The AL-MS-KY Multi-State Configurable System (MSCS) for State Water Quality Data: Kentucky WADE-ing in Deeper with a Little Help from Our Friends

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Introduction

With greater emphasis on data-driven decision making and a desire to better integrate monitoring data from different programs, Kentucky Division of Water (KYDOW) staff identified a critical need for a more comprehensive water quality data management system. The basic requirements identified were as follows:

- secure and sound data storage for all KYDOW surface and ambient groundwater monitoring data in one place
- support for day to day project tasks, documentation and tracking of QA activities
- direct import of LIMS data (lab results) from KYDEP lab
- efficient upload of monitoring data to STORET through WQX
- support for managing and sharing monitoring data amongst other agencies within the state
- tools to assist with 305(b) assessments and causal analysis

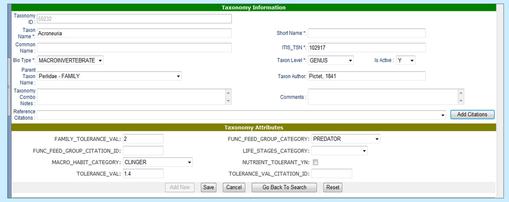
KYDOW is working toward meeting these needs in a cost-effective way through cooperative efforts with Alabama DEM and Mississippi DEQ to share a common base system, originally developed by ADEM. The system has been modified by each state to meet unique needs and each state has added additional functionality that other states can now adopt. Kentucky's modifications have focused on enhancing and expanding biological community data functionality, adding usability features, and adding remote login capability for partner agencies with a mutual interest in biological community data: KY Department of Fish and Wildlife Resources, KY State Nature Preserves Commission, and US Forest Service Daniel Boone National Forest. The Kentucky Water Quality Data for Environmental Assessments, K-WADE, will be phased into monitoring programs over the next year. KDOW expects to be flowing most monitoring data to WQX/STORET by late 2014 and biological data in 2015.

Screenshots on the next panel show the main biology module features in K-WADE. Please visit poster #62 and #69 which describe Alabama and Mississippi systems.

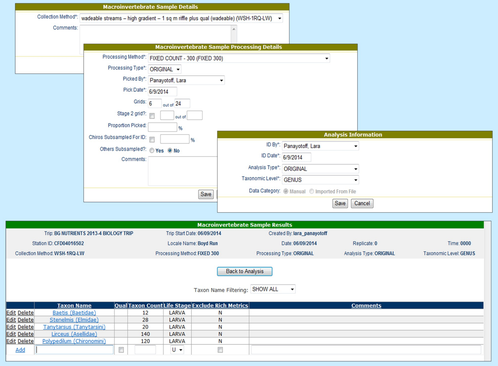
K-WADE Project Timeline
Sept 2008 – Alabama demos "ALAWADR" at Southeastern Water Pollution Biologists annual meeting and offers to share the application
early 2009 – Mississippi decides to use ALAWADR as the basis of their "enSPIRE" and begins development
Jan 2010 – KDOW initiates project using EPA 106 supplemental grant for EDAS improvement
Oct 2010 – first "gap session" with contractor to identify desired enhancements
Dec 2010 – June 2013 – 8 rounds of contractor work and testing using various funding sources
Oct 2013 – first in-person meeting of the MSCS group (AL-MS-KY) to discuss future enhancements
Present – final fixes to system, initial data migration, configuring reports; phased implementation 2014-5.

K-WADE screenshots

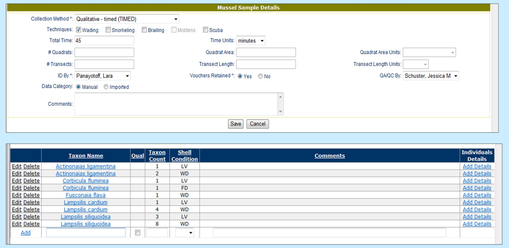
1. Taxonomy reference table maintenance screens hold pertinent information, including Integrated Taxonomic Information System serial numbers. Traits and associated pick lists are expandable so that new traits can be added as needed.



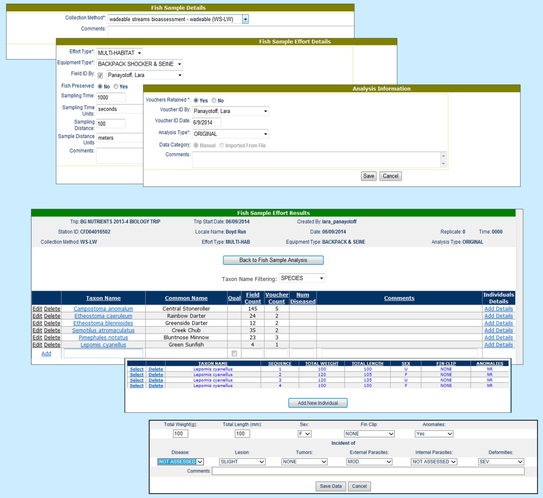
2. Macroinvertebrates module – modified from Alabama system to match KY procedures.



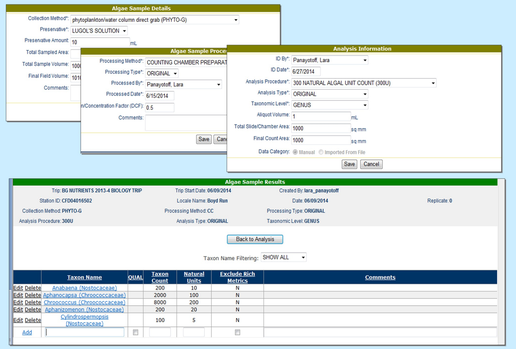
3. Mussel module accommodates multiple methods and different shell conditions



4. Fish sample data are organized by effort. Details for individual specimens can be recorded: length, weight, sex, and severity of anomalies.



5. Algae module accommodates qualitative and quantitative, benthic and planktonic samples.



6. All biology types include ability to import taxa counts from csv.

Kentucky Department for Environmental Protection