Georgia Journal of Science

Volume 64 *No. 2 Scholarly Contributions from the Membership and Others* | Article 3

2006

The Flint RiverQuarium: Promoting Knowledge about Georgia's Aquatic Resources through Recreational Learning

Douglas R. Noble
DNoble@flintriverquarium.com

THE FLINT RIVERQUARIUM: PROMOTING KNOWLEDGE ABOUT GEORGIA'S AQUATIC RESOURCES THROUGH RECREATIONAL LEARNING

Douglas R. Noble, DPA
Chief Executive Officer, Flint RiverQuarium
Albany, Georgia
DNoble@flintriverquarium.com

ABSTRACT

An examination of the literature on recreational learning at exhibition centers such as aquariums, botanical gardens, museums and zoos indicates the importance of providing learning experiences that correspond to the learning style of visitors. In particular, it is important to note that visitors to such institutions have changed; visitors of the 21st Century are active learners, preferring active involvement in lieu of passive experiences. In contrast to the conventional model whereby visitors receive information in a didactic, curator-centered format, the modern recreational learner desires an environment in which they are actively involved in the learning experience. The Flint RiverQuarium successfully promotes knowledge about water conservation and aquatic wildlife in Georgia because exhibit displays, visitor activities, and even the building that houses the exhibits have been designed to accommodate the learning styles of today's recreational learner.

Key words: Flint RiverQuarium, aquifer, Flint River, Chattahoochee River, Apalachicola River, blue hole, interactive exhibits, aquariums, informal learning, recreational learning.

INTRODUCTION:
The Need for an Aquarium in Albany, Georgia

When the Flint RiverQuarium opened on Labor Day, 2004, major aquariums were present in Chattanooga, Tenn. and Charleston, S.C., and another would soon open in Atlanta, Ga. Yet, a definite need existed for an aquarium in Albany, Georgia based upon economic factors and a local need to promote knowledge about Georgia's aquatic resources. Damage from a major flood in 1994, followed by another flood in 1998, had transformed downtown Albany into an abandoned city. As a result of these floods, civic leaders began a planning process for an innovative attraction to restore commercial activity in downtown Albany.

Additionally, there was also a need to promote knowledge about aquatic resources in Georgia. Public awareness about aquatic resources is particularly important in Southwest Georgia due to the escalating competition between Georgia, Florida and Alabama over usage of the Flint, Chattahoochee and

Apalachicola rivers (1). Collectively, the need to promote commerce in downtown Albany and the need to promote public awareness about aquatic resources resulted in the construction of the Flint RiverQuarium.

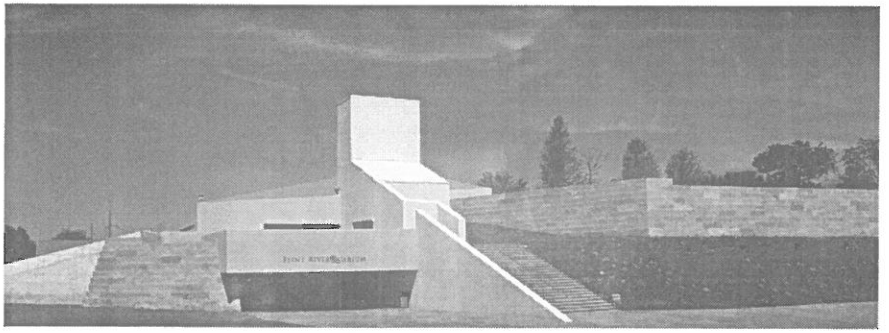

Figure 1: The Flint RiverQuairum in Albany, Georgia.

Building Architecture, Exhibit Display, and Visitor Activities: A New Vision

Large aquariums located in major cities, like large natural history and art museums, tend to have an "encyclopedic" approach to exhibit display. For example, the shark tank, the coral reef, marine mammals, the cichlids of Africa, and the oscars and electric eel of South America are typical residents of the large, encyclopedic aquarium. Such an approach to exhibit display is inappropriate for the informal learning environment of the aquarium. The encyclopedic exhibit display approach creates a monotonous, passive learning environment; row upon row of tanks with fish and invertebrates, coupled with labels and photos identifying specimens, has been the standard approach for decades. This approach to exhibit display is inconsistent with research findings in the field of visitor studies. An examination of these findings, followed by a description of the main display galleries, will illustrate how the Flint RiverQuarium promotes knowledge about Georgia's aquatic resources through recreational learning.

