

MISSOURI HEIGHTS GROUND WATER MONITORING PROGRAM, PHASE I
BASALT WATER CONSERVANCY DISTRICT

KEY CONCLUSIONS

Conclusion No. 1 – Cattle Creek Transbasin Diversions

- Transbasin diversions from Cattle Creek play a significant role in maintaining the Missouri Heights aquifer.
- The average annual influx of water to the Missouri Heights watershed is estimated to be 33,651 AF.
 - Natural precipitation accounts for approximately 21,387 AF, or 64% of the total influx.
 - Ditch diversions through the Park, Mountain Meadow and Needham Ditches account for the remaining 12,264 AF, or 36% of the total influx.
 - This is a basin-wide estimate. Transbasin diversions make up a significantly higher portion of annual water influx in localized areas (e.g. irrigated fields).

Conclusion No. 2 – Ground Water Levels Vary with Natural Climatic Fluctuations

- Variations in the regional ground water table are strongly correlated to natural climatic fluctuations.
- The regional ground water table takes approximately 1 year to respond to climatic fluctuations.
 - For example, ground water levels will increase approximately 1 year after an exceptionally wet year.

Conclusion No. 3 – Development Influences on the Regional Aquifer

- Water levels in the regional Missouri Heights aquifer have not shown a distinct downward trend in response to steady development
- However, irrigated acreage on Missouri Heights decreased by approximately 16% between 1993 and 2000.
- Diversions through the Park, Mountain Meadow and Needham Ditches may be decreasing.
- The study locations may show a slight decrease in average water level.

Conclusion No. 4 – Reconnaissance Assessment

- Existing data are sufficient for drawing general conclusions about the regional aquifer. The following data limitations preclude more detailed conclusions:
 - Monthly, instantaneous measurements do not track short-term aquifer fluctuations
 - Local climatic data was not available for Missouri Heights
 - Water level at the spring study sites was highly variable
 - Distribution of the well sites was suboptimal