



Market & Feasibility Advisors

Zoo & Aquarium Revenue Center & Animal Interaction Report—August 2011

Introduction

You are reading the first of what we at Market & Feasibility Advisors (MFA) hope to offer as a twice-yearly look at revenue generation in the zoo and aquarium community. Last fall (2010), we surveyed more than 220 AZA accredited institutions to see what they've been doing for revenue generation and what they've been charging for everything from admissions and membership to rides, animal encounters, and rental space for meetings and events.

Here is a taste of that database and what we found in it, as well as commentary on some of the issues that drive the numbers. We would be happy to work with any organization to analyze the data specific to their market and needs so they can make the best financial decisions on these topics moving forward.

It's likely you've never heard of MFA before. We're a bit of a paradox—a young company with long-experienced consultants from coast-to-coast who have worked with zoos as varied as Brookfield, Brevard, Audubon, Miami, San Antonio and Akron. We would be happy to discuss with you any questions or thoughts you have about the topics addressed below. To reach Dan Martin, Managing Principal, please call 312.933.7898 or write him at Dan.Martin@MarketFeasibilityLLC.com.



Highlights

Admission Prices—page 2

Membership—page 3

Rides—page 6

Animal Encounters—page 8

Water Features—page 10

Meetings & Events—page 11

Restaurants—page 11

Special Events—page 12

Temporary Exhibits—page 12

Summary—page 13



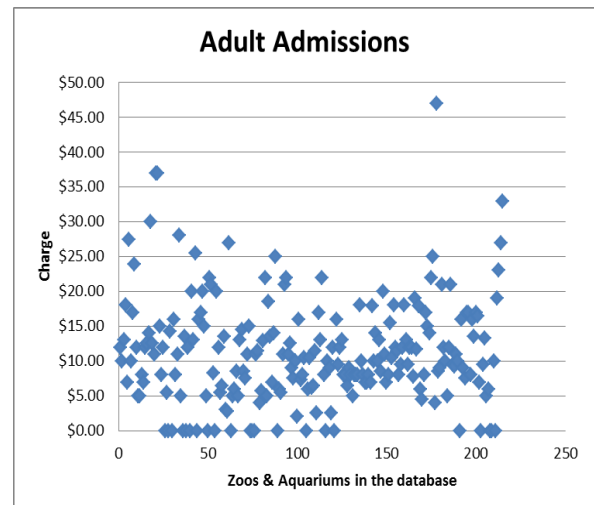
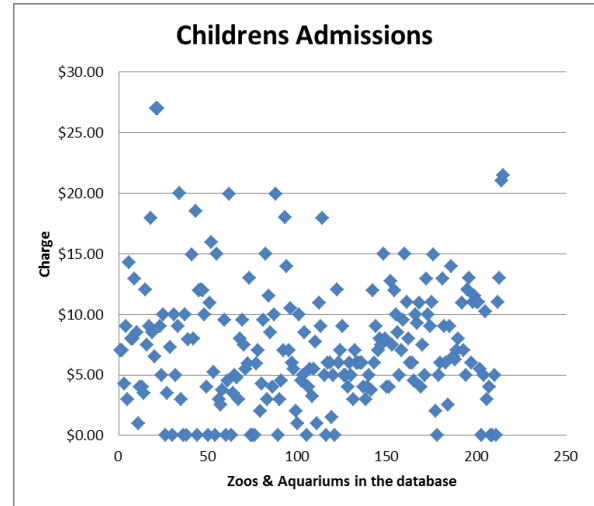
Admission Prices

Overall, the average daily adult admission price (excluding packages) for zoos and aquariums that charged admission was \$12.47 for an adult, within a range of \$2 to \$82 (Animal Kingdom) and \$8.36 for children over the age of two, with a range of \$1 to \$74 (Animal Kingdom again). In general, this excludes the additional cost of animal encounters and rides. For zoo attractions such as Disney’s Animal Kingdom and Busch Gardens, however, the cost includes the rides and shows.

The story here is the remarkable admissions pricing variation from one facility to the next. We found no consistent underlying pricing driver. Pricing did not appear to be related to facility size, ownership, or the duration or quality of the experience.

While local competitive issues may be in play, other leisure experiences like cinemas and even children’s museums show less variation. To illustrate, two scatter diagrams illustrate the variation in admissions pricing for child and adult tickets. Disney, Sea World, Busch and other themed attractions have been taken out of the presented data set as their much higher charges (which include rides) distort the presentation.

