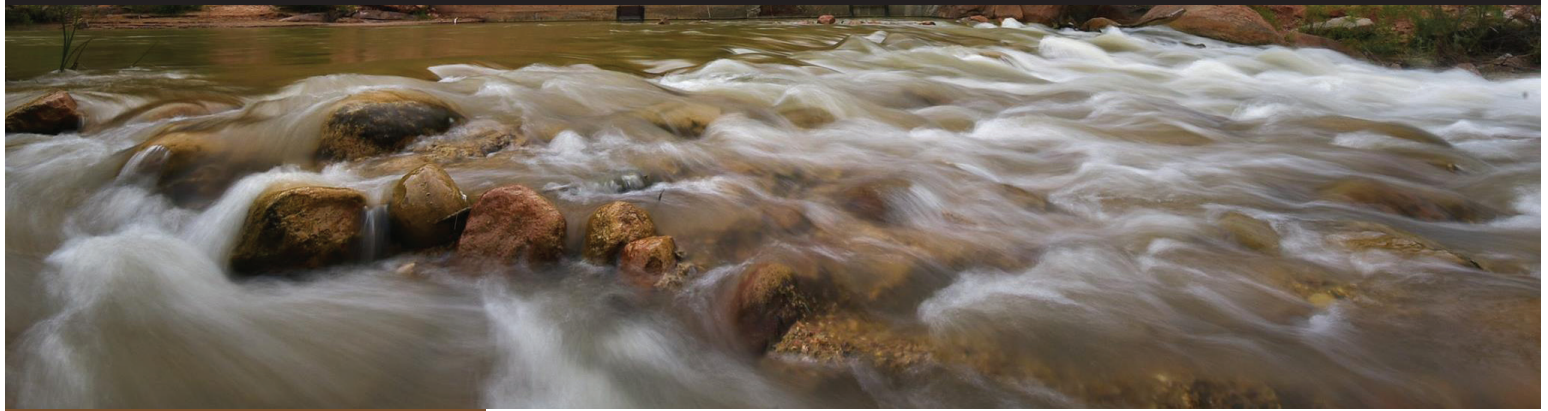




Water Quality Monitoring

*in the Northern Colorado
Plateau Network*



Above: Monitoring water quality at Pleasant Creek, Capitol Reef National Park.

Below: Gunnison River, Black Canyon of the Gunnison National Park.



BANNER PHOTO: VIRGIN RIVER, ZION NATIONAL PARK.
ALL PHOTOS NPS.

Why Monitor Water Quality?

Water is a major factor in determining the distribution of flora, fauna, and historic human habitation. The abundance and quality of water resources also reflect human activities and land use in and near parks, and strongly influence park visitation and recreational activities. Water bodies in national parks are protected by the Clean Water Act and other policies that prevent unacceptable levels of pollution and establish acceptable values for other water-quality measures.

What's the Most Recent News?

Routine water-quality sampling continued in 2016. Sampling for contaminants of emerging concern also continued in conjunction with the U.S. Environmental Protection Agency (EPA) and U.S. Geological Survey (USGS). Fish samples were added to this sampling in order to study the potential ecological impacts of chronic contamination in the Colorado River downstream of the City of Moab's wastewater treatment plant.

Data collected by the NPS and USGS in water years 2013–2015 were compared to state water-quality standards in [another report](#) (see page 2). Park staff used these analyses when commenting on the State of Utah's Clean Water Act report to the EPA, which includes a proposed list of impaired waters. NCPN staff also published an [evaluation of data quality](#) for sites sampled by the network through Water Year 2013. Surface-water data for 2015 were summarized in a data report.

How is the Information Used?

Park managers need information on status

and trends in surface-water quality and quantity to comply with the Clean Water Act and to mitigate historic and future impacts to park water resources that may have ecological and social significance.

Where is Water Quality Monitored?

The NCPN monitors water quality at Arches, Black Canyon of the Gunnison, Bryce Canyon, Canyonlands, Capitol Reef, and Zion national parks; Dinosaur, Hovenweep, and Timpanogos Cave national monuments; and Curecanti National Recreation Area.

How is the Monitoring Done?

