

# **Facts About Pesticides, Salmon, and the Endangered Species Act**

## **Background Information on Pesticides and Salmon**

Pesticides have profound effects on Northwest salmon and may be a serious factor in their decline.

- The US Geological Survey has found concentrations of pesticides in Pacific Northwest rivers and streams at levels that are associated with negative impacts on fish growth, development, behavior, and reproduction.
- Some pesticides are lethal to salmon, and large fish kills have occurred.
- Pesticides can impair swimming ability, cause abnormal sexual development, and cause skeletal deformities.
- Pesticides can indirectly affect fish by changing the aquatic environment, by reducing the food supply, and by eliminating vegetative cover used by young salmon.
- Pesticides can impair salmon's ability to transition from freshwater to seawater.

(More information on pesticides & salmon available at <http://www.pesticide.org/salpest.pdf>.)

## **Background Information on the Economic Importance of Salmon**

“Salmon and steelhead fishing was once a very valuable industry to the west coast economy. As recently as 1988, according to independent economic studies, salmon and steelhead fishing in Oregon, Washington, Idaho and Northern California brought in \$1.25 billion to the regional economy and supported an estimated 62,750 family wage jobs. Since then, many salmon runs have declined because of a combination of many factors including too many dams and widespread habitat loss. One likely factor that has received little scrutiny, however, is the long-term impact of increasing uses of agricultural chemicals and pesticides in many Northwest river systems.”

(Source: "The Economic Imperative of Protecting Riverine Habitat in the Pacific Northwest," Pacific Rivers Council Research Report No. 5 (January, 1992).)

## **Basis of Legal Action**

The National Marine Fisheries Service (NMFS), the agency charged with carrying out the Endangered Species Act for listed salmon, has indicated serious concern about the effects of pesticides on salmon. In issuing its recent 4(d) rule, NMFS stated that “concentrations of pesticides may affect salmonid behavior and reproductive success. Current EPA label requirements were developed in the absence of information about some of these subtle but real impacts on aquatic species such as salmonids.”

The Environmental Protection Agency currently makes extremely limited efforts to determine the effects of pesticides on fish, and even when serious detrimental effects are found, EPA rarely takes action.

Section 7 of the Endangered Species Act requires that federal agencies consult with the relevant agency (here, NMFS) to insure that any action they fund, authorize, or carry out does not harm endangered species. EPA has failed to initiate this consultation with NMFS to determine whether its actions related to pesticide regulation are harming threatened salmon.

## **Key Elements of Lawsuit**

Northwest Coalition for Alternatives to Pesticides, Washington Toxics Coalition, Pacific Coast Federation of Fishermen's Associations, and Institute for Fisheries Resources, represented by Earthjustice, are filed suit to compel EPA to:

- initiate a consultation with NMFS to evaluate the effects on salmon and steelhead of EPA's regulations on pesticides;
- take immediate protective actions, such as restrictions on pesticide use near water.

## **The Court Orders EPA to Begin Process of Curtailing Pesticide Uses That Harm Salmon**

On July 2, 2002, a U.S. District Court in Seattle ordered the U.S. Environmental Protection Agency to begin the process of ensuring that use of 54 pesticides will not harm salmon in the Pacific Northwest. The environmental and commercial fishing group plaintiffs had targeted the 54 pesticides based on evidence that these pesticides are getting into salmon streams at levels the cause harm to salmon or their habitat.

The Court found that "it is undisputed that EPA has not initiated, let alone completed, consultation with respect to the relevant 55 pesticide active ingredients" and that "EPA's own reports document the potentially-significant risks posed by registered pesticides to threatened and endangered salmonids and their habitat." According to the Court:

NMFS listed the Sacramento winter run chinook in 1989. During the 1990s, NMFS listed as threatened or endangered approximately 25 additional salmonids. Despite competent scientific evidence addressing the effects of pesticides on salmonids and their habitat, EPA has failed to initiate section 7(a)(2) consultation with respect to its pesticide registrations. . . . Such consultation is mandatory and not subject to unbridled agency discretion. The Court, declares, as a matter of law, that EPA has violated section 7(a)(2) of the ESA with respect to its ongoing approval of 55 pesticide active ingredients and registration of pesticides containing those active ingredients.

(The decision is available at <http://www.earthjustice.org>)

## **It will take years for EPA to fully comply with the court order and the Endangered Species Act**

The Court ordered EPA to initiate consultations on 54 pesticides by December 1, 2004. While the order does not reach beyond the 54 particular pesticides, the Court noted that it is reasonable for the agency to complete its review of all pesticides uses for their impacts on salmon by 2007, stating that "EPA will have had eighteen years since the first salmonid-species listing in 1989 to fulfill the mandates of the ESA." Yet the Court-ordered initiation of consultation with NMFS in no way guarantees speedy protection for salmon. NMFS must review the pesticides' impacts and determine whether they will jeopardize salmon survival and recovery, and it must also determine whether mitigation

is required to avoid harming salmon or their habitat. Finally, EPA must implement NMFS' recommendations.

EPA has a sorry record of delay in protecting salmon from harmful pesticides. Although salmon were first listed in 1989, prior to the Court's order in July, EPA had not begun any consultations about pesticide impacts on listed salmonids. Also in 1989, the Fish and Wildlife service gave EPA a Biological Opinion finding jeopardy from pesticides for many fish, but even in 2002 EPA has not implemented the protective measures for fish recommended by the FWS. Finally, and again in 1989, EPA proposed an Endangered Species Pesticide Program -- but in 2002, there is still no final EPA program.

