



## 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](http://blm.gov/sos)) for a complete list of final tasks.

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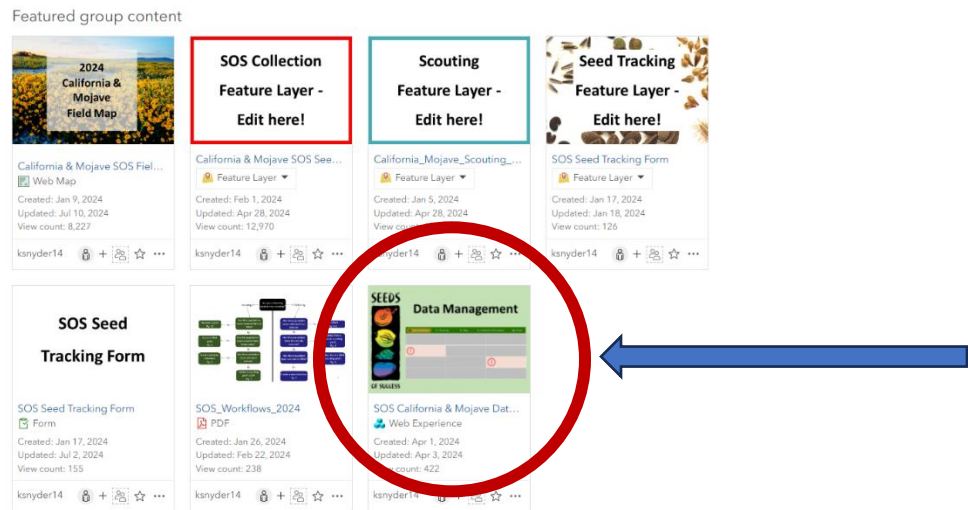
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## Overview of the Digital Data QC Process:

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).

| Scouting QC Dashboard - SOS California & Mojave ... |               |               |                   | Collector Code      |
|---|---------------|---------------|-------------------|---------------------|
|   |               |               |                   | No category sele    |
| *Scouting ID  | *Collector ID | *Organization | *NRCS PLANTS Code | *Taxa               |
|   | NV052         | BLM           | BAMU              | Baileya pleniradiat |
| {34DC51CA-4755-48...                                | CA360         | BLM           | DOCLP             | Dodecathoon cleve   |
| {9F402D82-E61F-48...                                | CA360         | BLM           | BLNA              | Blennosperma nar    |
| {FDF19091-128A-49...                                | CA360         | BLM           | PLNO              | Flagiobothrys noth  |
| CA067-ABVI-202404...                                | CA067         | BLM           | ABVI              | Abronia villosa     |
| CA067-ADFA-20240...                                 | CA067         | BLM           | ADFA              | Adenostoma fascic   |
| CA067-ADFA-20240...                                 | CA067         | BLM           | ADFA              | Adenostoma fascic   |
| CA067-ADFA-20240...                                 | CA067         | BLM           | ADFA              | Adenostoma fascic   |
| CA067-ADFA-20240...                                 | CA067         | BLM           | ADFA              | Adenostoma fascic   |
| CA067-CA067-ADFA-20240724-63                        | CA067         | BLM           | AGDE              | Agave deserti       |
| CA067-AGDE-20240...                                 | CA067         | BLM           | AGDE              | Agave deserti       |
| CA067-AGDE-20240...                                 | CA067         | BLM           | AGDE              | Agave deserti       |
| CA067-AGDE-20240...                                 | CA067         | BLM           | AGDE              | 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.

