



Module 5: The WorkBench



CSIC
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mnch
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What is the WorkBench?

- The **WorkBench** offers the following features:
 - You can import data from CSV, TSV, TXT, XLS, and XLSX files
 - Create, view, and edit data in a gridview
 - Visualize georeferenced object information in GEOLocate and GeoMap
 - Convert geo coordinates into different formats
 - Export and reimport data sets while retaining the mapping

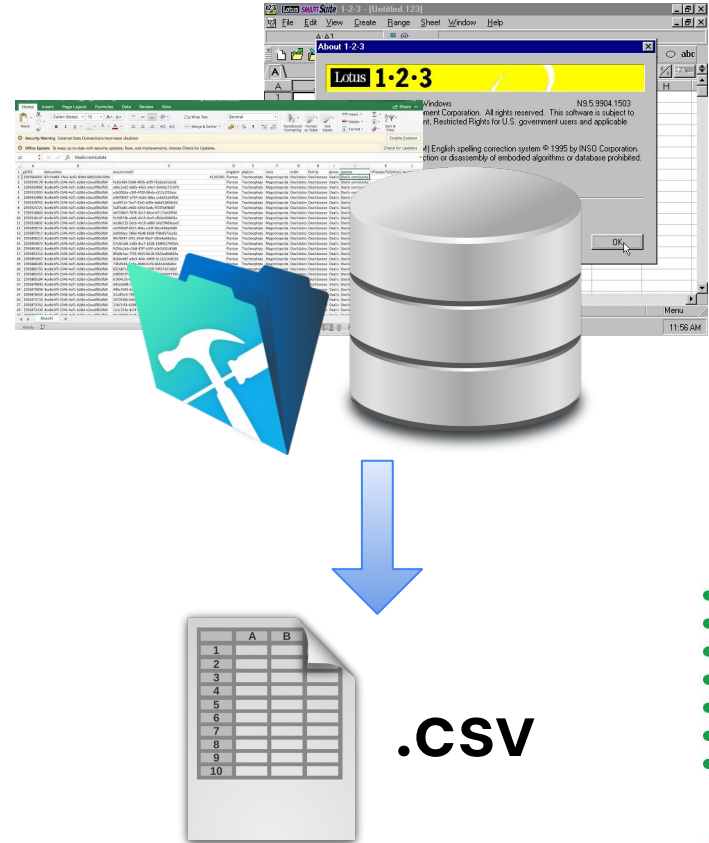


Before You Begin



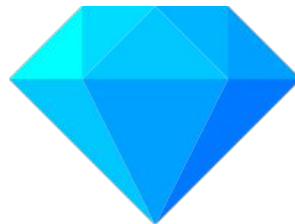
Preparing Data

- Data is often captured in one or more other systems before being ingested to Specify.
 - In most cases, data must be accessible in spreadsheet (CSV, Excel, etc.) form before it can be ingested into Specify.
- The mechanism for exporting depends on the source of the data
- Once exported, data is frequently disorganized or lacking standardization.



Standardizing & Cleaning Data

We strongly recommend that you use tools like OpenRefine, Excel, Python, or other tools to clean, organize, and parse data to prepare it for importing.



Collectors - Last Name 1 1	Collectors - Last Name 1 2	Co
J	M	
J	M	
O	W	
J	S	
J	S	

[illegible]

☐ Geography - Full Name	
Nicaragua, Chinandega	
Nicaragua, Chinandega	
Nicaragua, Esteli	
Nicaragua, Esteli	
Nicaragua, Esteli	
Nicaragua, Esteli	
Nicaragua, Esteli	
Nicaragua, Esteli	
Nicaragua, Matagalpa	

☒ Geography - Full Name 1	☐ Geography - Full Name 2
Nicaragua	Chinandega
Nicaragua	Chinandega
Nicaragua	Esteli
Nicaragua	
Nicaragua	Esteli
Nicaragua	Esteli
Nicaragua	Esteli
Nicaragua	Esteli
Nicaragua	Esteli
Nicaragua	Matagalpa

A blue arrow points from the first dropdown menu to the second one.



Standardizing & Cleaning Data (OpenRefine)



Standardize Dates

Split 6 cell(s) in column Collecting Information - Coll_Date into several columns by separator Undo

5 10 25 50 100 500 1000 rows

Collecting Information - Coll_Date 1 Collecting Information - Coll_Date 2 Collecting Information - Coll_Date 3

1 Jan 1943

1 Jan

1 Jan

1 Jan

1 Jan

Collecting Information - CollectionDate

01/01/1915

01/01/1915

01/01/1932

01/01/1937

01/01/1937

01/01/1939

Find and Resolve Duplicates

Cluster and edit column "Last Name"

Find groups of different cell values that might be other representations of the same thing. For example, "New York" and "new york" likely refer to the same concept and just differ by capitalization, and "Gödel" and "Godel" probably refer to the same person. [Find out more...](#)

Method: Nearest neighbor Distance function: PPM Radius: 1.0 Block chars: 6 ☐ Auto-update 3 clusters found

Cluster size	Row count	Values in cluster	Merge?	New cell value	# Rows in cluster
2	2	- Richards - Richardson	☐	Richards	2 — 3
2	3	- Atkins (2 rows) - Atkinson	☐	Atkins	Average length of choices
2	3	- Al Issai (2 rows) - Al Issay	☐	Al Issai	7 — 9
					Length variance of choices
					0 — 1

How do you create a data set?

Select **WorkBench** in the navigation menu.

You can either **Create a New Data Set** or **Import a File**.

WorkBench Data Sets (1)

Name	Timestamp Created	Timestamp Uploaded
 Collection Data	15 hours ago	16 hours ago 

Cancel

Import Attachments

Import File

Create New

Choose a file or drag it here

utf-8

Tab

Bigelow cruise data



Preview Dataset

Upload Plan

Upon creating or uploading a new data set, you will need to define an **upload plan**.

No Upload Plan is Defined

No Upload Plan has been defined for this Data Set. Create one now?

Close

Create

Base Table

A new record must be created for each row in the **base table** you choose.

