

Final Evaluation Report

Your Details	
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Project Title	Conservation of the Critically Endangered Hammerhead Sharks in Ghana
Application ID	39801-1
Date of this Report	August, 2024

1. Indicate the level of achievement of the project's original objectives and include any relevant comments on factors affecting this.

Objective	Not achieved	Partially achieved	Fully achieved	Comments
Generate data for Conservation Management.				<p>Extensive landing and market surveys were successfully conducted to generate key data on the population trends, catch characteristics and trade dynamics of Hammerhead sharks. Also, Historical trends, catch abundance were also assessed.</p> <p>Data accrued revealed the presence of the scalloped hammerhead, Great Hammerhead, and other endangered sharks. The landings population of the other shark species were much higher than that of the hammerheads.</p>
Promote positive Behaviour Change				<p>All proposed activities to raise awareness for the conservation of the hammerhead sharks were successfully executed. Diverse stakeholder meetings, schools' outreaches, and community engagement activities were organized.</p> <p>Educational activities were conducted in the major shark fishing communities: namely Ahwiam and Azizanya. Major stakeholders including the Fishmongers Association, Fishers Organizations, and Traditional Councils of both communities pledge their support to the long-term conservation of the hammerhead sharks and other endangered sharks, which occur along their Coastline.</p>

<p>Establish Conservation Hotspots.</p>				<p>Distribution assessment conducted, showed that the species are captured miles from the shores of the Ada-East coastline. Though distances and potential home-ranges of the species are determined, the exact geo-spatial locations of capture were not revealed by the fishermen.</p> <p>Without this information, it not possible to establish conservation hotspots. However, this baseline information is crucial for the identification, delineation, and protection of hammerhead shark hotspots.</p>
<p>Organize and facilitate Stakeholder forum and trainings</p>				<p>Stakeholder forums were organized to raise awareness on the plight and conservation of elasmobranchs. In addition, stakeholders were trained in shark by-catch release protocols. Furthermore, indigenous conservation strategies were solicited from the stakeholders to develop the Hammerhead Conservation Action Plan.</p>

2. Describe the three most important outcomes of your project.

a) Catch abundance and species diversity

The catch abundance of the hammerhead sharks was characterized into four qualitative categories (abundant, common, depleted, and severely depleted) for each period – 1980s, 1990s and 2020s. From the 100 experienced fishers interviewed to investigate the decadal changes in abundance of the species, 83% indicated the hammerhead sharks were more abundant in the 1980's, 70 % indicated the species were abundant in the 1990'S and only 3% indicated that the species were abundant in the 2000's. Findings showed a decreasing trend in species abundance over the

decades. These findings were also evident during the landings data collection; only three landings of the hammerhead sharks were recorded.

