

**UNIDAD EDUCATIVA PARTICULAR JAVIER
BACHILLERATO EN CIENCIAS**

**MONOGRAPH
“THE SERIOUS IMPACT OF ILLEGAL FISHING IN COASTAL AREAS OF
ECUADOR'S MARITIME TERRITORY.”**

**STUDENT:
DANIEL ARAUJO IDROVO**

**ADVISER:
LCDA. PATRICIA SÁNCHEZ
LCDA. CLAUDIA LOSSA**

THIRD OF BACCALAUREATE - COURSE A

2019 – 2020

Acknowledgement

I mainly want to thank my parents for giving me a good education and because they have always been there for me in spite of everything, in good and bad times, to my two mentors who are Lcda. Patricia Sanchez and Lcda. Claudia Lossa for giving me support, advice and helping me with the corrections during each step of this work, which has been a process that has required a lot of effort.

I also want to thank God for giving me the opportunity and blessing to study in a good school like Javier, for allowing me to learn something new every day and essentially for being with me in all the correct decisions that I have made in my 17 years of life.

Summary

Illegal fishing in coastal areas of the Ecuadorian maritime territory is an issue that often goes unnoticed or is not given much importance and not much is done to seek solutions to this cause. This monograph tries to take into account the damage they are causing to the marine species that inhabit the things of the Pacific Ocean by mentioning the type of laws that should be implemented, the marine exploitation that exists and the threat posed to the species. This monographic work also talks about the quasi-sequences and consequences from different fields that can be presented by illegal fishing. It also mentions some of the species that are most fished and affected by this illegal activity.

This work consists of a deep investigation and with a solution of this problem in this Latin American country, also includes theories of some Ecuadorian sailors who fight day by day with this cause, also presents the consequences and influences that are presented when carrying out this activity.

Index

Acknowledgement.....	ii
Summary.....	iii
Index.....	iv
Introduction.....	1
Chapter I.....	4
Conceptual framework.....	4
1.1 The maritime territory of Ecuador.....	4
1.1.1 Inland waters.....	4
1.1.2 Territorial Sea.....	5
1.1.3 Contiguous zone.....	5
1.1.4 Exclusive Economic Zone.....	6
1.1.5 High sea.....	6
1.1.6 Continental platform.....	7
1.2 Definition of coastal area.....	7
Chapter II.....	9
Fishing activity in the ocean.....	9
2.1 Concept of fishing activity.....	9
2.2.1 Causes.....	10
2.2.2 Consequences.....	12
Chapter III.....	14

Consequences of illegal fishing in the ocean.....	14
3.1 Direct consequences of illegal fishing in the ocean.....	14
3.1.1 Damage caused by this activity to the marine ecosystems.....	15
Conclusions.....	17
Recommendations.....	19
References.....	20
QR Code.....	21

Introduction

The theme of this monograph is *"Illegal fishing in coastal areas of the ecuadorian maritime territory"*, this theme is considered important due to the impact it has in different areas. Illegal fishing is a problem that greatly affects marine biodiversity (fauna and flora) since illegal fishing puts at risk many of the species that inhabit the sea and the unique species found in Ecuador's maritime territory. It is also important that this problem does not go unnoticed because if it is allowed to continue to happen, this means a great economic loss for those who follow the laws and follow the fishing in a legal and correct way since the illegal fishermen when practicing this activity devastate a great amount with a quite notorious difference to what the legal fishermen fish.

This monograph was written with the general objective of analyzing the damage caused by illegal fishing to marine species in the coastal areas of the Ecuadorian maritime territory. It also aims to demonstrate the coastal areas of the Ecuadorian maritime territory and describe the conceptual framework of fishing activity, identify the marine species affected by illegal fishing, relate the damages caused by illegal fishing to the marine ecosystem. This work was done in order to get to know and see that more importance should be given to the maritime territory of a country in this case Ecuador.

