



THE QUARTERLY CATCH

E-NEWSLETTER

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WELCOME....

Welcome to our sixth issue of the Quarterly Catch, the BHSFU quarterly E-Newsletter. I trust that every person who receives a copy of this newsletter will find it quite helpful, informative and of course entertaining. All the articles are researched, curated and tailored to what we think will be gratifying and useful to our readers. Thank You!!



Valarie Lanza-Director for High Seas Fisheries

THE EFFECTS OF COVID-19 ON THE FISHING INDUSTRY

Covid-19 has triggered a global health emergency that has affected economies across the globe. As this virus spreads, many countries initiated unprecedented lock down and social distancing measures to help in containing its impact. These measures have seriously affected many areas of human activities, including the fishing industry.

The fisheries sector is a key part of our global food system which is of economic significance as fish is the world's most widely traded food commodity. However, measures taken to contain the impact of this virus such as closed borders, travel bans, and lock downs have severely impacted transportation routes, labor and trade of fisheries and aquaculture products. Fish products and fish related products are highly dependent on international trade so the disruption in transportation have seriously impacted trade. The fisheries sector is also very reliant on the food service industry; however, the Covid-19 outbreak has devastated the restaurants and hotel trade and have wreaked havoc with food supply chains. The decline in demand for seafood have resulted in a decrease in fish prices and a surplus in fish products. This has caused food loss and waste and additional cost for processors, exporters, importers and traders. Many people who are employed in the supply chain such as fish vendors, processors and transportation suppliers have already lost their jobs or are likely to lose their jobs in the future.

Countries who are dependent on fisheries for food security and nutrition for their populations have also been severely affected by this pandemic. Social distancing measures prevent small scale fishermen from carrying out fishing activities because their boats are too small to adhere to these rules and with little to no access to relief or aid by their governments the prospects for these fishermen seem bleak.

Of further importance is the threat to public health regarding Covid-19 outbreaks on board fishing vessels. Vessels are normally cramped, crowded and provide minimalistic living conditions which makes it extremely difficult for fishermen. Ships cannot operate with sick crew nor can they adhere to social distancing guidelines so these vessels will be forced to return to port. In the long term this could cause a reduction in fishing activities and hence a reduction in available seafood products. The way fishing is carried out and the living conditions on-board cannot be sustained with a pandemic of this magnitude.

This unprecedented situation will inevitably create a new normal for our way of life as well as drive innovation that could revolutionize the fisheries sector moving forward; innovation that may even have a positive impact on our vulnerable ecosystems.

Belize, like many other countries, have been in a state of emergency for the past few months; however, it is one of a few countries in the world that have managed to contain the spread of this virus. Nonetheless, it is with an abundance of caution that we begin to relax emergency regulations; and the decision to keep our borders and international airport closed to visitors has proven to be a vital part of stopping the spread of COVID-19



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Key Components of Fisheries Management



**By: Delice Pinkard Senior
Fisheries Officer**

The fisheries sector is commonly comprised of a system which includes resources, industry and trade as three critical components. The main objective of management is the optimization of the aggregate social benefit derived from these components as a whole. Let's break them down, shall we? The natural resource component consists of the actual fish stocks and management's ability to protect and conserve their habitats through effective policy. Understanding fish stocks magnitude, behavioral patterns and response to fishing pressure are fundamental for informed management.

The **second component** which is the primary industry (harvesting and processing), consist mainly of the enterprises that utilizes the natural resources. They are divided into traditional or economic and socio-political factors: a division which often creates a problem. Since fisheries resources are common-property, there is free and open access to them and there is a tug of war between traditional industry players (small scale) and other fishery enterprises (large scale) who compete in sharing these limited resources. This creates an obvious crisis that often results in drastic depletion of the fish stocks due to the pressure of circumventing fisheries regulations.

On the topic of trade, which is the **third component**, there is a realization of the adequacy of processing and storing fish based on organizational patterns. In fish processing, economies of scale typically purchase supplies in bulk which allows for consolidation of marketing and other trade related nuances. The fish trade can sometimes reveal the fragmented side of the fish harvesting industry which can cause excessive cost as seen in export trading which can show weakness in competition with better organized enterprises. Economically, a product market transmits through prices, where intensive demands for certain species drive up the price of that species. Effective management of fisheries resources used in an ecological context would require balanced exploitation of fish species stocks at a sustainable yield instead of using market signals to determine the level of exploitation.

In conclusion, there must be a rational management framework which would include a transformation of common-property (in the form of a usufructuary right of fishery-resource users to state property), creating a simple entry-control programs to minimize the erosion of social benefits and setting goals for better policy objectives and strategies for the imminent changes that will occur. Intelligent and effective fisheries management is the beacon of hope for the future in sustainable fisheries, market and trade. The Belize High Seas Fisheries Unit is determined to be a leader in this fight for change through practicing rational fisheries management.

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DID YOU KNOW?

Fish swim primarily by contracting bands of muscles in sequence on alternate sides of the body. This whips the tail very rapidly from side to side in a sculling motion. Vertical fins are used mainly for stabilization. Paired pectoral and pelvic fins are used primarily for stability when a fish hovers. Sometimes fish might use them to aid rapid forward motion.

Tunas and tuna-like fish, billfish, and certain sharks are the speed champions. They can reach 50 miles per hour in short bursts. Sustained swimming speeds generally range from about 5 to 10 miles per hour among strong swimmers.

A number of fish species can swim backwards, but usually don't. Those that can are mostly members of one of the eel families.

Most fish swim in the horizontal position. The sea horse is among the exceptions. Another is the shrimp fish of the Indian Ocean, which congregates in schools of several individuals. It swims vertically, its long tube-like snout pointing directly upward. A catfish that lives in the Nile and other African rivers also swims in the vertical posture. Many kinds of midwater deepsea fish swim or rest vertically.