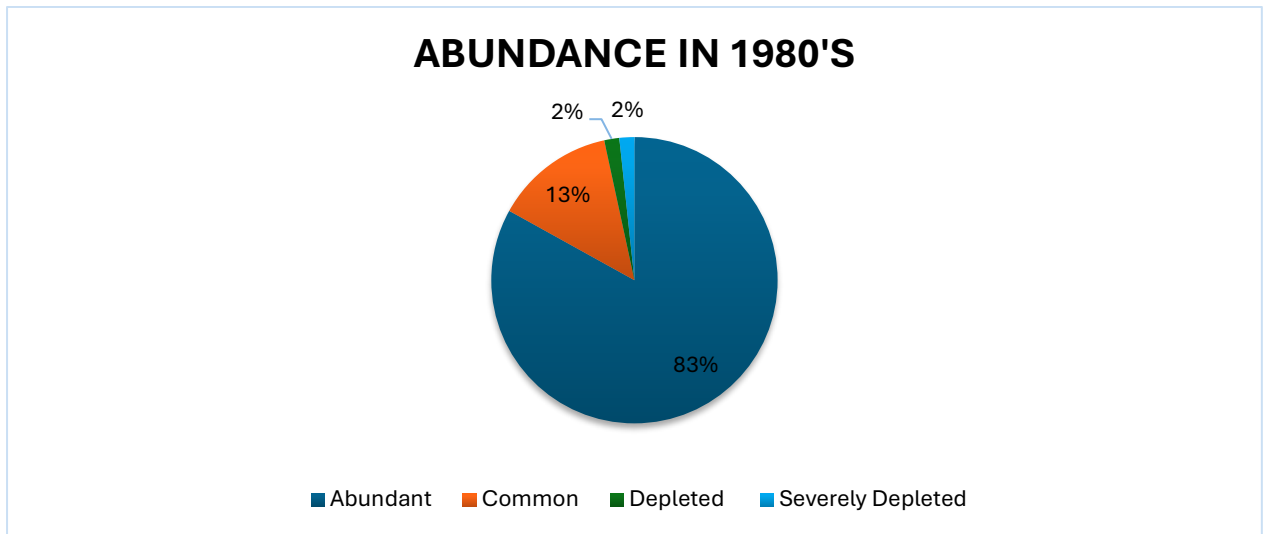


Figure 1: Hammerhead Sharks abundance in the 1980's along the Eastern Coastline of Ghana.

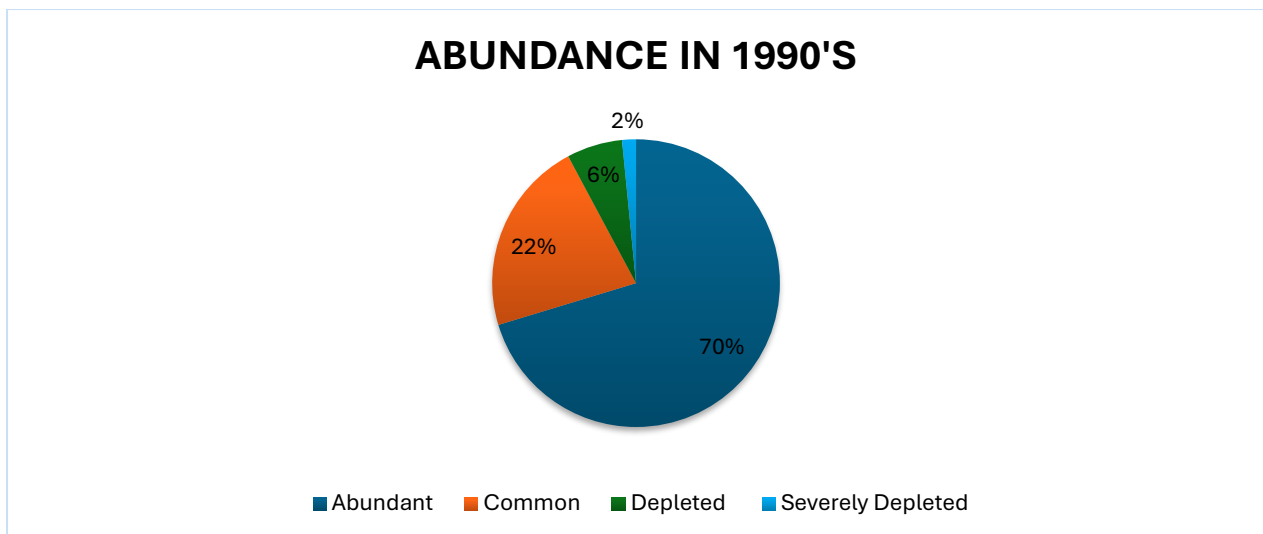


Figure 2: Hammerhead Sharks abundance in the 1990's along the Eastern Coastline of Ghana.

