



Understanding Local Bahamians' Knowledge and Attitudes towards Sea Turtles and Sea Turtle Conservation

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RESEARCH EDUCATION OUTREACH

Introduction

Sea turtles in The Bahamas have been overfished and their habitats are being destroyed due to human development that dredges out mangroves and creeks. Sea turtles are important because:

- Sea turtle grazing promotes healthy growth of sea grass
- Sea turtles are considered a keystone species (Eckert & Hemphill, 2005)

There are seven types of sea turtles found across the world, and four are mainly found in The Bahamas: Loggerhead, leatherback, green turtle and hawksbill.

- Green sea turtles are the most common
- They flock here to feed on sea grass and to mature in the shallow waters.

All sea turtle species in The Bahamaas are endangered or critically endangered

- In the past 600 years, the overall population of green sea turtles has depleted by 93%-97% (Bjorndal et al., 2005)

In 2009, The Bahamas placed a Bahamas-wide ban on the harvesting of sea turtles



Figure 1: A green sea turtle swims in the water

Community-Based Conservation

- Past studies have shown that by involving the community in conservation movements, conservation programs have a greater chance of being successful (Campbell, Godfrey, & Drif 2008).



Figure 2: A student hands a consent form to the interviewee to agree to the specifics of the interview

- By better understanding the knowledge and attitudes of locals towards sea turtles, getting the community involved and educating the community on conservation issues and projects, locals feel more empowered, and therefore more inclined to be involved in changes surrounding their community.

Purpose & Objectives

Purpose:

- Gain information regarding local Bahamians' knowledge and attitudes towards sea turtles in Eleuthera

Objectives:

- Understand locals' knowledge and attitudes towards sea turtles and the 2009 ban
- Assess differences across varying demographics
- Identify the relationship between sea turtle abundance and local sightings



Figure 3: A green turtle here in South Eleuthera

Study Sites

Table 1: Number of interviews in each of the study sites in South Eleuthera.

Study Site	Number Of Interviews
Davis Harbor	3
Deep Creek	9
Green Castle	3
Island School	19
Marina	3
Rock Sound	14
Tarpum Bay	10
Waterford	3
Wemyss Bight	5

