



Managing Content in DataStore 4.x

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Summary

This informational document explains how to manage existing content in DataStore version 4.x. Topics include the user dashboard, cloning and versioning references, cross-references, hierarchal relationships with products, projects, and programs, collections, batch managing permissions, and reference curation.

Change Log

Revision Date	Author	Changes Made	Reason for Change	Release	New Version #

Introduction

Creating stellar metadata is just the start of producing high-quality DataStore content. Properly managed content provides a big-picture view of National Park Service holdings. Grouping Projects under Programs provides easy access to programmatic content. Organizing references in Projects and Collections provides users with a direct path to similar content. Cross-referencing provides a link to other relevant references. Versioning references provides a historical record across time. Additionally, Projects, Collections, and Saved Searches can all be used to populate CMS widgets on nps.gov websites.

Managing content can be a big task! If you need help, please reach out to NRSS_DataStore@nps.gov for assistance.

Dashboard

The Dashboard is your first stop for accessing references that you have created or have been granted permission to manage. It's accessed by clicking 'My Content' from the top of any DataStore page and then clicking 'Dashboard.' Your Dashboard gives you access to your references, collections, and saved searches, and tools to manage those items.

- Clicking on References, Collections, or Saved Searches in the left navigation pane will change what is viewed in the dashboard panel.
- You can add or remove columns by clicking the down arrow ▼ next to any column header and checking the boxes for any columns you wish to add or remove.
- You can sort the columns by ascending or descending order by clicking the column header.
- Selecting the pencil icon to the left of the reference code will open that reference for editing.
- Selecting one or more boxes to the left of the reference code will enable the options at the top to 'Manage Ownership' (See the batch managing References section in this document for more information) or 'Add to Collection' (see the Collections section in this document).

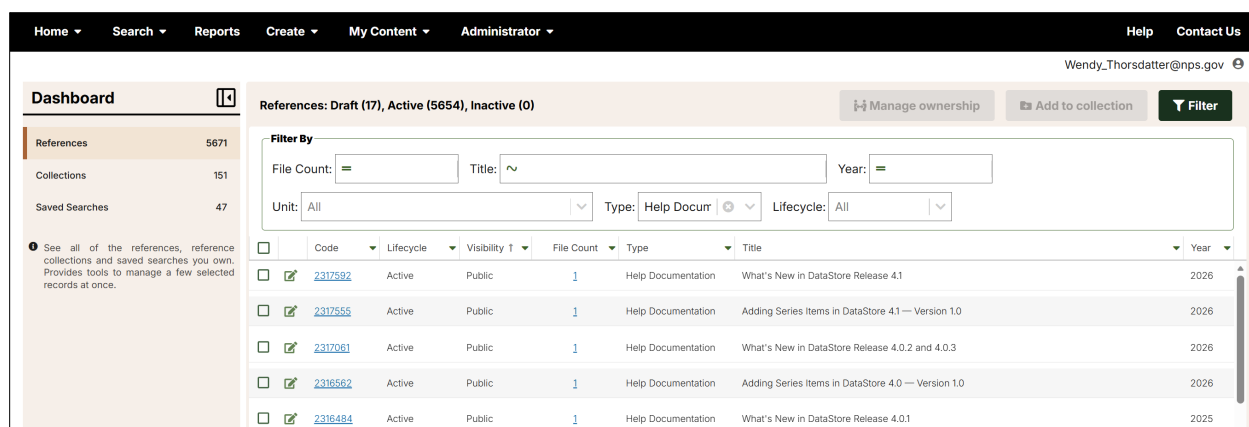


Figure 1. The DataStore user dashboard.

Filter

The 'Filter' button is on the top right corner of the dashboard. It opens a panel that allows you to filter the results that appear in your dashboard. You can filter by:

- **File Count**—This will filter by the number of files in a reference. Allowed input is integer only. Clicking on the = will open a dropdown with other operators (>, <, etc.)
- **Title**—Searches by reference title. Allowed input is alphanumeric characters.
- **Year**—Searches by the year of the 'Date Published' field.
- **Unit**—Searches by park unit. Note that this searches by the unit TITLE, not the UNIT code, so to return results for GRD, you will need to start typing 'Geologic Resources Division (GRD)'. Begin typing to search or select from dropdown.
- **Type**—Searches by reference type. Begin typing to search or select from dropdown.
- **Lifecycle**—Filters by draft or active. Select from dropdown.

Filters can be removed by clicking the 'X' in the right side of each filter. The X only appears if a filter is applied.

