Committee on Resources,

Subcommittee on Water & Power

water - - Rep. Ken Calvert, Chairman
U.S. House of Representatives, Washington, D.C. 20515-6204 - - (202) 225-8331

Witness Statement

STATEMENT OF
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BEFORE THE
SUBCOMMITTEE ON WATER AND POWER
HOUSE COMMITTEE ON RESOURCES
UNITED STATES HOUSE OF REPRESENTATIVES

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Good afternoon, Mr. Chairman and Members of the Subcommittee, thank you for the opportunity to report on the status of water conditions in the Western United States as monitored by the U.S. Geological Survey (USGS). Because this is the first appearance of the USGS before this Subcommittee in the new Congress and before you as Chairman, allow me to start with a few preliminary thoughts about the role of the USGS.

The USGS is a science agency within the Department of the Interior with a history of 122 years of providing scientific information needed for the wise management of our Nation's natural resources. The study of water goes back to our very early years and the work of our second Director John Wesley Powell who focused much attention on the availability of water resources for the economic development of the West. The USGS of today consists of four major program areas: Geology, Mapping, Biology, and Water. The USGS strives to combine these four disciplinary areas to provide a more complete data and analysis of the resource and environmental issues that our Nation faces today.

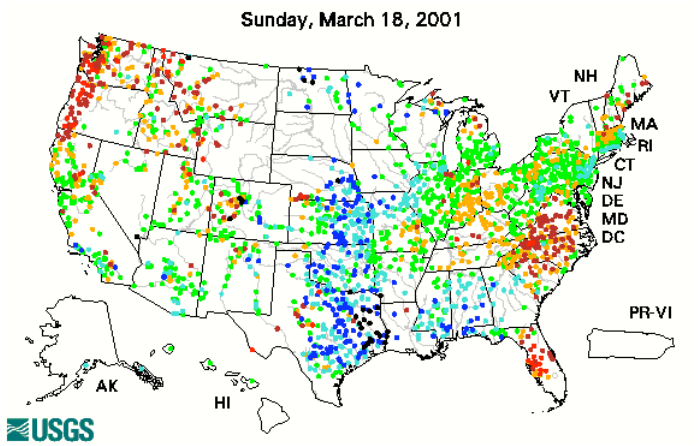
The USGS water resources program provides reliable, impartial, timely information that is needed to understand the Nation's water resources.

It is crucial to note that the USGS provides unbiased science to resource and regulatory decision makers. We work closely with local, State, tribal, and Federal agencies, and the private sector to provide them with the information they need to make informed decisions. Of particular interest to the Committee may be our Cooperative Water Program, through which we partner with over 1300 non-Federal agencies to carry out data collection and hydrologic studies.

For over a century the USGS has played the key role in monitoring the flow of our Nation's rivers. We operate about 7000 streamgages, which monitor the flow of water in our Nation's rivers and streams, and we freely provide the current and historical data to a wide range of users. This information is used for purposes that include: water supply planning, flood risk assessment, water quality management (including calculation of Total Maximum Daily Loads), water supply operations, streamflow forecasting (done primarily by the National Weather Service and the Natural Resources Conservation Service), habitat assessments, and personal planning of river-based recreational activities. Currently, we are in a process of modernizing this network. At the present time, about 5000 of these stations have satellite telemetry that enables us to provide near-real-time data to all users via the Internet.

Using these data, and information from other agencies, I will describe the current Western surface-water situation, variations and changes that have occurred in recent weeks and also place this in a national context. To do this I will rely on an illustration that we create daily and place on the USGS website. It is based on conditions for the preceding week at all USGS streamgaging stations that have 30 or more years of record and have telemetry systems. Each dot on the map represents an individual gage. They are color coded with red indicating that flows for the week were the lowest ever recorded for that time of year, brown indicating that flow was below the 10th percentile, orange was between the 10th and 25th percentile, green indicates "normal" (25th to 75th percentile), light blue is 75th to 90th percentile, dark blue is above the 90th percentile, and black represents record high flows for this time of year.

Figure 1. AVERAGE STREAMFLOW FOR THE WEEK ENDING MARCH 18



Hydrologically, conditions in the West are quite varied at the present time. The Southwest is having relatively normal conditions, a pattern that we have been observing since last November. Most of the Great Plains, from the Dakotas to Texas are experiencing normal to above-normal streamflows; also a persistent pattern during recent months. In eastern Texas, a number of rivers and streams have recorded new daily high flows during the past month, while flood flows have been observed at many others.

In contrast, the Pacific Northwest is experiencing below-normal streamflows in response to winter season precipitation that has averaged only 25 to 75 percent of normal. Currently, 75 percent of USGS real-time streamgages in this region are reporting below-normal flows.

The most serious low flow conditions are occurring in Washington and Oregon. Notably, below normal streamflows were recorded at 90 percent of our real-time stations in Oregon last week and at 75 percent of the gages in Washington. The snowpack in river basins in these States is generally less than 60 percent of average. There are also significant deficiencies in reservoir storage. Statewide, the useable contents of reservoirs in Washington are about 50 percent of average, while those in Oregon are only slightly better at 75 percent of average. The low seasonal precipitation and the currently low reservoir storage have resulted in spring and summer streamflow forecasts of less than 70 percent of average for most areas in Washington and Oregon. The outlook for Idaho is even worse, with nearly the entire State forecast to have spring and summer flows of less than 70 percent of average.

Nearby States, such as Montana and Wyoming are also experiencing reduced streamflows, snowpack, and

soil moisture, although the dryness is less severe than in the Pacific Northwest. Indeed, although the useable contents of reservoirs in Montana are about 60 percent of average, those in Wyoming are actually above average. Still, more than 60 percent of the real-time streamgages in both States are reporting below-normal flows. Northern California, particularly the Northern Sierra Nevada, had relatively dry conditions and low streamflows earlier in the winter, but has recovered considerably during the past month. Currently, reservoir contents are about normal statewide, as are daily and weekly average streamflows.

It is worth noting that, unlike the current situation in Florida and western North Carolina where drought has persisted for more than two years and enormous moisture deficits of more than two feet have accrued, the dryness in the Northwest is only four months old. Admittedly, it came at the worst possible time of year since the region depends upon winter season precipitation and snowpack to meet the spring and summer water demand. Even so, the current situation would have been much worse had there not been normal to above-normal hydroclimatic conditions during the preceding 18 months.

The streamgaging network, that measures the "pulse" of the Nation's rivers (and enables us to produce a "snapshot" of conditions such as I have used here), is a high priority for the USGS. We have worked closely with the Congress over the last 3 years to explore the issues relating to the modernization and stability of the network.

I should also briefly mention the importance of ground water as an indicator of drought and as an important aspect of the mechanisms available to communities, agriculture, and industry as insurance against drought. While our ground-water level monitoring networks have not been modernized to a level where we can provide the same kind of synoptic view of ground-water conditions as we presented for surface water, we anticipate improvements in the next few years. We believe that the science of ground-water hydrology is crucial to water management in the West and nationwide. Conjunctive use of surface and ground water has great potential for making water supplies more drought resistant. Ground water is crucial to sustaining streamflow for habitat and for water supply. More and more we find that our partners are interested in the role that ground water plays in maintaining adequate flow and temperature conditions in rivers.

We also find that emerging technologies such as artificial recharge, aquifer storage and recovery, and recharge of reclaimed wastewater are pivotal parts of the water management equation. The science to support the use of these new technologies is a part of our strategic plan for the future of USGS ground-water science.

I thank the Subcommittee for this opportunity to testify and I look forward to answering your questions today and working with you over the coming months and years.

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