

# **PITFALLS, POTHoles, AND RE-INVENTED WHEELS ON THE ROAD TO SPRINGS INFORMATION MANAGEMENT**

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Springs ecosystems, among the most biologically diverse of habitats, are poorly understood and afforded little protection. Increased recognition of these fragile resources has led to growing interest among agencies, NGOs, and independent researchers who have begun to develop protocols, and collect and compile data. Database management systems (DBMS) have primarily included Microsoft Excel and Access, and GIS. Over several years, the Springs Stewardship Institute has imported many of these datasets into Springs Online, a collaborative online database in an effort to serve data that cross political and managing agency boundaries. This process is challenging due to the wide variety of data collection methods, ranging from standardized, published protocols to non-standardized or poorly considered methods. Some data have been collected on field sheets, but not entered. When entered at all, researchers primarily have used the readily-available Excel. However, spreadsheets allow conflicting or ambiguous entries, inconsistent spelling, and incompatible data (e.g., differing units). The result does not provide data that can be analyzed (e.g., at what elevation range does a particular species occur?). Some data have been entered into a GIS, which is a much more time consuming way to enter and requires a higher skillset. Further, without proper design and forethought, data analysis may not be possible (e.g., entering numeric flow values into a text field). One geodatabase concatenated species lists into one text field with mis-spellings and inconsistent entries (mixing symbols, common names, and scientific names). Some relational DBMS, (e.g., Microsoft Access) have not employed best practices, and do not provide easy, consistent data entry or robust reporting capability. Many agencies, NGOs, and independent researchers want to develop their own protocols and/or design separate databases rather than use Springs Online, a platform that is already available. This

presentation will address the most common challenges that SSI has encountered with managing datasets, and offers solutions to assure that investment in field data collection results in accurate and meaningful information.