



Alagnak

Aniakchak

Katmai

Kenai Fjords

Lake Clark

## Salmon

*Resource Brief*  
October 2011

### Importance

Sockeye salmon (*Onchorhynchus nerka*) are the life blood of the Bristol Bay region in southwestern Alaska. This species' importance in structuring the ecological framework of aquatic ecosystems is rivaled only by its storied history in Native Alaskan culture and today's commercial and subsistence fisheries. The Alaska National Interest Lands Conservation Act (ANILCA) of 1980 specifically established Lake Clark National Park and Preserve (LACL) for the following purpose, among others: "To protect the watershed necessary for perpetuation of the red salmon fishery in Bristol Bay..." Additionally, ANILCA expanded Katmai National Monument (redesignated as Katmai National Park (KATM)) and created Katmai National Preserve "...to maintain unimpaired the water habitat for significant salmon populations..." Maintaining healthy runs of sockeye salmon is critical to the ecological, economic, and social integrity of the Bristol Bay region.

### Long-term Monitoring

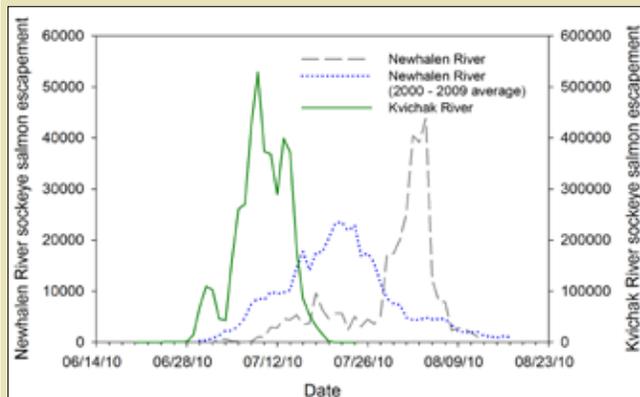
In Alaska, salmon are managed by the Alaska Department of Fish and Game (ADF&G) with assistance from the U.S. Fish and Wildlife Service (USFWS). Additionally, NPS resource staff supplement ADF&G and USFWS management efforts through salmon research and monitoring in parks. Counting towers, weirs, sonar, and aerial surveys are common methods used to estimate run strength and timing (collectively referred to as escapement) of migrating adult salmon. Escapement information is critical for the management of commercial, subsistence, and recreational fisheries. Currently, ADF&G operates salmon counting towers on the Naknek and Alagnak Rivers downstream of the KATM park boundary; whereas LACL resource staff operate a counting tower on the Newhalen River downstream of the LACL park boundary. These three watersheds comprise the majority of the land area of SWAN parks draining into Bristol Bay. Thus, monitoring escapement on these three systems provides a good estimate of salmon numbers entering a large portion of KATM and LACL.



*LACL fisheries staff record measurements on sockeye salmon to assess the health and condition of this vital park resource.*

### Discussion

SWAN recognizes the valuable role state and federal agencies play in monitoring the sockeye salmon resources of southwestern Alaska. SWAN monitoring for the salmon vital sign will focus primarily on "harvesting" data collected by ADF&G. We will be developing a database for the storage and retrieval of salmon escapement data and will use this information along with other monitoring efforts to provide a broad perspective of ecological interactions within SWAN park units.



*2010 escapement estimates for the Kvichak and Newhalen River systems. The Kvichak River is located below Lake Iliamna and is the entry point for salmon that spawn in the Lake Clark watershed; thus, fish recorded in the Newhalen are a subset of the larger Kvichak escapement count, resulting in the observed lag time in the Newhalen escapement peak.*