



The Washington State University Salmon Toxicology Laboratory

The WSU Salmon Research Laboratory was developed to investigate the effects of multiple pesticides and other toxicants commonly found in Pacific Northwest surface waters on salmon health. The program is supported in part by cooperative agreements with the National Marine Fisheries Service and their Northwest Fisheries Science Center in Seattle. The WSU Food and Environmental Quality Laboratory in Richland, Washington is a partner in the program and provides analysis of chemical residues.

Current use pesticides are an emerging concern for the environmental health of anadromous salmonids throughout the Columbia River Basin and the Pacific Northwest. Pesticides are toxic chemicals that degrade the quality of salmon habitat, and represent a potentially important obstacle to the 2000 Fish and Wildlife Program's habitat-based approach to rebuilding naturally producing fish populations. Pesticide use is extensive in many agricultural and urban watersheds in the Pacific Northwest. Recent monitoring investigations by the U.S. Geological Survey's National Water Quality Assessment Program have shown surface waters throughout the Pacific Northwest are frequently contaminated with diverse mixtures of insecticides, herbicides, and other biocidal compounds. The consequences of pesticide exposures for the health of salmon and the viability of natural populations are largely unknown. This uncertainty creates difficult challenges for the management of threatened or endangered salmonids and the restoration of pesticide-contaminated habitats. To address important information gaps with respect to toxicity, we will screen some of the major classes of current use pesticides (and pesticide mixtures) at ecologically relevant concentrations for sublethal impacts on the development, physiology, and behavior of salmon.

NOAA and WSU scientists are collaborating on the following research projects:

- Effects of multiple insecticides on neurobiology and behavior of salmon
- Effects of adjuvants used in agriculture and industry on salmon growth and development
- Effects of pesticides on the salmonid food chain

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