The Problem

The ecological data management system had to include certain features in order to meet the expectations of data users. For example:

- Inherent mapping module for spatial analysis, and secure data access.
- Appropriate visualization of time series analysis of the data.
- Accommodation for spatial and temporal analysis of the data.
- Ability to store metadata.
- Appropriate user security.
- Inherent statistical analysis capabilities.
- Complete data management solution including data visualization and data aggregation.
- Analysis needs and challenges.

The Program

The South River Program includes a comprehensive, multi-trophic data collection program. It is a data-driven decision making process that provides a framework for data collection and analysis. The collected data is used to support the objectives of the program, which include:

- To determine appropriate data access for users?
- Is there sufficient support and training for the software?
- Do query forms allow for extensive filtering and data aggregation options to precisely meet a data inquiry?
- Are there multiple report formats available to users?
- Is there sufficient support and training for the software?
- Is there built in user security that allows for database administrator tasks to administer appropriate data access for users?

Sampling and Analytical Data

- NSW chemical concentrations
- Quality control information
- Biological sample metadata (raw data)
- Biological sample growth metrics
- Species diversity
- Land use/land cover

INTRODUCTION

DEVELOPMENT NEEDS AND CHALLENGES

Management Needs

- Extensible biological data model
- Native interface to automate spatial, temporal, and statistical data
- Ability to view metadata
- Standardized reference lists
- Supported using native GIS software
- Appropriate user security

Analysis Needs

- Real-time data visualization
- Integrated mapping module for spatial data
- Inherent statistical analysis capabilities
- Complete data management solution including data visualization and data aggregation
- Analysis needs and challenges.

Visualization Needs

- Inherent mapping module for spatial data
- Inherent statistical analysis capabilities
- Complete data management solution including data visualization and data aggregation
- Analysis needs and challenges.

SOLUTIONS

Management Solution

- Complete data management solution including data visualization and data aggregation
- Extensible biological data model
- Extensible reference lists including recurrent cross-referencing
- Integrated mapping module for spatial data
- Inherent statistical analysis capabilities
- Complete data management solution including data visualization and data aggregation
- Analysis needs and challenges.

Visualisation Solution

- Inherent mapping module for spatial data
- Inherent statistical analysis capabilities
- Complete data management solution including data visualization and data aggregation
- Analysis needs and challenges.

An Existing Solution

The data management solution for the South River Program has been developed by Locus Technologies using Microsoft® Access to a Cloud based 3rd Party based solution using Locus Technologies Complete Data Management System (CDMS). The current solution represents a complete data management system containing built in data management features and provides a seamless experience for the ‘average’ data user.

DEVELOPMENT NEEDS AND CHALLENGES

Analysis Needs

- Inherent statistical analysis capabilities
- Complete data management solution including data visualization and data aggregation
- Analysis needs and challenges.

Visualization Needs

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Management Solution

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