

## Cancer in Animals and Fish

**I**t's not only humans. The beluga whales in Canada's St. Lawrence estuary are getting cancer, while those in the less-polluted Arctic waters are not. Fish in contaminated waters have tumors, but not those in clean water. Dogs that are exposed to herbicides from chemically treated lawns have more cancers than those that are not. In her book detailing the global reach of environmental pollution, Devra Davis reported that polar bears in the Arctic have major body burdens of carcinogens, and that 1 out of 100 of the Arctic's largest land-based mammals is reported to be a hermaphrodite.

It can't get much clearer.

The belugas have survived in the world's northern waters for millions of years, eating octopus, crabs and fish. Now one in four of the St. Lawrence whales is dying from cancer, mostly intestinal.<sup>1</sup> They are also having trouble reproducing. When scientists examined their bodies, the autopsies revealed high levels of polycyclic aromatic hydrocarbons (PAHs), which almost certainly came from an upstream aluminum smelter.

- Cancer Registry for Companion Animals: <http://envirocancer.cornell.edu/Research/AnimalReg>
- Registry of Tumors in Lower Animals: [www.pathology-registry.org](http://www.pathology-registry.org)
- Sprecher Institute for Comparative Cancer: [www.vet.cornell.edu/cancer](http://www.vet.cornell.edu/cancer)
- *Tainted Catch: Toxic Fire Retardants in San Francisco Bay Fish — and People*: [www.ewg.org/reports/taintedcatch](http://www.ewg.org/reports/taintedcatch)

Does the St. Lawrence beluga drink too much alcohol? Does the St. Lawrence beluga smoke too much? Does the St. Lawrence beluga have a bad diet? Is that why the beluga whales are ill? Do you think you are somehow immune and that it is only the beluga whale that is being affected?

— Leone Pippard, Canadian Ecology Advocates

### Cancer in Wildlife and Fish

In Washington DC, four blocks from the White House, the Registry of Tumors in Lower Animals has almost 4,000 specimens of cancer in fish, amphibians, reptiles and invertebrates collected by the Smithsonian and the National Cancer Institute. Epidemics of liver cancer have been found in 16 species of fish in 25 different polluted freshwater and saltwater locations, while in non-polluted waters, fish with cancer are almost non-existent.<sup>2</sup> The same tumors have been found in bottom-feeding fish in industrialized and urbanized areas along the Atlantic and Pacific coasts of Canada.<sup>3</sup>

### Cancer in Sea Lions

During the 1960s and 1970s, persistent organic pollutants were dumped in California's coastal waters, where they bio-accumulated through the food chain. Twenty years later, people started noticing dead and stranded California sea lions. When examined, 20% of the sea lions were found to have cancer of the urinary and genital tracts and toxic chemicals in their blubber that had accumulated through the anchovies, squid, salmon and mussels they ate.<sup>4</sup>

### Cancer in Dogs

A study of more than 8,000 dogs showed that canine bladder cancer was associated with their living in industrialized counties, mimicking the distribution of bladder cancer among humans.<sup>5</sup>

The Sprecher Institute for Animal Cancer Research estimated that in New York State 15,000 dogs and 9,000 cats develop cancer each year and that the number of companion animals in the state with cancer at any given time is between 1 and 2 million.

Between 1975 and 1995 the incidence of bladder cancer in dogs examined at veterinary teaching schools in North America increased six-fold. Scottish terriers, Shetland sheepdogs, wirehaired fox terriers and West Highland white terriers had a higher risk than mixed breeds, suggesting a genetic susceptibility to cancer among the terriers, but not a reason for the increase.

When the researchers interviewed the owners of Scottish terriers with bladder cancer, they found that dogs whose owners had used phenoxy acid herbicides on their lawns were 4 to 7 times more likely to have cancer than dogs whose owners had not.<sup>6</sup> Phenoxy acid is an active ingredient in 2,4-D, a widely used herbicide that has been linked to cancers, neurological impairment and reproductive problems.<sup>7</sup>

The “cancer in dogs” studies reveal the multifactorial nature of cancer. Their cancer is linked to the use of insecticidal flea and tick dips, but more so if the dogs were obese and lived near another source of pesticides.<sup>8</sup> In the terrier study, the researchers found that when the Scotties ate green leafy vegetables three times a week, there was a 90% reduction in their risk of cancer.

#### Danger Ahead

We need to ring all the alarm bells about the accumulation of chemical wastes in the bodies



LUCIA DI SATERINI, DEPOSITPHOTO.COM

Why me?

of wildlife. The fire-retardant chemicals known as PDBEs have been found in every fish sampled in San Francisco Bay. They are similar to PCBs in their chemical structure, and the levels found in breast, blood and breast-milk samples of US women are the highest in the world. Is it a coincidence that women in San Francisco also have the highest levels of breast cancer anywhere?

PDBEs have been linked to an array of adverse health effects, including the possibility of cancer. When Sweden noticed a 60-fold increase of PDBEs in human breast milk between 1972 and 1997, it led to a ban throughout the European Union. In the San Francisco Bay area, the level in breast milk is 12 to 300 times higher than it was in Sweden, but the chemical industry has blocked California's attempts to legislate.<sup>9</sup>

We have to fight back, if we want to regain our health and the health of the world's wildlife.