

Benton REA Scholarship Essay by Ella Stam

The dams on the Snake and Columbia Rivers provide 70% of the renewable energy in Eastern Washington, accounting for the most substantial carbon-free energy source in the Pacific Northwest. However, the introduction of these dams in the 1960s came at a cost, one taken on primarily by the Sockeye Salmon that use the rivers to migrate into the Pacific Ocean. The EPA estimates that salmon populations have been declining since 1984. However, according to the Federal Caucus, a collection of federal agencies specializing in salmon population recovery, the Snake River dams have a salmon passage and survival rate of 98.7% (Structural Improvements). Therefore, the root cause of population decline lies in the ecologically impaired Pacific Ocean resulting from ocean acidification and plastic pollution.

Ocean acidification plagues the waters of the Pacific Northwest and salmon are not immune to the dangerous effects. Ocean acidification is caused by the rising levels of atmospheric CO₂. Increased production of goods, vehicles, and nonrenewable energy produce excess carbon which then dissolves into the ocean in high concentrations, reducing the pH of the ocean, and acidifying the water. (Newton 1). Increased acid levels lead to a loss of smell, which salmon rely on “to avoid danger, find food, and to find their way back to spawning ground” (Burns 1).

To combat ocean acidification, we must identify and implement innovative solutions to ensure both the health of our citizens but also enlarge the salmon population. In Washington, transportation and gas emissions are the largest contributors of greenhouse gasses. To reduce emissions, we must advocate for legislation that caps CO₂ and methane from entering the atmosphere and our oceans. Among those laws are the Clean Fuel Standard, and Climate Commitment Act which have recently been implemented into Washington State.

Additionally, the Great Pacific Garbage Patch, a 1.6 sq.km. collection of trash is the direct result of plastic pollution from corporations and individuals making its way into rivers, which then flows to the Pacific. After constant exposure to the elements, plastic degrades into microplastics less than 5 millimeters big. These microplastics are frequently mistaken by salmon and other fish as food, progressing through the food chain to turtles, seals, and whales. Once the plastic enters the salmon it can cause physical problems including obstruction of the digestive system, artificial filling of their stomachs, and starvation from lack of adequate nutrients (Plastic Pollution 1).

The Ocean Clean Up Project led by Dutch entrepreneur Boyan Slat broke international records by removing one million pounds of plastic from the ocean. With the goal to remove 90% of floating ocean plastic by 2040, the project has engineered creative new tactics to stop plastics in rivers before it reaches the ocean and degrades. These devices called River Interceptors are “100% solar-powered, extract plastic autonomously, and are capable of operating in the majority of the world’s most pollut[ed] rivers” (The Ocean Clean Up 1). The addition of an Interceptor or similar device to the Snake and Columbia Rivers would greatly reduce plastic entering the Pacific Northwest.

Works Cited

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