

NARRATIVE
North Carolina Aquarium at Pine Knoll Shores
Outreach Expansion Project

Statement of Need

Summary of Request

The North Carolina Aquariums strive to “inspire appreciation and conservation of North Carolina’s aquatic environments.” This mission statement was adopted as part of a renewed dedication to the North Carolina public through expansion of three aquariums over six years and with dedication of the Aquarium’s newest exhibit, “from the mountains to the sea” of North Carolina. The three aquariums, located on the coast at Roanoke Island, Pine Knoll Shores and Fort Fisher, have experienced a renewed surge in visitation and community interest with the new expansions. All three of the aquariums also have in place some fledgling outreach programs targeting school groups and events. With the success of the newly renovated facilities, the outreach programs have become so popular that the staff cannot meet demand. During 2007, Aquarium staff came together to identify the current opportunities and constraints of the outreach programs at all three aquariums. The following general conclusions have been reached:

- The expansion of facilities and programs at the three aquariums has been highly successful resulting in increased visitation and renewed community and statewide interest in the educational and cultural value of the aquariums.
- Off-site outreach programs are currently a focal point for coordinated planning among the aquariums because of the program popularity, the huge growth potential, the opportunity to reach underserved audiences and the desire for a common presentation of our message and image.
- The primary element limiting the current program is logistics. Everything else is essentially in place: audience demand, targeted audiences, marketing, and program development.
- The focus of this application is to provide the materials needed to grow the current program. Immediate needs of the current program have been prioritized and the most critical need identified has been establishment of appropriate vehicles dedicated for outreach program use.

There is no opportunity in the foreseeable future for acquiring these vehicles within the projected State of North Carolina budgets for the aquariums. Each aquarium is pursuing outside funding for their own vehicular needs.

This funding request is for an outreach vehicle and portable invertebrate touch tank for the NC Aquarium at Pine Knoll Shores. The request is made under the Museums for America (MFA) funding category, “Engaging Communities.” The project will provide education for all of the groups listed: adults, families, underserved communities and youth (pre-K through 12) but will focus primarily on the latter two during the grant period.

How Project Fulfills MFA Goals

The MFA’s goal is to “strengthen the ability of the museum to serve its public more effectively by supporting high-priority activities that advance the institution’s mission and strategic goals. In 2008 MFA funds will support, “projects and activities that strengthen museums as active resources for life-long learning and as important institutions in the establishment of livable communities.” The North Carolina Aquarium’s mission is to “inspire appreciation and conservation of North Carolina’s aquatic environments.” The renovation and re-opening of the three aquariums was a successful fulfillment of strategic plans initiated as early as 1989. The updated five-year strategic plan focuses on improvement of infrastructure to support new programs including a funding priority for outreach vehicles. The aquariums expect to expand the experiences of our target audiences by spreading our conservation message to audiences who cannot travel to one of the three facilities.

How Project Relates to Mission Statement and Strategic Plan as Outlined in Strategic Plan Summary

The Strategic Plan Summary section briefly outlines the process and the evolution of strategic plan development and implementation at the North Carolina Aquariums. With the completion of facility renovations, updated 2006 goals for the NC Aquarium at Pine Knoll Shores were re-focused on education as stated in Goal 3: “Further develop and refine education programs and associated logistics.” A major implementation objective, “Outreach Opportunities”, is stated in the strategic plan as follows, “Through 2007-08, the Aquarium will continue development of its fledgling Educational Outreach Program. These programs will be developed with the addition of new and stronger marketing efforts, additional staff support, additional vehicle(s) and other resources, and first-ever distance-learning initiatives. Linked with efforts at the other two aquariums, distance-learning programs will be developed, funded and tested. All programs will support the Aquariums’ mission and be driven by existing educational philosophies (fun+science).”