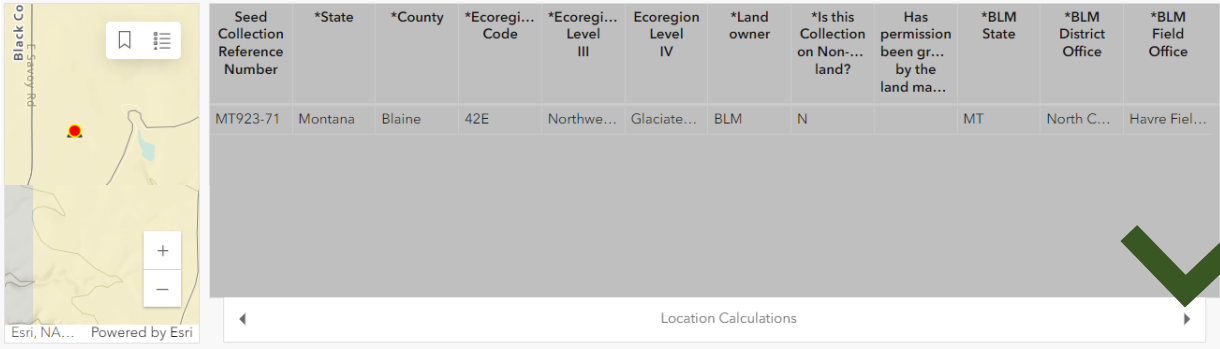


5. Make sure your Locality Details (directions to the site) are specific enough that someone with no knowledge of the area could use them to find your exact coordinates.

## Examples

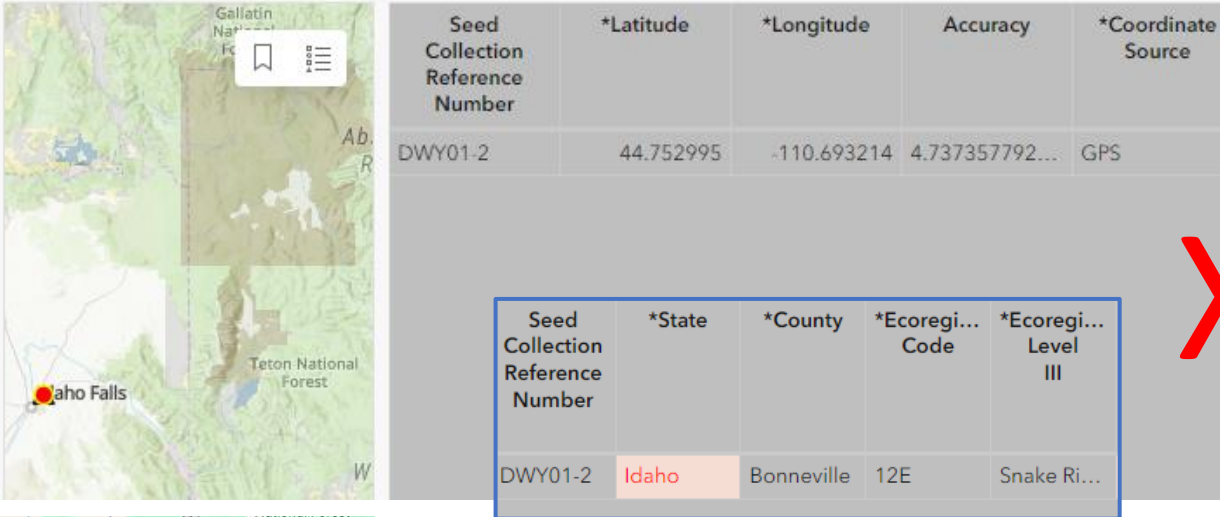
### Correct coordinates:

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...     |

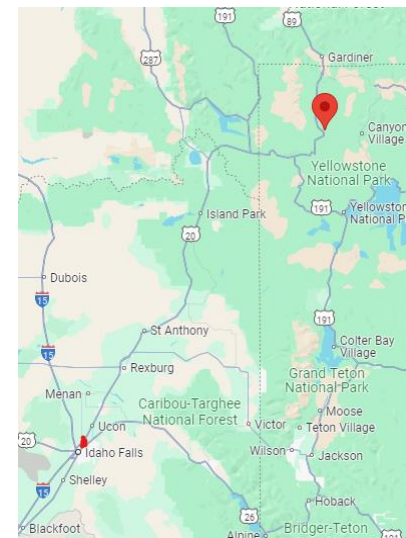
### Correct coordinates, but incorrect point on map



