Composition of Longline Fishing Catches in Sungai Sembilan Waters, Bangsal Aceh District, Dumai City, Riau Province

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ABSTRACT

The longline fishing gear in the Bangsal Aceh District is a secondary fishing gear from the pengerih fishing gear, the Bangsal Aceh anglers use the longline fishing gear when they are free or when anglers only want to use it. This study aims to determine the construction of longline fishing gear and determine the basic composition of longline catches using bait that is often used. The research method used is a survey method. The data collected starts from supplies, ship condition, condition of fishing gear, data on fish species, fish weight, and the number of individual fish, which are then analyzed by calculating the effort of the hook rate, and the catches obtained. Then analyzed descriptively by defining the main catch and bycatch. From the results of the research conducted for two weeks, the catch consisted of three types, namely giant catfish, sagor, and stingrays. Stingrays were the heaviest fish weighing 57.8 kg (80.38%), followed by giant catfish with 13.6 kg (18.9152%), and sagor with 0.5 kg (0.69541%). Meanwhile, according to individuals, the most commonly found fish were 11 giant catfish (64.7%), followed by 5 stingrays (29.4118%), and 1 sagor (5.88235%). Meanwhile, according to individuals, the most commonly found fish were 11 giant catfish (64.7%), followed by 5 stingrays (29.4118%), and 1 sagor (5.88235%). Meanwhile, according to individuals, the most commonly found fish were 11 Giant catfish (64.7%), followed by 5 stingrays (29.4118%) and 1 sagor (5.88235%).

Keywords: Longline, Bangsal Aceh, Composition

1. INTRODUCTION

One of the sub-districts located in the Dumai City area is the Bangsal Aceh Village. The sub-district was formed based on the Dumai City Regional Regulation No. 12 of 2007 on March 12, 2007, which was previously located in the Lubuk Gaung Village area. Bangsal Aceh Village is located in the western part of Sungai Sembilan District and is 25 km from the capital city of Dumai. Bangsal Aceh village has an area of 150 km^2. Dumai in 2021 capture fisheries products in Sungai Sembilan District have increased, seen in 2019 capture fisheries products were 247.33 tons, and in 2020, there were 445.60 tons. Based on these data, this great potential certainly makes the fisheries sector an important sector that must receive more attention from the government.

Longline anglers are easy to find in the Bangsal Aceh Village because this fishing gear is popular among anglers. Anglers prefer this fishing gear because it can be operated all year round and during certain seasons. Besides that,

a fishing line is a simple fishing gear that is usually operated by small anglers and does not always require a special vessel. Besides being easy to operate, this fishing gear is also relatively cheap in terms of financing.

The bottom longline is a fishing gear that is suitable for use in Indonesian waters because the water area is wide and rich in various bottom fish. Rawai (Long line) is a series of fishing units that are very long (reaching tens or even thousands of meters). It consists of the main line, branch lines, and hooks with a certain size (number) attached to each lower end of the branch lines (each branch consists of one hook). In terms of construction, this fishing gear is not too complicated because it only consists of three parts, namely: main line, branch line, and hook. The targets of longline fishing gear are generally predatory fish and have active movements (Syofyan *et al.*, 2015).

Longline fishing gear in the waters of the Sungai Sembilan, Bangsal Aceh, is carried out one-day fishing by fishermen, using bait on the

longline, namely dorab wolf-herring fish and the operation of this fishing gear is not carried out every day by fishermen, This is because the longline fishing gear is a secondary fishing gear from the main fishing gear, namely the grinding gear. The longline fishing gear is not as active as other fishing gear because the cost of going to sea is not in accordance with the longline catches because few fish are caught in the waters; these catches are not recorded at the relevant agencies.

2. RESEARCH METHODS

Time and Place

This research was conducted in June for 2 weeks. In the Bangsal Aceh Village, Sungai Sembilan District, Riau Province.

Methods

The research method used is the survey method, in which researchers go directly to the field to collect catch data in the fishing ground by participating in the bottom longline fishing process. Sampling fishing gear is determined by purposive sampling. According to Sugiono (2010), purposive sampling is a technique for determining research samples with certain considerations that aim to make the data obtained later more representative.

