



Cosumnes River Task Force

<http://www.cosumnesriver.org>

October 2003

Phase II Has Come To a Close

Phase II of the Cosumnes River Watershed Resources Inventory and Assessment has been successfully completed. Historical analyses conducted during the project proved particularly useful in clarifying the processes that have lead to current conditions throughout the watershed. The project also provided a wealth of baseline data, most significantly on potential sediment contributions from various land uses.

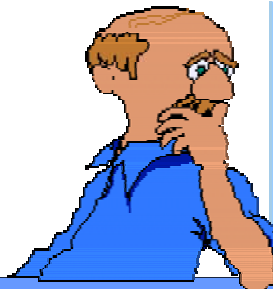
The primary objectives of Phase II were to assess watershed conditions, identify watershed problems, and to fill data gaps identified during Phase I. Highlights from the final report addressing these objectives are included below.

Channel Classification was used to identify the range of stream types that occur within the watershed, to identify alluvial reaches within the watershed and to provide a framework for describing river behavior in the bank stability assessment.

Bank Stability was a primary target of study during the project. Of the 379,900 feet of stream bank surveyed in the upper watershed (upstream of Highway 49), 81% showed negligible bank instability, 17% showed moderate instability, and 2% demonstrated significant instability. Of the 631,600 feet of stream bank surveyed in the middle (between Highway 49 and Rancho Murieta) and lower (downstream from Rancho Murieta) watersheds, 8% showed negligible bank instability, 33% showed moderate instability and 59% demonstrated significant instability. Comparison with studies conducted prior to the 1997 flood indicate that while bank instability in the upper watershed has changed little, in the lower watershed it has increased from 5 to 9% suggesting the river is undergoing a postflood channel-widening phase.

Historical Geomorphology of the Cosumnes River indicates the general alignment from Highway 16 to Wilton Road has remained relatively constant for the last 100 years. However, between 1907 and 2001, the lower Cosumnes River incised an average of 12 feet. Possible causes for this down-cutting include land reclamation; levee, bridge and dam construction; changes in watershed land use; hydraulic mining; and in-channel modification. Surveyed profiles from 1996, 1998 and 2001 show a decrease in channel bed degradation, possibly due to the river finding a new equilibrium. But more likely, the increasing number of duripan outcrops, dams and other instream structures has reduced or impeded further incision. Channel incision is expected to continue, although at a much slower rate than has been observed historically. One consequence of slowing incision is channel widening which could cause future bank instability where the river is particularly narrow, at grade control or at bends.

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Sacramento County, Sacramento County Farm Bureau, Natural Resources Conservation Service, Reclamation District 800, The Nature Conservancy, Sacramento-El Dorado-Amador Cattlemen's Association, and Sloughhouse, Amador, Florin, Lower Cosumnes and El Dorado County Resource Conservation Districts

"The Mission of the Cosumnes River Task Force is to develop a long term strategy that will encourage restoration of watershed health and improve flood management."

Land Use and Cover was also used to divide the Watershed into the valley floor, which supports mostly grassland and agricultural land uses; the middle watershed which is mostly foothills and supports grasslands, oak woodlands and chaparral; and the upper watershed being mostly coniferous forest. Grassland, at 33%, is the most prevalent type of land use and cover; coniferous forest; oak woodlands 14%, and shrubland 9%. Land in agriculture use covers approximately 13%. Only 2.3% is currently occupied by urban land uses.

Broad trends were identified in land use and cover between 1974 and 2002. Land area in crops declined by one-third, while vineyards and orchards increased four to fivefold, and urban development increased threefold.

Ground Disturbance was studied and documented by Jones & Stokes through recent aerial photographs. A total of 244 disturbance sites, representing 5,381 acres were mapped. Almost half of the disturbance sites were the results of logging in the upper watershed. Nearly 42% of the sites mapped, but representing just 25% of the disturbed lands, were from agricultural land uses. The largest of these was vineyard conversion (71%) with dairies and confined animal feeding operations a distant second. Land clearing and grading associated with new residential development was responsible for 16% of the disturbed sites. Most of the mapped residential sites were found in the Upper Deer Creek and the Middle Cosumnes River subwatersheds. Mining accounted for approximately 11% of the disturbance area.



