Aquarium of the Pacific
Workshop on
"It's Turtles All The Way Down"
August 26, 2003

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INTRODUCTION

As the Aquarium of the Pacific plans to expand, there is a need for fresh ideas to incorporate into the programs and exhibits. In order to increase and sustain attendance, the Aquarium must refresh itself through growth and improvements to the existing facility. Opportunities may be presented through future additions and extensions, but can also be started on a smaller scale with more modest and meaningful enhancements to the existing building.

The second of a series of workshops on animals ranging from whales to corals, today's meeting focused on the plight of turtles and the different ways the Aquarium can bring out their stories, threats, experiences, and habitats. A list of participants is included in Appendix A, and the workshop agenda is included in Appendix B. This workshop is an outgrowth of a discussion held by the Forward Planning Committee of the Aquarium's Board of Directors.

SUMMARY OF PANELISTS PRESENTATIONS

Jerry Schubel, president of the Aquarium, explained that the goals and ground rules for the workshop were to "converge on a unifying experiential strategy for Aquarium visitors that will make the Aquarium of the Pacific great and distinctive and will attract crowds, i.e. one that will attract the attention and attendance that the Aquarium of the Pacific needs to thrive." He also added that we must "create several 'thin threads to the future' to let our Board and other potential donors grasp what we are trying to do."

New exhibits are envisioned to commence in the following way:

1. A visitor enters the Aquarium, approaches a kiosk, identifies himself/herself, and picks from a menu of choices a group of animals in which he/she has a special interest on that particular visit. (Groups might be whales, turtles, sea otters, sea lions, Puffins, sharks, live coral, etc.) For the purposes of the workshop today, the visitor has chosen turtles from the menu.

2. While at the kiosk the visitor gets to choose what to add to the portfolio. Throughout the Aquarium they have ways of updating and expanding the portfolio. When the visitor leaves the Aquarium, he/she leaves with a personal "Portfolio on Pacific Turtles" and they have ways of keeping in touch with the Aquarium to add additional materials. They have joined the "Aquarium of the Pacific's Turtle Team."

3. The actual Aquarium visit ends with a culminating, immersive experience. The experience must appeal to the head and the heart, and perhaps to the hand.

The emphasis for all the exhibits should be story telling in the form of epic stories of the fish, animals, ocean and the people. Jerry supplemented, "Remember it's all about the stories. What are the most engaging, entertaining, interesting, important, compelling turtle stories?" In summary, the exhibits should increase the extent of interactive experiences, playfulness and surprise.

Perry Hampton, director of animal husbandry, was the first to give a brief tutorial on Pacific sea turtles. There are seven living species of sea turtles in the world with various characteristics, remarkable facts, and the numerous threats endangering these reptiles. Perry also gave a brief introduction to the sea turtles at the Aquarium, which includes four green turtles and two Olive Ridley turtles.

Duane Stanton, manager of information technology at the Aquarium, continued through the second part of the tutorial, comprising of the travels of Tomás, the green sea turtle that was tagged by the Aquarium. Duane told of the numerous "tagging devices" available, the lengthy process of tagging Tomás, and the turtle's tracking and progress. The tracking process has not only allowed the Aquarium to watch the movements of Tomás, but has also enabled Tomás to be used as a research platform. Information gathered through this research tells us of the turtle's story, distances traveled, migration patterns, environmental changes, impact on people, new finds and facts, and provides an overall enhancement to our public programs.

These two presentations are included in Appendix C, "Tomás, the Green Sea Turtle", and additional background information is included in Appendix D, "Sea Turtles."

Steve Mayer, director of Activision, presented a tutorial on interactivity, the notion of involving communication or collaboration of people or things. Interactivity, he explained, provides a great opportunity to merge the human senses and engagement to the activities. The concentration would not be on the individual objects but rather how

they connect to others and the different methods to increase the forms of interaction. To understand such a concept, Steve noted that we have to look through the eyes of the visitor and comprehend what they might want to experience.

Steve added that the Aquarium is already doing a great job with interactivity, but it should try to enhance what it has and leverage what it already does well. The Aquarium may start this process with the help of some pre-existing, as well as some new, tools.

