

'Contaminants are everywhere'

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BILLINGS, Mont. -- Pesticides, heavy metals and other airborne contaminants are raining down on national parks across the West and into Alaska, turning up at sometimes dangerously high levels in lakes, plants and fish.

A sweeping, six-year federal study released Tuesday found evidence of 70 contaminants in 20 national parks and monuments -- from Denali in Alaska and Glacier in Montana, down to Big Bend in Texas and Yosemite in California. The study included Wyoming's Grand Teton National Park but not Yellowstone National Park.

The findings revealed that some of the earth's most pristine wilderness is still within reach of the toxic byproducts of the industrial age.

"Contaminants are everywhere. You can't get more remote than these northern parts of Alaska and the high Rockies," said Michael Kent, a fish researcher with Oregon State University who helped write the report.

The substances detected ranged from mercury produced by power plants and industrial chemicals such as PCBs to the banned insecticides dieldrin and DDT. Those can cause health problems in humans including nervous system damage, dampened immune system responses and lowered reproductive success.

Contaminants that accumulated in fish exceeded human consumption thresholds at all eight parks that were studied the most: Sequoia and Kings Canyon, Mount Rainier, Olympic, Glacier, Rocky Mountain, Gates of the Arctic and Denali national parks and Alaska's Noatak National Preserve.

Also, mercury levels at eight parks and DDT levels at Glacier and Sequoia and Kings Canyon exceeded health thresholds for fish-eating wildlife. Kent said he found airborne contaminants are causing male fish to develop female organs in some parks.

In Grand Teton, only air, lichen and conifer needles were sampled. The report found that concentrations of semi-volatile organic compounds, including historic and currently used pesticides, were above the average of the 20 parks in the study.

Much of the contamination is thought to have come from overseas -- traveling global air currents from Europe and Asia.

But researchers said they were surprised to find substantial contamination from the local use of legal pesticides, particularly in agricultural areas around Glacier, Rocky Mountain and Sequoia and Kings Canyon parks.

University of Washington atmospheric researcher Daniel Jaffe said scientists previously thought banning substances like DDT and dieldrin would lessen the persistence of chemicals in the environment.

"We replaced them with pesticides with much shorter lifetimes in the environment," Jaffe said. "But in places like the Central Valley of California, we are applying many, many tons of these every year. ... We now know they can move substantial distances."

A parks advocacy group called the federal report "a wake-up call" that should mobilize Congress to take a tougher stance on air pollution.

"We can take steps to reduce mercury emissions from power plants, steps to reduce carbon dioxide emissions that cause global warming," said Will Hammerquist with the National Parks Conservation Association.

The \$6 million study is known as the Western Airborne Contaminants Assessment Project. It is the most comprehensive to date on the distribution and concentration of contaminants outside developed areas, according to the project's scientific director, Dixon Landers with the Environmental Protection Agency.

Contrary to the conventional wisdom that remoteness means less pollution, Landers said many of the parks -- particularly those at higher elevations and in colder climates -- actually are at higher risk.

Mercury from power plants in China, for example, is borne across the Pacific in clouds that rise up when they hit West Coast mountains. That causes the mercury to drop out of the clouds attached to rain droplets or snowflakes.

Over time, as the contaminants re-enter the atmosphere and then rain down again, they "hop-scotch" their way to higher elevations.

Release of the study, which was coordinated by the National Park Service, came after a delay of several months. A Park Service spokeswoman, Colleen Flanagan, said the delay was caused by the time needed to analyze the vast volumes of data collected, from 2002 to 2007.

The study also included researchers from the U.S. Geological Survey and the U.S. Forest Service.