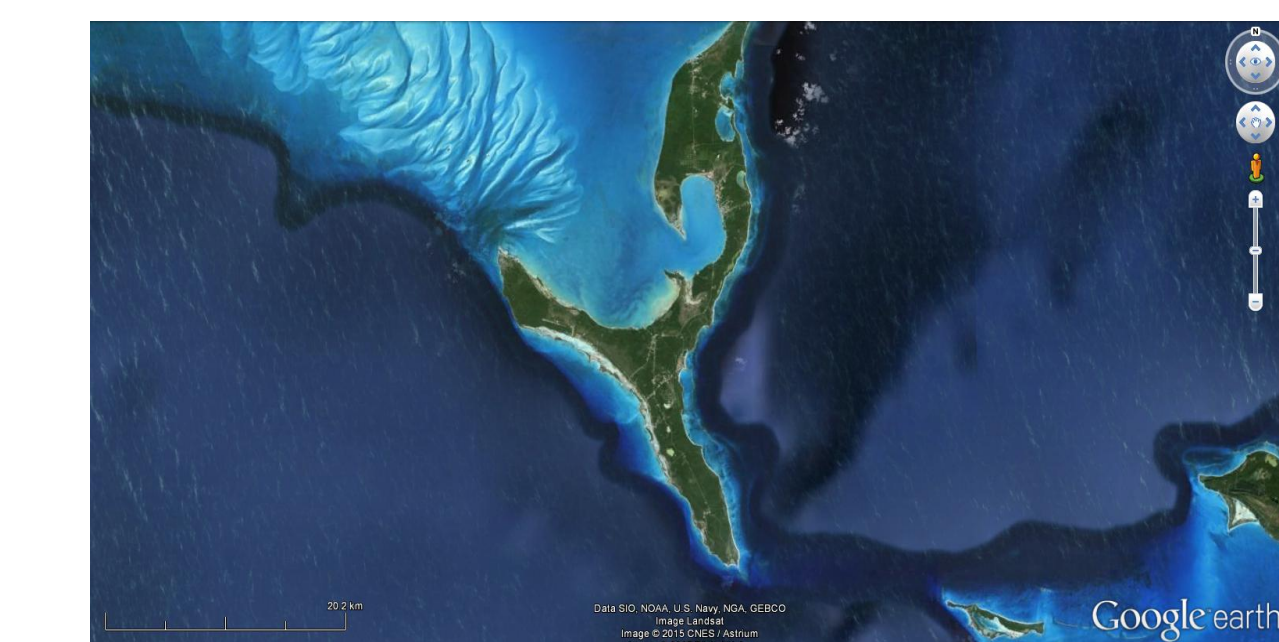


Figure 4: A map of South Eleuthera

Interviews were conducted in South Eleuthera (Figure 4), which has close interactions with marine life and ecosystems. This is a stepping stone for future research concerning the knowledge and attitudes of sea turtles of the greater family islands in The Bahamas.

Methods

Interviews

- Semi-formal interviews
- 12 questions of both open ended, and yes/no type questions
- For this study, the sample population was 69 interviewees within 9 settlements throughout South Eleuthera (Figure 7)
- Qualitative and quantitative data has been collected



Figure 6: A student interviews a community member

Example Questions

"Have you seen a sea turtle in the Bahamas? If so, where have you seen a sea turtle?"

"Please tell me what you know about sea turtle conservation in The Bahamas."

"What is your opinion of the Bahamas-wide ban on the harvest of sea turtles?"



Figure 5: A student writes down the interviewee's responses

Abundance Surveys

- These abundance surveys were in correspondence with the sea turtle program at The Cape Eleuthera Institute
- These surveys took place in mangrove creeks throughout South Eleuthera
- Each survey lasted 30 minutes long and each sea turtle spotted was marked using GPS tracking
- The purpose of the abundance surveys was to see if there was any relationship between where the interviewees had seen sea turtles and how many turtles are spotted during these abundance surveys

