



## Biological Profile (National Biological Information Infrastructure - NBII) Metadata Guide

### Overview

**Purpose:** Biological Profile metadata elements may be created or edited directly in the NPS Metadata Tools and Editor, but this can be a tedious process for records with many taxonomy elements. This document provides steps for inserting Biological Profile metadata documenting taxonomy into a metadata file created or edited in the NPS Metadata Tools and Editor. Also, it provides tips on editing other Biological Profile elements and posting Biological Profile metadata to the NR-GIS Data Store.

#### Software and other requirements:

- NPS Metadata Tools and Editor (<http://science.nature.nps.gov/nrgis/tools/editor.cfm>)
- ArcGIS 8.x/9.0 if using ArcCatalog with geospatial metadata
- Text editor if using Tools and Editor stand-alone version (e.g., TextPad, jEdit, etc.)
- Metadata Parser version 2.8.22 (bundled with the NPS Metadata Tools and Editor)
- Internet access and web browser

### Instructions

#### Step 1: Create SGML-format taxonomy output of your species list.

1. Create an ASCII text file containing a list of scientific names of the species in question. The file must be arranged in one column with the column heading "name" on the first line (see Example 1). This file may be created from scratch in a text editor, or an existing file may be converted to text. A few examples follow:
  - 'Save As:/Text (Tab delimited)' command in MSEXcel (This can be tricky, you may need to copy and paste to a text file).
  - 'Save As:/Text' command in MSWord.
  - Export as a text file from a shape file or geodatabase in ArcMap

*Note: species from different kingdoms (Animal, Plant, Monera, Protist, and Fungi) must be placed in separate text files.*

name Odocoileus virginianus Other scientific name Other scientific name Other scientific name
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Example 1: Text file with species list

2. Go to the Integrated Taxonomic Information System (ITIS) website to generate SGML-format taxonomy elements: <http://www.itis.usda.gov>

- Choose 'Tools' then 'Compare Taxonomy/Nomenclature'
- In the first field, browse for the text file that you created above and choose 'Upload File'.
  - A new window will come up noting that the download was successful, click 'OK'.
  - Your file's name should appear in the second field.
- Ignore the field asking about the delimiter.
- Click the 'Step2' button.

The screenshot shows the ITIS Tools web interface. On the left is a vertical navigation menu with links: What's New, About ITIS, Data Access, Submit Data, Tools, TRED, Links, Comments, and Home. The main content area is titled 'Compare Taxonomy/Nomenclature'. It includes a 'Please Note' section about a prototype tool. Below this is 'Step 1 - Upload and Identify File', which contains instructions and form fields: 'Upload File Name:' with a 'Browse...' button, an 'Upload File' button, a text field for file name confirmation, a dropdown menu for character delimiters (set to 'Comma'), a 'Step 2' button, and a 'Reset' button. At the bottom right, it says 'Last Updated: 23-Apr-2003'.

- Step 3: Choose the appropriate Kingdom button.
- Step 4: Select the 'Scientific Name (FGDC Biological Profile Report - Prototype)' option under the Perform Taxonomy Compare On section.
- Step 5: Check both the Indicate Report Options
- Click the 'Taxonomy Compare' button.
- View matches and non-matches between your dataset and ITIS's standardized names in the resulting report.
  - For non-matches, go to the ITIS home page and look up the correct names
  - Repeat the Taxonomy Compare until your list matches with ITIS.

- On the resulting page, scroll down to the bottom and click the 'Generate FGDC Biological Profile SGML' button.
  - Follow the instructions to download the file. Save it in the appropriate directory on your computer with an \*.sgml or \*.xml extension.


The screenshot displays the 'ITIS Report' web interface. At the top left is the ITIS logo, and to its right is the title 'ITIS Report'. A navigation menu includes links for 'Home', 'Data Access', 'Submit Data', 'Tools', and 'Comment'. The main content area is titled 'Compare Taxonomy/Nomenclature' and is divided into five steps:

- Step 2 - View Data File:** A button labeled 'View Data File' is provided for users to view the file on the server.
- Step 3 - Select a Kingdom to Compare Against:** Users are instructed to select a kingdom. Radio buttons are provided for Monera, Protista, Plantae (which is selected), Fungi, and Animalia.
- Step 4 - Perform Taxonomy Compare On:** Radio buttons allow users to choose the comparison criteria: Scientific Name, Scientific Name & Author, Scientific Name, Author & Rank, or Scientific Name (FGDC Biological Profile Report - Prototype), with the last option selected.
- Step 5 - Indicate Report Options:** Checkboxes for 'View non-matches' and 'View matches' are both checked.

