



Water Quality Program

Background

The Water Quality Program is located in the Water Operations Branch of the Water Resources Division, Natural Resources Program Center. Water quality activities are broadly categorized into three program areas: 1) national program coordination and management; 2) project proposal development, funding, and management; and 3) technical assistance to parks. Currently, the primary focus of the program has been on managing the Vital Signs Water Quality Monitoring program. Considerable support is also provided for managing the NPS-USGS Water Quality Partnership program and participating on interagency groups like the National Water Quality Monitoring Council. Technical assistance to parks on water quality and contaminants issues remains a high priority. Directly funded project support has diminished because the Division has been unable to financially support the Water Resources Competitive project program in recent years.

The Vital Signs water quality monitoring program, supported by the Natural Resources Challenge, is designed to track and support the attainment of the NPS and Department of the Interior strategic goals to protect pristine water quality and improve impaired water quality by supporting the Clean Water Act protections and provisions for designated unimpaired and impaired waters. NPS offices are integrating the water quality monitoring component of the program with the monitoring of other vital signs in parks. Therefore, water quality monitoring may emphasize the support of protected uses through water quality standards as developed by the states, or emphasize the characterization and determination of trends in water quality conditions due to influences like climate change and urbanization. As of 2004 about 110 parks had at least one waterbody that did not meet one or more water quality standards (See map). Annual funding support for this water quality monitoring in national parks is approximately \$2.6 million.

The NPS-USGS Water Quality Partnership program is a mutual collaboration between both agencies that began in 1998. The goal of the partnership program is to develop information on park water quality to enable NPS to address its most critical water quality management responsibilities. Both agencies view the water quality partnership as a positive example of the progress that can be achieved by working together to solve resource management problems. Annual funding support for the partnership program is approximately \$2.0 million

Program Links (Click the links below for additional information)

[USGS-NPS Water Quality Partnership Program](#)

[NPS Water Quality Data Inventory & Analysis Reports](#)

[NPS Contaminants Encyclopedia](#)

[NPS Water Quality Vital Signs Monitoring Program Technical Guidance](#)

Highlights and Accomplishments

A total of 27 network Vital Signs monitoring plans are completed. Most of these plans address water quality and water resources but save the monitoring details for the monitoring protocols. To date, more than 15-20 water quality protocols are completed, and a like number of other aquatic resource protocols have been developed. Water quality and aquatic protocols are being produced for wadable streams, large rivers, lakes and ponds, seeps and springs,



Deployment and testing of water quality data sondes at Rocky Mountain National Park.

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wetlands and wetland habitats, groundwater, estuaries and marine areas, amphibians, macroinvertebrates, fish, stream flow, nutrients, and toxic contaminants. Over \$5 million is being invested annually for aquatic Vital Signs monitoring in parks (including the \$2.6 million from NRPC-WRD).

Since 1999, more than \$20 million has been allocated for USGS partnership water quality projects in parks. Through 2008, 145 partnership projects have been initiated in 104 national park units, and 122 of these projects have been completed. Five new projects were funded in FY2009 for a total of \$451,300 (\$1,258,800 when complete). Additional information on the program is available on the partnership web site at http://water.usgs.gov/nps_partnership/