Zoos and aquariums should look at their pricing structures and strategies. Some may be leaving money on the table while others leave audiences at the gate. MFA will take a deeper look ourselves for our next newsletter.



Zoo admissions rates are all over the map and don't appear to reveal clear patterns of strategy.

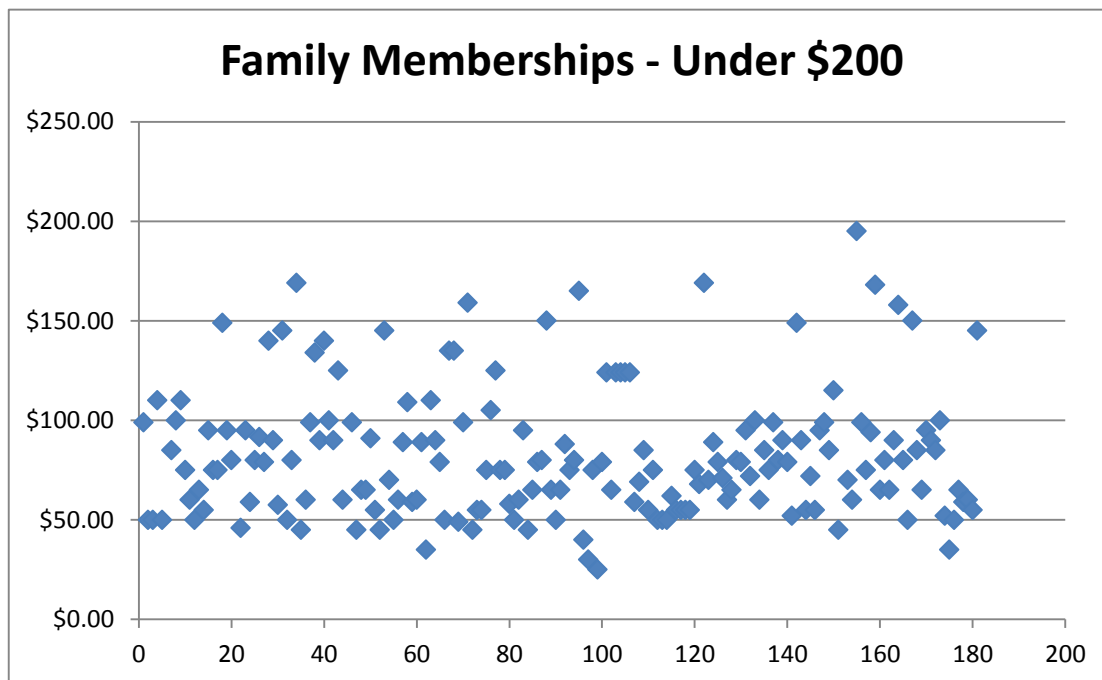


Membership

Memberships are typically available as individual and family. In this section we look at pricing for both and how each can be seen as a multiple of admissions pricing. The pricing range for individual memberships runs from \$15 to \$126, with an average of \$49.88. The range for family memberships runs from \$25 to \$300, with an average of \$87.45. With ranges like that, the average is almost meaningless. Like admissions pricing, the range for membership pricing is remarkable for its variation. This is shown in scatter diagrams for family and individual memberships below and on page 5 (facilities with family memberships over \$200 are left off of the scatter diagram). Further analysis shows that the value relationship between admissions and membership pricing—the ratio of an individual admission to an

individual membership and the ratio of a family membership to total admissions cost for a family—also varies significantly.

One of the persistent price questions regarding family memberships is how many visits by a family should be in the price of one family membership. MFA tinkered with this idea, which is often stated as visits by a family of four, by changing the formula to show how many visits by 1.5 adults (not 2.0) with 2.0 children at total walk-up admissions cost would fit in the price of a family membership. We adjusted the proverbial family of four as it has been our experience that many times family membership use includes one, not two, adults on a visit with two children—rather than the full two adults each visit.





Market & Feasibility Advisors

Zoo & Aquarium Revenue Center & Animal Interaction Report—August 2011

MFA analyzed data on 171 institutions. The average number of visits—by 1.5 adults and 2.0 children—that were included in the price of a family membership is 2.85 visits, while the median number of visits included is 2.57. Please note that this is data illustrating what institutions charge. It is not linked to the

number of memberships sold at these visit multipliers—or in other words—success. We’ll be digging deeper in the next survey. Just over half, 53%, fall in the two to three visits per membership category.