- Start with a "pre-visit" through the Web site to introduce what would be coming and to also allow visitors to start making choices before they come to the Aquarium.
- Use Web site to collect information about the visitor's interests, language of choice, level of knowledge, etc.
- Promotion of technological engagement through electronic devices such as iPAQ's for personal digital assistance. iPAQ's would allow visitor to hear stories about only the objects they want to learn about. The technology used should be transparent and not have cost dominate it. The technology would personalize the experience and eliminate the institutional voice behind the exhibitions.
- Promotion of emotional engagement, whereby the visitors can ask the first question instead of the traditional exhibitions where we give answers before the question can even be asked.
- People have different ways of learning and there are different types of learners.

Some examples of exhibits that use interactivity include:

- *Experience Music Project (EMP), Seattle, WA* – An interactive music museum that enables visitors to customize their tour through the use of a 'shoulder-carrier' computer. The handheld device allows you to hear a commentary about the subject, actually hear the subject matter, and also to delve deeper into other interests.

- *San Francisco Zoo, San Francisco, CA* – Combines creative habitat design with interactive visitor education. Old concrete enclosures are replaced by exhibits that bring the animals and people together in naturalistic habitats. Examples include an Australian "walk about," where animals graze in a two-acre open-landscaped, grassy environment while visitors walk through a public pathway complemented with interactive "Fun Fact Boxes." In the Lemur Forests, visitors can press buttons to activate heat lamp to attract lemurs to come closer.

- *Boston Children's Museum, Boston, MA* – This museum pioneered the concept of interactive exhibitions. Four floors of over 400 interactive exhibits lead to hours of non-stop educational fun for people of all ages, giving them numerous opportunities for experiential learning with a multicultural approach.

Though not an exhibition, Steve used the example of Deaf West's musical – *"Big River."* Based on Mark Twain's "The Adventures of Huckleberry Finn," director Jeff Calhoun pairs deaf, hearing-impaired, and hearing actors together. The result is an extraordinary way to use silence creatively and imaginatively, much like what we should aim to do with an interactive exhibit.

Photographer and Journalist **Sarah Shoemaker Lind** presented an inspiring video of her travels to Malaysian Borneo. The video illustrated the lives of sea turtles at a franchise sanctuary in the island of Sipadan, telling the story from the time the female turtle sets up her nest and lays her eggs to the part where the turtles dive into the waves of the ocean. This sanctuary replaced a commercial operation where locals earned their living selling eggs. Sarah's video was followed by another video, "A Turtle's Life – An Unabridged Version" by Nile Ziemba, a humorous compilation about turtle researchers.

MAJOR IDEAS EXPLORED
The forum panel, consisting of Aquarium board members, staff, visiting experts, and exhibit designers, converged to give highly productive and creative ideas for future experiences and exhibits. Three groups were formed to explore three different topics of interactive experiences.

The first group explored what turtles can tell us about the ocean and how we could represent that in the form of displays. One result of the discussion was the concept of creating a prehistoric turtle character that would be the underlying theme for all the exhibits. The displays could include the following:

- Computer generated prehistoric character would be life size and have a virtual weight of five to ten tons. Character could be projected on a flat or domed screen, shaped like a turtle shell, and talk to the visitors in narrative form. The turtle character would not be limited to just stories of the lives of the turtles, but could include all kinds of other marine animals and fish.
- Character would tell us tell stories of their evolution, dating back from prehistoric times to the stories of today and possibly of what could happen to the lives of turtles in the future.
- Turtle could discuss the formation of the ocean, the celestial influence on the ocean, why the turtle lives in the most productive part of the ocean (i.e. just 0-

20m below the surface) and also the areas of the ocean it cannot inhabit or enter. Turtle could also discuss the relationship between the weather systems and the ocean, and how global warming may change the climate and the weather.

- Discussions about other species may be initiated and explained. Tell about other species that live beyond the borders of its realm, but how the character has "heard rumors" about their lifestyles.
- Explain the life cycle of the common sea turtle and how they have not been in contact with their family since they hatched from their egg. Explanation of their sensory abilities and what kinds of information they can gather about the ocean and other species through these senses.
- The character can inform visitors of the complex relationship between humans and turtles. Give details for the reasons why humans are a threat ("why I don't like people") as well as how humans have helped the species through tracking methods, etc.
- Notify visitors about the reasons why turtles are one of the longest surviving species and how they have survived. The character could talk about the myths and legends associated with them that have evolved through different cultures over time.

