

Alligator and Human Interactions

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Internship Project

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Introduction

The American Alligator inhabits areas along the southeast coast of the United States, including North Carolina, South Carolina, Georgia, Florida, Louisiana, Alabama, and Texas. The species prefers freshwater and inhabits swamps and rivers, but they can tolerate saltwater for short periods at a time and have been found in lagoons and tidal pools. The species was listed as endangered via the Endangered Species Act in 1967 but has since been delisted due to recovering with the help of alligator farms and ranching (Fish and Wildlife Services, 2021). Every area has a different attitude towards the apex predator and each state has varying regulations to protect them. Most states allow hunting of alligators if the hunter has a permit, but methods of harvest, where they can be hunted, and how many can be harvested varies by state. As of 2021, there were an estimated 3-4 million juvenile and adult alligators throughout the country, meaning that human and alligator interactions are inevitable with both populations continuing to increase. Many of the articles the public sees regarding alligators are to report recent attacks or tips on how to protect oneself from this species that is deemed to be dangerous. In the eyes of the public, alligators are often portrayed as terrifying, dangerous monsters based on general attitudes towards the species, but that is not completely accurate. The human dimensions of wildlife addresses how we view different species and what value we put on them (Waldhorn, 2019). Waldhorn explains that due to current mindsets in humans, animals that have the ability to harm us, such as alligators, automatically cause feelings of fear and hostility in our minds and are viewed negatively (2019). Although the species can be dangerous, just like any other predator, if the public is educated about them and continues to respect the species, mindset could improve and be less fearful and conflict could potentially decrease.

There has been an abundance of literature written regarding alligator attacks, population surveys, and regulations. Many of these studies have been done in Florida due to the state having the largest alligator population in the United States. Wolf et al (2014) examined various cases of alligator attacks in Florida, determining the cause of death and reasons why the attack occurred. Often it is due to swimming in areas where alligators have a known presence and alligators becoming desensitized to humans (Wolf et al, 2014). There is a gap in the literature regarding people's attitudes towards alligators, especially in areas outside of Florida. That gap was what led to this research project.

To better gauge attitudes towards alligators, a Google Forms survey was created to have resort guests and other individuals take. This survey will help researchers to better understand what factors may influence comfort levels towards alligators. The two predictions for this project are:

1. People who live in places where alligators are not native will have more negative, fearful attitudes towards alligators
2. People with less knowledge about alligators will be less comfortable with alligators

The hypothesis that will be proven or disproven by this project is that living around alligators increases someone's knowledge of them and that increase in someone's knowledge about alligators will make them more comfortable with the species. The survey will help to see if these relationships are accurate or inaccurate. If they are inaccurate, we can further examine the relationships to see what factors may influence one another. By figuring this out, protection agencies can learn how to properly protect alligators and humans when living together.

Methods

The marketing department created the QR codes that were utilized throughout the research project in order to gain guests responses. The QR code/survey was titled Alligator/Human Interactions. The survey was created via Google Forms with ten questions to gauge attitudes towards alligators. One QR code was posted on the alligator enclosure at the Activity Center, one by the cash register in the Activity Center, and one was taken with to different programs like Meet the Animal and Gator Walk. People would gather around the ponds where alligators live, and the naturalist staff would go to help control the crowd. When that was done, a QR code was taken with to request that people fill out the survey. The QR code was shared on social media to obtain more responses from people in various states as well.

The survey contained eleven questions in total, with eight being required and three being optional. The required questions included: what state/country are you from, how old are you, have you ever seen an alligator in the wild, on a scale from 1 to 10, how comfortable are you around alligators, on a scale from 1 to 10, how interested are you in alligators, would the size of the alligator influence your comfort level, and how much do you feel like you know about alligators. The optional questions included: why would size influence your comfort level, where did you find the QR code, and what else would you like to see in the community involving alligators. Collectively, these eleven questions helped to gauge attitudes and what factors may influence their responses.