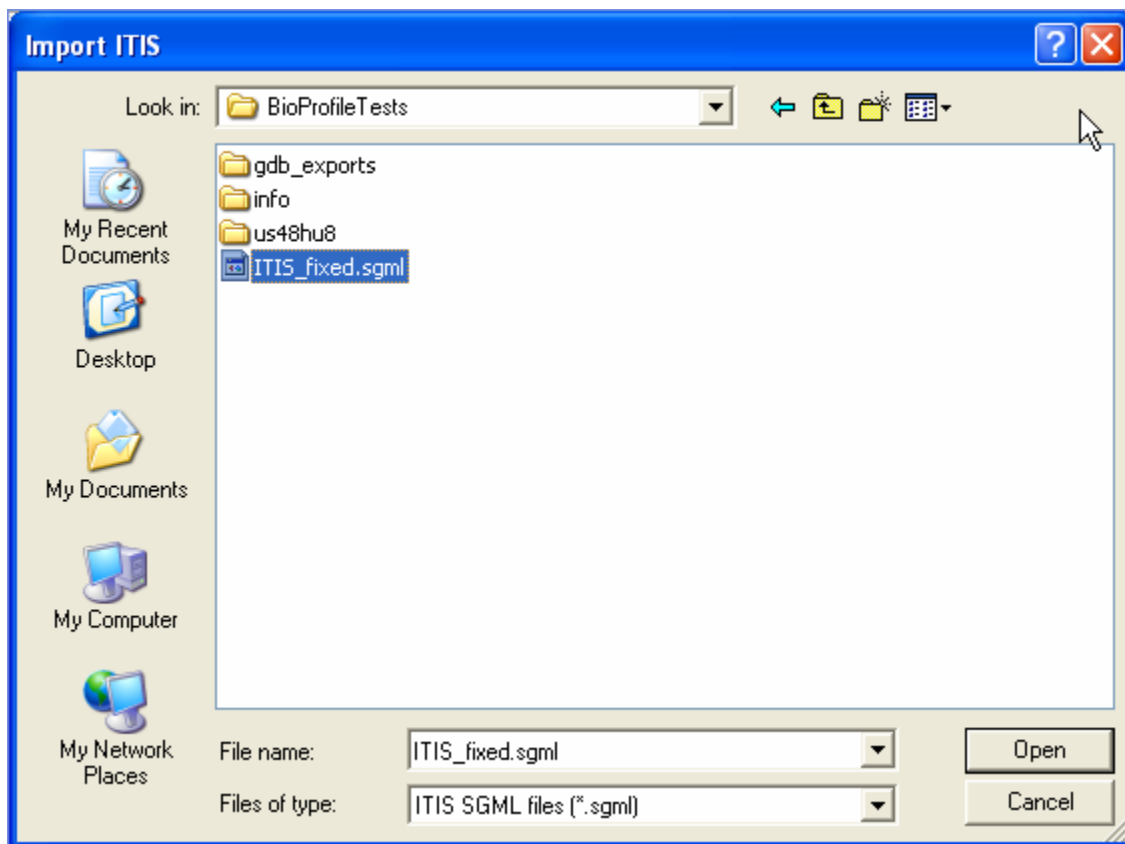
At the bottom of the form, there is a 'Taxonomy Compare' button to initiate the process and a 'Reset' button to clear the criteria and options.

## **Step 2: (both versions) Insert Biological Profile taxonomy output into your existing metadata**

1. In ArcCatalog's table of contents, select the dataset (shapefile, coverage, geodatabase feature class/table) or XML metadata file to insert the taxonomy information into. In the stand-alone version, open the target XML metadata file.
2. Select NPS Metadata → Import ITIS (ArcCatalog version) or Tools → Import ITIS or

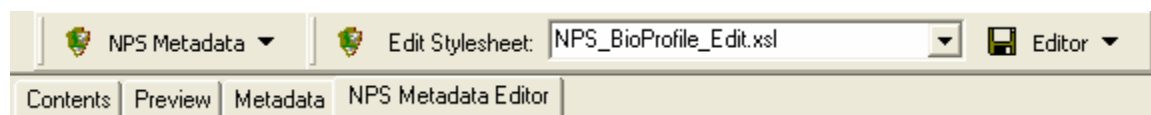
button  (stand-alone version).