The table below shows the distribution of these 171 institutions across an array of visit intervals.

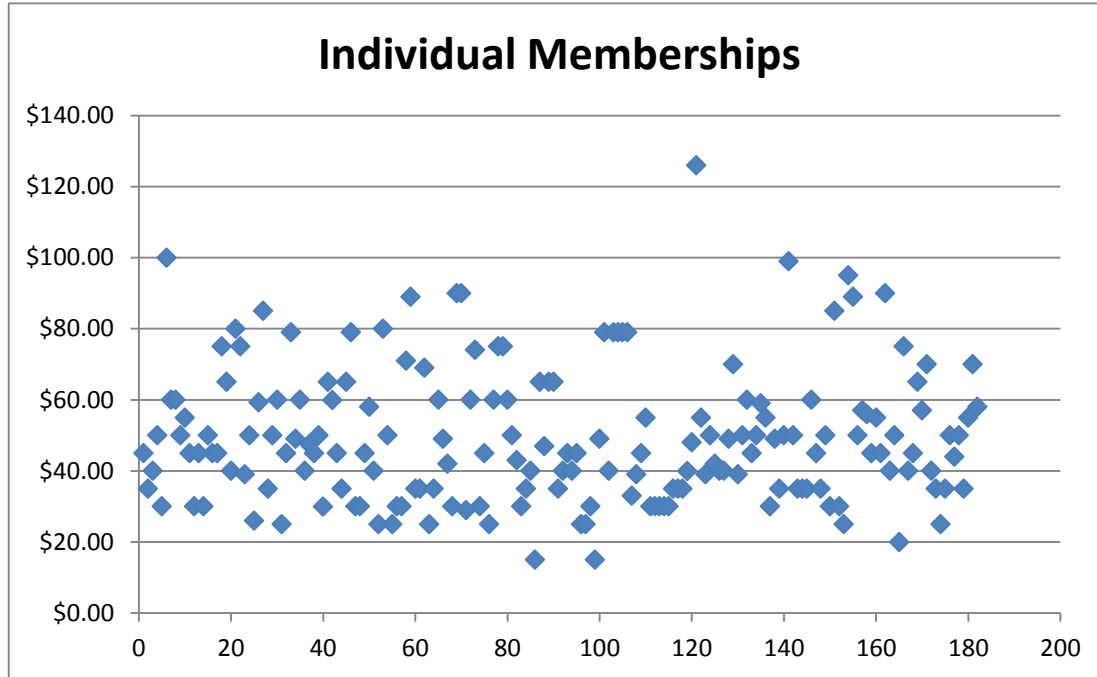
Institutional Distribution of Visits/Family Membership

(Visits = 1.5 Adult & 2.0 Child Admissions)

| Distribution | | Summary Distribution | |
|--------------|--------------|----------------------|--------------|
| Visits | Institutions | Visits | Institutions |
| Less than 1 | 1 | Less than 1 | 1 |
| 1.00 to 1.50 | 2 | 1.00 to 2.00 | 27 |
| 1.50 to 1.75 | 9 | 2.00 to 3.00 | 91 |
| 1.75 to 2.00 | 16 | 3.00 to 4.00 | 38 |
| 2.00 to 2.25 | 21 | Over 4.00 | 14 |
| 2.25 to 2.50 | 29 | Total | 171 |
| 2.50 to 2.75 | 28 | | |
| 2.75 to 3.00 | 13 | | |
| 3.00 to 3.25 | 18 | | |
| 3.25 to 3.50 | 11 | | |
| 3.50 to 3.75 | 5 | | |
| 3.75 to 4.00 | 4 | | |
| 4.00 to 4.50 | 7 | | |
| 4.50 to 5.00 | 2 | | |
| 5.00 to 6.00 | 2 | | |
| Over 6.00 | 3 | | |
| Total | 171 | | |



The following scatter diagram illustrates that the variability found in family membership pricing is also found in individual membership pricing as well.



MFA’s sense is that zoos and aquariums should periodically reconsider and benchmark their membership and admissions pricing strategies using peer and local competitive data—and solving for maximum revenue and number of visitors.

