# **Subtypes in the Superfund Data Schema**



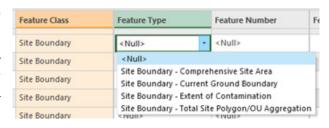
Version 5.1 of the Superfund data schema leverages the subtypes functionality of ArcGIS databases. Subtypes are subgroupings of records in a feature class or table that share the same attributes. Esri offers subtypes as a part of geodatabase design tools in ArcGIS.

## **Advantages**

Subtypes constrain data inputs in one field, based on the value of another field. In this case subtypes in the SITE\_FEATURE\_ CLASS field limit the range of values in the SITE\_FEATURE\_TYPE field down to a predefined subset of possible field domains. Constraining the SITE\_FEATURE\_TYPE enforces a logical relationship between the two fields when entering new data. This increases the accuracy of the dataset by minimizing the potential for erroneous records at the data entry stage. Additionally, subtypes could be used to distinguish separate categories of data within one feature class by enforcing the use of the SITE\_FEATURE\_CLASS field to organize data at a high level.

## **Data Entry**

Once subtypes are implemented in a feature class, choosing a subtype in the SITE\_FEATURE\_CLASS field will be the same for users as choosing a domain from the drop down. However, the selection for the SITE\_FEATURE\_CLASS domain will dictate what appears in the domain options dropdown for SITE\_FEATURE\_TYPE. Therefore, available SITE\_FEATURE\_TYPE values are limited to those that are attached to the corresponding subtype. For example, the Site Boundary subtype contains four possible



SITE\_FEATURE\_TYPE options: Site Boundary – Comprehensive Site Area, Site Boundary – Current Ground Boundary, Site Boundary – Extent of Contamination and Site Boundary – Total Site Polygon/OU Aggregation.

# **Implementation**

#### **Template geodatabases**

The recommended process to implement subtypes is to migrate existing data to a recommended feature class in the Superfund\_Recommended\_FeatureClasses\_v5 geodatabase, in the latest version of the Superfund Schema Starter Kit. The Append tool in the Data Management Toolbox (also known as the Load Data tool) can be used to migrate data into a copy of one of these recommended feature classes. The 'Subtype' parameter of the Append tool will dictate the SITE\_FEATURE\_CLASS field value for all features loaded into the feature class. Note that loading data into the recommended feature class does not alter the existing SITE\_FEATURE\_TYPE for loaded records, even if the data breaks subtype rules.

### Non-template geodatabases

To implement without using a template geodatabase, first import the different potential SITE\_FEATURE\_TYPE domains from SITE\_FEATURE\_CLASS\_subtypes.xlsx in the starter kit. Then, use the <u>Set Subtype Field</u> tool to set SITE\_FEATURE\_CLASS as the subtype field. Reference the 'Subtypes' tab of SITE\_FEATURE\_CLASS\_subtypes.xlsx and use the <u>Add Subtype</u> tool to add subtypes using the codes and descriptions in that tab. Optionally, reference the code snippet on the ArcGIS Set Subtype Field tool page for help automating subtype creation.

