

Low Flows – Deadly Water Temperatures

Posted on [August 22, 2016](#) by [Tom Cannon](#)

Low flows in the Sacramento River and Delta lead to deadly water temperatures for Central Valley salmon, steelhead, sturgeon, and smelt, including six state or federally listed endangered species. Water quality standards and operating requirements for the state and federal water projects should include new flow limits to protect fish.

Sacramento River

Salmon, steelhead, and sturgeon are subjected to deadly spring and summer water temperatures when lower Sacramento River flows fall below 5000 cfs as measured at Wilkins Slough (Figure 1). Low flows and high water temperatures lead to poor survival and increased predation, and block migrations of adult salmon.

Delta

Low flows through the lower Sacramento River channel in the Delta also lead to deadly water temperatures for salmon and smelt. When Delta inflow falls below 10,000 cfs, water temperatures become deadly for Delta Smelt (Figure 2) and salmon (Figure 3).

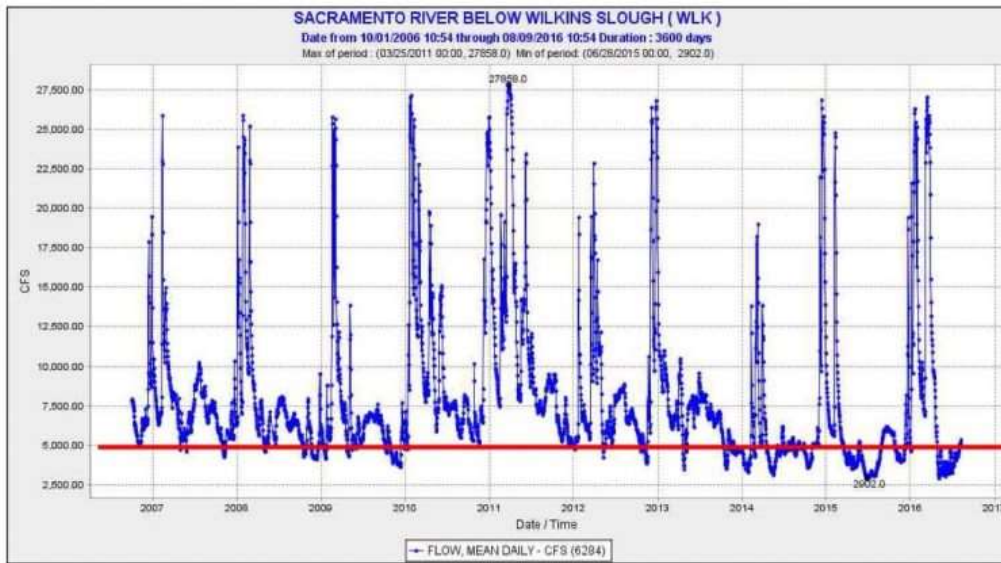
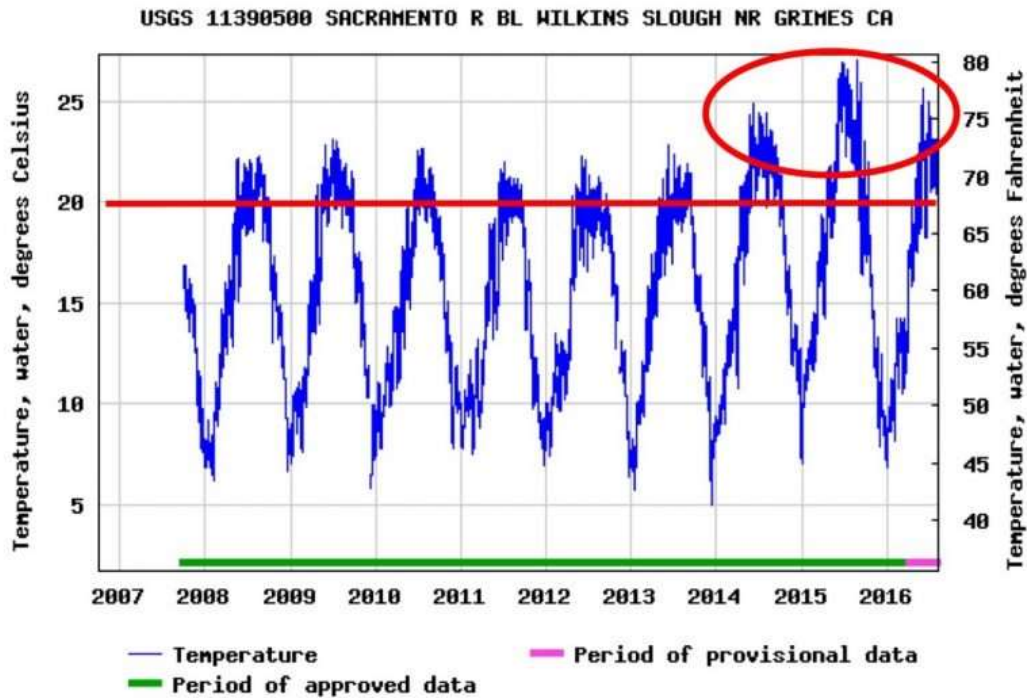


