

LANDED CATCH AND EFFORT MONITORING AND BIOLOGICAL STUDY OF SHARKS IN SELECTED LANDING SITES IN THE PHILIPPINES⁸

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1. INTRODUCTION

Shark fisheries have been in the country for decades now. Catching of sharks is a major livelihood to some of the fishers of the country. Although fishing for sharks is highly seasonal, these fisheries have attracted quite a number of fishers basically because of the good income they get from this fisheries. The high price of dried fins not only locally but in the international market as well and recently the meat is now utilized for fish balls which are also exported to foreign markets have created more interest for fishers to go into shark fishing. Fishers have observed

Four known landing sites of shark were selected as the monitoring sites. These are the following landing sites: 1) Coron/Panlaitan, Palawan, 2) Aparri, Cagayan, 3) San Jose, Occidental Mindoro, and 4) Mabua, Surigao del Norte (Figure 1). Out of the total 78 species of sharks recorded to occur in Philippine waters, 24 species were observed landed in the four landing sites during the months of October and January (Table 1).

Table 1. Species of sharks observed landed in the four landing sites

<i>Alopias pelagicus</i>	<i>Galeocerdo cuvier</i>	<i>Sphyrna lewini</i>
<i>Aptychotrema sp.</i>	<i>Hexanchus gresius</i>	<i>Squaliformes sp.</i>
<i>Carcharhinus amboinensis</i>	<i>Isurus oxyrinchus</i>	<i>Squalos megalops</i>
<i>C. albimarginatus</i>	<i>Nebrius ferugeni</i>	<i>Triaenodon obesus</i>
<i>C. altimus</i>	<i>Negaprion acutidens</i>	
<i>C. leucas</i>	<i>Orectulobus ornatu</i>	
<i>C. limbatus</i>	<i>Rhina ancylostoma</i>	
<i>Centrophorus mulloccencis</i>	<i>Rhinubatus sp.</i>	
<i>Chillocylium punctatum</i>	<i>Rhizoprionodon acutus</i>	
<i>Eugomphodus taurus</i>	<i>Rhycobatus djiddensi</i>	

2. CATCH DATA

The combined total catch observed in the four landing sites for the month of October was 5,846.1 kg. The breakdown of total landed catch by sampling site is presented in table 2. The total landed catch for the month of January 2004 is 5,385.2 kg composed of 619 individuals from 27 different species of shark.

Total landed catch for the rest of the months was also gathered from the traders in Mindoro and Palawan if available. For Mindoro the catch of shark was 3,892 kg for the month of November and 3,500 kg for December 2003. While that for Palawan the total landed catch are as follows: October 2003, 1,800kg and December 2,000 kg.

⁸ Based on the 1st and 2nd quarterly reports only as submitted to SEAFDEC

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Table 2. Total landed catch of shark by sampling site for the month of October 2003.

Landing Sites	No. of Species	No. of Individual sharks	Total Weight (kg)	Remarks
San Jose, Mindoro	19	670	4,000.4	Generally small sharks
Mabua, Surigao del Norte	3	17	690.7	
Aparri, Cagayan	1	1	55	
Coron, Palawan	-	-	1,100	Cut into pieces when landed

Table 3. Total landed catch of shark by sampling site for the month of January 2004.

Landing Sites	No. of Species	No. of Individual sharks	Total Weight (kg)	Remarks
San Jose, Mindoro	21	598	4,574.2	
Mabua, Surigao del Norte	1	2	150	
Aparri, Cagayan				No catch
Coron, Palawan	5	19	661	

3. FISHERY STRUCTURE AND LANDING SITE DESCRIPTION

A. San Jose, Occidental Mindoro

Two landing sites were established namely Caminawit and Pagasa. These two landing sites are the major sites where sharks are landed. They are ideally located because of the presence of four ice plants, where ice is being use by the fishers and the traders as well. The ice is not only use for the sharks but for all other fish species landed in these two sampling sites.

The major gear used in catching sharks in these two sampling sites are gillnet and longline. The average fishing days per trip is around 4-5 days before the fishermen return back to port to unload their shark catch. However, if the catch is good the fishers come back at once to deliver their catch.

The major fishing ground is the northern Palawan waters where sharks are known to be present in large quantities. Fishers from Mindoro fishing in Palawan waters are catching the smaller or immature sharks while Palawan base fishers are catching the bigger sharks.

B. Mabua, Surigao City

In Surigao, one landing site is established where shark and other marine products are unloaded. The main gear that is use in catching shark is multiple hook and line. One fishing operation normally last from 3-4 days. The fishing ground for this landing site is the eastern Mindanao waters or the Pacific Ocean.

