



## Development of a Management System and Geographic Interface for Biological Resource Data

Project # 10-111

### Background:

Many military installations have extensive survey data on diverse aspects of the natural environment and its biological resources. These data are often the result of ad hoc investigations for specific projects or part of ongoing monitoring efforts. Because such projects are often implemented by consultants, the data generated by them are rarely integrated into a single system that is easy for managers to access. Even then, raw survey data on species occurrence may not be included and the results of surveys languish in reports and are not able to inform ongoing management decisions pertaining to those resources. Furthermore, even when geographic data are centrally archived, there is no easy way for non-specialist managers to access them in a timely manner. This project developed an online interface and data management scheme that could address this systemic problem.

### Objective:

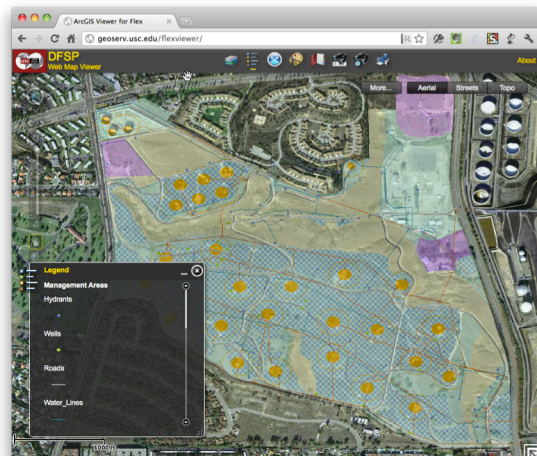
The objective of this Legacy-funded project was to develop an online tool to view and archive biological resource data that would be accessible to non-specialist users and be consistent with current technology specifications for the Department of the Defense and its contractors at a pilot location, the Defense Fuel Support Point in San Pedro, California. Further desired specifications were 1) that the data would be searchable using both standard metadata and biological metadata developed for data layers, 2) that the interface allow end users to download the data for further use, and 3) that the software solution be deployable on any computer in use at the pilot location.

### Summary of Approach:

Following consultation with contractors at the installation and in the Department of Navy (the property owner), we decided to develop an in-browser viewer with the data managed in ArcGIS Server, rather than using software that would require installation. We then investigated the various options for this viewer and developed it. Concomitantly all of the available biological resource data were obtained from consultants who worked on the installation and used to develop layers that could be searched by users. To keep the interface simple, we programmed the most likely desired layers into three default maps for the use of end users. Finally, we developed a download tool for the data.

### Benefit:

The benefit of the dataviewer is twofold. First it has started a central archive of geographic data for an installation that has a small staff and provides a template for doing so at other installations. Second, it has facilitated planning for the installation, allowing key decisionmakers to quickly access biological data that might constrain plans for maintenance and improvement of infrastructure. This was done in a real-time setting during a meeting where various scenarios for compliance with fenceline safety regulations were presented and the dataviewer was used to rapidly assess where clearance requirements might conflict with sensitive natural resources. By speeding the decisionmaking process, the tool contributes to readiness and achieving the installation's mission.



### Accomplishments:

As part of this project we compiled the biological resource data for the Defense Fuel Support Point, added metadata to these layers, scoped end-user requirements for a viewer, developed a viewer and populated it with three pre-defined maps of management relevance, developed metadata search tools for XML and EML metadata, and presented the tool to installation tool in a real-time demonstration that aided in planning for maintenance to avoid high biological resource areas.

### Contact Information:

Travis Longcore, Ph.D.  
Associate Professor (Research)  
University of Southern California Spatial Sciences Institute  
3616 Trousdale Parkway, AHF B55  
1 (213) 821-1310  
1 (213) 740-9687  
longcore@usc.edu

