



Creation of an environmental stewardship team/committee at the Bronx Zoo

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Abstract

Low employee morale is a common issue among zookeepers, and the Bronx Zoo's mammal department is not immune to this problem. My leadership challenge goal is to create an environmental stewardship team at the Bronx Zoo via the local chapter of the American Association of Zookeepers. Research in the social sciences has linked "sense of place" and "sense of community" to environmental stewardship. My objective is to foster a "sense of community" which can help create a sense of empowerment for participating zookeepers, and may help improve department morale over the long-term. My collaborators include the Bronx River Alliance and New York City Department of Parks.

Creation of an environmental stewardship team at the Bronx Zoo

Introduction

Studies in the social sciences have inferred that an association exists between ‘sense of place’, social capital, and environmental concern (Acedo, Painho, & Castelyn, 2017; Kudryavtsev, Kransy, & Stedman, 2012; Vaske & Kobrin, 2001). ‘Sense of place’ can be characterized as the feeling of connection to a particular geographic place (Acedo, et al., 2017). Researchers have inferred that when people have a positive connection to a natural area, they may care more about that area and want to look after it (Buta, Holland, & Kaplanidou, 2014).

Expanding upon the connections that people have with places, there are similar bonds people experience with their community, this ‘sense of community’ and feeling of social connectedness can develop into a sense of belonging (Buta, et al., 2014). Studies have found that ‘sense of place’ and social capital, (the social bond that holds people together), are essential to citizen participation and civic engagement (Acedo, et al., 2017; Talo, Mannarini, & Rochira, 2014). Furthermore, citizen participation, sense of community, engagement and feelings of empowerment are intertwined (Perkins, Brown, & Taylor, 1996; Talo, et al., 2014). Lewicka (2011) concluded those people experiencing sense of place and community feel more fulfilled with their life when compared to those not experiencing such place attachments.

Zookeepers can be considered a community (Bunderson & Thompson, 2009), and many zoos have a local chapter of the American Association of Zoo Keepers (AAZK). Though zookeepers can derive a sense of importance of their work via the viewpoint that their occupation assists in the conservation of wildlife (Bunderson & Thompson, 2009), it is still common to find keepers suffering from negativity, criticism, and skepticism (Steenberg, 2006). As a zookeeper for over 20 years at the Bronx Zoo, I have personally come across a few such negative, cynical, and toxic employees, who not only affect, but worse, infect, the morale of staff. The Bronx Zoo’s mammal department is not immune to the issue of low employee morale. In fact, the department ranked last in a Wildlife Conservation Society- (WCS) wide (which manages the Bronx Zoo, Central Park Zoo, Prospect Park Zoo, Queens Zoo, New York Aquarium, and its global programs) employee satisfaction survey several years ago.

My Master Plan is to help improve morale among the keepers at the Bronx Zoo mammal department. I developed my idea for my Leadership Challenge by building upon the conclusion of social scientists: that sense of place, sense of community, community engagement, participation and empowerment are all interrelated. My thought is that offering environmental stewardship activities for zookeepers at the Bronx Zoo may foster a sense of community and assist in my goal of improving morale over the long-term. For my 2017 Inquiry Action Project, “Does participation in an environmental stewardship activity improve the perception of urban natural areas? Can it improve zookeeper morale?”, I surveyed keepers in the Bronx Zoo mammal department (Medina, 2017). Ninety-one percent of respondents expressed interest in participating in a local environmental stewardship activity (Medina, 2017).

My Leadership Challenge is to create an Environmental Stewardship Team at the Bronx Zoo. I hope to engage keepers from the Bronx Zoo mammal department in environmental stewardship activities, which can act as team building exercises for those that work together on a regular basis, and offer the opportunity for keepers that do not regularly work together get to know one another. I plan on using the Bronx River which flows through the Bronx Zoo as the focus of our efforts.

The Bronx River, which is New York City’s only freshwater river, flows from New York’s richest county (Westchester) through the Bronx, which has the poorest congressional district in the United States. The river was once an open sewer, and riddled with garbage. Though there is a stigma attached to the Bronx since the 1970s, various community groups surrounding the river at that time came together to begin to clean up the river, viewing the river as their backyard (Medina, 2014).