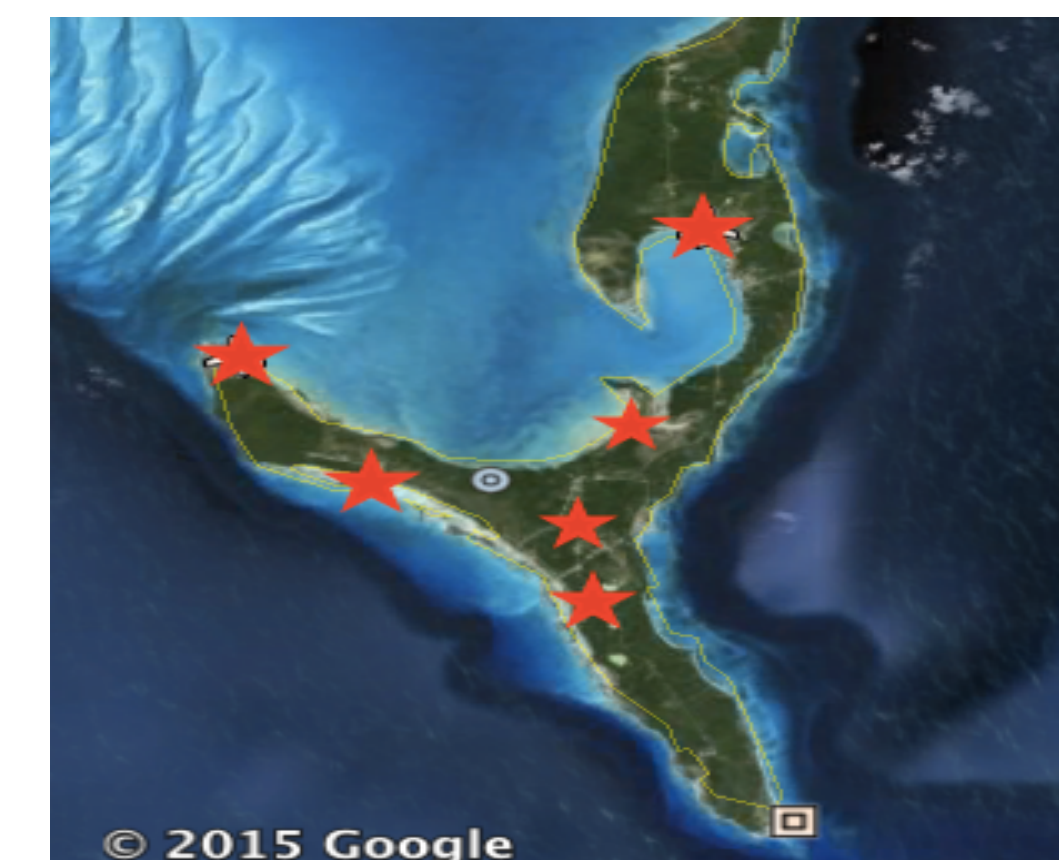


Figure 7: A map of interview locations throughout South Eleuthera

Results

In this study, there were a total of 69 interviews conducted. 14 interviewees were female, 55 were male. Interviews were conducted in a total of 9 study site locations in South Eleuthera, The Bahamas. Throughout the interviewing process, the Likert Scale was used to quantify this data.

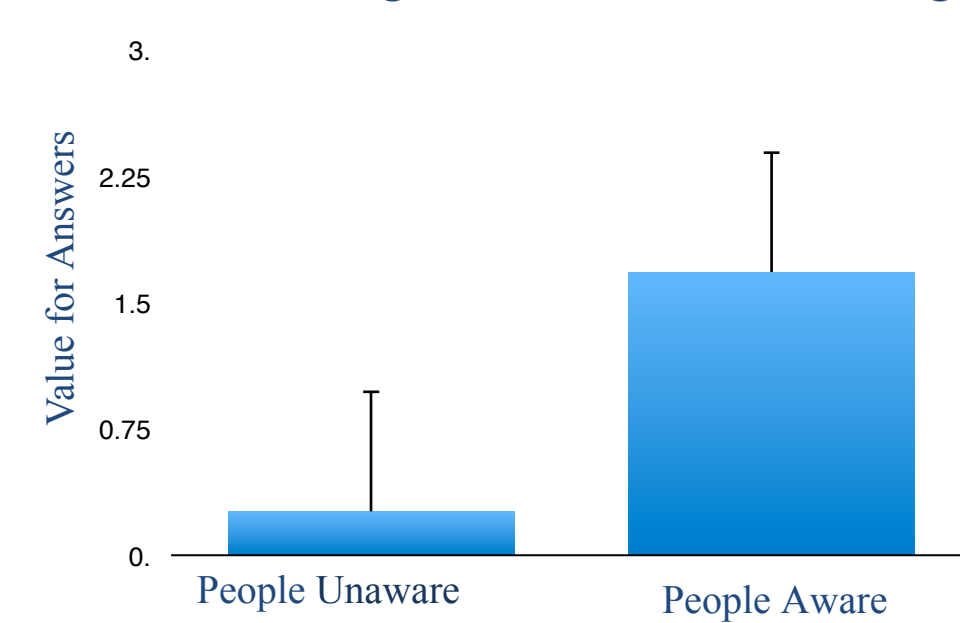


Figure 8: This graph shows that interviewees aware of the ban were more inclined to recognize a shift in abundance trends since the ban was implemented. (Increase=3, Decrease=2, No Change=1, Not sure=0).