Versioning

Reference versioning is an important DataStore feature. Versioning allows for a clear lineage between documents over time, which increases transparency. It maintains a clear record of

edits, which is especially useful in data science, compliance, and research settings. It provides accountability with information about who made changes when, which helps track decision making responsibilities. It also provides consistency, by making obvious which version of a document is the most current and authoritative. For more information about which reference types may be versioned, see *Appendix A—Additional Versioning Details*.

There are two ways to version a reference:

- ◆ 'Clone a reference to create a new version' is used when a new version is ready to publish and a new reference has not yet been created. This route offers many benefits, like copying over existing information into the new version. Details about copied information are available in *Appendix A—Additional Versioning Details*.
- ◆ 'Select an existing reference to designate as a newer version' is available when references have been created for the old and new versions.

The Version History Tab

The version history tab displays a list of all versions for that reference. You can add or remove columns by clicking the down arrow ▼ next to any column header. The version history tab only appears if there are relevant versions for that reference.

Standard Operating Procedure 3.1.01 Reporting of On-Duty Injury, Illness, Near Misses, Hazards and Exposure—Version 6.0						
Core Info Digital Files and Links (1) Permissions Units and Geography Keywords Taxonomy (0) History Version History (6) Originating Projects (1)	Version History (6)					
	File Count	Code	Type	Title	Year	Version Notes
	1	2305577	Standard Operating ...	Standard Operating Procedure 3.1.01 Reporting of On-Duty Injury, Illness, Near Misses, Hazards and E...	2024	Revised to version 6.0
	1	2284673	Standard Operating ...	SOP 3.1.01 Reporting of On-Duty Injury, Illness, Near Misses, Hazards and Exposure—Version 5.0	2021	Version 5.0 - annual review
	1	2244006	Standard Operating ...	Reporting of On-duty Injury and Illness - Version 4.1	2017	Updated information
	1	2237891	Standard Operating ...	Identification, Treatment, and Reporting of On-duty Injury and Illness - Version 3.0	2016	Revision of SOP due to editorial review and new ...
	1	2192734	Standard Operating ...	Identification, Treatment, and Reporting of On-duty Injury and Illness	2013	[Cloning Ref:2183474 at Tue, 22 Jan 2013 22:10...
	1	2183474	Standard Operating ...	Identification, Treatment, and Reporting of On-duty Injury and Illness	2012	

Figure 2. Example of the version history tab.

Version a Reference via Cloning

Creating a new version reference by cloning is helpful when the new version will have similar metadata. For a list of fields copied over in the process, see Appendix A—Additional Versioning Details. You should not create a new version by cloning if there is already a reference created for the new version, as this will create an extra reference that will have to be cleaned up later.

To create a new version by cloning, go to the old version. *You must have permission to edit the old reference.* Click the ‘Edit’ button in the upper right, then click ‘Version History’ on the left panel. Click ‘Add.’

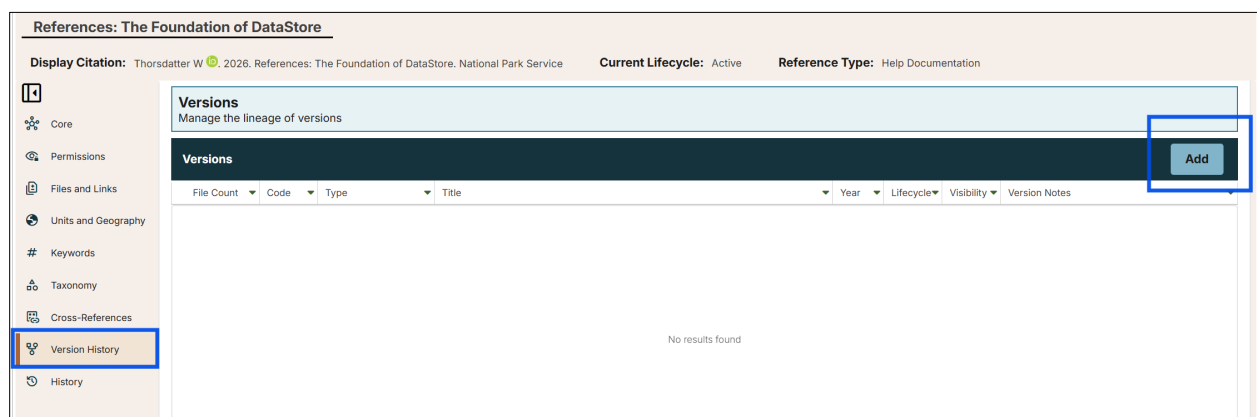


Figure 3. Adding a new reference version.

