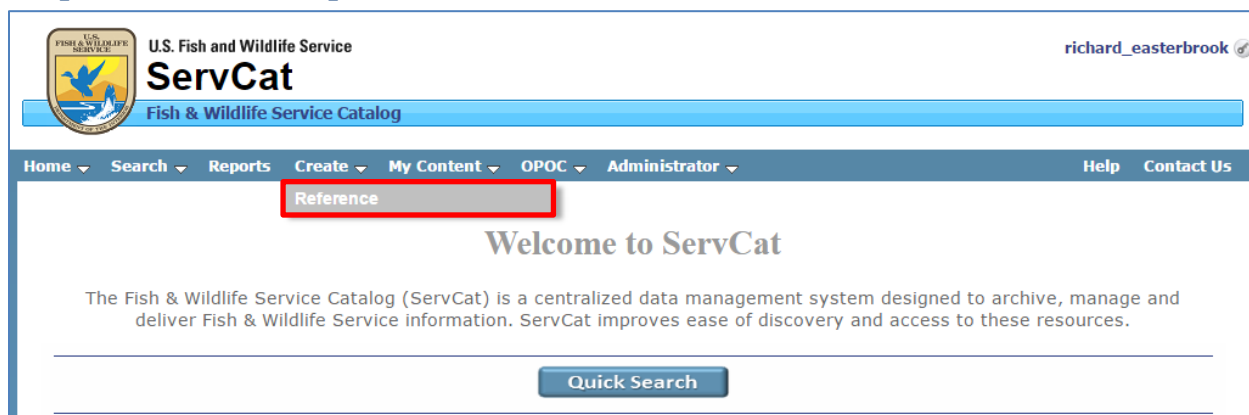




How to Create a Reference from XML

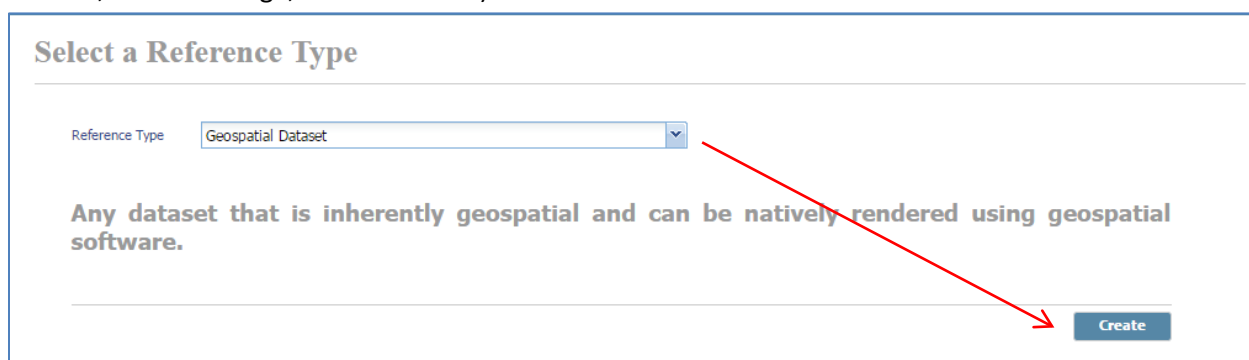
This module walks through the process of manually creating a 'Geospatial Data' record from an eXtensible Markup Language (XML) metadata file. It assumes that you have already created a Federal Geographic Data Committee's (FGDC's) Content Standard for Digital Geospatial Metadata (CSDGM) XML file that validates for mandatory content and structure (<https://mrddata.usgs.gov/validation/>).

Step 1. Select the Option to Create a Reference



Step 2. Select the Appropriate Reference Type

Select from the combo box or start typing to filter the list. This should be one of the Reference Types that are part of the 'Geospatial Data' type group (i.e., Aerial Photograph, Geospatial Dataset, Raster Dataset, Satellite Image, Vector Dataset).



Once the appropriate Reference Type has been selected, click on the 'Create' button to continue. The Editing window opens with a set of tabs. In general, the importance of each tab and how frequently it is used decreases from left to right. Thus, this training module will focus on the first six tabs (covered in

more detail below).