Staff has begun the process of addressing this goal with several planning sessions that have included Aquarium upper management, Aquarium Society staff, Education Curators, and outreach staff. This group came together to generate a North Carolina Aquariums Outreach Marketing Plan and Program Analysis. The main body of that document is included in the attachment, “Outreachanalysis.pdf.” One of the major results of this analysis was identification of an enormous market for Aquarium Outreach programs that is currently underserved. It was concluded that expansion of outreach offerings could not occur unless staff is well-equipped to deliver programs in an efficient manner. To accomplish this, funding and purchase of outreach vehicles should begin immediately. Specific Outreach Goals for the NC Aquarium at Pine Knoll Shores are included in the attachment, “Outreachgoals.pdf.”

How Project will Serve as an Investment in Institutional Capacity

The majority of our outreach programs are of the interactive type rather than merely presentations (see the attachment file: “Outreachguide.pdf,”). Many of the programs involve live animals. Currently, outreach programs use one of the existing aquarium work vehicles, either a passenger van or an open-bed pick-up truck. All outreach exhibits, furniture and animals must be loaded into whatever vehicle is available. All materials must be offloaded at the outreach site and re-loaded when the outreach program is over. Live animals are cared for in battery-operated portable containers that maintain water quality, oxygen and temperature. Ice must sometimes be obtained for use in maintaining temperature. Care of live animals follows a strict protocol developed in coordination with the husbandry staff including restrictions on the duration of off-site animal use.

A vehicle dedicated to outreach with a portable invertebrate touch tank will significantly increase the capacity of the program in the following ways:

- An estimated 25% of the outreach staff’s time is spent loading and unloading vehicles and life support supplies, especially water. The dedicated outreach vehicle will be able to retain basic equipment (furniture, cupboards, supplies, exhibitry, water storage) in the vehicle, freeing up significant staff time for increased number and range of program visits.
- The availability of a touch tank, generator and chiller in the vehicle will significantly expand the outreach program’s ability to maintain appropriate environmental conditions for animal care, creating the opportunity for trips of longer duration (i.e., further distance) and overnight trips. This will significantly increase our ability to reach audiences who cannot travel to the aquarium.
- The portable touch tank will significantly expand on the incorporation of live animals and on opportunities for interactive learning by greatly improving our current invertebrate animal programs while allowing the use of invertebrates in the development of new and more specialized programs for a wider audience appeal.

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The portable touch tank can also be used on-site in the aquarium classrooms if desired providing a potential for increased on-site program capacity.

How Institution Arrived at Strategic Plan including Process and Participants

The Strategic Plan section describes the planning process in detail. The plan was last updated in 2006 when the Pine Knoll Shores facility had just finished a major renovation and re-opened. It is due for an update in 2008. The plan was formulated by management gaining input from staff, especially managers and curators, the Aquarium Society support and the three aquariums' 13-member community advisory committee.

Who Intended Audience is and How Project will Serve

The purpose of the outreach program is to spread the mission of the Aquariums and to reach audiences that cannot travel to one of the three aquarium facilities. Current outreach clients include mainly preK-12 schools and groups who generally cannot afford to travel to the aquarium. This is the major intended audience that we want to grow in our outreach program. The goals for NC Aquarium at Pine Knoll Shores (see attachment, "Outreachgoals.pdf") specify target markets that we want to grow over the next two years. Acquisition of a new vehicle and touch tank would supply a major boost especially to the new grade 6-12 programs, teacher workshops and adult programs allowing significant expansions in outreach offerings to those groups.

The NC Aquarium at Pine Knoll Shores conducted a structured program evaluation through a teacher focus group (see attachment: "Teacherfocus.pdf"). It was determined through analysis of the current fledgling program that demand is high but awareness of outreach availability is relatively low. Outreach programs are highly attractive to teachers because they supply a study program that complies with the North Carolina Standard Course of Study science requirements for 2,338 public and charter schools in the state. Teachers appreciate the availability of an excellent hands-on program taught by a qualified educator for curriculum subjects where they may not have the expertise or equipment to provide a quality learning experience. The recent adoption of the "No Child Left Inside" initiative at the federal level will put more pressure on teachers to generate some type of environmental teaching curriculum. Our outreach program serves their needs by providing an immediate source for teachers to meet and exceed the goals and requirements of these curriculum standards. In addition, an expanded outreach capacity would allow expansion of the current on-site teacher workshops held at the aquarium to more of an off-site focus. Teacher workshops held at schools or school district locations could greatly enhance environmental teaching resources for teachers.