You will see a warning that once you designate the reference as an old version, you will no longer be able to edit. If you’ve saved all edits to the old version, click ‘Yes.’ Note that if you need to edit the old reference in the future, it can be done by breaking the link, making the edit, and then resetting the version (see ‘Breaking Links’).

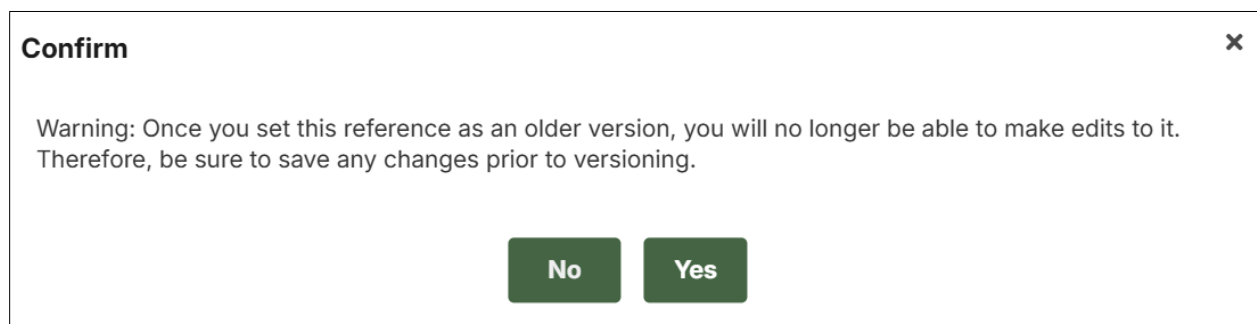


Figure 4. Versioning confirmation window.

Click 'Clone this Reference to Create a New Version.' Add notes relevant to the version. Click 'Submit.'

Version Management

Action*

☒ Clone this Reference to Create a New Version

☐ Select an Existing Reference Code as the Newer Version

Notes*

Please explain the purpose of the new version and/or what has changed.

Cancel

Submit

Figure 5. Select versioning process window.

A new reference is created and opened on your screen. Proceed to update the metadata and upload the new file. Once the reference is activated, it will include the original version on the Version History tab.

References: The Foundation of DataStore v2						
Core Info Permissions Units and Geography Keywords Taxonomy (0) History Version History (2)	Version History (2)					
	File Count	Code	Type	Title	Year	Version Notes
		2317956	Help Documentation	References: The Foundation of DataStore v2	2026	test
	1	2314194	Help Documentation	References: The Foundation of DataStore	2026	

Figure 6. Example of a history tab.

Versioning with an Existing Reference

When you have already created a reference for a new version, you can version a reference to another existing reference. You must have permission to edit the old and new versions.

Follow the initial steps in 'Versions a Reference via Cloning.' When you get to the 'Version Management' window, click 'Select an Existing Reference Code as the Newer Version.' Type in the reference code and add any notes. Click 'Submit.'

Version Management

Action*

☐ Clone this Reference to Create a New Version
☒ Select an Existing Reference Code as the Newer Version

Reference Code*

2317957

Notes*

Updated to include instructions for Release 4.2

Cancel

Submit

Figure 7. Versioning by selecting an existing reference..

The reference window will close, and the profile page will appear with a version banner at the top.

Help Documentation (Code: 2317956) - Active

Add To Collection
Clone
Edit

PUBLIC

References: The Foundation of DataStore v2

A newer version of this product is available:
Test help doc for versioning. National Park Service
<https://irmadev.nps.gov/DataStore/Reference/Profile/2317957>

Citation

Thorsdatter W. References: The Foundation of DataStore v2. National Park Service
<https://irmadev.nps.gov/DataStore/Reference/Profile/2317956>

Date Published

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Description

This informational document provides details about the DataStore reference, including an introduction to the reference, descriptions of each reference tab, how to clone references and guidelines for creating new references. For new DataStore users, this entire document should be read before beginning the creation of a new reference.

Author(s)

Wendy Thorsdatter, Data Scientist (National Park Service)

Publisher

National Park Service

Core Info

Permissions

Units and Geography

Keywords

Taxonomy (0)

History

Version History (3)

Figure 8. The profile page with a link to the new version and a version banner.

The 'Version History' tab will now display all versions of the reference.