- If your base table is “Collection Object”, each row is a **new record**.
- If your base table is “Determination” and you are adding new Determination records to existing Collection Objects, each row in the data set will be a **new** determination, but the Collection Objects can be ‘matched’ as already existing.

 **Select a Base Table**

Acc

Accession

Agt

Agent

Bor

Borrow

CE

Collecting Event

CO

Collection Object

CvE

Conservator Event

Con

Container

DNA

DNA Sequence

Dea

Deaccession

Det

Determination

EI

Exchange In

EO

Exchange Out

Geo

Geography

☐ Show Advanced Tables

Cancel

Choose Existing Plan

Base Table

If you have uploaded or created data sets in the WorkBench before, you can select "**Choose Existing Plan.**"

If some or all of your column headings match those in the other data set, the same *field mapping* will be used for that column.

Copy plan from existing Data Set

Name	Timestamp Created	Timestamp Uploaded
 Bigelow cruise data	now	
 New Data Set Mon Aug 05 2024	7 days ago	
 New Data Set Fri Aug 02 2024	last week	
 New Data Set Thu Aug 01 2024 (2)	2 weeks ago	
 New Data Set Thu Aug 01 2024	2 weeks ago	
 FishTissueData	2 months ago	
 Query - Fri May 17 2024	3 months ago	

Cancel

AutoMapper

If you **import a file**, WorkBench reads the existing column headings in a data set and map them to Specify fields using the '**AutoMapper**'.

It automatically associated many of the imported spreadsheet columns with its fields in Specify.

The screenshot shows the 'AutoMapper' tab in the Specify software interface. At the top, there are tabs for 'Base Table', 'Clear Mappings', and 'AutoMapper'. On the right, there are buttons for 'Hide Field Mapper', 'Must Match', 'Validate', 'Cancel', and 'Save'. The main area is divided into two panes. The left pane, titled 'Collecting Event', lists fields with green checkmarks: Date, End Time, Field Number, and Gear. The right pane, titled 'Map', is currently empty. Below these panes is a list of mappings. Each row has a dropdown menu on the left, a checkmark, a dropdown menu in the middle, and a gear icon on the right. The mappings are as follows:

Field Number	✓	Field Number	⚙️
Vessel	✓	Collecting Trip	→ ✓ Vessel ⚙️
Cruise	✓	Collecting Trip	→ ✓ Cruise ⚙️
Station	✓	Collecting Trip	→ ✓ Haul ⚙️
Date	✓	Date	⚙️
Continent	✓	Locality	→ Geography → Continent → ✓ Name ⚙️
Datum	✓	Locality	→ ✓ Datum ⚙️
Watertype	✓	Locality	→ ✓ Water Type ⚙️

At the bottom, there is a button 'Add New Column' and a checkbox 'Reveal Hidden Form Fields'.

WorkBench Mapper

The **WorkBench Mapper** allows you to select a column in the data set and map it to a Specify field name.

The active/selected column will have a gray background. You can use the Map Explorer or the drop-down menus to assign each column a field.

The interface displays a list of fields from a 'Collection Object' dataset on the left and a mapping table on the right.

Collection Object Fields:

- Cat #
- Cat Date
- CT Scan
- GUID
- Inventory
- Prev/Exch #
- Project Number

Mapping Table:

Column	Field	Field
New Column 1	NONE SELECTED	
New Column 2	NONE SELECTED	
New Column 3	Acc Accession #	Accession #
New Column 4	Agt Cataloger	First Name
New Column 5	Agt Cataloger	Last Name

Buttons: Add New Column, Reveal Hidden Form Fields



Button	Description
Base Table	Changes the underlying base table. Doing this will undo any previous mappings.
Clear Mappings	Clears all mappings.
AutoMapper	Uses the AutoMapper to assign column headers a field in Specify.
Hide Field Mapper	Hides the map explorer section of the WorkBench .
Must Match	Opens a window allowing you to select which table's data must match existing records.
Validate	Validates the upload plan to ensure no missing mappings or data fields required by your configuration are unfinished. Turns green when clicked on once the data is ready.
Cancel	Cancels the import or new mapping creation.
Save	Saves the data set.
Add New Column	Adds a new column to the Data Set.
☐ Reveal Hidden Form Fields	If selected, you will be able to map columns to hidden fields in your Specify configuration's schema. These will not appear on your forms unless modified.



Mapper Tools

Must Match

Opens a window allowing you to select which table's data must match existing records.

This can be useful for preventing duplication when uploading, particularly for **Agent**, **Geography**, **Taxon**, and other trees.

 **Change Matching Logic**

Require Data to Match Existing Records

Table Name	Must Match
 Agent	☐
 Collection Object Attribute	☐
 Geography	☐
 Locality	☐
 Preparation Type	☒
 Taxon	☐

Apply

Mapper Tools



The **gear** icon to the right of the column allows you to modify its matching behavior, change empty value behavior, and set a default value.

	Catalog Number	✓ Catalog Number	▼	
	Cataloged Date	✓ Cataloged Date	▼	
	Collection Object · Remarks	✓ Remarks	▼	
	Prev Inst	✓ Prev Inst	▼	
	Locality Name	Collecting Information	▼	→ Locality

Match Behavior:

☐ Ignore when Blank

☐ Always Ignore

☒ Never Ignore

☒ Allow Null Values

☐ Use Default Value

Match Behavior

Ignore when Blank

This is the *default matching behavior*. This means that blank values are considered “null”.

Always Ignore

Ignore the value in that column for *matching purposes* only.

For example, if the “Author” value differs slightly from an existing Taxon record in your database but matches other mapped fields like “Name,” it won’t stop it from matching existing records during the WorkBench upload.

The screenshot displays the WorkBench interface with a table of columns and their corresponding match behaviors. A settings menu is open for the 'Author' column, showing the following options:

- ☐ Ignore when Blank
- ☒ Always Ignore
- ☐ Never Ignore
- ☒ Allow Null Values
- ☐ Use Default Value

The table structure is as follows:

Column	Det	Match Behavior	Taxon
Species Author1	Determinations	Author	Taxon
Subspecies Author1	Determinations	Author	Taxon
Type Status 1	Determinations	#2	Taxon
Family2	Determinations	#2	Taxon

Match Behavior

Always Ignore (cont.)

