

Spanning the Gap

Clean Water



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Spanning the Gap
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When Delaware Water Gap National Recreation Area was established, the focus of recreation was on the Delaware River. The park has become increasingly popular and in order to maintain the extensive river recreation that exists today, it is essential that the high water quality of the river be preserved. In fact, under the *Wild and Scenic River Act*, the National Park Service is mandated to protect, and, where possible, *enhance* high water quality.

How does the park staff evaluate the water quality?

The recreation area cooperates in a water quality monitoring program with the Upper Delaware Scenic and Recreational River, another unit of the National Park system, and the Delaware River Basin Commission, an interstate and federal body responsible for water resources management of the Delaware River. The purpose of the monitoring program is to determine the need for water resources management action. In order to get consistent and usable water quality data, the program was designed to monitor as many tributaries as often as possible (biweekly) with a limited number of tests. The cooperative program remains low cost by sharing staff, equipment and data collections.

The Delaware River Basin Commission and the recreation area will concentrate on these tests, which allows them to monitor the river and streams more often. By doing the tests more often, the program can quickly develop the information needed to detect any unusual occurrences.

Evaluation



The tri-state section of the Delaware River Watershed, from river mile 209.5 (Stroudsburg PA) to river mile 330.7 (Hancock NY).

Monitoring and Testing

What tests are done to check water quality?

The monitoring program measures several things: temperature, pH (acidity of the water), dissolved oxygen, two bacteria tests (fecal coliform and fecal streptococci), conductivity and an inventory of the aquatic insects in the stream. These tests give valuable results by themselves and also when used together.

The temperature tells us how much oxygen the water can hold. The temperature together with the dissolved oxygen give us an idea of how much oxygen is being produced by the plant life in the water.

To check for human sewage contamination the bacteria tests will be used. The water also tested for its ability to conduct electricity. A high conductivity measurement can show the presence of heavy metals which are toxic and may be leaching from landfills.

Why test the water quality if we know it is clean?

The excellent water quality of the Delaware River is sometimes threatened by activities outside of the park boundaries. The land surrounding the park includes some of the fastest growing areas in the nation. The sudden surge of development has brought along problems that threaten the high water quality. New housing developments require wastewater treatment facilities. These facilities will discharge the treated wastewater into nearby waterways which will affect the water's quality. The increase of buildings also adds to non-point source pollution; for example, runoff of fertilizers from lawns, and oil and salts from the roads. Also there is an eight mile stretch of river between Delaware Water Gap National Recreation Area and Upper Delaware Wild and Scenic River which is not provided park levels of protection. Activities occurring along this stretch of river will certainly affect the river downstream within the recreation



Stream water monitoring NJ.



A fish survey at Hidden Lake PA.



A fish survey at Watagate Recreation Site NJ.

area.

What can be done to make sure the river stays clean?

The first step has been done. The monitoring program is designed to pick up any unusual activity that may threaten water quality. If something irregular does occur management actions can be taken.

Waters quality standards are also being reviewed. The standards for the tributaries are set very high. However, the standards for the Delaware River are lower than those for the streams and lower than the existing water quality. Higher standards for the Delaware River would help insure the preservation of today's excellent water quality.



A count of aquatic insects at Bushkill Creek PA.

Aquatic insects are excellent water quality indicators. There are certain species that can only live in very clean water and other species that are indicative of polluted waters. The composition of species in the stream or a sudden change in the type of insects found in a stream gives us an idea of the water quality.