3. In the Import ITIS dialog, change the 'Files of type:' value to 'ITIS SGML files (\*.sgml)' or 'IT IS XML files (\*.xml)' depending on how you saved the file and navigate to it. Click the 'Open' button to insert the taxonomic elements.

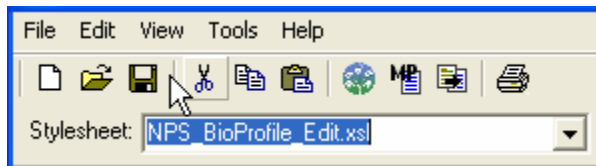


## **Step 3: (both versions) Add/Edit other Biological Profile elements**

1. Complete the remaining Biological Profile metadata for your site and species using the **NPS\_BioProfile\_Edit** editing stylesheet. In ArcCatalog, click the NPS Metadata Editor tab to activate the editing stylesheet selector:



In the stand-alone version, select NPS\_BioProfile\_Edit.xml from the stylesheet picklist:



- Description of Geographic Extent (in Section 1 – Identification Information): Type in a short description of the geographic extent domain of the dataset. (Located under the ‘Spatial Domain of Dataset’ element.) Examples of Description of Geographic Extent: “Maministee River watershed”, “ponds larger than 2 acres in Jefferson County, CO”, or “Within the boundary of Effigy Mounds National Monument.”
- Originator, Title and Geospatial Data Presentation Form (in Section 1 – Identification Information): Be sure these elements are populated in the Dataset Citation section.
- Taxonomy (in Section 1 – Identification Information): complete the following information in the Taxonomy section:
  - Taxonomic Keywords (taxonkey)– copy and paste tags to create multiple keywords. A value must be entered for the keyword to prevent a parsing error.
  - Publication date (pubdate) – date you accessed ITIS. This element is in the Classification System Citation Details under the Classification System/Authority section. Use YYYYMMDD format.
  - Taxonomic procedure (taxonpro)– Description of the methods used for the taxonomic identification.
  - Vouchers – complete if applicable
    - Specimen type (specimen)
    - Repository Contact Information (reposit/cntinfo)
- Methodology (in Section 2 – Data Quality):
  - Methodology Type (methtype): Input “field”, “lab”, or whatever general term is appropriate.
  - Methodology Description (methdesc): Insert a few sentences describing the sampling or inventory methods.
  - Methodology Citation: The Originator, Title and Geospatial Data Presentation Form elements are mandatory if applicable.
- Other BioProfile elements, as applicable:
  - Bounding Altitudes (Section 1 – Identification Information)
  - Geospatial Presentation Form (Section 1 – Identification Information)
  - Geologic Age information (multiple sections – Time Period Information)
  - Analytical Tool (Section 2 – Data Quality)
  - ASCII file information (Section 6 – Distribution Information)

2. Save your updated Biological Profile metadata file.

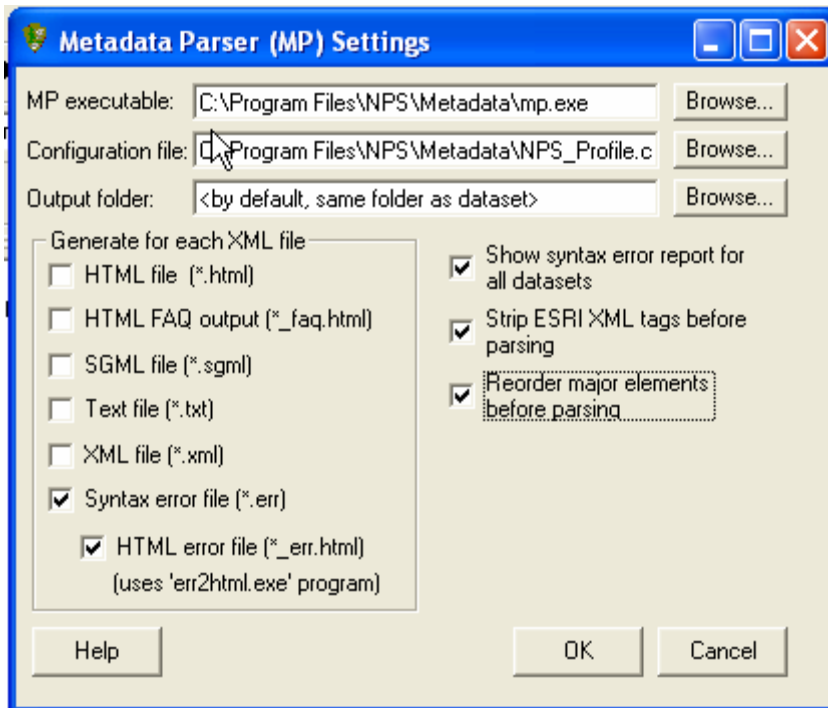
**Step 4: (both versions) Add/Edit NPS and FGDC elements**

