Seeds of Success Digital Data QC Guidelines **2025**

BUREAU OF LAND MANAGEMENT

NATIONAL PARK SERVICE

U.S. FISH & WILDLIFE SERVICE

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Introduction

The accuracy and integrity of digital data is essential for the success of the Seeds of Success (SOS) program. The SOS Digital Data Quality Control (QC) Guidelines outline standardized procedures for reviewing, verifying, and maintaining data collected throughout the seed collection process. By implementing these guidelines, teams will improve data consistency, reduce errors, and enhance the usability of SOS data for long-term conservation, research, and restoration efforts.

Before You Begin: Golden Rules for QC and Editing Data

Please keep these SOS data collection golden rules in mind for smooth data QC:

1. **Only the original creator of the Survey123 form can edit it on their mobile device.**
    a. If someone else on the crew revisits a scouting or collection site but does not have access to the original form, they will not be able to add information via the hyperlinks. In this case they should use paper data sheets and give that information to the owner of the original form to edit and resend.

2. **Always complete edits on the original Survey123 form first.**
    a. Data updates in the data management site only stay in the data management site. They do not backfill onto the Survey123 form. If future changes to data are made on the Survey123 form after changes are made on the data management site, then submitting the revised form will overwrite any data changes made in the data management site. Refer to section D in this guide for more information on data editing.

3. **The mapped point and coordinates generate wherever a form is first created.**
    a. If you create a form anywhere other than the approximate center of the population, you must edit the locations in the original Survey123 form using the map box on the form while having an internet connection. Directions for changing coordinates are in the map box portion of the scouting and collection forms. For more information on changing mapped points/coordinates refer to “All Digital Data Guides” in the “Changing Coordinate Locations” section.

4. **QC must be passed by regional reviewer then national reviewer before you can export data sheets, herbarium labels, and ship seeds.**
    a. Completing the review process ensures that seed cleaning facilities have accurate information for each collection. Cleaning facilities use collection data for their inventories, labeling, and seed testing information.

5. **Location calculations are autogenerated based on the location of the mapped point (not the written coordinates).** (State, County, Seed Transfer Zones, BLM Administrative Units, Ecoregion, and Geology)
    a. If the mapped point is in the wrong place, the location information will be incorrect. You MUST ensure that you modify the mapped point in the Survey123 form when opening a Survey123 form anywhere other than the population location.

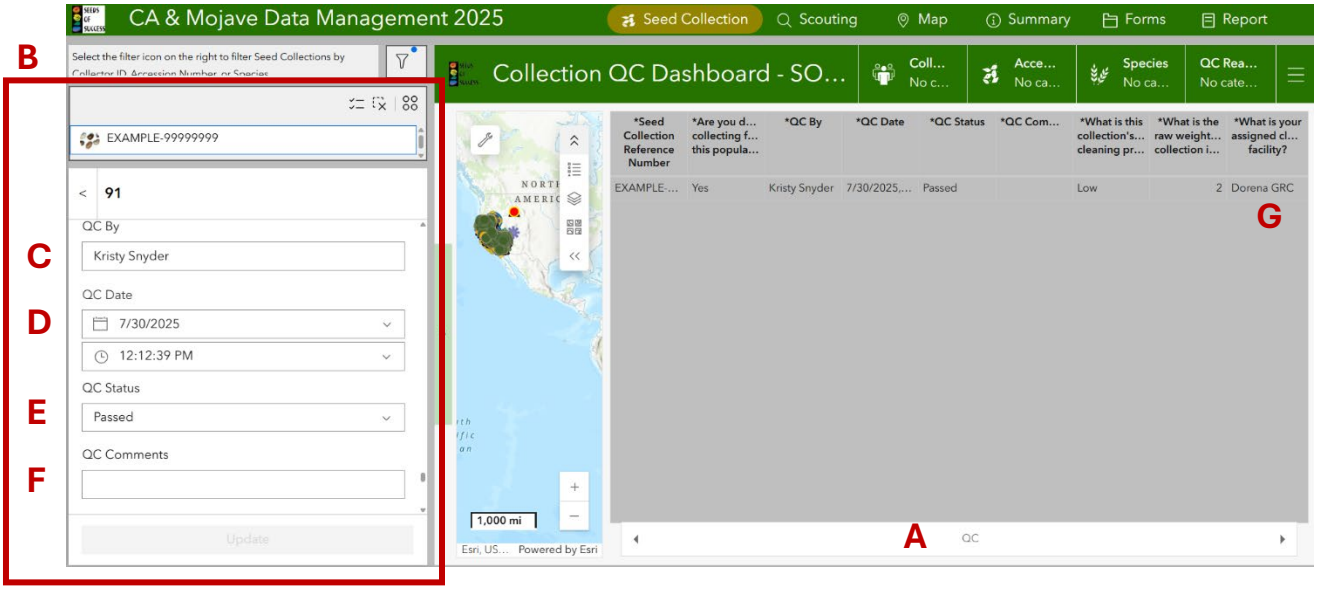
6. **Location calculations are filled in by the National Office on a regular basis by running a code once a week at minimum.**
    a. If your location calculations are blank, do not fill them in. They will be filled in once the National Office runs the code.

