

# Attitudes and Perceptions Toward Red Wolves by North Carolina Residents

An Exploratory Study at the Museum of Life and Sciences in Durham, NC

**ENVIRON 498: Building a Sustainable Tomorrow  
Certificate Capstone**

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*Client:*

Museum of Life and Sciences

*Advisors:*

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## Background:

Formally abundant across the southeastern United States, red wolves are now the most endangered wolf species in the world. Through hunting and habitat loss, humans decimated red wolf populations until declared biologically extinct in the wild in 1980. Shortly after, the US Fish and Wildlife Service (USFWS) initiated a captive breeding program with remaining individuals.

Once the captive population grew robust enough for a release of wolves into part of their historic range in North Carolina, Alligator River National Wildlife Refuge was chosen as the location of reintroduction. Before this could happen, the USFWS identified **the importance of public support** for the success of the program. Public response was largely sympathetic to the conservation struggle of the red wolves, but substantial opposition remained. Since the initial introduction, many red wolves have been killed on purpose or accidentally. With so few red wolves remaining in the wild, public education, awareness, and support for their survival is critical for the success of the program.

One such site of education and engagement is at the Museum of Life and Sciences. An exploratory study was conducted through the observation of and interviews with visitors to better understand the attitudes and perceptions of North Carolina residents toward red wolves. Our goal is to provide feedback to museum staff about visitor engagement and identify ways to encourage public support for red wolf conservation.



Figure 1. Captive red wolf. Photo by B. Bartel, USFWS.

## Objectives:

1. Collect observation data and conduct interviews with museum visitors.
2. Identify common attitudes and perceptions by coding collected data.
3. Compare results with existing literature on public perceptions.
4. Provide summary and suggestions to museum staff for improved engagement.

## Approach:

After Campus IRB approval, Katie Taylor and I began visiting the Red Wolf Exhibit at the Museum of Life and Sciences for alternating **observation** and **interview** days.

### Observations:

Observation days occurred on Tuesdays for one hour at a time. Katie and I defined boundaries where observations would start and conclude, and we alternated observing “groups” of people. Groups were defined as cohorts of adults and children arriving roughly at the same time to the exhibit. We visited the space for a “Keeper Talk” to ask questions, visit the location, and discuss Museum goals with visitor engagement. See our final observation guide on next page.

### Interviews:

Interviews occurred on Saturdays for two hours. Using the same boundaries as for observations, Katie conducted interviews while I entertained adults and children with a bag full of engagement supplies, including pup photos, pamphlets, and a radio collar.



Figure 2. Exhibit camera that can be used to zoom in and track the wolves. Popular form of visitor engagement. Photo by Andrea Kolarova

Table 1. Timeline of our visitation days to the Museum of Life and Sciences.

Purpose of Visit	Date	Notes
Meet Museum Staff	Feb 11 <sup>th</sup> 10:00-11:00 am	Met Michele and team
Keeper Talk	Feb 13 <sup>th</sup> 2:00-2:30 pm	Discussion with Jenna and Michele
Observation Day	Feb 18 <sup>th</sup> 11:00–12:00 pm	Changes made for revised guide
Interviews	Feb 22 <sup>nd</sup> 10:00-12:00 pm	
Observation Day	Feb 25 <sup>th</sup> 11:00-12:00 pm	Durham Community Day
Interviews	Feb 29 <sup>th</sup> 10:00-12:00 pm	Andrea sick – did not attend






Due to COVID-19 no further data collection was possible.

### **Analysis Process**

I manually thematically coded the observation sheets (sixteen total) and tallied trends using Microsoft Excel. I selected interesting or important data points and created summary statistics or graphics, highlighted on the Results and Discussion page. Katie used NVivo 12 to code the interview transcripts.

Existing literature about perceptions on red wolves in North Carolina (and more broadly wolves in the United States) was referenced and compared to the findings from the observation guides. Possible responses to our findings were summarized as suggestions for the museum staff.