| 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...           |



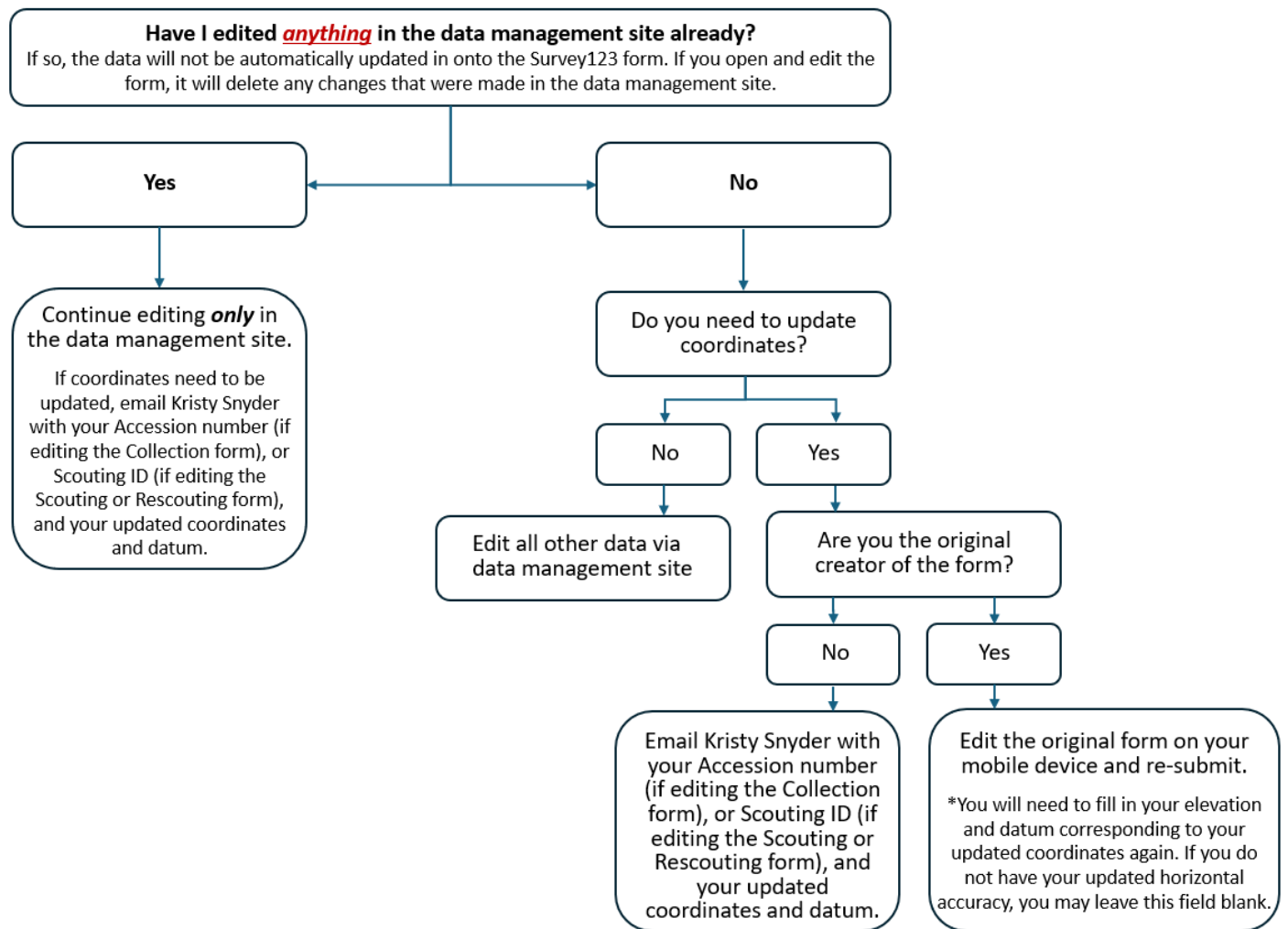
The map on the top shows the collection location in a different place than the entered coordinates. The map on the bottom is where the point should be according to the lat/long coordinates. You can also see that the location data is populating as a collection in Bonneville County, Idaho in the Snake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



