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DARWIN INITIATIVE

A Report for

PROJECT ORATSIMBA

Elasmobranch Participatory Monitoring Summary

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April - 2020

1 Introduction and Methodology

Project Oratsimba promotes community-based fisheries management and supports the lobster fishing communities of Elodrato, Itapera and Sainte Luce to establish Locally Managed Marine Areas. Improving the sustainability of these fisheries will secure lobster fishing as a future livelihood in impoverished coastal communities where few alternative livelihoods exist. This will ensure that fishing effort remains mainly targeted at lobsters and in turn help mitigate threats to biodiversity within the wider fishery such as elasmobranchs (rays and sharks). To monitor the extent of elasmobranch fishing (both directly and indirectly as bycatch) the participatory monitoring programme was extended to collect data on elasmobranchs in September 2019. The purpose of this report is to provide a summary of results from the first six months of data collection.

The survey was designed to collect data on species (using photographs), the size of individuals and the prevalence of selling fins using mobile data collection (ODK software). To support the community data collectors in the transition from paper to mobile data collection, Blue Ventures provided a series of training workshops in April 2019 and follow up workshops have been conducted throughout subsequent months. Data collectors conducted the surveys on the landings beach (fig.1) and aimed to conduct 19 surveys per month in line with the lobster participatory monitoring programme. However, the actual number of surveys conducted depended on the weather, phone battery life and skill level of the data collectors. Data was retrieved from phones monthly during office visits as mobile connection in the three communities is unreliable. Where possible, individuals photographed were identified to the lowest taxonomic rank using identification guides.

Figure 1. Community data collector conducting elasmobranch survey using mobile data collection on the Sainte Luce landings beach.

2 Results

A total of 70 surveys have been recorded since September 2019; nine in Elodrato, 45 in Itapera and 18 in Sainte Luce. This represents the number of days where surveys were conducted and saved, however there were also days where surveys were conducted but the data was lost. Despite multiple trainings, confidence and ability in using smartphones remains on an on-going issue. Significant amounts of data (weeks of surveys) were lost on two occasions following accidental factory resets of phones. Issues with using the ODK Collect application included; not saving the survey form following completion, completing multiple forms for the same survey and not completing the survey form properly. Issues with phone battery life (access to electricity in the three communities is limited and mainly solar) were also encountered and this impacted on the number of days surveying could be conducted.

A total of 343 individual elasmobranchs were recorded. 170 were sharks and 173 were rays. The number of elasmobranchs is not representative of the total number of elasmobranchs landed as data collectors were unable to sample every elasmobranch landed. Examples of photographs taken by data collectors are given in Figures 2 and 3.

Figure 2. Shark photograph taken by community data collector in Itapera.

Figure 3. Ray photograph taken by community data collector in Sainte Luce.

Preliminary taxonomic rankings for sharks are given in Table 1 and rays in Table 2. Guitar fish, family Rhinobatidae, were by far the most commonly identified ray accounting for 78.0% of rays recorded. There was no commonly identified taxonomic ranking for sharks at the time of writing.

Table 1. Preliminary taxonomic rankings identified for sharks.

Common name	Scientific name	Number identified	Red List Ranking
Tiger shark	*Galeocerdo cuvier*	13	Near Threatened
Scalloped hammer head shark	*Sphyrna lewini*	7	Critically Endangered
Whitespotted bamboo shark	*Chiloscyllium plagiosum*	5	Near Threatened
Blacktip shark	*Carcharhinus limbatus*	2	Near Threatened
Silvertip shark	*Carcharhinus albimarginatus*	1	Vulnerable

Table 2. Preliminary taxonomic rankings identified for rays.

Common name	Scientific name	Number identified	Red List Ranking
Guitarfish	Rhinobatidae	125	N/A
Javanese cownose ray	*Rhinoptera javanica*	12	Vulnerable
Devil ray	*Mobula spp.*	4	N/A
Bluespotted stingray	*Neotrygon kuhlii*	1	Data Deficient
Reef manta ray	*Mobula alfredi*	1	Vulnerable
Spotted eagle ray	*Aetobatus ocellatus*	1	Vulnerable

95.9% of sharks were identified for sale, with 40.5% of these identified as either having had or would have fins removed for sale. Just three individuals were identified as for personal consumption. 97.7% of rays were identified for sale with just four identified for personal consumption. It is thought that shark and ray meat are locally traded whereas fins are bought by intermediaries for national or international markets.

3 Conclusion

The establishment of elasmobranch participatory monitoring has been successful, giving an insight into the diversity of elasmobranchs caught and will remain ongoing. Many lessons on community mobile data collection have been learnt with the importance of regular follow-up training the most important. As of yet, community data collectors are not consistently and reliably using mobile data collection. However, once this is achieved for the elasmobranch catch survey, lobster catch data collection will also transition to mobile data collection.