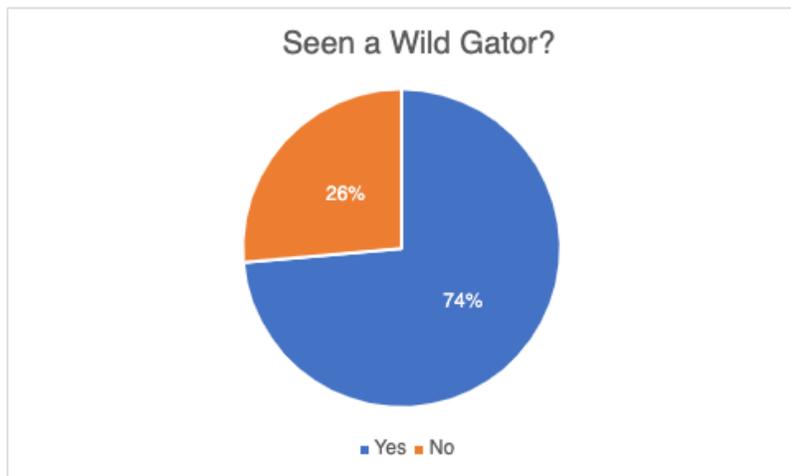
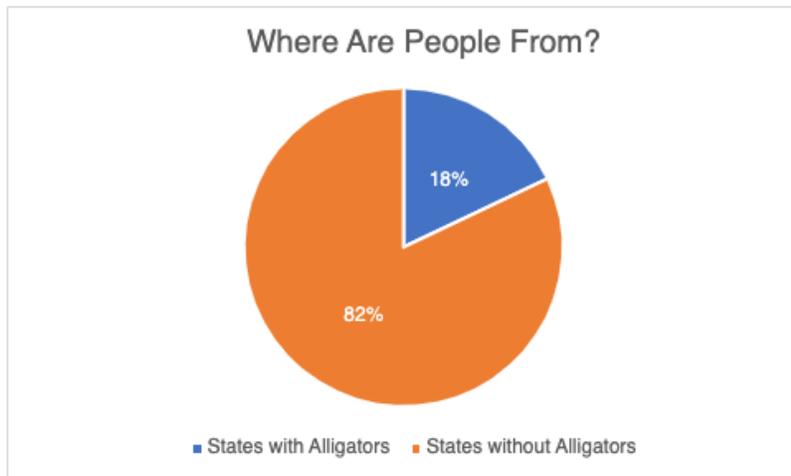
To track the survey results, a Google Sheets spreadsheet was created to transfer the responses from Google Form and create an organized way to view it. The sheet was coded to highlight different responses to be able to see any trends immediately. The age question was split into five ranges, the states with alligators were highlighted in green, and the questions that were on a scale of one to ten had a blue to orange scale change. The results were exported to Excel Spreadsheets and graphs were created using that program.