Figure 1. Daily average water temperature and river flow in the Sacramento River at Wilkins Slough (RM 125) 2007-2016. Water temperatures greater than 75°F are lethal to salmon and sturgeon, and block salmon migration. The water quality standard for the lower Sacramento River is a limit of 68°F. Temperatures above 68°F are stressful to salmon, sturgeon, and steelhead, and lead to increased risk of predation, lower survival, and poor reproductive success.

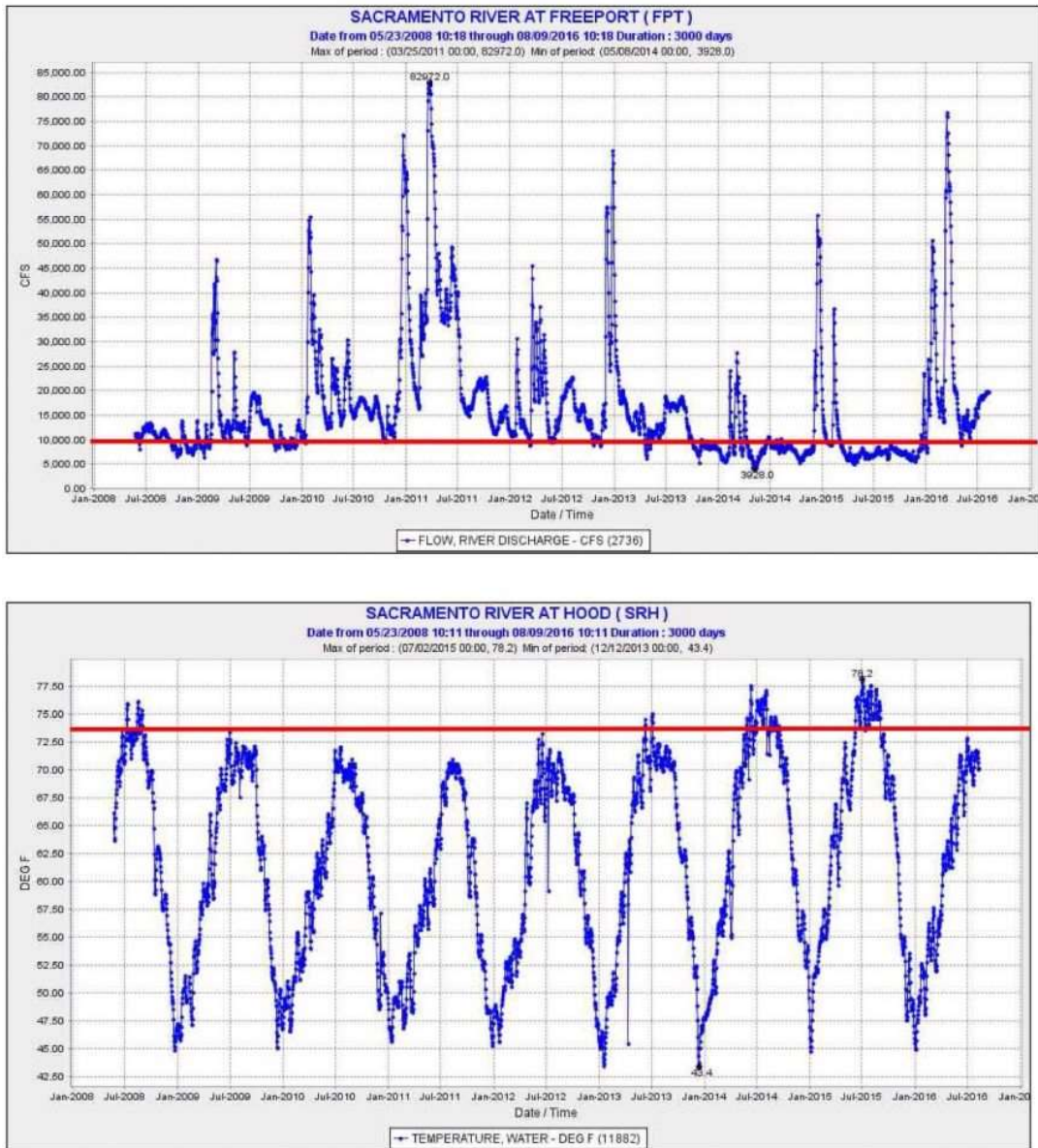


Figure 2. Daily average water temperature and river flow in lower Sacramento River near Freeport. Water temperatures greater than 73°F are lethal to smelt and block salmon migrations.

