



# STATE OF NEVADA

Department of Conservation & Natural Resources

DIVISION OF ENVIRONMENTAL PROTECTION

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## **BUREAU OF WATER QUALITY PLANNING - 2006 Biennial Report**

### **Purpose:**

The bureau plans, develops and implements programs to protect and improve the chemical, physical and biological integrity of the waters of Nevada. Staff conduct monitoring and develop water quality control regulations and water quality protection/improvement plans. Staff also conduct programs designed to mitigate the adverse effects from nonpoint source pollution through implementation of water quality improvement and public education projects. Other bureau activities include the promotion of intra and inter-agency program coordination and the provision of technical assistance to ensure the quality of water, soil and waste samples collected to meet state and federal requirements.

### **Program Objective:**

Evaluate the chemical, physical and biological health of watersheds throughout Nevada:

### **Accomplishments:**

The bureau developed the Nevada State Water Quality Monitoring and Assessment Strategy that will guide monitoring activities through 2015. Activities in support of the Assessment Strategy included the following:

- Maintained the statewide surface water quality monitoring network and collected bimonthly or quarterly samples at more than 100 sites throughout Nevada.
- Collected macro invertebrate samples and physical habitat data at more than 200 sites.
- Worked with EPA and the Pyramid Lake Paiute Tribe to develop macro invertebrate, periphyton, fish and physical habitat indices of biological integrity (IBIs) for the Truckee River.
- Initiated work with EPA to develop macro invertebrate and physical habitat IBIs for the Carson River.
- Initiated work with EPA to develop reference sites for non-main stem streams and conducted monitoring at approximately 20 sites.
- Developed the 2004 305(b) Water Quality Inventory Report that characterizes the condition and quality trends on all monitored waters within the state.
- Develop the 2004 303(d) List of Impaired Waters that are not meeting water quality standards.
- Developed draft sections of the Carson River Basin Report Card including trace metals, fisheries, dissolved oxygen, temperature, relative bed stability, and nutrient levels in Carson Valley ground water.
- Initiated development of a database to catalogue data, reports and other information regarding mercury concentrations in water, soil and fish tissue.

### **Program Objective:**

Develop and review surface water quality standards including beneficial uses, numeric criteria to protect the uses and requirements to maintain higher quality (RMHQs).

**Accomplishments:**

To support development and review of surface water quality standards the bureau completed the following activities:

- Revised Class Waters pH criteria.
- Revised the Las Vegas Bay and Lake Mead reach designations and ammonia criteria.
- Initiated review of the municipal and domestic water supply beneficial use for waters located in the Lower Carson River Basin below Lahontan Reservoir.
- Initiated review of the Muddy River water quality standards.
- Initiated review of the aquatic life criteria for inorganic toxic parameters.
- Developed proposal to revise the Class Waters sections of the Nevada Administrative Code by developing specific water quality standards for each waterbody.
- Initiated water quality monitoring at 46 new sites in the Snake, Black Rock, Central and Walker Basins in order to develop water quality standards for these waterbodies.
- Worked with the University of Nevada to develop a statistically sound methodology for establishing RMHQs.

**Program Objective:**

Develop total maximum daily loads (TMDLs) to improve surface water quality and control pollutant discharges.

**Accomplishments:**

To address the TMDL program objective, staff completed the following activities.

- Developed and received EPA approval for cadmium, copper, dissolved oxygen, iron, pH, total phosphorus, temperature, total dissolved solids and turbidity TMDLs for Mill Creek and the East Fork Owyhee River.
- Developed and received EPA approval for total phosphorus TMDLs for the Carson River from Stateline to Weeks.
- Developed and received EPA approval for a total dissolved solids TMDL for Walker Lake, fulfilling a Federal Court consent decree to have an approved TMDL by February 2005.
- Worked with the Lahontan Regional Water Quality Control Board and EPA to develop nutrient and sediment TMDLs for Lake Tahoe.
- Re-evaluated the Las Vegas Wash total phosphorus and ammonia TMDLs. No change is currently proposed.
- Worked with the cities of Reno and Sparks and EPA to initiate a review of the Truckee River TMDLs.
- Initiated review of water quality impairments in the Muddy River Basin.
- Initiated review of water quality impairments in the Snake River Basin.

