Concern for the Environment Grows

In the 1800s, pioneers struggled across the rough terrain of the Oregon Trail. The journey was exhausting as they traveled across huge prairies, climbed snow-capped mountains, and crossed raging rivers. The travelers saw nature as something to be conquered.

One century later, people were discovering that nature was not an enemy to be defeated but a partner that was the source of all life. In the 1960s, astronauts said from outer space: “Earth looks isolated [alone] and very vulnerable [exposed]. Life is sustained only by a thin protective atmosphere.”

According to writer Arthur Clarke, “Spaceship Earth” travels through the heavens with an unknown destination. One thing, however, is clear. All the supplies available for the voyage are on board. There will be no opportunity to replenish them. Starting in the 1960s and 1970s, people in Washington and elsewhere became aware of the damage that had been done to the environment.

KEY IDEAS
- The effect of human activity on the environment has been a cause of growing concern in recent decades.
- Urban sprawl, industrial pollution, and nuclear waste are key causes of environmental damage in Washington.
- Pollution, logging, and dams have all contributed to a steep drop in the state’s fish population.

KEY TERMS
breach
ecology
ecosystem
leach
pollutant
radioactive

Environmental activists march against deforestation. What familiar image is on the protestor’s sign?
The Impact of Urban Sprawl

In 1981, Seattle held a nickname contest to replace “Queen City.” Promoters hoped to find a name that would lure tourists to the state’s largest city. The winner was “Emerald City.”

It seemed perfect for a city where abundant rain helps green plants grow. The name also evoked images of The Wizard of Oz.

In 1999, however, satellite photos showed that Seattle’s natural tree cover had declined 50 percent in 20 years. When viewed from space, Seattle looked more black than green. Asphalt and concrete had taken over. The effect of urban sprawl was obvious.

Seattle’s environmental record since the 1970s is mixed. Lake Washington, which had become polluted with raw human sewage, was cleaned up. The largest problem, however, is still to be solved. Traffic congestion clogs city streets. Car exhaust pollutes the air. Building more freeways does not seem to be the answer.

Residents and tourists feel the frustration of getting from place to place on crowded freeways. Traffic woes are the main reason some people move out of town.

Spokane and Expo 74

Spokane—the smallest city to ever host a world’s fair—hosted Expo 74. The fair called attention to a wide range of environmental issues.

The entire community worked together to make Expo a success. Before construction, the site of the fair was an ugly complex of warehouses and railroad tracks along the Spokane River in the heart of the city. The railroad companies were persuaded to donate most of the land. When the fair ended, the site was converted to a downtown park.

Expo’s theme, “Progress without Pollution,” was appropriate for Spokane. It encouraged the city to stop using the Spokane River as an open sewer, which it had been doing for years. A modern sewage-treatment plant was constructed in time for Expo.

A Spokane resident remembers the river in the 1940s and 1950s:

I lived only a half mile from the river and my friends and I played and fished along its banks. We caught large suckers from the mouths of sewer discharge pipes. Sometimes we fished an area where a large spring entered and we would catch trout, though they would stink up the kitchen if you tried to cook them.

Expo 74 drew five million visitors to Spokane. The fair prompted the city to clean up the Spokane River and replace ugly warehouses with a new park.
Industrial Pollution

Over the years, many of the state’s rivers have been polluted with industrial waste. The Spokane River is one example. Heavy metals from mining operations in Idaho’s Coeur d’Alene region seeped into the ground and the water underneath. The dissolved metals then made their way into Idaho rivers and lakes. Eventually they flowed into the Spokane River.

The leaching, or filtering, of mine wastes through groundwater has increased by massive clear-cuts in the mountains. A clear-cut is a huge land area that was once a forest. The trees and other vegetation were cut down by timber and other industries. Without the trees and ground cover, there is nothing to slow water runoff down a mountain. The excess water and its pollutants get absorbed into the ground. Pollutants are waste material that contaminate air, soil, or water.

In the 1970s, lead poisoning from a smelter (a factory where metal is melted) in Idaho produced the highest lead levels in human blood ever recorded. Lead poisoning in children produces serious health problems, including mental retardation.

Large amounts of toxic metals leached from mining operations in Idaho during a severe winter flood in the late 1990s. The cleanup is ongoing. Every day the South Fork of the Coeur d’Alene River carries a ton of dissolved heavy metals downstream. The Coeur d’Alene Indians have sued eight mining companies, the Union Pacific Railroad, and the State of Idaho for polluting the water.

Pollution at Grand Coulee

At first, no one noticed the growing pollution in Lake Roosevelt, the reservoir behind Grand Coulee Dam. Then a U.S. Fish and Wildlife study showed that fish from the lake had high levels of metal.

The Spokane River

In 2001, the Washington Department of Health warned that the Spokane River was the most polluted river in the state. Officials reported that the river is polluted with PCBs. PCBs are cancer-causing chemicals from industrial sites. Fish from the river are a health threat to everyone who eats them, especially pregnant women.

Contaminated water from industrial sites has polluted many of the state’s rivers.

