



SOS Digital Data QC Guidelines

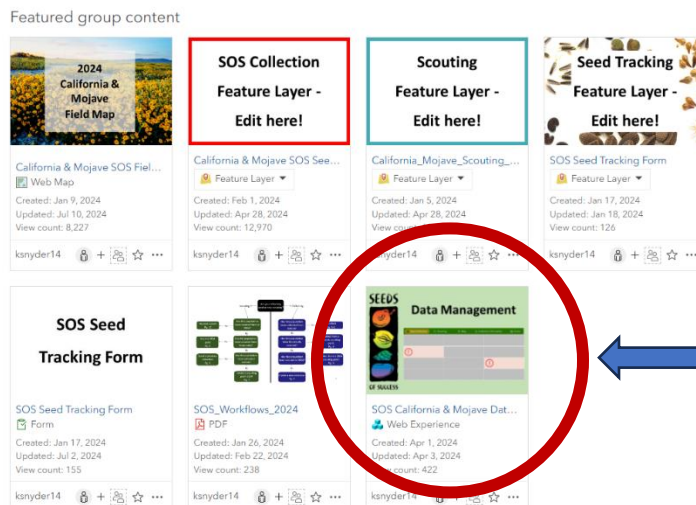
Throughout the season, collectors, leads, and managers must review each crew's collection and scouting data for errors and completeness BEFORE the crew ends for the season. This QC guide specifically addresses the process for doing quality control on the collection and scouting data digitally collected through Survey123 and FieldMaps. In addition to digital data QC collectors and managers must review the other pieces of SOS data (photos, vouchers, permits/permissions, annual report) before the crew leaves. If there are any pieces of data that are missing and are not recoverable (like missing herbarium vouchers or photos) make sure that information is captured the annual report that is submitted to your Agency Coordinator. Be sure to review the "End of Season Checklist 2024" on the SOS website (blm.gov/sos) for a complete list of final tasks.

Overview of the Digital Data QC Process:

1. Check that all your forms have been submitted and you see them on GeoPlatform or Field Maps.
2. Check locations of points. Double check that the point itself is where you expect them to be and that the coordinates are correct.
3. Make sure all your forms connect.
4. Check each cell for completeness and accuracy.

Where should I review my data?

Review all data in the Data Management page in the Geoplatform. The Data Management page is in your featured group content:



You will be able to review all your collection and scouting form data in addition to viewing a summary of your collection information. Hover over each box in the table to see all content in that field (example below).

The screenshot shows a web interface titled "Scouting QC Dashboard - SOS California & Mojave ...". On the left is a map of North America. On the right is a table with the following columns: *Scouting ID, *Collector ID, *Organization, *NRCS PLANTS Code, and *Taxa. The table contains several rows of data, with one row highlighted in grey. The highlighted row has the following values: *Scouting ID: CA067-ADFA-20240724-63, *Collector ID: CA067, *Organization: BLM, *NRCS PLANTS Code: AGDE, and *Taxa: Agave deserti.

What should I check first?

Collection coordinate information and points on the map

The first piece of data you should check is the coordinate information because other fields are auto filled based on this information. Double check that the lat/long coordinates and the location of the point on the map match. Examples of correct and incorrect coordinates are on the next page.

Check your coordinates by:

1. Clicking on each collection point in the table and looking at the map on the left.
2. Checking for a scouting triangle and red collection dot for each collection. Using the arrows at the bottom of the table, navigate to the Location Calculation tab.
3. Comparing the location information to the spot on the map. Is the state, county, and ecoregion what you would expect? Does it look like the population you collected and scouted? If not, you will need to correct your coordinates.

4. If any of the Location Calculations (State, County, Ecoregions, Seed Transfer Zones, BLM Administrative Units) are not filled, not correct, or are blank, then your point is not in the correct location, even if the typed lat/long coordinates are correct. If fields are blank and you recently submitted them, please wait a week for the Location Calculations to be ran. If it has been longer than a week and the fields are blank, check the ocean for your point. The code that fills in the location calculations pulls the information from your point and not the written coordinates.

