

WQ-WET: A Web-Based Application to Allow Local Water Quality Monitoring Projects to Submit Data for Storage in a STORET Database

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Biographical Sketches of Authors

James M. Porter is the Minnesota Pollution Control Agency's STORET database administrator. Educated as an environmental scientist, his early career responsibilities included acquiring water quality monitoring data from local projects throughout Minnesota and storing them in the legacy STORET system. He has participated in a number of water quality assessment, GIS, and database development projects over the last 12 years.

Hafiz M. Munir is a senior hydrologist with the Minnesota Pollution Control Agency. He received his Ph.D. in 1991 from the University of Minnesota, St. Paul with an emphasis in surface and subsurface hydrology, water resources management, and hydrologic modeling. He worked as a consultant for about ten years. Currently, he provides contract administration and project management for statewide TMDL projects in the State of Minnesota Impaired Water Program. He has authored several technical reports and papers in professional journals.

Louise E. Hotka, monitoring coordinator at the Minnesota Pollution Control Agency, draws on her experience with field operations, lab analysis, legacy STORET, and local project monitoring to help develop the WQ-WET application. She came to state service 17 years ago from the USGS Water Resources Division Iowa District.

Jennifer Oknich, monitoring data coordinator at the Minnesota Pollution Control Agency, graduated from the University of Minnesota with a Bachelor of Science in Natural Resources and Environmental Studies, with a hydrology emphasis. Her responsibilities include acquiring ambient monitoring data from local projects throughout Minnesota and preparing them for storage in STORET. She will be the primary user and point of contact for the WQ-WET application. Since 2000, she has worked in a wide variety of environmental positions.

Akira Matoba is a senior programmer at the Minneapolis, Minnesota office of URS, Inc. For the past year, he has worked very closely with Minnesota Pollution Control Agency staff in their task of collecting and converting water quality data for storage in STORET. He has authored numerous programs to expedite the process, including development of the web server for automated data collection, validation, and conversion via the web.

Abstract

The Minnesota Pollution Control Agency's STORET database serves as a clearinghouse for ambient lake and stream water quality monitoring data collected by local monitoring projects throughout the state. Collecting the data has historically been labor intensive despite efforts to standardize data formats. To improve efficiency and accuracy, the Minnesota Pollution Control Agency developed a web-based application to allow monitoring projects to submit data as a spreadsheet and ultimately produce a STORET Interface Module (SIM) import file.

The Water Quality Web Entry Tool (WQ-WET) application will serve as a central access point for data providers. Each user will have an account referencing one or more projects. A user will be able to look up allowable STORET values or request new values while preparing result files. Upon receiving an uploaded result file, WQ-WET will validate the file and facilitate user aliasing of unrecognized field names and result values. Once the user has correctly configured the result file and aliases, WQ-WET can load the data and produce a SIM import file. Data imported to STORET are made available a short time later on the Minnesota Pollution Control Agency's separate Environmental Data Access (EDA) web site, providing quick turnaround to data providers. For security reasons, neither WQ-WET nor any user has direct access to the STORET database. The allowable value tables are rewritten nightly in a separate database. Minnesota Pollution Control Agency staff will establish new values and load SIM import files independently from the WQ-WET application.