

**2003 NSDI Cooperative Agreements Program**  
**Category 3: Metadata Outreach**  
**Final Report**  
**University of Idaho Library**  
**December 2004**  
**(Project Account 03HQAG0143)**

Our 2003 metadata outreach activities were very successful. Upon award of the grant, we established a time to meet with each of our grant participants. During that process, we created a questionnaire in order to determine the hardware platform, software environments, and general metadata related knowledge of each group. The results of the questionnaire gave us a direction to proceed. We determined that the participants had a working knowledge of the FGDC metadata standard, were operating on the Microsoft Windows platform and using ArcGIS to create & maintain metadata. While participants were aware of ArcCatalog's functionality for creating and editing metadata, few had taken advantage of that functionality. There was a strong consensus among all participants that metadata creation and maintenance in ArcCatalog was too cumbersome. Specifically, participants could not justify spending valuable time making identical edits to multiple objects. Participants overwhelmingly requested a tool that allowed them to populate and maintain records on multiple data sets more easily. Redundant tasks needed to be streamlined.

Answering this request required developing a tool in ArcCatalog using Visual Basic and ArcObjects. Participants requested that the tool function on numerous objects allowing a template to be selected and applied, allowing synchronization and thumbnail creation, and allowing an element to be selected and edited or deleted. Lastly, the tool had to allow users to find and replace text string, such as phone numbers or email addresses, in multiple objects.

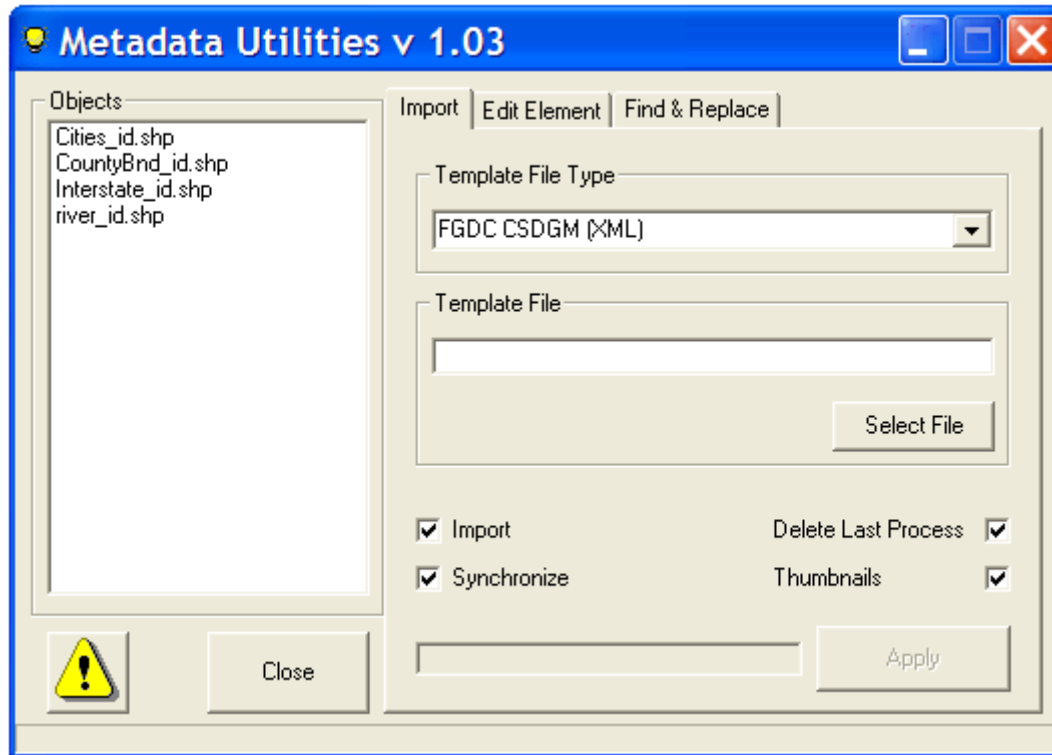
With the functionally outlined, we began the task of programming the tool. A computer science student at the University of Idaho, under the direction of the Principal Investigator, and the supervision of the GIS Specialist, was hired and assigned the task of doing the programming. Development of the tool was a valuable learning experience and a window into the power of programming within the ArcCatalog environment.

The programming resulted in a tool that broke the functionality into three tabs – the *Import Tab*, the *Edit Element Tab*, and the *Find and Replace Tab*. Specific aspect of each tab are discussed below.

