
INTERNATIONAL JOURNAL OF ADVANCED LEGAL RESEARCH

UNDERWATER SUFFERING: THE FISHY PROBLEM OF AQUA LIFE

- **Khuloos Aziz Chawla¹**

Abstract

There is a life under the water, which is forgotten by all of us. The life beneath is being affected by the brunt of human activities. Aquatic animals depend on their hearing capacity to live, to catch prey and locate each other. But their living is being affected as there are a lot of different noises under the water due to activities of commercial ships, offshore oilrigs, along with the use of air guns to extract seismic oil from the seabed. It is scientifically proven that sound travels faster in water rather than in air. When there are so many ear battering noises going all sound, then it becomes very difficult for the animals to recognize whether the noise is from the other animal or any other commercial source. The lack of understanding in these marine animals is letting them strand and causing their health to suffer. The laws relating to the law of the sea, whether it is United Nations Convention on the Law of the Sea or International Maritime Organization's rules, none of them explicitly mentions the limit of sound to be made by the ships or any other commercial activities. The lack of laws is the grey area which is making the condition worse. There shall be provisions leading to the limit on activities, the sound made by them while doing such commercial work and if there is any breach of law then they shall be penalized for the same. This is the brunt of these commercial means because of which the aqua life is suffering, and this is the burning issue which needs sensitization. This paper focuses on the lack of policies relating to the sound barriers with respect to the law of the sea, consequences of the same and implementation mechanism of rules which can be adopted in future.

¹ Student at Amity Law School, Noida

For general queries or to submit your research for publication, kindly email us at editorial@ijalr.in

<https://www.ijalr.in/>

Introduction:

There is a large number of marine watercrafts that is on the rise, which can be stated from private boats, underwater welding, sonic waves or air guns in coastal areas to commercial ships across seas and oceans. A concomitant increase in aquatic noise has been evidently reported in several regions around the globe. The sound plays an important role in the life functions of marine mammals and the potential effects of vessel noise has grown in particular which is leading to devastating results. The whales and sharks are of 200 years approx. and when they were born it was not the way it is now. Earlier, there was no commercialization and there were no ships which made such noises. Due to moving world, globalization and modernization, there are more activities which lead to a lot of ships, underwater welding and other activities. When these mammals were born, so they used to work out on their preys through their hearing capacity. Gradually as they were growing up, they started facing issues related to their hearing capacity and the reason behind the same is underwater commercialization. Now, when there is any activity inside the water, the noise comes out of the same which makes these animals confused about which is the actual one from the animal or it is an artificial sound. This disturbance is making marine life suffer as whales and sharks are not able to survive and suffering from brain hemorrhage. The marine traffic is increasing in the seas and this is the boiling frog syndrome which needs to be addressed immediately. Therefore, marine life is being affected by the unusual activities under water.

Hearing Ability of Marine Animals:

The whales and sharks have the higher frequency hearing capacity as their majorly life depends upon their ability to detect sound. The sharks, whales and dolphins; when they were born, they witnessed silent oceans. They were habitual to the peaceful environment. These mammals are now 200 years old and since their birth there have been vast changes all around the world. Sharks and whales depend upon their hearing ability to look for their pray, they search their family members or detect the movement of any other animal through their hearing ability only. There has been a major shift since these past years, the oceanic activities are now not limited only to the animals but also other sources. Due to increasing commercialization, there are number of activities in the seas to disturb the life under water.

For general queries or to submit your research for publication, kindly email us at editorial@ijalr.in

<https://www.ijalr.in/>

These activities include, movement of commercial ships, air guns, underwater navy sonar, etc. which have caused a lot of noise pollution in the water. The sound frequency doubles in the water due to which the activity which can be performed if it is outside water at the lesser noise will be noisier under water. The result of these activities is unacceptable as lots of aquatic animals are losing their hearing capacity, some are being deaf, and others are being found stranded on the ocean beds.

