

# 2014 Water Temperature Monitoring

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# Long Range Plan Goals and Tasks

- **Goal 2.4** Provide Suitable Water Quality to Support Recovery of CPM and RBS Populations.
  - **Action 2.4.1** Describe water quality and identify potential problems to native and endangered fish.
    - **Task 2.4.1.1** Evaluate water quality of the San Juan River Basin, in coordination with other agencies, and identify potential effects to native and endangered fish.
    - **Task 2.4.1.3** Evaluate water quality as potential limiting factors.
  - **Action 2.4.2** Remediate Water Quality Problems .

# 2014 tasks and activities

- **Monitored water temperature until mid March.**
- **USGS began real time monitoring in March 2014**
- **Began investigation of temperature depression and fish response**

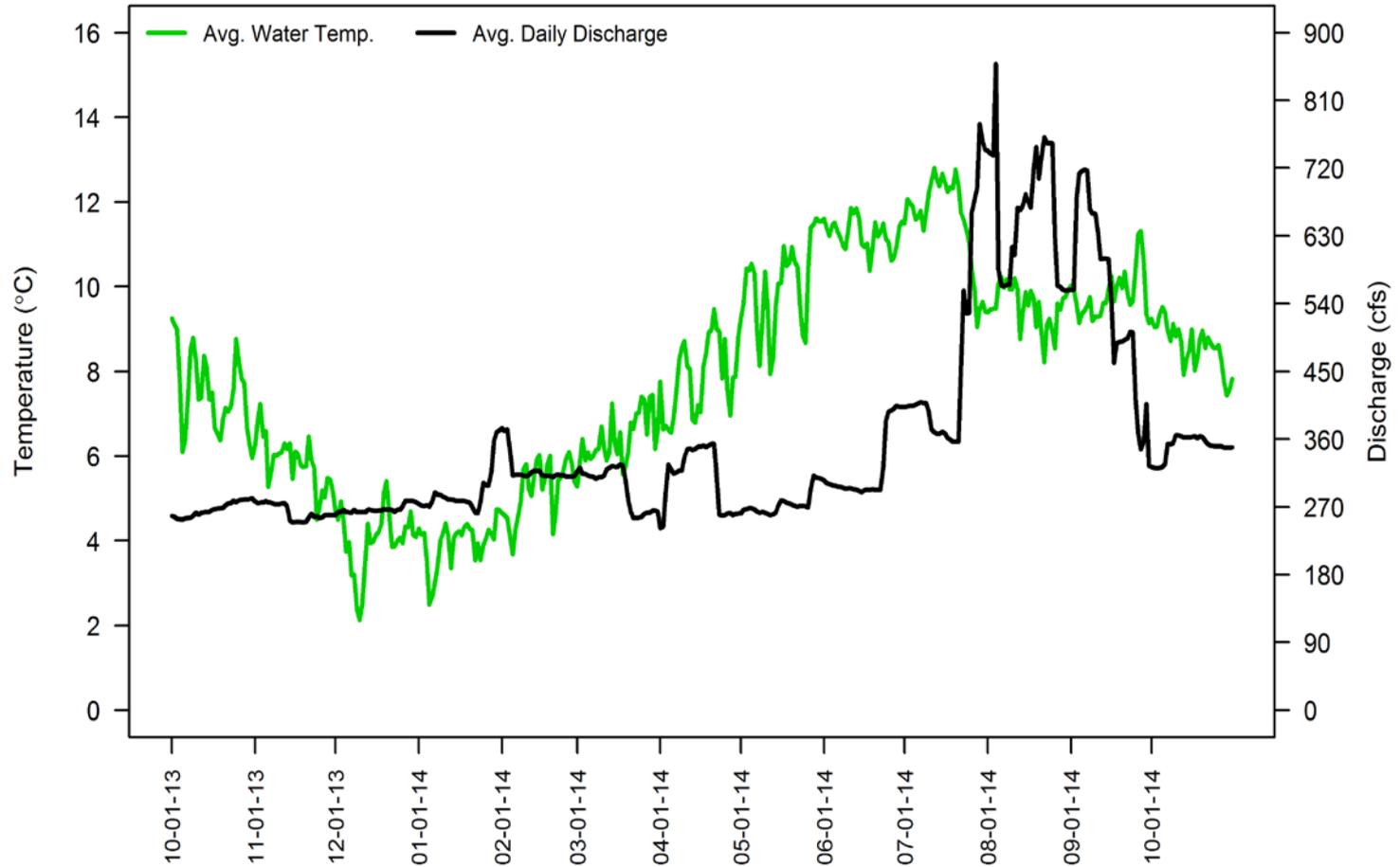
# Temperature Logger Locations

Location	River Mile	UTM Zone	UTM Northing (m)	UTM Easting (m)	Comments
