

VIII. DETERMINE DROUGHT RESERVE

Description and Purpose

In conceptual terms, drought reserve can be defined as the balance between water supply and water demand that is necessary to insure a specified level of drought protection. The question that remains is how much protection is "adequate". There is no universally accepted standard for quantifying "adequate" levels of drought protection for municipal water supply systems. Moreover, drought protection can be measured in a number of ways including safe or firm yield, annual shortfalls, frequency or severity of water rationing, carryover storage, or some indicator of environmental stress.

For the MPWMD, the level of desired drought protection has been specified by the Board of Directors in terms of water rationing. Adequate drought protection exists as long as the frequency of mandatory water rationing is less than predetermined standards. The determination of whether or not mandatory water rationing would be imposed during a reoccurrence of particular drought periods is based on simulated system operations for the 1958-2002 period of record.

In more specific terms, drought reserve can be expressed as the total usable storage in the Monterey Peninsula Water Resources System that is required on May 1 to limit mandatory water rationing to the predetermined frequency. The total storage that is required includes carryover storage for use during the following water year and the storage necessary to satisfy the demand that is expected to occur during the remainder of the current water year. In August 1993, the Board adopted a drought protection goal that allows no more than 20 percent mandatory water rationing two percent of the time, or two out of 100 years, on average.

Implementation and Activities During 2007-2008

In 2008, District staff determined that approximately **27,360 acre-feet (AF)** of usable storage were required on May 1, 2008 to avoid requesting a District-wide voluntary 15 percent reduction in water demand. Similarly, approximately 21,460 AF were required to avoid imposing mandatory 20 percent water rationing. Given that actual, usable storage on May 1 was estimated at **30,850 AF**, no demand reductions beyond existing Stage 1 restrictions were necessary for 2008 based on physical water availability. The 2008 trigger values are based on the maximum California American Water (CAW) production limit set by the State Water Resources Control Board in Order No. WR 95-10 (11,285 AF) for CAW's diversions from the Carmel River, the maximum production limit for CAW's diversions from the Coastal Subareas of the Seaside Groundwater Basin set by the Court as a result of the Seaside Groundwater Basin adjudication (3,504 AF), and the non CAW water production that was submitted in Reporting Year 2007 (3,097 AF). The 2008 trigger value for requesting voluntary 15 percent water conservation (27,360 AF) includes the water demand for the remainder of the current water (9,480 AF) and one full year of carryover storage (17,880 AF).