

Gleeson, W.F. and F. Merryfield. "Industrial and Domestic Wastes of the Willamette Valley." Bulletin Series 7. Corvallis: Oregon State Agricultural College, 1936. (Reviewed by Aimee Furber)

The bulletin addresses pollution from pulp and paper mills as well as from other industries located on the Willamette at the time. During the 1930's pollution from paper production was a widespread problem and the bulletin also proposes a possible method for neutralizing the pollution from sulphite liquor, a byproduct of paper production.

In 1936 five paper and pulp mills were located on the Willamette River or its tributaries. The main sources of pollution from these plants were: sulphite liquor, white water, sulphite mill waste, and spent bleach liquor. The sulphite liquor was the main cause of pollution and accounted for 92 percent of the total oxygen demands required by paper production waste. The study recommends that the control of fiber discharges should be more closely monitored, that the pollutant load should be reduced by 30 percent in low water periods, and that all members of the paper production should be made aware of the problems any expansion in the industry would cause during low water periods.

The other industrial wastes on the Willamette at the time were from flax processing, which produces wastes "heavily charged with unstabilized matter in solution," tanneries and meat packing plants that produced wastes from various chemical processes (the composite sample had a pH of 10.4) and solid wastes, woolen mills that produced waste with high amounts of solid materials but a relatively low volume of total waste, and canneries that produced waste from fruit and vegetable peelings (46). The study also included domestic wastes. The study concludes that flax-retting wastes have a high oxygen demand and this should be considered when deciding the location for future plants, industrial wastes contain most oxygen-demanding substances in solution rather than suspension, the high oxygen demand might be responsible for any pollution in the upper Willamette River, a reduction in the oxygen demand can be obtained by separating the suspended solid out of the industrial waste and domestic wastes. The study suggests that a considerable decrease in oxygen demand and temperature occurs if sulphite liquor is agitated and ponded.

Critique

The Bulletin, from an authoritative source, gives good information on the types of pollution in the Willamette during the 1930's. From the studies done it appears that at the time there was no treatment of waste before it entered the river. The conclusions of the studies validate this; they all demonstrate how the waste pollutes the river more than giving suggestions on how it could be reduced. The studies were conducted on the Willamette, but did not include Portland. It would be interesting to see a study of Portland at the time since it is the farthest down river and the river there would contain the most pollution. I was surprised that even domestic waste went untreated. I would have expected that solids would be separated before it entered the river. The study also shows what kind of treatment methods were being used at the time. This is important when looking at the evolution of pollution treatment methods.

It is interesting to see how much progress was made between the 1930s and the 1970s. The quality of the restoration in the 1970s is even more amazing when compared with the pollution in the 1930s.

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