Step 3. Complete the Core Tab

Add information to the fields in the Core tab by copying the content from the appropriate XML tag(s) and pasting into the corresponding ServCat field (see below). Note that the specific number of fields and their exact labels may differ depending on the type of information you are describing.

There are five attributes (*, asterisk) that we strongly recommend you complete. Without these four items, the value of the metadata is negligible, and there is the risk over the long term that the value of the information resource may be compromised.

ServCat Field		FGDC Field
* Title		metadata/idinfo/citation/citeinfo/title
* Date of Issue/Date Published		metadata/idinfo/citation/citeinfo/pubdate
* Authors	Creators, Stewards, Originators <i>Please select the most appropriate FGDC contact field on the right to populate the ServCat authors.</i>	metadata/idinfo/ptcontac/cntinfo/cntperp/cntper metadata/idinfo/ptcontac/cntinfo/cntperp/cntorg metadata/idinfo/ptcontac/cntinfo/cntorgp/cntorg metadata/idinfo/ptcontac/cntinfo/cntorgp/cntper metadata/distinfo/distrib/cntinfo/cntperp/cntper metadata/distinfo/distrib/cntinfo/cntperp/cntorg metadata/distinfo/distrib/cntinfo/cntorgp/cntper metadata/distinfo/distrib/cntinfo/cntorgp/cntorg metadata/metainfo/metac/cntinfo/cntperp/cntper metadata/metainfo/metac/cntinfo/cntperp/cntorg metadata/metainfo/metac/cntinfo/cntorgp/cntper metadata/metainfo/metac/cntinfo/cntorgp/cntorg
* Description		metadata/idinfo/descript/abstract
* Purpose		metadata/idinfo/descript/purpose
Code/ID		NA
Publisher/Producer		metadata/idinfo/citation/citeinfo/pubinfo/publish
Location Description		metadata/idinfo/spdom/descgeog
Content Begin Date		metadata/idinfo/timeperd/timeinfo/rngdates/begdate
Content End Date		metadata/idinfo/timeperd/timeinfo/rngdates/enddate
Notes		metadata/idinfo/descript/supplinf
Version		metadata/idinfo/citation/citeinfo/edition

Core Permissions Files and Links Organizations and Geography Subjects and Keywords Taxonomy Cross-References Version History Change Type

Geospatial Dataset

* Title

Date of Issue/Publication Exact Date mm/dd/yyyy

Creator(s) Add No Creator(s) found

Steward(s) Add No Steward(s) found

Originator(s) Add No Originator(s) found

☐ Created by and/or for the FWS

Code/ID

Publisher/Producer

Location Description

Content Begin Date Exact Date mm/dd/yyyy

Content End Date Exact Date mm/dd/yyyy

Description

Purpose

Notes

Version

When possible and where appropriate, complete all of the other fields. However, do not feel obligated to just fill in the fields with meaningless information (e.g., 'Unknown', 'N/A').

Step 4. Save Your Work

Work can be at any time by hitting the 'Save' button. Selecting the Save option will not close your edit session.

Cancel Save Save & Close Inactivate Draft Activate

Step 5. Review the Permissions

From the Permissions tab, specify and qualify permissions.

The most important concept to understand on this page are the Reference and File Access levels. Please note that access levels selected below should be consistent with what is in the 'Use Constraints' (metadata/idinfo/useconst), 'Access Constraints' (metadata/idinfo/acconst) or 'Security Classification' (metadata/idinfo/secinfo/secclass) XML tags.

- **Reference Access Level** - Who has permission to view the Reference (i.e., public = everyone; internal = FWS only)
- **File Access Level** - Who has permission to download any attached digital files, assuming there are some
 - **Public** = Everyone
 - **Internal** = FWS only
 - **Specific Individuals** = Restricted to designated individuals

Also note that all new References are defaulted to 'Internal' for both the Reference and File Access Level. This is easily modified if not the appropriate designation for the specific reference or file.