1. If posting metadata to the NR-GIS Data Store, use the NPS\_BioProfile\_Edit stylesheet to complete any required FGDC or NPS elements.
2. Save your updated Biological Profile metadata file.

**Step 5: (both versions) Check for errors with Metadata Parser**

Use the 'Parse with MP' tool to check the metadata for errors.

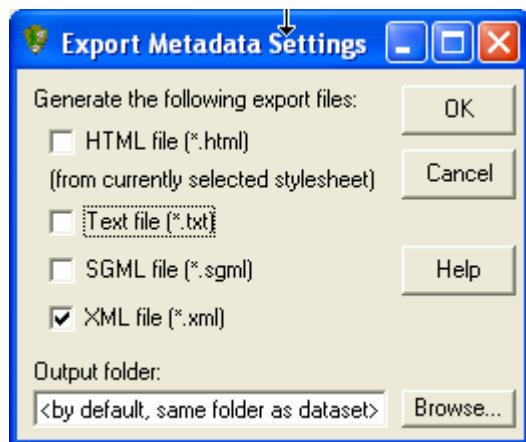
1. Highlight your dataset or metadata file in the ArcCatalog table of contents.
2. Open NPS Metadata Tools → Parse with MP
3. In the first field, check that the path points to the MP executable in c:\Program Files\NPS\Metadata\.
4. In the second field, choose the 'NPS\_Profile.cfg' configuration file in c:\Program Files\NPS\Metadata\
5. In the third field choose the correct output folder. *Note: If you are working from a geodatabase in ArcCatalog, you must change the output folder or the file will end up inaccessible inside the geodatabase.*
6. In the left column, check 'Syntax error file (\*.err)' and 'HTML error file (\*.err.html)'
7. In the right column, check all three check boxes.



8. Click 'OK'
9. View the resulting error page and fix errors as appropriate using the NPS\_BioProfile\_Edit stylesheet.
10. Switch to the NPS\_BioProfile\_View or FGDC\_BioProfile\_View stylesheets and verify that the Biological Profile data are included in the metadata file.

**Step 6: (ArcCatalog Version) If posting metadata for coverages or geodatabases to the NR-GIS Data Store, export metadata in XML format. This step is not necessary for shapefile or individual metadata.**

1. For coverages, metadata is stored in XML format in the coverage workspace folder with a default filename of 'metadata.xml'. This file can be posted to the NR-GIS Data Store, but since the filename is not unique, it is good practice to generate a separate XML file with a unique name for uploading to the Data Store. In a geodatabase, metadata is stored in an OLE XML object field in a database table. If the geodatabase will be posted on the NR-GIS Data Store, its metadata must be exported to XML since the Data Store cannot harvest the metadata from the database.
  - a. Highlight the coverage or geodatabase (or geodatabase feature class or table) in the ArcCatalog table of contents. Choose either the Parse with MP tool or the Export Metadata tool to generate an XML export file. By default with either tool, the exported XML file will receive the coverage filename with an XML extension.
    - i. If using Export Metadata, check the 'XML file (\*.xml)' option and change the output folder if desired. Click 'OK' to export the XML metadata.



- ii. If using Parse with MP, check the 'XML file (\*.xml)' option and all three options on the right side. Be sure the NPS\_Profile.cfg configuration file appears in the Configuration file box. Click 'OK' to export the XML metadata.