When importing new taxonomy data or collection object records, skip non-essential matching fields with potentially slightly different non-essential data to prevent duplication.

Never Ignore

This will force the WorkBench to never ignore the value of the field, so even if it is blank, it will require that records matched to it also have a blank value in that column.

The screenshot shows a configuration interface for matching taxonomy data. It features several rows, each representing a different field type. Each row has a 'Det' (Determination) dropdown, a 'Tax' (Taxon) dropdown, and a 'Match Behavior' dropdown. A yellow tooltip is visible over the 'Match Behavior' dropdown for the 'Species Author1' row, showing the following options:

- ☐ Ignore when Blank
- ☒ Always Ignore
- ☐ Never Ignore
- ☒ Allow Null Values
- ☐ Use Default Value

The rows shown are:

- Species Author1: Det Determinations → Tax Species → Match Behavior (Always Ignore, Allow Null Values)
- Subspecies Author1: Det Determinations → Tax Subspecies → Match Behavior (Always Ignore, Allow Null Values)
- Type Status 1: Det Determinations → Tax Taxon → Match Behavior (Always Ignore, Allow Null Values)
- Family2: Det Determinations → Tax Taxon → Match Behavior (Always Ignore, Allow Null Values)

The screenshot shows a configuration interface for matching taxonomy data. It features several rows, each representing a different field type. Each row has a 'Tax' (Taxon) dropdown, a 'Match Behavior' dropdown, and a 'Match Behavior' dropdown. A yellow tooltip is visible over the 'Match Behavior' dropdown for the 'Phylum' row, showing the following options:

- ☐ Ignore when Blank
- ☒ Always Ignore
- ☐ Never Ignore
- ☒ Allow Null Values
- ☐ Use Default Value

The rows shown are:

- Phylum: Tax Phylum → Match Behavior (Always Ignore, Allow Null Values)
- Phylum - GUID: Tax Phylum → Match Behavior (Always Ignore, Allow Null Values)
- Phylum - Author: Tax Phylum → Match Behavior (Always Ignore, Allow Null Values)
- Phylum - Common Name: Tax Phylum → Match Behavior (Always Ignore, Allow Null Values)
- Phylum - Remarks: Tax Phylum → Match Behavior (Always Ignore, Allow Null Values)
- Phylum - Source: Tax Phylum → Match Behavior (Always Ignore, Allow Null Values)
- Class: Tax Class → Match Behavior (Always Ignore, Allow Null Values)
- Class - Author: Tax Class → Match Behavior (Always Ignore, Allow Null Values)

At the bottom, there are buttons for 'Add New Column' and 'Reveal Hidden Form Fields'.

Matching Behavior

Allow Null Values

This checkbox allows you to configure whether empty values are considered “errors” or not when validating. If unchecked, all empty cells in this column will be considered errors after validation completes.

Use Default Value

You can establish a default value for all entries in a column if no conflicting value exists in the imported spreadsheet or data set entered by the user.

Color

CoA Col Obj Attribute

✓ Color

⚙

Match Behavior:

☐ Ignore when Blank

☐ Always Ignore

☒ Never Ignore

☒ Allow Null Values

☒ Use Default Value :

Green

Mapper Tools



The **X** button on the far left of the column mapping will clear the column's mapping.

When an unmapped column is selected, AutoMapper will suggest one if it has a recommendation available.

Suggested Mappings:

- ✓ Catalog Number

Catalog Number **NOT MAPPED**

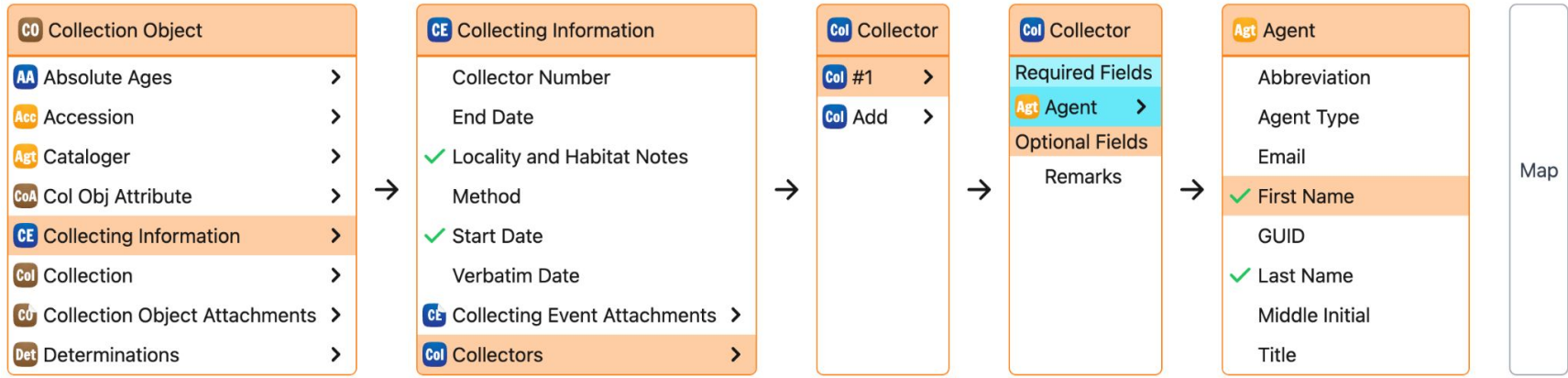
Catalog Number

Suggested Mappings:

- Det Determinations → Det #4 → Agt Determiner → ✓ Last Name
- Pre Preparations → Pre #1 → Agt Prepared By → ✓ Last Name
- Acc Accession # → Agt Accession Agents → Agt #1 → Agt Agent → ✓ Last Name

