

**DRAFT ENVIRONMENTAL REPORT  
for the  
MODESTO SURFACE WATER TREATMENT PLANT**

**Cumulative Impacts**

**October, 1989**

## 6. CUMULATIVE IMPACTS

Other projects or actions within the study area may have effects which, when combined with those of the proposed project, result in overall impacts which are substantially different from those of the proposed project, alone. This section reviews these cumulative impacts.

As development continues within the Modesto area, several types of groundwater impacts will be intensified, somewhat. To the extent that additional irrigated lands near Modesto are replaced by urban development, groundwater recharge to the local aquifer will be diminished. Irrigated landscape in an urban area typically covers one-quarter to one-third of the area. Irrigated land in an agricultural area may exceed 90 percent of the total land area. Thus the recharge from percolating irrigation water can be expected to be less in an urban area such as Modesto. The stormwater disposal practice in the Modesto area is to direct runoff to drywells where it percolates rapidly to the groundwater. This practice probably enhances the percentage of rainfall reaching the groundwater since the residence time of the percolating water in the root zone is reduced, minimizing evapotranspiration. However this practice can also increase the loading of soluble pollutants such as TDS and chloride into the shallow aquifer as has been observed in the aquifer underlying the Spokane, Washington area (Miller, personal communications, 1989). As stated in Section 4.2.1.2, the concentration of these and other constituents have been increasing in recent decades. The reasons for this are unclear. More study of this problem is needed to determine the role of stormwater percolation in the declining trend in groundwater quality in Modesto.

One of the primary objectives of the proposed project is to counteract the declining groundwater levels in the Modesto area. The project would provide another source of water, allowing pumpage of groundwater to be reduced. Through careful management of groundwater pumpage, it is expected that depressed groundwater levels underlying central Modesto will largely recover to former levels and that substantial groundwater declines in the outlying portion of the urban area can be avoided. In this way decreased groundwater recharge due to urbanization is not expected to result in lower groundwater levels. The effects of the project upon groundwater quality are not known.

The Turlock Irrigation District (TID) is considering a municipal water supply scheme similar in concept to the proposed project. Existing TID water rights to the Tuolumne River would be used to supply a portion of the future water needs of towns in its service area. A study to determine the future water needs of towns south of the Tuolumne River is being conducted. TID will discuss project participation with the following towns: Turlock (and Del Este Water Company), Denair, Keyes, Hilmar, Delhi, Ceres, Hughson and that portion of Modesto located south of the Tuolumne River. The amount

of surface water which would be made available for municipal use would depend upon the interest of the specific communities. That amount is not currently known nor is the net future depletion from the Tuolumne River to supply it.

If the TID project proceeds as is planned, it would be constructed by the mid-1990s. Any net flow depletion resulting from that project would add to the river flow depletion resulting from the proposed project. Assuming that the TID project was also committed to meeting the FERC minimum flows, existing summer season low flows below La Grange would be expected to change little. The TID project would substitute for some (or all) of the municipal groundwater pumpage that currently supplies the towns that would be served. Groundwater levels in the TID service area (which is south of the river) have also declined in recent years and a partial recovery in groundwater levels could be expected to result from the TID project. To the extent that this happens the project would benefit the Modesto area, as the two service areas share a common aquifer.

TID is also considering a water supply alternative similar to Alternative D. The water destined for municipal use would be released below La Grange Dam, flowing to the Ceres area before being diverted. Should this alternative be implemented, water resource, fishery and recreational benefits similar to those discussed in Sections 4.2.2.1, 4.3.2.4 and 4.12.2.1, respectively, would be expected. The level of these benefits would depend upon the amount of municipal water released below the dam and would be especially felt during the summer season. Should both projects adopt this alternative, long-term average flows below La Grange Dam would increase well beyond 100 cfs over existing conditions. This could result in benefits substantially higher than those from either project, alone. With this scenario it would be important for both the District and TID to coordinate their respective water supply plans closely. Ideally, the river water could be diverted at a single location in the Ceres-east Modesto area, avoiding the cost and environmental impact of two low diversion dams.

Should the TID project proceed, the additional water demand would likely add to the incremental drawdown of Don Pedro Reservoir during drought years, further impacting reservoir recreation (Section 4.12.2.2).