Research Findings on Recreational Learning

Visitor Studies is a newly emerging field within the broader literature on informal science learning. The objective of research in the field of visitor studies is to provide findings that serve as guidelines for promoting the visitor's learning experience at exhibition centers (2). The findings from a number of studies in this field are consistent with several features at the Flint RiverQuarium; specifically: (a) Building architecture should support a naturalistic display of exhibits and specimens (3), (b) technology (video, audio, and computer games for all ages) should be utilized to support active visitor learning (4), (c) text language must be concise and engaging, and it must

avoid syntactic and semantic complexity (5), and (d) exhibit displays should encourage social interaction and active visitor participation (6). A description of the main galleries at the Flint RiverQuarium will illustrate that exhibit displays, visitor activities, and even the main gallery building were designed with these research findings as guidelines.

Skywater

Figure 2: Skywater, an artificial blue hole spring, is the Flint RiverQuarium centerpiece.

The main exhibit at the Flint RiverQuarium is skywater, an artificial blue hole spring. The unique blue coloration results from a combination of clear water and calcium carbonate deposits in the presence of sunlight. This exhibit is highly unique for a number of reasons related to building architecture.

First, the main building was constructed such that it literally wraps around skywater, thus allowing the exhibit to serve as a central focus, and allowing the visitor a variety of perspectives from which to view the blue hole. The visitor's initial view of the blue hole is from above. This is the beginning of a journey along a winding ramp that takes the visitor through a simulated cavern, and ends at a cypress creek flowing from the blue hole. Along the route, the visitor encounters a blue hole viewing window that is nearly 16 feet high and 20 feet wide. The eight inch sheet of acrylic affords spectacular views of the 22 foot deep limestone ledges inhabited by enormous striped bass, hybrid stripers, long-nosed gar, flat head catfish and numerous other species. The idea of an epic journey is in stark contrast to the conventional encyclopedic

approach. This innovative approach allows the visitor to fully appreciate the connection between rainwater, ground water, aquifers, drainage systems and consumption of our most valuable natural resource in southwest Georgia.

Secondly, the 175,000 gallon tank which houses the skywater exhibit is externally located and uncovered. Because the exhibit is open externally, it is illuminated by natural sunlight. This arrangement offers the visitor a more naturalistic vision of the blue hole than would be encountered at the traditional aquarium. Additionally, the uncovered tank offers a different view of the blue hole depending upon the season, weather and time of day.

Flint RiverQuarium and Dougherty Plain Gallery

The Flint River merges with the Chattahoochee River in Southwest Georgia to form the Apalachiocola River. This general area is known as the Dougherty Plain, and is the theme of the first gallery. Tanks in this area showcase a wide variety of fish, including those that inhabit the salt marsh ecosystem of Apalachicola Bay and the Gulf of Mexico. All photo labels are readily interchangeable; this does away with the common problem of "vacant" displays due to species mortality or illness. Silent wall videos, which can be reprogrammed, present facts with a combination of stationary and moving images followed by written questions.

Discovery Caverns Gallery

Studies on visitor behavior indicate that visitors prefer active participation in the learning process (4). Discovery Caverns features activities that promote visitor participation in the learning process for all ages. For example, the "weather game" is an activity that challenges visitors to select responses to questions about climate, tropical storms, or hurricanes in southwest Georgia. This activity, which is similar to the popular television game show "Jeopardy", allows participants to participate as individuals or in groups. The option to participate in groups is consistent with the recommendation from the literature that activities should offer the opportunity for socialization (6).

Several other activities in the Discovery Caverns gallery also promote learning through participation. For example, "the water game" exhibit promotes learning about how energy is harnessed from water power to produce electricity; the "crawl through cavern" provides glimpses of organisms adapted to a world of total darkness, such as the Mexican blind cave fish, the Georgia cave salamander and cave crayfish. The interactive video game "water hero" promotes learning through participation about water conservation and water pollution. The "stream erosion table" allows the visitor to discover basic information about streams and oxbow lakes through active participation.

World of Water

Exhibits in the World of Water gallery promote knowledge about the scarcity of usable freshwater, and the need to utilize it judiciously. This includes information about the major sources of water consumption; for example, ag-

riculture accounts for 65 percent of water consumption in southwest Georgia. Visitors can learn about rainfall averages in different parts of the world by taking a walk through the eight foot diameter globe.