My interest in the Bronx River began in 2014 after participating in a canoe trip guided by the Bronx River Alliance (BxRA). Later that same year, I attended a symposium: Reclaiming a River: Conservation and Community. The symposium was focused on urban river restoration and how communities can aid in restoration efforts. Attendees came to the Bronx to learn how the community efforts that have occurred on the Bronx River have become the envy of communities around the nation (Calvelli, 2014). When speaking with different people at the symposium, I spoke with Jerry Willis who works with the National Park Service. He worked on the restoration of the Bronx River decades ago, and stated

“what happened here was special”, further stating that he has “never seen the same happen anywhere else, as far as how engaged and involved the community was in the river’s restoration” (Medina, 2014). I have since then participated in different environmental activities on the Bronx River. I assisted in eel monitoring in 2015 along with Bronx Zoo AIP students, using “eel mops” to collect abundance data of juvenile eels for WCS scientists; participated in trash assessment along with NYCAAZK members and the BxRA in 2016; in 2017, I participated in an invasive vegetation clean-up with BxRA and The Mission Continues. At the end of 2017, I attended a “data jam” hosted by the BxRA at which collaborating organizations and volunteers presented the scientific data collected for projects on the river during the year.

From the results of my 2017 keeper surveys, my guess is that many zookeepers at the Bronx Zoo are not aware of the story of the Bronx River, and the efforts to restore it. I not only want to share the history of the river with the keepers of my department, but more importantly have them be a part of the story as well. The creation of the team can benefit morale among keepers which helps the department, as well as the broader community of Bronx residents residing downstream from a cleaner river flowing from the Bronx Zoo. The project offers keepers the opportunity to perform a positive change for our larger New York City community. Keepers may meet staff and volunteer citizen scientists from Bronx River Alliance, the NYC Department of Parks and other organizations that are enthusiastic to help make the Bronx River cleaner, and help make the Bronx a better place for all. My intent is that by having keepers participate in the environmental stewardship activities, they may invest an interest in the Bronx River, and foster a greater “sense of place” for their workplace, the Bronx and New York City.

Project details

The Environmental Stewardship Team is being created via the New York City AAZK (NYCAAZK) chapter. While the chapter is open to keepers from any of the WCS parks, the majority of participants are currently from the Bronx Zoo. I have received permission from the chapter’s president, Joseph Nappi, a zookeeper in the mammal department. I also spoke with, and have permission from the mammal department’s curator, Colleen McCann. Colleen also supported the idea of using NYCAAZK to create the team. With the curator’s

support, this allows me the ability to promote the team to the department keepers, and use keeper meetings as a platform.

I am collaborating with Michelle Luebke, Director of Environmental Stewardship at the Bronx River Alliance. I met Michelle at a trash assessment event on the river in 2016.

I am also collaborating with Danica Warns, Wetland Restoration Project Assistant, and Rebecca Swadek, Senior Wetlands Restoration Manager at the New York City Department of Parks (NYCDP). I networked with Danica and Rebecca about participating in monitoring of river herring at a BxRA Eco Team meeting in April 2018

I am inviting keepers from the department, as well as members of NYCAAZK, which will open the activities to keepers from other departments as well.

2018 Timeline:

NYCAAZK March 30, 2018: I spoke to members of NYCAAZK about the creation of the Environmental Stewardship team and my vision for the team, and possible events for later this year.

Bronx River Alliance Eco Team Meeting April 12, 2018: I attended the BxRA Eco Team meeting. One of the attendees that presented was Rebecca Swadek, of NYCDP. She spoke about her goals of protecting and improving water quality, and protecting native species. On April 11, 2018, over 400 river herring, including both alewife and blueback herring were released by the Connecticut Department of Energy and Environmental Protection, in a partnership with the BxRA and the NYCDP. They are planning to restock the river for the next three years. She was interested in finding volunteers to monitor, maintain and clean the fish/eel passage along the river located at the south end of the Bronx Zoo. She also promoted the City Nature Challenge, and divulged that they were trying to beat our rivals, Boston this year.