7

References: The Foundation of DataStore v2

A newer version of this product is available:
Test help doc for versioning. National Park Service
<https://irmadev.nps.gov/DataStore/Reference/Profile/2317957>

Core Info

Permissions

Units and Geography

Keywords

Taxonomy (0)

History

Version History (3)

Version History (3)

File Count	Code	Type	Title	Year	Version Notes
	2317957	Help Documentation	Test help doc for versioning	2026	Updated to include instructions for Release 4.2
	2317958	Help Documentation	References: The Foundation of DataStore v2	2026	test
1	2314194	Help Documentation	References: The Foundation of DataStore	2026	

Figure 9. Example of a version history tab.

Cross References

Cross references provide one-click access to related references. Cross references show up in the ‘See Also’ tab on the left side of the reference profile. You must have permission to edit the reference you are adding a cross reference to, but you do not need permission for the reference you are adding. Cross-references are non-reciprocal.

Original Reference	Linked Reference
- You must have permission to edit - Linked reference WILL appear in the ‘See Also’ tab of the start reference	- You do not need permission to edit - Start reference will NOT appear in the ‘See Also’ tab of the linked reference

Vocal Anuran Monitoring in Southeast Coast Network parks: 2023 Species Maps for Cape Hatteras National Seashore

Display Citation:

Parrish M  2025. Vocal Anuran Monitoring in Southeast Coast Network parks: 2023 Species Maps for Cape Hatteras National Seashore. Southeast Coast Network

Reference Type:

Map

Core

Permissions

Files and Links

Units and Geography

Keywords

Taxonomy

Cross-References

Version History

History

Cross-References

Point to other important reference.

Cross-Reference

Add

Remove All

	File Count	Type	Title	Year	Lifecycle	Visibility
X 	1	Resource Brief	Vocal Anuran Monitoring in Southeast Coast Network parks: 2023 Resource Brief for Cape Hatteras National Seashore	2025	Active	Public

Figure 10. Example of a cross-reference tab.

To add a cross reference,

- Click 'Edit' at the top of your reference profile.
- Click 'Cross References' on the left, and then 'Add.'
- Search by code or text.
- Select the reference you'd like to link by checking the box.
- Click 'Save.'

Organizing References

DataStore provides a built-in hierarchal relationship between containers and references to enable users to organize large numbers of references. A Program would be your filing cabinet, Projects would be drawers in your cabinet, Products would be individual file folders, and a Collection would be a binder on your desk that holds curated lists from the entire file cabinet, with links to access those files.

- **Program**—The ongoing/permanent organizational unit that manages multiple interdependent projects. You may add external links and web services to the program. You may not directly upload digital files. You can add projects in edit mode via the projects tab. You may add cross references.
- **Project**—A planned endeavor, usually with a specific goal and accomplished in several steps or stages that produces a variety of end-products. You may add external links and web services to the project. You may not directly upload digital files. You can add products in edit mode via the products tab. You may add cross references.
- **Product**—Individual references that may contain one or more files or digital items. Each Reference/Product has its own attributes, including access level (e.g., public, internal, named list) and version history. You may directly add digital files to a product. Once a product has been activated, you may not delete files and will need to version the product reference.

Programs and Projects are organizational reference types, and to create them, you need to create a new reference and select Program or Project as your reference type. “Product” is a generic term for references that can be placed in a Project. A list of reference types that are considered Products is found in *Appendix B—List of Products*. For more information on creating references, please read the detailed help document [References: The Foundation of DataStore](#) (Thorsdatter 2026).

The NPS Inventory and Monitoring Division has published best practices for organizing network products in the [Framework for Organizing IMD Digital Products in DataStore](#) (Wondrak Biel et al. 2025).

The most important take-away is that record organization is possible in DataStore!

In this example IMD model, file and product organization may look like this:

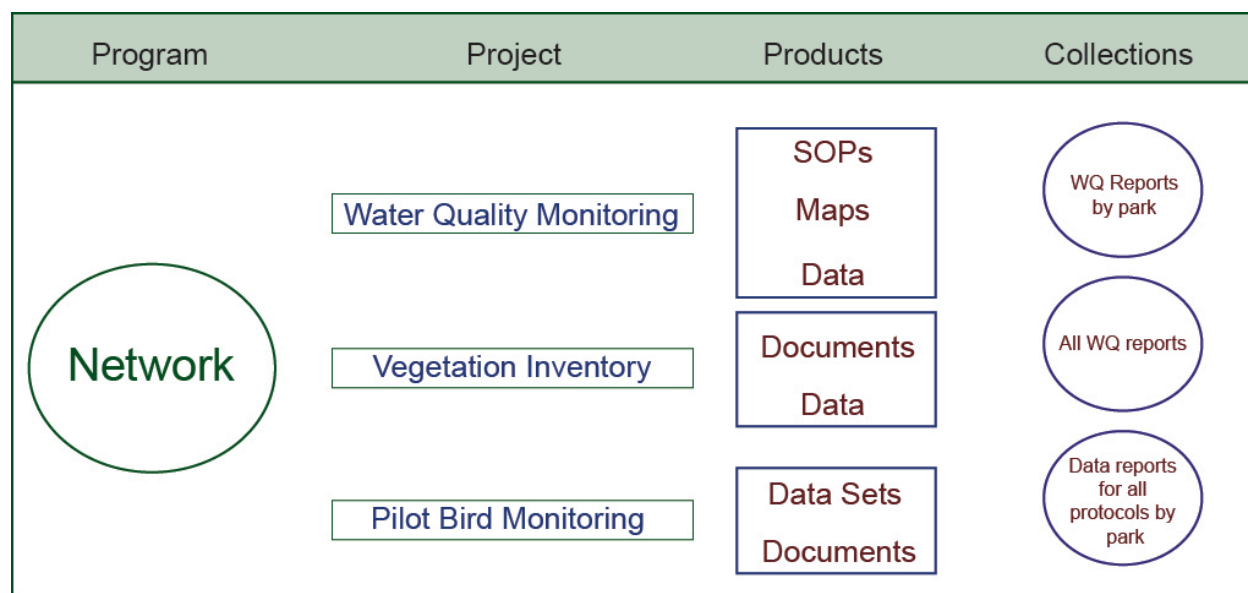


Figure 11. Example of an IMD Network reference organizational structure.

For parks, it might look more like this:

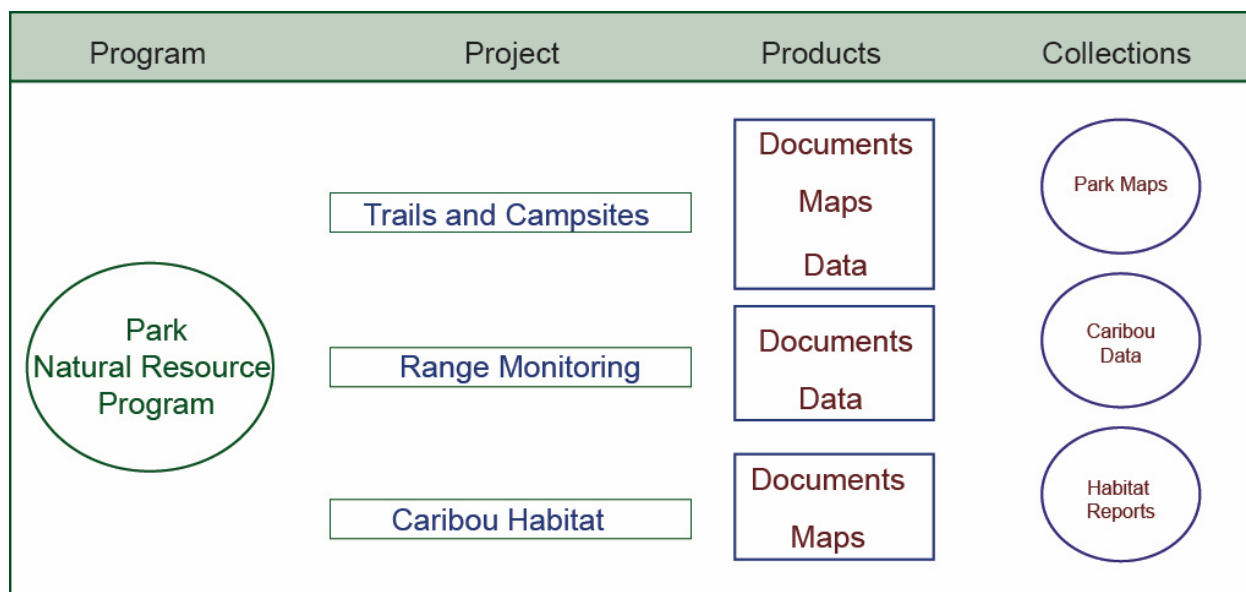


Figure 12. Example of a park reference organizational structure.

Some examples can be found here:

[NPS Datastore - Eastern Rivers and Mountains Inventory and Monitoring Network \(ERMN\)](#)

[NPS Datastore - Natural Resource Condition Assessment Program](#)

Collections

Collections are a curated list of references with links to those references. Collections are available in your dashboard by clicking the 'Collections' tab on the left navigation pane. To open a collection, click on the Collection URL.

