

PASSAGE OF SALMONIDS IN BROWNLEE RESERVOIR
(FOREWORD)

by

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Brownlee Dam, the first of a series of high-head dams proposed for the middle Snake River drainage, was completed in 1958. This dam created a reservoir approximately 57 miles long, less than 1/2 mile wide, and 300 feet deep at the deepest point. The reservoir at maximum pool contains 1,470,000 acre-feet of water. Such an impoundment can obviously bring about many changes in the physical characteristics and ecology of the formerly swift-flowing Snake River environment. Freshets and floods that may have played a major role in the transport of fingerlings to the sea are being controlled. Temperature regimes are being modified. In the changed environments, new predator, competitor, and disease relationships are being established that may greatly affect the survival of the migrating fish. Added to these changes are the actual physical barriers to migration created by the high-head dams.

The purpose of these reports is to present the progress of a study program designed to assess the effect of a large impoundment (Brownlee Reservoir) on the passage of anadromous fish stocks, primarily chinook salmon (Oncorhynchus tshawytscha) and steelhead trout (Salmo gairdneri). The program has been pursued under five major areas: (1) The limnology of the reservoir system, (2) the migration of adult salmonids through the reservoir, (3) the recruitment of juvenile salmonids to the reservoir, (4) the migration of juvenile salmonids through the reservoir, and (5) the escapement of juvenile salmonids from the reservoir. The above research was conducted simultaneously and is reported upon in separate sections by senior biologists in charge of each study. In addition, close cooperation and liaison were maintained with other State and federal agencies doing allied work in the vicinity or actively participating in certain phases of the program. These include the Oregon Fish Commission, Oregon Game Commission, Idaho Department of Fish and Game, Bureau of Commercial Fisheries River Basins Studies, and the U.S. Public Health Service.

Active collection of data under the Fish-Passage Research Program began in the spring of 1962, but the individual reports draw from other sources of information prior to this date.