The surprising headline in this section is that individual memberships are really a bad buy. The average number of times an individual would need to come to the zoo to equal the purchase price of an individual membership is a whopping 4.6 times and the median, among the 167 facilities with usable data, is 4.29.

This pricing approach is surprising as the fastest growing US household type of all is the single person household. They now comprise 27% of all households. There are more of these households than there are households with children 12 and under (approximately 22%) and this doesn’t include two-person households where only one may have an interest in zoos and buy a membership only for themselves. One- and two-person households care about animals. They are the drivers behind the humane societies in the US.

Family membership pricing varies and individual memberships appear to be over-priced almost everywhere.



Rides

MFA estimates that 53 percent of all accredited zoos and aquariums have rides, but our sense is that few institutions look at the inclusion of rides as a part of their revenue or visitor experience strategy. In fact, train and carousel rides, typically ones that are decades old, are the most popular, but the number and type vary greatly, suggesting that zoos have many potentially successful options.

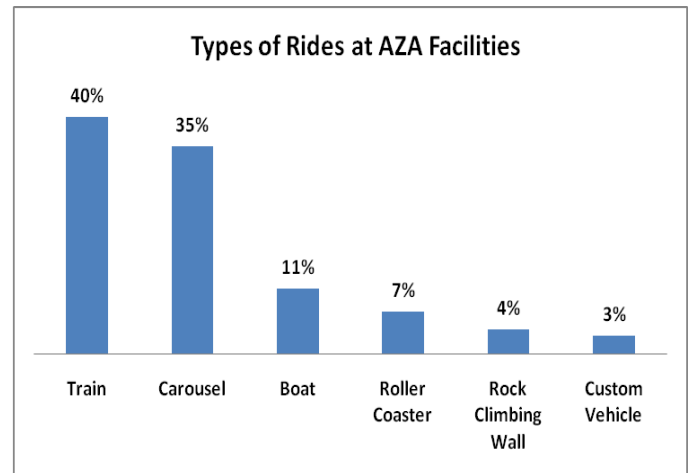
Among those zoos with rides, 40 percent have trains and 35 percent have carousel rides. The majority of these rides charge an additional fee.

The fees for carousels average \$1.56 and range from free to \$4. The most common charge for carousels is \$2. Fees for trains average \$1.97 and range between free and \$5 (although this can be as much as \$5.) 15 zoos did not charge for train rides while about half, 40, charged from \$2 to \$2.50.

The average charges for other rides: boat rides \$4.40; flumes, \$5; flying banana, \$2; kayak, \$6; monorail, \$2.75; rock climbing wall, \$3.21; roller coaster, \$3.25; and skyride, \$3.

Zoos and aquariums offer almost 30 different types of ride experiences, accounting for variations in the names of similar rides. These rides include Carousel, Tram, Ferris Wheel, Kayak, Log Flume, Mini amusement parks, Hayrides, Flying Banana, Monorail, Mountain Sky Ride, Pontoon Boat, Raft ride, Boat ride, Rock Climbing Wall, Roller coaster, Zoo shuttle, Simulators, Skyride, Train, Balloon ride, and Zipline.

These rides vary in the age appeal and level of excitement, and there doesn't seem to be much strategic choice in the array offered at specific zoos other than targeting rides to young children.



Most zoo rides seem to be a combination of the following:

- Source of revenue
- Additional entertainment for young children
- Child and parent break from walking the zoo
- Different perspective for animal viewing

Some good revenue examples are Brookfield's carousel and San Antonio's train. The Brevard Zoo offers kayak rides past animal enclosures to get a different perspective. Brevard's train also offers views of animals not otherwise presented.

There doesn't seem to be a limit to the number of rides. 20 zoos and aquariums have four or more rides including: Happy Hollow Zoo in San Jose, Tampa's Lowry Park Zoo, Fort Wayne Children's Zoo, Chicago's Lincoln Park Zoo, Kansas City Zoo, Houston Aquarium, Phoenix Zoo, Wildlife World Zoo and Aquarium, Phoenix, Albuquerque Biological Park, Cheyenne Mountain Zoo, Columbus Zoo and Aquarium, Memphis Zoo, Milwaukee County Zoo, Oklahoma City Zoo, Omaha's Henry Doorly Zoo, Pittsburgh Zoo and PPG Aquarium, Riverbanks Zoo and Gardens, and the Philadelphia Zoo.



