
A MODULAR IN-STREAM BARRIER STRUCTURE TO LIMIT UPSTREAM FISH PASSAGE

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Fisheries management objectives that include segregation of native and introduced fish species often depend upon installation of a physical in-stream barrier with a long functional design life. Fish barrier sites are typically located in remote locations and reflect varied topographic and hydrologic conditions. A modular fish barrier, consisting of commercially available pre-cast concrete box culverts and slabs, was developed for relatively low-cost, permanent installations at multiple locations around the State. The barrier is comprised of upright culverts connected to form a weir and abutments and slabs to form splash pads. Structural design elements include: weir width; abutment height; and structure stability against overturning. Passage impedance design elements include: weir height; preventing pool

formation at the structure base; and restrictive velocity when leap constraints are exceeded. Topographic design elements include: channel-to-weir transitions and grading between the abutments and adjacent ground. This barrier has recently been installed on Whites Gulch near Canyon Ferry; barriers on Seepay and Magpie Creeks near Dixon and Cottonwood Creek near Wolf Creek are in various design phases. This paper presents the basis for the structural, passage impedance and topographic design elements as well as design lessons learned from the installed barrier.