To edit a collection, click the 'Edit' button after you click the collection URL. You may change the title or description, add owners, and add or remove references from this page. Checking the boxes on the left side will allow you to 'Remove Selected' (the button on the top right of the references panel). You may add references by clicking 'Add' and performing a code search or a text search.

You may also add references from your dashboard by checking the boxes to the left of the reference code and clicking 'Add to collection.'

Batch Managing References

Batch Manage Using the Tool

Batch managing references is a helpful tool when you need to change permissions on multiple references at one time. Note that you may only batch manage references that you have permission to edit. For example:

- You are leaving the NPS and need to transfer access to your references to someone else
- Someone in your program moved to another program or left the NPS and you wish to remove them as owners
- You've gained a new staff member, and you want them to have access to your references.

To batch manage editor access, go to 'My Content' and then 'Batch Manage Ownership' at the top of the screen while logged into DataStore.

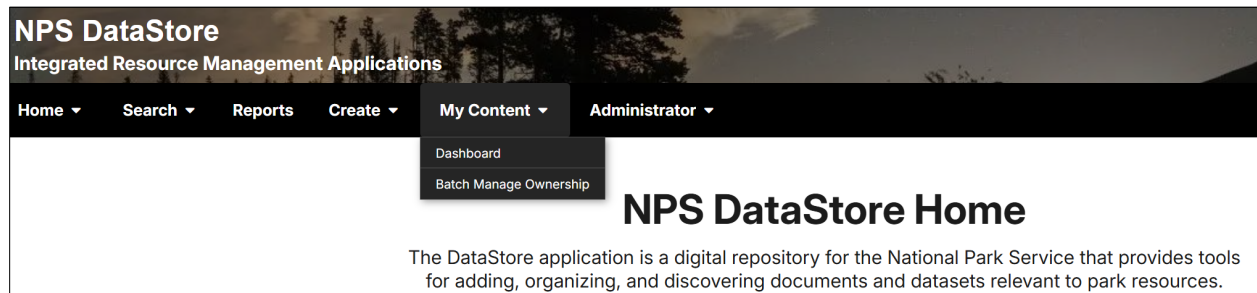


Figure 13. Graphic showing the location of the Batch Manage Ownership tool in DataStore.

All options for batch managing edit permissions are available in one screen (Figure 14).

Figure 14. Graphic showing batch management options for edit permissions.

From the top, your options are:

- ☐ Add as Owner, which grants edit permissions to a specified user for all references that you manage.
- ☐ Remove as Owner, which removes a specified user from references that you manage.
- ☐ Transfer Ownership to this User, which will add a specified user as a reference editor and remove yourself.

You can select either an NPS individual, which includes staff, partners, and contractors (anyone with an nps.gov email), or a Partner user. Partner users are currently anyone with an ios.doi.gov email address that have been granted explicit permissions as a DataStore user (e.g., a consolidated communications employee). Begin typing the name into the desired box and select the user from the dropdown list.

‘Apply to’ options are:

- ☐ References
- ☐ Collections, and
- ☐ Saved Searches

Reference options can narrow the scope of the references you are managing.

- ☐ The ‘Units’ filter allows you to choose a specific content unit (if you manage references for multiple park units). ‘Include linked Units’ will also transfer content for any units linked administratively to that content unit.
- ☐ The Lifecycle filter allows you to transfer only active, draft, or inactive references.

After filling in the required fields, click ‘Save.’

Batch Manage from your Dashboard

To manage edit permissions on select references, go to 'My Content' and 'Dashboard.' Filter references as needed. Select references by checking the box to the left of the reference code. Click 'Manage Ownership' at the top. In the example below, the references have been filtered by Unit and Reference Type, and specific references were selected.

References: Draft (17), Active (5654), Inactive (0)

[Manage ownership](#) [Add to collection](#) [Filter](#)

Filter By

File Count: Title: Year:

Unit: Type: Lifecycle:

☐	Code	Lifecycle	Visibility	File Count	Type	Title	Year
☒	2315062	Active	Public	1	Map	Vocal Anuran Monitoring in Southeast Coast Network parks: 2023 Species Maps for Cape Hatter...	2025
☒	2294562	Active	Public	5	Map	Vocal Anuran Monitoring in Southeast Coast Network Parks: Printed Species Maps 2015	2024
☒	2291583	Active	Public	5	Map	Vocal Anuran Monitoring in Southeast Coast Network Parks: Printed Species Maps 2020	2022
☐	2291577	Active	Public	5	Map	Landbird Monitoring in Southeast Coast Network Parks: Printed Species Maps 2020	2022
☐	132651	Active	Internal		Map	Vegetation, infrastructure, and fuel model maps for Cape Hatteras National Seashore	2010
☐	129902	Active	Internal		Map	Untitled: Land type maps, Cape Hatteras National Seashore	2010

Figure 15. Graphic showing filtered references selected for batch management.