The NC Aquarium at Pine Knoll Shores goals (see attachment, "Outreachgoals.pdf") also target expansion of programs for home school groups, YMCA, Boys and Girls Clubs, Boy/Girl Scout programs, daycares, after-school centers, 4H groups, senior centers, churches and community festivals. Many of these groups have limited or non-existent travel funds or ability and will be greatly served by experiencing aquarium programming and animals at their own facility. The portable touch tank will be especially valuable in this respect. Rather than the current system of a generic "cooler" type container with organisms, the portable touch tank will look nearly like a miniature version of the touch tanks at the Pine Knoll Shores aquarium complete with bottom relief and substrate for observance of animals in a simulated natural habitat.

Area Demographics and How Intended Audience fits within Institutional Strategic Plan

This outreach program originates from our Pine Knoll Shores location situated in coastal North Carolina at about the middle of the state. Based on completed and scheduled visits and outreaches for the calendar year of 2007, schools are visiting from 30 of the 100 counties in North Carolina while seven of these same 30 counties are receiving at least one outreach program during the same time period. Two additional outreaches traveled to

counties that have no school groups visiting the aquarium. Due to current logistical constraints outreach trips are generally conducted in counties east of Raleigh. The approximately twenty inland counties in that region include some of the poorest areas of the state. All but one had a median household income below the state average in 2004 with fourteen being more than 10% below the state average (U.S. Census). Seven of these counties experienced a negative population growth from 2000 to 2006 (U.S. Census). This is one reason why schools are the immediate focus for growing the outreach program. Bringing the aquarium experience to preK-12 and underserved communities will greatly increase the impact of the aquarium's image and the conservation message by bringing it to groups who do not have ready access to these types of interactive programs. In addition to current trends, the U.S. Marine Corps has just announced in October 2007 that military bases in eastern North Carolina will expand their personnel over the next five years. A total population growth of over 60,000 is expected in the seven counties primarily served by the Pine Knoll Shores aquarium outreach program. We already know that upon resolving current logistical constraints, we can immediately increase service to our nearby poorer communities, to new military families with school-age kids, and to areas west of Raleigh.

Project Design

Project Activities and Overall Goals

The overall purpose of the North Carolina Aquariums outreach programs has been to spread the mission of the Aquariums and to reach audiences that wouldn't or couldn't travel to one of the three aquarium facilities. The goal of this project is to use the success of the newly expanded aquarium as a jumping off point to significantly expand on the availability and quality of the environmental outreach experience for the people of North Carolina. The main objectives for meeting this goal include the following:

- Increase the number of outreach programs and accompanying outreach revenue by 10% per year over the two-year project period,
- Increase outreaches for underserved communities/schools and for distant communities/schools (over 100 miles from the aquarium),
- Assist teachers in meeting the state and federal environmental science teaching curriculum requirements through increased off-site teacher workshops and outreach resources,
- Improve the perception of outreach availability and the rating of outreach quality among program recipients.

