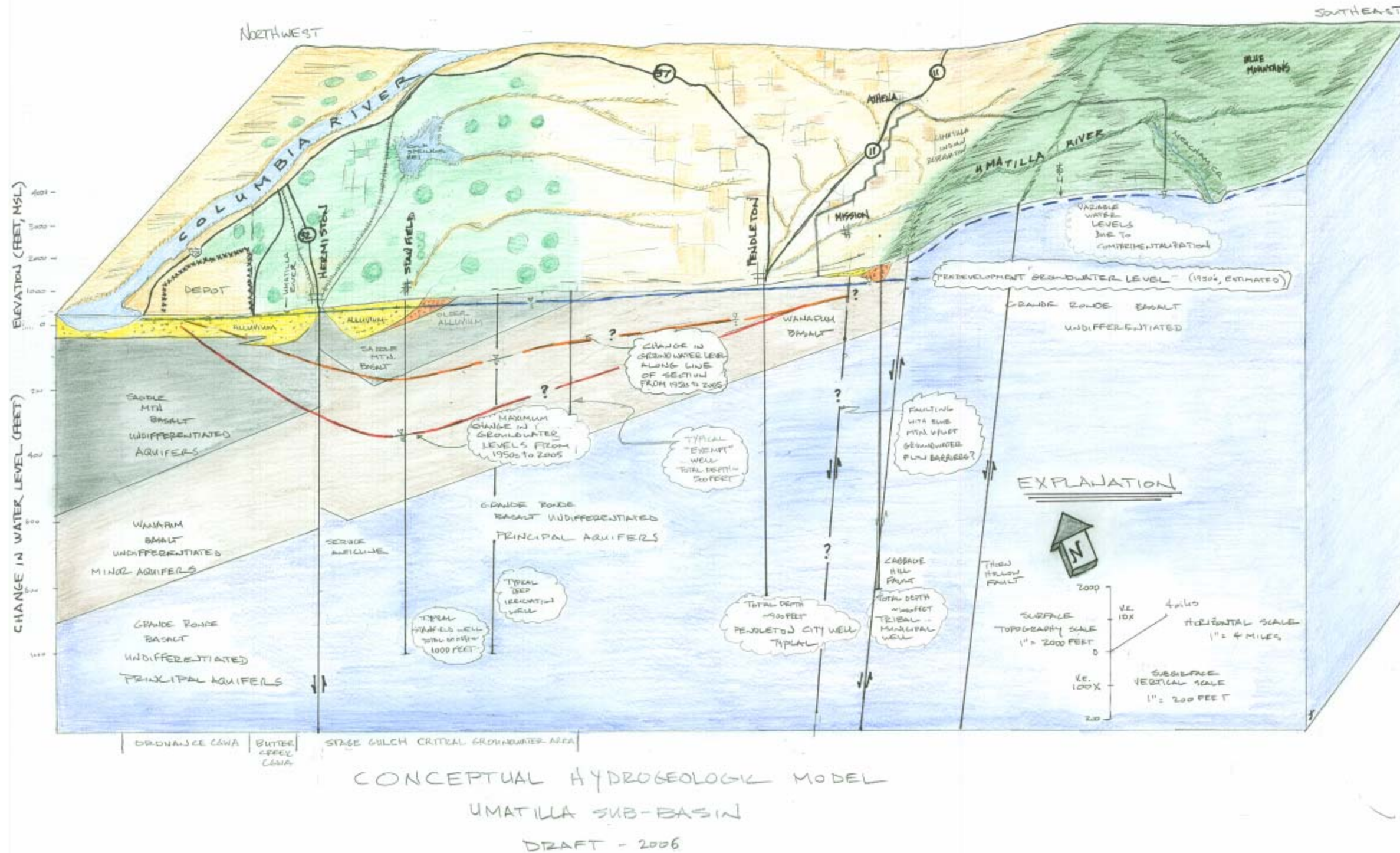


Status of Water Supplies in the Umatilla River Basin

Tomorrow's Groundwater, Today's Challenge

A cooperative effort between the following



This three dimensional diagram depicts an overview of the geology of the Umatilla Basin, along with the declines in groundwater levels in the deep basalt aquifers. Note that while the largest water level declines underlie the areas designated as Critical Groundwater Areas by the Oregon Water Resources Department, the water level declines are basin-wide, extending into the upper basin areas.