Near Navajo Dam	225.0	13S	4076511	266784	Discontinued Feb. 2013
Archuleta – San Juan at USGS gage location	218.6	13S	4076301	259235	Discontinued May 2014; transferred to USGS
CR5500 – San Juan at CR5500 bridge near Lee Acres RV Park*	188.9	12S	4064363	759478	Both loggers lost as of Feb. 2014
Farmington – San Juan at USGS gage location	180.1	12S	4067579	747929	Discontinued May 2014; transferred to USGS
Shiprock – San Juan at USGS gage location	148.0	12S	4073096	706294	Discontinued Feb. 2014
Four Corners – San Juan at USGS gage location	119.4	12S	4096658	675400	Discontinued May 2014; transferred to USGS
Mexican Hat – San Juan near Bluff gage location	52.1	12S	4112151	600678	Loggers lost as of Oct. 2013; use USGS
Animas at Farmington – Animas River at USGS gage location	n/a	12S	4067756	749902	Discontinued May 2014; transferred to USGS
McElmo Creek at confluence with San Juan*	n/a	12S	4120599	660513	Discontinued Feb. 2014

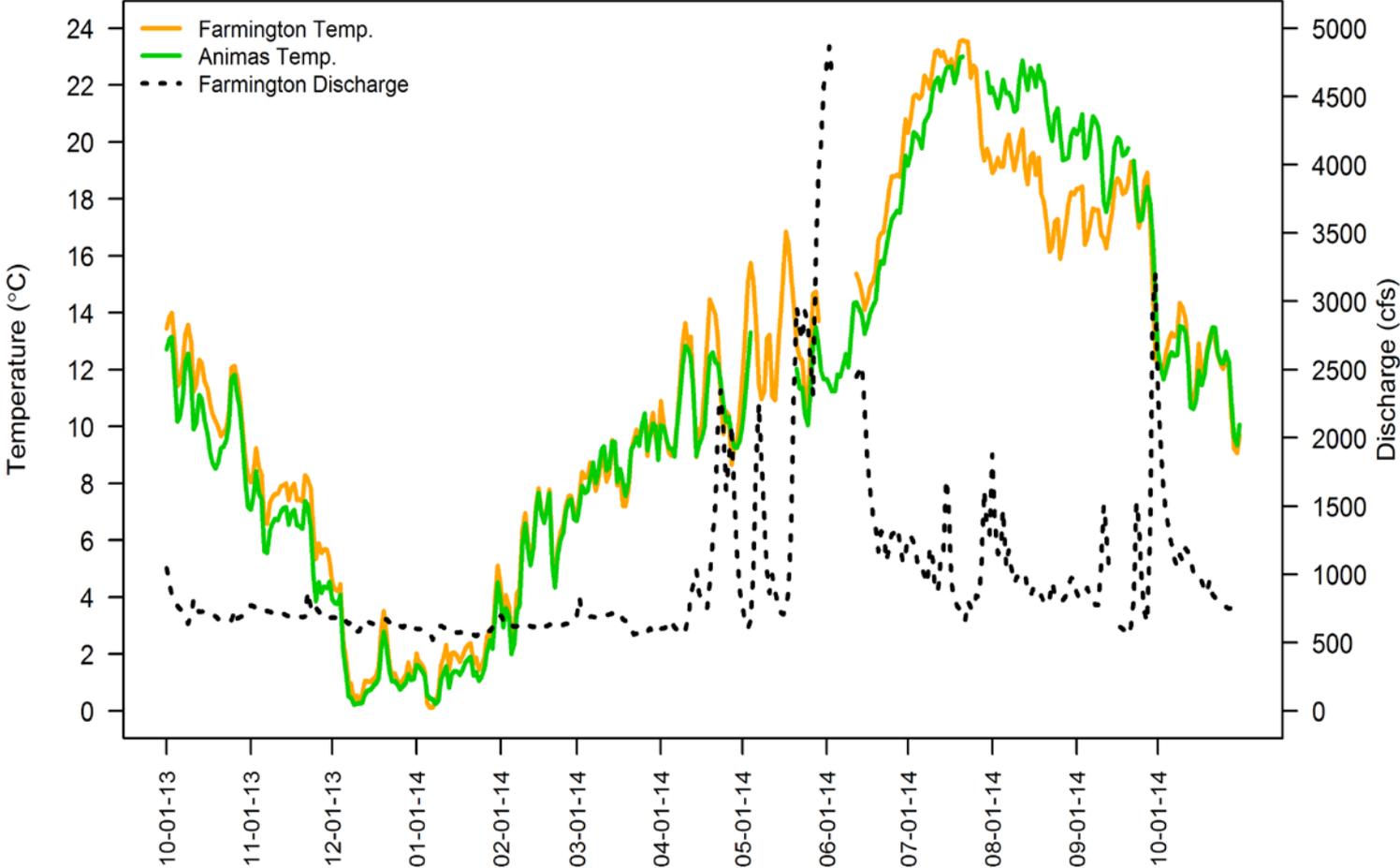
\*Established in 2011/2012.



