

A Catalyst for Conservation: Zoos and Aquariums Positively Affect Their Own Communities

Amanda Revak

Namibia

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Most zoos began simply as a place to exhibit and observe animals from around the world. However, most modern-day zoos and aquariums make it their mission to work toward the conservation of the species they display and the habitats from which they come. People visit zoos and aquariums for many reasons, and while most view such institutions as places to spend an enjoyable, leisure-filled day, most end up learning something through their visit. To paraphrase a former colleague, zoos are not just fuzzy amusement parks. They may be entertaining, but their ultimate goals revolve around conservation and education.

Visitors are exposed to conservation messages while they view interesting animals and explore interactive and entertaining exhibits. In addition to passively displaying conservation information for visitors, most zoos and aquariums also actively offer conservation education programs to inform audiences as diverse as school groups, senior citizens, preschoolers, teachers, and general visitors. Through these varied methods, zoos and aquariums are in a unique position to positively affect change throughout the world, but most importantly, they can encourage conservation in their own backyards.

Because zoos and aquariums are so closely tied with the natural environment, dependent upon it, actually, they have a professional and moral obligation to actively work toward conservation (Cohn, 2000). Zoos and aquariums are likely to become the most influential and powerful conservation organizations in the world (Hutchins, 2003). They have high visibility and positive reputations, they tend to be located in and around urban areas, whose populations tend to be further removed from nature, and they are able to present important environmental information in a fun and approachable manner. Of course, zoos range from large, well-respected institutions to roadside attractions, so there is currently a huge diversity of conservation efforts from institution to institution. A recent study by Fabregas, et. al. (2011), suggests that the overall zoo community can and should improve conservation efforts as a whole, even though a wide range of conservation

efforts are performed by zoos around the world and zoos who are members of a zoo association, such as the Association of Zoos and Aquariums (AZA), are more conservation oriented overall.

The conservation obligation for zoos can be fulfilled in many ways. Some may choose to reduce their own ecological footprint by diligently recycling, reducing their use of resources, such as water and paper, purchasing environmentally-friendly products, and/or utilizing green building practices for exhibits and office spaces. Some may choose to financially support local or international conservation organizations or fund research projects. Some may actively conduct in-situ conservation projects or create partnerships to protect resources or species around the world. Some may exhibit endangered species to educate the public, and some may provide formal conservation education classes. Preferably, depending on the zoo's resources and commitment to conservation, an institution can and should employ a combination of several of the methods, or preferably, all of the above methods, with a particular focus on community-based conservation.

AZA member organizations must participate in conservation, research, and education to obtain accreditation. It is a requirement the professional organization takes very seriously, as evidenced by increasingly stringent standards that must be met by member institutions every five years (Accreditation and Certification Materials, n.d.). Each zoo may approach this requirement in a different manner, but all efforts have the potential to have a positive impact on the world.

One way zoos participate in conservation is through supporting well-established international conservation programs, which also engage in community-based conservation. The Cheetah Conservation Fund (CCF) is supported by several zoos around the world, such as the Columbus Zoo, Indianapolis Zoo, and St. Louis Zoo (Our Partners in Conservation, n.d.). Polar Bears International (PBI) is another group which works with zoos around the world to spread their message on a local level to a wide variety of communities. Many zoos, including the Pittsburgh Zoo & PPG Aquarium and Cincinnati Zoo & Botanical Gardens, are listed as Arctic Ambassador Centers, as they promote green practices and climate change awareness and encourage behavior and

lifestyle changes that can reduce carbon emissions among zoo visitors (PBI Arctic Ambassador Centers, n.d.). Through these partnerships, large international conservation issues can become more accessible to the general public. They can see the ecological concerns and the threats to species in peril, but in addition to learning about the problems, they learn that each person, making manageable efforts in their homes and communities, can have a positive impact on the world.

Much has been made of zoo conservation efforts and partnerships worldwide, as they tend to get more publicity and generate more interest and funding. However, arguably more impact can be made much closer to home, with community-based conservation being carried out in their own communities. While in-situ conservation programs are the preferred approach, there are plenty of ways in-situ can involve programs in the United States. There are ample endangered species and ecosystems of concern in North America that can use more consideration. Especially because zoo conservationists often to intend work with local communities around the world to protect the environment and endangered species, it is important that they show that they are actively working toward conservation in their own country, to serve as a positive role model and inspiration for international communities (Cohn, 2000).

Zoos are in a unique position to be a positive catalyst for conservation in their own backyards. While zoo visitors take away conservation messages from their visits, they actually tend to bring a high level of knowledge about ecological concepts and conservation issues with them (Falk et. al., 2007). Because of this, zoo visitors are actually in a unique position to become a catalyst for community-based conservation. If guests are knowledgeable about ecological concepts prior to their zoo visit, they are likely to be receptive to conservation messages and more likely to act upon new information after they leave the zoo. They can take what they learn about local issues and leave feeling that they are an integral part of the solution; they can be empowered to take ecologically friendly actions and make positive changes in behavior in their daily lives (Falk et. al., 2007). Conservation does not have to be a distant, overwhelming pursuit. It can be protecting

nearby habitats and species and ensuring one's family and neighbors have a healthy and beautiful environment to enjoy now and for generations to come.