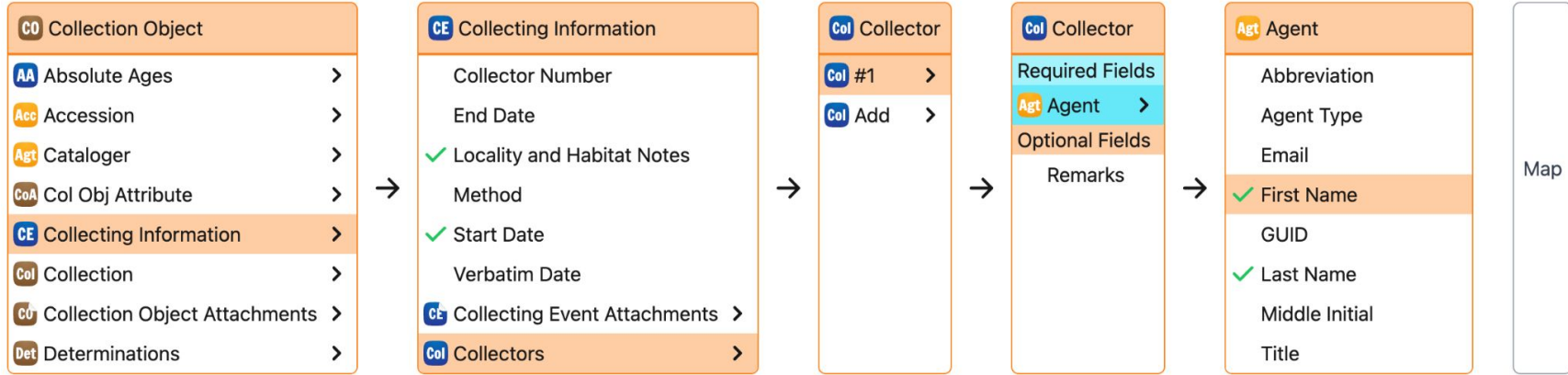
The **Map Explorer** allows you to visualize the process of mapping each column in a data set.

The fields presented under each table that have no icon to their left are children of their parent table that appears at the top.



When you see an **icon** (**Agt**) to the left of a field, it means that it is a table. Upon clicking on that item, you will see another list appear allowing you to either choose a field from it or go into another sub-table.

You can double-click on the item to map it or click on **Map** and move on to the next column.



Outside of the Map Explorer, you can also map items directly in-line with the **drop-down menus** for each column's mapping.

The screenshot displays a mapping interface with a table of columns and their corresponding data sources. The columns are 'Haul', 'Locality Name', and 'Lat/Long Method'. The 'Haul' column is mapped to 'Field No: Locality'. The 'Locality Name' column has a dropdown menu open, showing 'NONE SELECTED' and a list of options: 'Cat #', 'Cat Date', 'CT Scan', and 'GUID'. The 'Lat/Long Method' column is mapped to 'Locality'. The interface also shows a 'Suggested Mappings' section with a mapping from 'Field No: Locality' to 'Locality' to 'Locality Name'.

Column	Mapping
Haul	Field No: Locality
Locality Name	NONE SELECTED
Lat/Long Method	Locality

Suggested Mappings:

Field No: Locality → Locality → Locality Name

Options for Locality Name:

- ✓ Cat #
- ✓ Cat Date
- CT Scan
- GUID

Grid Editing

Grid editing enables Data Sets to be modified like a **spreadsheet**.

CO Data Set: FishTissueData

Meta Data

Tools

Data Mapper

Validate

Results

Upload

Revert

Save

	CO Cat #	VR Voucher Number	Ag1 Cataloger First Name	Ag1 Cataloger Last Name	Ag1 Cataloger Middle	Ag1
1	#####	KU 24393	Andrew	Bentley	C	Mr.
2	#####	KU 29838	Andrew	Bentley	C	Mr.
3	#####	KU 29226	Andrew	Bentley	C	Mr.
4	#####	MCZ 160717	Andrew	Bentley	C	Mr.
5	#####	KU 23753	Andrew	Bentley	C	Mr.
6	#####	KU 29213	Andrew	Bentley	C	Mr.
7	#####	MCZ 167971	Andrew	Bentley	C	Mr.
8	#####	MCZ 162133	Andrew	Bentley	C	Mr.
9	#####	KU 29736	Andrew	Bentley	C	Mr.
10	#####	MCZ 163234	Andrew	Bentley	C	Mr.
11	#####	MCZ 163457	Andrew	Bentley	C	Mr.
12	#####	MCZ 167914	Andrew	Bentley	C	Mr.
13	#####	KU 29840	Andrew	Bentley	C	Mr.
14	#####	KU 29804	Andrew	Bentley	C	Mr.
15	#####	KU 29231	Andrew	Bentley	C	Mr.

Search

Replace

⚙

< Search Results (0 / 0) >

< Modified Cells (0 / 0) >

< New Cells (0 / 0) >

< Error Cells (0 / 0) >

Grid Editing

Grid Editing

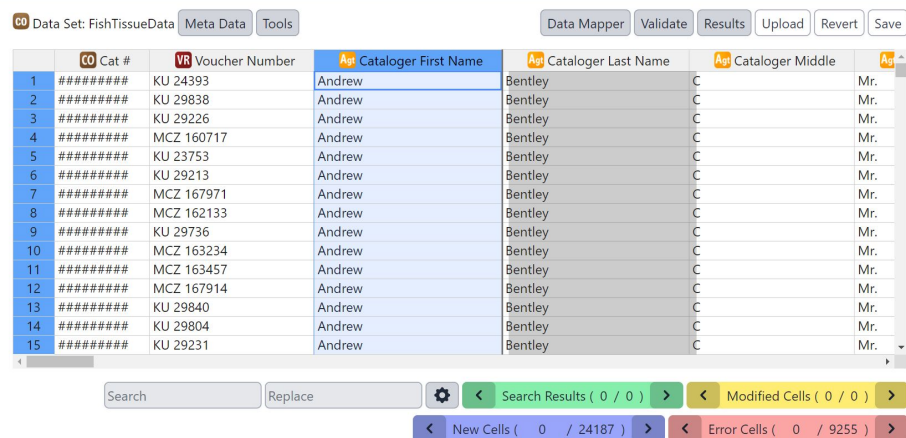
You can interact with any cell, column, or row by selecting it. You can navigate the grid with your mouse or use keyboard navigation with the arrow keys.

Modifying the Grid

By clicking and dragging on a column header, you can rearrange the table's column order in seconds.