Causes of Under Water Noise Pollution:

- **Military or Navy Sonar:** The Navy sonar systems that are like acoustic floodlights by sending sound waves through the sea water for hundreds or thousands of miles to discover the large objects in their way. These kind of activities makes deafening sounds that is even minimum of the low-frequency sound made by active sonar loudspeakers are as loud as a twice the fighter jet which makes sound while taking off from the runway. This onslaught of noise, which far exceeds the Navy's own safety limits for humans, can have a devastating effect on marine species especially whales, who use their keen sense of hearing for almost everything they do.²

Active measuring device is employed by military vessels throughout exercises and routine activities to go looking for objects like enemy submarines. These mid- and low-frequency measuring device systems emit sound pulses of quite one hundred seconds at a time for hours on finish. These pulses are emitted with the maximum amount energy and in as slim a spread as attainable. Low-frequency measuring device is some way of golf stroke giant areas below police work and pervades thousands of cuboid kilometres of water with sound. Mid-frequency sonar uses 0.1 to 10 kHz and can reach up to 230 decibels.³

²https://www.biologicaldiversity.org/campaigns/ocean_noise/index.html#:~:text=It's%20an%20invisible%20threat%20but,deadly%20%E2%80%94%20menace%20to%20ocean%20wildlife.&text=Naval%20sonar%20systems%20work%20like,large%20objects%20in%20their%20path.

³https://www.biologicaldiversity.org/campaigns/ocean_noise/index.html#:~:text=It's%20an%20invisible%20threat%20but,deadly%20%E2%80%94%20menace%20to%20ocean%20wildlife.&text=Naval%20sonar%20systems%20work%20like,large%20objects%20in%20their%20path.

For general queries or to submit your research for publication, kindly email us at editorial@ijalr.in

<https://www.ijalr.in/>

The Sonar system are so loud that they can displace whales and sharks from their comfortable and preferred habitat to disrupts feeding, breeding, nursing, communication, navigation and other behavioural environment which are completely opposite to their essential survival which they need the most. Moreover, in addition to these consequences sonar appallingly can injure whales directly by very often killing them or by causing hearing loss or brain haemorrhages and other kinds of tissue traumas, or by driving them rapidly to the surface or to shore.

- **Seismic Blasting:** Offshore oil and gas exploration uses earsplitting seismic surveys that generate the loudest human sounds within the ocean, wanting those created by explosives.
-

Seismic air guns square measure primarily used for oil and gas exploration below the bed and for geology surveys of the seafloor. Air is driven into the water at air mass, causation intense and explosive sound pulses towards the bed. These sounds permeate thousands of metres of ocean before penetrating many kilometers into the ocean. Seismic testing also involves blasting the seafloor with high-powered airguns (a quite powerful horn) each ten seconds and measurement the echoes with long tubes to map offshore oil and gas reserves. These blasts disturb, injure and kill marine life round the clock for years on finish. In marine mammals, the blasts that reach quite a lot of distant sound areas and be detected for miles can also cause hearing impairment, disturb essential behaviors like feeding and breeding, and mask communications between individual whales and dolphins. The blasts additionally scale back catch rates of business fish.

- **Commercial Ships:** Noise emanating from passing ships could disturb animals like killer whales and dolphins much more than antecedently thought, with new analysis showing that the animals' communication and talent to seek out prey may be hampered by the underwater din. US researchers have documented

For general queries or to submit your research for publication, kindly email us at editorial@ijalr.in

<https://www.ijalr.in/>

persistent noise also occurring at medium and higher frequencies, including at 20,000Hz where killer whales, also known as orcas, hear best.⁴

These noise disturbances may be impeding the power of killer whales to speak and echolocate – the method of mistreatment sound to bounce off objects like prey and establish wherever they're. Dolphins and porpoises, that conjointly operate at higher frequencies, is also suffering a similar issue. There are many knock-on consequences of a loud marine setting. Whales could get to cluster along a lot of closely so as to listen to one another. and will they fail to seek out prey as effectively, they'll got to expend their stores of excess blubber. This is problematic as this blubber often contains manmade pollutants that are harmful to whales if free totally into their systems. 90% of globally traded goods are transported by ships which are generating an ever-present and constantly rising acoustic “fog” that masks natural sounds. Ships tend to produce low-frequency sound between 10 Hz and 1 kHz that can spread over huge distances and is the most common source of ocean noise.⁵

- **Other reasons:** Explosives square measure detonated within the ocean by the military, for demolition functions, or for testing instrumentality – e.g., ship-shock trials, whereby ships square measure deliberately affected with explosives to check their sturdiness. These explosions cause extraordinarily high noise levels across a good frequency vary and square measure defined by fast rise times.

Construction works in harbors in addition as pile-driving for offshore wind farms and oilrigs square measure generating intensive noise emissions, too.

⁴<https://www.theguardian.com/environment/2016/feb/02/ships-noise-is-serious-problem-for-killer-whales-and-dolphins-report-finds#:~:text=Noise%20emanating%20from%20passing%20ships,hampered%20by%20the%20underwater%20din.>

⁵https://www.biologicaldiversity.org/campaigns/ocean_noise/index.html#:~:text=It's%20an%20invisible%20threat%2C%20but,deadly%20%E2%80%94%20menace%20to%20ocean%20wildlife.&text=Naval%20sonar%20systems%20work%20like,large%20objects%20in%20their%20path.

