

**Upper Feather River Watershed (UFRW) Irrigation Discharge Management Program
Overview and Summary of 2006 Water Quality Monitoring Results
Quincy Library Meeting Room, November 28, 2006**

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In 2004, in response to the Central Valley Regional Water Quality Control Board's requirements of discharge from irrigated lands, the Upper Feather River Watershed (UFRW) Group formed.

The University of California worked with this group and others across the watershed to apply for a 3-year Prop 50 grant on their behalf and for their benefit...to help reduce monitoring costs and learn more about the impacts of local irrigated agriculture on water quality. The **overall objective is to interact with local agricultural landowners** and support work activities within the UFRW which are responsive to the requirements of the RWQCB's agricultural discharge waiver program and address water quality issues associated with discharge from irrigated lands in this area.

The budget in the proposal was for \$787,280 with breakdown of match funds (\$274,768) and grant request of \$512,512. An agreement was signed in January 2006. The Project Team has been working with landowners across the region to gather information on irrigated agriculture management practices and monitoring water quality at nineteen sites across the watershed.

The 'management program' and proposed work elements in the (Proposition 50) grant include:

- 1) compilation of existing information and accurate description of irrigated agricultural operations in the UFRW including practices directed at water quality protection/enhancement,
- 2) monitoring – both ambient water quality of rivers and streams, and irrigation discharge,
- 3) a program for education/outreach to inform members of the ag community about irrigation discharge/water quality issues, current RWQCB requirements, and management practices for improving discharge and ambient water quality,
- 4) a process to demonstrate implementation of effective management practices to mitigate water quality impacts from irrigated agricultural, and
- 5) a means to assist in developing individual farm management plans.

The expected benefits will be improved water quality in the rivers and streams of the UFRW and the continuation of a viable agricultural economy, relieved of the threat of regulatory or punitive action, working towards the mutual benefit of industry and environmental interests.

The Project Team is sharing results of the 2006 irrigation season's water quality monitoring. We've included a table with the various constituents monitored, the numeric or narrative water quality standard or objective and summary of this season's results. We've also included a map of the four major valleys with the location of monitoring sites along with a graph of water temperature from the bottom of the valley locations and results for Dissolved Oxygen and *E. Coli* by valley.

This winter we will conduct storm event sampling and work with landowners on Phase II, evaluation of on-ranch management practices to mitigate water quality concerns. We have limited funds to help with practices that don't require "moving dirt". Contact us if you might be interested.

We'll also be working with individuals and groups to develop ranch management plans so that landowners will be in compliance with earlier requirements and better prepared to seek funding.

Next year, we will continue monthly monitoring at sites around the watershed. If you're interested in accompanying us, please let us know. Andrea Oilar (284-1300) in Indian and American Valleys and Cindy Noble (249-0444) in Sierra Valley would be happy to work with you.

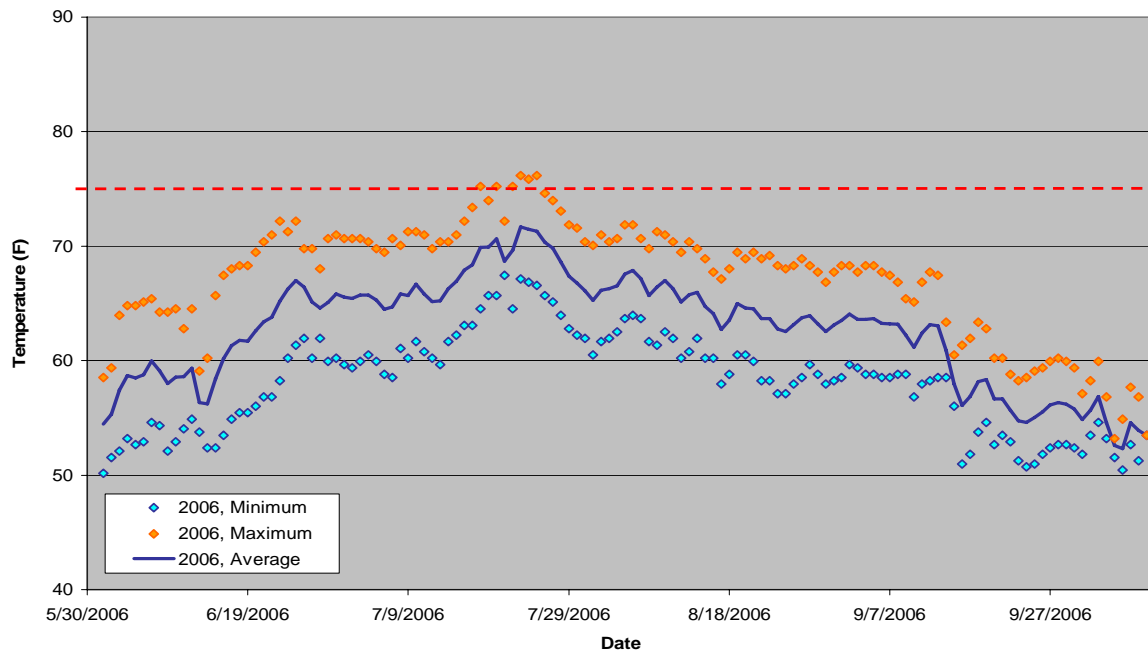
For more information call UC Cooperative Extension in Plumas-Sierra Counties 530/283-6270.