After reaching out and following up with her and her assistant, Danica Warns, about the river herring project, there are two parts of the project my team can assist with. I have received copies of datasheets (Fig.1, Appendix A) and information about the project. I will meet with Danica on May 10th or 11th to conduct a survey together. After this, I will conduct surveys on a weekly basis with keepers until June 22nd. I have one keeper

interested already in conducting the surveys, and I have not officially promoted the surveys yet.

First, we will conduct surveys, one hour a week, from the east bank of the river, looking for any signs of the fish. She is excited to have volunteers that can observe from zoo property since her department does not have access to this area, and can offer a different perspective for data collection. This is a very good fit for my team, as it's a quick walk from our current work place within the zoo. The second part of this project, that will involve my team, is conducting juvenile popping surveys. These involve observing the river at the south end of the zoo property searching for, and counting, river herring jumping from the water during feeding behavior, for an hour at dusk.

City Nature Challenge 2018 Friday, April 27-Monday, April 30. The City Nature Challenge is an international bioblitz competition, in which participants use iNaturalist, a mobile app, to log observations of nature where cities compete for the highest number of observations, species and people engaged (iNaturalist, 2018).

I created a flyer for the challenge (Fig. 2-Appendix B). The flyer was distributed and posted in the mammal office where keepers sign in daily during the week of April 24-27, 2018. I created a Facebook event for the challenge using the NYCAAZK Facebook page. The challenge can be both an individual or group activity. On the first day of the challenge, several coworkers and myself began logging in observations of native flora and fauna on zoo grounds. On Saturday, April 28, 2018, two fellow mammal keepers and I, (from my Wild Asia work team), went out to the river during afternoon break to log in observations. Together we logged in over 40 observations during the short time.

BBQ Indirectly associated with the Environmental Stewardship Team. On Saturday April 28, 2018, I hosted a BBQ at lunchtime at 'Wild Asia' for my work team in my area. It was the opening day of our monorail season, which is tied into our work area. We were also dealing with an animal health crisis. (Beginning April 24, one of our elephants began displaying symptoms of either an injury or neurological event, which has still not been diagnosed.) I wanted to do something positive for the Wild Asia team, since team members had been working very hard, and coming together under many stressors. The keepers were appreciative of the effort (Fig. 4 & 5- Appendix C).

June 7, 2018: During after work hours, the team conducted a clean-up along a section of the East bank of the Bronx River, while assisting with the fish survey for the Bronx River Alliance.



June 7, 2018: Bronx Zoo Mammal Keeper cleaning up invasive vegetation along Bronx River



June 7, 2018: Bronx Zoo Mammal Keepers cleaning around river, and surveying for river herring.



June 7, 2018: Bronx Zoo keepers cleaning up invasive vegetation from east bank of Bronx River.

Reflection & Conclusion

For my 2017 IAP, I conducted surveys of keepers' perceptions of the Bronx River pre- and post- environmental stewardship activities (e.g. beach clean-up, removal of invasive vegetation) which used a Likert scale. Similarly, for this Leadership Challenge I will conduct surveys pre- and post-fish popping surveys to gauge if participants' sense of place and/or community have been affected (Fig. 6 Appendix D).

While at first my idea for my Leadership Challenge, which was born from my 2017 IAP, was to host one environmental stewardship activity, it grew into creating a team and offering activities year round.

This project is personally challenging because I am socially very shy and not comfortable talking to groups of people. I view leadership as a purpose (Case et al., 2015);

I tend to pursue goals which are service-oriented (Porter & Daniel, 2007) and for the betterment of my immediate team and or community. My personal leadership philosophy is one of collaboration. I prefer to promote learning and create opportunities for others to succeed and 'shine'.

Even though the nature challenge was important for this leadership challenge, and creating the stewardship team, I felt that since my ultimate objective is improving morale among the keepers, that a lunchtime BBQ was more fitting, under the stressful circumstances in dealing with the animal health crisis. We celebrated the team coming together and still found time at afternoon break to go out and log observations for the City Nature Challenge. The current results of the City Nature Challenge place New York City in sixth place with over 21,812 observations, and beat rival Boston which ranked eleventh place (iNaturalist, 2018).