The project will be conducted over a two-year period. Project activities are:

Activity 1. Acquire a suitable outreach vehicle, probably a cutaway type small truck (a vehicle needs analysis and preliminary research on the vehicle cost have been completed),

Activity 2. Acquire a portable invertebrate touch tank (product identification and cost analysis completed),

Activity 3. Outfit the vehicle and touch tank set up with required support equipment,

Activity 4. Develop and implement marketing of the new vehicle and portable touch tank with the goal of augmenting target audiences and locales,

Activity 5. Conduct outreaches with new equipment while compiling visit statistics,

Activity 6. Design and conduct two teacher focus group evaluations using Outcomes-Based Planning and Evaluation (OBPE) methods for pre- and post-project outreaches to gauge the level of improvement in the program affected by the acquisition of the dedicated vehicle and portable touch tank,

Activity 7. Design and conduct a structured survey-type evaluation using OBPE methods for a sample of individual outreaches in both years of the project,

Activity 8. Complete a program evaluation report at the end of the two-year project period using compiled statistics, teacher focus group results and evaluation survey results,

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Activity 9. Hold annual staff meeting to evaluate project success and make mid-term corrections and improvements. The meeting will include the Aquariums Division Director, the Directors and Education Curators of the three aquariums and the outreach staff.

Project Management and Process for Corrections

What makes our Outreach Program unique is that it is managed as a collaboration of three aquariums. The Aquariums Division Director has actively participated along with the three Aquarium Directors in planning this program. Each individual aquarium location develops their own on-site exhibits and programs within the overall theme of the aquariums' mission. Individuality is encouraged for on-site exhibits. The Outreach Program, however, affords an opportunity to present a more unified aquarium message and image to the off-site public. Therefore, management of this project will include close collaboration of aquarium division management with education staff. This provides an excellent framework for identification of program conflicts or problems and for bringing the coordinated resources of the three aquariums to bear on resolving issues and improving the programs. One major tool for project management in this respect will be the gathering and sharing of evaluation data. This project will include at least one annual meeting of aquarium management staff to evaluate the changes to and success of this outreach project and to make specific recommendations for mid-term change. The meeting will be scheduled for August or September 2009 to capture the first year of data and implement improvements prior to the busiest part of the school season. Daily management of this project will be overseen by the Outreach Coordinator and the Education Curator at Pine Knoll Shores.

Information on Partners

The existing formal partnership of the NC Aquariums, a state agency, and the NC Aquarium Society, our private, non-profit support group, is a long-term public-private partnership that works to implement many projects. Per IMLS staff direction a Partnership Statement has not been submitted. On an informal basis the Aquarium is also a Coastal America Learning Center and is a partner with the Centers for Ocean Sciences Education Excellence (COSEE). The Outreach Program follows COSEE's standards for Ocean Literacy. These partners contribute to and provide technical assistance for the outreach programs curriculum.

Evaluation Processes

Current evaluation processes include the recently completed evaluation and analysis of the outreach program statistics (see "Outreachanalysis.pdf" and "Teacherfocus.pdf" in the attachments) and also annual evaluations of the overall program and the work performance of the Outreach Coordinator. With acquisition of new equipment and implementation of program expansion future evaluation will focus on program quality and benefit to the target audience. Program questionnaires are currently used periodically to gain input from teachers who have outreaches conducted for their classes. This will be expanded into a formal pre- and post-outreach experience survey tool given over a wide range of audiences.

Teacher focus groups have been used in the past (see attachment, "Teacherfocus.pdf") mainly to evaluate outreach in terms of availability, accessibility and teacher awareness. One interesting aspect of the last focus group was the unanimous response that teachers were "very likely" to have an aquarium outreach program at their school if current barriers could be overcome. The outreach vehicle and "hands-on" portable touch tank would significantly overcome current barriers. In this project teacher focus groups will go beyond accessibility issues to evaluate the program itself (see recommendations in attachment, "Teacherfocus.pdf").

Staff recently reviewed the Shaping Outcomes web-based course for Outcomes-Based Planning and Evaluation (OBPE). Staff wishes to use OBPE methods to design the revised evaluation survey methods and teacher focus

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groups. Key project staff members will complete the web-based course. Also, basic quantitative analysis of achievement of project objectives will be conducted to compare pre-and post project distances traveled, duration and stability of animal holding, numbers of visits and similar statistics.