American Valley Sampling Sites

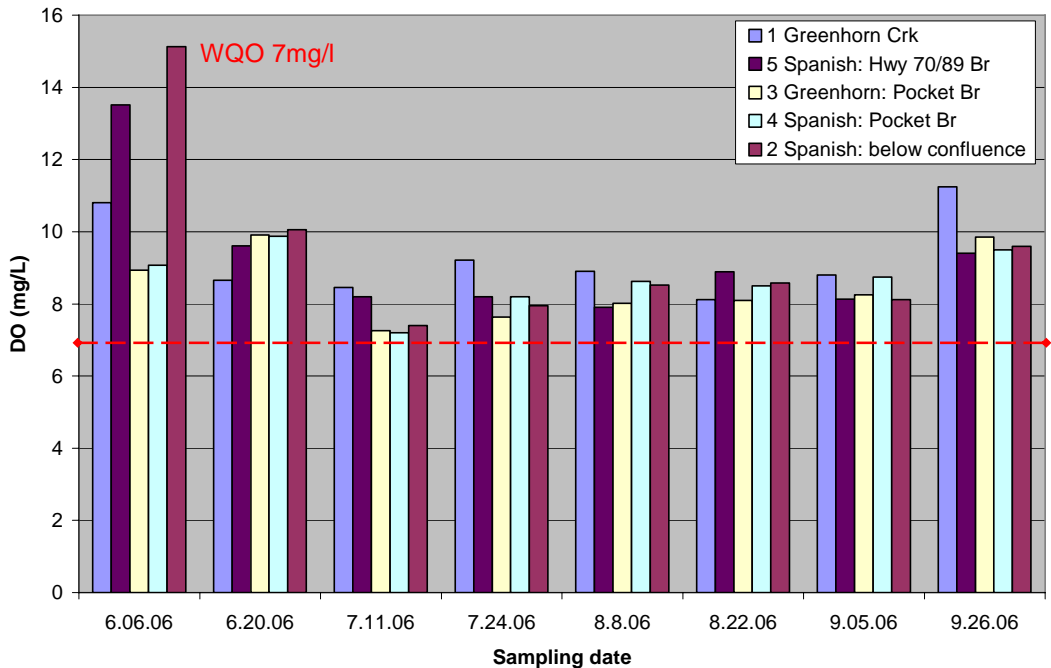


American Valley Outlet 2006 Temperature Data

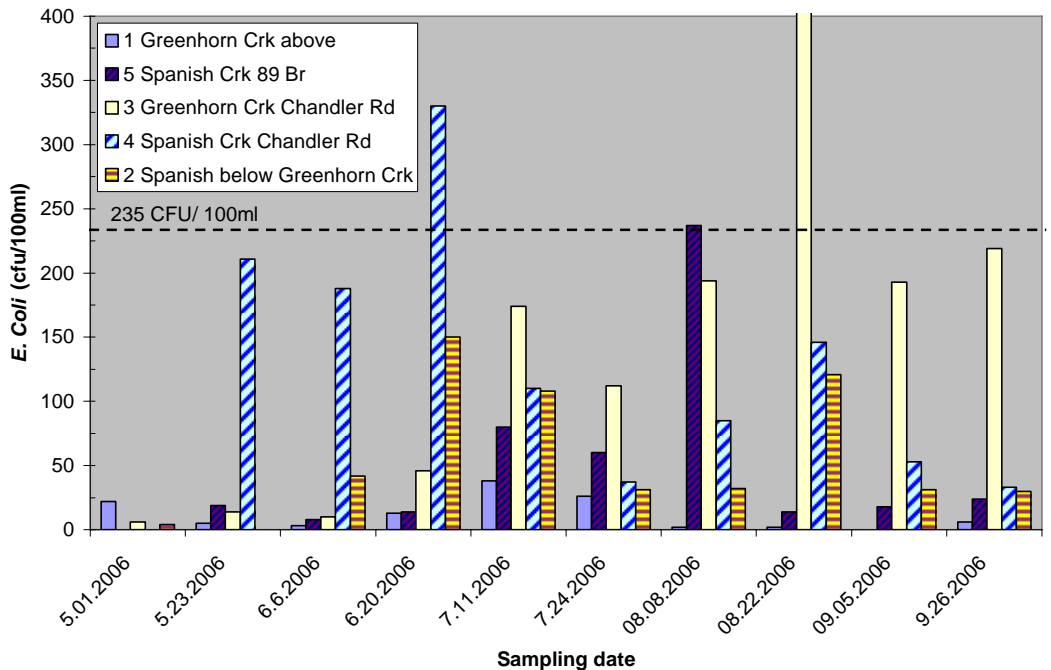
2. Spanish Creek
Water Temp. 2006



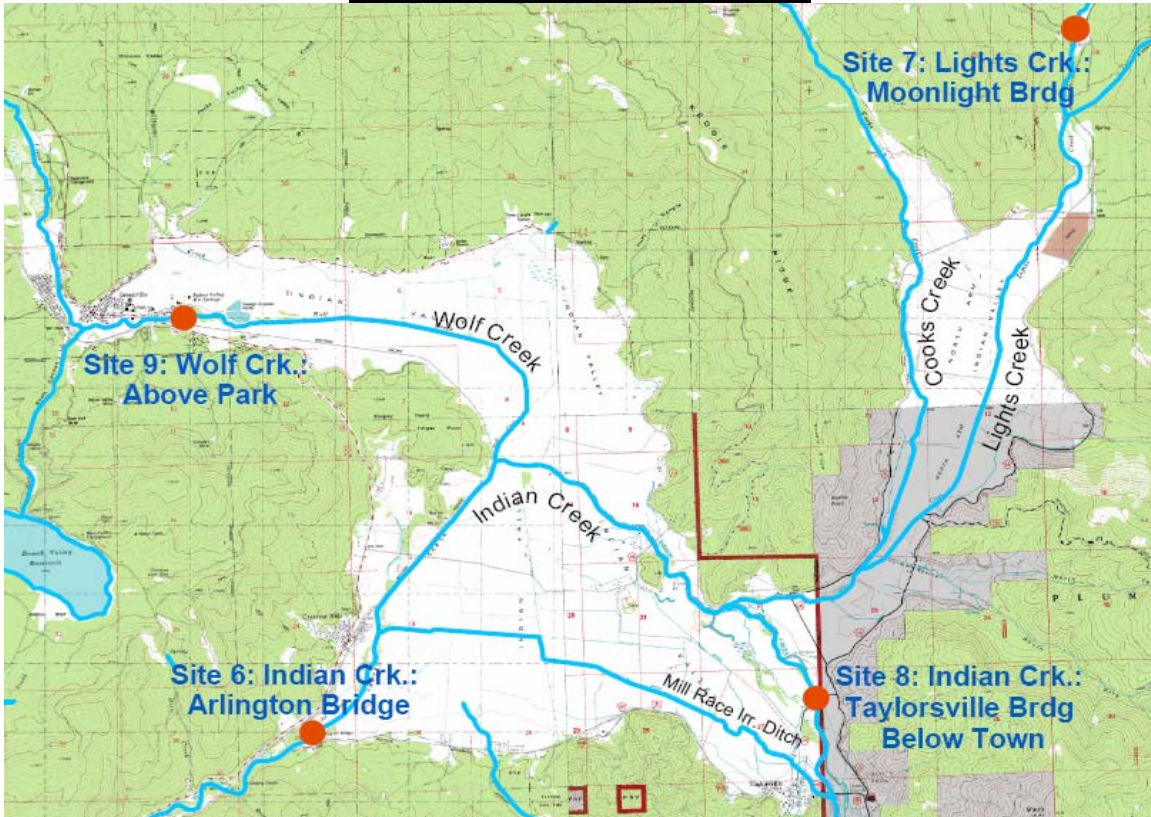
American Valley DO



American Valley E. coli

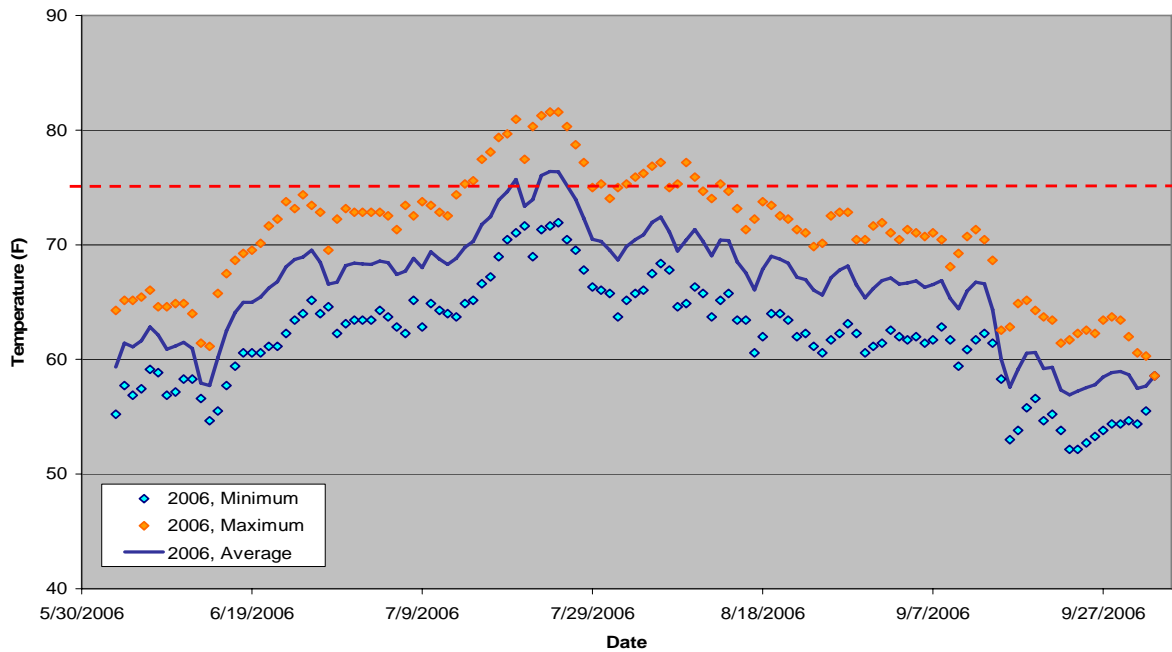


Indian Valley Sampling Sites

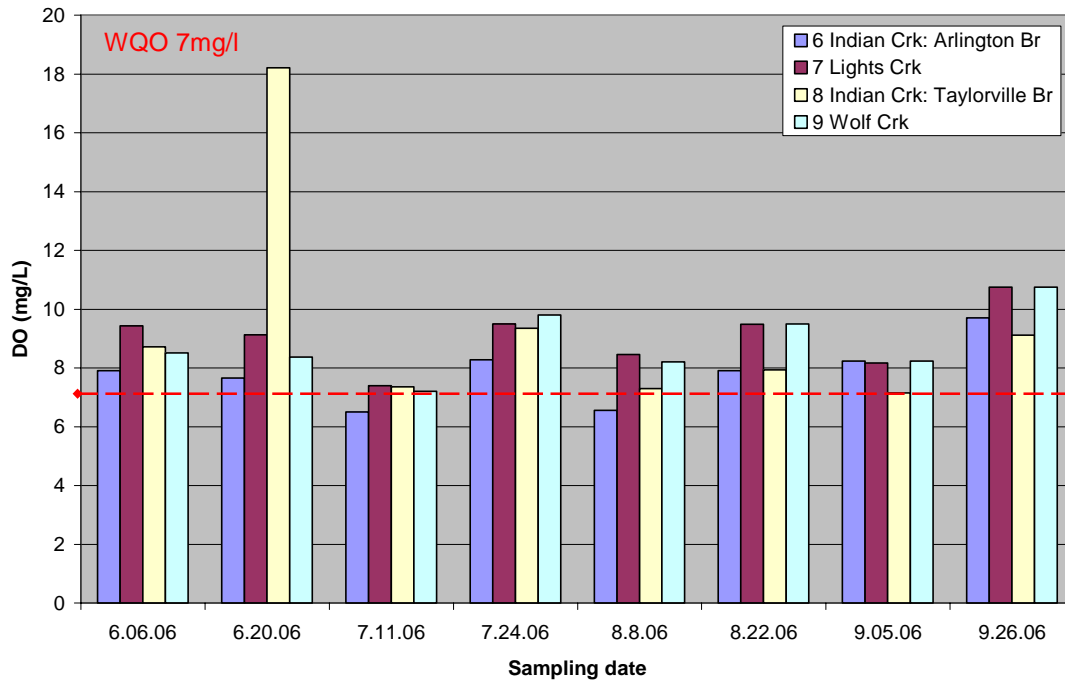