The pollution apparently came from a paper mill and a smelting company in British Columbia. Both these companies dumped all their untreated waste directly into the Columbia River. Public attention prompted the companies to improve their practices.
The Hazards of Hanford

As bad as the upstream pollution is, there is nothing that compares with the problems found downstream at the Hanford nuclear facility. Decades of producing plutonium for nuclear weapons left Hanford one of the most contaminated places on Earth.

At one point there were eight nuclear reactors in operation at the Hanford facility. Water from the Columbia River was used to cool the heat from the reactors. The radioactive (something giving off radiation) water was then released back into the river.

Karen Dorn Steele, a reporter with the *Spokesman-Review*, began publishing articles about Hanford's radioactive releases during the Cold War. The stories showed that nuclear tests had released high levels of cancer-causing elements into the atmosphere. The government kept this secret for years.

The toxic waste poisoned animals that grazed in nearby fields as well as fish in the rivers and streams. People were poisoned when they ate the fish or drank milk from contaminated goats or cows. Some people living in the area blame Hanford for causing their cancer and other illnesses.

In 1989, state and federal agencies agreed to a plan for cleaning up stored radioactive waste. It would be the largest and most expensive public works project in American history. Clean-up work provides many jobs as the soil and radioactive waste are removed and stored safely.
Where Did All the Fish Go?

Biologists believe the Columbia River system once supported 16 million salmon and steelhead a year. Today, fewer than one million fish return from the ocean to spawn each year. About 90 percent of the fish begin life in hatcheries.

Biologists consider hatcheries to be partly to blame for the decline of wild fish. Why? Hatchery fish cannot find their way to natural breeding grounds. Hatcheries can also introduce diseases into fish stocks. Without fish hatcheries, however, there would be a terrible shortage of fish.

Salmon vs. Electricity

Fish runs have declined dramatically because fish habitats have been severely damaged by pollution, careless logging and grazing, and dams.

Before dams were built, rivers were too shallow and fast for barge traffic. Dams, however, hold river water in long reservoirs. The amount of water leaving the dams is controlled. This puts people, instead of nature, in charge of river flow.

Dams also control water that can be used to create hydroelectricity. This provides power to homes and businesses. And dams provide water for crop irrigation in dry regions. The downside, however, is that dams disrupt the natural environment of fish. Dams slow down the natural water flow and increase the temperature of the water. Higher water temperatures can kill fish. Dam turbines (engines) used to produce electricity kill thousands of fish swimming to the ocean.

In 1980, Congress passed the Northwest Power Act. It required that:

Fish and wildlife of the Columbia River Basin ... be treated on a par with power needs and other purposes for which the ... dams of the region were built.

This means that there must be a balance between needs of fish and human needs for fish, water travel, and hydropower.

Possible Solutions

Fish ladders have been built on the sides of dams. They aid fish in going upstream to spawn (breed). Water is spilled over the ladders to help salmon and steelhead make their way downstream. Some people, however, want to remove the dams altogether.

Others suggest that a good compromise is breaching of the four dams on the lower Snake River. Breaching means that there would be a break or hole in the dams that would allow fish to swim through. This might help the fish population to increase since it would be easier for them to get to their breeding grounds.

Washington Comes of Age
Timber—A Dwinding Resource

Four large Pacific Northwest companies—Weyerhaeuser, Potlatch, Boise Cascade, and Plum Creek Timber—have harvested trees throughout the Pacific Northwest for years. Many of the logs were sold and exported to Japan. Local lumber mills, which usually processed the logs into lumber, were forced to close as a result.

Timber companies have planted new forests for years. However, the trees will not be ready for harvest for 25 years. The shortage of trees caused timber companies to start cutting trees in national forests. Environmental groups have responded with anger.

Labeled “tree huggers,” environmentalists tried to protect the forests. Some environmentalists fought by spiking trees. They hammered long metal spikes into trees so saws would be ruined when loggers tried to cut down trees. Tempers flared.

It’s About More Than Trees

Environmentalists argue that the struggle over protecting forests is a lesson in ecology. Ecology is the study of the relationship between organisms (plants, insects, animals, humans, etc.) and their environment. Forests are more than just stands of trees. They are complex ecosystems. An ecosystem refers to the interaction of living things with their physical environment. Trees filter water and produce oxygen. No tree farm could match the importance to the environment of a mossy old-growth forest. When they are gone, like an extinct animal, it’s forever.

Looking to the Future

It is clear that people in Washington and the rest of the world have to face the complex issue of how to both use and save natural resources. Compromise is needed so the earth’s limited resources can be shared by all.

Commercial lumbering companies cut down trees in the Okanogan National Forest. How do you think this natural resource is being replenished?

Do you think environmentalists were right to spike trees to protect them? Why or why not? What else do you think they could do to protect the forests?

What Did You Learn?

1. Give an example of how human activity has had a negative effect on the environment in Washington.

2. How did the activities at Hanford affect people living nearby?

3. How have pollution, logging, and dams hurt the state’s fish population?

The Washington Journey