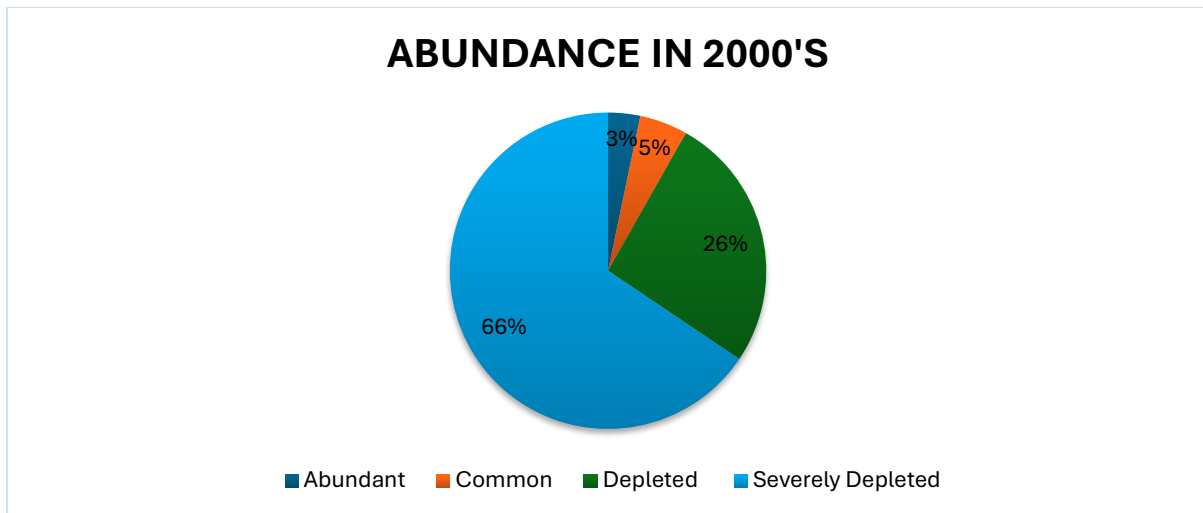


Figure 3: Hammerhead Sharks abundance in the 2000's along the Eastern Coastline of Ghana.

Additionally, the data collected through landing and market surveys revealed an impressive variety of shark species along the Ada-East Coastline. Specifically, eight distinct species of sharks were documented. These species include the Scalloped Hammerhead Shark, Blue Shark, Milk Shark, Mako Shark, Common Thresher Shark, Sand Tiger Shark, Bull Shark, and Spinner Shark. According to the International Union for Conservation of Nature (IUCN) Red List, all these species are classified as threatened, with their global populations experiencing a continuous decline.

During the project's monitoring period, a total of 147 sharks were recorded, with an average weekly landing of 9.2 sharks. Among these, the Blue Shark, Spinner Shark, and Milk Shark were the most frequently encountered species. Conversely, the Scalloped Hammerhead, Sand Tiger Shark, Common Thresher Shark, Bull Shark, and Mako Shark were recorded in lower numbers. This remarkable diversity of elasmobranchs indicates that the coastline provides suitable habitats and ample food resources necessary for supporting the survival and life cycles of various shark species. This data establishes a solid baseline for evaluating the ecological significance of the Ada-East Coastline to the existing elasmobranch community and other marine organisms.

However, the surveys also uncovered significant issues related to shark exploitation. Sharks are being captured without regard to fishing regulations, either through targeted fishing efforts or as by-catch. The high market value of sharks has driven unregulated exploitation to unprecedented levels, posing a severe threat to the elasmobranch population. If these practices are not addressed, they could lead to catastrophic declines and potential extinction of these species. Additionally, there is a strong local demand for shark meat, as each species is used in various traditional dishes prepared for households and communities.



Figure 4: Shark landings at the project sites



Figure 5: (a) smoked sharks meat (b) Salted sharks meat at the project sites

b) Reduced by-catch mortality and increased conservation action

Historically, shark conservation initiatives have been absent along the Dangme Coastline. However, the recent project dedicated to hammerhead shark conservation was met with enthusiastic support from local communities. The people of these communities quickly grasped the benefits of preserving hammerhead sharks, leading to a positive reception of the project.

