



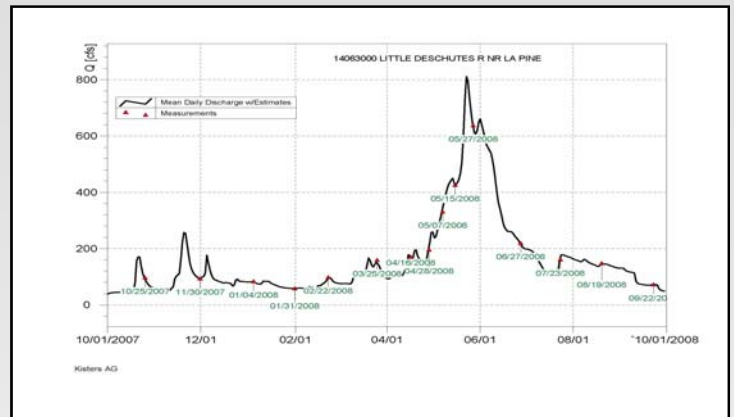
## Stream Gaging in Oregon Surface Water Data Collection

Stream gages are used to:

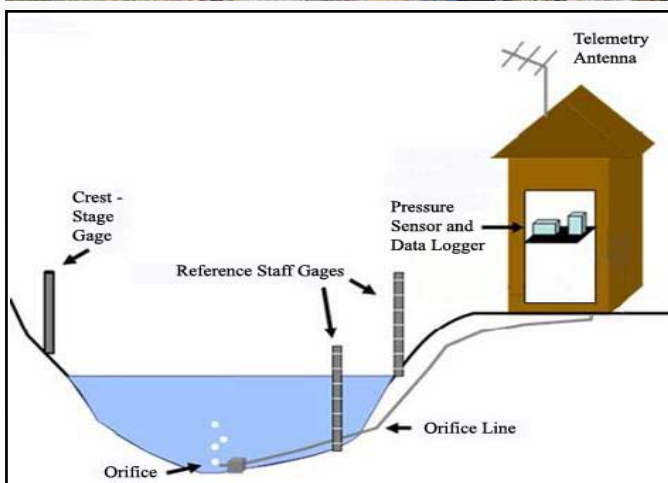
- Actively manage water on a daily basis
- Protect instream and out-of-stream water rights
- Forecast Floods
- Plan for recreational activities
- Better understand water availability and climate change
- Plan for future growth

Right: Little Deschutes River near LaPine hydrograph for the 2008 water year. Mean daily flow with measurements used for calibration.

Real time information is particularly valuable for water management, flood monitoring and recreational purposes. The Department uses satellite telemetry to transmit data hourly that is posted on the department's website.



As data is reviewed and finalized, it becomes part of the historical database. Continuous records of more than 100 years are available for some gages. Long term records are particularly valuable for understanding changes in flow over time due to wet and dry cycles, water withdrawal over time, and climate change. The historic database includes flow records for more than 1,500 gages within Oregon.

