
Environment Pollution Significantly Harms The Species Of Dolphin

Dolphins are lovely and smart animals, but dolphin population worldwide are facing a significant threat. In the area as large as America, there are reports about the massive mortalities of dolphins within a few months. The stranding of more than 740 bottlenose dolphins (approximately 50% of the coastal migrants) was observed from June 1987 to March 1988 along the eastern coast of the U. S (Miller, 1992, p. 791). We have to pay close attention to this issue so that dolphins would not die out and species diversity could be preserved. Actually, environmental pollution is an important reason why the dolphin population dramatically reduces. Dolphin population is significantly hurt by environmental pollution due to three major reasons. First, dolphins are easily hurt by chemical contamination because of bioaccumulation in which damage dolphins' body systems. Second, noise pollution impairs dolphins' health and change their normal behaviors. Third, marine debris threat dolphins' life since dolphins may accidentally eat litters or be entangled by packaging.

At the same time, there seems to an argument about whether environment pollution extremely harms dolphins. Some people argue that some studies contain limitations and the data are insufficient to support the position that the species of dolphin are significantly hurt by chemical pollution. However, chemical pollution and noise have some clearly negative impacts on dolphins. One of the direct effects is that noise forces dolphins to consume more energy. Also, environmental pollution pollutes dolphins' habitats and kill smaller sea animals that could lead to the short of food for dolphins.

First of all, chemical pollution including oils spills and polluted water has a detrimental effect on dolphins' health. With the rapid development of industry, increasing industrial accidents happen and these accidents result in many serious consequences. Venn-Watson et al. (2015) find that a large number of bottlenose dolphins' death in the Gulf of Mexico is linked to the Deepwater Horizon Oil Spill, and one of the direct causes of death is associated with aspiration of oil (p. 19).

In other words, dolphins are unable to completely avoid the area of floating oil after the oil spill, and sometimes they indeed swim into floating oil. Then there is a chance that the poisonous oil will enter dolphins' spiracles and mouths. What is more, Durante et al. (2016) believe that polluted prey also has an adverse impact on dolphins' health since toxins will be accumulated in dolphins' bodies eventually (p. 358). Persistent Organic Pollutants (POPs) are perilous chemicals that released by industrial production and they are unlikely to break down in a short time. Sea animals will die if they absorb POPs at a certain level, and the amount of POPs in the ocean is rather huge. The majority of dolphins are at the top of food chains naturally, and so they are the ending point for POPs (Durante et al. , 2016, P. 353). To be more precise, plankton absorbs PCBs from the environment, and small fish eats plankton to survive. A lot of small fishes are eaten by large fishes in their life, and dolphins eat plenty of large fishes over their lifetime. Finally, POPs from lots of smaller marine organisms are absorbed by dolphins. So bioaccumulation caused by chemical is contamination really a big issue for dolphins. In addition, migratory species and water circulation help pollutants to transport in different places globally, and high concentrations of POPs have been associated with many serious issues (Durante et

al. , 20016, p. 353). More specifically, dolphins' reproductive and immune systems are likely weakened due to the damage of chemical contamination. Consequently, some of the burdens of pollutants may be passed by female dolphins to their descendants during the periods of lactation and pregnancy (Durante et al. , 2016, P. 358).

So the injury to dolphins' reproductive systems can lead to serious problems because a large proportion of chemical pollution is possibly fatal to offspring. Similarly, the issues related to injured immune systems are also severe. For example, Rage et al. (2008) provide convincing evidence that the massive death of the dolphin population since the 20th century could be caused by virus transmission from animals to animals (P. 473). The immune system is the main defense against diseases, and injured immune system certainly increases diseases risk. Thus, chemical pollution puts dolphins in especial danger because toxins and poisons from dangerous chemicals severely impair dolphins' health. Other than chemical contamination, noise also has a seriously negative impact on the dolphin population. Dolphins live in the ocean where the sound is the basic tool to communicate and look for direction. Nonetheless, human activities such as natural resources exploration, the operation of ships, and military maneuvers in the sea have made a very high level of noise (Harris, 2017, p. 214).

For instance, dolphins with excessive stress levels caused by high-intensity sounds may even behave aggressively, which can result in physical injuries (Harris, 2017, p. 212). So noise is recognized big worries for the health of sea mammals since they can lead to physical hurt or even death to marine animals like dolphins. Likewise, masking may be another problem when the noise made by ships occupies the occupies the same frequency wavelengths utilized by a species of marine animals for communication (Harris, 2017, p. 213). This evidence clearly shows that noise pollution negatively influences the species of dolphin. Besides high-frequency and mid-frequency sonar, Harris claims that low-frequency ocean noise also influences mammal behaviors. To be more specific, mammals like dolphins will go away from their habitat or breeding place because of excessive noise, which is observed on the coast of Baja California, Mexico (Harris, 2017, p. 211). In other words, noises will drive dolphins from important areas to them, then the chance of stranding or having an illness to dolphins may increase. Basically, all noises made by humans influence extremely disrupt dolphins' life. Dolphins have to raise their voices to communicate with each other since plenty of ships in the ocean make many noises. Dolphins change the frequency, duration or amplitude, or they simply repeat their calls several times (Holt, 2015, p. 1648). Yet, these actions are really not good for dolphins' health. Furthermore, exposure to shipping noise in long periods could cause temporary or permanent damage to dolphins' sense of hearing (Li et al. , 2014, P. 501). The auditory system plays an essential role in dolphins' daily life, and it is hard to imagine how should dolphins survive in the sea without a sensitive sense of hearing.