Data Analysis

The data collected starts from supplies, the state of the ship, the state of the fishing gear, the data on the type of fish, the weight of the fish, and the number of individual fish that are then presented in the form of narratives, tables and figures.

3. RESULT AND DISCUSSION

The operation of the longline of the village of Bangsal Aceh is based on certain seasons. Usually fishermen operate until they get good catches from mid-January to mid-March, but during this time there is a season of strong waves and the rainy season.

From the results of the operation, there are several literature studies or references that can be taken to strengthen the results of the research in operation, including the operation of the longline consisting of several stages, including preparing for sea supplies, heading to the fishing area, lowering the longline fishing gear (Settings), waiting for the longline fishing gear on the seabed (Drifting), and lifting longline fishing gear (Hauling).

Supplies or preparation for sea. Anglers' fishing supplies usually prepare ice, and petrol, or buy it from the nearest agent. Clean water is obtained from refilled drinking water sellers. Food is prepared from the house that has been spent before and prepared fishing gear bait is obtained by other fisherman's friends by buying IDR 50.000 with a lot of 10 kg ½ buckets. The bait is small dorab wolf-herring, for direct bait in pieces - cut according to the size of the hook when caught before going to sea and the bait are attached to the hook when in the fishing area.

Longline Derivation (Settings). The setting is done on the right side of the ship's hull and the ship is alive by walking backward slowly, the aim is that the fishing gear sinks following the ocean currents, and the descent begins with the buoy that has been strung on the main line along with the branch line equipped with ballast simultaneously, as well Branch line equipped with hooks and ending with a buoy equipped with a flag as an end marker.

Longline in the water (Drifting). In this process, the anglers wait for the longline fishing gear in the water, ranging from 1-1.5 hours, waiting as expected for the fish to eat the bait on the longline fishing line. During the drifting process, anglers carry out other activities, such as cooking food and resting.

Longline lifting (Hauling). Lifting the longline begins with pulling the buoy rope which is marked with a flag, carried out on the right aft of the ship or boat manually by anglers. Usually, the hauling process ranges from 20-30 minutes, depending on the number of fish that are hooked, the catch is usually immediately put into the bucket, and after setting then the fish are put back into a tub which is a kind of mini Cool Box which contains ice located on the hull of the ship, right at the helm of the ship.

The results of research carried out for 6 days of operation showed that the number of catches by weight ranged from 0 to 40.3 kg. The lowest catches occurred on the 2nd and 5th days, the highest catches on the 4th day. Meanwhile, the number of fishing gear operations ranged from 2 to 3 times a day.

From the results of the study for 6 days of operation, it was shown that the number of catches according to the number of individuals ranged from 0 to 10 heads, the lowest catches

occurred on days 2 and 5, while the highest catches occurred on day 4. The number of fishing gear operations ranged from 2 to 3 times a day. From the catch of fish obtained as many as 18 fish with hooks consisting of 100 hooks which are operated 15 times, then the fishing rate or hook rate is as 1.2.

The operation showed that according to the number of fish species, there were three types of fish caught. The results of the research and the results of interviews with anglers, the target catches are sagor (*Hexanematichthys sagor*), stingrays (Batoidea), and giant catfish (*Arius thalassinus*). 11 giant catfish caught weighing 13.6 kg, while 5 stingrays 57.8 kg and 1 sagor 0.5 kg (Table 1).

Tabel 1. **Catches by Fish Type**

No	Fish Type	Total			
		Weight	%	Individual	%
1	Giant catfish	13,6	18.9152	11	64.7059
2	Stingray	57,8	80.3894	5	29.4118
3	Sagor	0.5	0.69541	1	5.88235
	Total	**71.9**	**100.00**	**17**	**100.00**

Fishermen do not use longlines every day, only on certain days, even if fishermen focus on using longlines, this is not comparable between operational costs and other costs with the existing catches. Therefore all fishermen from the Bangsal Aceh only use the longline as secondary fishing gear.