7. **Fields on the data management site with an asterisk (*) next to them are required.**
    a. On the data management site, columns with an asterisk in the title indicate all required fields that must be filled in before data forms can be exported. Required fields should never be left blank.

Section A. Final Data QC and Shipping Workflow

Tour of QC section of the Data Management Site

Tracking and updating the QC status of a collection is done via the "QC" page on the Data Management site:



A) Data QC and shipping information are found on the "QC" tab of the Data Management site.

B) Use the editing pane to filter for the collection/scouting point of interest and scroll down to the QC section to update QC status.

C) **QC by:** The full name of the person doing data QC. Subsequent editors can add their name with a comma. Ex: Kristy Snyder, Sarah Hill, Kelly Thomas.

D) **QC Date:** Date that the last person has reviewed data/left any comments.

E) **QC Status:** Determines if data is finalized for the season or if more edits need to be made:

   a. **Not initiated:** QC/review has not started.

   b. **Incomplete:** Data QC has started but the data still has errors.

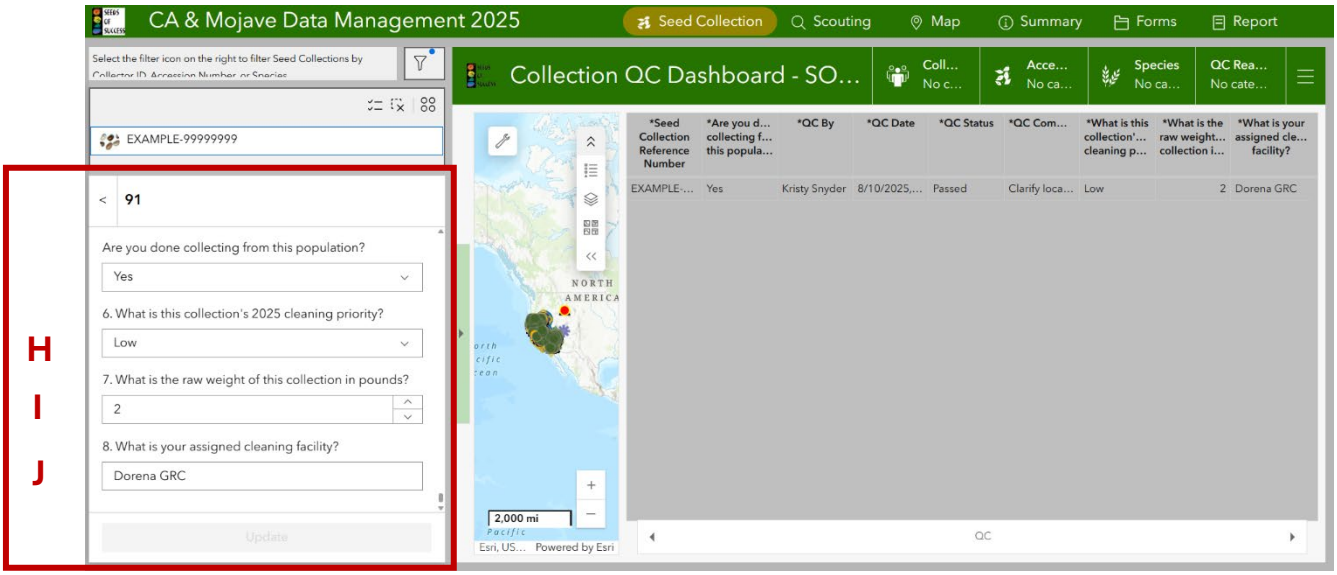
   c. **Ready for review:** Data reviewed by Regional Reviewer and ready for National Review.

   d. **Passed:** Data is finalized by National Reviewer and does not need any corrections. Ready to be assigned cleaning facility and team can export data sheets / herbarium labels.

