

Vegetation Conditions

During summer 2002, Inyo County Water Department once again directed a field inventory of vegetation conditions in 96 vegetation parcels throughout Owens Valley. Parcels were located in areas affected by pumping (wellfields) and areas not believed to have been directly affected by pumping during the 1987-1992 drought (controls).

As of press time, reliable estimates of 2002 depth to the water table for the 96 parcels are still being computed. For this reason, a complete analysis of 2002 conditions with regard to the Drought Recovery Policy (DRP) has not been performed. However, readings in various monitoring wells throughout the valley showed some lowering of the water table from April 2001 to April 2002 in both wellfield and control areas. For the purposes of this summary, it is assumed that although water table levels changed somewhat from April 2001 to April 2002 that none of the changes were significant enough to result in a re-classification of parcels into different management categories with regard to the DRP. Thus, the data were analyzed by placing parcels into one of the following categories based on April 2001 water table information.

- Control: Parcel not directly affected by pumping during the 1987-1992 drought. In 2002, 30 of the 96 parcels were classified as controls.
- DRP: Parcel experienced water table drawdown due to pumping during the drought, and since the drought, water levels have not returned to April 1985-87 average level or to the root zone and/or perennial cover has not returned to baseline (that is, the cover that was measured when the parcel was first inventoried during the mid-1980s). Therefore, the parcel is still subject to the Drought Recovery Policy. Thirty-one of the 96 parcels inventoried in 2002 were placed in this category.
- DRPfree: Parcel experienced water table drawdown due to pumping during the drought, but since the drought, the water table has recharged the root zone sufficient to promote perennial cover to meet or exceed baseline level. (Since that occurred, however, the water table may once again have dropped. The extent to which this occurred during 2002 is not currently known.) Thirty-two of the 96 parcels inventoried in 2002 were placed in this category.
- More study: Three parcels east of Independence experienced high water table levels during the mid-1980s which subsequently dropped and have not returned. This water table fluctuation pattern may be due to water spreading in the Blackrock area during the mid-1980s, but it also may be due to pumping from the Independence exempt wells.

The 2002 growing season was preceded by very low precipitation amounts (see article on page 2). Therefore, the environmental conditions for the 2002 growing season can be characterized as the fourth consecutive dry year with relatively small amounts of water table fluctuation.

Overall in 2002, perennial cover declined throughout the valley relative to 2001 and relative to baseline. Average change relative to baseline for the Control parcels was -7.4%, but this value was not statistically significantly different from no change (Figure 3). So it can be concluded that, on average, perennial cover in Control parcels was similar to baseline levels. From 1991 through 1994, cover in the Control group was similar to baseline, and from 1995 through 2001, it was significantly greater than baseline. In 2002, perennial cover in the Control group returned to being similar to baseline. Thus over the twelve years the Water Dept has been monitoring vegetation, Control perennial cover has averaged AT or ABOVE baseline (Figure 3). In contrast with the Control group, perennial cover was statistically significantly less than baseline for both wellfield groups (DRP and DRPfree) when averaged for all parcels (Figure 3). Perennial cover has been statistically significantly less than baseline since

1999 for the DRP parcels and has been at or below baseline during all twelve years. For the first time since the DRPfree group was created (1996), perennial cover averaged statistically significantly below baseline (Figure 3).

It remains to be seen if the suppressed cover will continue or whether the response for the DRPfree group is intermediate between that of the Control and DRP group. Water levels in some DRPfree parcels remained more or less constant between 2001 and 2002, but for others, water levels may have been lowered due to recent pumping. Splitting the DRPfree group into two or more groups that more appropriately depict management conditions may be warranted, but depends on acquisition of sound water table estimates. The results of ICWD's 2002 inventory are summarized by wellfield in Table 5.

At the scale of the individual parcel, adequate depth to water table estimates exist for about half of the parcels inventoried in 2002. Examples of vegetation and water table conditions through time are provided in Figure 4.

— *Sally Manning, Vegetation Scientist*