Depending on the choice of Reference and File Access levels, the justification options will change. For example, if you designated public access to both the Reference and the attached files for a report, you would not have an option to indicate that the report contains sensitive information (see example below).

The screenshot displays the 'Permissions' tab interface. It features two main sections: 'Reference Access Level' and 'File Access Level', each with radio button options for 'Public', 'Internal', and 'Specific Individuals'. Both 'Public' options are highlighted with red boxes. Below these is a 'Justification' section with a text area for clarification. Within this section, several options are highlighted with red boxes: 'Not Sensitive' under 'Sensitivity', 'Operations', 'Unknown', and 'Sensitive' (all grouped together), 'Unknown' under 'Copyrighted, Proprietary or Other Distribution Restrictions', and 'Permission to Distribute for Non-Commercial Use' under 'Proprietary/Copyrighted'. The 'Permission to Distribute Internally to all FWS staff' and 'Distribution Limited to Select Individuals' options are also visible but not highlighted. The 'Quality of the Information Source Being Described by this Reference' section at the bottom has radio button options for 'High', 'Operational', and 'Unknown'.

However, if access is limited to selected individuals, more options are provided to qualify the reasons why:

Reference Access Level ☒ Public ☐ Internal

File Access Level ☐ Public ☐ Internal ☒ Specific Individuals

Name	User Code	Email
<input checked="" type="checkbox"/> Todd Sutherland	todd_sutherland@fws.gov	Todd_Sutherland@fws.gov

Justification

Provide further clarification about the information being described by the reference.

Sensitivity ☐ Not Sensitive ☐ Operations ☐ Unknown ☒ Sensitive

☐ Archeological ☐ Minerals
☐ Caves ☐ Paleontological
☐ Commercial Value ☐ Personally Identifiable Information (PII)
☐ Cultural ☐ Security
☐ Endangered ☐ Threatened
☐ Indian Sacred Sites ☐ Wells
☐ Litigation

You must select at least one

Copyrighted, Proprietary or Other Distribution Restrictions ☐ None ☐ Unknown ☒ Proprietary/Copyrighted

☐ Permission to Distribute for Non-Commercial Use
☐ Permission to Distribute Internally to all FWS staff
☒ Distribution Limited to Select Individuals

Quality of the Information Source Being Described by this Reference ☐ High ☐ Operational ☒ Unknown

In this case, it is possible to give an individual permission to access the file (e.g., Todd Sutherland) and designate the information as being sensitive and/or proprietary.

Additional options on this page include:

- **Reference Owners** - Give others permission to co-manage your record by making them an owner. Note that you are, by default, an owner too.

Who may edit the Reference (i.e., Reference Owners)			Add ▾
	Name	User Code	Email
<input checked="" type="checkbox"/>	Richard Easterbrook	Richard_Easterbrook@fws.gov	richard_easterbrook@fws.gov
<input checked="" type="checkbox"/>	Todd Sutherland	todd_sutherland@fws.gov	Todd_Sutherland@fws.gov

- **Additional Use Constraints** - Any other disclaimers/requirements/notes regarding the use of the information resource (i.e., metadata/idinfo/useconst).

USFWS Standard Disclaimer Statement

“Although these data and information have been processed successfully on a computer system at the U.S. Fish and Wildlife Service, USFWS, no warranty expressed or implied is made regarding the accuracy or utility of the data and information on any other system or for general or scientific purposes, nor shall the act of distribution constitute any such warranty. Inherent in any data set used to develop graphical representations are limitations of accuracy as determined by, among others, the source, scale and resolution of the data. This disclaimer applies both to individual use of the data and information, and aggregate use with other data and information. It is also strongly recommended that careful attention be paid to the contents of the metadata file associated with this data and information, and aggregate use with other data and information. The USFWS is not liable for the user’s improper or incorrect use of the data and information described and/or contained herein. These data and any derived products are not legal documents and are not intended to be used as such. The information contained in these data may be dynamic and could change over time. The data are not better than the original sources from which they are derived. It is the responsibility of the data user to use the data appropriately and consistent with the limitations of geospatial data in general and these data in particular. It is strongly recommended that the data described or contained herein be acquired directly from an authorized USFWS source and not indirectly through some other sources which may have changed the data in some way. The USFWS is not liable for data or information that indirectly acquired through other sources. No warranty expressed or implied is made regarding the accuracy or utility of the data on any other system or for general or scientific purposes, nor shall the act of distribution constitute any such warranty.”