Rearrange Columns

Columns can be rearranged by dragging and dropping.



CO Data Set: FishTissueData Meta Data Tools Data Mapper Validate Results Upload Revert Save

	CO Cat #	VR Voucher Number	Ag Cataloger First Name	Ag Cataloger Last Name	Ag Cataloger Middle	Ag
1	#####	KU 24393	Andrew	Bentley	C	Mr.
2	#####	KU 29838	Andrew	Bentley	C	Mr.
3	#####	KU 29226	Andrew	Bentley	C	Mr.
4	#####	MCZ 160717	Andrew	Bentley	C	Mr.
5	#####	KU 23753	Andrew	Bentley	C	Mr.
6	#####	KU 29213	Andrew	Bentley	C	Mr.
7	#####	MCZ 167971	Andrew	Bentley	C	Mr.
8	#####	MCZ 162133	Andrew	Bentley	C	Mr.
9	#####	KU 29736	Andrew	Bentley	C	Mr.
10	#####	MCZ 163234	Andrew	Bentley	C	Mr.
11	#####	MCZ 163457	Andrew	Bentley	C	Mr.
12	#####	MCZ 167914	Andrew	Bentley	C	Mr.
13	#####	KU 29840	Andrew	Bentley	C	Mr.
14	#####	KU 29804	Andrew	Bentley	C	Mr.
15	#####	KU 29231	Andrew	Bentley	C	Mr.

Search Replace Search Results (0 / 0) Modified Cells (0 / 0) New Cells (0 / 24187) Error Cells (0 / 9255)

Tax Family1

Tax Subfamily1

Sort Columns

You can click on the column header text once to sort the grid ascending, twice to sort descending, and three times to reset it to neutral sorting.

 Cataloger First Name↑

Click once to sort in ascending order

 Cataloger First Name↓

Click twice to sort in descending order

 Cataloger First Name

Click three times to return to the default neutral sorting

 Cataloger First Name↑₁

 Cataloger Last Name↑₂

 Cataloger Middle↑₃

You can set the sorting priority of multiple columns by pressing Alt while selecting the column headers. A number (such as ↑₁) will appear on the right of the column header showing the order of sorting operation.

Select Entire Rows or Columns

	CO Cat #	VR Voucher Number	Agt Cataloger First Name
1	#####	KU 24393	Andrew
2	#####	KU 29838	Andrew
3	#####	KU 29226	Andrew
4	#####	MCZ 160717	Andrew
5	#####	KU 23753	Andrew
6	#####	KU 29213	Andrew
7	#####	MCZ 167971	Andrew
8	#####	MCZ 162133	Andrew
6	#####	KU 29213	Andrew
7	#####	MCZ 167971	Andrew
8	#####	MCZ 162133	Andrew
12	#####	MCZ 167971	Andrew
13	#####	KU 29840	Andrew
14	#####	KU 29804	Andrew
15	#####	KU 29231	Andrew

Auto-Incrementing

In order to automatically create new catalog numbers (or new values in other auto-incremented fields) you need to insert the format for the field into the cell.

For example, if your catalog number is formatted as a 9-digit number you need to insert #####:

Formatter	Cell Value
AccessionNumber	2023-AA-###
AccessionNumberByYear	2023-AA-AAA
AccessionStringFormatter	AAAAAAAAAA
CatalogNumber	2023-#####
CatalogNumberAlphaNumByYear	2023-#####
CatalogNumberNumeric	#####

Context Menus

When you right-click on a cell, you will be presented with several options:



MCZ 160717	Andrew
KU 23753	Insert row above
KU 29213	Insert row below
MCZ 1679	Remove row
MCZ 1621	Disambiguate
MCZ 1632	Fill Down
MCZ 1634	Fill Up
MCZ 1679	Undo
KU 29840	Redo
KU 29804	

Name	Description
Insert row above	Inserts a row above the selected cell.
Insert row below	Inserts a row below the selected cell.
Remove row	Removes the entire row containing the selected cell.
Disambiguate	Allows you to solve ambiguity errors that result when new data has identical records matching information already in the database.
Fill down	Takes the top row of selected cells and fills it down the grid.
Fill up	Takes the bottom row of selected cells and fills it up the grid.
Undo	Undoes the previous modification.
Redo	Redoes the previously undid modification.



Error Cells

Error cells will notify you with a potential solution or explanation for why there is an error. A tooltip will appear when hovering over an errored cell.

In most cases, you will have to manually edit to solve the error.

ABC	Value 'ABC' doesn't match formatter #####
11630	
11631	
11632	

log Number	PT Prep Type
No matching record for must-match table.	Plate

Locality and Habitat Notes	CE Collecting Information - Method
"Carved" is not a legal value in this picklist field. Click on the arrow to choose among available options.	Carved

Disambiguation (Multiple Matched Records)



If a record is being **matched** to those that exist in the database, it *may* match more than one possible record. See **Matching Behavior**.

In the case that multiple records are returned, you can *disambiguate* these results by comparing the matches.

Webster	This value matches two or more existing database records and the match must be disambiguated before uploading.
Wayne	

Disambiguate Multiple Record Matches

- ☐ North America, United States, West Virginia, Webster (in North America, United States, West Virginia)
- ☐ North America, United States, Missouri, Webster (in North America, United States, Missouri)
- ☐ North America, United States, Nebraska, Webster (in North America, United States, Nebraska)
- ☐ North America, United States, Mississippi, Webster (in North America, United States, Mississippi)

Insert row above

Insert row below

Remove row

Disambiguate

Fill Down

Cancel

Apply

Apply All

Agent Disambiguation

1

	Agt First Name	Agt Last Name	CO Cat # ↑
1	C	Johnston	This value matches two or more existing database records and the match must be disambiguated before uploading.
2			

2

	Agt Last Name
	Johns

Insert row above

Insert row below

Remove row

Disambiguate

3

Disambiguate Multiple Record Matches

☒ Johnston, C E

☐ Johnston, C

Cancel

Apply

Apply All

Uploaded Cells

After uploading the Data Set into the database, the new cell's right-click context menu will link to the record that was created from the cell.