This work was done with great effort, it took a lot of reading to write and conclude. Books such as "*La pesca ilegal marina*" by Álvarez, A. (2006); "*Biodiversidad Marina: Valoración, usos y perspectivas*" de Figueroa & Santander (2005) and "*El estado del puerto y la pesca ilegal, no declarada y no reglamentada*" de Sánchez, A. (2012) were taken as reference. For this monograph the whole resource of the research was used since there was a previous reading, underlining and extracting ideas of what was considered most important. For this monograph the whole resource of the research was used since there was a previous reading, underlining and taking out ideas of what was considered more important which were perfected with the help of a tutor who was helping constantly in this process.

Illegal fishing in Ecuador is a problem that has been occurring several years ago in a moderate manner and for this reason did not give much importance, where more illegal fishing occurs in Ecuador is the exclusive economic zone because it is where more species and where more fauna exists for a good commodity, especially seek more this area because it has a good economic income due to the great song and variety of fauna.

This monographic work will consist of three chapters. The first will speak and specify the theoretical framework of illegal fishing is to specify all that consists of the Ecuadorian maritime territory and also explains the definition of coastal zone.

Chapter two has as its name "the fishing activity within the ocean"; this speaks of the concept of what would become the fishing activity and what is illegal fishing, speaks of the causes and consequences of this problem. Finally, chapter three talks about the consequences that are directly towards the sea.

Chapter I

Conceptual framework

1.1 The maritime territory of Ecuador

Ecuador is a Latin American country with a maritime territory 5.3 times larger than the continental territory, the land territory covers 257,217.07 square kilometers while the maritime territory is 1'092,140 square kilometers and so forming a total of 1'349,357.07 square kilometers. This maritime territory is measured in the following way; each country has a delimitation process that divides this into six spaces which are: internal waters, territorial sea, contiguous zone, exclusive zone, and high sea.

1.1.1 Inland waters.

The internal waters are known to all waters that are located, according to the law of the sea, towards the interior of the baseline of what would become the beginning territorial sea, these internal waters are part of the coastal State. The State exercises full sovereignty over the inland waters as well as over the territory, in other words, they are subject to the full jurisdiction of the coastal State without limitation.

Sánchez (2012) said: "In Ecuador, gulfs and beaches are considered inland waters because they are behind the baseline."(p.31). It should be noted that the baselines are chosen in the most salient parts of the Ecuadorian coast, from where they are measured and drawn straight lines. In these inland waters, the State enjoys sovereignty, is power it has total power than other maritime spaces.

There are two acceptances of inland waters that are the maritime, beaches, bays, openings and those outside the marine environment that are lakes, rivers, reservoirs and so on.

1.1.2 Territorial Sea.

The territorial sea is the maritime zone which is after the territory of a state, i.e. outside the internal waters and the territory where the sovereignty of the State extends over the sea, its air space, as well as its underwater bed and subsoil.

This zone is measured from the baseline up to 12 nautical miles beyond which is the same as saying 22.2 square kilometers. In this zone the coastal State has the power in this zone can exercise sovereignty to regulate and reserve for their nationals the use of living resources of the sea, its bed, and subsoil, and to prohibit and regulate the overflight of aircraft from third states, Ecured (2002) states that "This control is indispensable to guarantee their safety and the defense of their interests but equally there are limits to that state power over this area called territorial sea"(p.202). In other words, this is related to the navigation permit given to other ships of the other countries called "Right of innocent passage" as long as it does not affect the security of the nation.

1.1.3 Contiguous zone

The contiguous zone or area is a zone that extends, according to the convention, up to a maximum distance of 24 miles from the base lines and up to 12 nautical miles from where the territorial sea ends. "In this space, the coastal State has the power to adopt measures to prevent and sanction infringements of customs, migratory, sanitary and fiscal regulations committed in its territory or in its territorial sea." (National Maritime Interests, 2005, p.14)

The contiguous zone is a maritime area recognized by international law, immediately following the territorial sea. This maritime space contains an extension of approximately 12 nautical miles from the outer limit of the territorial sea, i.e. a total of 24 nautical miles from

the base lines. In this zone, inspection work is carried out to avoid non-compliance with customs, fiscal, immigration or sanitary regulations.

