Title

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Abstract

A multi-year, cooperative program for the identification, prioritization and correction of fish passage at road- stream crossings (more than 4,000 sites on a land base of 24 million acres) sites has been developed and is being implemented over the last five years.

A comprehensive assessment of fish passage, at road-stream crossings, was completed for all 17 of the National Forests in the states of Oregon and Washington. The assessment took 3 years to plan and complete. More than 5,100 crossings, representing 82% of all crossings on fish bearing streams, were evaluated in the field. Initial determinations were made to identify which crossings would pass all species and life stages of fish found in the respective streams. Juvenile coho salmon were used as the target species for evaluation and a matrix integrating a variety of crossing characteristics including crossing type, crossing structure gradient, outlet drop height, a ratio of crossing structure width to bank full width, etc. was utilized to categorize sites into three categories (passable, not passable and need further investigation). Results indicate that 68% of all road-stream crossings (bridges included) impair, to some degree, upstream passage for at least one species/life stage of fish. Considering only culvert crossing structures, about 90% are impassable. It is estimated that more than 3,000 miles of habitat for fish is affected. This represents about 15% of the total miles of fish bearing streams on National Forest System lands of the Pacific Northwest Region. The assessment has provided the foundation for a more systematic and strategic approach to improve fish passage as part of the Regional Aquatic Restoration Program.

A cooperative process to prioritize river basins and treatment sites is being used to guide selection of sites for remediation. Regional design standards have been established for replacement crossings and 2 design assistance teams have been created to improve the effectiveness and cost efficiency of new structures. More than 250 sites have been treated over the last 5 years. Increasingly, cooperative funding is being used to increase the number of sites being treated.

A basic protocol for monitoring post treatment effectiveness is currently being revised to provide more quantitative results for post project monitoring. Additional research on the biological response of aquatic organisms, including non game and juvenile fish, during a full range of flows, is needed.