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**LTER DataBits**  
Information Management Newsletter of  
The Long Term Ecological Research Network  
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◆ **News Bits**

**Database Design Tools**

- Karen S. Baker, Palmer LTER and James Brunt, LTER Network Office

Database Design Tools are used to help create data models and maintain database applications in conjunction with most of the popular relational database systems (ie Oracle, Sybase, SQLserver, mSQL, mySQL). Data modeling applications permit logical and physical database design and construction making it possible to visualize structure and key elements. Features include bi-directional synchronization of logical and physical designs, reverse-engineering of databases, and HTML-based reporting capabilities. The main drawback today remains the high cost of several thousand dollars.

ERWin ([http://www.platinum.com/products/appdev/erwin\\_ps.htm](http://www.platinum.com/products/appdev/erwin_ps.htm)) is used at the Andrews LTER site to forward and reverse engineer their data model into/from both SQLServer and Foxpro. Much of the SQL code creating tables and triggers is handled by ERwin.

ER/Studio ([http://www.gbsweb.com/Database\\_Tools/ER\\_Studio/er\\_studio.html](http://www.gbsweb.com/Database_Tools/ER_Studio/er_studio.html)) is used at the LTER Network Office both to design a database as well as to output a structure design diagram of existing databases that can be presented on the web for group viewing.

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**Electronic Multi-Authoring**

- Karen S. Baker, Palmer LTER

How can a co-author edit a multi-authored paper electronically and still provide the explicit visual context of a marked up manuscript for each change or addition? LTER Data Managers have begun using marked up electronic text to pass suggested modifications to a primary posting author for integration into the final document. Text modification can be made locally to a downloaded document using readily available software.

A manuscript may be posted at a web location (URL) as an HTML, RTF, or Word document. The document may be downloaded (using FTP, Netscape or Internet Explorer) and stored locally. The downloaded file can be viewed with an editor such as Microsoft

Word. The 'track changes' in this editor means that the deleted text can appear as colored (ie blue) with strike outs while inserted text can appear as an alternate color (ie red). These edits can be saved as an HTML, RTF or Word file and posted to a local URL or attached to an email. The original author is able to download or receive the marked up manuscript with edits visible in the Microsoft Word editor. Note that to be visible directly with a browser, highlighting requires html commands font color=#FF0000,#FF3333 substituted for editor commands #7B0516,#7D031E,#7D0322.