For general queries or to submit your research for publication, kindly email us at editorial@ijalr.in

<https://www.ijalr.in/>

Current Scenario of Marine Animals:

The depths of the oceans square measure typically thought of as a silent world, wherever nearly no sounds square measure ever detected however that was ne'er the case, and they've solely become noisier as human technologies have advanced. There's a growing underwater din from shipping, coastal industries, and off-shore oil rigs and wind farms, for instance, and it's badly compact animals like whales, dolphins and fishes which will struggle to listen to their own sounds within the cacophony.

One of the foremost widely known incidents representative of the impact of human sound on marine life is that the March 2000 stranding of seventeen marine mammals (16 of them whales) within the Bahama Islands. The animals had high-and-dry themselves in and round the islands, some with hurt ears; six of them were dead. once learning that this had occurred terribly shortly once United States Navy destroyers were mistreatment navigational instrument in coaching exercises near, government scientists launched associate degree investigation.

An interim report released in December 2001 concluded that the stranding's were caused by several factors, but admitted the sonar pings likely dazed the mammals, causing confusion and disorientation.⁶The animals are being stranded and found dead on the seashores.

Documentary by University of Georgia:⁷The documentary opens up with the reference to Bahamas, where 16 whales were found dead altogether initially, which gathered the attention of all the environmentalist. The accumulation of sound is ruining the underwater eco system and nearby Artic ocean. The underwater aquatic life is in danger and this documentary played an immense role in making me aware. The water is a brilliant medium of sound and this was well witnessed in 1990 when the scientists made a sound discovering device and tested it in Atlantic and Pacific Ocean which gave the results as it travels at the speed of 70,000 kms. In context to the various research, it is also scientifically proved that sound travels fast in liquid than in air. Whales who were the main subject of the documentary are highly conscious

⁶<https://www.jdsupra.com/legalnews/noise-pollution-in-our-oceans-can-we-4047203/>

⁷ https://kaltura.uga.edu/media/t/1_b93ma55v

For general queries or to submit your research for publication, kindly email us at editorial@ijalr.in

<https://www.ijalr.in/>

animals, who have intellectual capability and are gracious. These mammals who rule the ocean are now suffering badly and this burning issue needs sensitization. The sound can travel enormous distance at a very fast pace, so whales take advantage of that and hear through that. They can hear storms from the thousand miles away. In other words, whales see ocean through sound, their minds are equal to their ears. They rely on their hearing to live; they have eyes too but totally depend on their hearing capacity. Ears are the entrance to the soul of whale, to their life, consciousness and soul. The reasons behind the death of whales weren't certain so fresh dolphin and whale were freshly taken to Boston for testing. There it was discovered that they had blood around the ears and Brain Haemorrhage. The main reason behind this is human cause, who are stranding these mortalities as they are changing sounds of the ocean. There are approximately 60,000 commercial ships in the ocean who travel in the world on everyday basis. Due to this sound, the whales are being interrupted, it is disrupting their ability to hunt and getting lost in ocean. These whales are actually 150-200 years old who were not habitual to this environmental as they grew up in silence and now when they have become old, these evil practices are making their survival impossible. Even the researchers, who were researching with regard to these sounds of ships got fed up and had to lower down the volume, so it must be really difficult for one of the most powerful creatures on earth who are dependent on hearing capacity.

They are now fearful, and it has adversely affected their hunting, socialising and resting capacity. There are very large ships which have engines from China, and they are called the skyscrapers of ocean. The bubbles are formed from the contact of perpetual collapse and burst in water. These numerous bubbles formed at once creating a lot of sound. This process is called cavitation. Over last 60 years the ships have increased in the world, similar to highway. The northern hemisphere was examined, and the results were worst as 80% of whales have lost their ability to hear. It is repining their survival, as they are not able to hunt and mate, so it is affecting their reproductive cycle. Hence, this specie is fighting for life now.

Burning Issue: The main problem was Navy being actively problematic to aquatic life and nobody can make them feel guilty about it since they are the protection organisation of

For general queries or to submit your research for publication, kindly email us at editorial@ijalr.in

<https://www.ijalr.in/>

national security. So, it had become the *parade of horrible* as it was witnessed from Bahamas incident. But soon they released and now have started taking permits for the same. The main purpose is to realise when the human beings get fed up continuous noise and there is the provision for public nuisance for loud sounds then why cannot animals be understood in the same way? The sound of Navy's active sonars shall only be dealt with where there is the suspicion or existence of enemies.