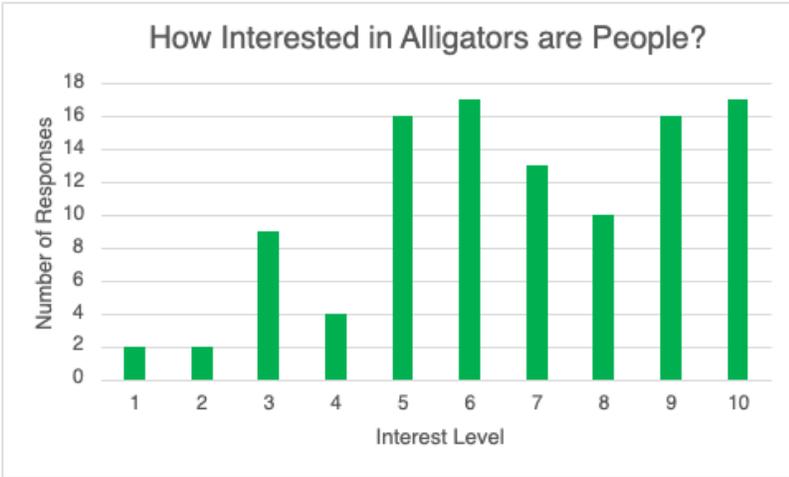
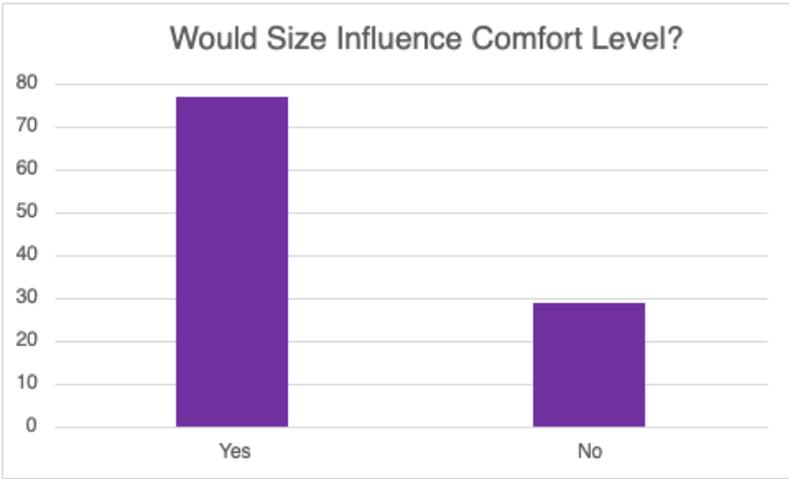
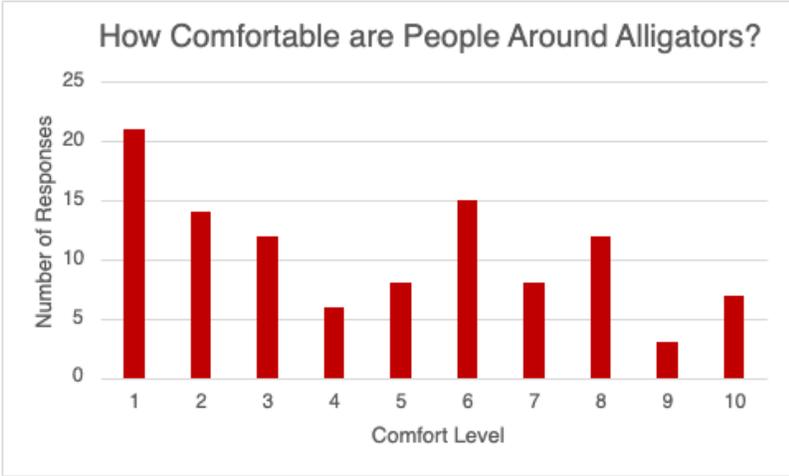
Results

The survey resulted in 106 responses gathered from the QR codes posted by the alligator enclosure, shown on the alligator walk, and shared on social media. Of the 106 replies, 19 were from people who live in states where alligators live and 87 were from people who live in states where alligators do not live in the wild. When asked how comfortable people are around alligators, with one being very uncomfortable and ten being very comfortable, 33% of people chose one to two, 17% chose three-four, 21.7% chose five to six, 18.9% chose seven to eight, and 9.4% chose nine to ten. This question was split and had comfort levels of one, two, and six being the most popular answers while nine, four, and ten were the least popular. When asked about interest level, 84% of the respondents chose five or higher, showing that the participants have a high interest in the species. The highest chosen numbers between one and ten were ten and six, both earning 17 votes. The votes were quite the opposite for knowledge level with 71.5% of respondents choosing levels one through five, meaning they do not know much about the species. 73.6% of participants have seen a wild gator while only 26.4% had not seen a wild gator at the time of the survey. To dig a little deeper into the comfort level, the survey asked if size would influence someone's comfort level, assuming they would be more comfortable with smaller

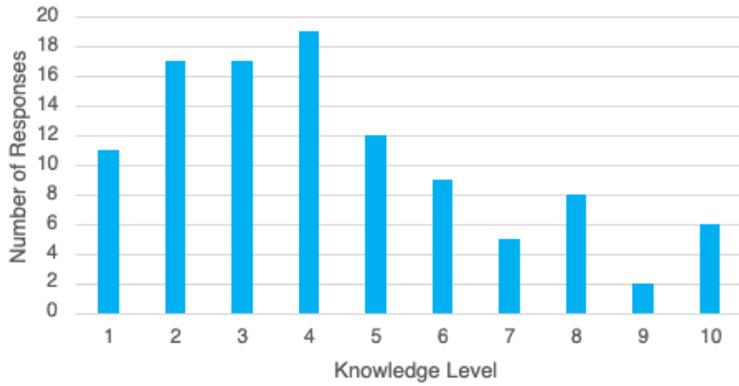
alligators and less comfortable with larger alligators, 72.6% of respondents claimed that size would influence their comfort level and only 27.4% said it would not. When asked why they felt this way, the majority of replies stated that bigger alligators are more dangerous and could cause more injuries/problems. The survey also asked about the age ranges of the respondents, seven were 17 or under, 18 were 18-25, 26 were 26-40, 47 were 41-60, and 8 were 61+. The final question of the survey asked what else the participants would like to see in the community involving alligators and some of the responses included more education about coexisting, why alligators may have been pushed into developed areas, how to handle a situation when an alligator is present, and increased protection for wild populations.

