

Two 1970's methods for prescribing instream flow regimens

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Abstract. During the 1960's there was an increasing interest in the quality of rivers. At first this was mostly about the quality of the water in the river. Overtime this interest included knowledge that a river without water was not really a river. In the Northwestern states, in California, and in British Columbia this also included a desire to maintain a viable salmon fishery, and in all the western states a desire to maintain a good trout fishery in mountain rivers. This interest in both cases was both aesthetic and economic. The salmon fishery was very important economically and ascetically. In all the western states a trout fishery was an important economic driver because of tourism. Also, a dry river was not part of the natural landscape except in the desert regions. In this paper techniques for determining an instream flow regimen for rivers as existed in early to mid-1970's and as presented at a symposium on instream flows in 1976 will be reviewed. The salmon spawning methods used along the Pacific Coast will not be reviewed. Two methods will be reviewed; these are 1) the Montana Method, and 2) the water surface profile method as used in Montana and Idaho. The major paper on the Montana method also included hydraulic criteria. These criteria will also be reviewed. These hydraulic criteria were not part of the original Montana Method. An example of the results obtained when the Montana Method is applied to North Fork Crestone Creek in Colorado is shown in the diagram below. The dotted line is the results from the Montana method and shows the streamflows required for excellent habitat conditions.

