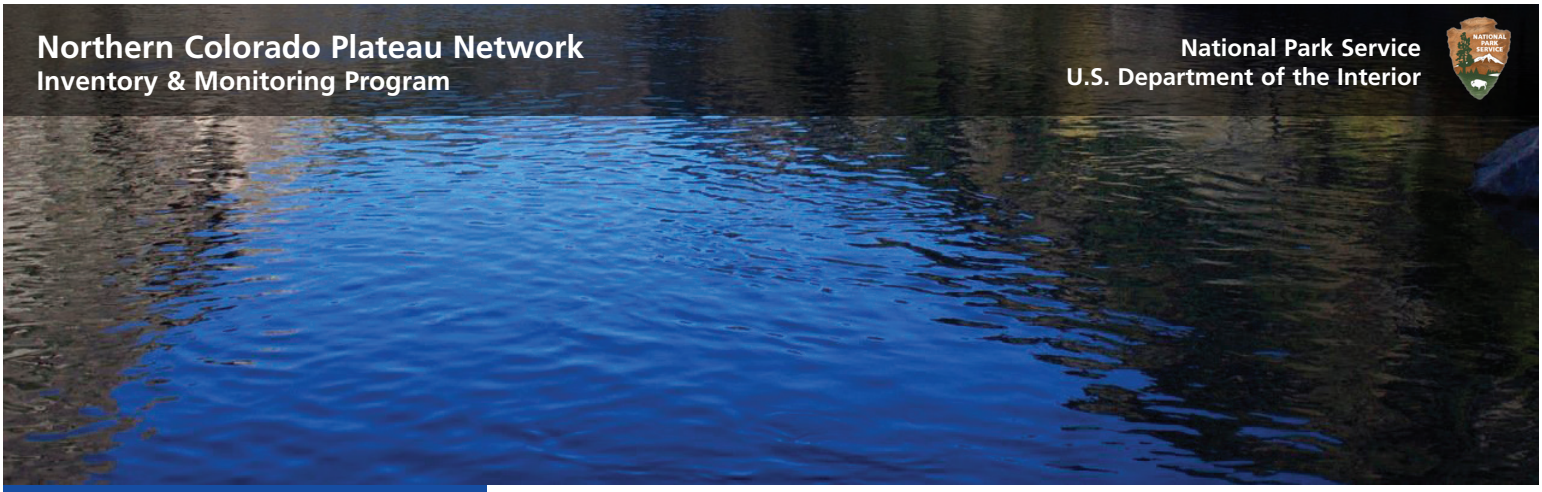


Water Quality Monitoring

in the Northern Colorado Plateau Network

Monitoring water quality at Halls Creek, Capitol Reef National Park. ***Watch video***

Flash flood in Armstrong Canyon, Natural Bridges National Monument.

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 2015. We also devoted a substantial amount of time to assessing the quality of our data, to ensure they accurately represent the quality of our waters. We are actively working with the State of Utah to better document past samples analyzed at the state laboratory.

Sampling for contaminants of emerging concern continued in conjunction with the US Environmental Protection Agency and US Geological Survey. While overall detection rates were low, chronic contamination is occurring at some sites (see page 2).

We also assisted in bringing 14 years of water quality data from Black Canyon of the Gunnison National Park and Curecanti National Recreation Area to the public via the online EPA-STORET database (see http://www3.epa.gov/storet/dbtop.html).

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 all network parks (see below) except for Cedar Breaks, Colorado, Fossil Butte, and Pipe Spring national monuments.

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 (*watch timelapse video*).

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.

Arches NP • Black Canyon of the Gunnison NP • Bryce Canyon NP • Canyonlands NP • Capitol Reef NP • Cedar Breaks NM • Colorado NM • Curecanti NRA
Dinosaur NM • Fossil Butte NM • Golden Spike NHS • Hovenweep NM • Natural Bridges NM • Pipe Spring NM • Timpanogos Cave NM • Zion NP

What's in the Water?