Market & Feasibility Advisors

Zoo & Aquarium Revenue Center & Animal Interaction Report—August 2011

Ride locations can have revenue implications. Carousels located in children's areas are generally less successful than those in high traffic areas serving the general public. Fewer tickets are sold for carousels in children's areas, as parents tend to sit or stand and watch children, and adult carousel enthusiasts may be reluctant to ride in a children's area or may not even learn of the carousel. Train ride performance can vary with the visibility of the station and type of experience offered. With the exception of situations where the ride is controlled by a concessionaire in an inequitable arrangement, zoos seem to enjoy financial benefits from having rides.

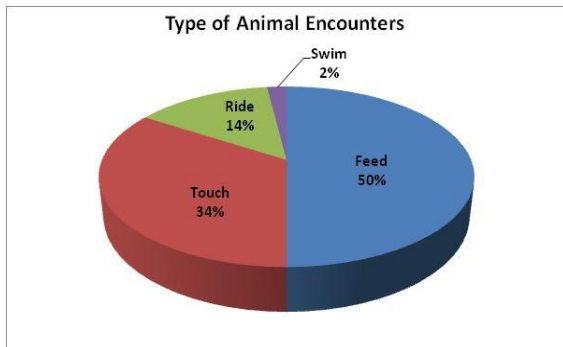
Many zoos have successfully added different types of rides—some as many as seven—as ways to reach a higher level of interpretation.





Animal Encounters

Most zoos now have an interactive area(s) where visitors can touch or feed animals; many have greatly expanded these programs in recent years to the point where some zoos are particularly notable for the breadth of animal encounters offered in their visitor experience. These impact revenue and visitor experience. As shown in the chart below, feedings are the most common type of animal interaction, comprising approximately one-half of all types, followed by interactive touch experiences (34 percent), actual rides (14 percent) and swimming experiences.



The top encounters offered were:

- Numerous farm animal (especially goat) feedings and touching—depending on how the figures are counted, as many as 45 zoos offer this type of experience.
- 38 Giraffe feedings
- 37 Bird feedings (just under half were lorikeets)
- 22 Touch tanks/pools
- 22 Camel rides
- 19 Pony rides
- 12 Sting Ray touches

The more than 50 animals available for feeding, touching, riding, or swimming with at one or more places is remarkable.

Here is the list with average experience cost:

Alpaca (\$1.25), **Bat** (\$49), **Bison** (\$4), **Bongo** (\$2.00), **Camel** (\$3.84), **Chickens, Cows, Deer** (\$.25), **Donkey** (\$.25), **Draft Horse** (\$6), **Elephant, Emu** (\$.25), **Gibbons** (\$4), **Giraffe** (\$4.53), **Goat** (\$.25), **Guanaco** (\$4), **Koi** (\$.25), **Kudu** (\$2), **Llama** (\$2), **Mule, Nylana** (\$2), **Ocelot** (\$4), **Pig** (\$.50), **Pony** (\$3.21), **Rabbits, Rhino, Sheep** (\$1.25), **Warthog** (\$2), **Zebra** (\$4), **Dolphin** (\$35 to \$165), swim with **fishes** (\$85), **Beluga** (\$170 to \$250), other **Whales** (\$49 to \$159), **Seals** (\$90 to \$145), **Sea Lions** (\$28 to \$170), **Sea Otter** (\$24 to \$90), **Sea Turtle, Shark** (\$65 to \$165), **Sting Ray** (\$1 to \$175), **Octopus, and Marine Invertebrates, touch tank** (generally free but up to \$3) **Budgie** (\$.25), **Cockatiel** (\$1), **Duck** (\$.42), **Lorikeet** (\$1.07), **Parakeet** (\$1), **Pelicans, Penguin** (feeding at \$3 other experiences up to \$175), other birds, **Alligators, Tortoise** (\$2), snakes, other reptiles.

Animal encounters are offered in two principal categories: popularly-priced or mass appeal (medium to high throughput) or premium experience (low throughput) that are not widely advertised and tend to be expensive. Some experiences, such as giraffe feeding at some zoos, started as premium experiences but, as they became more efficiently organized and clearly not to the detriment of the animal care, they moved into the popularly priced medium to high throughput category.

Premium animal encounters may or may not be promoted on zoo websites and may be linked to levels of membership or what some species can tolerate.

