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### **Term Project Summary**

Overfishing involves an understanding of the interactions of organisms living in the same environment and the consequences of them. The marine food web is an example of how certain organisms survive among each other. If one species is affected, the entire system can shift and become unbalanced. Also, the food web outlines the biodiversity and differentiates the different roles each species play within a specific area [6]. With the effects of overfishing, it has directly impacted a lot of species of fish. Therefore, it has resulted in an increase of jellyfish [2]. Both the predators and competition of the jellyfish are being impacted by overfishing. The jellyfish population continues to grow without any restrictions from other marine organism species. Understanding the food web helps lay the foundation to understanding the crucial role the ocean plays in our ecosystem. One major factor that the ocean plays in our ecosystem is in the issue of global warming and climate change. An understanding of global warming and climate change is important as overfishing can influence the earth's efforts to solve the issue. The basics of climate change are that the excess amount of greenhouse gas or carbon dioxide has impacted the earth's atmosphere causing the climate to change rapidly whether it be warming or cooling. The ocean has the capacity to absorb a huge amount of carbon dioxide that is causing global warming and climate change [4]. The concept of how important the ocean is in our ecosystem is crucial to understand how big of an impact it can make from people's influence on it. The ocean serves as a food resource to many people [3] but also it contributes to the production of oxygen that phytoplankton produce.

Illustration allows for a variety of ways to depict a message or story. It serves to make a topic that might not be seen as publicly appealing to be interesting to the audience. The concept of overfishing is something that should be communicated and shared so that people can be more aware of the issue. Therefore, the illustrations will include techniques and terms, such as bottom trawling and bycatch, that a lot of people do not know about overfishing. The concept of "bottom trawling" can be understood as a fishing practice that entails a huge net being placed on the ocean floor and then dragged as it moves. It crushes all the fauna and flora including fragile coral that live on the ground whilst it tries to capture fish [1]. It not only is destructive but an unsustainable fishing practice. Another concept important to overfishing is "bycatch". The fishing gear used is not particularly selective so the "unusable catch" that comes with the targeted fish species is called "bycatch". A lot of the bycatch is thrown back into the sea because they have no commercial value and don't fill the fishermen's quota [5]. Bycatch can include other organisms like dolphins, sea turtles, whales, and porpoises. Each term will depict the specific techniques. For example, the bottom trawling illustration will show a fishing boat with a dragging fishing net that is collecting both fish and other organisms. The bycatch illustration will show a net filled with fish and the other organism caught in the catch. Utilizing this way of communicating a particular concept is appealing for a younger audience. The techniques of

overfishing can more easily be understood through the visual depiction of the actions that go into the techniques. While infographics are very useful in portraying a lot of information in a concise and simple way, the illustrations place overfishing in a more familiar and relatable environment that will appeal to the public. It seeks to unveil some of the information that most of the general public do not know. It seeks to draw in attention for people to learn more about the subject.

The intended audience for the work is younger people especially those still in middle school. To appeal to a younger audience, the illustrations will include simple recognizable marine organisms and bright colors that will draw their attention. The recognizable organism like dolphins, sea turtles, and jellyfish hopefully will make the issue of overfishing more attractive. Since a younger audience will not have direct influence on stopping overfishing through their means, the illustrations are demonstrating the basic concepts. For the younger audience, the focus is more on the awareness of the issue and the impact it can have on people and the society we live. The topic is meant to be shared and seen as a problem that should be fixed. It not only brings awareness to the issue but develops a mentality that people have an influence on the environment to be more aware and alert about the decisions they make. The decisions they make should be thought out and made more carefully by thinking about the environment. Many of the environmental awareness campaigns seek to do the same by creating media that shows the impact people make on the planet. The illustrations are meant to be easily understandable and simple. The intended purpose for these illustrations is that the audience can be introduced to the concept of overfishing. Even though the term is self-explanatory, there are many components that make up overfishing. The illustrations show the different methods that contribute to the overall impact of overfishing. The first two illustrations make up the techniques of overfishing while the other two consist of the impact of overfishing. These two components can serve to give awareness to overfishing by educating the public about the general idea. These illustrations are not meant to be that most informative pieces of art that describe overfishing. They are simply illustrations that bring attention to the issue.

### Annotated Bibliography

- [1] "Bottom Trawling." Bottom Trawling | *Greenpeace UK*. N.p., 24 Jan. 2007. Web. 05 Mar. 2017. <<http://www.greenpeace.org.uk/oceans/problems/bottom-trawling>>.

The organization Green Peace explains the impact of bottom trawling, one of the fishing practices used by fishermen.

- [2] Systems, EZ. "426 - Boom in Jellyfish: Overfishing Called into Question - Institut De Recherche Pour Le Développement (IRD)." *426 - Boom in Jellyfish: Overfishing Called into Question - Institut De Recherche Pour Le Développement (IRD)*. N.p., Mar. 2013. Web. 05 Mar. 2017. <<https://en.ird.fr/the-media-centre/scientific-newsheets/426-boom-in-jellyfish-overfishing-called-into-question>>.

This article sheds light on the cause of the jellyfish boom. Explaining that overfishing is the cause and how it directly has effected the marine food web with the growing amount of jellyfish.

- [3] "Overfishing Causing Jellyfish Population Boom, Research Finds (+Recent Examples Of Overfishing)." *Science Heathen*. N.p., 20 Feb. 2015. Web. 05 Mar. 2017. <<http://scienceheathen.com/2013/05/16/overfishing-causing-jellyfish-population-boom-research-finds/>>.

Providing examples of the effect of overfishing on the jellyfish population, this article highlights real-life scenarios backed up with research and evidence of harmful impacts o overfishing.

- [4] "Open Ocean: Importance." *WWF*. N.p., n.d. Web. 02 May 2017. <[http://wwf.panda.org/about\\_our\\_earth/blue\\_planet/open\\_ocean/ocean\\_importance/](http://wwf.panda.org/about_our_earth/blue_planet/open_ocean/ocean_importance/)>.

This article gives information and examples of why the ocean is important to our environment and crucial to climate change.

- [5] "Bycatch - Wasteful and Destructive Fishing." Bycatch - Wasteful and Destructive Fishing | *Greenpeace UK*. N.p., 11 Jan. 2007. Web. 05 Mar. 2017. <<http://www.greenpeace.org.uk/oceans/problems/bycatch-wasteful-and-destructive-fishing>>.

The organization Green Peace explains what bycatch is in context to the fishing practices used.

- [6] Zubryd, Sascha. "Ocean's Food Chain: Overfishing Not Just an Issue for Big Fish." *Santa Cruz Sentinel*. Santa Cruz Sentinel, 14 May 2011. Web. 03 May 2017. <<http://www.santacruzsentinel.com/article/zz/20110514/NEWS/110517468>>.





# Overfishing



# Bottom Trawling





# Bycatch