Yocco, et. al. (2010) recently reported that zoo visitors view a trip to the zoo primarily as a chance to spend time with family and learn about animals, while spending an enjoyable day outdoors. The results suggest a way to ensure zoos messages will be received by most visitors: focus all conservation messaging, both at exhibits and through classes, toward families and engage parents and children in programming that allow them to have fun, while learning about their local ecological concerns. People are not turned-off by conservation information, and overall, they do not feel that programs that directly ask them to act in an environmentally-friendly manner negatively impact their fun-filled zoo experience (Smith, et. al., 2010). If conservation messaging is presented in an approachable manner, people may take away information that they can use in their daily lives and with their families to protect the species they come to appreciate in zoos and in their own backyards.

Many American zoo-goers may think of charismatic, exotic species, such as pandas and cheetahs, when they think of endangered species, but there are plenty of endangered ecosystems and species much closer to home. It is the zoo's responsibility to ensure that visitors learn about local species and concerns, rather than solely focusing on international conservation issues.

Some programs, such as black-footed ferret and California condor recovery and reintroduction programs, have become legendary examples of how successful zoo conservation programs can be with local species. People came to appreciate and applaud the comeback of these once doomed species. They watched as zoos led the efforts, but they also learned what they could do in their daily lives to support the protection of these and other endangered species in their area.

Other local conservation programs focus on lesser known endangered species with which zoo guests may not be familiar. For example, the Pittsburgh Zoo & PPG Aquarium has recently opened a new exhibit featuring the endangered salamander, the hellbender, while the Cincinnati

Zoo has focused conservation efforts on another endangered salamander, the black warrior waterdog (Stoops & Keyster, 2010). The AZA, in general, promotes FrogWatch USA, a citizen science program that encourages individuals to work toward amphibian conservation by learning about local wetlands and learning to recognize and record the calls of local frog and toad species (FrogWatch USA, n.d.). Such programs can create an appreciation for animals that traditionally have not received much attention, which in turn, can encourage people to protect their habitats, which may literally be in their backyard.

Conservation education programs are arguably the best way for zoos to engage the public and to involve them in community preservation efforts. Some zoos actively promote public involvement in local conservation. Several zoos have involved students and volunteers in community restoration projects within local ecosystems; for example, Baltimore Zoo students helped to restore endangered Bog turtle wetland habitats on zoo grounds (Hutchins, 2003). Several years ago, at the Pittsburgh Zoo & PPG Aquarium, KidScience students learned about invasive species, removed invasive plant species from a pond on zoo grounds, and replanted the area around the pond with native plant species. By involving children in hands-on environmental projects, not only can zoos empower kids to take action for conservation in their own communities, but they can also promote an appreciation for nature, which unfortunately, has been lacking in recent years, as children have become more and more alienated from the outdoors, especially in urban areas (Street, 2010).

Inquiry-based learning has become the preferred method for science education, and it is a useful technique that can be utilized easily in a zoo setting. At its heart, inquiry involves observing and assessing one's surroundings (Feinsinger, 2001). Zoos and aquariums are designed to encourage observation, and thus, they are a natural fit for inquiry-based learning.

One example of inquiry-based learning in a zoo setting, which also touches, at least in part on community conservation, is the KidScience program at the Pittsburgh Zoo & PPG Aquarium.

KidScience uses scientific research as a way to foster an understanding of and appreciation for the natural world. KidScience students use inquiry-based learning techniques to design and carry out animal behavior research projects that answer student or keeper posed questions about the zoo's animals. In addition to in-class projects, the students are challenged to participate in community-based conservation efforts on their own time. For example, in the past year, students have participated in highway and waterway cleanup efforts and have conducted cell-phone recycling drives. They have also learned about local endangered species and the role Pittsburgh and surrounding areas have played in the environmental movement of the past 50 years.

Another example of inquiry-based learning in a zoo setting is Cincinnati Zoo & Botanical Garden's Wild Research project. Wild Research is a much broader program than KidScience, as it reaches all zoo visitors through interactive stations at popular zoo exhibits. The research stations encourage visitors to not only observe the animals but to also use their observational skills to make predictions and answer questions about behavior. Informational content provided in the interactive stations also encourages visitors to delve deeper into animal facts and conservation issues than typical zoo graphics and signage traditionally do (Myers, Myers, & Hudson, 2009).

Inquiry-based methods can be employed in many different ways at zoos and aquariums. It is most important, however, that people be interested, engaged, and made to be participants in their education throughout their visit. People care about what they know, and once they know better about concerns in their community and worldwide, they can use the information they gained during their fun, family outing to the zoo to make the world a better place for their kids, for their portion of the world, and for the species they grew to love while visiting the zoo.

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Discussion Questions:

- 1.) A colleague will often say that certain conservation issues are beyond the scope of what we should be teaching about in Zoos (for example, reducing energy usage by using CFL bulbs). Do you think there are issues beyond the scope of what zoos should teach or do you think any environmental or conservation issues are appropriate topics for zoo conservation education programs?
- 2.) What conservation programs do your local zoo support or sponsor? Do any of the programs focus on the local community?
- 3.) Have you seen inquiry-based learning methods employed in a zoo or aquarium setting? How can zoos use inquiry more effectively to reach the widest audience?