Outreach Plans for Intended Audience

A marketing plan has been developed for the Outreach Program. A teacher focus group study (see attachment, "Teacherfocus.pdf") concluded that, at least for school groups, more information is needed to get the word out about our programs. The goals for our program at Pine Knoll Shores (see attachment, "Outreachgoals.pdf") include implementation of bulk mailing of education guides, a listserv, a school email list and improved web site. For this project, with the new vehicle and touch tank equipment, the education guide (see attachment, "Outreachguide.pdf") will be revised to feature and market the program with the new equipment. Within the two year period, bulk mailings and the school email list will be implemented along with a web site update, normal seasonal advertising and press releases. Marketing strategies will be evaluated after the first year of the project and new or improved techniques will be identified.

Scholarly/Community Involvement

Internally, the Outreach Coordinator works closely with husbandry staff and with the aquarium veterinarian, Craig Harms, DVM, PhD of North Carolina State Veterinary School to establish and follow protocols for working with outreach animals including invertebrates, marine turtles, and alligators. For development of programs, the aquarium consults and works with, among others, Duke University Marine Laboratory, the North Carolina Division of Marine Fisheries, the North Carolina Wildlife Resources Commission, the Ocean Conservancy, the National Marine Fisheries Service, NOAA Ocean Exploration and COSEE Ocean Literacy. All but the latter two have local staff that work directly with our outreach staff, strengthening our existing collaboration with the numerous marine science institutions here in the Morehead City, North Carolina area.

Project Resources: Time, Personnel, Budget

Time Allocated to Complete Project

The project covered by this grant is planned for a two-year period. The first year will be spent acquiring and outfitting a vehicle and touch tank (expected to be complete within three months of grant execution), developing and implementing marketing and evaluation frameworks, and working on the logistics of using the new equipment. The second year will continue to grow the program based on the new opportunities identified with use of the new equipment. The full potential of the program will be analyzed based on evaluation of response by existing and expanded markets and audiences. The program will be continued beyond the grant period using the new equipment and evaluation tools developed under this grant.

Key Staff and Consultants Involved in the Project

Two key staff persons will manage and carry out the project: Laurie Streble, Outreach Coordinator and Windy Arey-Kent, Education Curator. Both have extensive experience in environmental education in North Carolina with emphasis on marine science education (see Project Staff and Resumes). Both have been instrumental in creating a demand for outreach by bringing the program to its current state since the opening of the new aquarium. Pat McNeese, Conservation and Research Coordinator, will provide project support in the form of grant administration and input/assistance on evaluation study design and generation of results and reports. Pat has 25 years of experience in data compilation/analysis/reporting and grants administration. All three of these staff are completely committed to organizing and managing this project including bringing in other staff as needed during various phases (e.g., husbandry, exhibits). This next "phase" of bringing in the appropriate equipment to resolve outreach logistics is a natural growth direction for this program. Staff has brought the

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program to this point, has analyzed and planned future marketing for the program (see attachment, "Outrechanalysis.pdf") and is ready to proceed with expanded outreach once logistical impediments are removed.

Budget Allocation to Accomplish Project Activities

The attached Year 1 and Year 2 Detailed Budgets and the Budget Summary outline the projected budget in detail. The total budget for the project is \$86,794.40. The aquarium plans to fulfill its 1:1 cost share with small equipment purchases (all under \$5,000), from its annual budget and a portion of salaries of existing full-time staff dedicated to this project. The Outreach Program at Pine Knoll Shores has generated a revenue of \$6,506 from January to June 2007. This revenue goes back into outreach and special activities program support. Outreach is not yet fully self-sufficient but that is a long-term goal. In the meantime, revenues go primarily towards needed equipment rather than travel or salaries (those are currently covered by state budget). We are confident that the current level of income will continue and we have, in fact, set a goal of growing the program income annually by 10% (see project objectives above). Therefore, the aquarium is confident in committing to the \$9,925 for in-kind equipment purchases over the two-year project period (see budget).