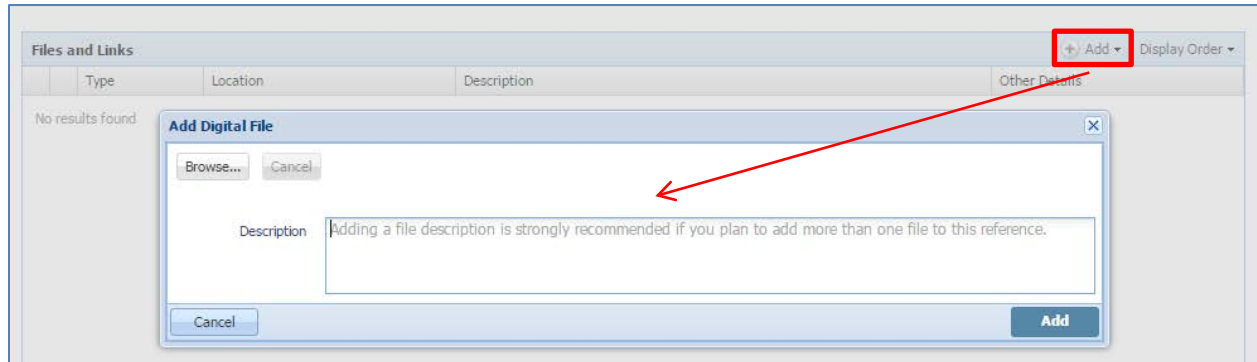
Additional Use Constraints	Additional Use Constraints/Recommendations/Qualifications
----------------------------	---

- **Allow Data Stewards to Edit the Record** - Allow Data Stewards to review and improve the quality of the Reference, if needed.

Allow Data Stewards to Edit this Record	<input checked="" type="radio"/> YES, allow management of this record as needed <input type="radio"/> NO, owner(s) will provide management of this record	?
---	--	---

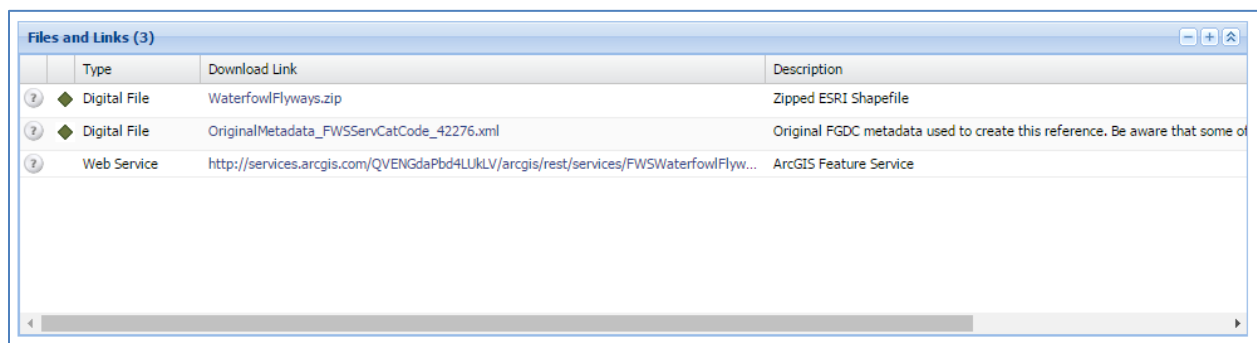
Step 6. Add Files and Links

A user may upload zero or more files, where the maximum file size is 4GB per file, by clicking on the “Add” button and selecting the appropriate file. If there is no file to upload, optionally a user can point to the information housed on another web site. More advanced users may also point to other web services.



A Reference can have as many files, external links or web services, there is no limit. The order of these files/links/services is controlled by dragging them in the grid and then selecting the ‘Set’ option from the Display Order button.