The project's implementation significantly raised awareness about the conservation needs of hammerhead sharks. Through targeted conservation education efforts, the ecological importance of these species to both the marine ecosystem and the local

fisheries was effectively communicated. Fishermen, fishmongers, and other community members were captivated by the new information and actively engaged in all related activities aimed at enhancing awareness and understanding.

Training programs on fishing regulations and by-catch release protocols for hammerhead sharks were swiftly adopted by local Fishers Organizations. The community recognized that the extinction of hammerhead sharks and other elasmobranchs could trigger cascading ecological effects, jeopardizing existing fisheries and their own livelihoods. In response, chief fishermen organized meetings to reinforce the importance of adhering to conservation measures and fishing regulations. These meetings emphasized the need to protect hammerhead sharks to ensure the sustainability of fisheries, safeguard their own livelihoods, and enhance overall community welfare.

This newfound commitment to shark conservation represents a significant and profound achievement. The active involvement and support of the local fishing community highlight a promising shift toward more sustainable practices and a greater appreciation for the vital role of hammerhead sharks in the marine environment.



Figure 6: (a) Community conservation awareness creation (b) Focus group discussion



Figure 7: Hammerhead sharks conservation education in local schools

c) Hammerhead sharks conservation Action plan Development

Stakeholder forums played a crucial role in enhancing the adoption of the hammerhead shark conservation initiative within the communities. These forums facilitated a collective commitment from all stakeholders to uphold statutory fishing practices, use legally approved gear, and ensure the safe release of hammerhead sharks that are caught as by-catch. The stakeholders who made this pledge included Fishers Organizations, Fishmongers Associations, the Fisheries Commission, the Wildlife Division, Opinion Leaders, and Traditional Authorities.

The stakeholder forums also served as a pivotal opportunity to develop a comprehensive conservation strategy for hammerhead sharks. This led to the creation of the Hammerhead Shark Conservation Action Plan (HSCAP), which has been documented and is currently undergoing a review process for formal authorization and implementation. Once approved, the HSCAP will provide a structured policy framework designed to regulate and guide hammerhead shark fisheries along the Ada-East Coastline, where the project was conducted.

In addition to guiding local fisheries, the HSCAP aims to ensure the long-term conservation of hammerhead sharks and extend its protective measures to other endangered shark species within the region. This strategic approach will support sustained conservation efforts and promote the resilience of marine ecosystems along the coastline.





Figure 8: Stakeholder workshop

3. Explain any unforeseen difficulties that arose during the project and how these were tackled.

a. Initial Hostilities and Community Assurance

During the initial phase of the project, there was considerable resistance from fishermen and fishmongers. This opposition stemmed from their concerns that the project team was affiliated with a government agency intent on halting shark exploitation and prosecuting individuals involved in illegal fishing practices. The apprehension led to significant hostility towards the project team. However, the situation improved once the Chief Fishermen and Traditional Authorities intervened. They reassured the community that the project's goal was to conserve hammerhead sharks and support the sustainability of the fisheries along the Ada-East coastline, not to enforce legal actions. They clarified that the project team was not associated with any government enforcement agency, thereby alleviating fears and reducing resistance.

b. Challenges in Data Collection and Information Sharing

Due to the initial distrust, fishermen were hesitant to share accurate data regarding the trade dynamics and catch characteristics of sharks. This reluctance was evident until the tensions eased. Once the hostility subsided, the fishermen began to provide valuable insights into the shark species trade, fishing gear used, and fishing practices. However, they remained cautious about disclosing specific information related to catch locations in the sea. Despite this, the team was permitted to record the morphological features of sharks landed at shore and take photographs, which facilitated some level of data collection and contributed to the project's objectives.