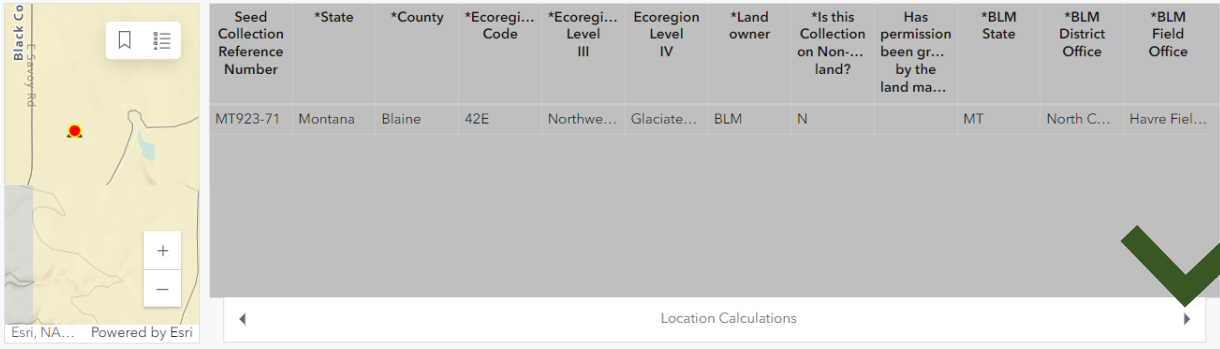


5. Make sure your Locality Details (directions to the site) are specific enough that someone with no knowledge of the area could use them to find your exact coordinates.

Examples

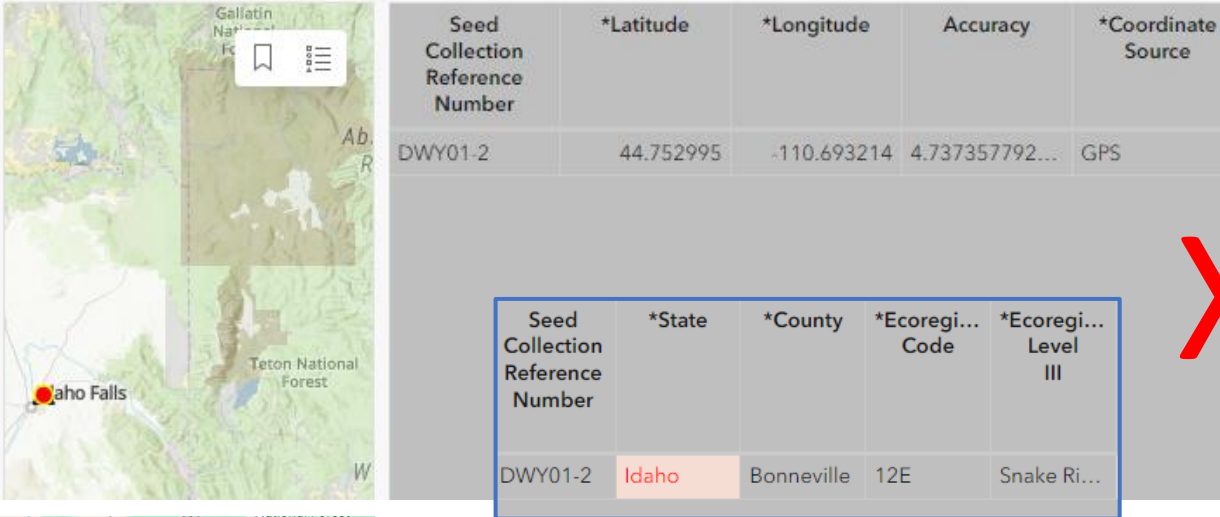
Correct coordinates:

Scouting triangle and red collection circle in the same population, all location calculation fields are what you would expect.