Records of the ‘Geospatial Data’ Reference Type Group should have a minimum of two files. The first file should be the information resource (e.g., shapefile, geodatabase, GeoTIFF) compressed into one archived file (e.g., ZIP). The second file needs to be the FGDC XML metadata file. If the information resource is available as a web service, the URL for this service can also be added as a link. Optionally, please add a ‘Description’ for each file (see example below) when more than one is added.



Step 7. FWS Organizations and Geography

Select the Organizations and Geography Tab. If, and only if, the information resource contains information specific to an FWS organization (e.g., refuge, complex, office, region), should it be linked to the respective organization(s). Linking to an organization only when it is truly organization-specific,

ensures that we do not diminish the value of its meaning.

The screenshot shows the ServCat interface. At the top, there's a table titled 'Orgs (1)' with columns 'Org. Code', 'Org. Name', and 'Status'. It contains one entry: 'FF06RRKM...' with the name 'Rocky Mountain Arsenal National Wildlife Refuge' and status 'Pending'. Below this is a table titled 'Bounding Boxes (1)' with columns 'Description' and 'Coordinates'. It contains one entry: 'BoundingBox for FF06RRKM00' with coordinates 'POLYGON ((-104.90284722499996 39.798509335000062, -104.79067620099994 39.798509335000062, -104.79067620099...'. A modal dialog box titled 'Add Organization' is open in the center. It has a search field with the placeholder 'Select from list or start typing...'. Below the search field are two checkboxes: 'Include Linked Organizations' (unchecked) and 'Add Related Bounding Box(es)' (checked). The dialog has 'Close' and 'Add' buttons at the bottom.

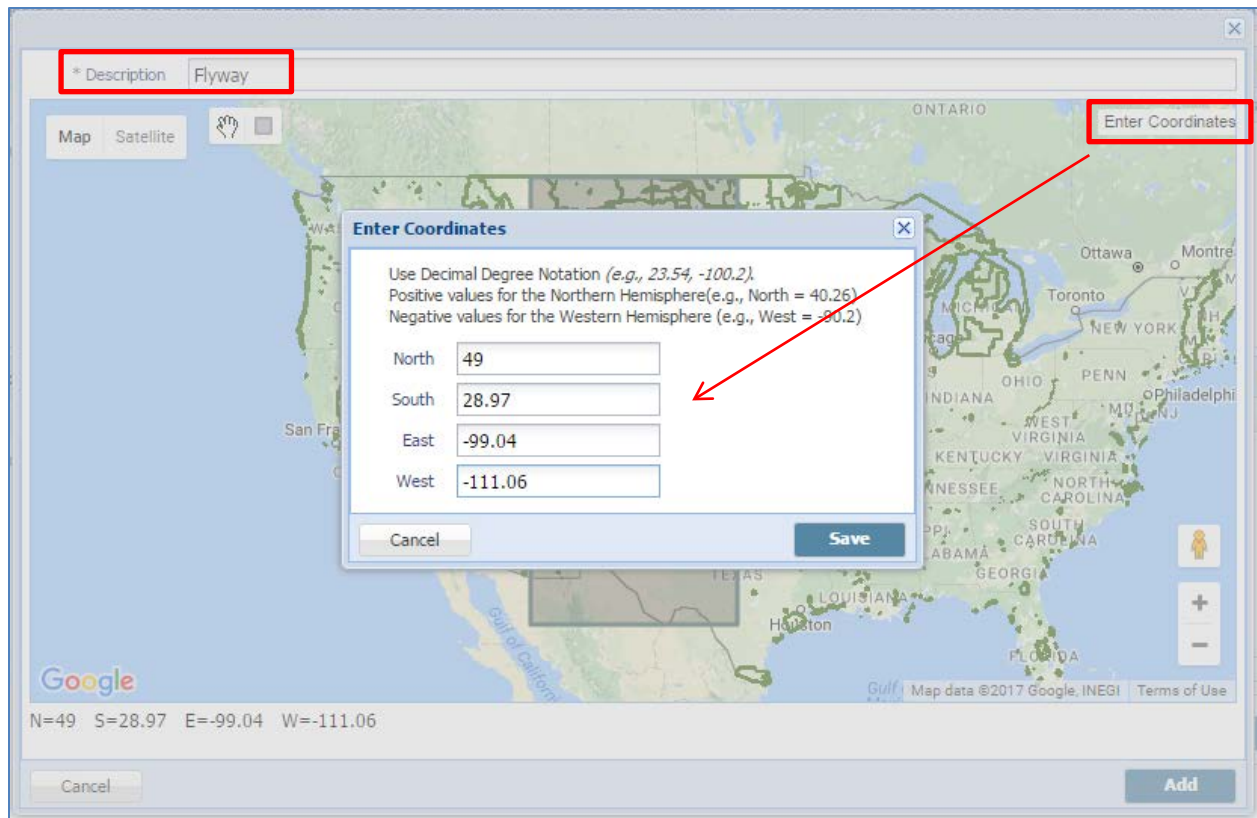
In cases where you wish to link a Reference to multiple refuges (e.g., all refuges in a complex), select the 'Include Linked Organizations' option.