1	11625	02/23/2024
2	11626	 Collection Object 
3	11627	02/23/2024
4	11628	02/23/2024
5	11629	02/23/2024
6	11630	02/23/2024
7	11631	02/23/2024
8	11632	02/23/2024

WorkBench Grid Editing Guide

Button Name	Description	Requirements
Meta Data	Displays the metadata including the name, remarks, number of rows, columns, date created, date modified, whether it has been uploaded or not, and who created it.	None
Tools	Expands a hidden menu that includes the following 6 buttons	None
Change Owner	Change the data set owner to another user. This is especially useful for users who can import and validate data sets but need to send it to admin user who can upload it.	Transfer permission
Upload Plan	Provides a .json file of the workbench mappings.	None
Export	Export the Data Set as a CSV file.	None
Convert Coordinates	Opens Latitude/Longitude converter.	Latitude1, Longitude1
GEOLocate	Open GEOLocate.	Latitude1, Longitude1
GeoMap	Open GEOMap.	Latitude1, Longitude1
Data Mapper	Return to the data mapping interface to add or modify columns.	None

Button Name	Description	Requirements
Validate	Validates the Data Set to ensure no errors have been introduced. After clicking it will start to validate and once it is done there will be one of two dialogs either: completed with errors or completed with no errors	Validate Permission
Results	Shows the number of potential new records that would be created in each table. After the data set has been uploaded, at the bottom there is a Create Record Set button	None
Create Record Set	This will create a record set with all the records from the data set.	Create Record Set Permission
Upload	Uploads the Data Set into your database. After the data is uploaded into the database, you can right-click on any blue cell to open the newly created record.	Upload Permission
Roll Back	After uploading you can undo (or roll back) the Data Set upload in the database.	This only works if no changes have been made to any of the uploaded records.
Revert	Undo the most recent modification.	Revert Permission
Save	Save all changes.	Update Permission

Find & Replace

After uploading the Data Set into the database, the new cell's right-click context menu will link to the record that was created from the cell.

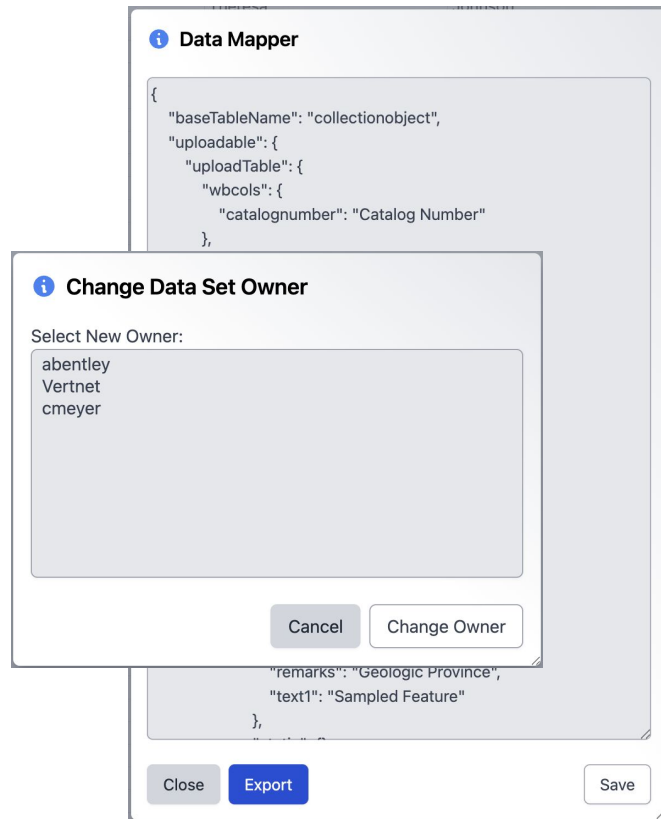


1	11625	02/23/2024
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3	11627	02/23/2024
4	11628	02/23/2024
5	11629	02/23/2024
6	11630	02/23/2024
7	11631	02/23/2024
8	11632	02/23/2024

Share Upload Plans

Users can **transfer data set** ownership between each other, given all users have permission to the same collection.

Users can also **export** upload plan mappings as JSON files which can be imported using the same mechanism.



Search Options



You can search for values in cells in **Search**. This can be used either as a regular search function or to replace what was searched with something else. Click on the  icon and you can configure:

Options	Description
Cursor Priority	When navigating the search results: column first means that it will move up/down the column and then move to the next row whereas row first means it will move across the row before moving up/down the columns.
Find entire cells only	If the search result needs to match the entire cell then this needs to be checked but if it can just be a part of a cell then this should be unchecked.
Match case	With this checked the search will be case sensitive, with it unchecked it will be case insensitive.
Use regular expression	Regular expression is supported when searching and when using find and replace.
Live search	With this checked it will search as you are typing, if it is unchecked it will only search after enter is pressed.
Replace mode	When using the find and replace feature: replace all matches will replace every instance of the searched term with the replaced term, replace next occurrence will just replace the selected search term with the replaced term.

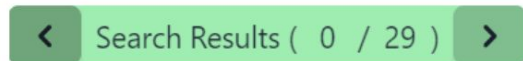
	Cyprinidae		Hybopsis	
	Gobiidae			
	Anarhichadidae		Anarhichas	
	Chlorophthalmidae		Bathvotois	

 < Search Results (2 / 3) >

Cell Navigator

Search Results Navigator

Every cell that matches the entire text in the search field will be highlighted green. This behavior can be modified.



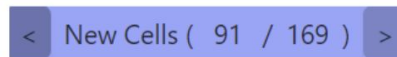
Modified Cells Navigator

Every cell you modify before saving will be highlighted yellow.



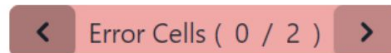
New Cells Navigator

Every cell that is new to your database before uploading will be highlighted purple.



Error Cells Navigator

Every error cell will be highlighted in red and must be modified before proceeding.





