

Studies and Data Collection on the Mountain Home Plateau  
(compiled by Helen Harrington, IDWR 7/18/2001)

2000 Deb Parlman Water Resource Studies

2000

**Characterization of Ground Water Sources in and near Mountain Home, Idaho, by Tritium and Selected Ion Analyses**

Parlman, D. L.

Summary of ground water sampling project in Spring and Summer 2000. 10 wells and one stream for tritium and selected field parameters and chemical constituents. Wells were all within six miles of Mountain Home. Purpose of project was to characterize selected ground and surface water in and around Mountain Home. Objective was to see if an approach could be developed to evaluate transport and fate of recharge water.

Historic to Present (Data available from IDWR)

**IDWR increased ground water monitoring network (1993-2000).** At present (2001), there are about 57 monitoring sites: IDWR-23; Contractor-13; USGS-21.

1994 (Copy attached)

**Summary of Hydrologic Conditions in the Mountain Home and Cinder Cone Butte Areas**

Bendixsen, Shane

Idaho Department of Water Resources Open File Report

30 pages

Review of previous work and evaluation of ground water level trends. Concluded that equilibrium has not yet been achieved.

1992 (Copy available from IDWR for loan)

**Seasonal changes in ground-water quality and ground-water levels and directions of ground-water movement in southern Elmore County, southwestern Idaho, including Mountain Home Air Force Base, 1990-91**

Young, H. W.; Parlman, D. J.; Jones, M. L.

U. S. Geological Survey, Water-Resources Investigations

22 p., 2 sheets

Ground water contours of perched and regional aquifers and chemical analyses for ground water across portion of southern Elmore county including generally the southern part of the GWMA and Mountain Home and slightly north of the city. Ground water levels from 141 wells taken during March, July and October 1990. Water quality samples from 33 wells and 1 spring; analyzed for chemical constituents, trace metals and volatile organic compounds. Hydrographs of seasonal fluctuations of selected wells.

1991 (Copy available from IDWR for loan)

**Depth to water in the western Snake River plain and surrounding tributary valleys, southwestern Idaho and eastern Oregon, calculated using water levels from 1980 to 1988**

Maupin, Molly A.

U. S. Geological Survey, Water-Resources Investigations

1 sheet, NOTE: Prepared in cooperation with the IDHW, DEQ

Map and narrative developed as part of the ground water contamination vulnerability assessment. Very general and contoured first ground water encountered in the Western Snake River Aquifer

2001 - water level measurements  
Compare w/ 1980

1991

**Geohydrology of the regional aquifer system, western Snake River plain, southwestern Idaho**

Newton, Garth D.

U. S. Geological Survey Professional Paper p. G1-G52

NOTE: Regional Aquifer-System Analysis; Snake River plain, Idaho

ABSTRACT: A finite difference model was used to simulate flow in the regional aquifer system, western Snake River plain.

1990 (Copy available from IDWR for loan)

**Hydrologic and chemical data from selected wells and springs in southern Elmore County, including Mountain Home Air Force Base, southwestern Idaho, Fall 1989**

Parlman, D. J.; Young, H. W.

U. S. Geological Survey, Open-File Report

35 p., NOTE: Prepared in cooperation with the Department of the Air Force

Data from sampling project of 90 wells and 6 springs in southern Elmore County. Water was analyzed for general field parameters, nitrate, bacteria; 88 wells and 5 springs were analyzed for volatile organic compounds.

1988 (Copy attached)

**Review of Factors Affecting Ground-Water Levels in the Mountain home Plateau Area Elmore and Ada Counties, Idaho**

Castelin, Paul M.

Idaho Department of Water Resources Open File Report

5 pages plus figures and appendices

Summary of status of ground water trends as of 1988. Concluded that (1) declines were occurring at reduced rate from the pre-1982 period; (2) decreased irrigation due to set-aside contracts; (3) no changes to administrative boundaries or management recommended because of the delay in responses in the ground water even with the changes noted.

1983

**Compilation of ground-water quality data for selected wells in Elmore, Owyhee, Ada, and Canyon counties, Idaho, 1945 through 1982**

Parlman, D. J.

U. S. Geological Survey, Open-File Report

156 p.

1983 (Copy available from IDWR for loan)

**Ground-water Quality in the Western Snake River Basin, Swan Falls to Glens Ferry, Idaho**

Parlman, D. J.

