

Example Environmental Analysis Paper

Save the Coho Salmon

“I brake for Coho” covers yellow bumper stickers that are proudly displayed on cars parked at a summer camp in Occidental, California. The campground hosts many groups each year, mostly from schools. The school groups come for Environmental Education, where they learn about wildlife, endangered species, and how they can do their part to help save the environment. Even on hot days, a small creek that runs through the camp is “off-limits” to all visitors, especially the kids. There is an endangered species of fish, the Coho Salmon, which uses the creek as its habitat and to spawn. It is a little step like this that people can take to begin to save the endangered Coho. The Coho Salmon, also known as *Oncorhynchus Kisutch*, are very important to their habitat and efforts should be put forth to save this endangered fish.

Salmon are one piece of the puzzle in the Pacific coastal ecosystem. They are indicators of how healthy their ecosystem is. For example, salmon are sensitive to changes in their “water quality, trophic webs, and upstream perturbations to the river flow, turbidity and temperature.” (Rahr 2008). Young salmon also eat organisms that indicate water quality (Rahr 2008). Healthy, happy salmon reflect that the water is in good shape. Coho Salmon have been found to “...enrich the entire ecosystem of their spawning streams, sustaining algae, aquatic insects, streamside plants and wildlife, and the next generation of young fish.” (Levy 2008). Salmon spend most of their lives out at sea and then return to rivers to spawn. By returning to these spawning sites, they are “...the only animals that return nutrients to the land from the sea.” (Levy 2008). They play a vital role in bringing nutrients from the sea to these streams and rivers which

would not have as many nutrients without the salmon. When salmon finish spawning, they die. Their carcasses not only provide food for other animals, they provide nutrients like "...nitrogen, phosphorus, carbon and micronutrients from the sea into freshwater and terrestrial ecosystems." (Rahr 2008). Endangered species like bears and eagles are able to survive because of the salmon. Without salmon, animals and ecosystems that depend on these fish could not survive.

In 2002, the California Fish and Game Commission (DFG) declared Coho salmon to be endangered (DFG 2008). If salmon are so important, why is their population decreasing? For the most part, habitat destruction, overharvesting, and the introduction of hatchery fish are causing the salmon to die off. Some habitat loss is "...dramatic and may be irreversible." (Rahr 2008). Salmon depend on returning to the same places where they were hatched and cannot return if their habitat is destroyed. Overharvesting, both legal and illegal, are also contributing to the salmon population decrease. The last major cause to the salmon decline is due to the introduction of hatchery fish to the wild. Even though they increase the initial population, they were raised in a different manner, were fed different nutrients, and have different behaviors compared to wild salmon (Rahr 2008).

Not all is lost. There are research efforts going on to help save the endangered salmon like the Coho. In 2003, recovery efforts by the California Department of Fish and Game began (DFG 2008). They plan to achieve recovery of California Coho Salmon to the point of not needing protection any more (DFG 2008). However, even with the best intentions, not all efforts are doing well. For example, breeding salmon in hatcheries is a great plan, but as explained, bred fish are different than wild fish. "...although pampered

hatchery fish are the same species as their wild kin, they don't always act the same way: Behaviors and traits that help hatchery fish do well in captivity differ from those needed to survive in the wild." (Kaiser 2001). For example, wild salmon may have developed skills like dodging predators, while hatchery-bred salmon have not. (Kaiser 2001). Wild fish have adapted to the "...challenges of each river..." (Rahr 2008). Hatchery-bred fish may look the same, but they usually do not survive as well as their wild counterparts. Since they boost the initial population, the government wants to take the Coho salmon off of the endangered species list, but this would be dangerous due to the differences between the two fish.

Another effort towards conserving the salmon is habitat protection that is just temporary, but they do not fix anything permanently. For example, "...placing logs in streams (for spawning) and engineering stream habitat." (Rahr 2008). While these efforts may be helpful for a little while, the first big storm will wash it all away (Rahr 2008).

The current conservation efforts have good intentions, but they just are not enough. A good way to really help save the species is to find the remaining Coho salmon habitats and protect them. Coho salmon conservationists can also find rivers that have "...the best chance of getting watershed-level habitat protection... (is to) make a permanent investment." (Rahr 2008). Coho conservationists should also focus on the healthy, native salmon and protect them as best as possible. There are many steps to take towards conservation. One way this can be done by contacting landowners that have rivers/streams that are habitats to salmon on their properties and educate them on the endangered Coho Salmon. Hopefully they will realize the importance issue and join the conservation effort.

Private landowners such as the summer camp in Occidental, California are playing their part to help save the Coho Salmon. Even though a single species plays a vital role in an ecosystem, they would not survive if their ecosystem fails. Taking steps towards saving one species of fish, say the Coho Salmon, will help contribute to the better of their whole environment, including other organisms. If efforts to save the endangered Coho Salmon succeed, it will help in the bigger picture, which is the conservation of the Pacific coastal ecosystems.

Works Cited

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