By default, bounding boxes for organizations (if available) will be added which facilitates better geographical searching. In addition, custom bounding boxes can be added to further describe the information resource. Note that bounding boxes may be different than the organization link. For instance, a geospatial dataset representing the "USFWS Administrative Waterfowl Flyway Boundaries" may have a custom bounding box that encompasses the United States. This dataset is also linked to the Division of Migratory Bird Management, which does not have a bounding box associated with this organization link.

Custom bounding boxes are easily created by clicking on the 'Enter Coordinates' button in ServCat and then entering the bounding coordinates from the 'Spatial Domain' metadata tag (metadata/idinfo/spdom/bounding). Please provide a 'Description' for the custom bounding box.

```
- <spdom>
  - <bounding>
    <westbc>-111.056889</westbc>
    <eastbc>-99.042504</eastbc>
    <northbc>49.001131</northbc>
    <southbc>28.971547</southbc>
  </bounding>
</spdom>
```





Step 8. Add Keywords and Subjects

To facilitate discovery of the Reference, add additional subject categories and keywords as appropriate. For keywords, focus on those words which are not already in the title or description of the Reference.

All Theme Keywords and Thesauri in the 'metadata/idinfo/keywords' tag should be copied from XML metadata record and pasted into the ServCat 'Keywords' section.

```

- <keywords>
- <theme>
  <themekt>ISO 19115 Topic Category</themekt>
  <themekey>boundaries</themekey>
  <themekey>environment</themekey>
  <themekey>location</themekey>
  <themekey>BGDS</themekey>
</theme>
- <theme>
  <themekt>User</themekt>
  <themekey>Migratory Birds</themekey>
</theme>
- <place>
  <placekt>None</placekt>
  <placekey>Colorado</placekey>
  <placekey>Kansas</placekey>
  <placekey>Montana</placekey>
  <placekey>Nebraska</placekey>
  <placekey>Nevada</placekey>
  <placekey>New Mexico</placekey>
  <placekey>North Dakota</placekey>
  <placekey>Oklahoma</placekey>
  <placekey>South Dakota</placekey>
  <placekey>Texas</placekey>
  <placekey>United States</placekey>
  <placekey>Wyoming</placekey>
</place>
</keywords>

```



Keywords	BGDS, Boundaries, Colorado, Environment, Kansas, Location, Migratory Birds, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oklahoma, South Dakota, Texas, United States, Wyoming		
Subject Categories	<div style="text-align: right;">+ Add - Remove All</div> <table border="1"> <thead> <tr> <th>Name</th> </tr> </thead> <tbody> <tr> <td>General: Biology Species Birds</td> </tr> </tbody> </table>	Name	General: Biology Species Birds
Name			
General: Biology Species Birds			

Step 9. Optionally Add Taxonomy

References can be linked to zero or more biological taxa. Link taxa by name, using scientific or common names.

