DART449 project: strategy for a possible web intervention

"He was an old man who fished alone in a skiff in the Gulf Stream and he had gone eighty-four days now without taking a fish."

- Ernest Hemingway, The Old Man and the Sea

The problematic

The possible collapse of marine ecosystems is one of the terrifying prospects of this century. It is estimated that marine ecosystems house 15 percent of all known biodiversity on Earth (Zhang). This figure seems small when considering the huge area of ocean habitat compared to land, but the actual number might be higher, as 80 percent of the oceans remain unexplored. (SOURCE) It is not only oceanic species that depend on marine ecosystems. According to the FAO, more than 120 million people worldwide depend on the seafood industry for their livelihood. Furthermore, seafood is the primary source of animal protein for a large part of the human population, especially in developing countries. The estimates for people who depend on fish for sustenance range from 1 billion (WHO, fisheries and food diversity) to 3.3 Billion (WWF). For those people, the health of marine ecosystems and their biodiversity is not only a ethical and altruistic concern, but an existential one.

Ironically, it is precisely the fishing industry that is threatening marine biodiversity. The most obvious way the fishing industry impacts marine ecosystems is through overfishing. Fish populations are harvested faster than they can replendish themselves. Fish populations often have reproduction cycles and mechanisms that are not well understood, so it's not only a matter of fishing less when we realize their population is threatened. Once populations reach critical levels, it's often too late, and they might take years to bounce back. A famous example is the orange

roughy, a deep sea fish that first saw large scale commercial fishing in the 1970's. They were nearly fished to extinction, because it wasn't known that they are extremely long-lived fish that only reach sexual maturity at 20 years old (Benson). Another disruptive practice of industrial fishing is its collateral damage, often caused by unnecessarily destructive practices. For example, bottom trawling nets, which rake the bottom of the sea floor, rips off key anchors of marine ecosystems such as corals and sea sponges.

Fishing nets, especially fine-meshed ones used to catch small creatures such as shrimp, catch everything bigger than the target fish. It is estimated that shrimp trawlers, while producing 2% of the world's catch by weight, produces a third of its bycatch. While incidence of bycatch is not always fatal to fish, a certain percentage always die, either right away or after release, through trauma. (SOURCE) Bycatch doesn't only affect the fish populations. The economic value lost to bycatch could be as large as that of the catch itself (FAO, Bycatch and discard impacts chapter III, economic impacts).

According to a 2006 study published in the journal Science titled "Impacts of Biodiversity Loss on Ocean Ecosystem Services," if current fishing practices are maintained, all populations of commercially exploitable fish will collapse, meaning that they will see a reduction of 90% or more (Stanford). The collapse of an important fish population isn't unprecedented. In 1992, the cod population of the Maritimes fell to 1% of previous levels. This had devastating impacts on the fishing communities in those coastal areas, whose cultural identities and economies were tied to the cod fishery (Dolan & al.). Even today, after decades of conservation efforts, the cod population hasn't bounced back. Restoring a population is sometimes impossible, because the unique circumstances of ecology that allowed for some species to thrive are almost never well

understood. For example, in the absence of sufficient adult cod populations, fish like capelin, on which adult cod prey on, have thrived and are now eating juvenile cod (Hirsch).

If this kind of catastrophic collapse were to happen to every exploitable fish population, it would create humanitarian crises on scales never seen before. Products of the fishing industry is Canada's second largest export, and brings 6 billion dollars annually into the Canadian economy (Government of Canada). Although Canada, through Fisheries and Oceans Canada, argues for better fishing practices on the international stage, the Canadian industry isn't without blame.

The intervention

With this problem in mind, I would propose a web intervention similar to the "sharethesafety.org" one done by the yes men. It would be a satirical website posing as an organization of the fishing industry promoting its products. "Turkeyfarmersofcanada.ca," "dairyfarmersofcanada.ca," or "oeuf.ca" are examples of such websites. It always seemed strange to me to see advertisements for milk, eggs, or turkey (not for specific brands, just for milk, eggs and turkey as products. I've seen ads that literally say: "turkey, it's good."). I think they're as absurd and ridiculous as ads for "shirts" or "trees." I suppose the industries I mentioned have acquired a negative image. The horrible conditions of animals raised for meat, or even for their non meat products have come to the public consciousness, and those industries need to reassure us that their practices aren't so bad. For my final project, I would make a website similar to those, but centered around the fishing industry. I acknowledge there is already one: the Canadian council of professional fish harvesters. Their website is very insipid and doesn't look like much thought or effort has gone into it. I suppose the fishing industry hasn't needed investment into its public image yet.

I think good satire has to be somewhat subtle. For example, "sharethesafety.org" would seem plausible and even a good idea to some pro 2nd amendment people, and yet seems completely ridiculous to others. The basic premise of my website would be "Support your local fishing industry by buying more fish."

