

# **APPENDIX B**

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## **WATER CONSERVATION**

The following summary of Pajaro Valley Water Management Agency's water conservation planning efforts is taken from the *Pajaro Valley Water Management Agency Revised Basin Management Plan Environmental Impact Report* (October, 2001). For additional information, refer to the Water Conservation 2000 report, available at PVWMA, 36 Brennan Street, Watsonville, CA 95076.

## **WATER CONSERVATION 2000**

The PVWMA Board of Directors adopted the Water Conservation 2000 report (WC 2000) on February 16, 2000. The WC 2000 presents conservation practices that are currently implemented and identifies opportunities for additional urban and agricultural water conservation alternatives within the Pajaro Valley.

The objective of the WC 2000 is to review and evaluate existing data sources and reports prepared by the PVWMA and other parties and to identify opportunities for increased levels of urban and agricultural water conservation within the Pajaro Valley. The WC 2000 evaluates many possibilities for water conservation for both urban and agricultural use and suggests feasible alternatives that can be practicably and economically implemented. An additional goal of the WC 2000 is to develop a water conservation program that conforms to the Association of California Water Agencies (ACWA) certification process under their Water Management Awareness Program. (The purpose of the ACWA certification is to assist water agencies like PVWMA in the development of urban and agricultural water management and conservation plans.) Descriptions of both currently implemented and proposed water conservation measures are presented below. As stated in the Initial Study included in the Notice of Preparation for an EIR for the Revised BMP, implementation of the water conservation measures included in the BMP 2000 Alternative would not result in significant environmental impacts (PVWMA, 2000a). Therefore, the water conservation component of the project is described in this chapter but is not analyzed further in this EIR.

## **WATER METERING PROGRAM**

The PVWMA Water Metering Program requires meters on all water extraction facilities pumping more than 10 afy. Presently, approximately 800 extraction facilities are metered. The PVWMA Water Metering Program serves several purposes:

- To quantify annual water use in the Pajaro Valley;
- To provide data necessary to develop long-term comprehensive water management plans; and
- To provide water use data to growers to facilitate improvements in water use efficiency.
- Measure water use for application of augmentation charge.

## AGRICULTURAL WATER CONSERVATION

The proposed agricultural water conservation program is intended to improve irrigation efficiency in the Pajaro Valley. Data from mobile lab evaluations conducted from 1990 to 1994 and 1999 to 2001 indicate that irrigation efficiency seems to vary considerably. Properly designed, maintained, and managed irrigation systems have inherent maximum ranges of achievable irrigation efficiencies. In 2000, PVWMA instituted a requirement that all growers annually submit plans summarizing irrigation and conservation practices. The program will help the agency track implementation of the water conservation program. As the program gains acceptance among Pajaro Valley growers, observed irrigation efficiencies are assumed to move toward these achievable ranges, although irrigation efficiency can vary considerably among different irrigation events. Assuming all growers participate in the program, the agricultural water conservation program could result in agricultural water savings averaging approximately 4,500 afy. Data developed for the Revised BMP groundwater modeling effort were analyzed to develop a planning-level estimate of potential water savings that could be expected from the proposed agricultural water conservation program. The Revised BMP developed estimates of crop acreage, water use by crop type, and range of irrigation method by crop type. Each irrigation method has a range of inherent achievable irrigation efficiencies based on the assumption of proper engineering design and good to excellent management practices. This range of inherent irrigation efficiencies is generally from 70 to 90 percent, depending on irrigation method.

### **Agricultural Conservation Program Implementation**

According to the elements of the proposed agricultural water conservation program, approximately 7 to 10 years will be required before the potential average annual water conservation savings of approximately 4,500 acre-feet (af) can be achieved. Because of limitations associated with the number of mobile laboratory evaluations that can be performed, it will take several years before necessary on-farm irrigation system improvements can be identified. Identifying and improving irrigation systems with low distribution uniformity is an important consideration in improving irrigation efficiency. Implementing improved irrigation scheduling techniques using CIMIS weather data and computerized irrigation scheduling approaches also will facilitate improvements in irrigation efficiency. Implementing the proposed agricultural water conservation program elements, identifying and correcting on-farm irrigation system deficiencies, and learning to apply new technology for irrigation management will take time. Add to these considerations the funding requirements to improve existing systems or to install more efficient irrigation systems, and the assumed 7- to 10-year period appears reasonable.

## URBAN WATER CONSERVATION

Urban conservation measures that could be implemented by the City of Watsonville, rural domestic water users, and the PVWMA include plumbing measures (water audits and rebate programs for installation of water-saving devices), landscaping measures (audits and retrofits for large landscaped areas), and educational and financial measures. The draft Revised BMP indicates that implementation of these urban water conservation measures could result in a potential water savings of 500 afy.