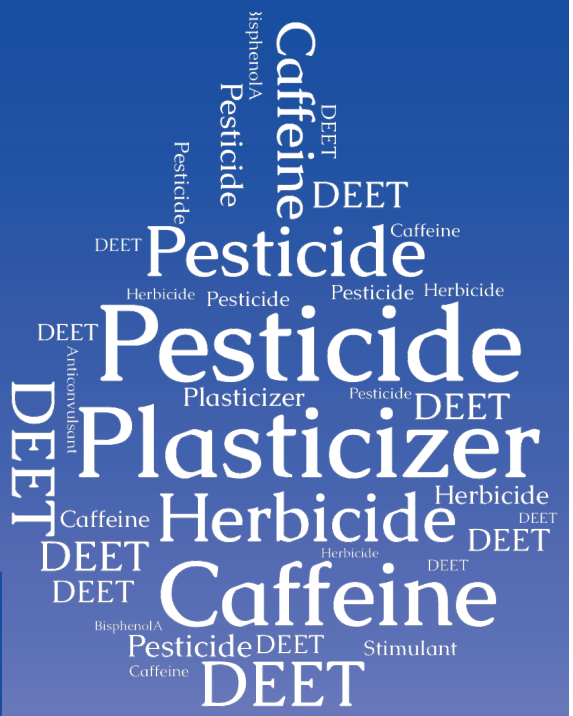
Contaminants of Emerging Concern

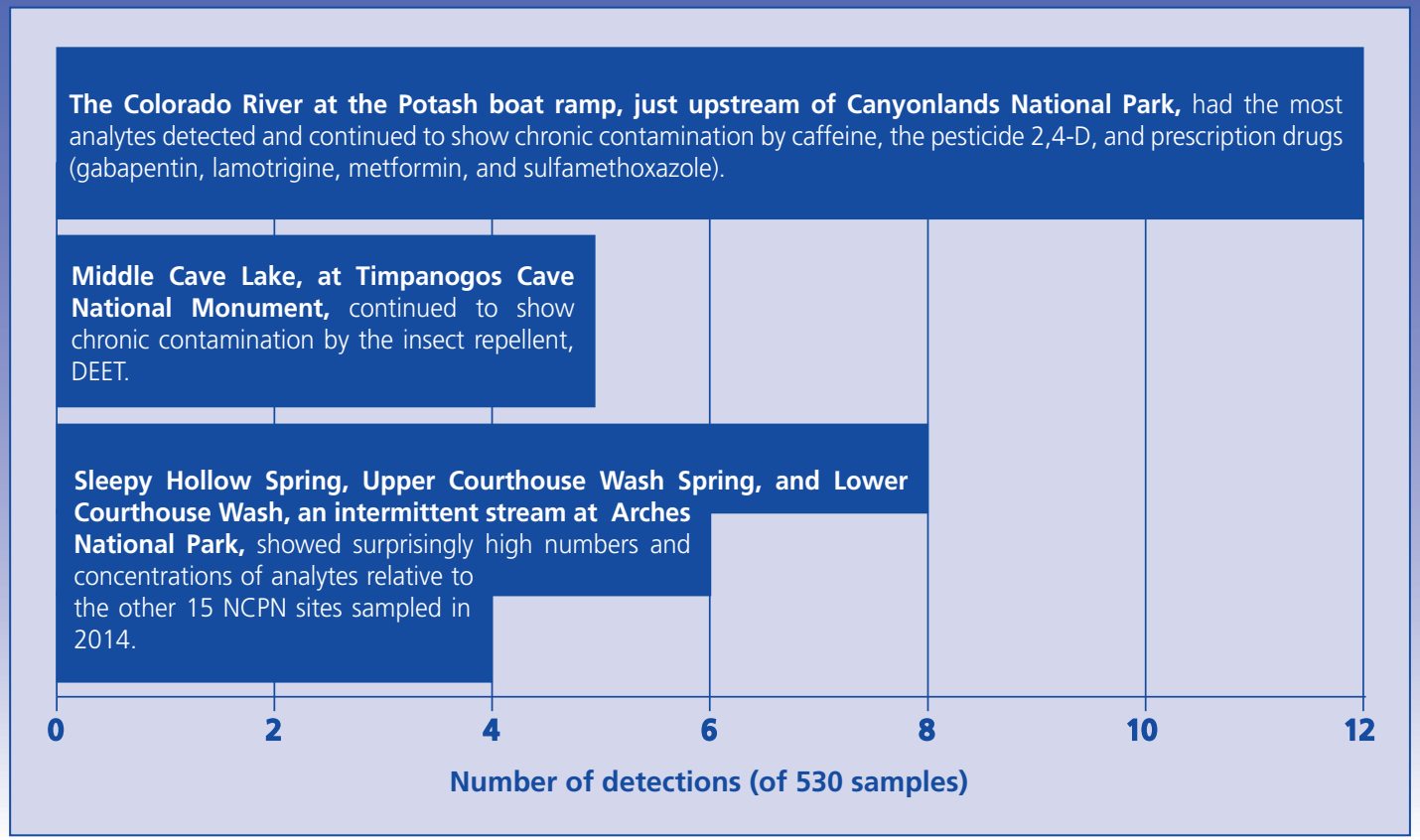
In 2014, we continued our ongoing screening for contaminants of emerging concern (CECs) in conjunction with the Environmental Protection Agency (EPA) Region 8.

Contaminants of emerging concern (CECs) are pollutants that have not traditionally been tested for during water quality sampling and may not be adequately cleansed by current wastewater treatment methods. Examples include pesticides and pesticide degradation products, pharmaceuticals and personal care products, and wastewater indicators.

Surface waters at 16 locations in and near seven national park units of the Northern Colorado Plateau Network were sampled two times in 2014. Overall, detection frequencies and concentrations were low. Detections were more frequent in spring (April and May) samples than in fall (September and October) samples. An *interim report* is available.

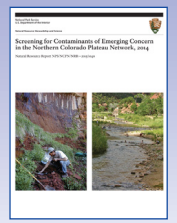
Sampling continued in 2015, with the continuation of surface-water sampling and bed-sediment sampling in coordination with the U.S. Geological Survey (USGS). A final report is expected upon completion of the USGS project in 2017.





The network is testing for CECs at

Arches National Park
Bryce Canyon National Park
Canyonlands National Park
Capitol Reef National Park
Dinosaur National Monument
Timpanogos Cave National Monument
Zion National Park



Download the interim report
http://irmafiles.nps.gov/reference/holding/528427