Ecology of Bull Trout in the Saint Mary River Drainage, Montana [AFS]

Jim T. Mogen and Lynn R. Kaeding
USDI Fish and Wildlife Service
Branch of Native Fishes Management
Bozeman, MT 59715

Populations of bull trout (*Salvelinus confluentus*), have declined throughout its historic range in the contiguous United States. This decline, mainly attributed to adverse human-caused alterations of the aquatic environment, competition and hybridization with nonnative fishes, and excessive harvest by anglers, prompted the USDI Fish and Wildlife Service to formally list the bull trout as threatened throughout its historic U.S. range in 1999. The Federal Endangered Species Act listing action included the only bull trout stocks that occur naturally east of the Continental Divide in the U.S., those in the St. Mary-Belly River drainage of the upper Saskatchewan River basin, Montana. Little information on the bull trout in the drainage was available, however. Between 1997 and 2001, we used electrofishing, fish traps, and radio telemetry to determine the distribution, movements,

status, and limiting factors for bull trout in the St. Mary River drainage. Multiple age-classes of bull trout (migratory and resident life-history forms) were found in three principal tributaries, and annual spawning runs into those tributaries numbered at least 48-121 adult fish. Twenty-seven adult, migratory bull trout caught in traps were implanted with radio tags, and 556 bull trout (>250 mm TL) caught in traps or by electrofishing were PIT tagged. Subsequent movements of radio-tagged fish between spawning and feeding-wintering areas ranged to 85 km and included movements into Alberta, Canada. Although most tagged bull trout contacted or recaptured during consecutive spawning seasons exhibited spawning-stream fidelity, several adult fish were found in different streams during consecutive years. Upstream and downstream movements of tagged bull trout past a major diversion dam on the river were also documented. Bull trout in the St. Mary drainage are negatively affected by dams, entrainment into an irrigation canals, and modified flow regimes, problems now being addressed by management agencies. This ongoing study is a cooperative effort among the Blackfeet Tribe, Glacier National Park, USDI Bureau of Reclamation, and the USDI Fish and Wildlife Service.