

Combining diverse data sets and producing regional or watershed-level databases presents unique data management challenges. ICPRB plays an active role in managing the Chesapeake region's water quality and biological monitoring databases by supporting two data managers at the Chesapeake Bay Program (CBP) Data Center.

Water Quality Databases

There are two databases on the [CBP Data Hub](#) at the Bay Resource Library specifically devoted to water quality monitoring data: one for data collected by CBP partners since 1984 and one for data collected between 1949 and 1982. These databases include field and laboratory data collected by agencies, universities and organizations all over the watershed region. Some available parameters are: pH, water temperature, Secchi depth (water clarity), and concentrations of nitrogen, phosphorus, solids, and chlorophyll a. Agencies partnered with CBP have data deliverables that they regularly submit to the CBP Data Center. Using a CBP upload and quality assurance tool, each agency checks their data submissions for overlooked errors and out-of-range values. The data are then added to the large databases maintained by the CBP Data Center and made available on-line at the [CBP Data Hub](#).

The quality assurance tool is integral to the process of adding new data to the Data Center databases. It performs a number of quality control steps, including historical range checks that survey the data to ensure bad data points are not imported or accessed by the public viewing these data. The water quality data manager, ICPRB staff [Tami Huber](#), further reviews all data submitted via the quality assurance tool and either approves or rejects the data set based on the returned checks. She works with each agency to ensure the data are corrected. Upon final submittal and review, the data manager imports the data into CIMS for public access. These steps safeguard the databases in CIMS and provide the public with the highest quality monitoring data available.

Biological (Living Resources) Databases

Data collected in tidal waters as part of the CBP living resources monitoring programs are accessible via the [CBP Data Hub](#). The data are divided into databases for Plankton (phytoplankton and zooplankton taxonomic identifications, counts, and biomass estimates; phytoplankton primary production rates; plankton indicators), Fluorescence (chlorophyll a surface transects and vertical profiles), Benthic (taxonomic identifications and counts; biomass estimates; sediment images and analysis; bottom layer water quality), and Submerged Aquatic Vegetation, or SAV (areal coverage, taxonomic identification and relative densities). The Benthic and Plankton databases also provide a suite of indicators derived from the monitoring

Chesapeake Bay Program (CBP) Data Management

Written by Administrator - Last Updated Saturday, 14 June 2008 22:37

data. The Data Hub has links to data collected for other monitoring programs. Additional databases are maintained off-line at the CBP Data Center. They contain Chesapeake Bay specific data from other agencies that are frequently used by CBP modelers and data analysts.

The living resources data manager/analyst is ICPRB staff [Jacqueline Johnson](#) . Prior to loading submitted data into the CBP databases, she checks the data for data entry errors, taxonomic inconsistencies, and other problems, and works with the data collectors to resolved the problems. She documents how samples were collected and analyzed, writes computer programs that generate the biological indicators, and helps others design biological databases that are compatible with the CBP databases.

Jackie also coordinates and performs data analyses for the CBP Living Resources Analysis Workgroup (LivRAW). She has recently done analyses to support the development of habitat suitability models for key fish species, zooplankton and phytoplankton indexes of biotic integrity, a Chesapeake Bay chlorophyll criteria, and a CBP bay-wide restoration targeting plan.