

A Front-end Evaluation on Invasive Species for The Florida Aquarium

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Introduction

This report summarizes a front-end evaluation of visitors' interest in and knowledge about invasive species. The evaluation was done to inform the Florida Aquarium (FLAQ) exhibit team about visitors' entry-level understanding of the concept, to give the team ideas for ways to connect with visitors' interests in the topic, and to communicate the exhibition's big idea: *Invasive species have changed Florida ecologically and economically*. The report includes highlights of the findings from interviews conducted on Nov. 8, 2001. Numbers are derived from a handtally of most of the data. (Not included are the demographics of ages, group types, and zip codes.)

From previous workshops and discussions, the staff had grappled with questions and issues about the possible lack of appeal of the subject, the complexities and subtleties of the content, and the low-profile species available for display in the exhibits. The front-end evaluation was an opportunity to investigate these challenges and make decisions about the focus of the exhibition. We could then devise exhibitry and programming strategies for making the exhibit an excellent visitor experience. Even though the topic is not blockbuster material, word-of-mouth recommendations can be our strongest marketing tool.

Methods

During a two-day front-end evaluation workshop, FLAQ staff and consultant Beverly Serrell discussed the purpose, content, and intended outcomes for the exhibition. We also discussed the importance of visitor research in helping exhibit planners do the best job possible with the resources available.

After drafting several versions of the big idea (alternating between choices of words, introduced species vs. invasive species and change vs. harm), we speculated about visitors' understanding of the terms "native" and "invasive" and drafted a set of interview questions to explore this. A quick sample of 20 visitors revealed that most people understood the definition of a native species but fewer were sure of what an invasive species was.

On the second morning we revised the order and wording on the interview form and prepared 14 photos of invasive species to show to visitors. Our goal was a sample of 50 visitors to be interviewed. Between 10:30 a.m. and noon, each workshop participant recruited four to six visitors in the aquarium (at exhibits, in the cafe, at the entrance) with the introduction that the aquarium was planning a new exhibit and would like to get feedback from visitors before finalizing the plans. We collected a total of 52

samples (only a few people declined to participate). Visitors who participated were given a complimentary pass to the aquarium.

Findings

The demographics of the sample showed that 59% were females and 41% were males. A predominance of females was expected during a weekday-morning sample.

In answer to the question, "Is this your first visit to The Florida Aquarium?" 56% said yes. It was a repeat visit for 44%. A few people mentioned that they were members. The percentage of first-time visitors was somewhat lower than we expected; this figure would probably be higher in the tourist season.

Visitors who said "no" to the question, "Do you have any special interest, knowledge or training in Florida's wildlife?" were in the majority (69%). Of those who said "yes," many claimed that they were "just interested." The ones who had a stronger personal connection named these things: scuba diver, bird watcher, biology teacher, seaman, hunter/fisherman, marine biologist, Boy Scout, and taxidermist.

Ninety-four percent of the visitors interviewed said that they had heard of the term "native species." The most common examples given were alligator, manatee, panther, and palm tree (listed in order of most- to least-frequently mentioned). Their answers included the categories of birds, fish, plants, mammals, reptiles, and one invertebrate (jellyfish). Fish included were shark, snook, mullet, catfish, and bluefish.

Words or phrases most frequently used to describe a native species were: indigenous, originated here, not brought in, living here for many years, always been here, naturally here, and here before we came.

Sixty-two percent of the visitors said they had heard of invasive species, but fewer could give a correct example of one. Words most frequently used to describe an invasive species were: taking over, brought in from another place, introduced, one species invading the area of another, and something that harms, destroys, or doesn't belong here.

Examples given of invasive species included "love bugs," Brazilian pepper plant, kudzu or vines, walking catfish, snakes, fruit flies, killer bees, and mussels/barnacles/clams. Each of these was mentioned by two to five people. Others correctly mentioned once were green parrots, hydrilla, wild pigs, and thorny starfish. Some examples given didn't fit the profile of invasive, such as otters, Spanish moss, coyotes, and armadillo, or were vague, such as algae, toads, and insects.

When we asked visitors to sort the 14 photos (all of invasive species) into two piles--ones that were invasive and ones that were not--half of the species were picked by 26 or more of the 52 people who were interviewed. That is, the majority of the visitors picked many of the examples shown. But, they often appeared to be guessing or deciding on the basis of the visual appeal or familiarity of the animal or plant. Eight species were chosen most often as invasive: Brazilian pepper, coati, squirrel monkey, water hyacinth, Cuban frog, tokay gecko, Australian pine, and armored catfish. After sorting the pictures, some visitors asked what the correct answer was. When told that all were invasives, they were clearly surprised.

We asked visitors to pick one of the invasive species and say how it got to Florida and why it was bad for the environment. Reasons, vectors, and negative impacts were most commonly associated with “someone brought it in” and “eating the things that local things need.” The pet trade, home aquarium releases, collectors, gardening with exotic plants, escapes or turned loose, imported by ships (ballast water) or trailered, unwashed boats were named or blamed for the introductions. Impacts named were: killing or competing with native species, choking out other plants, taking over, being poisonous or a pest, spreading disease, and destroying crops. People mentioned the characteristics that make an invasive successful, such as fast reproduction (“overpopulation,” “multiplied”) and lack of natural predators.

