



Cowpens National Battlefield

Water Quality Summary Fiscal Year 2013

Water quality at Cowpens National Battlefield remains good

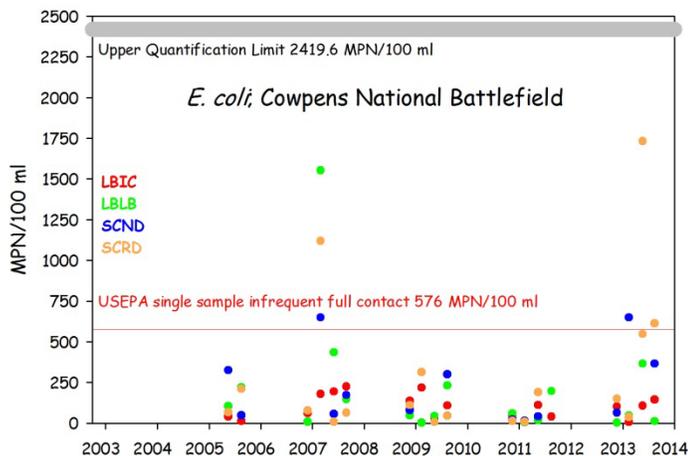


Little Buck Creek, May 21, 2013. Image by Shepard McAninch.

Highlights of Fiscal Year 2013 Monitoring

The Cumberland Piedmont Inventory and Monitoring Network began long-term water quality monitoring at Cowpens National Battlefield (COWP) in fiscal year 2003 (October 2002 through September 2003). Sampling occurs quarterly in alternating years. Water quality monitoring for COWP during fiscal year 2013 saw that park streams recovered from a prolonged drought throughout the Blue Ridge and Piedmont.

The USEPA recommended standard for *Escherichia coli* (*E. coli*) of 576 Most Probable Numbers per 100 ml (MPN/100ml) was exceeded three times, twice at Suck Creek #3 and once at Suck Creek #2. We have recorded similar isolated high bacteria levels since 2002. As the watersheds of the park are fully within the Battlefield, and with exception of a small portion of the Loop Road devoid of development, wildlife is the likely source of bacterial contamination.



E. coli at COWP shows isolated high values, likely wildlife sources.

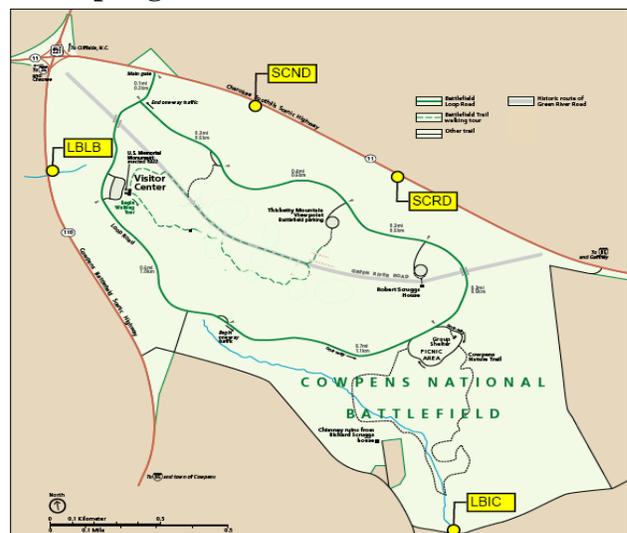
Streams of COWP have low acid neutralizing capacity and naturally low pH. COWP streams typically hover near the lower pH limit of 6.0 Standard Units (SU). During fiscal year 2013 all four sites were below 6.0 SU at least one time (Little Buck Creek was always below the limit). These are not considered true violations of the state standards as they reflect natural conditions.

Water Quality Standards

All COWP waters are considered “South Carolina Outstanding Resource Waters” which prohibit discharge and other pollution sources, while criteria are defined as “South Carolina Fresh Water”, a combination of the highest standards under the Clean Water Act as promulgated by the state. South Carolina currently does not impose a standard for *Escherichia coli* bacteria so we have adapted the USEPA recommendations for “Single Sample Infrequently Used Full Contact Recreation.” Other monitored parameters, ANC and Specific Conductance (SpC), are without state standards or federal guidelines. These parameters are useful in interpreting water quality.

Water Temperature	Not to exceed 32.2°C
Dissolved Oxygen	Not to exceed 4.0 mg/l
pH	Between 6.0 and 8.5 SU
<i>Escherichia coli</i>	Not to exceed 576 MPN/100ml
SpC	No Standard
ANC	No Standard

Sampling Sites



- SCND** Suck Creek #2
- SCRD** Suck Creek #3
- LBIC** Long Branch of Island Creek
- LBLB** Little Buck Creek

Future Monitoring

Water quality sampling is scheduled to resume in fiscal year 2015. Water quality data are available upon request to the Cumberland Piedmont Network or our website:

<http://science.nature.nps.gov/im/units/cupn/publications.cfm>