, reprints, archives of the Waikiki Aquarium’s history since 1904, original artwork used in exhibits and publications, replicas of Hawaiian fishing artifacts, and numerous marine life artifacts (e.g. precious corals, stony coral skeletons, shells, and preserved specimens).

Undergraduate and graduate students from UH-Manoa, community colleges, HPU, and Chaminade utilize aquarium facilities for individual research projects. The Aquarium's public seawater tap is used by a number of university programs on a weekly basis for their research projects on campus. The seawater is also dispensed to hundreds of home aquarists on Oahu who reserve pick up times each week.

Aquarium staff conduct on-going research in the following areas:

- **Shark and Ray Ecology**
- **Plankton Culture for Research Feeds and Community Supply**
- **Propagation of Chambered Nautilus and other Cephalopods**
- **Mahimahi Aquaculture**

Externally funded research projects include:

- **Alien Algae Impacts on Hawaiian Reefs:** In collaboration with state and UH researchers, our latest project has investigated the feasibility and ecological utility of removing alien algae from Hawaii's reefs. Working with DLNR, USFWS, local NGOs (The Nature Conservancy, Reef Check), and community volunteers, over 20,000 lbs of alien algal biomass was removed from the Marine Life Conservation District in front of the Aquarium during the last five months, with the alien biomass being recycled as green waste. This project continues in 2003 with funding from NOAA's Hawaii Coral Reef Initiative and the EPA to determine the current distribution and ecological response of alien algae to removal protocols.
- **Coral propagation:** The Waikiki Aquarium has received several grants to develop culture methods for stony corals in order to promote conservation. This past summer, over 2,000 coral propagules were provided to the Dallas World Aquarium, Shedd Aquarium, and Monterey Bay Aquarium, thereby reducing collecting pressures on natural populations. This month, we begin a 3-year study with Israeli colleagues to study micro-propagation and growth of model coral systems.
- **Hawaiian monk seal research program:** This joint effort with UH researchers aims at determining how physiology and reproduction of monk seals vary with diet, age, and season.
- **Marine Ornamental Aquaculture:** Until now, only a few angelfish species have been reared using wild plankton; to our knowledge, the Aquarium was the first in being successful in doing so using cultured feeds. This project continues as part of a joint research effort with the Oceanic Institute.

C. Meeting our objectives in the upcoming fiscal year

Education programs, exhibit development, and maintenance are funded for the most part by earned revenue sources, supplemented by a State appropriation. Earned income sources include admission fees, membership dues, class tuition fees, gift shop proceeds, special events and fundraisers, gifts and donations, and rental of the Aquarium facilities for evening functions. All general operating expenses are now paid from earned revenue sources. State funds cover the salaries of 13 state employees including the education staff and the building maintenance department. An additional 25 employees hired through the Research Corporation, are paid from

earned revenues. Competitive federal grants currently support three graduate and three undergraduate students involved in research projects.

II. Program Performance Results

A. Program performance results achieved

Program effectiveness is measured by visitor satisfaction, total admission numbers, earned revenues, and effectiveness in achieving educational goals.

Visitor ratings:

| | <u>FY1998</u> | <u>FY1999</u> | <u>FY2000</u> | <u>FY2001</u> | <u>FY2002</u> |
|------------|---------------|---------------|---------------|---------------|---------------|
| Excellent: | 58% | 59% | 65% | 65% | 59% |
| Good: | 28% | 28% | 25% | 25% | 27% |
| Average: | 9% | 8% | 7% | 6% | 9% |
| Poor: | 5% | 5% | 4% | 4% | 5% |
| TOTAL | n = 1,453 | n = 1,277 | n=1,525 | n=1,498 | n=1,314 |

Visitors expressed an anticipated decline in satisfaction during the 9-month period in which the South Pacific gallery was closed for renovations. Since reopening in June, Excellent and Good ratings combined climbed to >91%, the highest approval level measured since this metric was initiated in 1998.

