

# Pesticides and Salmon

## Pesticides may harm endangered salmon.

Several species of salmon on the West Coast have been listed as threatened under the Endangered Species Act. Pesticides are one of many threats to the survival of these iconic fish.

Fish kills from pesticides are, fortunately, rare. However, scientists have found that low levels of pesticides can affect salmon biology and ultimately affect the survival of the species.

Salmon have a very sensitive sense of smell. Relatively low concentrations of pesticides can interfere with their ability to smell, which may affect their behavior in a number of ways. Examples include altering the ability to feed and to avoid predators, disrupting schooling behavior, and inhibiting normal migration.


Salmon use smell to detect predators by sensing “danger” pheromones given off by other fish. When salmon sense this signal, they tend to stop moving and rest, making them less visible to a predator. A study done by scientists in Seattle found that juvenile salmon exposed to a pesticide at relatively low concentrations were less able to react to this signal. They continued to move around and feed rather than stop and hide.

Salmon are also thought to use smell to find the proper streams for spawning. Pesticides and other pollutants may interfere with this process.

Other effects on salmon from pesticides may include:

**Reduced food sources:** Pesticides can reduce the populations of salmon food sources (other aquatic life such as insects), thus affecting the overall health of salmon populations.

**Immune system disruption:** Some studies have found that exposure to relatively low concentrations of pesticides can disrupt the immune systems of salmon.

**Threat to reproduction:** Pesticides at low concentrations may act as mimics or blockers of sex hormones, disrupting normal sexual development. 

## References

Diminishing returns: Salmon decline and pesticides. Ewing, Richard D. Oregon Pesticide Education Network, 1999. [www.pesticide.org/salpest.pdf](http://www.pesticide.org/salpest.pdf).

Scholz, N.L., Truelove, N. K., et al. Diazinon disrupts antipredator and homing behaviors in chinook salmon (*Oncorhynchus tshawytscha*). *Canadian Journal of Fisheries and Aquatic Sciences* (2001): 57.