Another consideration is whether the experience occurs publicly or privately. Some premium experiences are done privately and out of public view. Others use a public setting as a way to involve non-participating zoo visitors



Market & Feasibility Advisors

Zoo & Aquarium Revenue Center & Animal Interaction Report—August 2011

observationally in an educational moment that can also be a marketing moment to get others to line up to pay.

Some premium experiences are offered by zoos at wildly varying prices, suggesting that some zoos may be charging too little or too much if revenue generation is a consideration.

Generally, zoos indicate that almost all of these animal encounters are revenue positive or—at worst—revenue neutral. Animal encounters can be a profit center for a zoo but few zoos have reached the point where the animal encounters are a strategically planned offering with a menu of premium and affordable animal encounters that can enhance the visits of a broad array of visitors, impact the broader visitor experience, and generate revenue.

One industry model seems to be offering a barnyard experience for young children (with

gumball machine style feeding stations), premium experiences for patron level supporters, and animal encounters with animals being carried through the zoo for visitors to see close-up and touch, or presented for a few minutes on a small stage.

At least 14 zoos and aquariums offer five or more animal encounters including: Brevard Zoo (Melbourne, Florida), Queens Zoo (New York, New York), Lowry Park Zoo (Tampa, Florida), the Philadelphia (PA) Zoo, Riverbanks Zoo and Gardens (Columbia, South Carolina), Columbus (Ohio) Zoo and Aquarium, Vancouver (BC) Aquarium, Fort Wayne (Indiana) Children's Zoo, Aquarium of the Pacific (Long Beach, California), Bramble Park Zoo (Watertown, South Dakota), Florida Aquarium (Tampa), John Ball Zoo (Grand Rapids, Michigan), Knoxville (TN) Zoo, and the Potter Park Zoo (Lansing, Michigan).





Water Play and Water Park Areas

A growing number of zoos are offering water play or spray pad features. The new facility at the Audubon Zoo was just featured on the cover of *Waterparks* magazine. Brevard and Louisville have added them in recent years. Brookfield's spray pad is more than a decade old. Granby Zoo (Quebec) has had a full waterpark for years, and Columbus bought and upgraded a formerly privately owned adjacent waterpark once owned by Six Flags.

These zoos represent three different approaches to adding water to zoos.

- At Brookfield, the free spraypad (no standing water) is part of a keep-cool strategy for summer visitors. It's easily accessed by the more than a million hot weather visitors each year.
- At Audubon, a separate admission for a much more elaborate facility makes it a discrete revenue center with controlled capacity, as well as being a part of a summer "stay cool" strategy for visitors.

At Granby and Columbus, it's an entire waterpark that is generally proportional in size to the zoo. The smaller Granby Zoo includes the waterpark in the price of admission. Guests easily move between the zoo, the waterpark, and an amusement ride area. They can enter

the facility through the zoo or waterpark to facilitate fast entry to the first place they want to visit. At the larger Columbus Zoo, the waterpark is considerably larger. The waterpark and zoo require separate (or a combo ticket) admission. The adjacent facilities have separate entrances but combo ticket patrons can pass between the two facilities internally.

Northern zoos can be hot in the summer but still draw well and possibly better with a "stay cool" strategy. But southern and southwestern zoos generally peak in the spring. They have the most to gain by offering one of the three types of water experiences above to boost their low-attendance summers. School vacation makes summer a potentially rich time for attendance.



Water features are being added to cool off visitors and generate revenues.



Meeting & Event Space

Under half, 43 percent, of the 220 facilities surveyed, have some type of rental space available for day meetings, such as corporate meetings and small group events.

Nearly every zoo is available for rent, or at least has areas available to rent during certain hours of the day. MFA estimates that 57 percent of accredited zoos actively provide and market this type of space. Rental rates vary greatly—presumably because event space is not standard across zoos and local competitive markets for space rentals vary. Still, the range of rental rates seems extraordinarily broad, suggesting that some facilities may be offering space for less than full value or others charge too much. Some zoos even have state-of-the-art dedicated event space for weddings, receptions, and other gatherings.

For example, the new Georgia Aquarium contains a 16,300-square-foot ballroom that totals 23,000 square feet if pre-function space is included. The ballroom can seat 1,000 persons for a banquet and is a popular venue for weddings and galas. These event areas are catered by Wolfgang Puck Catering. The Adventure Aquarium in Camden, New Jersey, also added a 7,000-square-foot events center (“Currents”) in 2007 which is catered by Aramark.