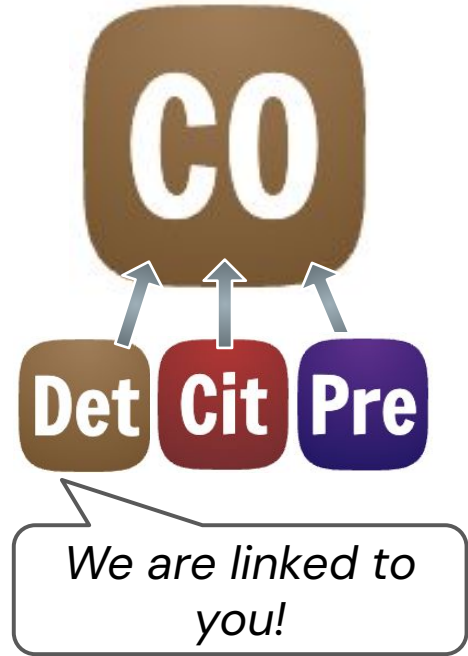
Recap: Dependent vs. Independent



Dependent Relationships

A **dependent** relationship means that the existence of a record in the “child” table depends on the existence of a record in the “parent” table.

- When using the WorkBench, you can **upload new dependent records** and link them to existing records in the database.



Independent Relationships

• An **independent relationship** means that the related record can exist on its own, regardless of whether it is referenced by another record.

- You **cannot update links to independent records** using the WorkBench; instead, you must use the Batch Edit tool.





Use Cases



A 7x3 grid of green dots, representing the number 21.

Populating a Tree

Tax Data Set: Meteorite classifications (Uploaded, Read-Only) **Meta Data** **Tools** **Data Mapper** **Results** **Roll Back**

	Tax Rank 1	Tax Rank 2	Tax Rank 3	Tax Rank 4	Tax Rank 5	Tax Rank 6
1	Undifferentiated Meteorites	Chondrites	Carbonaceous	CI	CI	
2	Undifferentiated Meteorites	Chondrites	Carbonaceous	CM-CO	CM	
3	Undifferentiated Meteorites	Chondrites	Carbonaceous	CM-CO	CO	
4	Undifferentiated Meteorites	Chondrites	Carbonaceous	CV-CK	CV	CVA
5	Undifferentiated Meteorites	Chondrites	Carbonaceous	CV-CK	CV	CVB
6	Undifferentiated Meteorites	Chondrites	Carbonaceous	CV-CK	CV	CVred
7	Undifferentiated Meteorites	Chondrites	Carbonaceous	CV-CK	CK	
8	Undifferentiated Meteorites	Chondrites	Carbonaceous	CR clan	CR	
9	Undifferentiated Meteorites	Chondrites	Carbonaceous	CR clan	CH	
10	Undifferentiated Meteorites	Chondrites	Carbonaceous	CR clan	CB	
11	Undifferentiated Meteorites	Chondrites	Carbonaceous	CR clan	CB	
12	Undifferentiated Meteorites	Chondrites	Carbonaceous	CR clan	CB	CBa
13	Undifferentiated Meteorites	Chondrites	Carbonaceous	CR clan	CB	CBb
14	Undifferentiated Meteorites	Chondrites	Ordinary	H-L-LL	H	
15	Undifferentiated Meteorites	Chondrites	Ordinary	H-L-LL	L	
16	Undifferentiated Meteorites	Chondrites	Ordinary	H-L-LL	LL	
17	Undifferentiated Meteorites	Chondrites	Enstatite	EH-EL	EH	
18	Undifferentiated Meteorites	Chondrites	Enstatite	EH-EL	EL	
19	Undifferentiated Meteorites	Chondrites			R	
20	Undifferentiated Meteorites	Chondrites			K	
21	Differentiated Meteorites	Achondrites	Primitive Achondrites	Acapulcoites		
22	Differentiated Meteorites	Achondrites	Primitive Achondrites	Lodranites		
23	Differentiated Meteorites	Achondrites	Primitive Achondrites	Winonaites		
24	Differentiated Meteorites	Achondrites	Martian	Shergottites		
25	Differentiated Meteorites	Achondrites	Martian	Nakhlites		
26	Differentiated Meteorites	Achondrites	Martian	Chassignites		
27	Differentiated Meteorites	Achondrites	Martian	ALH 84001 opx		