**Program Objective:**

Develop local, regional, and statewide plans to ensure water quality standards are maintained and impaired surface waters are restored where possible.

**Accomplishments:**

To address planning for water quality protection or improvement, staff completed the following activities.

- Worked with the Carson Water Subconservancy District to update the Carson River Basin 208 Water Quality Management Plan. EPA approved the plan in 2005.
- Worked with Clark County to update the South Clark County Geographic Area 208 Plan. EPA approved the plan in 2004.
- Worked with Clark County to initiate an update the Northeast Clark County 208 Plan.
- Worked with the Truckee Meadows Regional Planning Agency to initiate an update of the Washoe County 208 Plan.
- Initiated work with the Carson Water Subconservancy District to develop a TMDL implementation plan for the Carson River.
- Worked with the Tahoe Regional Planning Agency, U.S. Forest Service, Lahontan Regional Water Quality Control Board and EPA to initiate the Pathway 2007 process to oversee updates of the various Lake Tahoe Basin management plans.

**Program Objective:**

Implement the Nonpoint Source Pollution Management Program:

**Accomplishments:**

Approximately \$1.9 million of 319 Nonpoint Source Program funding was provided to local, regional and state agencies and nonprofit organizations to implement water quality protection or improvement projects.

**Program Objective:**

Increase agency and public awareness of water quality issues.

**Accomplishments:**

Activities by bureau staff to expand awareness of water quality issues include the following:

- Provided approximately \$388,000 of 319 Nonpoint Source Program funding to local, regional and state agencies and nonprofit organizations to implement public education projects.
- Conducted eleven Project Water Education for Teachers (WET) workshops for more than 170 educators.
- Correlated Project WET activities with State of Nevada curriculum standards.
- Conducted Water Science for Schools presentations at thirteen schools for about 1,300 students.
- Conducted two Make A Splash water festivals for about 600 students.
- Conducted six Earth Day and Truckee River Basin Snapshot Monitoring Day events.
- Worked with the Carson Water Subconservancy and the Carson River Coalition to develop the Carson River Watershed Map that received the Nevada Water Resources Association 2003 Environmental Education Project of the Year award.
- Presented the Wendell McCurry Excellence in Water Quality 2004 Award to the Carson Water Subconservancy District and the 2005 award to the River Wranglers.
- Worked with the Carson Water Subconservancy District to conduct the Carson River Floodplain Management Conference in October 2005.

**Program Objective:**

Coordinate all BWQP programs to improve program efficiency and effectiveness:

**Accomplishment:**

The bureau developed a long range plan that will guide monitoring and assessment, water quality standards, TMDL development and Nonpoint Source Program activities over the next five years.

**Program Objective:**

Coordinate with local, regional, state and federal agencies and organizations to improve program efficiency and effectiveness:

**Accomplishments:**

The bureau was represented on the board of the Association of State and Interstate Water Pollution Control Agencies. The bureau entered into a Memorandum of Understanding with the U.S. Bureau of Land Management (BLM) to clarify authorities and identify responsibilities of each agency in carrying out water quality and nonpoint source pollution control programs as related to activities on BLM land. The bureau chaired the Lake Mead Water Quality Forum, Algae Task Force and Selenium Subcommittee, as well as planned and conducted the March 2004 Truckee River Bioassessment Symposium.

**Program Objective:**

Administer the State Laboratory Certification Program to ensure laboratories performing analyses to meet federal requirements prescribe to established methods and procedures:

**Accomplishments:**

Staff continued to administer the State Laboratory Certification Program to meet requirements of the Safe Drinking Water and Clean Water Acts. In 2004 the state program received approval to certify laboratories for the analysis of samples to meet requirements of the Resource Conservation and Recovery Act. The bureau received state approval for two new positions, an Environmental Scientist II and Administrative Assistant II, to meet increased workloads. The program was certified by EPA to perform onsite assessments of laboratories performing microbiological analysis, and during the biennium the program certified more than 90 laboratories statewide.

**Key Long Term Goals and Objectives:**

The bureau will implement the Long Range Plan and Water Quality Monitoring and Assessment Strategy as well as continue to negotiate with EPA on a TMDL development strategy that emphasizes the need for a thorough review of the water quality standards.