



We are continuing to develop AQUATOX and have a new beta executable available on the WarrenPinnacle.com website. This version is different from EPA Release 3 in the following ways:

Build 46 (9-30-2011)

- Addition of Sediment Diagenesis “steady-state” model to increase model speed.
- Modifications to PFOS model to be more general
 - Editable K2s for Animals.
 - Improved gill-uptake for invertebrates.
- Modification of denitrification code in goal of simplifying calibration and alignment with other models.
- Updated HSPF WDM file linkage to be more general (doesn't require use of WinHSPF).
- Enabled importation of equilibrium CO2 concentrations to enable linkage to CO2SYS and similar models.
- Minor change to reaeration code to improve high-oxygen simulations.
- New BOD to organic matter conversion relying on percent refractory detritus input.
- Fixed a problem in which underlying data loaded from the database would then be lost if "edit-underlying-data" was then selected.
- Clarified units of K_{Sed} in the Remineralization parameter screen.
- Improved study “notes” interface dramatically. Notes may now be an unlimited number of characters.
- Addition of output variables to clarify whether photosynthesis is sub-optimal due to high-light or low-light conditions.
- Clarified and improved TSI output including capability to average results seasonally.
- Addition of fishing pressure units conversion.
- *Users Manual* and *Technical Documentation* updates reflecting the above.

Also included from previous builds

- Software Installer is 64-bit compatible
- Minor interface glitch fixed in which adding salinity to multi-segment runs was inadvertently disabled
- Minor change to calculation in light limitation due to canopy effects. (*AQUATOX now assumes that 2% of incident radiation penetrates the canopy so a site that has 100% canopy cover still receives 2% light transmission.*) This only affects sites in which canopy cover is entered as a constant value or time-series.

3-19-2010 (Build 40)

- Updated ICE (toxicity regressions) based on new EPA models released in February 2010 and improved AQUATOX ICE interface.
- Added an "output to CSV" option for uncertainty runs so that complete results for every iteration may be examined. Also allowed for non-random sampling for statistical sensitivity analyses.
- For sensitivity analysis, implemented a "reverse tornado" diagram (a.k.a. "effects diagram") that shows the effects of each parameter change on the overall simulation.

- Fixed the InstallAware installer so that it is now properly registering file-types. (APS and ALS file-types were not showing the proper icon nor was double-clicking on these files opening them in AQUATOX.)
- Added an option in the setup screen to trigger nitrogen fixation based on the N to P ratio.
- Added new output "P Diagenesis flux in kg since start of simulation" or "P Diag. Flux (cum.) (kg)."

3-31-2010 (Build 41)

- AQUATOX Databases search functions dramatically improved.
- AQUATOX Databases "Grid Mode" may be exported to Excel.
- Scientific Name added to Animal and Plant databases.
- Updated Context Sensitive Help to guide user through new capabilities.

4-15-2010 (Build 42)

- Fixed Problem in Chemical "Grid Mode" in which some columns were mislabeled (aerobic and anaerobic degradation).

(Build 43 was a special "short-course" build and not distributed here)

11-23-2010 (Build 44)

- Limited oxygen concentration to "twice saturation" in water under ice.
- Added capability to model fish stocking.
- Model will output K1, K2, and BCF.
- Model prevents hibernation and standby when a simulation is actively running.
- Threshold levels in graphs are saved.
- BAFs output in wet-weight and lipid-normalized units.

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- Grid mode within a study. In other words, all animal, plant, and chemical parameters in a study can be examined, edited, and exported to Excel simultaneously
- Time varying evaporation option in the Site-Screen, with linkage from the water volume screen
- Enabled hourly loadings for the following variables: All nutrients, CO2, Oxygen, Inorganic suspended sediments (sand/silt/clay), TSS, Light, Organic Matter
- Optional alternative K2 estimation for animals based on Barber (2003)
- Accounting of net boundary condition inputs vs. losses for each segment
- Refinements to Trophic State Index output
- Minor bullet-proofing of common parameterization errors
- Fixed bug writing Steinhaus indices in batch mode
- Fixed problem in linked mode in which biotic seed loadings could be overcounted
- Added "Predator" and "Prey" labels to trophic matrix entry screen for clarification