The Toxic Coalition's brief details EPA's long delayed salmon protections. The brief is available at [www.earthjustice.org](http://www.earthjustice.org).

### **Pesticides will harm salmon in the absence of interim measures**

Because of their toxicity, the 54 pesticides in this case are likely to harm salmon when they reach salmon streams. EPA's risk assessments document fish kills from these pesticides, even when used according to the EPA-approved label. For example, registered uses of atrazine, disulfoton, fenamiphos on golf courses, azinphos-methyl, chlorpyrifos, and malathion have resulted in numerous documented fish kills.

The risk assessments are available at < <http://www.epa.gov/pesticides/reregistration/status2.htm#O>>

### **EPA, the Fish and Wildlife Service, and state governments have employed the measures requested here.**

As part of its yet-to-be-completed Endangered Species Protection Program, EPA has been working with states to develop county-by-county plans to shield endangered species from harmful pesticides. Nationally, buffers are the most common mitigation measures in EPA's county bulletins. The buffers for aerial sprays range from 100 yards to ¼ mile, with ¼-mile and 200-yard buffers in a substantial number of the bulletins. No-spray buffers for ground application of pesticides range from 20 yards to ¼ mile, with 40-yard and 100-yard buffers in a substantial number of the bulletins. The following buffer schemes comprise over 90% of the buffer scenarios:

Aerial Buffer	Ground Buffer
½ mile	¼ mile
¼ to ½ mile	100 yards
200 yards	40 yards
100 yards	20 yards

Where the goal is to protect an aquatic species, the bulletins call for ½-mile aerial and ¼-mile or 100-yard ground buffers 1/3 of the time and 100-yard aerial and 20-yard ground

buffers approximately 1/3 of the time, with the remainder generally falling within this range.

Plaintiffs have asked for the low end of the EPA-endorsed buffer scheme, a 20 yard buffer for ground applications and a 100 yard buffer for aerial applications.

Bulletins available at < <http://www.epa.gov/espp/usa-map.htm>>

The 1989 Biological Opinion by the Fish and Wildlife Service, obtained by plaintiffs through a Freedom of Information request, proposed buffers every time the agency found jeopardy to an endangered aquatic species. FWS sometimes proposed miles-long buffers to protect endangered fish species. Again, plaintiffs have asked the court to implement the low end of the measures suggested by FWS.

Washington state has proposed buffers as part of its salmon recovery plan, and Oregon's county bulletins, developed by the state in cooperation with EPA, employ buffers.

Finally, a 1996 study completed for EPA, NMFS, and FWS frequently recommended buffers as part of a comprehensive salmon recovery plan.

Spence, et. al., 1996, An Ecosystem Approach to Salmonid Conservation.

For agricultural areas, the plaintiffs request what government agencies have previously agreed is a practical way to protect endangered species: protective buffers.

### **Urban areas require special measures to protect salmon**

In surface water monitoring in the urban watersheds of Puget Sound, the Willamette Basin, and the Sacramento River, USGS detected more than a dozen pesticides with alarming regularity. In Puget Sound, USGS correlated spikes in detections of 2,4-D, diazinon, and dichlobenil with high retail sales in the area. USGS frequently detected other pesticides, such as carbaryl, malathion, triclopyr and trifluralin, in urban streams. These pesticides are available in home and garden stores.

Some listed salmon, such as the Puget Sound, Upper Willamette, and Sacramento runs of chinook, depend on urban watersheds for their freshwater life stages. Urbanization has dramatically altered natural runoff patterns, rendering streamside buffers less effective. Urban areas are covered with impervious surfaces (asphalt, roofs, and so forth). When it rains, water picks up pesticides and flows quickly into storm sewers. These storm sewers, in turn, often deliver water and pesticides directly into salmon habitat.

Plaintiffs therefore asked the Court for restrictions on a subset of pesticides, 13 of the 54. Each of these pesticides were frequently detected in urban areas in California, Oregon, and Washington, often at levels that are either acutely or chronically toxic to fish.

Plaintiffs request that these 13 pesticides be sold only through licensed pesticide dealers, and applied only by certified applicators. These measures will ensure that those who possess and apply the pesticide are informed by state and federal authorities of the dangers the pesticides pose to salmon and the measures the court will order to mitigate harm.

Among the USGS sources used for urban detections are: Report 00-4098: Pesticides Detected in Urban Streams During Rainstorms in King and Snohomish Counties, Washington 1998 (2000); USGS Water-Resources Investigations Report 01-4211: Pesticides in Surface Water of the Yakima River Basin, Washington, 1999-2000 – Their Occurrence and an Assessment of Factors Affecting Concentrations and Loads (2002); Pesticides in Selected Small Streams in the Puget Sound Basin, 1987-1995 (1997); Water Quality in the Willamette Basin, Oregon, 1991-1995 (1998); Distribution of Dissolved Pesticides & Other Water Quality Constituents in Small Streams, & their Relation to Land Use, in the Willamette River Basin, Oregon, 1996 (1997); Water Quality in the San Joaquin-Tulare Basins, California, 1992-1995 (1998).

Fact sheet developed by Washington Toxics Coalition, Northwest Coalition for Alternatives to Pesticides, Pacific Coast Federation of Fishermen's Associations, and Earthjustice.

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