Tanks from exotic locations on other continents, as well as from the United States, offer the visitor a comparison of river systems from around the world to the Flint, Chattahoochee and Apalachicola drainage systems. Each tank includes a simple question format requiring visitors to lift a hinged door to discover information and answers. The Danube River tank displays sturgeon that once flourished in the waters of this river. The Danube River is a classic example of what happens with over-canalization, dredging, few regulations governing disposal of sewage, factory waste and run-off. Other tanks ranging from two hundred to four hundred gallons include the Florida Keys Reef, the Ganges River of India and the Amazon. Each tank illustrates issues germane to the management of the Flint River drainage system. Using computer technology, young people and adults are invited to create a post card by utilizing a roller ball to drag and drop images. Visitors can create a post card for each of the areas highlighted with an exhibition tank in the World of Water Gallery. Once completed, a message is sent about an exotic location such as the Everglades, briefly explaining issues and concerns with a supportive message to protect the Flint River.

From the world of water gallery, the visitor may take another ramp leading back to the cypress creek exhibit. Here mega fauna such as the American Alligator reside near the blue hole along with common snapping turtles and an alligator snapping turtle. Numerous fish reside in the tank and although there is occasional predation, the animals are sufficiently fed such that predator and prey populations remain stable.

Sound and Text

The utilization of sound and text to enhance the visitor experience are characteristics present throughout the Flint RiverQuarium. Because these two features are not limited to a single gallery, they will be described in a separate section. Both sound and label text are utilized in a manner consistent with research findings for the promotion of recreational learning.

Research findings indicate that sound can enhance recreational learning by including sound as part of the exhibit (7). Sound is "imbedded" throughout the exhibits. These embedded sounds include thunderstorms, rippling water, dripping water, frog choruses, bob white quail, sea gulls, and songbirds. All sounds were professionally recorded in Georgia to enhance the Flint RiverQuarium exhibit experience.

Although studies show that the typical visitor is more interested in visual learning as opposed to reading text (8), there is still a strong need to present information in didactic panels, script, labels, maps, photographic images and illustrations. In fact, research studies have been done to address the issue of how to best present text for the contemporary recreational learner. For example, semantic and syntactic construction must be simple; the writing style

must be conversational; the contrast between text and background must be high; and text should present questions rather than exclusively present information (8). These guidelines for presenting label text are followed throughout the exhibits at the Flint RiverQuarium.

CONCLUSION

It has become clear to researchers and practitioners that exhibition centers such as museums, zoos and aquariums must meet changing expectations from visitors in the 21st Century. Monotonous displays and passive, curatorial driven exhibits are not longer appropriate (4). Specifically, findings from the visitor studies literature indicate that naturalistic building architecture, technology, appropriate label text, and exhibit displays that encourage social interaction and visitor participation are necessary in order to promote the visitor experience at exhibition centers.

Public awareness about Georgia's aquatic resources is important and urgent. The management of water affects Atlanta, Southwest Georgia, Southeast Alabama and a significant portion of the Florida Panhandle in profound ways (1). But, equally important is the means by which this message is conveyed. By designing exhibit displays and visitor activities based on guidelines from the visitor studies literature, the Flint RiverQuarium successfully blends learning with recreation and, in turn, promotes knowledge about Georgia's aquatic resources.

REFERENCES

1. Rawls P: Ruling won't alter course of water wars. Http://access-montgomery.com June 14 2006. Rawls states that Georgia, Florida and Alabama have been engaged in a 16 year legal battle over war resources. Georgia needs more water for the rapidly growing Atlanta area; Alabama wants to protect commerce and recreation along the state line; and Florida is concerned about the sea food industry in Appalachicola Bay.
2. Bitgood, S: Environmental psychology in museums, zoos, and other exhibition centers. In Handbook of Environmental Psychology (Bectel and Churchman, Eds) New York: John Wiley and Sons, p. 476.
3. Bitgood S: Zoo exhibit design: Impact of setting factors on visitors. Visitor Studies Today 2 (2): 4 – 5, 1999. The author lists natural lighting as an important architectural feature at zoos.
4. Loomis R: "Museum Visitor Evaluation: New Tool for Management," Nashville, TN: American Association for State and Local History, 1987.
5. Bitgood, S: Environmental psychology in museums, zoos, and other exhibition centers. In Handbook of Environmental Psychology (Bectel and Churchman, Eds) New York: John Wiley and Sons, p. 469-471.

6. Crane VA, Nicholson H, Chen M, and Bitgood S: "Informal Science Learning: What the research says about television, science, museums, and community-based projects," Dedham, MA: Research Communications LTD, 1994. P. 96.
7. Crane VA, Nicholson H, Chen M, and Bitgood S: "Informal Science Learning: What the research says about television, science, museums, and community-based projects," Dedham, MA: Research Communications LTD, 1994. P. 73. The author describes exhibits utilizing sound as "... exhibits that immerse visitors in a total environment for experiential learning ..."
8. Bitgood S: The role of attention in designing effective interpretive labels. Jr. Int. Res. 5 (2): 31 – 45, 2000.