Indian Valley Outlet 2006 Temperature Data

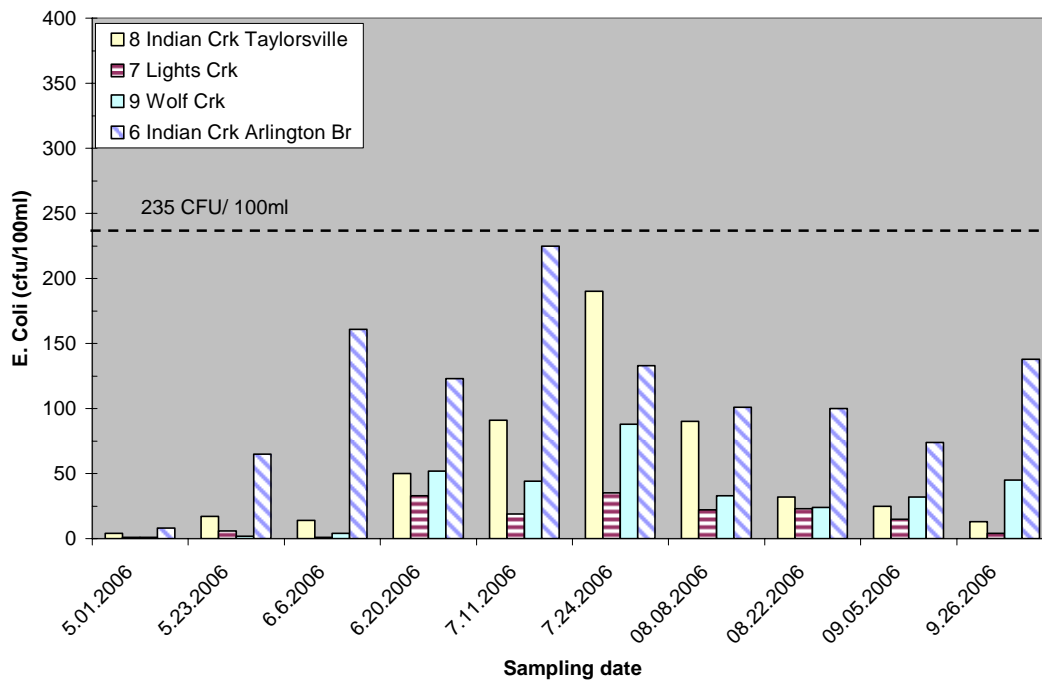
6. Indian Creek
Water Temp 2006



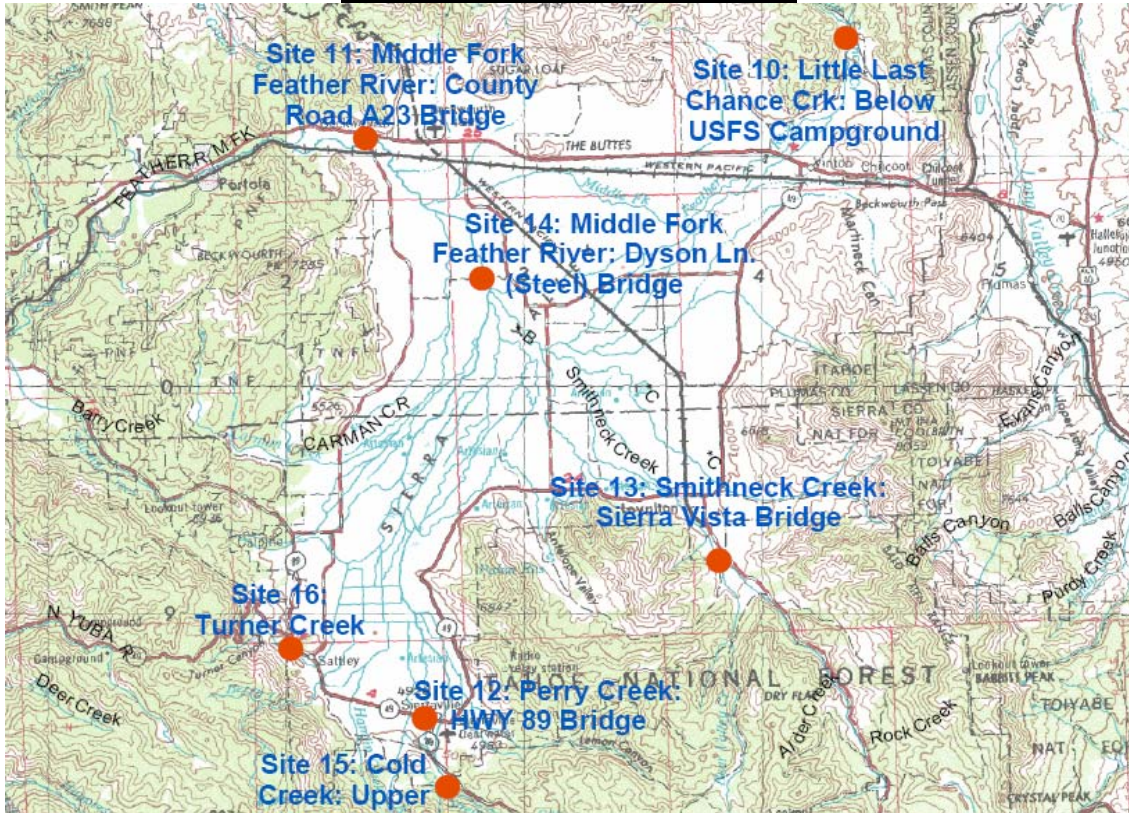
Indian Valley DO



Indian Valley *E. coli*

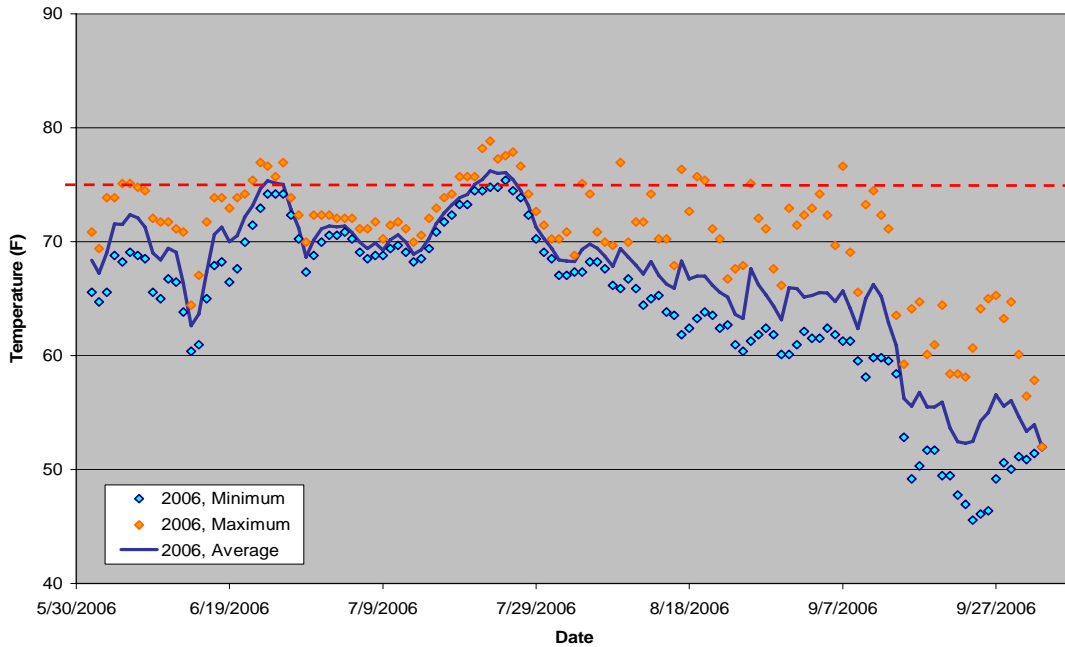


Sierra Valley Sampling Sites

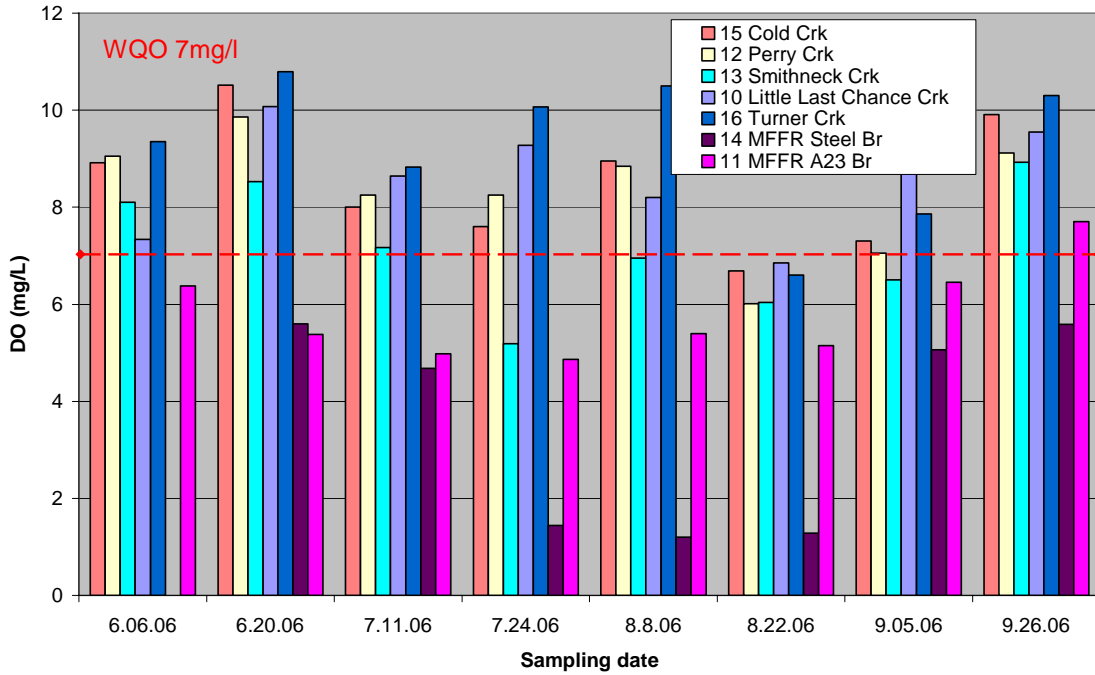


Sierra Valley Outlet 2006 Temperature Data

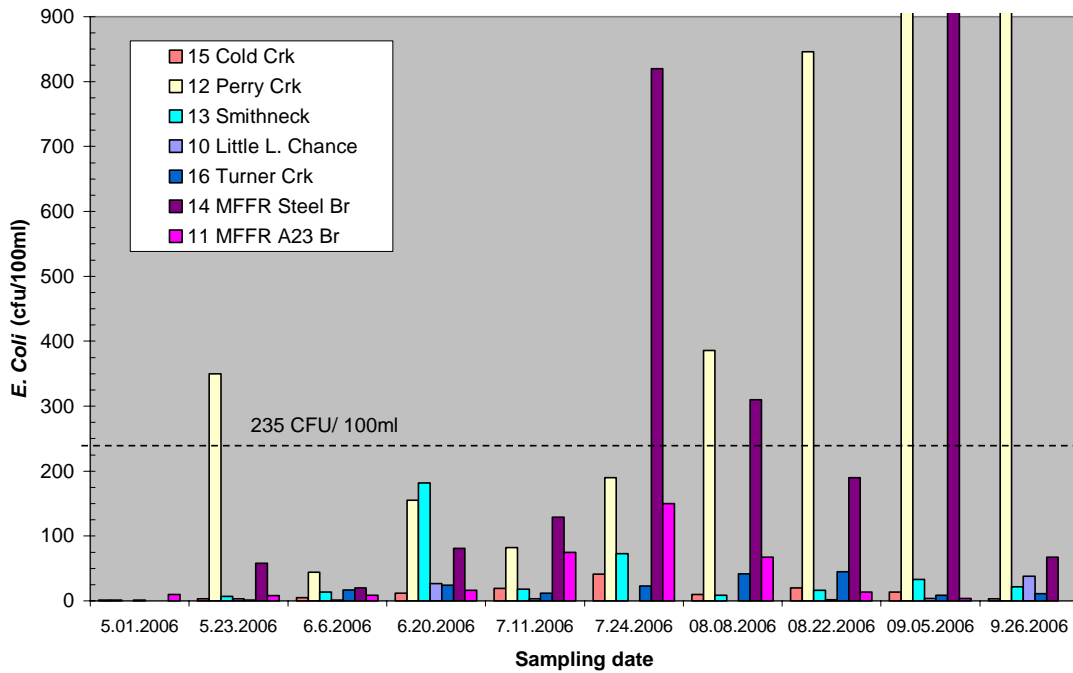
11. MFFR A23
Water Temp 2006