# Observation Guide:

Attitudes and Perceptions Regarding Red Wolves	Observed Participants
Observer Initials: _____	# of adults: 0 1 2 3 4 5 6 7 8 9 10+
Month: Feb / March Day: _____ 2020	# of kids: 0 1 2 3 4 5 6 7 8 9 10+
Day of week: SU M T W TH F SA	Take photos of wolves: Y N
Start Time: _____ AM PM	Do participants interact with/read:
End Time: _____ AM PM	<input type="checkbox"/> Exhibit camera <input type="checkbox"/> 'No Howling' sign
Weather:     	<input type="checkbox"/> Informative signs <input type="checkbox"/> MLS Staff
<b>Appearance</b> - anything that indicates memberships in groups, social status, ethnicity?	Do participants:
<b>Verbal behavior and interactions</b> - gender, age, dynamics of interaction (who speaks to whom for how long; who initiates interaction; languages or dialects spoken; tone of voice)	<input type="checkbox"/> Point <input type="checkbox"/> Use their own tools (binoculars, camera, etc)
<b>Physical behavior and gestures</b> - what people do, who does what, who interacts with whom, who is not interacting. How they use their bodies and voices to communicate different emotions; what individuals' behaviors indicate about their feelings toward one another, their social rank, or their profession.	<input type="checkbox"/> Pick up child <input type="checkbox"/> Exhibit tools
<b>Do participants appear interested in the wolves?</b> - Ask questions (to keeper or to each other) about exhibit and the wolves in exhibit? Ask questions about wolves in general? Do the children appear bored or excited? Bored: lacks interest in activity; excited: enthusiastic, high energy, eager.	Common Questions:
	<input type="checkbox"/> What do they eat?
	<input type="checkbox"/> Is there a hypothesis? (i.e. I think they're playing, etc.)
	<input type="checkbox"/> Where are they?
	<input type="checkbox"/> What are they doing?
	<input type="checkbox"/> What are their names?
	<input type="checkbox"/> How old are they?

Checkboxes for the quick recording of common actions or repeatedly recorded observation data

Long-response sections for elaborating on observed behavior, divided into four broad categories.

Figure 3. Observation guide created by Katie Taylor and Andrea Kolarova.



# Results:



Figure 4. Red Wolf Exhibit view from where we conducted observations and interviews. Photo by Andrea Kolarova.

“We have to see them now – they’re endangered!”

“They’re fighting, just like you boys do”

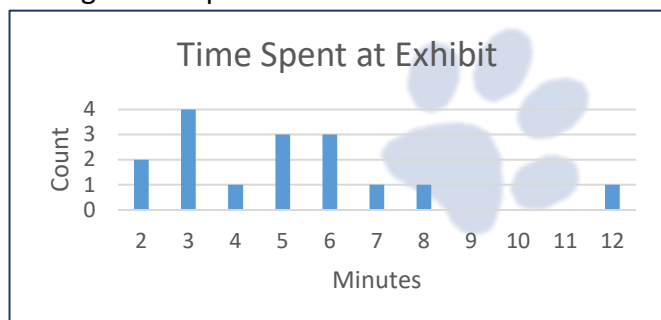
“Look! It’s the NC State wolf!”

“Wolfie, can we snuggle?”

## Observation Results

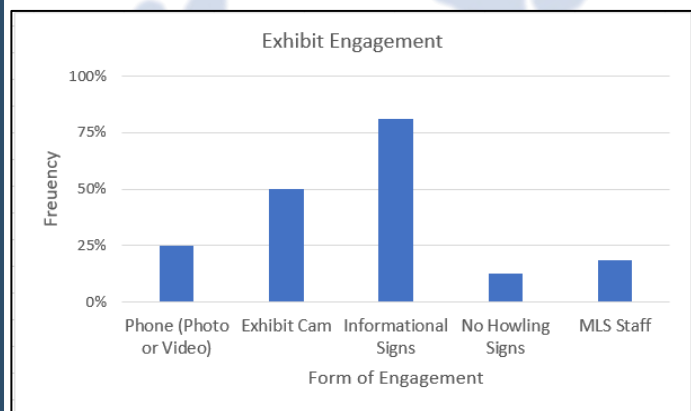
From the manual thematic coding of **sixteen observation events**, some general trends and statistics could be drawn. Below are highlighted findings:

Total Observed: 67 (Adults: 32, Children: 35)  
Average Time Spent at Exhibit: 5 minutes



Commonly observed behavior for observing wolves: Pointing (11), Lifting Child (7), and Positioning (5)

Most successful museum tools of engagement:



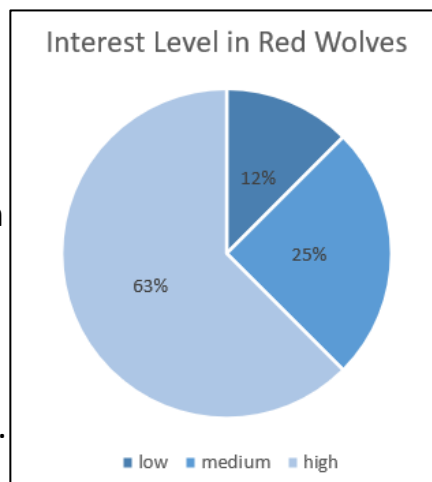
- Of all exhibit features, **the fur and skull samples** attracted the most attention.
- Visitors were most excited when wolves displayed “interesting” behavior, such as: **fighting, running, or vocalizing.**
- **Proximity of the wolves** when they approached the front of the exhibit generated the highest levels of excitement from both adults and children.

## Most Common Questions:

1. Hypothesis Building (37.5%)  
*Creating hypotheses about the wolves: i.e. “I think they are playing.”*
2. Where are they? (25%)

Most visitors posed one or many questions, and they covered a broad range.

Almost half of all groups had parents using exhibit tools to teach their children (especially for children who appeared unable to read).



Level of engagement based on physical and verbal cues.

## Results and Recommendations:

### Literature Comparison

Most literature on perceptions of red wolves in North Carolina (and wolves generally in the United States) agrees with our observations that most people *like* red wolves and *support* conservation efforts.

Perceptions in the literature that we did not observe include a) concerns about the safety of livestock, pets, or children, b) opposition from hunting communities viewing wolves as competition for prey, c) cultural perceptions of wolves as sinful, murderous, deceitful, or evil. In the interviews, however, we did encounter concerns about general safety and fear of wolves consistent with the literature:

- "In the wild? Since I don't know much about them, I'd probably be a bit scared, but I'd probably just try to stay as far away as I could."
- "Well, I mean, if it was way out in the distance, I think I would be fine if I was around other people, cause I know they're not going to attack like a bunch of people, but if I saw them a little bit close when I was alone or with just one other person, I think I would be a little nervous."
- "I think I would be a little scared."

### Recommendations

#### 1. New interactive exhibit piece:

*Survey visitors about what they would most like to see: binocular stand (for increased feelings of **proximity**, linked to excitement), paw print comparison of red wolf, grey wolf, and dog (many visitors **compare** them to their pet at home).*

#### 2. A docent or volunteer:

*Someone present during busy times or community/school days to answer questions and engage visitors with additional materials.*

#### 3. More information about wild behavior:

*Interviewees expressed wanting to know what it would be like to encounter a red wolf in the wild. How would a red wolf behave if encountered?*



Figure 5. One of the red wolves at the Museum of Life and Science, Durham, NC. Photo by Katie Taylor.

### Acknowledgements:

Thank you to the Museum of Life and Sciences for allowing us to visit and conduct our study. Special thanks to Michele Kloda for working with us and accompanying us at the exhibit. Thank you to Jenna Gant and the rest of the museum staff that met with us to discuss our collective goals. Thanks to Professor Xavier Basurto for being my certificate advisor and providing feedback. And thank you to Professor Charlotte Clark for being an invaluable resource for this project, course, and certificate program. Extended thanks to the Sustainability Engagement Certificate team and all those who helped me along the way!



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