Next Steps

My ensuing steps are to continue my collaboration with the NYCDP, with the river herring project. I will create a webpage with information about the project. I will also create, and post a sign-up sheet, in the mammal office, for the river herring mortality surveys, and create a schedule. I will promote the 'fish popping' portion of the river herring project as well. During fish popping events I will survey participants on their sense of place, and whether they feel it was affected by participation in the event (Appendix C).

I will continue to collaborate with BxRA, for which Michelle Luebke continues to offer suggestions for events. The president of NYCAAZK has expressed interest in a group visit to a trash boom on the river, and can be facilitated by Michelle. She is excited to work with us, and engage keepers further.

I will create a website, and social media will be utilized to promote and inform keepers of events and share information about the Bronx River. I am currently the webmaster for NYCAAZK.

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Appendix A

Figure 1. (below) Data sheet for river herring monitoring project

NYC Parks
Forestry, Horticulture, and Natural Resources
Post Fish Stocking Monitoring Plan
Spring 2018

Post Fish Stocking Monitoring Plan Spring 2018		
Adult Survival: East 182nd Street Dam Observation Datasheet		
This task will require 2-6 people and will take 1 hour to complete		
Date:		
Start Time:		
End Time:		
Staff name and organization:		
Weather Conditions:		
Water Temperature:		
# of observed alewife (tally mark)	in water:	traveling over dam:
1st 10-minute period:		
2nd 10-minute period:		
3rd 10-minute period:		
4th 10-minute period:		
5th 10-minute period:		
6th 10-minute period:		
Notes:		

Appendix B

Take the
**City
Nature
Challenge
2018**
April 27 – 30



New York City needs YOU to help find all of the creatures that call our city home. In both the paved and green spaces of our city, many species survive and thrive. We're asking all New Yorkers - residents, visitors, commuters, students, teachers, pedestrians, park lovers, parents, children, EVERYONE - to become citizen scientists and help us make as many iNaturalist observations as we can. Will you join us in this citizen science quest to catalog our city's great biodiversity?

Let's put NYC on top!

How can you get started? It's easy!

Download the FREE iNaturalist app to your mobile device.

During the time from April 27-30, use the app to upload photos of organisms to the iNaturalist and the iNaturalist community will help you identify them.

It's as simple as that!

Nearly 70 cities will be competing to see who can make the most

Questions? See Michelle Medina

Figure 2. Flyer for City Nature Challenge



Figure 3 Myself (left) with fellow Wild Asia keepers out logging observations on April 28, 2018 for City Nature Challenge:New York City

Appendix C



Figure 4 BBQ during lunch break in Wild Asia area on April 28, 2018



Figure 5. Wild Asia team members April 28, 2018

Appendix D

Figure 6 (below)- Possible survey to be used pre- and post-stewardship activity

Pre-activity Survey

Are you a zookeeper at the Bronx Zoo? Y N

Are you a keeper in the Bronx Zoo Mammal Department? Y N

Please circle the number below that best represents how you feel about each statement.

=====

I feel that I am important to my department.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	2	3	4	5

I feel that I am important to the Bronx Zoo.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	2	3	4	5

I feel that I am important to WCS.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	2	3	4	5

I feel that my job as a zookeeper assists in wildlife conservation and global biodiversity.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	2	3	4	5

I feel that assisting in local conservation improves my *sense of place* and or *sense of community*.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	2	3	4	5

I feel that my *sense of place* is important in my daily work life.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	2	3	4	5

Appendix D (con't)

Post-activity Survey

Please circle the number below that best represents how you feel about each statement.

=====

I feel that assisting in local conservation improves my *sense of place* and or *sense of community*.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	2	3	4	5

I feel that my *sense of place* is important in my daily work life.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	2	3	4	5

I feel that my *sense of place* or *sense of community* has improved after participating in this stewardship activity.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	2	3	4	5

I plan on participating in more environmental stewardship activities.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	2	3	4	5