Restaurants

Among the 220 zoos and aquariums, nearly 77 percent have restaurants and/or cafeterias. Many have more than one. Cafeteria/self-serve style snack stands comprise the majority of these facilities, at 96 percent. MFA identified 16 full service restaurants.

Full-service restaurants seem to work best when they are close to the entrance, very visible, and can be easily accessed after operating hours. The number of households with children under age 12 has dropped to as low as 20 percent of all households. Good full-service restaurants could be an important part of drawing the other 80 percent of all households. Adults, who overwhelmingly comprise viewers of Animal Planet and have driven growth in humane societies, may like the idea of “dinner and a show” where the show is an evening or weekend visit to the zoo.



Food and beverage programs as well as types of event spaces and charges vary greatly.



Special Events

Every facility has its one-half dozen or more annual events, many of which are focused on particular holidays. For example, nearly every zoo surveyed has an annual Halloween event(s) (frequently entitled “Boo at the Zoo” or “Zoo Boo”). Other popular events include Easter egg hunts (“Eggstravaganza”) at Easter, the Fourth of July (“Red White and Blue at the Zoo”) and Christmas lights displays.

Another popular addition to zoo schedules in recent years is outdoor summer concert series.

Since most zoos are non-profit institutions, and an average of only one-third of annual revenue comes from gate admissions,¹ the majority of zoos are dependent upon a combination of contributions, sponsorships, other revenue sources, and/or public funding for their operations. As such, annual fundraisers and galas are on the list of most annual events, charging anywhere from \$50 to over \$200 per guest. Other examples of this type of use are 10K runs or golf tournaments in conjunction with a local golf course.

In addition, zoos and aquariums typically celebrate Earth Day and World Oceans Day and offer reduced admissions for mothers and fathers on Mother’s Day and Father’s Day, respectively.

Temporary Exhibits

Many zoos and aquariums also include special exhibit areas and/or traveling exhibits which may be on loan. MFA estimates that 44 percent of surveyed institutions currently have special exhibits. Among those that do, the average number is three exhibits over the course of a year.

Our research shows what seems to be an increase in the number of animatronic dinosaur exhibits. Zoos that have included this attraction in recent years include the Toronto Zoo (2007), Cheyenne Mountain Zoo in Colorado Springs (2009), Brookfield Zoo in Chicago (2009), Cleveland Metroparks (summer 2009 and 2010), and Fort Worth Zoo (2010). The DINOSAURS exhibit at the Toronto Zoo in 2007 attracted an estimated 600,000 people.

Zoos with dinosaur exhibits currently on display include:

- The Detroit Zoo: Dinosauria 2011, May 25–Labor Day (\$4 admission)
- The Chattanooga Zoo: April 30–July 31st (\$2.50 admission)
- Clyde Peeling’s Reptileland (Allenwood, PA): Dinosaurs Come to Life (May–Labor Day 2011)
- Houston Zoo: DINOSAURS! Donuts and Dinosaurs (2011)
- Woodland Park Zoo (Seattle, WA): Dinosaurs Real Close (2011)—\$3 admission



Market & Feasibility Advisors

Zoo & Aquarium Revenue Center & Animal Interaction Report—August 2011

Summary

Choices to enhance revenue and visitor experience have become broad and are getting broader. What is missing in some choices is an overall view and analysis of:

- What has worked elsewhere,
- What is actually possible, and
- A strategic approach to planning what to offer.

MFA's hope is that this ongoing survey (the next one begins in two months) and this summary

report provide you enough information to start thinking about what your zoo can accomplish and to encourage further revenue development/visitor enhancement efforts.

We at MFA would be happy to discuss with you any questions or thoughts you have about the topics addressed above. Dan Martin, Managing Principal of MFA, can be reached at Dan.Martin@marketFeasibilityLLC.com or 312.933.7898.

The Database

MFA regularly compiles a database of statistics pertaining to approximately 220 American Zoo and Aquarium Association ("AZA")-accredited institutions. This includes six AZA-accredited facilities outside the U.S. Our database has been expanded to include, for each facility, information on:

- Number, type, and pricing of rides
- Number, type, and pricing of animal encounters
- Operating hours
- Admissions pricing
- Membership pricing
- Meeting and event facilities
- Theaters
- Restaurants and other food service
- Special exhibits