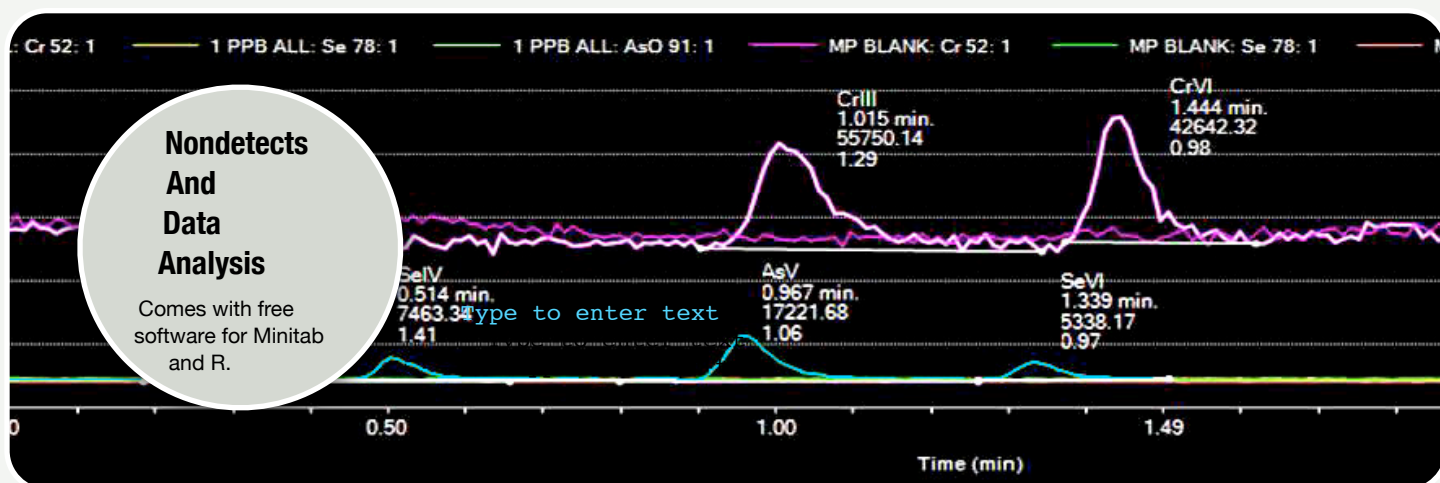


= Practical Stats

www.practicalstats.com



Nondetects And Data Analysis

Statistical methods for data with nondetects. Correctly handle data below detection limits without fabrication of data values (such as one-half the detection limit).

For most environmental professionals, the way to deal with "nondetects" is less than obvious. Values below detection or quantitation limits result from measuring trace amounts of a variety of organic and inorganic chemicals. Inadequate methods such as substitution of one-half the detection limit, Cohen's approximate MLE, or Aitchison's DLOG methods are still being used and recommended even though they produce inaccurate results. This course presents up-to-date (maximum likelihood and survival analysis) methods for computing summary statistics, performing hypothesis tests, regression modeling and trend analysis for data with one or more detection limits. Example problems are worked in class, so students can confidently take these methods back to their office.

Routines in commercial software as well as the free R statistical system are highlighted. A full course outline is available on the Practical Stats website. This course assumes a knowledge of basic statistics, including some familiarity with t-tests, linear regression, and simple nonparametric tests like the rank-sum test.

INSTRUCTOR

Dr. Dennis Helsel has 30 years experience in applying statistical methods to environmental sciences. He is author of the course textbook *Nondetects And Data Analysis* (Wiley, 2005). He was awarded the Distinguished Achievement Award by the Section on Statistics and Environment of the American Statistical Association in 2003.



Free Information

Copies of eleven articles on handling of nondetects for low-level contaminant data are available upon request through our website.