

APR 25 2000

Oregon State University
College of
Agricultural Sciences
Agricultural Experiment
Station



Hermiston Agricultural
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FAX TRANSMITTAL

March 31, 2000

TO: John McKern
FAX NUMBER: (509) 527-7820
ESTABLISHMENT: U.S. Corps of Engineers

FROM: Gary L. Reed
ESTABLISHMENT: OSU-HAREC
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Number of Pages (including cover sheet): 3

**MESSAGE: John, Look this over and see if you have any questions. If
so give me a call. If not go ahead and submit it. Thanks.**

*Thanks
Gary*

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Department of the Army
Walla Walla District Corps of Engineers
Attention: Lower Snake River Study
201 North Third Avenue
Walla Walla, Washington 99362-1876

Subject: Comments on the Lower Snake River Juvenile Salmon Migration Feasibility Study

Removal of the four Snake River dams would result in movement of significant volumes of sediment down stream. These sediments are composed of wind and erosion carried soil particles which settled behind the dams. A significant portion of these soil particles originated from agricultural crop lands of the region.

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During the period from 1950 through 1982, nearly every acre of cropped land in the arid regions of the Pacific Northwest was treated with organochlorine insecticides to reduce wireworm damage to crops. DDT was the first of this class of insecticides to be commonly used. DDT would control wireworm totally for a period of over ten years. It was followed by the cyclodiene insecticides: Aldrin, Dieldrin, Endrin and Chlordane, which have even longer periods of control activity. Dieldrin and Chlordane provide control of termites for over 40 years (Ware 1994). These insecticides were all used commonly on crop lands throughout the PNW. Ware (1994) further states "the cyclodienes have about equal toxicity to insects, mammals and birds, but are much more toxic to fish." Today, carrot growers test prospective fields to be certain that they do not have residues of these products. Carrots grown on soils with residues of these products will have concentrations in the crop which exceed that allowable for human consumption.

Residues of these products remain at levels that still control wireworm in many of the fields to which they were applied. Considering this and their 40 year lifespan for termite control (often in conditions with moisture present), these products undoubtedly remain active in the sediments of the pools behind the four dams. Appendix C of the Lower Snake River Juvenile Salmon Migration Feasibility Study, Table 3-7 indicates average residues of 7.45 ppm for DDT (including derivatives toxins), 0.83 ppm for Aldrin, 1.68 ppm for Dieldrin and 1.58 ppm for Endrin. Though these concentrations are below the 10 ppm screening level, their combined concentration is 11.54 exceeding the individual screening trigger. Since these compounds

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cont.

accumulate in organisms and act similarly, it is reasonable to consider the combined concentration of these chemicals when determining whether the trigger concentration has been exceeded.

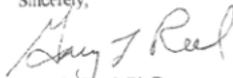
The tremendous tonnage of sediment behind these dams represents substantial insecticide residue which potentially will be released back into the environment by dam breaching. Residing in undisturbed sediment, these chemicals pose little threat to human, wildlife or environment, however, releasing them by dam breaching raises a substantial series of questions about their potential negative impacts on fish, birds, mammals and the environment.

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Though it is unlikely that these residues would be directly lethal to the fish we are trying to protect, they are likely to cause non-lethal deleterious effects which would cause further decline of already endangered species. A portion of these residues will work their way into the food chain of the fish. Even traces of these chemicals will accumulate in the fat of organisms that ingest it. The residues will then move into the food webs of the avian inhabitants of the ecosystem and eventually into the mammalian inhabitants including man. This impact would also affect other endangered and threatened species residing in the river ecosystem. Before dam breaching is accomplished, it is paramount that the impact of the residues upon these species be determined. Would not the release of these products into the water of the river be in violation of the Clean Water Act? Certainly it would, if an attempt was made to reinstate the use of these products in agriculture.

Too often today, we attempt to correct problems without a complete analysis of the issues surrounding our actions. Let us be certain we consider all of the impacts that our actions might precipitate, before we further damage our environment and the wildlife populations we propose to protect.

Sincerely,



Gary L. Reed, Ph.D.
Research Entomologist &
Superintendent

cc: Senator Gordon Smith
cc: Senator Ron Wyden
cc: Representative Greg Walden
cc: Senator David Nelson
cc: Representative Bob Jenson

Reference: George W. Ware. 1994. The Pesticide Book, 4th Edition. Thompson Publications, Fresno, California