

## **Mountain Home Ground Water Management Area and Cinder Cone Butte Critical Ground Water Area**

### **Overview of Current Management Status**

The Cinder Cone Butte area, located in Elmore County, was declared a CGWA on May 7, 1981 (Figure 20). Following the declaration, a study was conducted to evaluate the entire Mountain Home area. As a result of that study by Norton and others (1982), the Mountain Home GWMA, which surrounds the Cinder Cone Butte area, was designated on November 9, 1982. The Mountain Home GWMA is located in Elmore and western Ada counties. The areas were designated due to declining ground water levels.

New ground water appropriations are not allowed in the Cinder Cone Butte CGWA. The order declaring the Mountain Home area a GWMA states that the area is approaching critical, "although there appear to be subareas where new appropriations could be authorized without injuring existing water rights."

A management policy was not included in the designation of either area. On June 6, 1996, the Director issued an order establishing an advisory committee. The Committee has the following objectives:

- a. Collect and review data;
- b. Mediate water related issues involving water users;
- c. Develop draft ground water management plan;
- d. Develop and propose implementation of a ground water recharge program;
- e. Serve as a forum for communication of water related issues.

The composition of the Committee is specified in the order. The Committee does not have any formal enforcement authority.

### **Hydrogeology**

The Mountain Home area contains a regional aquifer system that flows west-southwest. Depth to water in the regional system is usually in excess of 300 feet. Two perched aquifer systems are found in the area: one system in the area in and around the City of Mountain Home, and another system northwest of Mountain Home in Township 2 South, Range 5 East (Young, 1977). Water in the perched areas range from a few feet to several hundred. Ground water flow direction is south to southwest.

Major geologic units in the area are, from youngest to oldest: 1) alluvium and terrace gravels; 2) Snake River Group; 3) Idaho Group; 4) Idavada Volcanics, and 5) Idaho Batholith. The regional aquifer is found primarily in the Bruneau Formation, a unit in the Idaho Group that consists of fluvial-lake deposits, layers of ash, and basaltic lava flows (Ralston and Chapman, 1968). Two northwest trending faults pass through the northeast part of the area (Bond, 1978). The perched aquifers occur primarily in the alluvium and terraces.

Recharge to the perched system in the Mountain Home area is from Rattlesnake and Canyon creeks, local irrigation, and leakage from Mountain Home Reservoir. Recharge to the perched system northwest of Mountain Home is from percolation from intermittent streams. Recharge to the regional system occurs mainly from downward flow from the perched system, precipitation from the uplands and underflow from the north. It has been suggested that the regional system is quite old based on isotope composition (Young, 1977).

### **Current Conditions**

Ground water levels in the regional system in the southern and eastern portions of the area near the Mountain Home Air Force Base show declines of more than 50 feet since 1968 (Figures 21 and 22). Steep declines occurred during the late 1960s and early 1970s. Water levels appeared to stabilize in several wells during the mid-1970s and early 1980s. However, declines began again in the mid to late 1980s and have continued to present. In the northcentral part of the Cinder Cone Butte CGWA, water levels have declined as much as 60 feet since 1976. In the north and northwest parts of the area, ground water levels appear to be stable and have increased by as much as 3 to 4 feet since 1966.

The perched system in and surrounding Mountain Home fluctuates in response to seasonal and climatic cycles. Fluctuations can be as much as 50 feet. Overall water levels appear to be relatively stable based on data collected since 1975.

The IDWR monitors 15 wells on a monthly basis. Prior to June 1998, these wells were monitored on a semi-annual basis. USGS monitors 9 wells, two semi-annually and seven bi-monthly. In November 1997, IDWR contracted for seven additional wells to be monitored on a monthly basis by a private consultant.

### **REFERENCES**

- Bendixsen, Shane, 1994, Summary of Hydrologic Conditions in the Mountain Home and Cinder Cone Butte Areas, IDWR Open File Report, 30 pages.
- Castelin, Paul M., 1988, Review of Factors Affecting Ground-Water Levels in the Mountain Home Plateau Area Elmore and Ada Counties, Idaho, IDWR Open File Report, 5 pages.
- Norton, Marc A., Ondrechen, William and Baggs, James L., 1982, Groundwater Water Investigation of the Mountain Home Plateau, Idaho, IDWR Open File Report, 62 pages.
- Ralston, Dale R., and Chapman, Sherl L., 1968, Ground-Water Resource of the Mountain Home Area, Elmore County, Idaho, IDWR Water Information Bulletin No. 4, 63 pages.
- Ralston, Dale R., and Chapman, Sherl L., 1970, Ground-Water Resource of Southern Ada and Western Elmore Counties, Idaho, IDWR Water Information Bulletin No. 15, 52 pages.

Young, H. W., 1977, Reconnaissance of Ground-Water Resources in the Mountain Home Plateau Area, Southwest Idaho, USGS Water-Resources Investigations 77-108, 40 pages.

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