Attendance:

| | <u>FY1998</u> | <u>FY1999</u> | <u>FY2000</u> | <u>FY2001</u> | <u>FY2002</u> |
|--------------|----------------|----------------|----------------|----------------|----------------|
| General | 295,513 | 280,468 | 273,053 | 291,359 | 276,871 |
| Rentals | 13,008 | 12,294 | 15,058 | 13,519 | 13,490 |
| Education* | 38,782 | 45,769 | 38,209 | 31,393 | 36,805 |
| Events | <u>4,511</u> | <u>3,050</u> | <u>3,629</u> | <u>4,227</u> | <u>3,706</u> |
| TOTAL | 351,814 | 341,581 | 329,949 | 340,498 | 328,622 |

*does not include outreach programs

Revenues:

| | <u>FY1998</u> | <u>FY1999</u> | <u>FY2000</u> | <u>FY2001</u> | <u>FY2002</u> |
|-----------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| Earned revenues | \$1,755,978 | \$1,570,697 | \$1,816,850 | \$1,899,667 | \$1,672,826 |
| G-funds | \$ 441,724 | \$ 508,049 | \$ 512,837 | \$ 506,001 | \$ 510,388 |
| TOTAL | \$2,197,702 | \$2,078,746 | \$2,329,687 | \$2,405,668 | \$2,183,214 |

B&C. How these results relate to objectives and how effectiveness is measured

Attendance and revenue:

The Waikiki Aquarium experienced a substantial decrease in attendance (-12%) and associated admissions revenues (\$128,000) in the aftermath of September 11, 2001 (Aquarium attendance is about 67% tourists and 33% residents). However, attendance began to slowly climb back as tourism numbers improved during the remainder of FY02. Overall attendance in 2003 is well above the FY02 numbers and <5% under attendance from two years ago.

In relative terms, the Aquarium retained its rank in FY02 as the #5 paid attraction on Oahu, behind the Polynesian Cultural Center, the Honolulu Zoo, Sea Life Park, and the Bishop Museum, but ahead of Waimea Falls Park, the Honolulu Academy of Arts and other local attractions and museums.

Exhibits:

Visitor satisfaction has been consistently favorable, with a mid-renovations decline in FY02 followed by >91% of visitors now reporting “good” to “excellent” on voluntary exit surveys in FY03.

Education:

Attendance in the Education Program remains strong with 34,555 students, adults, families, and other participants in FY02. This is down somewhat from the previous year due to the drop in visitor traffic following 9/11/01 and the loss of three field classes when Midway Atoll National Wildlife Refuge cancelled visits by ecotour groups.

Research:

Aquarium staff published or presented 17 papers during FY02 based on research conducted at the Waikiki Aquarium. The Aquarium will be a makai “anchor” of the new interdisciplinary Hui Konohiki and Marine Biology programs at UH-Manoa.

D. Actions taken to improve performance:

1. A contract for the Waikiki Aquarium to operate a gift shop as part of the recently completed Hanauma Bay Educational Center was negotiated with the City and County of Honolulu to generate a new revenue stream for joint educational endeavors.
2. New exhibits, renovations, and other improvements have enhanced the Aquarium as a destination, as evidenced by favorable comments from visitors.
3. An audio tour wand (English, Japanese and German languages) included with each paid admission has significantly increased the educational value of the Aquarium. Visitors have overwhelmingly approved this addition.

III. Problems and Issues

A&B Discussion of problems and issues encountered, and recommendations to remedy problems

Issue #1: Aftermath of September 11, 2001

Since we were financially and physically committed to renovation of the South Pacific gallery in September '01, we proceeded with careful attention to cost-savings wherever possible. To meet the financial strain that directly resulted from decreased attendance revenues after 9/11, we temporarily cut operating expenditures, froze vacant RCUH positions, and postponed most repairs and improvements. To boost revenues, we asked members to renew and increase their contributions. Memberships increased by nearly 50%; contributions also increased. Costs savings met much of our fiscal deficit, but could not be maintained without permanent negative impact to programs and the facility.

Issue #2: Compliance issues and aging facilities

The Waikiki Aquarium building opened in 1955. Extensive renovations to the public side of the building in 1994 brought the Aquarium into compliance with new regulations regarding access for persons with disabilities, and corrected other deficiencies. However, significant deficiencies remain unresolved in this 50-year old building. Recent corrective actions include:

- Improvements to the wastewater treatment system cost \$50,000 in FY01.
- Further wastewater system improvements beginning this month will cost an additional \$430,000 to keep the Aquarium in compliance with Federal and State wastewater discharge regulations.
- Termite damage to the public galleries cost \$16,000 to repair.
- Roof repairs will cost an additional \$20,000 this year.
- Seawall repairs will cost nearly \$1,000,000 when eventually completed.

These essential renovations and emergency repairs have been funded by donations, University of Hawaii contingency funds, and State appropriations.

We foresee additional significant repair work being required in coming years as the Aquarium ages. It is an old building and in many areas no longer meets current building code requirements; this has become a chronic problem and should be unacceptable in a State that depends on tourism and quality visitor attractions.