In this maritime space, the coastal State has the power to adopt fiscal measures in order to control its territorial sea.

1.1.4 Exclusive Economic Zone

The exclusive economic zone is the maritime space in which it extends from the outer limit of the territorial sea to 200 miles beyond the base lines. "Riparian state has sovereign rights for the purposes of exploration, exploitation, conservation and management of living and non-living resources, the sea, the seabed and the subsoil, and also with respect to other activities related to exploration and economic exploitation" (National Maritime Interests, 2005, p.14).

The country that owns this zone has exclusive and own the rights to exploit the living resources and minerals found in it, although the sovereignty it exercises over it is not total as in the case of territorial waters. The coastal State also exercises jurisdiction with respect to the establishment of Artificial islands, installations and structures, marine scientific research, the protection and preservation of the marine environment and other rights and duties under the Convention.

1.1.5 High sea

The high sea is also known as "international waters" because it is the open ocean, beyond the jurisdiction of any State, in contrast to territorial waters. This space is situated beyond the exclusive economic zone and constitutes all parts of the sea outside the exclusive

economic zone, the inland waters, or the archipelagic waters of an archipelagic State. On the high seas, the principle of freedom of navigation, overflight, fishing, cable laying and submarine pipelines, marine scientific research, of to build artificial islands and other facilities; but these freedoms are not absolute and must respect the standards of the d f Convention. Besides, the high seas must be used exclusively for peaceful purposes.

1.1.6 Continental platform

The continental shelf is any portion of the seabed and subsoil of the sea belonging to any State or country having coasts at sea. The continental shelf is not a maritime space but an underwater space. The boundary of the shelf with the deepest ocean areas is called the continental edge. It extends to a distance of 200 miles but may exceptionally go beyond that distance. The size of the continental shelf varies in different areas and places of the world, in some areas they have the best fishing grounds in the world so their economic importance is quite considerable. The continental shelf is where most of the world's fishing catches have been made (with 80%) it also has other resources which are being exploited such as oil and natural gas.

1.2 Definition of coastal area

The coastal zone is the most dynamic environmental zone on earth and the only region across all continents where land, atmosphere, sea and fresh water interact. Between the marine, terrestrial, atmospheric factors and the action of the man, it is a special area, of variable limits, whose importance is given by the valuable resources that it possesses. It has a good adaptability that allows it to cushion the energy of the waves, of the wind and the

currents, it is for that reason that they offer protection to their inhabitants, their possessions, their ecological wealth and their means of life.

The coastal zone contains habitats and ecosystems that provide benefits and services to communities; they support the economies of many nations, which depend to a large extent on activities such as tourism, shipbuilding, the oil industry and others. They are usually densely populated and are a favorite site for urbanization. (EcuRed, 2002, p.210)

The coastal zone has two axes: one parallel to the shore called "coastal axis" and the other perpendicular to the shore called "altamar earth axis". The limits of this zone are marked by the terrestrial surface making emphasis in the structure and configuration of the coasts, low terraces, cliffs, beaches and mangroves. The coastal zone has its impediments towards the ocean is the edge of the insular stage of the domain, frequently at profundities of 100 and 200 meters. Silva & Mendoza (2014) said that the reason of zoning is to delimit the previously mentioned region and build up its current and potential employments and exercises, communicated as particular employments and topographically spoken to in plans that distinguish, among other perspectives, its expansion, common characteristics, and the conditions and limitations for its organization.