c. Delayed Engagement in the HSCAP Development

The development of the Hammerhead Shark Conservation Action Plan (HSCAP) initially faced delays due to the reluctance of Fishers Organizations, Fishmongers Associations, and Traditional Leaders to participate. Their initial hesitation was fuelled by fears that the action plan might undermine their authority and restrict their rights to

exploit sharks, which they relied on for their livelihoods. However, once the project team conducted thorough educational sessions demonstrating the long-term benefits of shark conservation for their own economic sustainability and the health of the marine environment, the stakeholders began to engage more actively. Their involvement increased further when they were assured that the development and implementation of the action plan would be conducted in collaboration with them and with their authorization, ensuring their input and interests were incorporated.

4. Describe the involvement of local communities and how they have benefitted from the project.

The project adopted a comprehensive approach to engage all key groups within the community's structural framework. Awareness creation efforts were meticulously designed to involve the Fishers Organizations, Fishmongers Associations, Traditional Authorities, and Opinion Leaders. Through extensive educational initiatives regarding the plight of hammerhead sharks and their conservation needs, many members from these groups willingly took on the role of educators, spreading the conservation message to other locals, including fishermen, fishmongers, and migrants.

The response from the community was overwhelmingly positive. More than 500 indigenous individuals were reached with the conservation message, and a significant number embraced and advocated for its implementation. This widespread acceptance led to a notable reduction in the exploitation of hammerhead sharks. Training sessions on the ecological importance of the species and the safe release of captured sharks were well-received, contributing to the observed decline in illegal fishing practices.

Additionally, education on the use of appropriate fishing gear and sustainable fishing practices was embraced by local fishers, resulting in improved adherence to fishing regulations. The project's outreach to schools played a crucial role in educating students about the ecological significance of hammerhead sharks. This initiative not only fostered interest in shark conservation among students but also inspired them to advocate for the protection of these species in neighbouring communities engaged in the shark trade.

The collaborative development of the Hammerhead Shark Conservation Action Plan (HSCAP) with local stakeholders has further strengthened the community's commitment to conservation. This inclusive approach has fostered a sense of stewardship among stakeholders, ensuring that all objectives, activities, and anticipated outcomes of the plan are actively pursued. The involvement of these stakeholders in the review and authorization of the action plan has reinforced their dedication to its implementation, ensuring that the conservation goals are met effectively.

5. Are there any plans to continue this work?

Yes, there are plans to continue this work. The next phase will focus on using drone technology to monitor the populations of hammerhead sharks. This will help identify population hotspots along the coastline where these shark species are most found. The collected data will create detailed maps of critical habitats, informing the

establishment of marine protected areas (MPAs) and supporting sustainable fisheries management.

To build on the insights gained from this project, plans are in place to expand the initiative to encompass all the major landing sites across the eastern (Dangme) coastline. Comprehensive data will be gathered on the hammerhead shark fisheries, including aspects of exploitation and the socio-economic dynamics affecting these species. With this wealth of information, a well-defined and actionable conservation plan can be developed for the entire Dangme coastline.

Furthermore, specialized education programs will be created to inspire environmental stewardship among young people.

6. How do you plan to share the results of your work with others?

The results of the project will be disseminated through multiple channels to ensure broad reach and impact. Firstly, we aim to publish two articles in prestigious peer-reviewed journals, including *Regional Studies in Marine Science* and *Marine Biodiversity Records*. To facilitate these publications, we are collaborating with the Department of Fisheries and Watershed Management at Kwame Nkrumah University of Science and Technology.

In addition to academic dissemination, we will share the conservation action plan with key stakeholders. This includes the chief fisherman, the community chief, the Ghana Wildlife Division at Ada, the Ghana Fisheries Commission, the Ada Development Network, and the Fish Traders Association. By engaging these stakeholders, we aim to foster collaboration and support for the implementation of the conservation action plan, ultimately contributing to the preservation of the species.