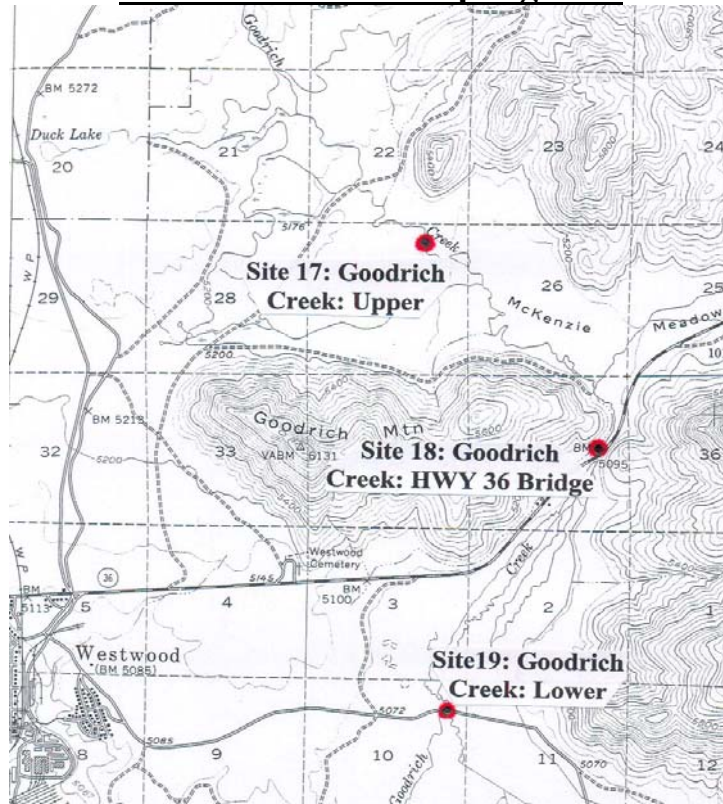
Sierra Valley DO



Sierra Valley E. Coli

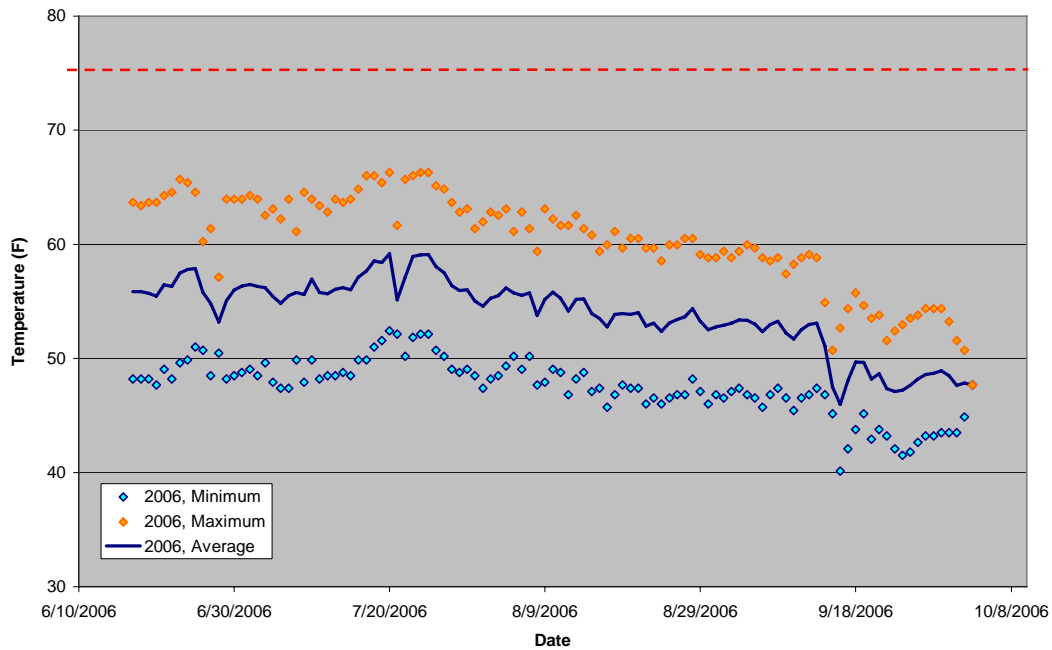


Goodrich Creek Sampling Sites

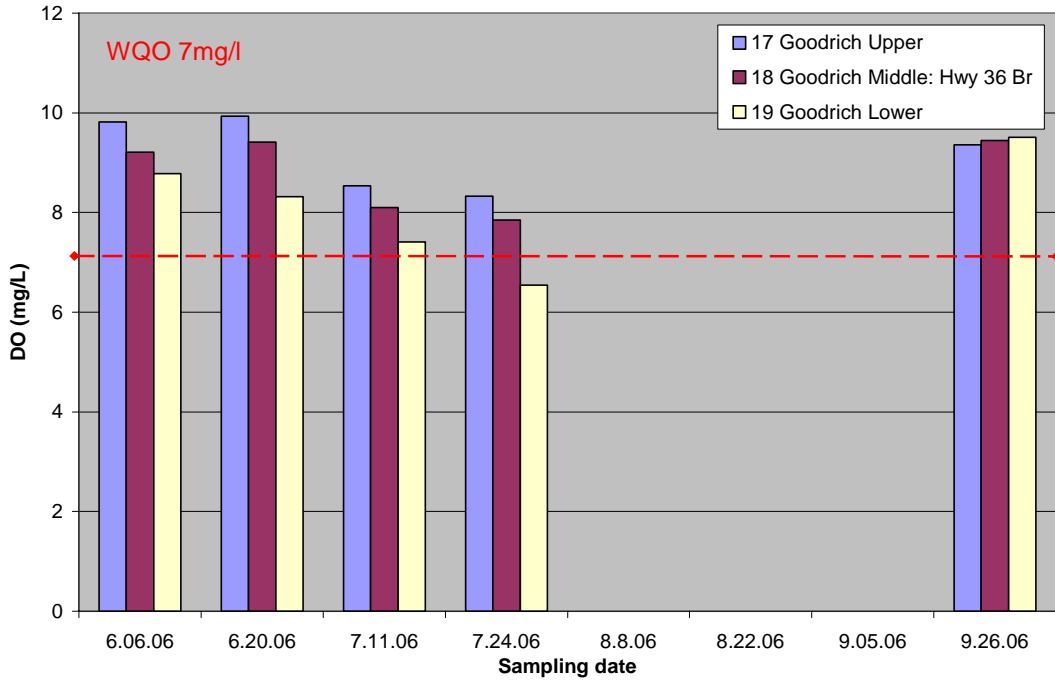


Goodrich Creek 2006 Temperature Data

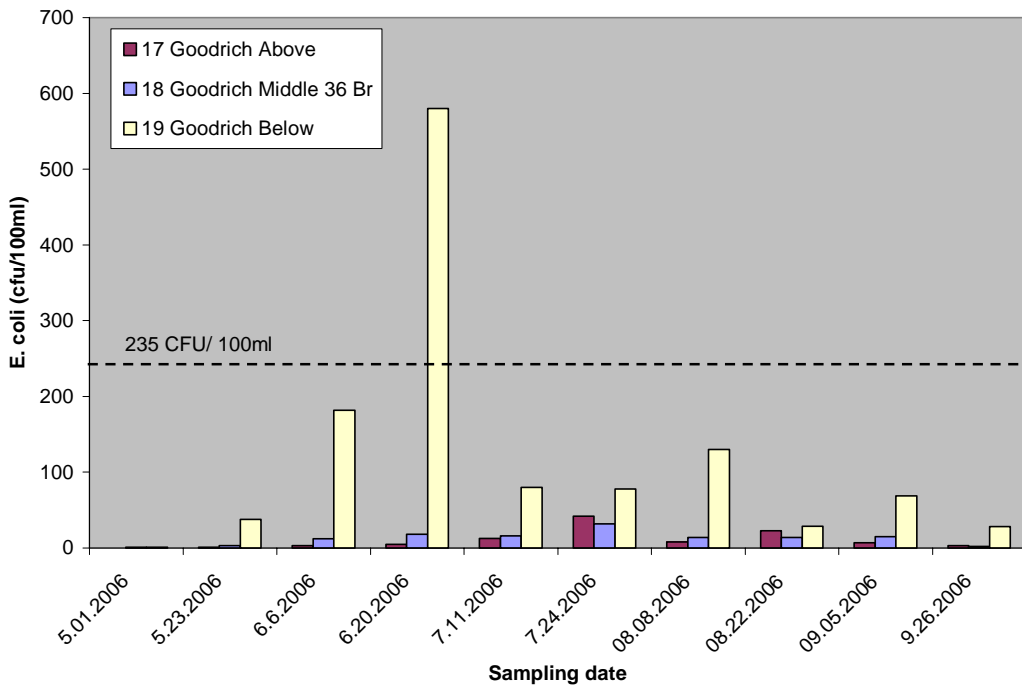
18. Goodrich Creek (Middle)
Water Temp 2006



Goodrich Creek DO



Goodrich Creek



