

Other Activities

Forestry operations can generate significant amounts of nonpoint source pollution. The heavy machinery used to remove vegetation exposes the soil, increasing the risk of erosion. The improper construction and use of paths used to transport logs out of the forest can be a source.



Drainage or runoff from abandoned mining operations often adds to nonpoint source pollution. In strip mining the top layers of soil and vegetation are removed. If an area where strip mining occurred has not been properly reclaimed after mining is finished (soil replaced and graded, vegetation replanted), erosion can occur. In addition, the mixing of air, water and sulfur-containing rocks can lead to acidic runoff which dissolves heavy metals such as copper, lead and mercury. Abandoned subsurface mines can contribute because the water that seeps out of them can become very acidic.



Marinas and boating activities can be sources. Chemicals used to maintain and repair boats, such as solvents, oils, paints, and cleansers, may spill into the water. Spilling fuel at marinas or discharging unused fuels from engines also contributes. In addition, poorly maintained sanitary waste systems aboard boats or poorly maintained pump-out stations at marinas can increase bacteria and nutrient levels in the water.



Additional Information



EST. JUNE 19, 1883

National Oceanic and Atmospheric Administration
http://oceanservice.noaa.gov/education/tutorial_pollution/welcome.html

US EPA
(202) 566-1155
www.epa.gov/owow/keep/NPS/index.html

California State Water Resources Control Board
Steve Fagundes, Chief NPS Program Plan Implementation Unit (916) 341-5487
www.swrcb.ca.gov/water_issues/programs/nps

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Where does nonpoint source pollution come from?



Soboba Tribal Environmental Department
951-654-5544 ext. 4129/4130

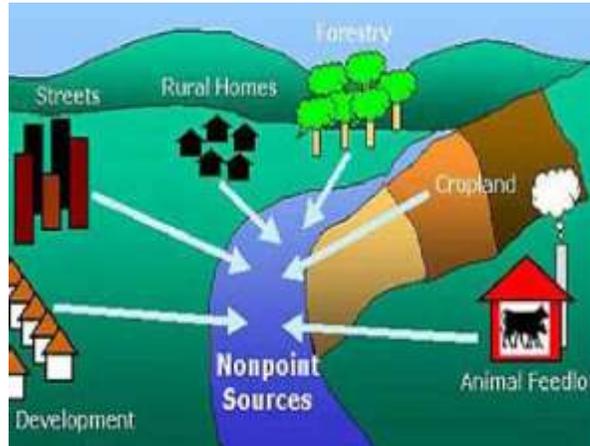
Nonpoint Source Pollution

Most nonpoint source pollution occurs as a result of runoff. When rain or melted snow moves over and through the ground, the water absorbs any pollutants it contacts. Following a heavy rainstorm, for example, water will flow across a parking lot and pick up oil left by cars driving and parking on the asphalt. The water flows downstream into a stream, and then to a lake, river, or ocean. The pollutants in this runoff can be quite harmful, and their sources numerous.

Nonpoint source pollution not only affects ecosystems; it can also have harmful effects on the economy. U.S. Coastal and marine waters support 28.3 million jobs, generate \$54 billion in goods and services through activities like shipping, boating, and tourism, and contribute \$30 billion to the U.S. economy through recreational fishing alone. If pollution leads to mass die-offs of fish and dirty-looking water deep financial losses can occur.

Although the concentration of some pollutants from runoff may be lower than the concentration from a point source, the total amount of a pollutant delivered from nonpoint sources may be higher because the pollutants come from many places.

Runoff from urban areas is a large contributor to nonpoint source pollution, but here we will focus on sources that are less familiar to most people.



Agriculture

Agricultural operations account for a large portion of nonpoint source pollution in the United States. According to the Census of Agriculture, approximately 940 million acres of farmland existed in the United States in 2002. While this land provides space for farming - an industry important to the economy and the source of most of the food we eat - it also creates numerous opportunities for nonpoint source pollution.

In agriculture, large tracts of land are typically plowed to grow crops. Plowing the land exposes and disturbs the soil, making it more vulnerable to erosion during rainstorms. This increases the runoff that carries fertilizers and pesticides away from the farm and into nearby waters.

The Atmosphere

Industrial facilities often discharge pollutants into the air, typically through some type of smokestack. These pollutants (hydrocarbons, metals, etc.) can travel long distances. The pollutants can then be washed out of the atmosphere in rain or snowfall.

Although the pollutants may have originated from a point source, the long-range transport and multiple sources of the pollutant make it a nonpoint source of pollution.

Acid rain has also become a major concern in some areas of the United States. Acid rain is created when sulfur dioxide and nitrogen oxides are discharged from industrial plants that burn fossil fuels like coal, oil, and natural gas. These compounds react with water, oxygen, and other atmospheric compounds to form acid rain.

Acid rain causes effects that harm or kill fish and other aquatic organisms. As acid rain flows over and through soils, it releases aluminum into lakes and streams. Increased levels of aluminum are very toxic to fish. In addition, the increased levels of aluminum cause fish to become chronically stressed leading to lower body weight and smaller size.