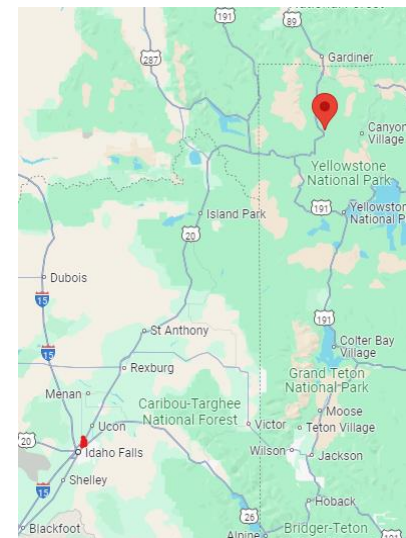
Seed Collection Reference Number	*State	*County	*Ecoregi... Code	*Ecoregi... Level III	Ecoregion Level IV	*Land owner	*Is this Collection on Non-... land?	Has permission been gr... by the land ma...	*BLM State	*BLM District Office	*BLM Field Office
MT923-71	Montana	Blaine	42E	Northwe...	Glaciate...	BLM	N		MT	North C...	Havre Fiel...

Correct coordinates, but incorrect point on map



Seed Collection Reference Number	*Latitude	*Longitude	Accuracy	*Coordinate Source
DWY01-2	44.752995	-110.693214	4.737357792...	GPS

Seed Collection Reference Number	*State	*County	*Ecoregi... Code	*Ecoregi... Level III
DWY01-2	Idaho	Bonneville	12E	Snake Ri...



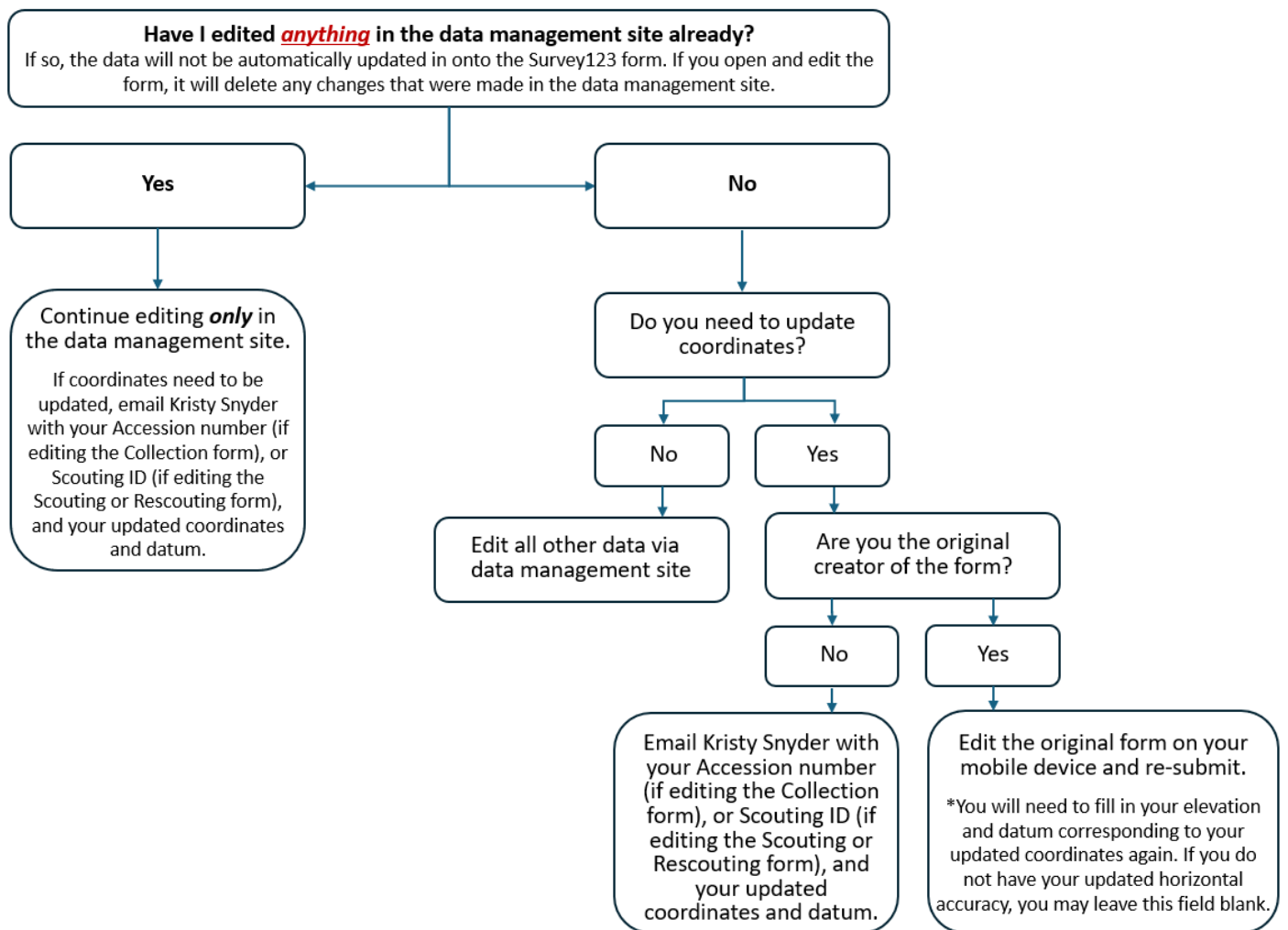
The map on the top shows the collection location in a different place than the entered coordinates. The map on the bottom is where the point should be according to the lat/long coordinates. You can also see that the location data is populating as a collection in Bonneville County, Idaho in the Snake River Plains ecoregion instead of where the collection was made in Wyoming.