The second group discussion mainly focused on the threats facing sea turtles and how visitors can be informed about them enough to want to take action to protect them. The results of the brainstorming session lead to several innovative ideas and games for displays:

- Have a life size turtle skeleton of the largest species of living turtle (about 8 feet in length) that can be moved so as to view their body movements. The skeleton could have a hoisted shell, flippers, and show how the turtle's head and limbs can be drawn inside.
- Put a critter cam on a turtle while it is trying to escape from a threat to show the difficulty the turtle faces. Similar to a reality show but from a turtle's point of view.
- Display (actual footage) showing how difficult it is for turtles to distinguish between plastic bags and jellyfish when searching for food.
- Have a small puppet theater with turtle characters, for younger children, to talk and explain the threats facing them.
- Show inspiring videos such as Sarah's video to show that turtles can survive the threats they face. Emphasize that we can make a point to save the turtles through simple actions such as buying a canvas bag from the gift stores, as an alternative to plastic bags. The proceeds of the gift would go to funds dedicated to the

survival of turtles. Indicate in the videos the benefits to turtles when we become better educated and stay involved.

- Create life size games to allow visitors, especially children, to face the same difficulties as those of the turtles to better understand their plight. Games will have encounters with threats of small and large proportions relating to habitat destruction, natural disturbances, natural predators on the land and sea and habitat pollution. The games would also depict the entire life cycle of the turtle where "surviving the game" would translate to the turtle surviving to adulthood. The different types of games would be of the following types:
  - Life size interactive motion platform maze to depict "turtle hurdles". Movements of the turtles can be controlled by motion of the visitors on a platform. The degree of technology may be controlled by its size. The end of the maze would provide a message of hope.
  - A Turtle Excluder Walk Thru where children can put on flippers and climb through nets to understand the level of difficulty present to escape shrimp nets.
  - An enormous sized Pachinko survival game where guests put in "turtle eggs" and watch to see if the turtle makes it to the bottom and in effect has made it through its life cycle. Extra turns can be provided for those who survive (enabling the turtles to return to the beach to nest).
  - Turtle Pin Ball Machine would be a fun way for children to play games and at the same time view the elements of threats while trying to bypass them to survive.

The third group gathered to converse about the heroes involved in the lives of the turtles. These hero's discussed could range from a small child to a turtle researcher. Following is a compilation of their thoughts:

- Interactives that would involve the story of the heroes and recreate the decision making involved. Explain the key choices at the key moments that were made based on the level of difficultly, worth and moral dilemma.
- Witness the everyday heroes and take home their examples in the form of local stories.
- Explain the different levels of being a hero. That it can range from not using plastic bags to volunteering and sending checks. Discuss the everyday things we can do to be heroes ourselves and understand that anybody can be one.
- Learn of the local fishermen stories and how they are protecting the turtles on a daily basis. Learn about the scientist hero's and how to transfer their knowledge to others.

- Relate the stories of the heroes of the Aquarium and their experiences to the visitors. This group of heroes would include the aquarists, biologists, law makers, donors, etc. Inform visitors about everyone involved with the endeavor to track Tomas.
- Tell stories of turtles as heroes using two of the Aquarium's turtles, Leonardo and Donatello. Talk about fictitious turtle heroes such as the Teenage Ninja Mutant Turtles and the turtle hero stories of various cultures and countries.
- Use the website to create a hero page and update regularly on locals and children who are making an effort for the cause. Link conversations in real-time with actual heroes through the website.
- Create turtle clubs that classrooms can join. Schools can contribute to adopt a turtle or tag a turtle and watch its progress together.
- Create a "stamp book" with stickers that children may "earn" for environmental good deeds or acts of everyday heroism.

ADDITIONAL THOUGHTS FROM WORKSHOP PARTICIPANTS
- *Claymation* – Could add a new niche for the Aquarium that would be fun and fresh. It could be a less threatening way to graphically show the various threats ("Little Turtle Shop of Horrors") endangering the turtles, without reflecting the gory details.
- *Sensory Dome* – Audiences hear sounds and then relate them to a particular type of fish or animal. This allows for a marriage of extraordinary technology and natural sounds. Sounds of the ocean can be in the background while voices from the fish dominate the aural foreground. Similar concepts have been used in observatory in Arizona, which successfully manages to capture the visitors' interest in the sounds of space.
- *Miniature IMAX or Other New Film Technology* – Use film for several purposes including the showing of a critter cam of a released turtle from the Aquarium. It can also be used to display a character that materializes above us, which talks about some aspects of the ocean. This character can be changed every year to add freshness to the exhibit.
- *Mouth Pieces* – If possible have mouthpieces for visitors with fish sounds that come out when people talk through the pieces.
- *Environmental Windows* – An opportunity to see how turtles nest in their natural surroundings. Displays behind windows can show a replica of beach set up of the turtles. Display can also be created around the visitor.
- *Tracking Map* – Have actual threats and invisible threats throughout the Aquarium tour that visitors can note on a map.

