

PLUMAS COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT



January 9, 2008

Delores Brown, Chief
Office of Environmental Compliance
California Department of Water Resources
Post Office Box 942836
Sacramento, CA 94236-0001

Re: Comments on Monterey Plus Draft EIR

Dear Ms. Brown:

Please accept the following comments of the Plumas County Flood Control and Water Conservation District and the County of Plumas (collectively, "Plumas") on the Monterey Plus draft environmental impact report ("DEIR").

Climate Change Considerations

Page 12-1 of the DEIR states that "[d]eveloping evidence indicates global climate change will have a marked effect on water resources in California." Table 12-1 presents an inventory of potential effects of climate change, including:

- loss of 5 million acre-feet or more of average water storage in the snowpack
- increased reservoir challenges to balance flood protection and water supply
- increased storm intensity and flooding
- increased potential for droughts
- changes in the intensity and timing of runoff
- critical water temperature effects on endangered species

Most of the DEIR's discussion of climate change focuses on the potential impacts to California's water supply and water project operations. However, to ensure the decision maker and the public are fully informed, the DEIR should also explain the proactive steps that DWR has taken as part of Monterey Plus to mitigate climate change impacts through its support of the Plumas Watershed Forum and the Feather River Watershed Management Strategy.

Feather River Watershed Management Strategy

Plumas County encompasses most of the Upper Feather River watershed, which is the watershed for the State Water Project's primary storage facility at Lake Oroville. As part of the Monterey Settlement Agreement, DWR, Plumas, and the State Water Project Contractors created the Plumas Watershed Forum to implement watershed management and restoration activities for the

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benefit of the State Water Project. One of the Forum's first steps was to create the Feather River Watershed Management Strategy,¹ laying out a plan to accomplish the Forum's goals of:

- improving storage of water for augmented baseflow in streams
- improving water quality (reduced sedimentation) and streambank protection
- improving upland vegetation management
- improving groundwater retention and storage in major aquifers

The majority of the projects sponsored by the Plumas Watershed Forum over the past four years have focused on restoring the historic water tables on a small portion of the 250,000 acres of meadows in the Upper Feather River watershed. Most of the meadow areas in the watershed have suffered from deeply incised stream channels as a result of various human activities over the past 150 years. The degraded conditions separate the streams from their historic floodplains and eliminate the meadows' historic ability to store water in the winter and spring and release it in the summer and fall.

Through physical intervention in degraded meadows, the Plumas Watershed Forum projects have restored the streams to their historic elevations and allowed the meadows to return to their traditional role as sponges in the watershed. As a result, in the winter and spring the meadows hold back water and reduce flood peaks at the very time downstream reservoirs may have to be spilling water to meet their flood control reservations.² Then, in the summer and fall, the meadows gradually drain back into the streams, providing instream flow and cold water when it is needed most and delivering it to downstream reservoirs when it can be held in storage or put to use.³ *All of the benefits provided by the meadow restoration projects directly counteract climate change impacts and substitute for the function of the historic snowpack.*

Attached are four pages of charts and photographs providing examples of the effectiveness of the type of meadow restoration projects sponsored by the Plumas Watershed Forum. All three projects provided as examples are in the Upper Feather River watershed and drain to Lake Oroville.

Figure 1 presents monitoring data from the Cottonwood Creek restoration project, reflecting the change from an intermittent stream to a near-perennial stream – even against a backdrop of declining precipitation in the immediate post-project period (1995 to 1999).

Figure 2 presents monitoring data from the Clarks Creek restoration project, reflecting the ability of a restored meadow system to store water until later in the season and then still release that stored water back into the stream system. Rather than the brief “peaking” storage in the pre-project period, after construction the groundwater level is shown holding in storage plateaus.

Figures 3, 4, and 5 are pre- and post-project photos of the Last Chance Creek and Cottonwood Creek restoration projects, showing the deeply incised and degraded

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channels prior to the projects, as well as the reconnected floodplains and restored water storage capacity following completion of the projects.

Watershed Reinvestment for Water Storage

Unfortunately, funding for the Plumas Watershed Forum's meadow restoration work has been suspended at least for the time being. Under the Monterey Settlement Agreement, DWR agreed to fund the Plumas Watershed Forum for four years, from 2003 until 2006. The settlement provides that an additional four years of funding will be provided once a new EIR is completed successfully, including withstanding any legal challenges. However, the settlement also gives DWR the discretion to continue funding for the program before the new EIR is completed if the watershed work is deemed successful. To help inform DWR's decision in that regard, the Plumas Watershed Forum is currently undergoing a third-party review which will produce a report evaluating the effectiveness of the program and its benefit to the State Water Project. Assuming the conclusions are favorable, Plumas hopes DWR will resume funding for the Plumas Watershed Forum's watershed work in the Upper Feather River region.

