

## **IMPACTS OF CHANNEL MODIFICATION ON THE YELLOWSTONE RIVER IN MONTANA<sup>TWS</sup>**

Rob Hazlewood

U.S Fish and Wildlife Service, 100 N. Park, Suite 320, Helena, MT 59601

Dennis Flath

Montana Fish, Wildlife and Parks, P.O. Box 173220, Bozeman 59717

The Yellowstone River in Montana is the longest free flowing river remaining in the contiguous United States. Consequently, it is considered a unique and valuable resource even though major changes and perturbations have taken place since Euro-American settlement. The value of a dynamic river floodplain to wildlife and fish communities continues to be eroded by man-made changes which threaten channel geomorphology. Threats to the river and associated floodplain habitat from bank stabilization efforts will be described, including levees, rip-rap, dikes, rock barbs, jetties and other man-made channel modifications. Currently these actions are being permitted at a pace which may ultimately threaten the ecology of the entire river system. This case study will discuss impacts of channel modification projects on

various vertebrate taxa and their habitat, with emphasis on threatened, endangered and sensitive species of mammals, birds, reptiles and amphibians. Techniques, ideas and potential solutions for reducing negative impacts to wildlife habitat in floodplain and riparian systems may necessitate a major policy change in existing permitting processes, consideration of cumulative effect and more rigorous environmental analysis to ensure that permitted actions do not affect the ecology of river systems.