C. Aparri, Cagayan

Aparri is known to be one of the major landing sites of sharks in Region 2. There is a buying station of sharks in the area. Aparri has only one established landing site and that is the landing site located along the side of the municipal market. However, you can also observe unloading along the whole stretched of the seashore of non-shark species. The sharks unloaded beside the market are directly sold to the market as well as the other fish species.

The longline and the multiple hook and line are the two major gear use in capturing sharks in the area. The fishing operations normally last from 3-5 days and their fishing ground is the Babuyan Channel.

D. Salvacion and Coron, Palawan

These two municipalities in Palawan have been the major landing sites of sharks for the past several years. However, shark fishing is seasonal and unloading of sharks depends upon the market price in the locality and other landing sites nearby. Fishers normally land their catch in landing sites where the price of the sharks is higher. Although, the fishing boat operators are from Salvacion, sometimes they unload their catch in Coron or elsewhere where they can get a higher return or buying price. Most of the catch in these area are bigger in size.

The main gear used in catching shark is longline. Other gear use are the gillnet and multiple hook and line. Similarly, the number of fishing days is about the same for all the areas in the country and in Palawan the average fishing days is also from 3-5 days.



jaws and other parts of the sharks are also sold in the souvenir shops. In recent years, the meat of sharks is exported to the United States as fish balls. Generally,

4. Local usage and marketing

Almost all parts of sharks are sold in the local markets like the meat and fins. However, the target buyer for the shark fins is the international market especially the fins from large sharks. Smaller size fins are sold to local restaurants and sometimes also sold to the foreign market. In some areas the meats of the sharks are utilized in the local fish balls industry.

Dried fins trade is actually the target market of the shark fishers because it commands a very high price in the international market. The price of dried fins varies according to species and size. Dried fins of the shovel nosed shark is priced from P3,500 to P8,000 per kg. The price of the dried fins is categorized according to the size of the shovel nosed shark that is - small is price is at P3,500 per kg, then the medium at P 5,000 per kg and the large at P 8,000 per kg. The size and weight of the dried fins of one shovel nosed shark will also determine to what category the shark belongs correspondingly the price of the dried fins.

The price of the meat varies during certain months of the year as it is dictated by the demand in market. During December and January where sea condition is rough and fishing is limited the price of the shark meat can go up to P80.00 per kg in the market. While for the rest of the month the market price ranges from P 40.00-60.00 per kg

Table 4. Landing prices of shark in Philippine peso.

Landing Sites	Meat	Dried Fins	Liver oil	Jaws
San Jose, Mindoro	15-20	3500-7000 (shovel nosed) 500-600 (all other species)	500/gallon	150-300/pcs
Mabua, Surigao del Norte	40-50	2500-3000		
Aparri, Cagayan	30-45	2000-2500		
Coron, Palawan	28-35	2500-8000		

5. BIOLOGY

The size of the shark sampled varies from site to site. Most of the sharks landed in Mindoro are the immature or small sharks while those landed in Palawan are the bigger or mature sharks. Likewise in Surigao and Cagayan the sharks landed are the mature ones. The size ranges of sharks monitored during sampling days is presented in Table 5.

Table 5. Number, size ranges and weight of sharks in the four landing sites

Species	Number of individuals	Size ranges (cm)	Weight (kg)	Remarks
<i>Alopias pelagicus</i>	12	273-320	623	
<i>Carcharhinus amboinensis</i>	1	170	25	
<i>C. albimarginatus</i>	5	210-240	115	
<i>C. altimus</i>	1	178	2	
<i>C. leucas</i>	1	150	13	
<i>C. limbatus</i>	13	140-220	150	
<i>Chillocylium punctatum</i>	51	89-121	183	Headless/gutted
<i>Eugomphodus taurus</i>	1	145	12	
<i>Galeocerdo cuvier</i>	6	200-290	760	
<i>Hexanchus gresius</i>	1	90	2	
<i>Nebrius ferugeni</i>	2	140-150	11	
<i>Negaprion acutidens</i>	13	120-187	62	
<i>Orectulobus ornatu</i>	1	92	3	
<i>Rhina ancylostoma</i>	5	110-175	99	
<i>Rhinubatus sp.</i>	71	70-93	104	
<i>Rhizoprionodon acutus</i>	1	138	9	
<i>Rhycobatus djiddensi</i>	15	120-210	298	
<i>Sphyrna lewini</i>	2	283-320	110	
<i>Squalos megalops</i>	186	40-105	333	
<i>Trieanodon obesus</i>	294	75-167	1490	Headless/gutted