When you click 'Manage Ownership' a popup window will appear where you can select your preferred action and the user's name. The number of references that the action will affect is in parentheses at the top. *Remember NPS partners (@partner.nps.gov) are NPS Individuals and Partner Users are select DOI employees. Click 'Save.'*

Manage Ownership of Selected: References (3)

Action

☒ Add as Owner

☐ Remove as Owner

☐ Transfer Ownership to this User

Select NPS Individual*

OR

Select Partner User*

[Cancel](#) [Save](#)

Figure 16. Graphic showing Manage Ownership popup window.

Curation

Creating quality metadata and organizing your references demonstrates high-caliber DataStore Game™, but good data stewardship doesn't stop there. Make sure your references stay up to date to ensure continued file management excellence. Here are some examples of when curation may be necessary:

- Collections—When you create a collection, do you add subsequent documents to it as they are published? For example, if you have a collection for “Water Quality Reports for My Favorite Park” is it a current list?
- DataStore Updates—The DataStore teams strives for continuous improvement, and these improvements are not always retroactive. References created before improvements will need to be updated. DataStore admins have tools available to update in bulk, so reach out to NRSS_DataStore@nps.gov for help!
 - By or For NPS was created to indicate that a reference was created by or for the National Park Service and is an indicator to for other repositories like data.gov.
 - Producing Unit was created to indicate the unit responsible for creating and managing content. Future DataStore updates will integrate the Producing Uni into Data Stewardship, so it's important that this is current. An example is an IMD Network that creates a data report for a park. The network would be the producing units, and the park would be the content unit.
 - Permissions and Legal Authority—The permissions tab was overhauled with DataStore release 4.0. References and files with restricted access need to be updated. Check to make sure it really needs to be restricted, and if not, change the permissions to public. If there is a legal authority to restrict access, update the contact information and legal authority.
 - Start Date—A start date is now required for Projects and will need to be set before these references can be reactivated.
- Lifecycle—Occasionally, references are accidentally set to draft when they are edited. Sometimes references are created by mistake and placed in draft instead of deleted. Check your dashboard and make sure you don't have any references in draft.

- Files or links—A reference with no digital file or link to digital information is just a citation and should not be in DataStore. Make sure your references have all the relevant information.

Detailed instructions for updating references and information about legal authorities are available in the help document [Updating References in DataStore 4.0](#) (Thorsdatter and Patterson 2025).

No one likes clutter! A little scheduled maintenance ensures that DataStore is a lean, efficient, reliable source for National Park Service holdings. If you need help getting started, reach out to NRSS_DataStore@nps.gov for help!

Literature Cited

- Thorsdatter, W.  and J. Patterson . 2025. Updating References in DataStore 4.0 — Version 1.1. National Park Service. Fort Collins, Colorado. Available at:
<https://irma.nps.gov/DataStore/Reference/Profile/2316402> (last accessed May 2026).
- Thorsdatter, W. . 2026. References: The Foundation of DataStore. National Park Service. Fort Collins, Colorado. Available at:
<https://irma.nps.gov/DataStore/Reference/Profile/2314194> (last accessed May 2026).
- Wondrak Biel, A., K. Bonebrake , K. Callahan, A. Kozlowski , J. Patterson , W. Thorsdatter . 2025. Framework for Organizing IMD Digital Products in DataStore. National Park Service. Fort Collins, Colorado. Available at:
<https://irma.nps.gov/DataStore/Reference/Profile/2311295> (last accessed May 2026).

Appendix A—Additional Versioning Details

Good to know: Rules for Versioning

- Only certain reference types can be versioned.
- You must own the reference you are attempting to version.
- When versioning a reference by selecting an existing reference, you must have access to both references. Once the versioning is complete, edit access does not need to be maintained.
- Any edits done to the original (older) reference must be saved first.
- Once a reference is designated as an older version, it may no longer be edited
- Searches return only the most recent version of a reference.