- *Planetarium/Oceanarium* – Surround the visitor with a rich, sensual environment that the people can be immersed in. Show computer generated videos with surround around sound.
- *Adaptable Architecture* – The internal architecture of the building should be such that it can be changed over a period of time. Just as technology continuously evolves, so should the designs of the exhibitions to meet the changing visitor expectations.
- *Take Home CD* – For a small cost, take home a personalized CD that teaches one more about the exhibits of interest. This tool would be a way for the exhibition to speak to the visitor at their home and help personalize the experience even more.
- *Multicultural Turtles* – Emphasize that turtles are animals that move beyond natural borders by designating them with names of different countries and cultures.
- *Strong Symbol* – Enforce the belief that turtles are unique in every culture of the world.

CONCLUSION

The Aquarium of the Pacific hosted the workshop on interactive turtle exhibits on August 26, 2003. The meeting produced a multitude of innovative ideas from board members, staff, visiting experts and exhibit designers on various turtle exhibits which would be implemented in existing programs as well as in future expansions of the Aquarium. Other workshops will be continued in the future to explore and discuss other stories and exhibits built around other animal groups. Turtles were selected to serve as an illustrative example of how rich and rewarding visitor experiences could be created around them as one group of animals. The same process will be used for other groups of animals. The goal is to develop, over time, a rich library of programs, exhibits and experiences for all major groups of Pacific animals, plants, all their habitats and ecosystems, of how the relationship of humans to the them has changed over time, and of how we can create strategies to live in greater harmony with all the other living things, with which we share this planet.

Appendix A: List of Participants

Name	Position	Organization
Adam Lau	Research Assistant	AoP
Amy Coppenger	Director of Education	AoP
Barbara Long	VP of Special Projects	AoP
Derek Basillie	A/V Associate	AoP
Doug Otto*	Attorney at Law	
Duane Stanton	IT Manager	AoP
Fahria Qader	Project Assistant	AoP
Jennifer Liebeler	Grant Manager	AoP
Jerry Schubel*	President	AoP
John Best	Project Executive	KUD International
Kym Murphy*	Senior VP Corporate Environmental Policy	Walt Disney Company
Lance Adams	Veterinarian	AoP
Luther Nussbaum*	Chairman and CEO	First Consulting Group
Lynne Preslo*	President	GeoEco, Inc.
Mark Loos	Aquarist	AoP
Noreen Hughes	Architect	EHDD Architects
Perry Hampton	Director of Husbandry	AoP
Peter Vorderer	Professor of Communications	USC
Sara Shoemaker-Lind	Photographer/Journalist	Goldcowrie Productions
Srima McQuillan	Director of Development	Olson Company
Steve Conley*	Chairman	Bancap Investment Group
Steve Dangermond	Design Principal	EHDD Architects
Steve Mayer	Director	Activision
Tom Turney*	Managing Principal	NewCap Partners
Tony Promessi	Life Support Manager	AoP
Zofia Kostyrko	Principal	deZign sKape LLC

* AoP Board of Directors

Appendix B: Workshop Agenda
Aquarium of the Pacific

"It's Turtles All The Way Down"
Workshop
August 26, 2003
1:30 PM – 5:30 PM

Introduction   *Steve Mayer, Jerry Schubel*

Tutorial On Pacific Sea Turtles   *Barry Hampton*

Recap of the Travels of Tomas   *Duane Stanton*

Tutorial on Interactivity   *Steve Mayer*

Thoughts and Images to Inspire Us   *Sarah Shoemaker*

Facilitated Discussion   *Jerry Schubel*
- How can our visitors interact with our turtles in captivity? With turtles in the wild? With turtles we tag?
- Where are the most promising "points" for Interactivity? In the AoP? In their life cycles, geographic points, etc.

Configure the Teams   *All Participants*
   Topics:
- Exhibits on how turtles can tell us about the ocean
- Exhibits to showcase threats to turtles
- Exhibits to showcase turtle heroes

Reconvene in Plenary to Report Out   *All Participants*

Summary   *Jerry Schubel*