INVESTIGATOR'S ANNUAL REPORT

National Park Service

If you are not using the automated system supporting this report process, please fill out this form and return it to the appropriate park.
All or some of the information provided may be available to the public

Reporting Year	Park
2008	All

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Project Title (maximum 300 characters)
Status and Trends of Impaired, Threatened, and Outstanding National/State Resource Waters in the National Park System (J2380070161, J2380060113, J2380050136)

Park-assigned Study #	Park-assigned Permit #	Permit Start Date	Permit Expiration Date

Study Starting Date: 09/01/2005	Estimated Study Ending Date 9/30/2011

Study Status (*circle one*): Continuing

Activity Type (*circle one*): Research Inventory **Monitoring** Education Other

Subject/Discipline (*circle one*):					
	Ecology	Geo. Info. System (GIS)	Ichthyology	Recreation/ Aesthetics	Volcanology/ Geothermal
	Entomology	Geochemistry	Integrated Pest Mgmt.	Restoration – Cultural	**Water Quality**
	Environmental Monitoring	Geohydrology	Invertebrates	Restoration – Natural	Water Quantity
Agriculture	Erosion/ Sedimentation	Geology – Coastal	Limnology	Sedimentol./ Stratigraphy	Water Rights
Air Quality	Exotic Sp. – Animals	Geology – Fluvial	Mammalogy	Social Science – Economics	Watershed Mgt.
Anthropol./Ethnography	Exotic Sp. – Plants	Geology – General	Mgmt./ Administration	Social Science – Geography	Wetlands
Archeology	Fire	Geology – Structural	Microbiology	Social Science – History	Wildlife Management
Botany	Fisheries Management	Geomorphology	Minerals Management	Social Science – Sociology	Zoology
Cave (Flora/ Fauna)	Flood Mgmt./ History	Geophysics	Oceanography	Social Science – Other	
Cave/ Karst	Forestry	Glaciology	Ornithology	Soil Science	
Climatology	Fungi	Herpetology	Paleontology	Tectonics	Other
Coastal/ Marine Systems	Geo-Hazard (Chemical)	Hydrology (Ground)	Petrology/ Mineralogy	Threat./ Endangrd Animals	
Contaminants/ Haz. Mat.	Geo-Hazard (Physical)	Hydrology (Surface)	Range Management	Threat./ Endangrd Plants	

Objectives (maximum 4000 characters)
Support the design, implementation, and maintenance of a national water-quality database within STORET/WQX that will furnish NPS staff, Colorado State University researchers, and other interested parties with appropriately documented data for assessing water-quality status and trends within the National Park System. These data can also foster a variety of other academic and research applications as well as state Clean Water Act implementation. This database will support the development of summary reports and other products at the national, network/regional, and/or park levels that document park water quality and progress toward attaining the NPS' strategic goals.

Provide ongoing development of NPSTORET, electronic data deliverables specifications, and other structures (WQX) for parks, networks, and the general public to enter their data in a STORET/WQX compatible format that complies with the "Data Elements for Reporting Water Quality Results of Chemical and Microbiological Analytes" developed by the National Water Quality Monitoring Council.

Provide a robust, dynamic, detailed database containing water-quality data for all national park units with significant water resources that is accessible to NPS staff, Colorado State University researchers, and the public.

Provide reports documenting and describing water-quality status and trends at the national, network/regional, and/or park levels.

Findings and Status (maximum 4000 characters)

- Released v.1.70 of NPSTORET which included support for user-defined water quality standards – including those with time and characteristic dependent criteria; integration of Google Earth to visually display the results of water quality standards analyses and descriptive statistics on a map; enhanced map services for locating and/or displaying the locations of water quality monitoring stations; additional reports; more data import options; and many other enhancements.
- Increased the size of the NPS' water quality data archive in STORET to more than 3.45 million results for 1,800 physical, chemical, or biological characteristics from 26,570 monitoring locations in support of 882 different projects conducted in or near 227 units of the National Park System.
- Maintained Version 1.1 of the National Park Service (NPS) STORET Electronic Data Deliverable (NPSEDD) file specifications for water quality projects, stations, and results (non-biological configurations and biological multi-taxa population census configurations) that provide a reporting format for parks, Networks, and other groups to use to satisfy the Natural Resource Challenge-Water Quality STORET reporting requirement.
- Coordinated with EPA and several states on the development of a replacement distributed STORET database that will ultimately take the place of the NPS' servicewide copy of STORET.
- Continued updating the Baseline Water Quality Data Inventory and Analysis ('Horizon') Report procedures created by Horizons and RTI to produce reports

from data contained in the STORET Data Warehouse and USGS National Water Information System.

- Reviewed and edited water quality data spreadsheets created by Data Analysts, parks, networks, and others and then imported the data into the NPS' servicewide copy of STORET using the STORET Import Module.
- Provided technical assistance to parks and Vital Signs Monitoring Networks related to water quality data stored and reports issued by the project.
- Continued effort with GRCA staff to create a copy of the NPSTORET database housing their long-term water quality records.
- Checked and formatted water quality data from areas within and near many national park units in preparation for uploading the data to the NPS service-wide water quality database STORET.
- Corrected all files as inconsistencies or details in the EDD format were revised, and added new Characteristic Names and Units to the files as they were approved by EPA.

Reports Produced (Reference Title, Authors, Name of Publication, Abstract, Volume and Page Numbers, Year Published, Type of Reference, Keywords)
Water quality data uploaded to http://www.epa.gov/storet/

For this study, were one or more specimens collected and removed from the park but not destroyed during analysis? No
If "Yes", where are the specimens currently stored?

Funding provided this reporting year by NPS (enter dollar amount)	Funding provided this reporting year by other sources (enter dollar amount)
$164,600.00	$

List other U.S. Government Agencies supporting this study and funding each provided this reporting year:

Fill out the following ONLY IF the National Park Service supported this project in this reporting year by providing money to a university or college

Full name of college or university	Name of department or program
Colorado State University	Civil and Environmental Engineering
Name of campus, if unique	Annual funding provided by NPS to university or college this reporting year
	$164,600.00