

Bastasch, Rick. *Waters of Oregon: A Source Book on Oregon's Water and Water Management.* Oregon State Univ. Press: Corvallis, 1998.

Budtz-Jorgensen, E., N. Keiding, P. Grandjean, and P. Weihe. "Estimation of health effects of prenatal methylmercury exposure using structural equation models." *Environmental Health.* 2002 Oct 14; 1(1):2. (Reviewed by Grace Wang)

Bastasch 's book mainly addresses the problems in water supply distribution. Although the book does not directly focus on pollution problems, a few sections mention this concern. In the chapter titled "Surface Water Safeguards," Bastasch states that "the Federal Clean Water Act requires each state to identify streams and lakes that do not meet water quality standards. Oregon's list identifies about nine hundred water quality limited streams and stream segments" (166).

Oregon Department of Environmental Quality's (DEQ) solution to this problems is the implementation of total maximum daily load allowances (TMDL). The most effective defense against river pollution is the permit program. Pollutants must have a DEQ-issued permit to discharge pollutants into the waters of the state. The federal National Pollutant Discharge Elimination System (NPDES) controls discharges to surface waters while the state Water Pollution Control Facility (WPCF) controls all pollution sources that may indirectly affect Oregon waters (168).

Currently, the biggest problem is nonpoint pollution. DEQ's Nonpoint Source program (NPS) is working with the community to prevent and eliminate such pollution sources. In addition, ODA (Oregon Department of Agriculture) and ODF (Oregon Department of Forestry) are working on projects to control agricultural and forest-related pollution sources. The chapter titled "Groundwater Safeguards" points out that groundwater contamination is monitored by the federal Safe Drinking Water Act.

Budtz-Jorgensen et al studied the accuracy of the current models used by researchers to assess mercury effects on human health. Many studies like methylmercury effects on human health are conducted by studying motor and mental behaviors of people who were exposed to a contaminant and finding a correlation between behaviors or abilities and level of exposure, and comparing these data to a control population. Many studies look at only one motor/mental assessment, and there are concerns of finding false correlations. Although this study is mainly focused on the methodologies of testing, statistical analyses, and accuracy and precision of interpretations of results, it does address effects of methylmercury on children who were exposed to it through maternal blood during pregnancy. The level of mercury transmitted to the fetus is directly correlated to the mercury level found in the mother's hair. Also, the study implies that prenatal exposure to mercury negatively affects children in motor function (tested by latent finger-tapping) and neuropsychological function (tested by recall memory tests).

Critique

Bastasch 's book is a good source for general information. The author has worked in this field for a long

time, so he has a good understanding of issues that concern local people. The book is published with a university press, therefore should be reliable. The author's opinions are well supported by data and figures. The book was published in 1998, so it addresses current trends in water management. Although the author asserts that he does not directly address pollution issues, in a few parts of the book, he summarizes the problems very clearly. The book is intended for a general public audience. The language is clear and easy to understand. This can be a good source for the other teams as well, since it addresses all kinds of issues concerning Oregon waters, with many parts specifically for the Willamette River.

Budtz-Jorgensen et al paper is not a good source for this project. Although it is published in a well respected journal and should have reliable results, it does not directly concern our research interest. I originally thought the paper is about mechanistic or physiological effects of mercury on humans, instead, I found that the paper is actually about the methodology used in such studies. While it is comforting to learn that the methodologies in other papers are reliable, it provides little insight to our interest. The paper is also very difficult to understand, since most of the text discusses extensive statistical methods. A strong background in statistics is needed to understand the results portion of the paper. In the future I will find other sources that study the effect of mercury on humans.

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