Impact

Benefits for the Museum and the Audience

Expanding outreach into more diverse and wide-ranging communities will accomplish the aquarium's mission by getting our message out. This is the ultimate goal and benefit to both the aquarium and the audience. Expanded outreach will expand public awareness of the presence of the aquarium and what it has to offer. Visitors who see an outreach program may be more likely to plan a visit to the aquarium later. The benefit to the recipient audience is that they receive a quality education program that they are not normally exposed to and that the aquarium staff is trained to teach. Teachers get the extra-added benefit of building their experience and providing a quality experience for their students in fulfilling environmental and science curriculum requirements. Audiences, whether school, disabled, economically disadvantaged or otherwise travel-limited get the primary benefit that is the purpose of outreach: providing a first-rate aquarium experience to those who cannot travel.

Information About any Intended Products Resulting from Project

A final report on the project will include outreach visit statistics, a description of evaluation tools developed, results from program evaluations, overall project success and recommendations for continued program operation.

Measurable Results and Process to Evaluate and Report on Results

Using the project objectives as a guide, measurable parameters of the program will include but not be limited to:

- The change in outreach trip features (number of locations, distance to locations, number of trips, audience demographics) and change in program revenue,
- The extent to which teachers were able to use the outreach programs to meet state and federal curriculum requirements,
- Ranking of outreach program quality and impact to program recipients.

Long-Term Impact of Project after Funding Ends

Once the vehicle is rolling, we will be practically unlimited as to what we can do with the Outreach Program. Expanding our outreach program now would give us the boost we need and perhaps help us to engage potential sponsors for a future larger program to serve the entire state of North Carolina and beyond.

BUDGET FORM - PAGE FOUR

Section B: Summary Budget

	\$ IMLS	\$ Cost Share	\$ TOTAL COSTS
1. Salaries and Wages		20,770.82	20,770.82
2. Fringe Benefits		5,975.38	5,975.38
3. Consultant Fees			0.00
4. Travel		8,623.20	8,623.20
5. Supplies and Materials	41,500.00	9,925.00	51,425.00
6. Services			0.00
7. Student Support			0.00
8. Other Costs			0.00
TOTAL DIRECT COSTS (1–8)	41,500.00	45,294.40	86,794.40
9. Indirect Costs			0.00
TOTAL COSTS (Direct and Indirect)	41,500.00	45,294.40	86,794.40

Project Funding for the Entire Grant Period

1. Grant Funds Requested from IMLS	41,500.00
2. Cost Sharing:	
a. Cash Contribution	
b. In-Kind Contribution	45,294.40
c. Other Federal Agencies*	
d. TOTAL COST SHARING	45,294.40
3. TOTAL PROJECT FUNDING (1+2d)	86,794.40
% of Total Costs Requested from IMLS	47.81%

* If funding has been requested from another federal agency, indicate the agency's name:

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SCHEDULE OF COMPLETION

**North Carolina Aquarium at Pine Knoll Shores
Outreach Expansion Project Schedule of Completion
Refer to project narrative for expanded description of activities.**

Year One Project Period: August 1, 2008 to July 31, 2009	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	July
Activity 1. Vehicle purchase.												
Activity 2. Touch tank purchase.												
Activity 3. Outfit vehicle and touch tank.												
Activity 4. Marketing.												
Activity 5. Conduct outreaches.												
Activity 6. Teacher Focus Group One.												
Activity 7. Evaluations.												
Activity 8. Compile Year One results.												

**North Carolina Aquarium at Pine Knoll Shores
Outreach Expansion Project Schedule of Completion
Refer to project narrative for expanded description of activities.**

Year Two Project Period: August 1, 2009 to July 31, 2010

	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	July
<u>Activity 9. Annual evaluation meeting.</u>												
<u>Activity 5. Conduct outreaches</u>												
<u>Activity 6. Teacher Focus Group Two.</u>												
<u>Activity 7. Evaluations.</u>												
<u>Activity 8. Complete Final Report.</u>												