The whales shall not be disturbed, or any of the aquatic life, which forces them to leave their habitat or affecting them physically and mentally. This is the clear indication that aquatic life is in danger and there is an immense need of sensitization.

Laws Applicable on the Sea with respect to Sound:

There are various laws relating to the sea such as United Nations Convention on the Law of the sea, international high sea laws and International Maritime organization. But none of them deals with the level of sound being governed under water. The frequency is determined by not explicitly as per the environmental agenda. These international conventions, treaties or laws are vague. They do not have the parameters governing the sound of the commercial ships, or air guns or navy sonars. If there were laws which had a bar to restrict the excessive sound, then these marine animals would not have faced such life taking consequences.

The international organization should now bring in the high sea laws which should restrict the sound up to the extent that does not disturb the marine life. There shall be laws defining the limit of sea traffic, sea welding or any other air guns or means of sound if nay. The speed shall be limit down too, in context to lower down the noise. The law being stated will not only be of help until and unless it is implemented. The implementation of law will only be effective with respect to the punishment associated with it. The penalty or any other form of punishment will make people hesitant to break the law as otherwise they will be penalized for breaking the law.

The other interpretation we derive here is that there is no law, or the law is silent with respect to the sound under the sea. The silence of law means the acceptance of the same as had it been not as per the societal norms then it would have been restricted by attaching the legal aspect to the crucial matter. So, this is the need of the hour to be taken into the account at earliest as it is being misused. The loophole of law is being used as the means of

For general queries or to submit your research for publication, kindly email us at editorial@ijalr.in

<https://www.ijalr.in/>

commercialization. There must be laws to restrict the sea level noise to save the marine animals from dying.

Conclusion:

This is the major problem which needs to be solved but here we have a question whether nations are politically ready to solve it?

Ships should be designed in such a way that they should make less sound and shall ne quitter. The navy is also reforming and modifying ships. The commercial ships can go slow and make less noise up to 90%, if implemented then it'll be a great change. The reduction in noise will be a win-win situation all as, for humans to save pollution, for marine life and to save money for commercial ship owners by slowing them.

Ocean pollution comes from human action like industrial shipping, seismic surveys, oil exploration, and military navigational instrument. All of those noises cause serious threats to marine life. This pollution impacts a large vary of marine species, we're not simply talking regarding whales and dolphins. It's all the marine species. Ocean noise dramatically changes Associate in Nursing animal's behavior. It causes stress and drives the animal out of its environs. It reduces Associate in Nursing animal's ability to speak, navigate, find prey, avoid predators, and realize mates. All the aspects of Associate in Nursing animal's life is discontinuous by human created ocean noise. within the worst cases, it will result in physical injuries and even death following long, loud impact.

There is presently no international regulation on ocean noise, therefore my suggestion is to vary this. the govt. officers ought to implement stronger legislation that minimizes ocean pollution. the foremost effective answer that I actually have here is to advocate associate implement thought of speed restrictions for ships as a result of this not solely reduces ocean noise, however conjointly minimizes gas emission and ship strikes. I actually have conjointly to advise that ships area unit designed with optimized noise reduction style. Ships that have reduced their pollution ought to get reductions in port fees, because it happens in some states of France.

The laws shall be made in respect of high seas and environmental condition. This shall be taken in account the aspect of noise as the marine life is being badly affected.

For general queries or to submit your research for publication, kindly email us at editorial@ijalr.in

<https://www.ijalr.in/>

My advice to people is to become a responsible consumer. The people have the right and they have the power to create impactful change through the consumer habits. Herein, if we state example of from where people purchase so it should be from local markets such as buy fruits or vegetables from the home country that weren't shipped from the other side of the world, meaning shop for products at local stores. It's not possible for everything as live in a globalized world, we can try our best to buy local. This way, you will be buying the products which come may be from trucks, but not from ships that producing ocean noise pollution.

Lastly, seismic sounds shall also be prohibited and there shall be another alternative solution rather than bombing the ocean bed. I would like to suggest here that the silent method such as underwater digging or machines which can create a hole slowly would be much better.

What are we leaving behind for future generations?

We can not go back or return to what was donebut surely, we can make things better and make most of it. We can return the favour of nature. People protect what they love once we start understanding this, we will also be protecting our earth and its environment. We have to make people understand and aware. The planet is not only about us or one specie, but science also has no role here whereas it is about what we value and what we are putting at risk.

For general queries or to submit your research for publication, kindly email us at editorial@ijalr.in

<https://www.ijalr.in/>