Chapter II

Fishing activity in the ocean

2.1 Concept of fishing activity

The fishing activity or fishing is when fishermen catch aquatic beings, this activity is usually carried out in marine areas, coastal and inland waters. Fishing is a good source of income for people engaged in fishing, through harvesting, distribution and marketing. There are also people which do it by following a tradition or culture. One of the greatest threats to the stability of fishery resources worldwide is illegal, unreported and unregulated fishing. “Fish is one of the main sources of protein in the planet's diet. According to the United Nations Food and Agriculture Organization (FAO), in 2013, 17% of animal protein intake and 6.7% of total protein intake came from fishing” (Anastacio & Trujillo, 2016, párr.1).

2.2 Illegal fishing

Illegal fishing is a term that encompasses a wide variety of fishing activities. Illegal fishing is the extraction of aquatic beings without permission or doing so in a way that does not comply with the regulations or law, that is, contravening the law, is carried out by national or foreign vessels in waters in which it is under the jurisdiction of the coastal state. As Maddison (2014) says we have an entire show of certification extending from capture, emptying, showcasing and send out. This framework is capable of illustrate and ensure the legitimacy of the Ecuadorian items in national and international markets. This activity occurs both on the high seas and in areas under national jurisdiction, most of the time is carried out within the territorial sea of a state by foreign vessels.

This problem called illegal fishing is an activity that occurs in various sectors or places in the world because there are different causes. The three main causes of illegal fishing can be separated into 3 areas, which are: economic, social and institutional.

2.2.1 Causes.

As I mentioned before, the causes of illegal fishing will be divided into three aspects where his illegal activity has the greatest impact: economic, social and institutional.

2.2.1.1 Economic sector.

In this area one of the main things is the low cost of entry, i.e. to get into the world of illegal fishing does not need much investment of money as it would only be used for the operating costs are: salary, fuel, maintenance to the boat and other expenses. With illegal fishing is lost about 23 billion dollars a year.

Another economic cause is that illegal fishing makes more profit than legal fishing. For example, a normal or legal fisherman (as we want to call him) fishes between 7 and 8 kilos in an outing or long day of fishing while the fisherman who practices this illegal activity fishes 14 kilos of merchandise during one night.

Another cause is that the action of the justice does not represent a real threat, also the legal fishermen obtain smaller profits because the prices of the product (fish, shrimp, etc) remain stable while the inputs increase their value.

2.2.1.2 Social sector.

In this social field among the causes is the lack of governance of the country because it promotes illegal fishing and it is shown that less governance this activity increases because

it is set aside and lose control of the maritime territory of a country by the bad government that has it.

Another social cause is that many of the sinners who engage in this activity do not have full knowledge of the laws that regulate this or punish illegal fishing and therefore practice it because they think that there is no consequence because they are not breaking regulations for them.

The vicious circle of illegal fishing is another social cause. The circle begins so, first, a fishing gear is prohibited; second, the fisherman adapts another form of fishing; third, the authorities prohibit fishing of the species; fourth, more fishermen fish illegally to maintain a considerable income of money; fifth, the resource is exhausted and finally again more fishermen fish illegally to maintain income of money and so on.

2.2.1.3 Institutional sector.

In this area, the main cause that promotes illegal fishing is that there is no communication between authorities and fishermen so there are no effective mechanisms for participation, therefore, the rules themselves poorly drafted or not consulted encourage this illegal activity.

Another institutional cause is the mismanagement of funds such as inadequate spending on subsidies: causing greater depredation in fisheries.

The lack of vigilance in the maritime territory of a country is also a very important cause since if it is a neglected zone in which money can be generated, the fisherman will do so due to the lack of custody in the different maritime spaces.

2.2.2 Consequences.

This problem called illegal fishing also generates consequences that will be divided into 3 aspects which are: social, environmental and economic

2.2.2.1 Social.

Illegal fishing has an impact or consequences in the social sphere due to some factors that occur when carrying out this illegal activity. When practicing this activity directly influences the rational fishing management, the competition is distorted because if we compare it with the legal fishermen it would not be a balanced, fair and equitable competition because of that they are harmed. It also affects most coastal communities, especially developing countries where they depend heavily on fishing.