U. S. Geological Survey Water-Resources investigations Report 83-4062

This study covered areas in southern Elmore County and northern Owyhee area (Grandview Bruneau area) and evaluated water quality and chemistry.

1982 (Copy attached)

**Ground Water investigation of the Mountain Home Plateau, Idaho**

Norton, Marc A; Ondrechen, William; Baggs, James L.

Idaho Department of Water Resources Open File Report

62 pages

Objectives of study were: (1) determine recharge; (2) determine aquifer and ground water movement; (3) determine net withdrawal from existing and potential water rights; (4) evaluate need for administrative boundary and/or management changes. Water levels were measured in about 100 wells. Conclusions included net overdraft of groundwater use and regional declines over a wider area than Cinder Cone Butte CGWA. Resulted in designation of the Mountain Home GWMA.

Total potential overdraft of 48,000 acres feet/year. Total developed & permitted acres: 68,656.

1977 (Copy available from IDWR for loan)

**Reconnaissance of ground-water resources in the Mountain Home plateau area, Southwest Idaho**

Young, H. W.

USGS Water-Resources Investigations 77-108, Open-File Report

Study area covered entire south-southeast portion of Ada County and most of western Elmore County. Study inventoried 260 wells & 14 springs; 27 wells monitor for 1 year; chemical analysis of 37 wells and 10 springs; isotopic analyses from 15 wells and 10 springs.

Perched aquifers were mapped and determined to occur as a result of localized and discontinuous strata; recharge is from irrigation ditches and partly from runoff and recharge from adjacent highlands. Perched water moves downward toward the regional aquifer.

Aquifer recharge sources were determined based on chemical analysis. Two primary sources of recharge were the Boise River basin and the adjacent highlands. Eastern part of study area (western Elmore Co.) recharge from precipitation on highlands and batholith. " ... suggests that downgradient ground water at the eastern end of the flow system is fossil water, which was recharged at an earlier time, although under climatic conditions similar to current conditions in the Boise River basin." "No data suggest recharge from a distant, deep-circulating system to the south." General ground water movement is to the south and southwest. Ground water movement of the perched water is generally to the south.

Development has caused declines in several places; largest south of Mtn home, greater than 20' over 9 years.

1970 (Copy attached)

**Ground-water resource of southern Ada and western Elmore counties, Idaho**

Ralston, Dale R.; Chapman, Sherl L.

Idaho Department of Reclamation, Water Information Bulletin No. 15

52 p.

Study area was "bounded on the south by the Snake River, on the west by the Ada Canyon County Line and on the east by Canyon Creek. Northern boundary is Mora and New York Canals, Interstate 84 and the road connecting Black's Creek, Mayfield and Mountain home. Study focused on Kuna and Orchard subareas. Study area included the Cinder Cone Butte area, however, limited water development had occurred when the report was written; a one foot per year decline in T5S R4E Sec 5 was mentioned. Closure of the area was not recommended.

1968 (Copy attached)

**Ground-water resource of the Mountain Home area, Elmore County, Idaho**

Ralston, Dale R.; Chapman, Sherl L.

Idaho Department of Reclamation, Water Information Bulletin No. 4

63 p.

First regional study of geology and hydrogeology of a study area covering southern and central Elmore County from approximately the Mountain Home Air Force Base to Glenns Ferry and north to the Bennett Hills front. Subbasin descriptions of the geology and ground water conditions were included; little trend information was available at this early phase of ground water development and lack of long term data. 26 wells and springs were analyzed for chemical constituents. Change in aquifers from the Bruneau Formation in the west to Glenns Ferry Formation was evident from chemical analysis. Appreciable lower of piezometric surface.

1960

**Feasibility of groundwater features of the alternate plan for the mountain home project, Idaho**

AUTHOR(S): Nace, Raymond L.

DATE: 1960

UNIVERSITY: Columbia University, Teachers College, New York, NY, United

States,

Doctoral Thesis

1957 (Copy available from IDWR for loan)

**Feasibility of Ground-Water Features of the alternate Plan for the Mountain home Project, Idaho**

Nace, R.L., West, S. W., Mower, R.W.

USGS Water-Supply Paper 1376

121 pages

Since the mid-1950s, the Mountain Home Area has been studied. The studies began as large-scale reconnaissance and have progressed to more detailed and localized efforts