However, regardless of the future of the Plumas Watershed Forum under the Settlement Agreement, the general consensus over climate change impacts to California's water supply warrants a long-term program of watershed reinvestment, particularly in the State Water Project's own watershed. The Feather River watershed stands at a relatively low elevation, meaning climate change impacts to the historic snowpack will be felt there first and most severely. As controversy persists over surface water storage and Delta conveyance, and in the face of the ongoing flood threat in the Sacramento Valley and to Delta levees, common-sense projects with broad stakeholder support should proceed. Whatever the ultimate water supply solutions may be below the dams, all beneficial uses of water are enhanced by the low-hanging fruit of upper watershed improvements.

There is a longstanding challenge to overcome "institutional incapacities" (as described in the Sierra Nevada Ecosystem Project (SNEP) Report⁴) to address fragmented control of the watershed among different authorities, jurisdictions, and ownerships; the absence of exchange mechanisms to sustain investment and collaborative management; and the disconnect between those who benefit from a resource and those who own, manage, and control it. The Plumas Watershed Forum created a mechanism to address all of these challenges, and ongoing funding for this program outside of the Monterey Settlement would provide an effective, collaborative, and enduring means of watershed reinvestment for the State Water Project.

Environmental Justice

The State Water Project's reinvestment in the Upper Feather River watershed also provides multiple opportunities to address environmental justice concerns. Based on income levels, Plumas County as a whole is considered an economically disadvantaged community under the California Water Code. On a community level, 21 out of the 33 "Census-designated places" in Plumas County are economically disadvantaged, including the towns of Chester, Greenville, La

Porte, Quincy, Portola, and Taylorsville. Watershed reinvestment creates valuable economic opportunities (including economic multipliers from the direct investment) for the residents of the Upper Feather River region.

Also, as part of environmental justice outreach conducted in implementing the Upper Feather River Integrated Regional Water Management Plan, strategies have been identified to benefit minority interests, including:

- Recovery of riparian wetland areas, including culturally important flora such as grey willow and camas
- Mercury sequestration to reduce exposure to tribal members and minority groups with above-average reliance on subsistence fishing
- Fuels reduction in the wildland-urban interface to promote black oak recovery and protect low-income communities from destruction and displacement from catastrophic wildfire
- Flood attenuation to help protect low-income communities in the flood-prone areas below Oroville

All of these actions are consistent with the objectives of the Plumas Watershed Forum and the Feather River Watershed Management Strategy.

Carbon Footprint and Forest Management

The DEIR includes some discussion of the State Water Project's large use of electricity and attendant greenhouse gas emissions and acknowledges that AB32 and other factors will require DWR to eventually address the issue of reducing or offsetting its carbon footprint. Plumas would like to encourage DWR to fully explore the potential for cumulative benefits that can be achieved by addressing carbon sequestration in the State Water Project's own watershed and by supporting forest management protocols such as those that have begun to be implemented under the Herger-Feinstein Quincy Library Group Pilot Project. The benefits of such actions are many fold:

- U.S. Forest Service research related to the Herger-Feinstein pilot project shows a one acre-foot increase in water yield for every ten acres of forest fuels treatment, based on evapotranspiration savings alone.⁵
- Forest fuels reduction projects dramatically decrease the risk of catastrophic wildfires and their release of greenhouse gases, while preventing post-fire flooding and sedimentation problems.^{6,7}
- Actively managed public and private forest stands in California remove and store significantly greater amounts of carbon than unmanaged forests.⁸

Also, in addition to the substantial research that has already been conducted on the forest-carbon relationship, Plumas is currently funding promising research related to the carbon sequestration

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benefits of restoring meadows from sagebrush flats to willow/meadow sod condition. On an acre-per-acre basis, the carbon sequestration potential of restored meadows may far exceed the potential "additionality" from modified forest management practices. Initial results from this research should be available by late summer 2008.

Conclusion

Thank you for considering these comments on the Monterey Plus draft EIR. If there are any questions or if the Department would like additional information, you may always contact our General Manager, Brian Morris, at (530) 283-6243 or brianmorris@countyofplumas.com.

Sincerely,



Rose Comstock
Chair, Plumas County Board of Supervisors
Plumas County Flood Control & Water Conservation District

Notes

¹ Plumas Watershed Forum. Feather River Watershed Management Strategy, available at http://www.des.water.ca.gov/mitigation_restoration_branch/rpmi_section/projects/docs/FeatherRiverStrategy.pdf

² Kavvas, M.L.; Chen, Z. Q.; Anderson, M.; Liang, L.; Ohara, N. Assessment of the Restoration Activities on Water Balance and Water Quality at Last Chance Creek Watershed Using Watershed Environmental Hydrology (WEHY) Model, available at http://www.waterboards.ca.gov/nps/docs/conference2005/presentations/m1015a3_kavvas.pdf.