### Help! I can't find the sent Survey123 forms on my mobile device!

When you submit the forms they are stored in a temporary file on your device and can be found in your sent folder in Survey123. If the forms are not in your sent folder, your device has likely had an organization specific update that has overwritten the temporary files. In this case use data management site to edit and if you need to change the location of your mapped point, email Kristy.

## 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 'Collection QC Dashboard - SOS P...' interface. On the left, there's a filter menu with a list of collection points (ID931-222222, OR0908-342, FWS0100-1, DWA00-0) and a search bar containing '193bd23e-acf3-4ae2-80f6-0ef8fc0e102b'. Below the search bar, the 'Recollection?' field is highlighted in yellow and contains the text 'DELETE'. There are also fields for 'Original Seed Collection Reference Number' (containing 'DELETE') and 'Did you complete the associated Scouting Form?' (set to 'No'). At the bottom, there are 'Update' and 'Delete' buttons. The main area features a map of the Pacific Northwest and a table with columns: Seed Collection Reference Number, \*Recol... Number, \*Origin... Collect... Referenc... Number, \*Colle... ID, \*Orga..., \*Colle... Number, \*Taxa, \*NRCS PLANTS Code, Comm... Name, \*Family, \*Colle... Date, Second Collect... Date, Date range, and \*Collec... Name(s). A row is highlighted with 'ID931...' in the first column, 'DELETE' in the second, 'ID931' in the third, and 'BLM' in the fourth.

## 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 shows the 'Collection QC Dashboard - SOS PNW 2024' interface. The table has 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 the 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), and Is the Accession Number in the Seed Tracking Form? (No Match=Fix on Seed Tracking Form). The table contains rows of collection data. Five large numbers (1-5) are overlaid on the table to highlight specific columns: 1 is on the Accession Number column, 2 is on the Scouting ID column, 3 is on the 'Is the Accession Number found in the Scouting Form?' column, 4 is on the 'Does the Scouting ID in the Collection Form match the Scouting Form?' column, and 5 is on the 'Is the Accession Number in the Seed Tracking Form?' column. At the bottom, there are buttons for 'Are all of your forms filled out?' and a row of tabs: Accession, Viability, Collection, Coordinates, Ecological, Identification, Location Calculations, and Seed Zones.

### 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

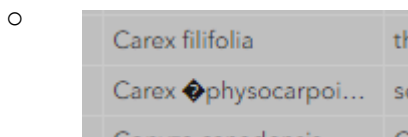
This column checks that each accession has an associated Seed Tracking form. If the cell says "Yes", then you have shipped your seed and correctly completed the form! If the cell says "No Match", you will need to:

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... | Orig... 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...          |         |

- Number of plants sampled from should match in both the Viability tab and Collection tab
- Number of plants sampled is less than or equal to the number of plants found
- 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 Creek 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 Haaland 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-haaland-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](mailto: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
  - Geology must be filled in.
  - If using Munsell soil chart chroma/value scales, data should be formatted like this: 10YR 4/3
  - If there is no slope, aspect should be flat
- 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  |
| FDF19091-128...  | CA360         | BLM           | BLNA              | Blennosperma ...    | common stickys...  | Asteraceae    | 03/15/2024  |
| 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  |

**Rescouting form**

- Rescouting form data are not listed in the data management site tabs. Look at the Survey123 app on your device or in the GeoPlatform group via your computer.
  - Check that the scouting ID matches and the correct revisit date is present.
  - Check the location of the point and make sure it is correct.

It's a happier day with fields turning grey! Avoid the dread with fields turning red!