

Sustainability of seafood farms

[Science](#), [Anthropology](#)



Sustainability of Seafood Farms The 21st century has brought with it varying degrees of new challenges. With society's increasing recognition of its own impact on the environment through global warming and dwindling natural resources, one of the most pressing issues is that of sustainability. Today's global economy has increasingly placed an emphasis on sustainability measures both as a means of improving the social environment and as a path towards cutting-edge innovative design. While sustainability has emerged in nearly all aspects of modern innovation, one of its prominent areas of influence is in the triple bottom line of fish farming. Triple bottom line has influenced sustainability through concerns with people, planets, and profits ecosystem (" Common terminology," 2009). In fish farming this approach has prominently been implemented through catching methods that do not harm the specific species long-term ability to reproduce or operate in a functional ecosystem (" Common terminology," 2009). Within this context of understanding there have emerged a plethora of methods wherein triple bottom-line approaches to sustainability has had strong impact on seafood farms. There are a number of concerns when investigating the sustainability approaches to fish farming. Among the most prominent overarching concerns are the notions of production, distribution, and consumption. Production refers to the amount of fish that can be acquired or ' produced' within a farming area during a specified period of time; this notion is important, as farmers must increasingly take sustainability measures into consideration or face continually diminishing production. Distribution refers to the process of acquiring the fish from the production region and the various supply chain mechanisms implemented to bring the fish to market.

Finally, consumption refers to the percentage, speed, and type of food stock that is consumed by society. Global fish farming has had a tremendous impact on the world's oceans and aquatic life. Among the impacts on aquatic life are prominent changes that have resulted from feeding patterns. In order to keep plentiful fish stock it is oftentimes necessary for fish farms to feed the fish artificial pellets. This artificial feed is generally placed and consumed on the surface of the water, but can sometimes fall to the bottom of the ocean area where it is eaten by benthos and decomposed by microorganisms (Emerson, 1999). While initially a small occurrence, over extended periods this process can dramatically affect the area's natural life cycle, impacting the local environment (Emerson, 1999). One of the prominent affects fish farming has had on the ocean is through a process known as eutrophication. This is the process where fish fecal matter combines with nutrients released from the artificial feed. This had a significant global detrimental impact on oceans. Consider that, " In Scotland, an estimated 50, 000 tonnes of untreated and contaminated waste generated from cage salmon farming goes directly into the sea, equivalent to the sewage waste of a population of up to three quarters of Scotland's population" (Anon, 1999). Such processes impact oceans and shift natural life cycles in significant ways. While fish farming has been demonstrated to have a tremendous impact on the world's oceans and aquaculture, the wild fish population would be significantly impacted if farmers were not allowed to produce fish for distribution and consumption. The main impact would be through dramatic increases in commercial fishing of these wild fish. Global consumption demand would remain strong, leading to these increased

intrusions into wild fish habitats. Such processes would not only impact the fish population, but the entire oceanic ecosystem that is interlocked with these fish. Ultimately, it is clear that there would be tremendous changes that would occur within the United States culture's production, consumption and exchange as well as health if fish farming were disbanded. In terms of production the lack of fish farming would require increasing forays into wild fish populations. For a period this would suffice demand, but in the long term the fish populations would be greatly diminished through continual fishing. With the dwindling fish supply and the continued public desire for fish, the price of fish would greatly increase. The rising prices would result in decreasing amounts of demand and subsequent lowered fish consumption. Just as fishes' natural ecosystems would be impacted, the human production and consumption cycles would be impacted, requiring increased agricultural and livestock infrastructure. In terms of health such a shift could have a detrimental impact on public health. The health benefit of a diet that partially includes seafood has been well established. It follows that decreasing fish consumption would necessitate this dietary element become increasingly deficient. References Anon. (1999). Environmentalists issue challenge to Scottish salmon farmers. <http://www.gn.apc.org/www.foe-scotland.org.uk/media-releases/99-04-21-SSGA.html> Common terminology. (2009). Retrieved from <http://www.campusdish.com/en-US/CA/WilfridLaurier/Sustainability/CommonTerminology.htm> Emerson, C. (1999). Aquaculture impacts on the environment. Retrieved from <http://www.csa.com/discoveryguides/aquacult/overview.php>