This happens when forms are created in an office after collection or when coordinates are edited without following the steps to update the coordinates (found on page 8 of the collection form).

If I see things that need to be updated, how should I edit my data?

There are two ways we recommend updating your data, either in the Data Management site or the original Survey123 form depending on the type of data that needs editing. Detailed instructions for editing data are in the GeoPlatform help documents in a file called "Editing_Data". If you are editing your coordinates in the Survey123 app/original collection form, instructions for updating collection locations are on the last page (page 8) of the SOS Seed Collection form. *Ensure you are editing the correct field and the correct collection before making and saving any changes.*

Use this flowchart to figure out where to edit your data



How do I delete Collection, Scouting, Rescuing points?

On the SOS Seed Collection form, write "DELETE" in recollection number field. For Collection, Scouting, Rescuing points, email the GIS Analyst the Seed Collection Reference Number or Scouting ID and the name of the form including the region. The GIS Analyst will remove these points on a regular basis.

The screenshot shows the 'PNW Data Management 2024' interface. On the left, there's a filter panel for 'Seed Collections by Collector ID, Accession Number, or Species'. Below it, a form for 'Recollection?' is visible, with 'DELETE' entered in the 'Original Seed Collection Reference Number' field. The main area is a 'Collection QC Dashboard - SOS P...' featuring a map of the Pacific Northwest and a data table. The table includes columns for various identifiers and dates. One row is highlighted in yellow, showing a 'Recol...' value of 'DELETE'.

Are all my forms filled out and connected?

You will notice when you open your regional SOS Data Management Site, there is a new tab on your Collection QC Dashboard titled "Are all of your forms filled out?". This tab will help verify that collection numbers, scouting IDs, and seed tracking numbers connect. Column contents and what do if an entry says "No Match" is explained below.

The screenshot displays the 'Collection QC Dashboard - SOS PNW 2024' interface. It features a map on the left and a large data table. The table has five columns highlighted with large numbers 1 through 5. Column 1 is 'Accession Number (From Collection Form)', Column 2 is 'Scouting ID (From Collection Form - this should match the ScoutingID on your Scouting Form)', Column 3 is 'Is the Accession Number found in Scouting Form? (No Match=Fix on Scouting Form)', Column 4 is 'Does the Scouting ID in the Collection Form match the Scouting Form? (No Match=Fix on Collection Form)', and Column 5 is 'Is the Accession Number in the Seed Tracking Form? (No Match=Fix on Seed Tracking Form)'. The table contains rows of data with 'Yes' or 'No Match' values in the match columns.