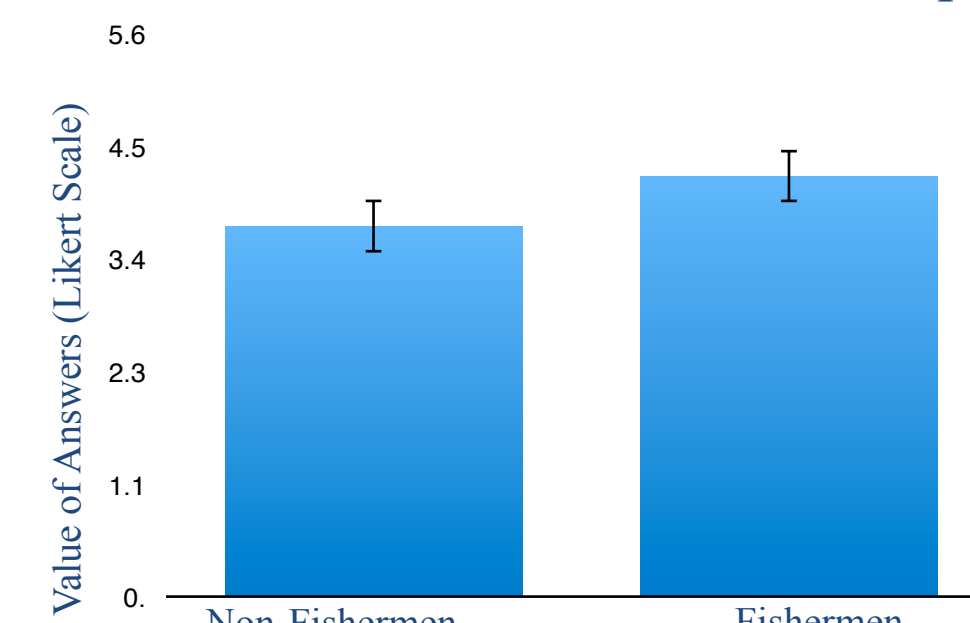


Figure 9: This graph shows fishermen and non-fishermen interviewed both on average agreed that the 2009 ban was having a healthy impact on marine ecosystems. (SA=5, A=4, N=3, D=2, SD=1).

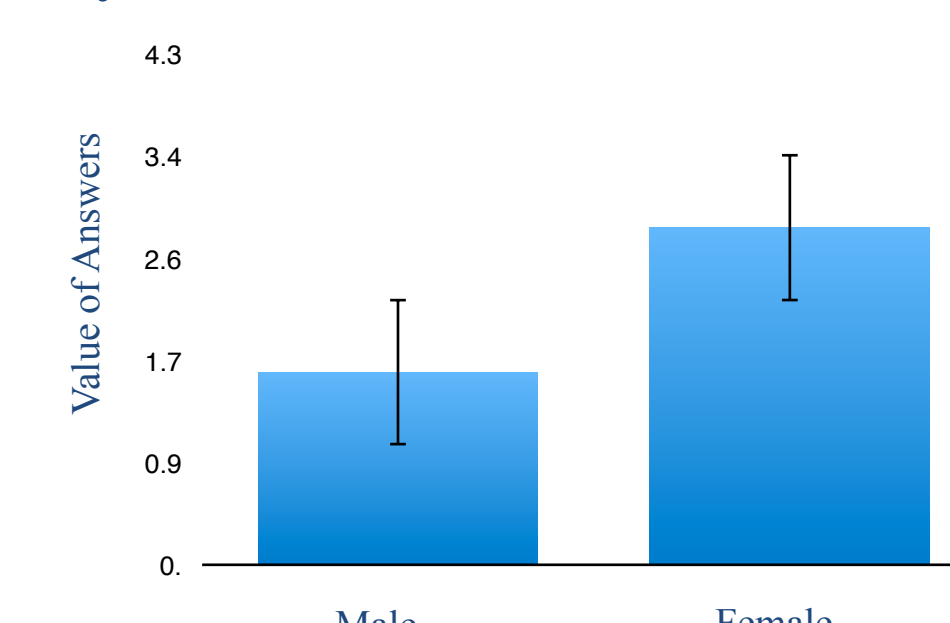


Figure 10: Out of the 14 women interviewed, on average, they believed that it was more important to protect sea turtles than the men interviewed. (Yes=1, No=0).