First Marine Migratory Species Hope Spot

By: Ernie Howe - Fisheries Officer



What is a HOPE SPOT? A Hope Spot is any unique place in the marine environment that is critical to the health of the ocean and that are designated for protection or conservation. Hope spots are usually new or existing areas that require additional love and attention.

Anyone can nominate a Hope Spot through Mission Blue. This organization will collaborate and work closely with the nominees to highlight and advocate for the protection and conservation of the nominated areas(s).

The Cocos-Galapagos swim way is the first bi-national marine protected area that have been declared a Hope Spot. This migratory underwater highway is an initiative to connect two national reserves of two different countries with a mission to protect highly migratory, endangered and threatened species such as sharks and sea turtles in the Eastern Tropical Pacific. The area is identified as the Cocos-Galapagos swim way because it connects the Cocos Islands reserve belonging to Costa Rica and the Galapagos Island National Park belonging to Ecuador.

It is important that this underwater swim way be protected since it is home to several highly migratory species such as whale sharks, silky sharks, hammerhead sharks and green sea turtle. These species use the swim way to migrate between these two marine reserves and the protection of the swim way is critical for maintaining the ecological balance of these marine endangered species. Whenever these species leave this Hope Spot, they are in open waters which puts them at great risk for industrial fishing.

Ref: www.mission-blue.org



Using Multiple Platforms for Effective Monitoring, Control and Surveillance

By: Stanley Burgess - Monitoring Officer

The monitoring of fishing vessel fleet activities using multiple technologies and platforms is rapidly becoming the norm for vessel monitoring and can be considered necessary for effective and efficient monitoring. Many monitoring control and surveillance personnel are combining different platforms to get the desired result that gives more data and a clearer picture of a vessel's location or historical positions.

Based on the platforms utilized, you can get many different reports and satellite imagery. The use of multiple platforms and technology for monitoring is necessary to ensure accuracy and transparency of the data being received. Using additional platforms such as Automatic Identification System (AIS) along with a primary Vessel Monitoring System has its advantage because it allows for the secondary verification of the data being received by a primary platform. It also provides a backup of the primary in the event of equipment failure. While a VMS platform is usually designed for the specific needs of a monitoring center, systems such as the AIS platform was originally designed for vessel traffic services to avoid collisions and has additional features that could compliment VMS platforms.

Belize's FMC utilizes both VMS and AIS to achieve effective monitoring, control and surveillance of Belize's fishing fleet; however on many occasions we utilize other monitoring platforms such as Google Earth to analyze our data. Some countries add further monitoring initiatives such as Visible Infrared Imaging Radiometer Suite which is a scanning radiometer that collects visible and infrared imagery and radiometric measurements. However, this too has its limitations because it can only be used to track nighttime activities.

It is without a doubt that the advancement of technology will greatly improve the capability of monitoring centers globally to achieve efficient and effective vessel monitoring

Understanding the Protection and Conservation of Sharks

By Robert Robinson - Deputy Director

Sharks are majestic creatures that have existed for more than 450 million years as indicated by fossils of 'shark-like scales' from the Late Ordovician Period. Although it is widely debated whether these creatures were really sharks, fossils of the earliest shark-like teeth date back to the Early Devonian Period which is more than 410 million years ago. These apex predators play a vital role in marine ecosystems to maintain the balance in the populations of other species and removing diseased and otherwise weak species from the ecosystems, thus mitigating the propagation of their genes.



Although they exist at the top of their food chain, sharks face a threat from the terrestrial world which was, once, far removed from their marine habitats. Nonetheless, the evolution of technology and fishing practices have pushed mankind further into the depths of the ocean, leaving no safe refuge for this once indomitable species. Some species of sharks are faced with the threat of becoming endangered or even extinct due to high mortality from interaction with indiscriminate fisheries and, even worse, wasteful fishing practices such as shark finning. One might think that the oceans have an abundance of sharks, but approximately 100 million sharks are killed annually through targeted, bycatch and illegal, unreported and unregulated (IUU) fisheries. This is much faster than they can naturally reproduce, and this high mortality, coupled with the low fecundity of the species make them especially vulnerable of becoming

threatened or endangered. Blue Sharks (*Prionace glauca*) reach sexual maturity at 5 to 6 years (females) and 4 to 5 years (males), they have a gestation period of 12 months and deliver between 4-135 pups per litter. This species is in stark contrast to Great White Sharks (*Carcharodon carcharias*) which achieve sexual maturity at 26 and 33 years for males and females respectively and gives birth to up-to 14 pups per litter. There are extreme cases such as the Greenland or Grey Shark (*Somniosus microcephalus*) which has a lifespan of 300 to 500 years but don't become sexually mature until around 150 years and birthing only 10 pups maximum per litter.

While the reproductive biology differs amongst the various species commonly referred to as sharks, it is abundantly clear that the survival of these species will only be achieved through the protection and conservation of those species that are most vulnerable to human interaction. Given the historic and ecological importance of these 'living fossils', the adoption and implementation of appropriate conservation and management measures (CMMs) will give these species a fighting chance of survival. Two examples of meaningful CMMs are the banning of shark finning – removal of fins and disposal of the shark carcass – and the prohibition of catching, killing or trade of species such as the Bigeye Thresher (*Alopias superciliosus*) which reaches sexual maturity at the age of 10 years and only births 2 pups per litter. It is important to remember that although the United Nations Convention on the Law of the Sea (UNCLOS), often regarded as the 'Constitution of the Oceans', gives States the freedom to fish on the high seas, this freedom is coupled with the simultaneous responsibility to conserve the living marine resources of the high seas – inclusive of sharks.

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