Therefore, dolphins' lives are significantly impacted by noise pollution because noises alter dolphins' normal behaviors and harm their heath including the auditory system. Dolphins are threatened by noise while the detrimental effects of marine debris on dolphins cannot be overlooked. Countless man-made litters are dumped by people into the sea worldwide. The oceans are polluted by marine debris, and it is quite risky to dolphin population. Laist (1997) discusses that marine litters are now considered as the main form of marine contamination, and it causes the entanglement to sea animals (p. 99). To put it another way, man-made litters containing plastic bags and other indecomposable substances can trap or choke dolphins when they swim in the ocean, young dolphins in particular. Consequently, dolphins can suffer or die once they are entangled in plastic bags. Moreover, researchers have found that more and more

dolphins eat marine debris accidentally. Bearzi et al. (2014) state that one of the known cause of dolphins' mortality is obstruction of the digestive system by ingesting plastic (P. 393). As a consequence, intestinal blockage, starvation, and inside damage are all possible injuries to dolphins. Similarly, Eo, Yeo, and Kwon (2013) explain that gastrointestinal foreign objects are a serious problem in cetaceans and dolphins (p. 251).

For example, Eo et al. (2013) helped a male bottlenose dolphin to remove foreign objects from its forestomach, and they found that "The foreign bodies included a 10 × 3.5 cm plastic tube, 4 × 2.0 cm stainless steel pipe, brush, and concrete debris" (p. 251). Hence, littered marine as one of the environmental pollution poses a real threat to dolphins' lives because serious issues such as intestinal blockage, and internal injury are possibly happened due to ingestion of plastic litters and entanglement by packaging. On the other hand, some individuals challenge that chemical pollution does not have an extremely negative effect on dolphins because of two main reasons. First, lots of scientific studies about how environmental contamination affects the dolphin population are not optimal. For instance, Pitchford et al. (2018) admit that some factors that would impact the results are not being quantified in the study of oil spills (p. 16).

Additionally, the statistics are not sufficient because some data are rather difficult to collect. Durante et al. (2016) write that solely a low number of samples is available and used in the study (P. 358). Follett, Genschel, and Hofmann (2014) say that reliable conclusions cannot be drawn based on inadequate data and limited knowledge although oil discharge leads to huge destruction (p. 130). Humans indeed do not have adequate information about how the deaths of marine mammals like dolphins are related to chemical contamination because researchers need to check the actual cause of the death of animals (Follett et al. , 2014, p. 130).

In other words, scientists have to examine a large number of animals' death to confirm the cases that animals died due to environmental pollution, which is quite challenging. Hence, the limitations of some scientific researches and the lack of data are the two major reasons why some individuals reject that the dolphin population is significantly harmed by environmental contamination. Nevertheless, there is compelling evidence demonstrating that chemical pollution and noise have an adverse impact on the ecosystem, food chain, and energy expenditure. Follett et al. (2014) note that oil spills destroy marine habitats and kill many sea animals (p. 122). It means that chemical contamination like oil spills obviously causes habitat destruction, and it makes dolphins lost their habitats. Although oil spills may not directly kill dolphins, smaller mammals that are the sources of food to dolphins could be killed by chemical pollution, which increases the risk of lacking food. Meanwhile, biologist Holt and her colleagues study a pair of bottlenose dolphins at the lab and conclude that the louder dolphins phonate, the more oxygen and energy they consume. Then Holt et al. (2015) apply the uniform method to calculate how many extra calories dolphins in the wild have to get to compensating the extra consumption of energy, and they estimate dolphins need to obtain two extra calories for every two minutes (p. 1650). Though this extra metabolic cost is not huge, the consumption of energy will become quite large through the accumulation over time. More importantly, not all dolphins are able to find sufficient foods, especially for juveniles and pregnant females. Thus, environmental contamination indeed has dramatically negative influences on the species of dolphin.

To conclude, environmental pollution significantly harms the species of dolphin because of the three reasons. Chemical pollution enables toxins and poisons enter dolphin's bodies and then destroys their reproductive and immune systems. Through injuring dolphins' auditory system and disrupting the communication, dolphins' health is impaired by noise, and dolphins' normal

behaviors are changed by noise pollution as well. Marine debris threat dolphins' life by raising the risk that dolphins ingest litters or be entangled by plastic bags, which leads to severely consequent issues like obstruction of the digestive system and asphyxia. Each person, every organization, and all countries ought to should the responsibility to tackle environmental pollution and protect the species of dolphin. Humans should take actions immediately before environmental pollution results in more seriously irreversible damage to dolphin population.

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