**Upper Feather River Watershed (UFRW) Irrigation Discharge Management Program
Overview and Summary of 2006 Water Quality Monitoring Results**

| Constituent Monitored | Water Quality Limit | Remarks |
|--------------------------|---|---|
| Total Nitrogen | NA | Mean= 0.21 mg/L; Max= 1.2 mg/L |
| Nitrate-N | 10 mg/L | All samplings below std.; Max= 0.20 mg/L |
| Ammonia-N | 25 mg/L | All samplings below std.; Max= 0.17 mg/L |
| Total Phosphorous | NA | Mean= 0.036 mg/L; max= 0.23 mg/L |
| Phosphate-P | NA | Mean= 0.009 mg/L; Max= 0.104 mg/L |
| Dissolved Organic Carbon | NA | Mean= 2.5 mg/L; Max= 11.6 mg/L |
| Dissolved Oxygen | 7 mg/L (coldwater fisheries) | SV often below std.; GC below std. once (data missing) |
| Temperature | NA; (For Rainbow Trout <75°F) | Exceeded in all but GC as daily max; SV & IV as daily average |
| Electrical Conductivity | 150 µS/m Feather River; 700-900 µS/m for Ag. Program | Exceeded (>150): SV (3x), IV (1x). Mean=92.5 µS/m; Max=178 µS/m |
| pH | 6.5-8.5 | SV: one exceedance (>8.5) |
| Turbidity | NA (relative to background) | Mean= 3.96 mg/L; Max= 31.1 mg/L |
| Total Suspended Solids | NA (relative to background) | Mean= 11.2 mg/L; Max= 85.9 mg/L |
| <i>E. coli</i> | 235 cfu/100mL | GC: one outlet exceedance; AV, SV: numerous exceedances within valley |
| Metals | B (700µg/L); Al; Fe; Ni (100µg/L); Cu (10µg/L); Zn (5000 µg/L); As (10µg/L); Se; Cd; Pb | All values extremely low, below levels of concern |
| Toxicity | determined as % survivability | 1 instance each in: AV, GC (water); IV (sediment) |

NA – Indicates that no numerical water quality limit is provided by the Basin plan.

AV - American Valley

IV – Indian Valley

SV – Sierra Valley

GC – Goodrich Creek