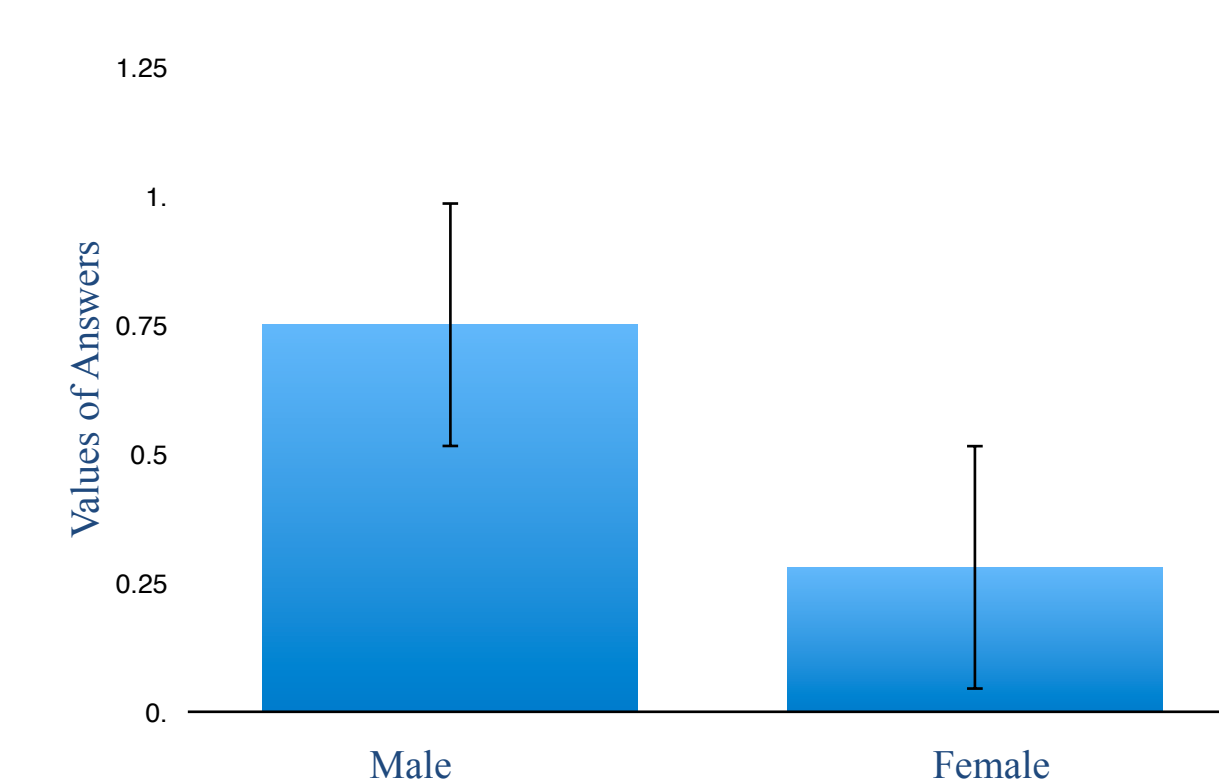


Figure 11: This graph shows that on average, there were more male interviewees who were aware of the ban than female interviewees, however, over 50% of both male and female interviewees had heard of the ban. (Yes=1, No=0).

