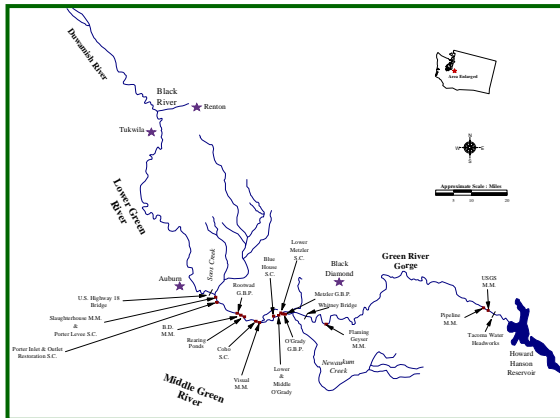




Juvenile Salmonid Use of Lateral Habitats Endangered Species Studies

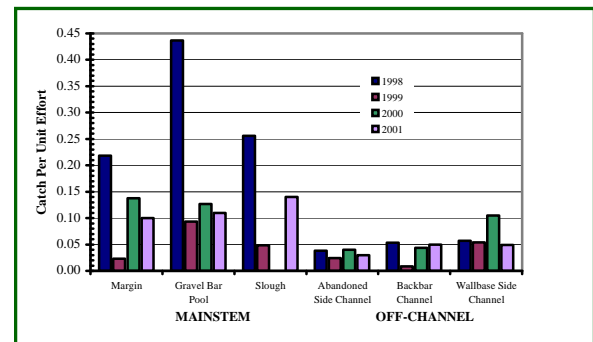
Middle Green River, King County, Washington



Five consecutive years of juvenile salmon survey data was collected in mainstem and off-channel habitats in the middle Green River beginning in 1998. Habitat surveys consisted of one mainstem effort beginning at Howard Hanson Dam and continuing downstream for approximately 20 river miles were conducted concurrently with juvenile salmonid surveys in 2002. Repeat surveys were conducted on mainstem and off-channel index sites under varying flow conditions. Habitat metrics included size and location of pools, eddies, spawning gravel areas and large woody debris, and an estimation of depths and velocities including zones of low-velocity juvenile salmonid habitat. Bank and riparian conditions were also qualitatively referenced.

In 2002, the U.S. Army Corps of Engineers began construction on a basin-wide habitat restoration program and regional water supply project within one of the most heavily degraded river basins in the western United States, the Green-Duwamish. Howard Hanson Dam, built in 1962, is a multipurpose flood control and flow augmentation project recently re-authorized to expand project purposes to include habitat restoration and water supply storage for the cities of Tacoma and Seattle.

R2 was contracted by the U.S. Army Corps of Engineers and City of Tacoma to monitor juvenile salmon rearing, migration, and habitat use below the dam to use as a template for reservoir refill and dam-release strategies, as well as help guide future habitat restoration plans.



The objectives of the study were to monitor juvenile salmonid emergence in lateral habitats, determine their relative abundance, identify species distribution, and determine the amount of habitat available to juvenile salmonids in the middle Green River. Understanding the respective life history characteristics of Green River salmonids has helped water managers and habitat restoration planners identify and implement strategies and projects to minimize impacts of dam operations on aquatic species.

Project Elements:

- ESA Species
- Fish Surveys
- Fish Habitat Restoration
- Estuarine Studies