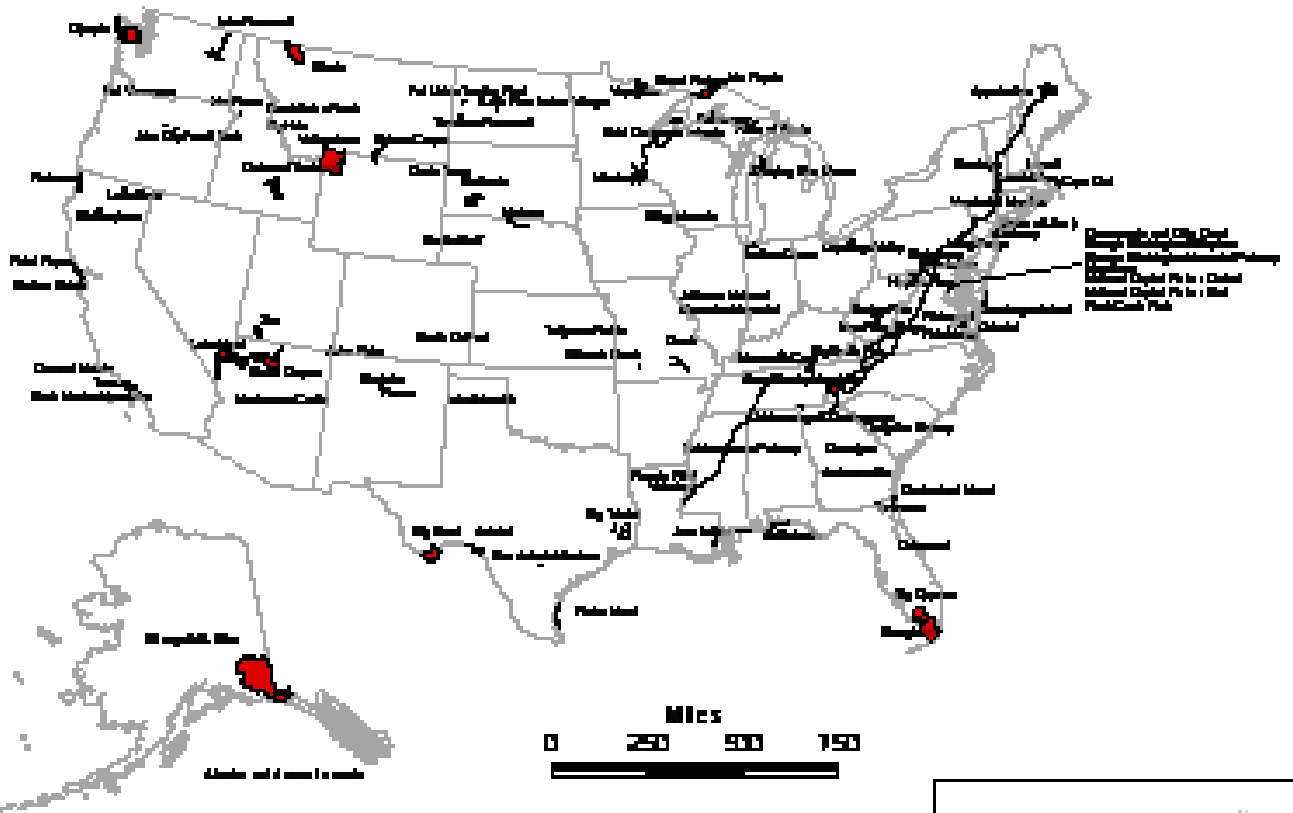
Recent technical assistance provided to parks for ground and surface water quality issues includes: 1) instrument recommendations for hydrologic monitoring at Sylvan Pass to assess impacts of gravel extraction in Yellowstone NP, 2) interpretation of samples collected from oil contaminated soils and water at Padres Island NS and Big Thicket NP, 3) assessment of contaminant inputs and impacts of water withdrawals at Kaloko Honokahau NHP, and 4) analysis and interpretation of mercury concentrations in fish tissue at Lake Mead NRA.

Status and Future

The emphasis for the Vital Signs water quality program will be to complete the remaining network plans and ensure that all aquatic monitoring protocols and standard operating procedures receive thorough peer reviews before they are approved and implemented. The water quality team will assist networks with these reviews and provide guidance on basic monitoring designs and the technical details of monitoring. In addition, networks will need assistance in recruiting and training skilled staff, acquiring appropriate instrumentation and analysis software, and initiating their aquatic monitoring.

The NPS and USGS are exploring ways to expand the partnership concept to address other water resource needs in parks. These discussions culminated in the establishment of a liaison position in 2007 to facilitate increased communication and exchange of technical information between the agencies, and help develop new opportunities for water resources collaborative project work in parks. An example of an area that may be addressed is the need for more stream gages in parks.

Parks with Water Quality Exceedances and Use Impairments



Source: USFS Water Resources Division, 2004