Below are the graphs representing the responses received from the survey.

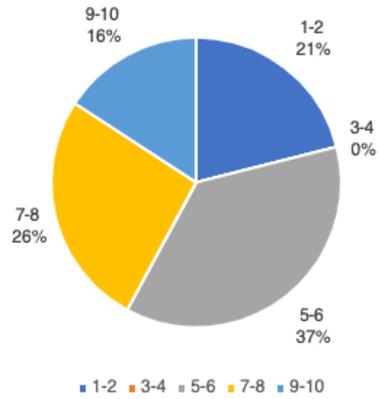




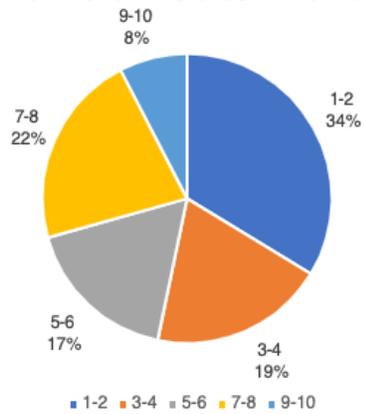
How Much Do People Know About Alligators?

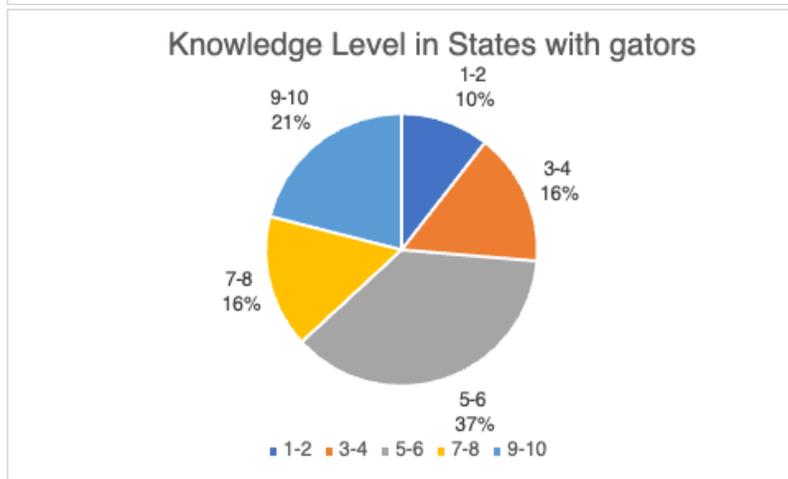
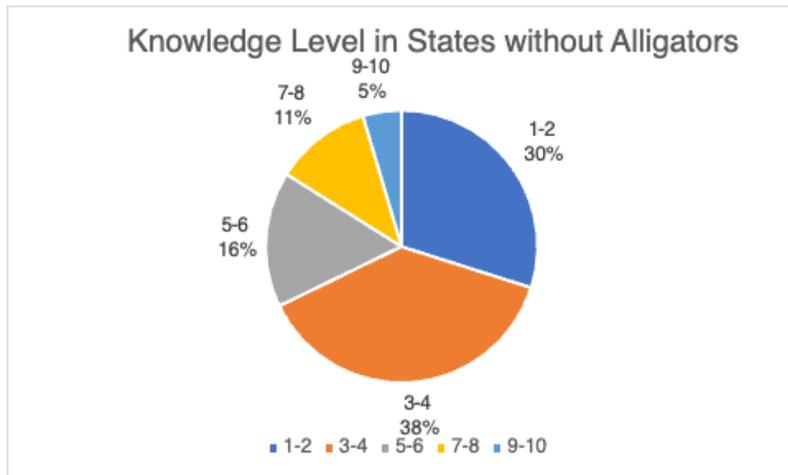