2.2.2.2 Economic.

The 2014 report indicates that authorities (Panama Aquatic Resources Authority, Panama Maritime Authority and the Commission for IUU Fishing, among others) seized in the Panamanian Pacific more than 16,000 pounds of marlin, about 11,000 pounds of goldfish, 4,000 pounds of shark, 400 pounds of cambute and nearly 200 pounds of cherna, among other species such as tuna, sardine, lobster and prawns. (Salazar, 2014, párr.12)

Those who practice illegal fishing tend to take more aquatic species by the method of fishing they use and by fishing in more quantities they will logically have more income and

more merchandise or products to sell or export to different countries. Illegal fishing also complicates the legal fishermen because as they fish in large quantities the species are exhausted or are often closed and when that happens there is no income for legal fishermen.

Chapter III

Consequences of illegal fishing in the ocean

3.1 Direct consequences of illegal fishing in the ocean

This problematic also has effects, reactions or consequences within the marine ecosystem because if illegal fishermen use some destructive method, it ends up affecting not only one species, but all the species that are around it, especially those that are at the bottom of the sea. Many expert marine biologists say that, as mentioned above, illegal fishing is a major threat to global fisheries sustainability and also to marine habitat or conservation because this activity leads to the discarding of a large number of marine species. "The problem of discarding is equivalent to illegal fishing. Over-exploitation is largely the result of discarding plus illegal fishing, not forgetting that scientific criteria are ignored and exploitation is above recommended quotas" (Villata, 2017, p.39).

The consequences of this activity are quite a few being honest but among those that stand out are: Inadvertent overharvesting of non-target species, Reduced harvests of target fish, Harvest of secured species, Changes in ecosystems, It causes large-scale extinction in oceans and marine ecological disasters attributed to water pollution. Within the sea the nourishment chain is as takes after because within the ocean you are doing not discover the same creatures and species that exist on arrive at that point the nourishment chain starts so the phytoplankton and green growth are the motor of marine biological systems. They capture sun-based vitality through photosynthesis and, when devoured by zooplankton, transmit it to the rest of the nourishment chain. Little angle eats zooplankton and in turn are eaten up by expansive angle, the objective of fishermen.

3.1.1 Damage caused by this activity to the marine ecosystems.

In the last 7 years, it can be said that Ecuador is in a somewhat alarming situation since there has been a great loss of marine diversity (both in fauna and flora) as a result of this illegal activity.

Pollution and above all illegal fishing have decreased a great amount, almost half, the populations of marine animals and species. This is a big problem since we are analyzing a little further beyond approximately 17% of the protein comes from the marine ecosystem.

illegal fishing is affecting species that are not so common or difficult to observe because their habitat is at the bottom of the sea. Among these species are the moonfish, sea turtles, thresher shark or hammerhead shark that are affected by the fact that they violate the limits and thus capture them.

When we detect the boats, we are one mile from the Island and they enter to fish to the 8 miles of the zone, then at the moment that we detect them in the radar they also detect us but with the difference that they have a margin space-time to be able to leave. This prevents us from being able to denounce for piracy. (Vega, 2015, p.13)

Illegal fishing uses methods that are destructive to the marine ecosystem so they threaten the survival of species that are within the sea specifically where this illegal activity occurs. One of the most destructive methods they use is cyanide or other poisons to gobble up the fish so they can catch them more easily but by using these substances corals and small dependent organisms die as a consequence.

Other illegal fishermen use explosives, such as dynamite, to kill fish and hunt them easily but in doing so the corals turn into debris. As we all know, marine life is based on a food

chain and if one of those become extincts may gradually die the other species. In the event that we take the case of angles that are not planning to be angled or the so-called collateral angling, it is evaluated that speaks to almost a quarter of the whole world fisheries.

Collateral angling incorporates all angles that are caught but are not aiming to be held or utilized, or that must be disposed of due to administration regulation (Pellerano, 2010).