After visitors had answered several questions about definitions and examples of native and invasive species--and were warmed up to think about the subject--they were told that the new exhibit would be about invasive species and were asked, “What do you think people will find most interesting about that topic?” Many interviewees said the following things would be: what they are, how they got here, how they harm the natural habitat, and what can happen in the future to control or preserve Florida’s ecology. People were surprised at the number and variety of invasive species. What makes a species invasive (the characteristics) and “how they affect me personally” were also mentioned.

Implications and Ideas for the Exhibition

The findings from this front-end evaluation suggest that visitors will be familiar with the concept of a native species, and although fewer are conversant with “invasives,” they can grasp the idea of “not native” fairly easily. What they lack is experience with multiple examples of invasives and reinforcement of the ideas of vectors and impacts.

We have a good opportunity with this exhibition to provide multiple examples of and experiences with invasive species through actual organisms (live and preserved) and models, photographs (including murals and “before and after”), videos, and interactive devices (e.g., question-and-answer mechanical flip labels, simple electronic devices). Kudzu overgrowing the entrance, mussels encrusting a boat (and the

graphic panels), a “car ride video” through a love bug infestation, sorting games, mirrors, vector games (walk the catfish, sail the tanker ship/dump the ballast), and thought-provoking questions (“What makes Florida such a great place for invasive species?” “What does it cost to control, clean up after, or get rid of one?”) can get people involved. A media board (kept updated) can display recent articles from the news. Somewhere, we need to provide an answer to the question (perhaps in the live animal program), “I’ve got an iguana I no longer want--what should I do?”

All these exhibit experiences will help visitors move from an egocentric view (“Is it harmful to *me*?”) to a broader understanding of the impact of invasives on the economy and ecology of Florida. Visitors not from Florida will be able to make connections between local examples and invasive species where they live (e.g., lampreys in the Great Lakes, squirrels in England, birds in Hawaii) that have been discussed widely in the media. We would like people to leave the exhibition with a feeling of commitment to take positive action to control invasive species. The options need to be clearly stated. For example, the gift shop could carry plush “safe” iguanas (“Buy one of these instead!”).

By showing only species that qualify as invasive and asking the same seemingly simple questions repeatedly (e.g., How did it get here? What harm has it caused? What can we do about it?) and providing the complex and uncertain answers (e.g., We don’t know how it got here, but we speculate...), visitors will get the big idea. Visitors with special interests in gardening, home aquariums, boating, fishing, scuba diving, and marine biology can find connections in this exhibition, and visitors’ general tendency to care about the future of the environment and their desire to preserve natural beauty can be reinforced. Website addresses and “where to get more information” can be included.

The questions and answers from this front-end evaluation interview can be used again in the summative evaluation to compare the percentage of visitors who say yes to a familiarity with invasive species and can provide correct examples and stories (e.g., vectors, impacts, and what’s being done about it).

Possible Titles

Many ideas for a title were volunteered by aquarium staffers before and during the evaluation workshop or came from visitors’ feedback, such as: Out of Control; Florida’s 10 Most Unwanted Species; Wrong Place, Right Time; Messing with Mother Nature; Don’t Choke; Not From Around Here; Someone Brought It Here. We need, however, to avoid words like “foreign invaders” which could suggest a double meaning post 9/11.

Challenges of the Front-end Evaluation Methods

By sampling on only one day, we ran the risk of having a sample with an unusual variable (e.g., lots of home-schooling parents and their children were visiting on Nov. 8th) that would be nullified if sampling were conducted over a series of days and at different times.

By using many data collectors who were trained quickly, we probably introduced some variability that could be eliminated by using fewer, more thoroughly trained data collectors. People vary in their skills at listening and writing down large quantities of data, remembering to ask all the questions, and filling in all the blanks. Practice helps a lot.

If we had tried out the revised data form and the sorting activity before collecting a large number of samples, we might have integrated visitors' desire to know the answer to the sorting question and their response to it. Whenever possible, the instrument should be tried out with a few visitors to see how it's working.

There are advantages and disadvantages to writing down visitors' answers instead of taping and transcribing them. The latter takes much more time and money, but it captures comments verbatim. The former is much quicker. Unless you have a big budget, however, get by with thorough manual recording of the answers. It helps to stop after each interview, sit down to recall as carefully as possible all the things people said, and write them down.

Could this form be used for another front-end evaluation by just substituting different words? Maybe. It probably depends on how similar the new big idea is to this one.

The question, What people will find most interesting? should not be asked first if you suspect that most people will be not familiar with the terms or will not have much personal experience with the topic.

Conclusion

The 52 interviews completed by staff members clearly informed the answers to our questions: Do visitors know what "native" and "invasive" mean? and, What will they find interesting about this exhibit? While most visitors do understand the concept of native species, fewer can accurately describe and name an invasive one. After experiencing the exhibition, we believe they will clearly--in their own words-- understand the intended message of the exhibit. We hope to raise the percentage of visitors from under 60% to over 80% who grasp the importance of this topic.

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