Search for Scientific Name

Limit to category:

Search in: ☒ common names ☐ scientific names

* Search for:

* Indicates required

Clear Search

9 Results found

Taxon Code	Scientific Name	Category	Common Names
<input type="checkbox"/> 95051	Alces	Mammal	moose, Old World elk
<input type="checkbox"/> 95052	Alces alces	Mammal	Eurasian Elk, moose
<input type="checkbox"/> 891449	Alces alces americana	Mammal	eastern moose
<input type="checkbox"/> 891450	Alces alces andersoni	Mammal	northwestern moose
<input type="checkbox"/> 891451	Alces alces gigas	Mammal	Alaskan moose
<input type="checkbox"/> 891452	Alces alces shirasi	Mammal	Yellowstone moose
<input checked="" type="checkbox"/> 891426	Alces americanus	Mammal	Moose
<input type="checkbox"/> 95040	Cervidae	Mammal	caribou, cervids, deer, moose, wapiti
<input type="checkbox"/> 126749	Acer spicatum	Vascular Plant	moose maple, mountain maple

Add

For advanced users already familiar with the FWS taxa codes, they can be added directly.

Step 10. Close Editing Session

References are always in one of three possible states:

- **Draft** - This implies the Reference is still being edited (e.g., the metadata is incomplete) and is not ready for discovery/viewing/access beyond the owners of the Reference.
- **Active** - Active References are those where the Reference owners have determined that the metadata is complete and accurate. An active Reference, therefore, is synonymous with being published, and is available to the FWS and in some cases the public (depending on the defined access level).
- **Inactive** - Inactive References are those where the owner has determined that the Reference is no longer of value and should no longer be discoverable/accessible to the FWS and public. Even though inactive References are not accessible to anyone except the References' owners (inactive References never disappear). Generally, References should only be inactivated for the following cases:
 - A Reference was determined to be duplicate of another
 - The Reference does not have any associated files or links
 - The References was not created by the FWS and the utility of the information resource is no longer clear. ¹

When ending the editing session, there are three options:

Cancel Save Save & Close

Inactivate Draft Activate

¹ For instance, a general 20 year old grassland management guide by the Department of Agriculture.

Step11. Publish to the Geospatial Platform and Data.Gov

'Geospatial Data' Reference Type Group records in ServCat will be automatically harvested by the Geospatial Platform (<https://www.geoplatform.gov/>) and Data.Gov (<https://www.data.gov/>) if the following conditions are met:

- Reference Access Level = "Public"
- File Access Level = "Public"
- One Digital File that represents the XML metadata (must have *.xml extension)
- An additional Digital File, Web Service or External Link that represents the information resource (e.g., shapefile, feature service)
- A minimum of one 'approved' Organizational link (done from the Organizations and Geography tab)

When the criteria are all met, a 'modified' version of the original FGDC metadata record will be copied to a web accessible folder (WAF) (<https://ecos.fws.gov/ServCatGos/files/>) for harvesting. This modified metadata record will include the following additional tags from the ServCat record (e.g., <https://ecos.fws.gov/ServCatGos/files/56659.xml>), if populated.

- Metadata/idinfo/citation/citeinfo/onlink
 - Link to the Reference Profile (e.g., <https://ecos.fws.gov/ServCat/Reference/Profile/5665>)
 - Link to the Web Service or External Links (e.g., <http://services.arcgis.com/QVENGdaPbd4LUkLV/arcgis/rest/services/FWSVisitorServices/FeatureServer>)
- Metadata/distinfo/stdorder/digform/digtopt/onlinopt/computer/networka/networkr
 - Link to the Digital File(s) (e.g., <https://ecos.fws.gov/ServCat/DownloadFile/100953>)

Please note that this 'modified' XML record will also reflect any changes you make to the fields in ServCat. For example, if you change the title of the ServCat record, the title will also be changed in the XML record residing in the WAF. If you add or remove keywords in the ServCat record, these same keywords will be added or removed from the XML record. Unlike the WAF xml, the XML file originally uploaded to ServCat is static and will not be modified as you make changes directly in ServCat.

The publishing of ServCat XML records to the WAF is scheduled nightly, as is the harvest from Geospatial Platform and Data.Gov.