³ Loheide, S.; Gorelick, S. Quantifying Stream-Aquifer Interactions through the Analysis of Remotely Sensed Thermographic Profiles and In Situ Temperature, available at <http://www.feather-river-crm.org/publications/pdf/LoheideGorelick2006EST.pdf>.

⁴ Center for Water and Wildland Resources, University of California, Davis. Summary of the Sierra Nevada Ecosystem Project Report (page 4), available at http://ceres.ca.gov/snep/pubs/web/PDF/exec_sum.pdf.

⁵ Troendle, C.A.; Nankervis, J.M.; Peavy, A. The Herger-Feinstein Quincy Library Group Project - Impacts of Vegetation Management on Water Yield, available at http://www.fs.fed.us/r5/hfqlg/monitoring/resource_reports/2007/Water_Yield_May07_exec_summary.pdf.

⁶ U.S. Forest Service, Pacific Southwest Research Station. Effects of Prescribed Fire and Thinning on Wildfire Severity: The Cone Fire, Blacks Mountain Experimental Forest, available at http://www.fs.fed.us/psw/programs/ecology_of_western_forests/projects/cone_fire_new/FireSeverity/Effects/.

⁷ Culver, S.; Dean, C.; Patten, F.; Thinnes, J. Upper South Platte Watershed Protection and Restoration Project, available at http://www.fs.fed.us/rm/pubs/rmrs_p022/rmrs_p022_110_117.pdf.

⁸ S. Mader. Carbon Sequestration and Storage by California Forests and Forest Products, Technical Memorandum, CH2M Hill, Inc., 2007.