Adding Citations

DA

Data Set: Citations

Meta Data

Tools

Data Mapper

Validate

Results

Upload

Revert

Save

	CO	Catalog number	RW	Type	RW	Title	RW	Volume	RW	Pages	RW	Date	RW	DOI	RW	URL	
1		10026		Paper	▼	A revision of the catfish genus "Noturus" Rafinesque with an analysis of higher groups in the Ictaluridae.	282	315	1969	10.5479/si.03629236.282.1	https://doi.org/10.5479/si.03629236.282.1	Taylor					
2		10168		Paper	▼	A revision of the catfish genus "Noturus" Rafinesque with an analysis of higher groups in the Ictaluridae.	282	315	1969	10.5479/si.03629236.282.1	https://doi.org/10.5479/si.03629236.282.1	Taylor					
3		10194		Paper	▼	A revision of the catfish genus "Noturus" Rafinesque with an analysis of higher groups in the Ictaluridae.	282	315	1969	10.5479/si.03629236.282.1	https://doi.org/10.5479/si.03629236.282.1	Taylor					
4		10199		Paper	▼	A revision of the catfish genus "Noturus" Rafinesque with an analysis of higher groups in the Ictaluridae.	282	315	1969	10.5479/si.03629236.282.1	https://doi.org/10.5479/si.03629236.282.1	Taylor					
5		10206		Paper	▼	A revision of the catfish genus "Noturus" Rafinesque with an analysis of higher groups in the Ictaluridae.	282	315	1969	10.5479/si.03629236.282.1	https://doi.org/10.5479/si.03629236.282.1	Taylor					
6		1861		Paper	▼	The "Celestial Pearl danio" is a miniature Danio (s.s) (Ostariophysi: Cyprinidae): evidence from morphology and molecules	1686	1-28	2008	10.11646/zootaxa.1686.1.1	https://doi.org/10.11646/zootaxa.1686.1.1	Conw.					
7		5311		Paper	▼	The "Celestial Pearl danio" is a miniature Danio (s.s) (Ostariophysi: Cyprinidae): evidence from morphology and molecules	1686	1-28	2008	10.11646/zootaxa.1686.1.1	https://doi.org/10.11646/zootaxa.1686.1.1	Conw.					
8		5325		Paper	▼	The "Celestial Pearl danio" is a miniature Danio (s.s) (Ostariophysi: Cyprinidae): evidence from morphology and molecules	1686	1-28	2008	10.11646/zootaxa.1686.1.1	https://doi.org/10.11646/zootaxa.1686.1.1	Conw.					
9		5340		Paper	▼	Two new species of Pseudecheneis, rheophilic catfishes (Teleostei: Sisoridae) from Nepal	1047	1-19	2005	10.11646/zootaxa.1047.1.1	https://doi.org/10.11646/zootaxa.1047.1.1	Ng					
10		5362		Paper	▼	Two new species of Pseudecheneis, rheophilic catfishes (Teleostei: Sisoridae) from Nepal	1047	1-19	2005	10.11646/zootaxa.1047.1.1	https://doi.org/10.11646/zootaxa.1047.1.1	Ng					
11		5282		Paper	▼	Two new species of Pseudecheneis, rheophilic catfishes (Teleostei: Sisoridae) from Nepal	1047	1-19	2005	10.11646/zootaxa.1047.1.1	https://doi.org/10.11646/zootaxa.1047.1.1	Ng					
12		5900		Paper	▼	Two new species of Pseudecheneis, rheophilic catfishes (Teleostei: Sisoridae) from Nepal	1047	1-19	2005	10.11646/zootaxa.1047.1.1	https://doi.org/10.11646/zootaxa.1047.1.1	Ng					
13		6527		Paper	▼	Centrum growth patterns provide evidence for two small taxa of Hiodontidae in the Cretaceous Dinosaur Park Formation	44	721-732	2007	10.1139/e06-137	https://doi.org/10.1139/e06-137	Newb					
14		7350		Paper	▼	Centrum growth patterns provide evidence for two small taxa of Hiodontidae in the Cretaceous Dinosaur Park Formation	44	721-732	2007	10.1139/e06-137	https://doi.org/10.1139/e06-137	Newb					
15		7357		Paper	▼	Centrum growth patterns provide evidence for two small taxa of Hiodontidae in the Cretaceous Dinosaur Park Formation	44	721-732	2007	10.1139/e06-137	https://doi.org/10.1139/e06-137	Newb					
16		7442		Paper	▼	The Clupeocephala re-visited: Analysis of characters and homologies	45	635-657	2010	10.4067/S0718-19572010000400009	https://doi.org/10.4067/S0718-19572010000400009	Arrati					
17		7486		Paper	▼	The Clupeocephala re-visited: Analysis of characters and homologies	45	635-657	2010	10.4067/S0718-19572010000400009	https://doi.org/10.4067/S0718-19572010000400009	Arrati					
18		7542		Paper	▼	The Clupeocephala re-visited: Analysis of characters and homologies	45	635-657	2010	10.4067/S0718-19572010000400009	https://doi.org/10.4067/S0718-19572010000400009	Arrati					
19		7588		Paper	▼	The Clupeocephala re-visited: Analysis of characters and homologies	45	635-657	2010	10.4067/S0718-19572010000400009	https://doi.org/10.4067/S0718-19572010000400009	Arrati					
20		7602		Paper	▼	The Clupeocephala re-visited: Analysis of characters and homologies	45	635-657	2010	10.4067/S0718-19572010000400009	https://doi.org/10.4067/S0718-19572010000400009	Arrati					
21					▼												

Search

Replace

< Search Results (0 / 0) >

< Modified Cells (0 / 0) >

< New Cells (0 / 0) >

< Error Cells (0 / 0) >

Adding Preparations

Pre Data Set: New Tissues Meta Data Tools Data Mapper Validate Results Upload Revert Save

	PT Object Type	Pre Preparation Count	Pre Tissue Storage	Pre Used Up?	Pre Prepared Date	Pre Bar Code	CO Cat #
1	Tissue ▼	100	C6	0	11/22/2022	1000347	985624
2	Tissue ▼	100	E11	0	11/22/2022	1000348	235877
3	Tissue ▼	100	D4	0	11/22/2022	1000349	121144
4	Tissue ▼	100	J5	0	11/22/2022	1000350	121447
5	Tissue ▼	100	I14	0	11/22/2022	1000351	654655
6	Tissue ▼	100	D9	0	11/22/2022	1000352	325521
7	Tissue ▼	0	F11	1	11/22/2022	1000353	696965
8	Tissue ▼	100	B5	0	11/22/2022	1000354	545863
9	Tissue ▼	100	A10	0	11/22/2022	1000355	358568
10	Tissue ▼	100	A11	0	11/22/2022	1000356	356998
11	Tissue ▼	100	E7	0	11/22/2022	1000357	444685
12	Tissue ▼	100	B7	0	11/22/2022	1000358	353698
13	Tissue ▼	100	F15	0	11/22/2022	1000359	325655
14	Tissue ▼	100	D15	0	11/22/2022	1000360	688922
15	Tissue ▼	100	D11	0	11/22/2022	1000361	369658
16	Tissue ▼	100	D14	0	11/22/2022	1000362	455858

Adding Determinations

Det

Data Set: New Determinations

Meta Data

Tools

Data Mapper

Validate

Results

Upload

Revert

Save

	CO Cat #	Agt First Name	Agt Last Name	Det Determined Date	Tax Family	Tax Genus	Tax Species	Tax Species Author
1	567434	John	Miller	11/22/2022	Acipenseridae	Acipenser	fulvescens	Rafinesque 1817
2	876654	John	Miller	11/22/2022	Acipenseridae	Acipenser	fulvescens	Rafinesque 1817
3	123214	John	Miller	11/22/2022	Acipenseridae	Acipenser	fulvescens	Rafinesque 1817
4	876986	John	Miller	11/22/2022	Acipenseridae	Acipenser	fulvescens	Rafinesque 1817
5	258063	John	Miller	11/22/2022	Acipenseridae	Acipenser	fulvescens	Rafinesque 1817
6	976436	John	Miller	11/22/2022	Acipenseridae	Acipenser	fulvescens	Rafinesque 1817
7								