Large residential subdivision under construction in the Upper Deer Creek subwatershed near El Dorado Hills.

Simulated Sediment Yield modeling demonstrated that subwatersheds in the lower watershed showed less variation in sediment yield between years than subwatersheds in the upper watershed. However, interannual variability in sediment yield reflected rainfall events and was, as expected, very pronounced. Comparisons of catchments within subwatersheds showed a high level of spatial variability. The spatial variability reflected variability in land use and cover. The high level of spatial variability in sediment yield may have a profound effect on watershed management. Management activities should be focused on areas and times with the highest expected sediment yield.

Sediment Transport at Michigan Bar was estimated at 4,250 tons/average year. Suspended load constitutes, on average, 96.7%, and bed load the remaining 3.3%. Most of the sediment transport (59% for suspended load and more than 99% for bed load) occurs during floods in excess of 10,000 cfs, which on average occur only 1 day per year.

Future Approaches will target expanded studies of the effects of land management on the ecosystem and the development of resource management plans. However, one large question identified in the report is whether or not on-the-ground restoration efforts should be postponed until the results of more research are available. Pilot projects could demonstrate the efficacy of restoration approaches that would address some of the problem areas discussed in the assessment. Improvements demonstrated by a successful pilot project could be very effective in convincing stakeholders that there are practical solutions to the resource problems identified. The completion of successful pilot projects could then pave the way for the development of resource management plans for the watershed. Each of these approaches will be explored in the near future and funding opportunities explored.

Read the Cosumnes River Watershed Inventory and Assessment Phase II final report at the Cosumnes River Task Force Web site, <http://www.cosumnesriver.org> or obtain a copy by calling Tina Lunt at 916-714-1104 ext. 112.

Cosumnes River Gaging and Flood Forecasting Improvements

The most prevalent response at the workshops presented in 2000 and follow-on written responses was the overwhelming sentiment that the then current flood warning system was insufficient. The Cosumnes River Task Force (CRTF) agreed and has taken steps to enhance the warning system. Jenny Di Stefano, formed CRTF Project Coordinator pursued this project with the help of Frank Jerauld, Amador Resource Conservation District (RCD) Board Member. Craig Crouch, Principal Civil Engineer with Sacramento Department of Water Resources, was able to take the initial information gathered by Ms. Di Stefano and Mr. Jerauld and pursue funding for installation and monitoring of the additional stream gages.

Two new stream/rain gages have been installed in the upper Cosumnes River watershed. These gages will improve federal, state and local flood-warning capability and benefit communities along the Cosumnes River. The gages will be **operational by November 2003**, providing for enhanced flood warning information this winter and in years to come. The two new gages will provide:

- Increased accuracy in real-time reporting of rainfall and flood levels at upstream locations
- Earlier and more reliable predictions of flood flows on the lower Cosumnes River
- Earlier warning for potentially-threatened downstream communities

One of the new gages is located on the North Fork of the Cosumnes River near the Highway 49 crossing. The second is located on the Middle Fork of the Cosumnes near Somerset. The California Department of Water Resources (CaDWR) will operate both gages and the data will be telemetered to the California-Nevada River Forecast Center (CNRFC) in Sacramento. The CNRFC, a joint operation of the National Weather Service and CaDWR, will use the additional rainfall and river stage information to improve the accuracy of its flood forecasts for the Cosumnes River watershed. The telemetered rainfall and river level data will be posted year-around at: <http://cdec.water.ca.gov/> during the flood season, forecasts will be posted daily on the CNRFC web site <http://www.wrh.noaa.gov/cnrfc/hydrology.htm>.