Fig. 1 - Cottonwood Creek Restoration Project – Days of Flow

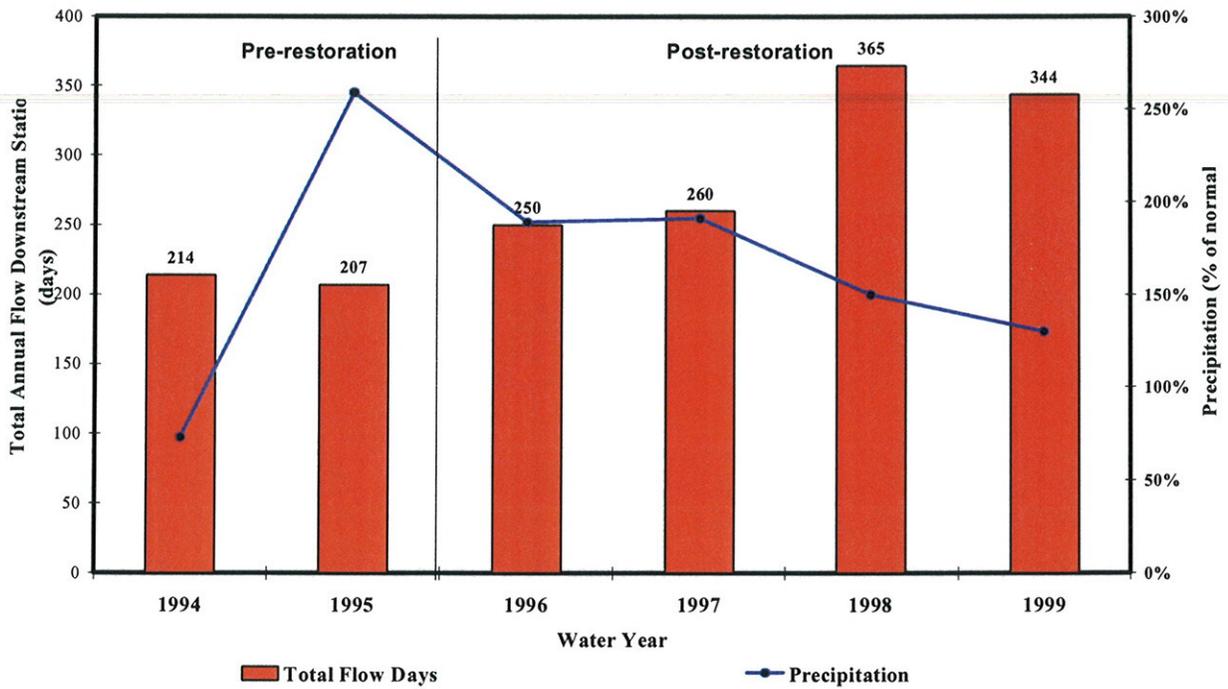


Fig. 2 - Clarks Creek Restoration Project – Groundwater Level

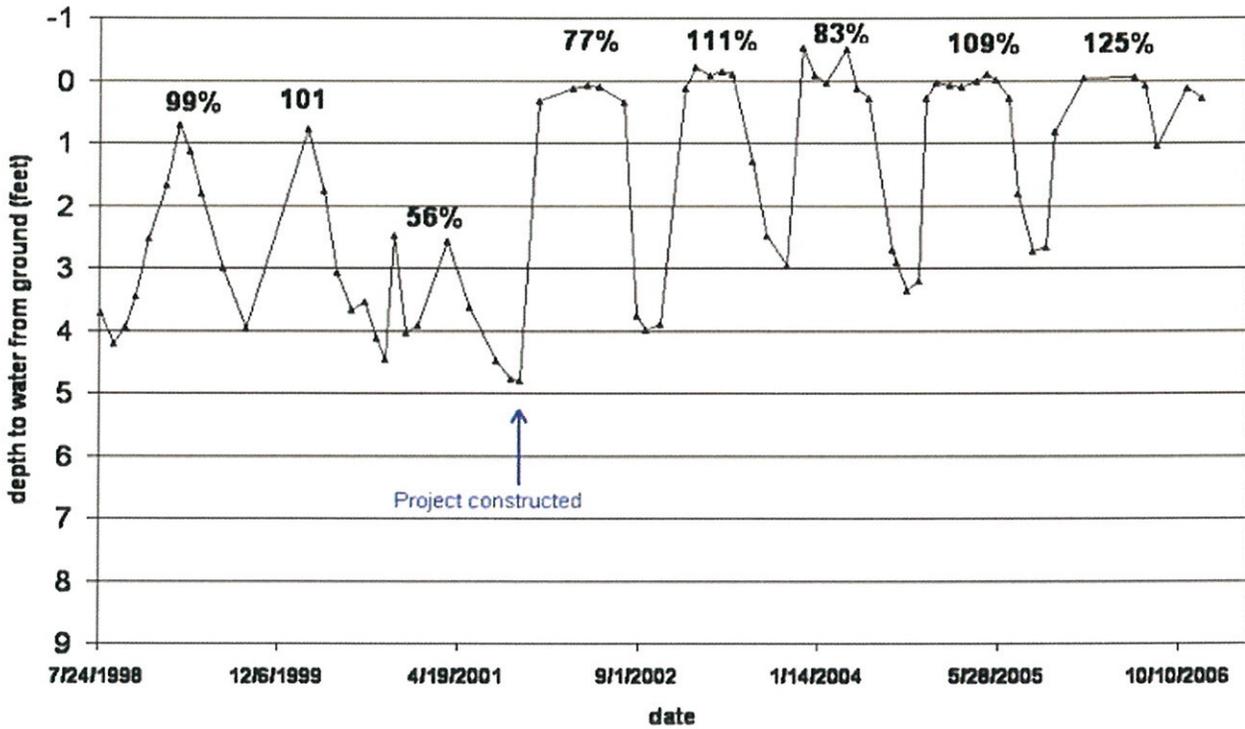


Fig. 3 – Last Chance Creek Pre- and Post-Project Conditions



Fig. 4 – Last Chance Creek Pre- and Post-Project Conditions

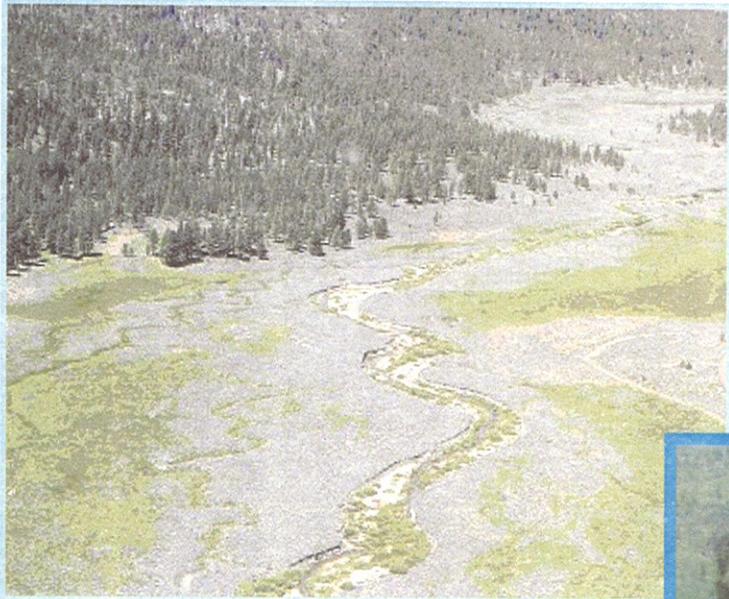


Fig. 5 – Cottonwood Creek (Big Flat) Pre- and Post-Project Conditions