*Import Tab:*

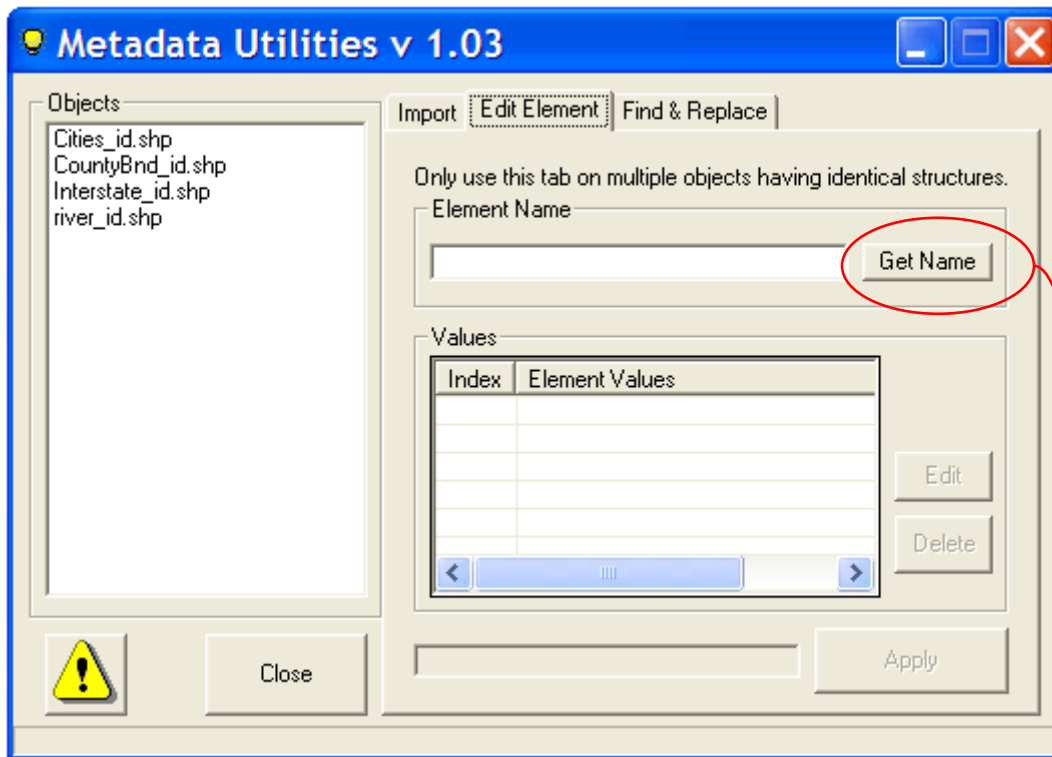
The 'Import' tab works for all ESRI metadata-supported objects and is intended for metadata creation. Any combination of checkboxes on the 'Import' tab may be selected. Checking the 'Import' checkbox allows a template containing redundant information to be imported. The information contained in the template is used to populate the elements for each object. Checking the 'Synchronize' check box will extract information (bounding coordinates, spatial reference information, etc.) from the object. Checking the 'Thumbnail' checkbox will cause a thumbnail

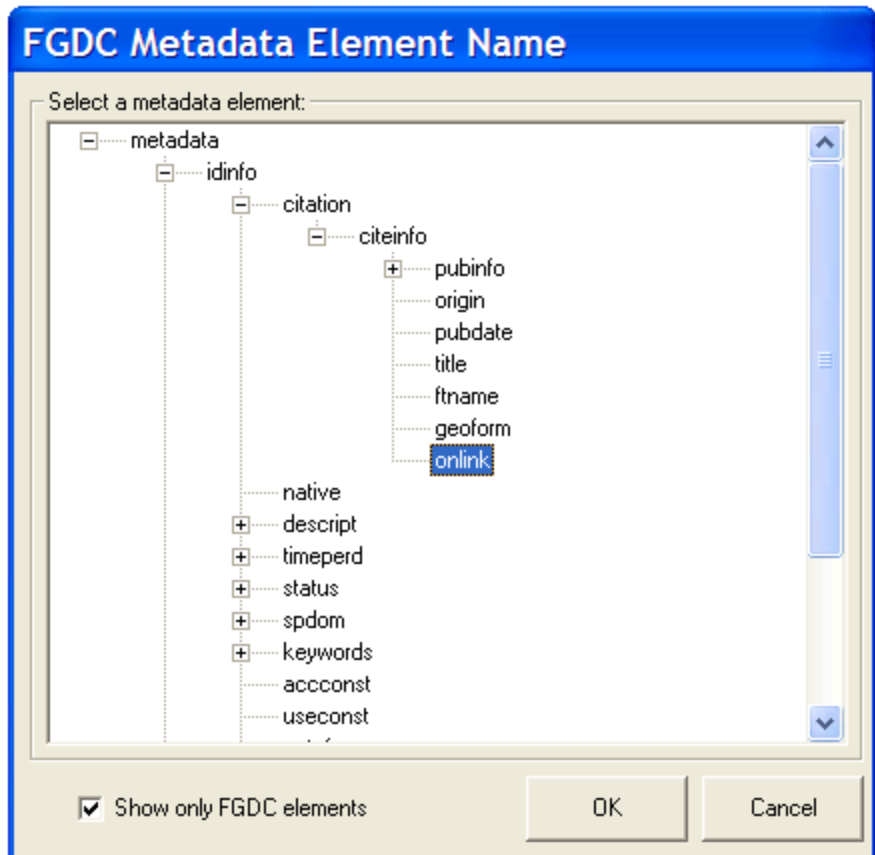
image to be created and stored in the XML. Checking the 'Delete Last Process' checkbox will cause the last process in the metadata record to be deleted. This is useful when combined with the 'Import' checkbox to remove the process step that is created when a template is imported.