Through these efforts, we are committed to ensuring that our research advances scientific knowledge and leads to practical, on-the-ground conservation outcomes.

7. Looking ahead, what do you feel are the important next steps?

To advance the conservation of hammerhead sharks, several key actions are essential. First, the hammerhead conservation plan must be implemented, with careful consideration of the socio-economic needs of local communities. Providing alternative livelihood strategies and incentives will be crucial to ensuring successful implementation.

Additionally, conducting comprehensive surveys is vital. These surveys should focus on understanding the ecological and functional traits of hammerhead sharks, assessing their population sizes, distribution patterns, and migration routes, and identifying key conservation hotspots where these sharks are most vulnerable or where critical habitats are located. The findings from these surveys can be integrated into the national fisheries management framework to align conservation efforts with national policies and regulations, thereby enhancing their effectiveness.

Moreover, extensive awareness campaigns should be launched to engage coastal communities, NGOs, and government agencies in supporting hammerhead shark

conservation. Building broad-based support will be key to protecting these species and their habitats. Finally, all gathered information should be utilized to develop a comprehensive Shark Conservation Action Plan (SCAP) for the entire Dangme Coastline.

8. Did you use The Rufford Foundation logo in any materials produced in relation to this project? Did the Foundation receive any publicity during the course of your work?

Yes, the Rufford Foundation logo was prominently featured in various materials produced for this project. Specifically, the logo was used in the design of t-shirts, educational materials (including banners and fact sheets), and species identification guides utilized during focus group discussions and questionnaire administration. It was also included in PowerPoint slides and the conservation action plan document.

Additionally, the foundation received publicity through radio stations and news reporting agencies. See the link

<https://accessagric.com/fisher-folks-in-ada-sensitised-to-serve-hammerhead-sharks/>

Looking ahead, the Rufford Foundation logo will continue to receive visibility in upcoming social media publications and scientific articles. This ongoing use will further enhance the foundation's publicity and recognition in connection with our project.

9. Provide a full list of all the members of your team and their role in the project.

Tabitha Alimo (Team Leader) – Supervised the assessment of the species trade and historical trend, development of questionnaires, development of training materials, data review, and data analysis. Supervised the identification of shark species, designing of advocacy strategies, and development of action plan. Writing final report and article development.

Bernard Eshun (Project Coordinator) – coordinated questionnaire administration and data collection on catch characteristics and morphological dimensions. Supervised the organization of awareness creation activities, stakeholder forums, training programs, and schools' outreaches. Assisted with report writing and article development.

Ruth Adjokatse (Field Assistant) – Assisted with awareness creation activities including door-to-door education and focus group discussion. Worked as the liaison between the project team and the Fishmongers Associations. Assisted with landing data collection, questionnaire administration, and schools' outreach programs.

Samuel Lomotey (Field Assistant) – Served as liaison between the project team and local stakeholders including the Fishers Organizations, Traditional Authorities, and Opinion Leaders. Aided with the organization of stakeholder forums, training

programs, schools' outreaches. Assisted with the landing data collection and questionnaire administration

10. Any other comments?

The project has generated valuable data that provides a solid foundation for the implementation of urgent initiatives aimed at ensuring the conservation of sharks along the coastline. The initial acceptance and adherence of fishermen to fishing regulations represent a significant milestone. With continued support and engagement, these efforts will be pivotal in further safeguarding the species and their habitat.

We extend our heartfelt gratitude to the Rufford Foundation for its essential fiscal support, which has been the cornerstone of the project's successful execution. The Foundation's contributions have enabled us to achieve our objectives and make meaningful progress in shark conservation.

We also wish to express our deep appreciation to all stakeholders who actively participated in and supported the completion of the project.

The conservation of hammerhead sharks is a priority for the project team. We are committed to promoting and implementing sustainable initiatives to ensure the long-term persistence of these species within the marine ecosystem of Ghana. We look forward to continued collaboration and support to achieve these vital conservation objectives.