

Nitrate Concentrations and Loads in the Pajaro River

Nitrate concentrations have increased in the Pajaro River since the early 1960s. River discharge is highly variable in California, and the figure below demonstrates the interannual variation of discharge, where some years have high flow and others have low flow. In general, nitrate concentrations were generally higher in May than September. However, more recently, the river in September has high nitrate concentrations, up to 2x above the drinking water standard (10 mg N/L). In May river nitrate concentrations reached a plateau in the 1980s while the river in September has risen dramatically since the turn of the century.

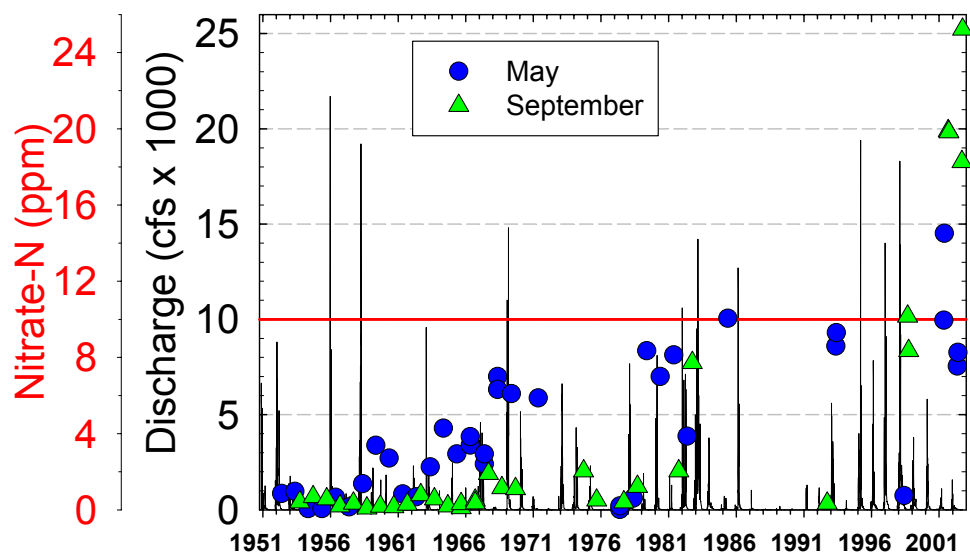


Figure 1 Discharge and Nitrate Concentrations in the Pajaro River at Chittenden Gap.

Based on sampling done on biweekly basis, we have calculated the amount of dissolved nitrogen exported from the Pajaro River that drains South Santa Clara Valley and much of San Benito County (Table 1). We calculated the flow-weight (or flow corrected) mean (FWM) nitrate concentration. Nitrate concentrations are generally higher in low flow years.

Water Year	Discharge ($m^3 \times 10^6$)	Nitrate-N ($g \times 10^6$)	FWM (mg N/L)
1997-98	765.7	1266	1.65
2000-01	50.4	283	5.62
2001-02	55.8	387	6.94
2002-03	81.1	372	4.59
2003-04	80.3	431	5.37