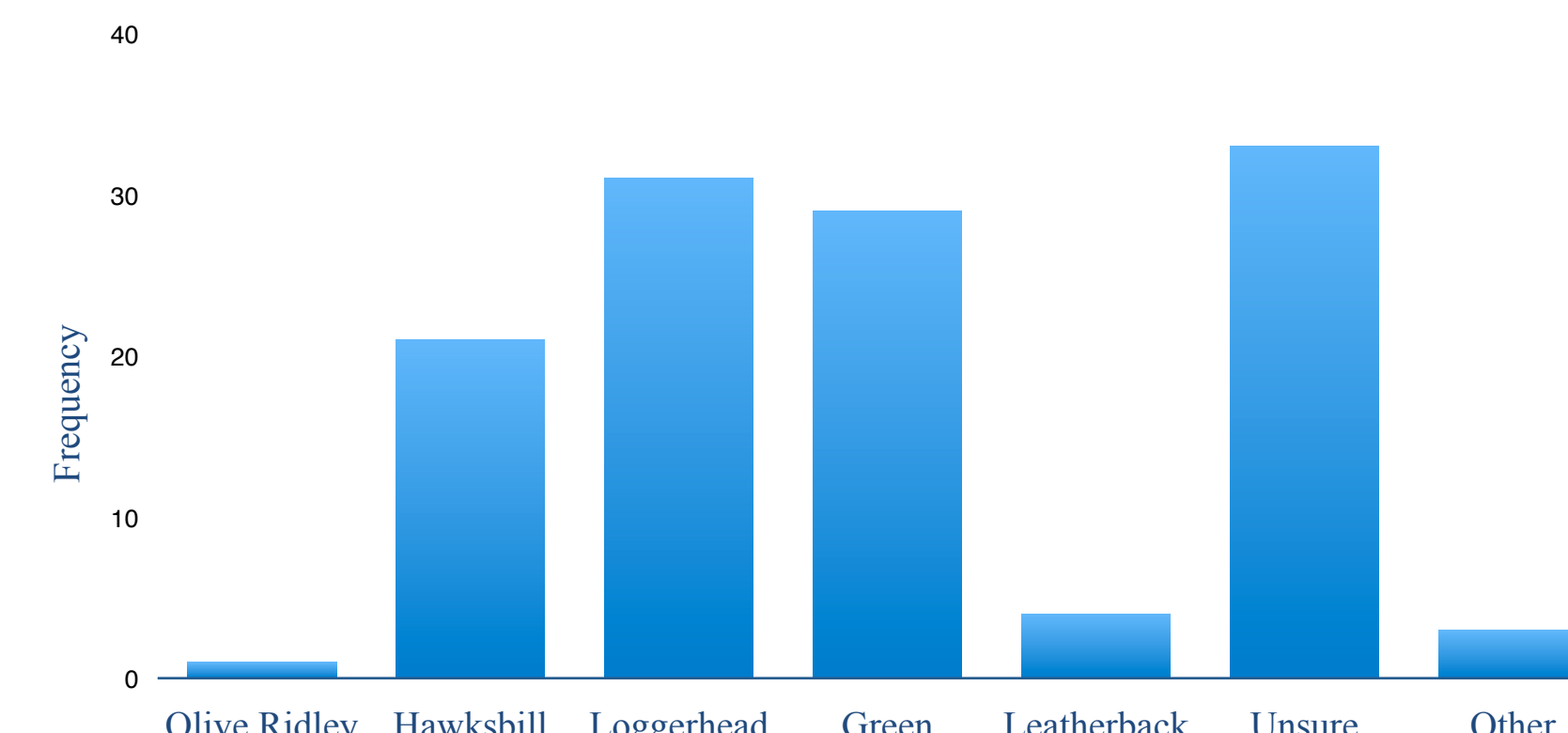


Figure 12: This graph shows that the many interviewees could name the most common species of sea turtles, but that there were many interviewees who were unsure of the species of sea turtles present in The Bahamas.

Interviewee Quotes

- As stated by a chemist from Tarpum Bay, the sea turtles found in The Bahamas are: "I think. Loggerhead, green, and I forget the name of the other that's really endangered."
- According to a male construction worker from Tarpum Bay regarding the 2009 ban, "I understand the government has some control on it, we could put bans on all sorts of things. When you looking, it becomes scarce, you can't find them no more."
- An interviewee from Rainbow Bay stated, "There definitely was a point where in 5-6 years, I did not see a turtle. Even in Andros, there was a turtle that went out under the bridge. 5 years ago, you wouldn't see that... I definitely have seen an increase. I don't know if it's just here because they have a dense population of everything (meaning South Eleuthera)."
- Regarding sea turtle conservation in The Bahamas, a female responded "Not sure", whereas a male responded "People don't harvest them like that but if someone catches them they might sell it. Or they ain't allowed to catch them like that. People used to dive for them."



Figure 13: Two students observe and interview in Deep Creek



Figure 14: Students record an interview in Rock Sound

Discussion

- More people that were aware of the ban saw an increase in amount of turtles than those unaware of the ban because they were more cognoscente of sea turtle population. Additionally, a possible source of error could be that the interviewees were influenced in answering that there was an increase because of a fear of being ignorant (Figure 8).
- Occupation was not a contributing factor to determine whether or not the ban contributed to healthy marine ecosystems. This alludes to the fact that overall education is needed (Figure 9).
- There are many interviewees that are still unsure on the species of sea turtle that resides in The Bahamas. Therefore, there is a greater need for education on sea turtle species (Figure 12).
- More men were aware of the ban than women because overall, more men are fishermen, therefore, directly impacted by the ban (Figure 11).
- More females were interested in protecting sea turtles because research has shown that women have been more interested and invested in community based conservation (Mehta and Heinen, 2001) (Figure 10).



Figure 15: A green sea turtle swiftly moves through the creek

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Citations
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