According to Zainuddin *et al*. (2017), the types of bait commonly used in bottom long-line fishing gear are ray-finned fish (*Sardinella fimbriata*), dorab wolf-herring (*Chirocentrus dorab*), squid (*Loligo* sp), Bombay duck (*Harpadon nehereus*), largehead hairtail fish (*Trichiurus lepturus*), and sardinella (*Sardinella* sp). The shape of the bait is not damaged, not in the form of pieces, and the line is attached firmly so that when in the water it looks like a live fish, so it is hoped that it can be grabbed by the target fish.

Based on Mahyudin's research, (2014) states that dorab wolf-herring bait has quite a lot of catches than mackerel bait, this is because the dorab wolf-herring meat has a more attractive color than mackerel bait. Based on Emiati's research (2020) concerning the effect of the type of bait on the catch of bottom longline fishing gear in Bantan Sari Village which uses largehead hairtail, dorab wolf-herring, and slender shad fish, the catches are obtained respectively as much as 40%, 34%, and 26%.

According to Nasution *in* Hufiadi & Nurdin (2003), the hook rate of fishing rate is the number of fish caught per 100 hooks. The hook rate is used to evaluate longline catches. The hook is an important part of the basic longline. The size of the hook for the bottom longline varies according to the type and size of the target fish (Bay of Bengal Program, 1992). The fishing line used for basic longlines in Indonesia is generally made of stainless steel or iron (Direktorat Jendral Perikanan, 1990). If we look at the fishing speed obtained, it shows that the fishing rate for the main catch is 0.73 while the fishing rate for bycatch is 0.4, so it can be said that it is indeed Giant catfish.

4. CONCLUSION

From the results of the 14-day study, it can be concluded that the longline catches in the Bangsal Aceh Village are very few and cannot use longline fishing gear like other fishing gear. The catch in this study was the heaviest stingray, which was 57.8 kg (80.3894%), the Giant catfish as much as 13.6 kg (18.9152%), and the sagor fish as much as 0.5 kg (0.69541%). Meanwhile, according to individual (fish), the most common were 11 giant catfish (64.7059%), 5 rays (29.4118%), and 1 sagor fish (5.88235%).

REFERENCES

Bay of Bengal Programme. (1992). *Reef Fish Resources Survey in the Maldives Phase II*. Reef Fish Research and Resources Survey. Madras. India 54 p.

Direktorat Jenderal Perikanan. (1990). *Petunjuk Pembuatan dan Pengoperasian Cantrang dan Rawai Dasar Pantai Utara Jawa Tengah*. Bagian Proyek Pengembangan Teknik Penangkapan Ikan.

Balai Pengembangan Penangkapan Ikan. Semarang. 24 hlm

Emiati. (2020). *Pengaruh Jenis Umpan Terhadap Hasil Tangkapan Alat Tangkap Rawai Dasar di Desa Bantan Sari Kecamatan Bantan Kabupaten Bengkalis*. Fakultas Perikanan dan Kelautan. Universitas Riau.

Hufiadi., & Nurdin, E. (2003). *Uji Coba Rawai Dasar Menggunakan Mata Pancing Nomor 4, 6 dan 8 di Teluk Semangka Lampung Selatan.* Bogor [ID]. Institut Pertanian Bogor.

Mahyudi. (2014). *Komposisi Hasil Tangkapan Pancing Ulur yang Menggunakan Umpan Ikan Parang- parang dan Ikan Tenggiri di Perairan yang Telah dipasang Rumpon di Perairan Teluk Rhu Kabupaten Bengkalis Provinsi Riau*. Fakultas Perikanan dan Ilmu Kelautan. Universitas Riau.

Sugiono. (2010). *Metode Penelitian Kuantitatif Kualitatif dan RND*. Bandung. Alfabeta.

Syofyan, I., Isnaniah., & Siregar, M.R. (2015). Identifikasi dan Analisis Alat Tangkap Rawai Kurau (Mini Long Line) yang Digunakan Nelayan di Kabupaten Bengkalis. *Jurnal Berkala Perikanan Terubuk*, 43(2):89-95.

Zainuddin, M., Suwarsih., & Hendriono. (2017). *Pengaruh Perbedaan Jenis Umpan Alami (Natural Bait) Pada Alat Tangkap Rawai Dasar Terhadap Hasil Tangkapan Ikan Remang di Perairan Bawean.* Universitas PGRI Ronggolawe. Tuban.