Accession Number (From Collection Form)	Scouting ID (From Collection Form - this should match the ScoutingID on your Scouting Form)	Is the Accession Number found in Scouting Form? (No Match=Fix on Scouting Form)	Does the Scouting ID in the Collection Form match the Scouting Form? (No Match=Fix on Collection Form)	Is the Accession Number in the Seed Tracking Form? (No Match=Fix on Seed Tracking Form)
AK930 99999	AK930 ABCO 20240813	No Match	No Match	No Match
DWA00 0	DWA00 SCM2 20240618 3	No Match	No Match	No Match
DWA00 1	DWA00 VUOC 20240604 1	Yes	No Match	Yes
DWA00 2	DWA00 RASC 20240611 2	Yes	No Match	No Match
DWA00 3	DWA00 ALAA 20240524 66	Yes	Yes	No Match
DWA00 4	DWA00 TRCY 20240611 3c	No Match	Yes	No Match
DWA00 5	DWA00 ...	No Match	No Match	No Match
DWA00 6	DWA00 ...	No Match	Yes	No Match
DWA00 7	DWA00 ...	No Match	Yes	No Match
DWA00 8	DWA00 ...	No Match	Yes	No Match
DWA00 9	DWA00 ...	No Match	Yes	No Match
DWA00 10	DWA00 ...	No Match	Yes	No Match
FWS01 1	FWS01 ...	Yes	No Match	No Match
FWS01 2	FWS01 ...	Yes	Yes	No Match
FWS01 3	FWS01 ...	No Match	Yes	No Match
FWS01 4	FWS01 ...	Yes	Yes	No Match
FWS0101 2	FWS0101 ARMA6 20240724	No Match	No Match	No Match
ID931 2222222	ID931 BASA3 20240815	No Match	No Match	No Match
OR0908 342	OR0908 -20240502	Yes	Yes	No Match
OR0908 343	OR0908 ELGL 20240702 63	Yes	Yes	No Match
OR0908 344	OR0908 LURI 20240522 b6	Yes	Yes	No Match
OR0908 345	OR0908 ELGL 20240715 17	Yes	Yes	No Match
OR0908 346	OR0908 TRM4 20240718 fd	Yes	Yes	No Match
OR0908 347	OR0908 LULA4 20240702 a0	Yes	Yes	No Match
OR0908 348	OR0908 CHAN9 20240725 c3	Yes	Yes	No Match

Column 1

This is the accession number from your SOS Seed Collection form.

Column 2

The Scouting ID on the collection form. This field should match the Scouting ID on the corresponding Scouting form.

Column 3

This column checks for an exact match of your accession number in the Collection form to the Scouting form. If the cell says "Yes", you have correctly filled out your forms! If the cell says "No Match", you will need to:

1. Check that the Accession Number on your Collection form is correct.
2. Check that you have entered the Accession Number onto its corresponding Scouting form.

Column 4

This column is checking for an exact match of your Scouting ID that was entered on your Collection form to your Scouting form. If the cell says "Yes", you have correctly filled out your forms! If the cell says "No Match", you will need to:

1. Check that the Scouting ID on your collection form corresponds to a Scouting ID on the Scouting form.
2. Double check your date (in YYYYMMDD format) and the 2 code unique identifier are correct. The date should be the first date you scouted the population in 2024. *The unique identifier is the number automatically generated by the form. This is not a number that you have created yourself.*
3. Check that your Scouting ID on the Scouting form is correctly filled out.

Column 5

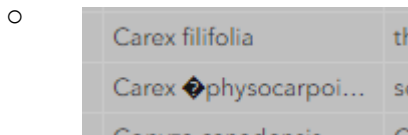
This column checks that each accession has an associated Seed Tracking form. If the cell says "Yes", then you have shipped your seed and correctly completed the form! If the cell says "No Match", you will need to:

1. If you have not yet shipped your seeds, then you can ignore the warning. Please remember to complete the Seed Tracking form when you ship your seeds.
2. If you have already shipped your seeds, please fill out the Seed Tracking form with the corresponding information.

General QC Guidelines

In addition to following the steps outlined above, keep these general QC guidelines in mind during the data review process.