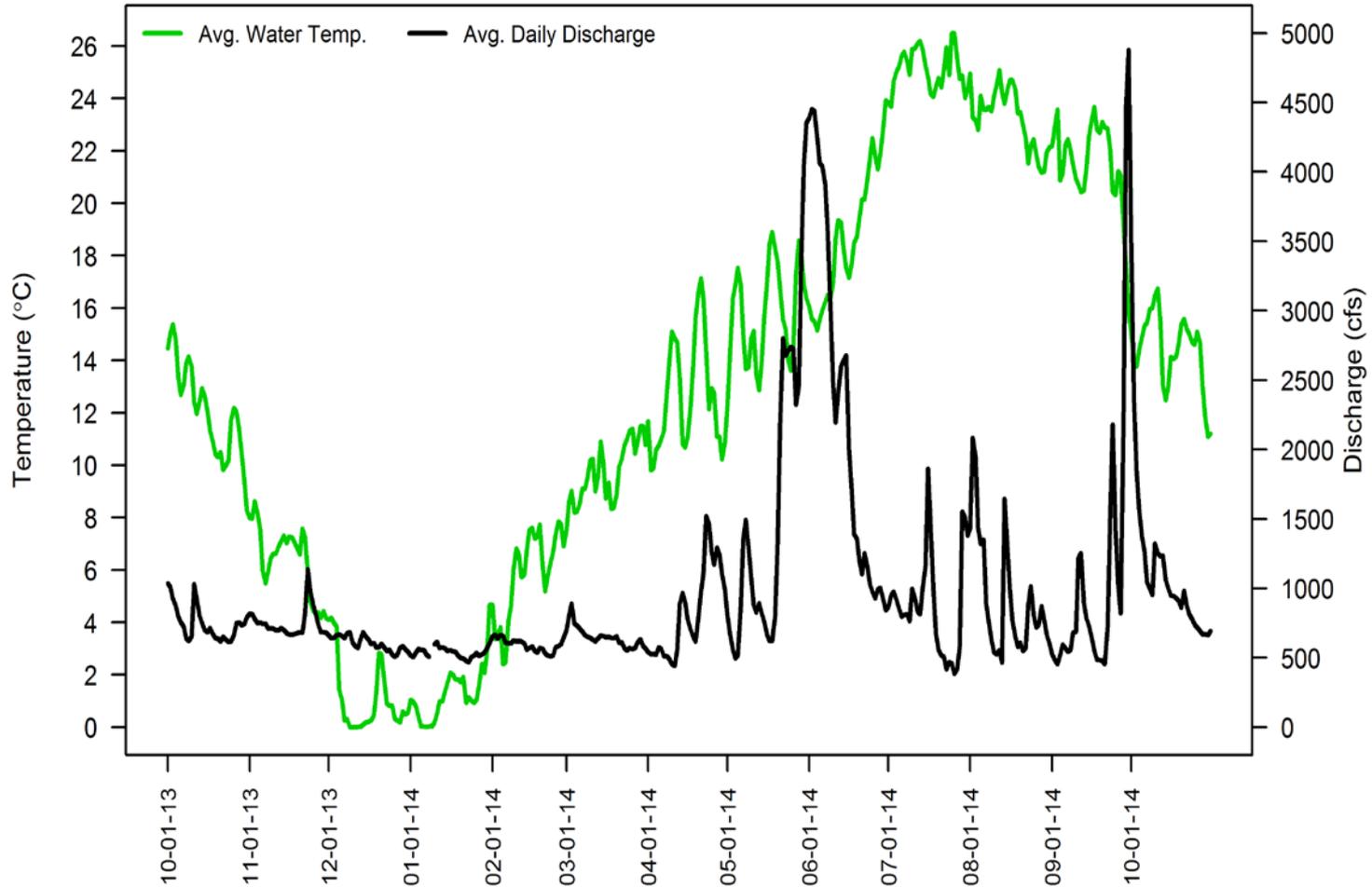
# Archuleta



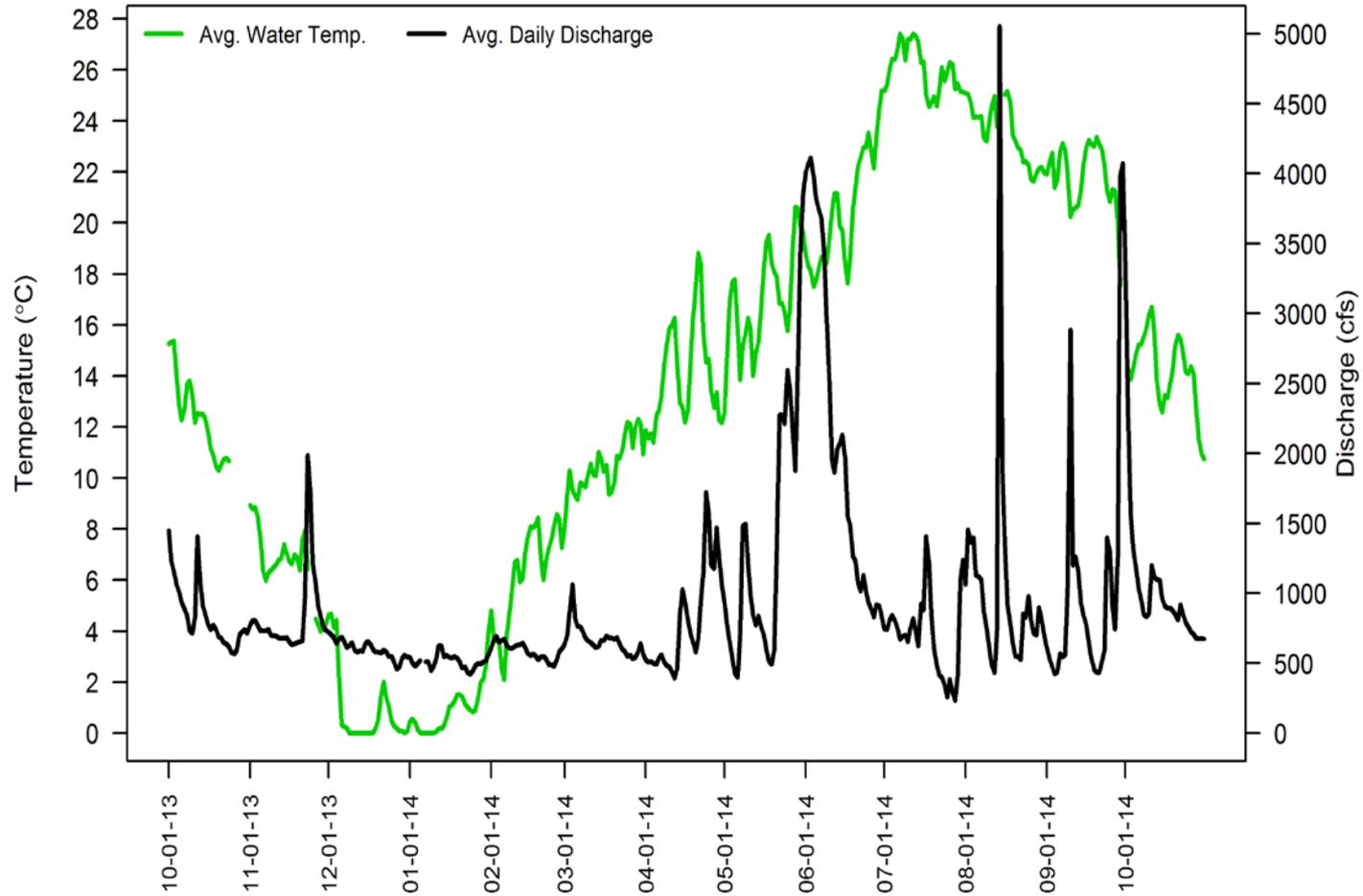
# Animas R, SJR Farmington



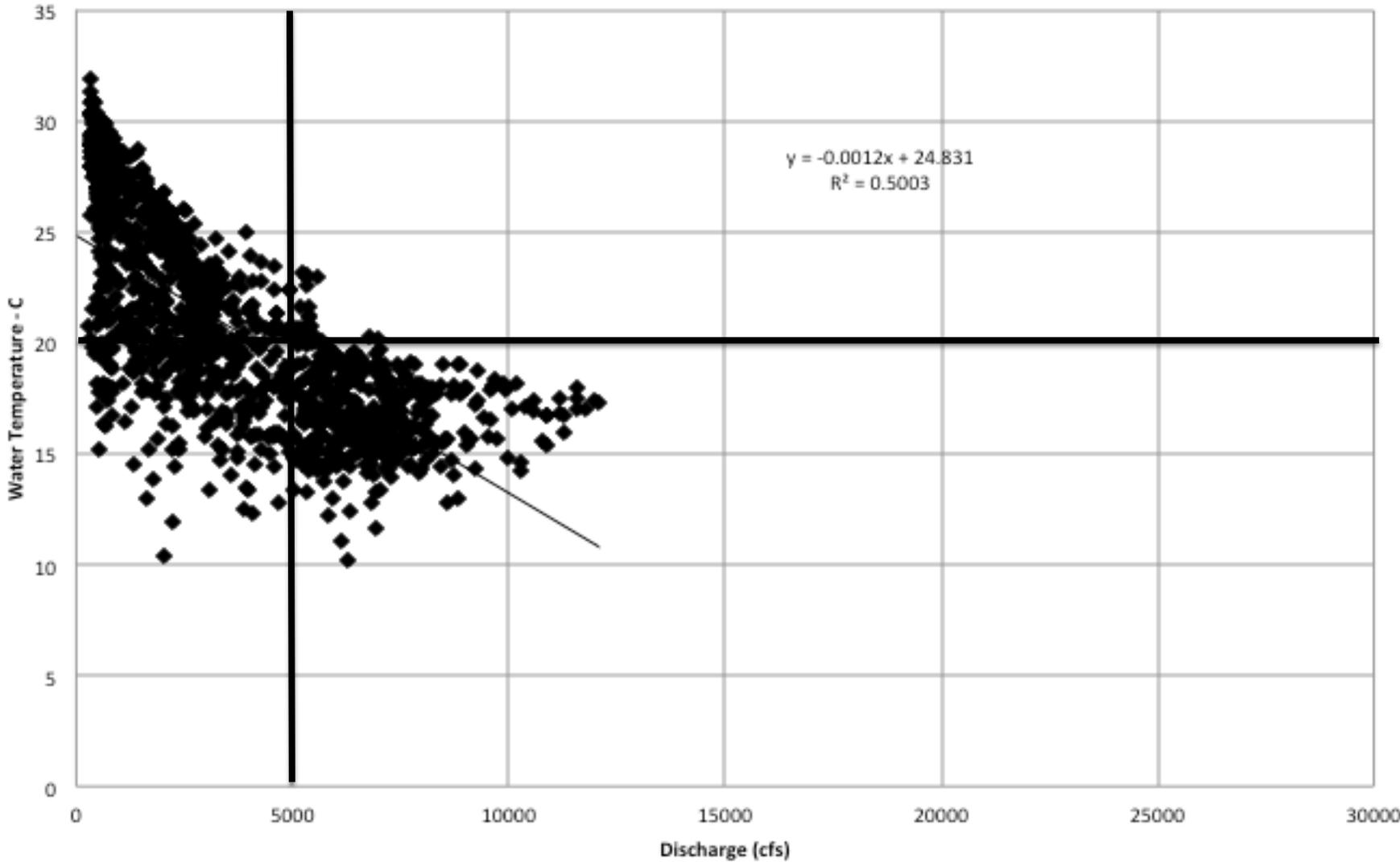
# SJR-Four Corners



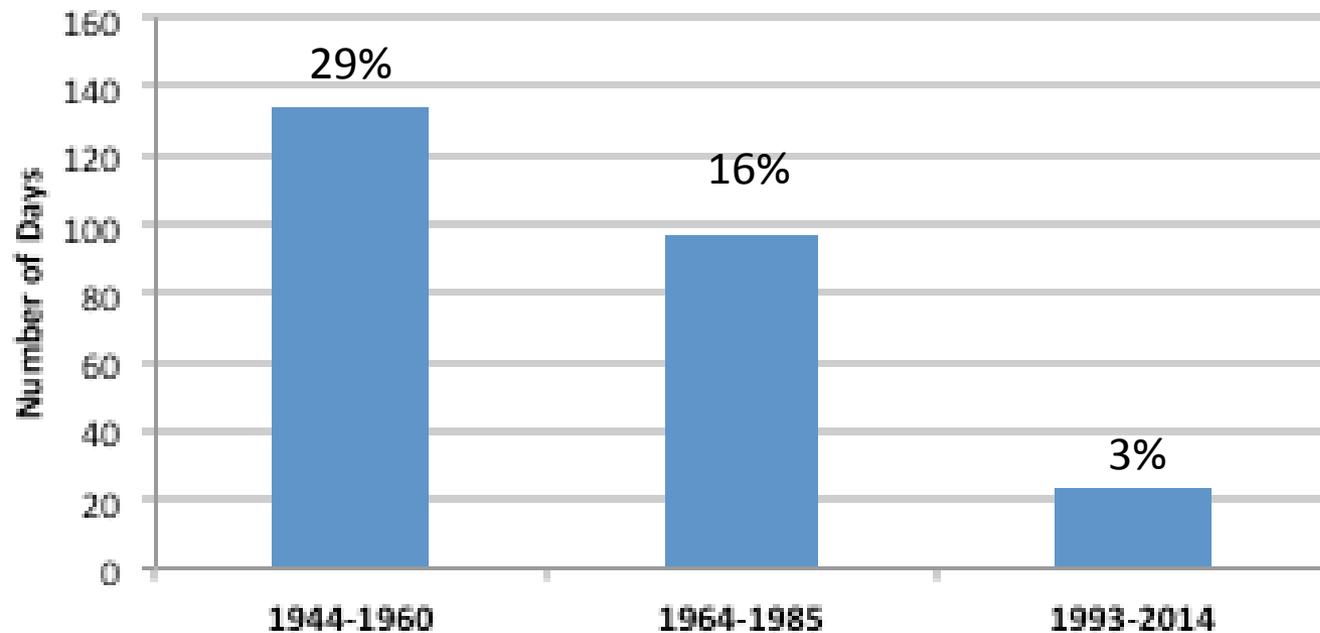
# SJR-Mexican Hat



1993 - 2014



## Days $\geq$ 5000 cfs and $\geq$ 20 C between May 1 - July 15



# Summary

- No release from Navajo Dam in 2014
- Resulting downstream temperatures reflect ambient conditions
- No sudden temperature change or prolonged cold water conditions
- Long term change in distribution of temperature with high flows since 1993.

# Recommendations

- Continue investigating the relationships between water temperature and timing, number and size of larvae
- Continue synthesis of water temperature data
- Revisit the need for thermal modeling and potential thermal modification to Navajo Dam releases