### Edit Element Tab

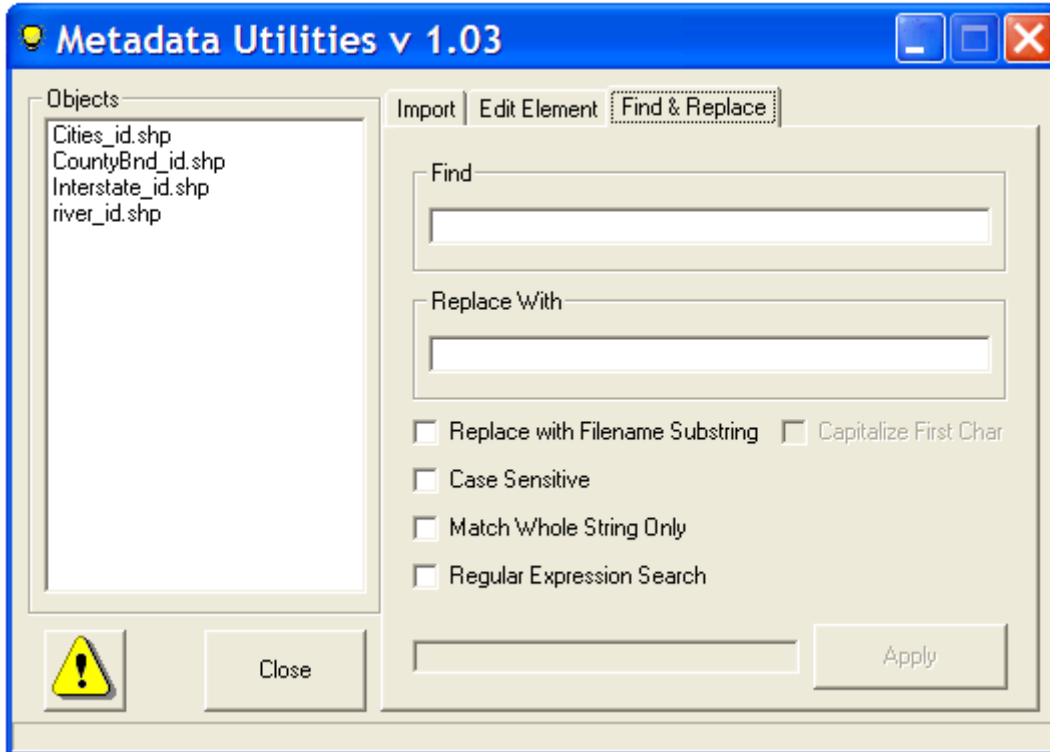
The 'Edit Element' tab is intended to allow users to edit the contents of a specific FGDC element. The 'Get Name' button will produce a list of all FGDC elements in the metadata. The element tree is built from the first object selected in the Contents window. Navigate through the hierarchy to select an element. The element may then be edited or deleted using the respective buttons. The 'Apply' button will execute the choice. Elements in all objects selected are assumed to be identical & will be replaced based on that assumption. Do not select multiple objects that do not have an identical structure -- unwanted changes may be made to your metadata. The tool will not function on a metadata element if there are multiple instances of that element having identical content within the file.





Find and Replace Tab:

The 'Find and Replace' tab is intended to allow users to 'Find' a search string and 'Replace With' another search string. Checkbox options are included for doing a replacement using part of the file name, case sensitive searches, whole strings searches, and regular expressions searches.



With the development of the tool complete, visits to each participant's place of work were scheduled throughout the summer months. We visited with Boise State University, Boundary County, Bonner County, Clearwater County, Nez Perce County, Shoshone County, the Kootenai Tribe, the Idaho Department of Environmental Quality, and the Idaho State Tax Commission. For each entity, the first step involved creation of a template that contained redundant information that could be used to populate the metadata for each object. Additionally, the objects that the participants wished to create metadata records for were identified. With a template complete and the objects identified, the tool was put to work. For each object, the template was imported, the synchronizer was executed to extract information from the object, and a thumbnail was created. For many, this was a major accomplishment. With the basic elements populated, work began populating elements unique to each data set.

The tool is available for download from the Idaho Geospatial Data Clearinghouse (<http://inside.uidaho.edu/whatsnew/whatsnew.htm#News>) and has been downloaded more than 50 times since it was made available. The tool was presented, and well received, at the NW GIS Users Conference in September 2004.

Work continues with each entity to integrate their data into the Idaho Geospatial Data Clearinghouse and up to the Geospatial One-Stop framework. Additionally, efforts continue to

improve the functionality of the tool. Participants have requested several enhancements and programming to include those has begun.

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