Water. These days it seems that we either have too much when we need it least, or we have too little when we need it most. In Umatilla County, the annual withdrawals of water resources for local use are well over 200,000 acre-ft per year. For the past 50 years, Umatilla County has been fortunate in having high quality groundwater supplies as part of the water picture, but with over 70,000 acre-ft per year of these groundwater reserves are apparently being “mined” – lost for use by other future users and potentially impacting surface water resources increasingly looked upon to restore fisheries or maintain riparian habitats to “cleanse” the water that has been used.

How much water is available or left for use? That’s the billion dollar question. While there is much knowledge about water rights in the Umatilla Basin, these have not been tempered by the hydrogeologic reality of continuously-declining groundwater levels, potentially decreasing well yields, deteriorating water quality, or the hydrologic impacts associated with climate change. The value of acquiring more information on how the water resources respond to current uses through detailed monitoring of all withdrawals and use cannot be overemphasized. The tough question that needs to be addressed is who will do the data collection and where will the information be stored for ready access to the water users.

What are others doing?

Groundwater is the world’s most extracted resource. Declining groundwater levels are a natural response to developing water stored in aquifers. The water level declines in the most productive basalt aquifer underlying the Umatilla Basin range from over 100 feet in the upper basin to nearly 500 feet in the lower basin. Other global groundwater users are developing strategies for water level declines on the order of 30 to 150 feet. Global strategies range from importing surface water to “buying out” wells and retiring marginally productive lands. The difficult question facing all groundwater users is defining a rationalization scenario for continued use.

Why a “Task Force”? It should come as no surprise that Federal and State financial resources are stretched to the limit. *Tomorrow’s groundwater is today’s challenge*, but the challenge for managing the water resources rests squarely in the hands of the community that uses the water.

The preferred institutional arrangement is for all water management functions be handled by a single government entity. But the problem becomes increasingly unclear as new knowledge shows that the water resources are “transboundary” or potentially shared by other states and the tribal nations. Hence the need for a coordinating committee or a “task force” composed of many interests.

Waters pumped from the deep aquifers underlying the Umatilla Basin have been dated as being over 20,000 years old. This is not unique to Umatilla County, but rather has been recognized as an issue across the world by The World Bank. The challenge is how to plan for the future.

Figure 1: Typical groundwater cycle in more arid regions where underlain by major aquifers

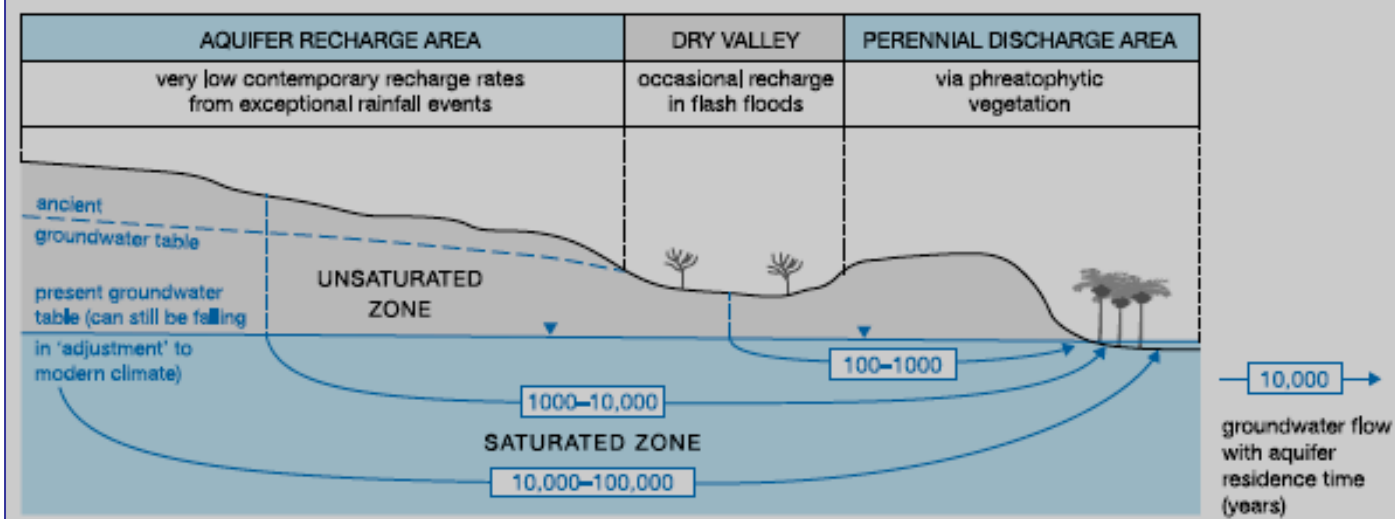


Figure 2: Targets for groundwater resource management in ‘rationalization scenarios’ following indiscriminate and excessive exploitation