Amador RCD contributed \$800 towards installation of the two gages with the balance of those costs borne by the Sacramento Department of Water Resources (SacDWR). Ongoing costs for gage maintenance and operation will be split equally between CaDWR and a combination of local agencies that includes SacDWR, SAFCA, and Reclamation District 800. CNRFC has borne all costs of modifying their forecasting systems to incorporate the two additional gages, and will provide ongoing support of the improved forecasts.

Southeast Sacramento County Agricultural Water Authority News

Over the past year, the Southeast Sacramento County Agricultural Water Authority (Authority) has been developing a vision for the future management of available local water resources. The theme of this vision is to preserve and enhance groundwater levels for agricultural, rural residences, and environmental uses. Domestic and irrigation supplies within the Authority's boundaries are almost entirely dependant on groundwater. Therefore, to protect against declining groundwater levels, the Authority is exploring alternative means of recharging groundwater depleted by historical agricultural use and increased pumping by local municipalities.

The current effort of the Authority is two-fold, and focused on a negotiated transfer of 15,000 acre-feet of SMUD's CVP entitlement for use by south county agriculture. First, the Authority plans to develop methods of utilizing and financing interim demonstration projects to prove the long-term viability of a permanent transfer of 15,000 acre-feet of SMUD's CVP entitlement. Second, the Authority is developing a public outreach program to a) assess views of local landowners and educate, inform, and engage them in a solution, and b) engage other public agencies and political leaders of the Authority's vision for water resource management in the south county. The Authority's lead consultant, Robertson-Bryan, Inc. (RBI), located in Elk Grove, has been retained to undertake these efforts. RBI will prepare a report entitled *Groundwater Recharge and Exchange Pilot Project Assessment*, which should be available in February 2004.

If you have questions about this project or other Authority projects contact Ronald Lowry, Authority Chairman, at ronlowry@aol.com or Larry Rodriguez, RBI, at (916) 714-1806 or by email at larry@robertson-bryan.com.

Cosumnes River Task Force
News

Volume 4 Issue 3 Oct. 2003

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This newsletter is provided for with
funding through the CALFED
Watershed Program.

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Agricultural Waiver

For approximately twenty years, irrigated agriculture has had an exemption, or waiver, from waste discharge reporting required by the Porter-Cologne Water Quality Control Act. That waiver expired January 1, 2003, and the State Water Resources Control Board (State Board) has decided that it is no longer appropriate for irrigated agriculture to continue under a blanket waiver.

On July 11, 2003, the State Board directed the Regional Water Quality Control Boards to adopt conditional waiver. The waiver would require agricultural dischargers to obtain a waste discharge permit for irrigated lands where water is applied for producing crops. For the purpose of this waiver, irrigated lands include, but are not limited to:

- Land planted to row, field and tree crops
- Commercial nurseries
- Nursery stock production
- Managed wetlands
- Rice production - *Rice growers are currently covered under the Rice Pesticides Program. For more information please contact Roberta Firoved, California Rice Commission, at 916-929-2264.*

In order to qualify for a waiver from waste discharge reporting requirements, dischargers of agricultural irrigation return water must participate in a program to manage discharges that cause or contribute to conditions of pollution or nuisance as defined in Section 13050 of the California Water Code, or that cause or contribute to exceed any Regional, State, or Federal numeric or narrative water quality standard. Under the new regulations imposed by the Legislature and the Central Valley Regional Water Quality Control Board (Regional Board), if you are a potential agricultural discharger, you have a decision to make. The Regional Board has given agricultural dischargers several options, including:

- 1) Participation in a watershed coalition/subwatershed group of the coalition authorized by the conditional waiver
- 2) Participation as an individual under the conditional waiver
- 3) Obtain an individual waste discharge permit

Participation in a subwatershed group will be less costly and less burdensome for landowners than complying as individuals. If you are an irrigator in Sacramento County please contact Tina Lunt 916-714-1104 ext. 119 or in El Dorado County contact Valerie Zentner (530) 622-7773 for more information.