

A Preliminary Report on Instream Structure Durability Following 1996 Floods

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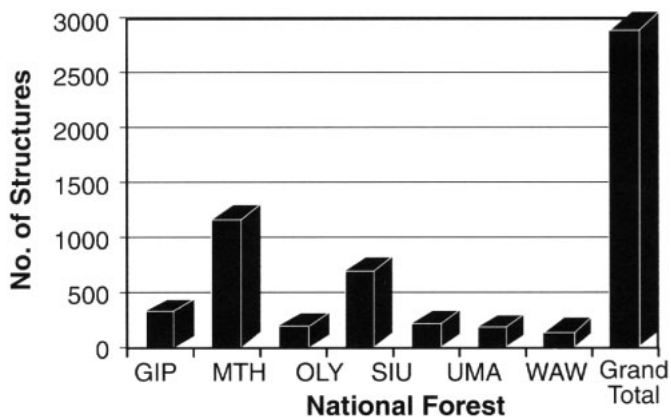
Editor's Note: the abstract of this article appears on pg. 7A.

Two episodes of major flooding in the Pacific Northwest, during the winter of 1995/1996, severely tested the durability of a variety of instream restoration treatments. A standard protocol to assess the durability of instream structures on Federal lands (USDA Forest and USDA Bureau of Land Management) was developed and applied in areas of the most major flooding. Although all data have not been submitted and evaluated, the Figures presented here are from a preliminary analysis of nearly 3,000 structures from seven National Forests. Preliminary findings contradict news media descriptions describing "total loss and destruction" of in-channel restoration treatments.

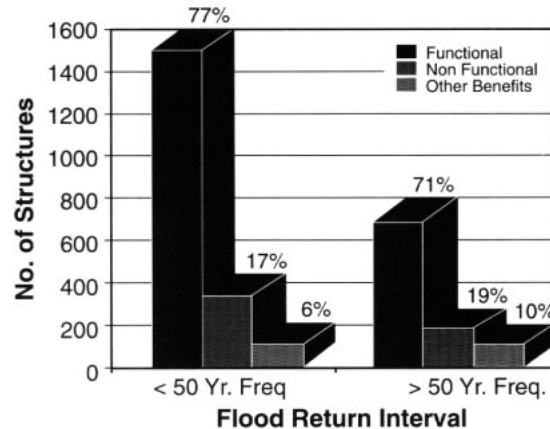
Figure A shows the seven National Forests which were surveyed. Figure B demonstrates that, interestingly, structure performance was similar for 25-50 year floods as for 100 year and greater floods. Structures were defined as "functional" if they were fully functional or partially functional; 75% of the total were functional following flooding, 50% and 25%, respectively. Only 16% of all structures were lost (Figure C), while most were in place or shifted on site. Anchored structures were more successful than non-anchored ones (Figure D). Figure E demonstrates that structures in small (order 1-2) and medium (order 3-4) streams were more successful than those in large (5th+ order) streams.

Additional data will be added to this database and further analysis will be performed. A final assessment report is anticipated by January or February 1997. A

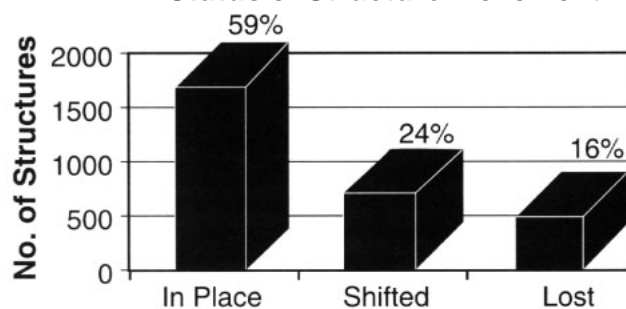
A. Pacific Northwest Region Post-flood Surveys



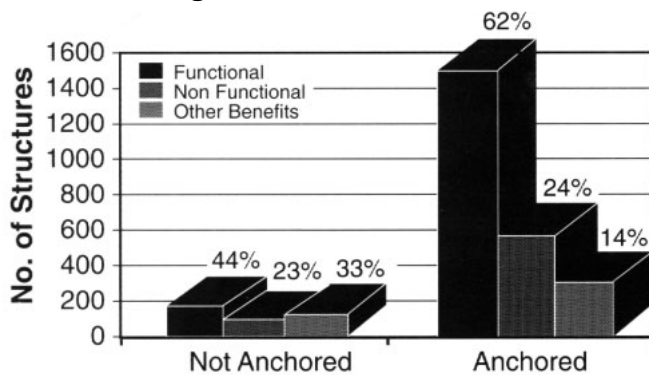
B. Structure Performance Related to Flood Return Interval



C. Status of Structure Movement



D. Anchoring Effect on Structure Movement



E. Structure Performance Relative to Stream Order