Comfort Level in States with Alligators



Comfort Level in States without alligators





Discussion

When examining the results, there were a few trends that stood out. A lot of people have an interest in alligators but do not know much about them. This could have influenced comfort levels, although the responses to that question were fairly spread out. To examine comfort levels a bit closer, it was important to look at the answers broken down based on where someone was from. 70% of respondents from states without alligators had a comfort level between one and six, with only 30% of respondents having a comfort level from seven to ten. In contrast, 58% of participants from states with alligators had a comfort level of one to six and 42% of participants had a comfort level of seven to ten. People who have been around alligators throughout their lives appear to be more comfortable with the thought of them. This may come from the fact that they know more about the species, the more one knows about a species, the more comfortable they are around them usually. 74% of people who live in states with alligators claimed a knowledge level of five to ten and only 26% of people claimed a knowledge level of one to four. In contrast, 68% of people from states without alligators claimed a knowledge level of one to four and only 32% chose a knowledge level of five to ten. This supports the theory that the more one knows about something, the more comfortable one is around that species and living around the species increases knowledge level.

The results stated above support the hypothesis made in the introduction. People who live in areas where alligators are native are more comfortable with them than people who live in places where alligators are not native. The data also shows that people who have less knowledge of alligators are less comfortable with the species than people who have more knowledge. Since people with a higher knowledge level of alligators are more comfortable with them, this suggests that increasing community education and outreach involving alligators could be beneficial for humans and alligators to co-exist. When asked what people would like to see in the community involving alligators, some comments were: “more insights on how to coexist with them safely”, “awareness to not feed them or abuse them”, and “awareness on how to spot them, their importance in the ecosystem, and more signage emphasizing leaving them alone!” These comments can provide future directions for how to educate the public about alligators and potentially live more peacefully.

A few issues with this research project’s process included people not scanning the code unless specifically asked to. A couple reasons for this may have been placement of the code, not enough promotion of what it was for, or people not wanting to fill it out. There were also a few times that it was not taken to programs so it could not be scanned to fill it out, it would be mentioned that there was one at the Activity Center for them to fill out but by the time they got back there, it would not be on their mind anymore. By sharing it on social media, most of the people that saw it were from areas where alligators do not live naturally based on my friends on the platform, so this increased my number of responses from landlocked states instead of coastal states. Some of the responses were more playful than serious so that could skew the results as well. That issue is a hard one to weed out unless responses are omitted, but that leads to an issue of excluding data.

To continue this project in the future, I would suggest placing more QR codes around the area being surveyed. If the QR codes were made bigger and with more of an explanation of what it is for, people may be more likely to see it/be interested in it. Changing the title of the survey may help get responses from people who do not have a major interest in alligators. Currently it is titled Alligator/Human Interaction so people who do not like alligators may just look past it. These minor changes may help the researchers to obtain more responses.

Conclusion

This research project provided great insight into attitudes towards alligators. It was interesting to be able to see how comfort levels, knowledge levels, and interest levels varied based on where participants were from and what some people would like to see in the community. Knowledge levels were tied closely to comfort levels, but interest levels did not necessarily influence comfort or knowledge levels. In the future, outreach and education programs regarding alligators could be very beneficial to increase knowledge and comfort. These programs could be beneficial for people who live in areas with alligators or people who vacation in places where they are commonly seen, such as Fripp Island. Continuing this research study could provide helpful information for the resort or other organizations that work around alligators. It would be interesting to see how comfort, knowledge, and interest levels change over time once the programs are implemented. As human populations grow and expand more and more into areas where alligators exist, interactions will continue to increase as well. Knowing how to properly interact with alligators and being comfortable with them around could greatly alter how communities’ function in day-to-day life.

Citations

Fish and Wildlife Services (2021, January 21). Endangered and threatened wildlife and plants; regulations pertaining to the american alligator (*Alligator mississippiensis*). [https://www.federalregister.gov/documents/2021/01/19/2021-01012/endangered-and-threatened-wildlife-and-plants-regulations-pertaining-to-the-american-alligator#:~:text=The%20American%20alligator%20first%20received,\(Act%2C%20ESA\)](https://www.federalregister.gov/documents/2021/01/19/2021-01012/endangered-and-threatened-wildlife-and-plants-regulations-pertaining-to-the-american-alligator#:~:text=The%20American%20alligator%20first%20received,(Act%2C%20ESA))).

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Wolf, B. C. & Harding, B. E. (2014, January). Fatalities due to indigenous and exotic species in Florida. *Journal of Forensic Sciences*, 59(1), 155-160. <https://doi.org/10.1111/1556-4029.12261>