Reference Type Combinations that can be Versioned

References may only be versioned to the same reference type, with the following exceptions:

Reference Type	Can be Versioned to
Data Standard	Data Standard Published Report
Generic Dataset	Data Package Generic Dataset Geospatial Dataset Raster Dataset Relational Dataset Tabular Dataset Vector Dataset
Generic Document	Generic Document Help Documentation Unpublished Report
Geospatial Dataset	Data Package Geospatial Dataset Vector Dataset
Plan	Plan Published Report
Project Summary	Project Summary Published Report

Reference Type	Can be Versioned to
Protocol Narrative	Protocol Narrative Published Report
Protocol Development Summary	Protocol Narrative Protocol Development Summary Published Report
Published Report	Generic Document Published Report Unpublished Report
Relational Database	Relational Database Data Package Geospatial Database
Resource Brief	Published Report Resource Brief
Script or software	Script or software
Standard Operating Procedure	Published Report Standard Operating Procedure
Tabular Dataset	Data Package Tabular Dataset
Technical Assistance Report	Technical Assistance Report Published Report
Unpublished Report	Published Report Unpublished Report Generic Document
Vector Dataset	Data Package Geospatial Dataset Vector Dataset

List of Reference Types that Cannot be Versioned

- ◆ Assemblage
- ◆ Audio Recording
- ◆ Book
- ◆ Book Chapter
- ◆ Book Series
- ◆ Conference Proceeding
- ◆ Conference Proceeding Paper
- ◆ Conference Proceeding Series
- ◆ Dissertation
- ◆ Email
- ◆ Environmental Impact Statement
- ◆ Generic Multimedia
- ◆ Journal
- ◆ Journal Issue
- ◆ Letter
- ◆ Map Book-Atlas
- ◆ Map Series
- ◆ Memorandum
- ◆ Newsletter
- ◆ Newsletter Issue
- ◆ Newspaper
- ◆ Newspaper Article
- ◆ Notes
- ◆ Permit
- ◆ Photograph
- ◆ Presentation
- ◆ Program
- ◆ Project
- ◆ Proposal
- ◆ Published Report Section
- ◆ Published Report Series
- ◆ Survey
- ◆ Thesis
- ◆ Web Site

List of Fields Copied when Reference is Versioned by Cloning

Below is the list of the fields that are copied when versioning a reference via cloning:

- ◆ Title
- ◆ Creators (Contact1)
- ◆ Editor (Contact 2)
- ◆ Steward (Contact 3)
- ◆ Publisher
- ◆ Location
- ◆ Content Begin Date
- ◆ Content End Date Description
- ◆ Licensing information
- ◆ Metadata Standard
- ◆ Reference Owners
- ◆ Reference and File Access Level
- ◆ Additional Use Constraints
- ◆ Geography (Producing and Content Units)
- ◆ Keywords
- ◆ Vocabularies
- ◆ Taxonomy Tab
- ◆ Taxonomic Records for Reference
- ◆ Cross Reference Tab

Appendix B—List of Products

List of Reference types that can be added to a Project

- ◆ Aerial Photograph
- ◆ Assemblage
- ◆ Audio Recording
- ◆ Book
- ◆ Book Chapter
- ◆ Brochure
- ◆ Compliance Document
- ◆ Conference Proceeding Paper
- ◆ Data Package
- ◆ Data Standard
- ◆ Dissertation
- ◆ Docket
- ◆ Email
- ◆ Environmental Impact Statement
- ◆ Generic Dataset
- ◆ Generic Document
- ◆ Generic Multimedia
- ◆ Geospatial Dataset
- ◆ Help Documentation
- ◆ Imagery
- ◆ Journal Article
- ◆ Letter
- ◆ Lidar Image
- ◆ Map
- ◆ Mapbook-Atlas
- ◆ Memorandum
- ◆ Movie/Video
- ◆ Newsletter Article
- ◆ Newsletter Issue
- ◆ Newspaper Article
- ◆ Notes
- ◆ Permit
- ◆ Photogrammetry Assemblage
- ◆ Photogrammetry Image
- ◆ Photograph
- ◆ Plan
- ◆ Poster
- ◆ Presentation
- ◆ Project Summary
- ◆ Proposal
- ◆ Protocol Development Summary
- ◆ Protocol Narrative
- ◆ Published Report
- ◆ Published Report Section
- ◆ Raster Dataset
- ◆ Relational Database
- ◆ Resource Brief
- ◆ Resource Guide
- ◆ Satellite Image
- ◆ Script
- ◆ Software
- ◆ Standard
- ◆ Standard Operating Procedure
- ◆ Survey
- ◆ Tabular Dataset
- ◆ Technical Assistance Report
- ◆ Thesis
- ◆ Unpublished Report
- ◆ Vector Dataset
- ◆ Web Site