Water-quality monitoring sites are selected based on historic impacts, perceived threat, current monitoring by others, or to determine baseline status as a starting point for long-term trend detection. As many as 30 water quality parameters are measured at each site visit. At every site, portable sensors are used to measure core parameters (specific conductivity, flow, temperature, pH, and dissolved oxygen) as basic indicators of water quality.

Field and laboratory measurements are then compared to state water-quality standards to determine if acceptable concentrations are present and if, over time, conditions are changing beyond acceptable normal ranges. NCPN water-quality monitoring is a coordinated effort between the network, individual park units, the U.S. Geological Survey, and the State of Utah.

How Can I Learn More?

Visit <http://go.nps.gov/NCPNWQ> or contact rebecca_weissinger@nps.gov.



Water Quality *By the Numbers*

October 1, 2013–September 30, 2015

Meeting State Water Quality Standards



At **60** locations in and near
10 National Park Service units,
18,034 evaluations detected
600 total exceedances, meaning
96.7% of standards were met.



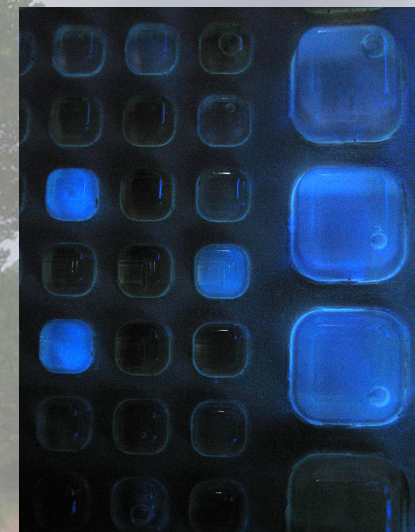
Most Common Exceedances (percent of all samples)

Elevated nutrients	1.60%
Elevated bacteria (E. coli)	0.59%
Elevated trace metals	0.31%
Elevated temperature	0.28%
Elevated pH.....	0.23%
Elevated total dissolved solids	0.21%
Low dissolved oxygen	0.11%

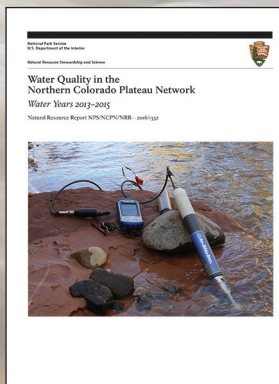
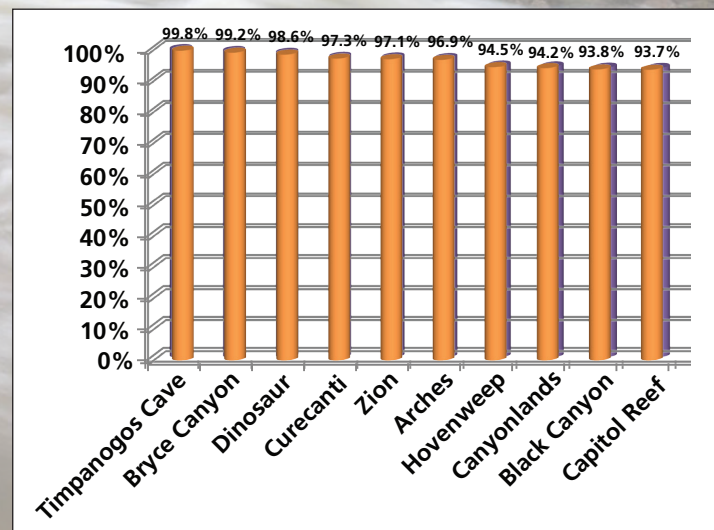
Many exceedances were due to naturally occurring conditions characteristic of the geologic setting.

E. coli Concerns

7 of 10 units monitored had *E. coli* exceedances: Arches, Black Canyon of the Gunnison, Bryce Canyon, Capitol Reef, and Zion NPs, Dinosaur NM, and Curecanti NRA. Two sites in particular are worthy of management concern because of continued exceedances: North Fork of the Virgin River at Zion NP and Red Rock Canyon at Black Canyon of the Gunnison NP.



Standards Met by Park



Get the full report:
<http://go.nps.gov/WQ16>