- Make sure every collection has a:
 - Scouting form
 - If revisited a scouting site, a rescouting form
 - Collection form
 - Seed tracking form
- Red text, cell, or alert symbols
 - The red text, red cells, or alert symbols check if data entered meet formatting criteria, **they do NOT check the content**. Red text, red cells, or alert symbols do not mean that the information is incorrect, they are warning you to check that cell. Collections without any red highlights or alert symbols can still contain incorrect information and must be reviewed for accuracy and completeness.
 - *Things the QC Dashboard DO NOT check for:*
 - Accuracy of content
 - If coordinates (lat/long) and the point that is visible on the map match
 - If the first date of collection is before the second date of collection
 - If the unique identifier in the collection equation form has more than 2 characters
- Blank Data fields
 - Second/additional collection dates, field notes, coordinate accuracy, elevation in meters, other modifying factors, other soil type, alternate voucher number, and seed zone fields can be blank if appropriate for the collection site (i.e. no additional field notes needed, no modifying factors, only collected one day, etc.).
- If there is an asterisk in the title of the column, it is a field required on the SOS Seed Collection form
- If you see this character in your data management dashboard, please delete it. It is a hidden symbol that was imported with USDA Plants Data and is not a part of the SOS data set.



Common errors

While reviewing each field for content and completeness, please pay attention to these common errors.

Collection form

- Ensure recollections are marked “yes” and have the correct original collection number
- Check collection date chronology. Each collection should have at least one collection date in the first collection date column, and the first collection date should be BEFORE the subsequent collection dates. Below are examples of collection date errors, with a first collection date after a second collection day, and entries with only data in the second collection date column. If collecting over more than two days, review all dates and ensure they are correct.

Seed Collec... Refer... Number	*Reco...	Origi... Collec... Refer... Number	*Colle... ID	*Orga...	*Colle... Number	*Taxa	*NRCS PLANTS Code	Com... Name	*Family	*Colle... Date	Second Collec... Date	Date range	*Colle... Name(s)	Creator
CA33...	No		CA330	BLM	235	Eriog...	ERNU3	naked...	Polyg...	08/16...	07/01...		Bardsl...	
CA36...	No		CA360A	BLM	1	Lupin...	LUBI	miniat...	Fabac...		05/15...		Lawre...	
CA36...	No		CA360A	BLM	3	Amsin...	AMME	Menzi...	Borag...		05/17...		Lawre...	

- Locality information / directions to site
 - Quality locality information is essential for verifying collection locations and provide critical information on access for future re-collections, as road conditions or access on the ground are often different than what google or another mapping program suggests. Review your directions to the site. Ask yourself “Could someone with no prior knowledge of the area be able to follow the directions to the site in 5 years?” Here are examples of good directions and some that could be improved:
 - Good
 - From Waterville (intersection of S Chelan Ave., E Elm St., and Badger Mountain Rd.), continue for 2 miles, then continue for another 0.8 miles into O Rd. NW. Turn slightly right onto Waterville South Rd SW and continue for 2.7 miles. Keep right to continue on Waterville South Rd SW (turns into M 1/4 Rd SW) for 6.9 miles. Turn will be on the left down a gravel drive next to Duffy Creek. Park in circle and walk North towards gate. Continue North along path for 0.1 miles and head East towards the creek bed.
 - MUST HAVE FOUR WHEEL DRIVE AND HIGH CLEARNCE, ROAD WASH WITH LARGE COBBLE. Take Montana hwy 72 south of Belfry make a right onto Grove Creek Road (look for the long line of mailboxes). Go 6.3 miles from the turn onto Grove Ceek road to Meeteesee Trail Road, stay left at the large log entry to Grove Creek Ranch. You will go through two gates. The first will be straight through and the second will be turning to the left to stay on Meeteesee Trail Road. From the left turn intersection go 1 mile

then turn right. Go 2.5 miles and park, if you get to the creek you have gone to far.