Issue #3: Kakaako Aquarium proposal:

In 1996, Governor Cayetano proposed the creation of a new world-class aquarium to be built in Kakaako. We strongly supported this proposal because Hawaii is the best place in the world to create a new "Ocean Science Center" dedicated to public education about the oceans. Furthermore, Hawaii needs more new world-class attractions – no major new attractions have opened in Hawaii in many years.

The outgoing Governor's proposal did not gain sufficient support to move forward with legislative appropriations, but a more recent proposal utilizing private sector and tax credit financing is currently under negotiation. The UH-Manoa Chancellor's Office is very supportive of the University's involvement should this plan go forward.

All attractions must continually renew themselves in order to maintain repeat visitation, but strategic planning, master planning for new facilities, and fund-raising require a 3-5 year lead-time. Since 1996, the Waikiki Aquarium has been in limbo until a decision was made whether its future would be in Kakaako or Kapiolani Park. This has left the Aquarium highly vulnerable, especially at a time when renovations and upgrading are especially necessary.

In our opinion, the Waikiki Aquarium needs to be replaced by a new Aquarium or Ocean Science Center, either at the current site or elsewhere. This issue is critical and needs to be decided by the University of Hawaii, the Legislature and the general public over the next 1-2 years.

Issue #4: Support of UH-Manoa programs:

Building research capacity is vital to the Aquarium's playing a key role in the new Hui Konohiki and Marine Biology programs at UH-Manoa. The current wastewater renovations will result in the construction of two large (20'x20') concrete pads in the Aquarium's back area (as covers for two deep freshwater holding tanks) that would be ideal for developing into a marine microcosm research facility. Whether the present site remains as the Waikiki Aquarium or is retained as a UH-Manoa research facility if the Aquarium is moved to Kakaako, this capacity will bring significant opportunity for return in terms of research productivity.

Issue #5: Remaining viable:

Next year, 2004, holds two important milestones for the Waikiki Aquarium: the extensive five year re-accreditation review by the American Zoo and Aquarium Association (AZA), and the Aquarium's 100th anniversary. Regardless of whether the current Kakaako proposal goes forward, we can anticipate that the Waikiki Aquarium will remain open to serve visitors, residents, students, and school groups through at least the next five years, if not beyond. Therefore, we need to continue marketing to target audiences and raising funds for new exhibits, exhibit renovations, and programs.

The community may be understandably reluctant to contribute funds for improvements to this site while proposals for a new aquarium are debated. This reluctance can be turned around by a coherent and integrated transition plan that addresses the public's strong support for the education, research, and conservation efforts offered at this site, and the need to provide these services even during a time of transition. We strongly urge the Legislature to continue to support the State Aquarium--this jewel of a facility in Waikiki—and not let its 99-year old reputation for excellence become tarnished.

IV. Expenditures for Fiscal Year 2003-2004

| | Appropriation FY 2004 | Collective Bargaining | Transfers In/Out | Restriction | Estimated Total Expenditures |
|------------------|--------------------------|--------------------------|---------------------|-------------|------------------------------------|
| | 20.00 | | | | 20.00 |
| Personal Service | 668,198 | | | | 668,198 |
| Current Expense | 1,592,716 | | | | 1,592,716 |
| Equipment | | | | | 0 |
| Motor Vehicles | | | | | 0 |
| Total | 2,260,914 | | | | 2,260,914 |
| By MOF: | | | | | |
| | 13.00 | | | | 13.00 |
| General Funds | 542,225 | | | | 542,225 |
| | 7.00 | | | | 7.00 |
| Special Funds | 1,718,689 | | | | 1,718,689 |

- A. Transfers within the Program ID:
No transfers
- B. Transfers between Program ID:
No transfers
- C. Restrictions:
No restrictions

V. Supplemental Budget Request for FY 2004 – 2005:

| | Budget Request FY 2004-2005 |
|-------------------|--------------------------------|
| | 20.00 |
| Personal Services | 668,198 |
| Current Expenses | 1,592,716 |
| Equipment | |
| Motor Vehicles | |
| Total | 2,260,914 |
| By MOF: | |
| | 13.00 |
| General Funds | 542,225 |
| | 7.00 |
| Special Funds | 1,718,689 |

A. Workload or Program Request:

None

VI. Program Restrictions:

None

VII. and VIII. Capital Improvements Requests/Lapsing of CIP:

The CIP budget is discussed in a separate part of the University testimony.