Bibliography

- Benson, Maggy Hunter. Rough Going for Orange Roughy | Smithsonian Ocean. http://ocean.si.edu/ocean-life/fish/rough-going-orange-roughy. Accessed 3 Nov. 2020.
- Cochrane, Kevern L. "Reconciling Sustainability, Economic Efficiency and Equity in Fisheries: The One That Got Away?" Fish and Fisheries, vol. 1, no. 1, 2000, pp. 3–21. Wiley Online Library, doi:10.1046/j.1467-2979.2000.00003.x.
- "Collapse of the Atlantic Northwest Cod Fishery." Wikipedia, 15 Oct. 2020. Wikipedia, https://en.wikipedia.org/w/index.php?title=Collapse of the Atlantic northwest cod fishery&oldid=983672269.
- Davis, Michael W. "Key Principles for Understanding Fish Bycatch Discard Mortality." Canadian Journal of Fisheries and Aquatic Sciences, vol. 59, no. 11, Nov. 2002, pp. 1834–43. DOI.org (Crossref), doi:10.1139/f02-139.
- Dolan, A. Holly, et al. "Restructuring and Health in Canadian Coastal Communities." EcoHealth, vol. 2, no. 3, Sept. 2005, pp. 195–208. Springer Link, doi:10.1007/s10393-005-6333-7.
- FAO. A Global Assessment of Fisheries Bycatch and Discards. http://www.fao.org/3/t4890e/T4890E04.htm. Accessed 3 Nov. 2020.
- ---. FAO News Article: Oceans Crucial for Our Climate, Food and Nutrition. http://www.fao.org/news/story/en/item/248479/icode/. Accessed 3 Nov. 2020.
- ---. Food for All World Food Summit Agricultural Machinery Worldwide. http://www.fao.org/3/x0262e/x0262e09.htm. Accessed 3 Nov. 2020.
- ---. The State of World Fisheries and Aquaculture -2020 | FAO | Food and Agriculture Organization of the United Nations. http://www.fao.org/publications/sofia/en/. Accessed 3 Nov. 2020.
- ---. The State of World Fisheries and Aquaculture 2020: Sustainability in action. FAO, 2020. FAO Publications, doi:10.4060/ca9229enAlso Available in:Chinese Spanish Arabic French Russian.
- Governement of Canada, Fisheries and Oceans Canada. Overview International Fisheries. 18 June 2009, https://www.dfo-mpo.gc.ca/international/issue-enjeu-eng.htm.
- Government of Canada, Fisheries and Oceans Statistical Services. Value of Outputs | Fisheries and Oceans Canada. 6 Oct. 2016, https://www.dfo-mpo.gc.ca/stats/cfs-spc/tab/cfs-spc-tab1-eng.htm.
- Grosberg, Richard K., et al. "Biodiversity in Water and on Land." Current Biology, vol. 22, no. 21, Nov. 2012, pp. R900–03. ScienceDirect, doi:10.1016/j.cub.2012.09.050.
- "Here's the Catch: How to Restore Abundance to Canada's Oceans." Oceana Canada, 22 June 2016, https://www.oceana.ca/en/publications/reports/heres-catch-how-restore-abundance-canadas-oceans.
- Hern, Jon, et al. "'Ghost Nets': How Lost and Abandoned Fishing Gear Is Destroying Marine Wildlife | CBC News." CBC, 12 July 2019,
 - https://www.cbc.ca/news/canada/british-columbia/ghost-nets-lost-abandoned-fishing-gear-destroying-fish-stocks-ma rine-wildlife-1.5207474.
- Hirsch, Tim. Cod's Warning from Newfoundland. 16 Dec. 2002. news.bbc.co.uk, http://news.bbc.co.uk/2/hi/science/nature/2580733.stm.

- "How to Get Abandoned, Lost and Discarded 'ghost' Fishing Gear out of the Ocean." Canadian Manufacturing, https://www.canadianmanufacturing.com/features/how-to-get-abandoned-lost-and-discarded-ghost-fishing-gear-out-of-the-ocean/. Accessed 4 Nov. 2020.
- Kourous, George. Many of the World's Poorest People Depend on Fish. http://www.fao.org/NEWSROOM/en/news/2005/102911/index.html. Accessed 3 Nov. 2020.
- Ocean_Factsheet_Biodiversity.Pdf.
- https://sustainabledevelopment.un.org/content/documents/Ocean_Factsheet_Biodiversity.pdf. Accessed 3 Nov. 2020. "Orange Roughy." Wikipedia, 3 Nov. 2020. Wikipedia,
 - $https://en.wikipedia.org/w/index.php?title=Orange_roughy&oldid=986860452.$
- Stanford, © Stanford University, and California 94305 Copyright Complaints Trademark Notice. "Science Study Predicts Collapse of All Seafood Fisheries by 2050." Stanford University, 2 Nov. 2006, http://news.stanford.edu/news/2006/november8/ocean-110806.html.
- UNESCO. Facts and Figures on Marine Biodiversity | United Nations Educational, Scientific and Cultural Organization. http://www.unesco.org/new/en/natural-sciences/ioc-oceans/focus-areas/rio-20-ocean/blueprint-for-the-future-we-wa nt/marine-biodiversity/facts-and-figures-on-marine-biodiversity/. Accessed 3 Nov. 2020.
- US Department of Commerce, National Oceanic and Atmospheric Administration. How Much of the Ocean Have We Explored? https://oceanservice.noaa.gov/facts/exploration.html. Accessed 3 Nov. 2020.
- WHO. "WHO | 3. Global and Regional Food Consumption Patterns and Trends." WHO, World Health Organization, https://www.who.int/nutrition/topics/3 foodconsumption/en/index5.html. Accessed 3 Nov. 2020.
- Worm, Boris, et al. "Impacts of Biodiversity Loss on Ocean Ecosystem Services." Science, vol. 314, no. 5800, American Association for the Advancement of Science, Nov. 2006, pp. 787–90. science.sciencemag.org, doi:10.1126/science.1132294.
- WWF. "Sustainable Seafood | Industries | WWF." World Wildlife Fund, https://www.worldwildlife.org/industries/sustainable-seafood. Accessed 3 Nov. 2020.
- Zhang, Sarah. "Why Are There so Many More Species on Land When the Sea Is Bigger?" The Atlantic, 12 July 2017, https://www.theatlantic.com/science/archive/2017/07/why-are-there-so-many-more-species-on-land-than-in-the-sea/533247/.