

## TR-64

### Effects of Original Vegetation on Reservoir Water Quality

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The purpose of this study was to undertake an initial step that would lead to a better understanding of the effects of nutrients released from vegetation inundated by water at newly constructed reservoirs. Specifically, a series of leaching studies were conducted on representative grasses, herbage and trees to determine the relative nutrient release rates of nitrogen and phosphorous. In addition, a limited field study was conducted as well as a vegetation inventory of a proposed Bureau of Reclamation reservoir near Edna, Texas.

The results of the leaching study were presented as percent nutrients released from the various types of vegetation as a function of time. The total quantity and rate of nutrient release varied greatly depending upon the type of vegetation. As an example, nutrients released from grasses and herbage proved to be released at a greater rate, contain a greater quantity of nutrients per unit weight of vegetation and generally be more available in greater quantities based on weight per unit area than for trees. This indicated that although trees are often the only vegetation removed from a reservoir site, the amount of nutrients available for release by the herbage and grasses will probably have a much more significant impact on reservoir water quality and should be considered in the reservoir clearing policy.

Several recommendations were made based on study results including a methodology for predicting the effects of original vegetation on reservoir water quality for any specific project.

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