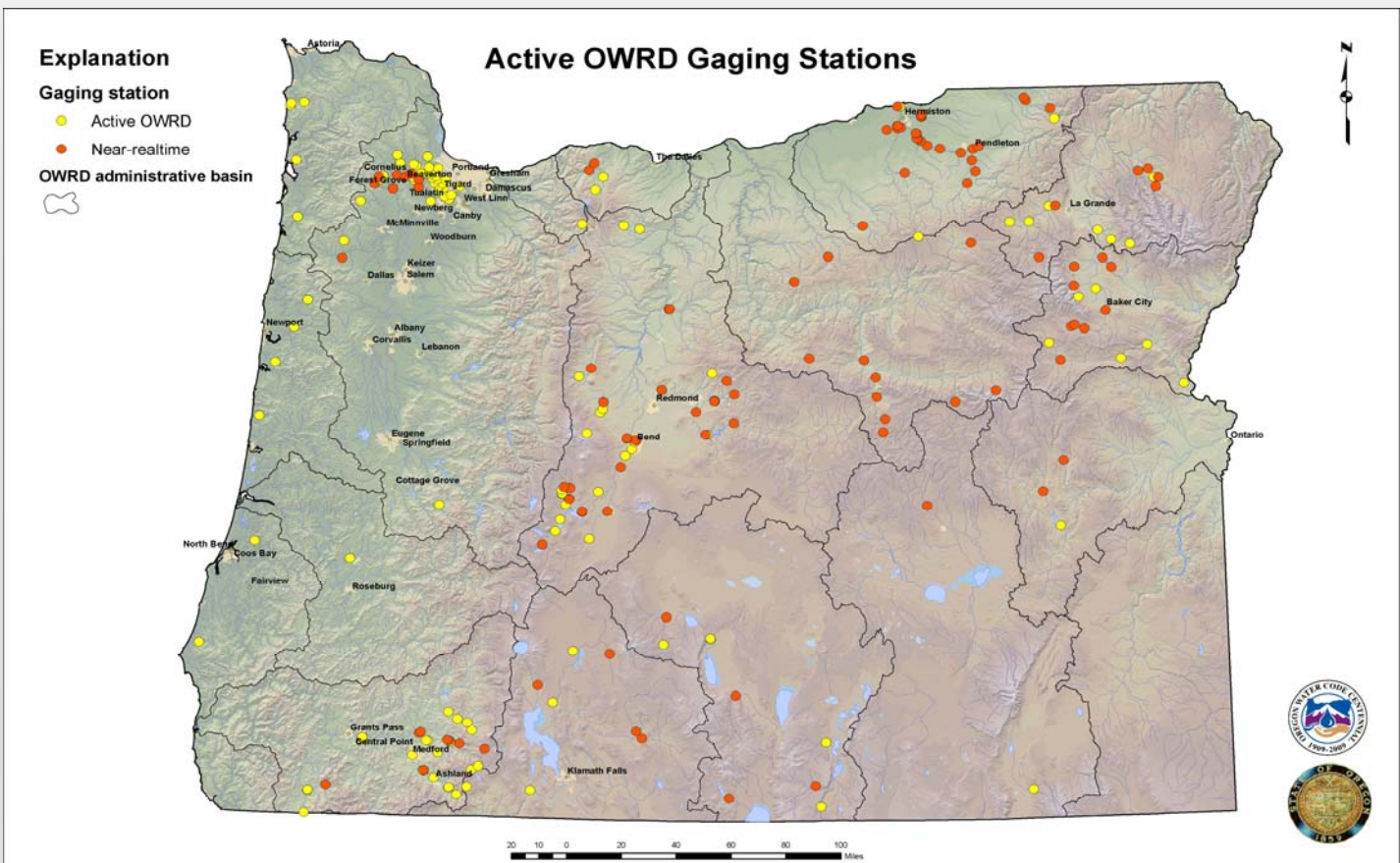


Top Left: A traditional stilling well gage on Twentymile Creek near Adel, OR. Operation started in 1910.

Bottom Row: Both images show modern gaging station equipment including a pressure sensor, data logger and satellite telemetry.

Operating a stream gage network requires trained field hydrographic technicians to keep the equipment operating properly, conduct regular measurements at various water elevations, and input the collected information into the Department's database. Department hydrographers review the data, make corrections based on field conditions that may be affected by debris or ice, and finalize the records to meet computation standards established by the USGS.

Right: An OWRD Hydrographics technician measures stream-flow on Sunshine Creek near Valsetz.



The Water Resources Department operates more than 200 stream and reservoir gages throughout the state. About 110 of these gages are operated as near real-time. These gages transmit stream data once an hour. This data is received and downloaded to the Department's database where it is processed and the streamflow information is updated on the web page every hour. In addition, information from another 225 gages operated by the USGS and other agencies is also shared on the Department's website.