The anchoveta, the jurel, the mackerel, the bonito, the fish, the cleaver, the hammerhead shark, the white shark and the cojinova which are a deep-sea angle. But there are moreover coastal species such as corvina, grouper, coconut and cabinza. Shrimp, fan shells and prawns are other marine species more common on our coastline and complement the fishery items we more often than not devour. Species such as monkfish, tuna , cod , sharks (for their fins and teeth), eels, salmon, swordfish and rays are also species affected by illegal fishing that is found in ever decreasing quantities.

That is why illegal fishing not only affects the fishery resources and all the areas and aspects behind them but also affects the environment, in this case, its ecosystem (reefs, water quality, elimination of plankton).

All this occurs because beyond the legislation, there is a lack of control, ie a high control in territorial waters that prevents the law is enforced by the good or bad.

Conclusions

- As a final paper this monograph has recommendations that we should not have neglected all that covers our maritime territory that as explained is separated by zones, these zones cover more than 40,000 million species which a quarter are in danger of extinction and if this illegal activity goes unnoticed these species may disappear.
- We also recommend that measures be taken against illegal fishermen who do not comply with the law.
- It is recommended to raise awareness of all marine species that may become extinct and the species that are most fished by anglers who practice overfishing.
- It is also recommended to make an approximation of the species that are usually found within the Ecuadorian maritime territory.
- It is recommended that several sailors on different ships are guarding the waters that pertain to the Ecuadorian maritime territory.
- It is recommended to put a limit either economic or of quantity of what can be fished in order to avoid overfishing.
- It is also recommended to put bases or radars in strategic points of the ocean in order to control more boats that do not comply with the law and practices this illegal activity in order to gain more economically.
- If illegal fishing would control the economy of the country, it would improve in part because many of the legal fishermen sell their goods (what they fish in the sea) to much larger companies which sometimes decide to export the goods that are being sold to generate more money.
- There should be more laws to regulate this problem because of the consequences it has in various areas and because it not only affects the marine ecosystem but also affects the country itself.

- The areas in which illegal fishing occurs most is the exclusive economic zone and the high sea which is an area not so guarded by seafarers.

Recommendations

- As a final paper this monograph has recommendations that we should not have neglected all that covers our maritime territory that as explained is separated by zones, these zones cover more than 40,000 million species which a quarter are in

danger of extinction and if this illegal activity goes unnoticed these species may disappear.

- We also recommend that measures be taken against illegal fishermen who do not comply with the law.
- It is recommended to raise awareness of all marine species that may become extinct and the species that are most fished by anglers who practice overfishing.
- It is also recommended to make an approximation of the species that are usually found within the Ecuadorian maritime territory.
- It is recommended that several sailors on different ships are guarding the waters that pertain to the Ecuadorian maritime territory.
- It is recommended to put a limit either economic or of quantity of what can be fished in order to avoid overfishing.
- It is also recommended to put bases or radars in strategic points of the ocean in order to control more boats that do not comply with the law and practices this illegal activity in order to gain more economically.

References

Álvarez, A. (2006), *Legislación de caza, pesca y uso de armas*. Recovered from:
<http://librosrelato.info/legislacin-de-casa-pesca-y-uso-de-armas-libro-que-quieras-agustn-alvarez-navarro.pdf>

Figuerola & Santander (2005), *Biodiversidad Marina: Valoración, usos y perspectivas, Ecuador, Editorial Universitaria*

Jiménez, Gutiérrez, Díaz & Jaramillo (2016), *La pesca ilegal marina.*

Recovered from: http://marviva.net/documentos/pesca_ilegal_marina

Sánchez, A. (2012), *el estado del puerto y la pesca ilegal, no declarada y no reglamentada, Córdoba, Argentina, Editorial: Servicio de Publicaciones de la Universidad de Córdoba*

Torres, J (2006), *la pesca y su lado oscuro, Lima, Peru, Editorial: Acerva*

QR Code