- Needs improvement
 - Population largely along roadside
 - Lot off of grand loop road. Lot has 2 bathrooms and a dumpster.
 - Near Jackrabbit Spring.
- Removing derogatory words from place names
 - Please double check that any of your locality information does not include the word “sq**w”. Secretary Haalad officially declared sq**w a derogatory term and there is a large effort to update place names that contain the slur (<https://www.doi.gov/pressreleases/secretary-haalad-takes-action-remove-derogatory-names-federal-lands>). We have been changing the place names with this term in the SOS Historic Dataset. When finalizing your data QC, please double check that landmarks and roads have been changed to the correct term. If you have any questions or are having trouble correcting a location name, please reach out to me at ksnyder@blm.gov.
- Associated species
 - Associated species are the 5 most frequent species (native and/or non-native) at the collection site, aside from the target species. There should be at least 5 associated for each collection. If your target species are flagging, it is likely because there are less than 5. If the species you are trying to enter are not available in the dropdown menu on your collection form, you can type them into the appropriate field on the data management site. Double check that manually entered taxa are spelled correctly.
- Land Owner
 - The QC filters do not review these data. Double check that they are filled out properly and that they indicate that the proper permissions have been obtained.

○ Permissions:

- If the landowner is not BLM, column next to it should say Y, and you will need to provide permits/permissions with end of season material then you will need to have permission to collect. If landowner is BLM then the column next to it will say N.

*Land owner	*Is this Collection on Non-BLM land?	Has permission been granted by the land manag...	*BLM State
Great Basin ...	Y	Y	NV
USFS	Y	Y	NV
BLM	N		NV
BLM	N		NV

Example of correct permissions

- Make sure content in land owner field is formatted the same. For example, if land is owned by the BLM, all fields should say “BLM”, not “bureau of land management”, or “blm” lowercase. Another example would be an organization like The Nature Conservancy. If multiple collections are across the same land owner, all fields should say “The Nature Conservancy”, not be a mix of a full title, abbreviations like “TNC” or mixed lowercase “the Nature conservancy”.
- Geology and soil characteristics
 - Must be filled in. If using Munsell soil chart chroma/value scales data should be formatted like this: 10YR 4/3
- Vouchers and Herbarium Information
 - Ideally each collection has 3 vouchers. Sometimes only 1 or 2 are collected. *If you did not collect a voucher at all, please note that in the herbarium field.* This way we know that the voucher information is missing, instead of someone forgetting to enter the data. Type “No Voucher Collected” in the herbarium field, and include this omission on your annual report.
 - Check that the voucher date is correct.

Scouting form

- Check scouting ID. Your scouting ID is like the Seed Collection Reference Number, a unique code that identifies specific populations and scouting dates. The two code unique identifier after the third hyphen at the end of the scouting ID allows us to differentiate scouting events that happened on the same day, by the same crew, of the same species.
 - Double check that the scouting ID is in the correct format: CollectorCode-NRCS PLANTS Code- date in (YYYYMMDD format)-2 code unique identifier, example: ID931-AMCI2-20240815-3d
 - If it is not in that format, you should create a scouting ID that follows the right format [CollectorCode-NRCS PLANTS Code- date in (YYYYMMDD format)-2 code unique identifier]. If re-formatting a scouting ID you can create your own two digit unique identifier. If there was a collection made from this scouted population, make sure to include you corrected scouting ID on the collection form.

Below is an example of scouting points with scouting IDs that are formatted incorrectly (top) and correctly (bottom)

*Scouting ID	*Collector ID	*Organization	*NRCS PLANTS Code	*Taxa	Common Name	*Family	*Scout Date
[34DC51CA-47...	NV052	BLM	BAMU	Baileya plenirad...	Woolly desert ...	Asteraceae	04/10/2024
[9F402DB2-E61...	CA360	BLM	DOCLP	Dodecatheon cl...	padre's shootin...	Primulaceae	02/28/2024
[9F402DB2-E61...	CA360	BLM	BLNA	Blennosperma ...	common stickys...	Asteraceae	03/15/2024
[FDF19091-128...	CA360	BLM	PLNO	Plagiobothrys n...	rusty popcornfl...	Boraginaceae	04/04/2024
CA067-ABVI-20...	CA067	BLM	ABVI	Abronia villosa	desert sand ver...	Nyctaginaceae	04/23/2024
CA067-ADFA-2...	CA067	BLM	ADFA	Adenostoma fas...	chamise	Rosaceae	07/11/2024
CA067-ADFA-2...	CA067	BLM	ADFA	Adenostoma fas...	chamise	Rosaceae	07/15/2024