F) **QC Comments:** Any comments or questions about the data.

G) Assigned cleaning facility for each collection

Scrolling to the bottom displays the final questions for assigning the seed cleaning facility:



H) **Collection Priority:** Sets a cleaning priority for each collection. This can be entered on the original Survey123 form if the collector is knowledgeable about the end use of their collections, otherwise it will be assigned during the QC process by a regional or national reviewer:

   a. **Unknown** – Collector does not know collection priority. This field will be updated by a Regional or National Reviewer.
   b. **Low** – Collections that will be cleaned and stored for future use. These are not needed for a 2026 project.
   c. **Medium** – Collections that might have a designated use for a 2026 project, but still TBD.
   d. **High** – Collections that have a designated use for a 2026 project

I) **What is the raw weight of this collection in lbs?:** This information is used along with collection priority to determine which cleaning facility is the best fit for the collection.

J) **What is your assigned cleaning facility?:** Only Sarah Hill should enter information here. She will assign cleaning priorities once all QC is complete. This information is displayed on the QC tab of the collection dashboard (G).

Final Data QC and Shipping Roles and Responsibilities

Collectors, Regional Reviewers, and National Reviewers are all responsible for reviewing and finalizing SOS collection and scouting data. Following the five-step process below prevents exporting data sheets/herbarium labels too soon or with incomplete/incorrect information and allows the National Office to prioritize collection cleaning needs. If seeds are shipped with incorrect data sheets, information must be corrected by the seed cleaning facilities. Form corrections after seeds have been shipped decrease the cleaning facilities capacity to clean seeds AND can incur extra charges, paid for by the SOS program, for each request to change information (a fee is applied per form change request).

The final data QC and shipping workflow has 5 steps that must be completed before seeds can be shipped to a cleaning facility:

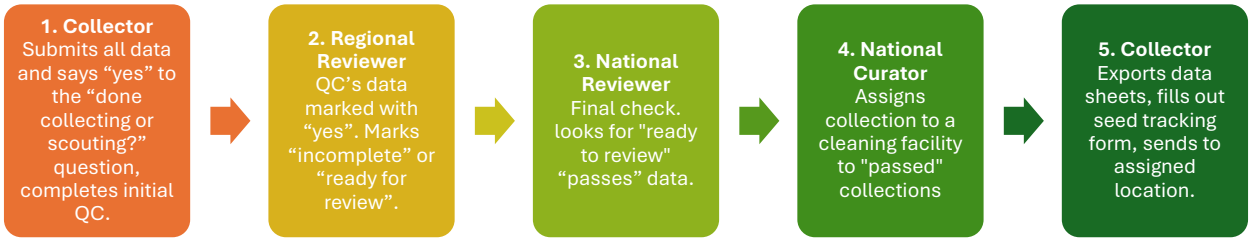
Review the QC and shipping roles and responsibilities for collectors, Regional Reviewers, and National Coordinators in the table below:

Role	Definition	QC Responsibility	Assigning Cleaning Priority	Shipping Responsibility
Collectors	Original seed and data collectors and their direct leads/supervisors.	Submit accurate and complete scouting and collection data in Survey123 form. Does initial data review. Follow correct process to edit data if needed.	If collector is involved with planning seed use, assign a seed cleaning priority. If collector does not know priority, leaves status "unknown".	Exports data sheets once QC is "passed" by National Coordinator. Ships to assigned cleaning facility. Completes the Seed Tracking Form when shipping seeds.
Regional Reviewers	Specific people assigned to review data in a region based on Agency affiliation. Often these people are directly coordinating collections with	Reviews collection and scouting data once data is finalized by the collector. If needed, works with collector to make edits.	Designates a cleaning priority before collections are ready for final QC. If Regional Reviewer is not involved in prioritizing	Ensure each collection has a seed tracking form by the end of the season.

	multiple teams across a region. Appendix A lists regional reviewers for each collection team.		collection cleaning priority, leave it as “unknown”.	
National Reviewer	Designated National SOS reviewer for each Agency. National Reviewers work with collectors throughout the country. Appendix A lists National Reviewers for each collection team.	Reviews collection and scouting data once data is finalized by the Regional Reviewer. If needed, works with the collector to make edits.	Follows up with appropriate point of contact for “unknown” priority collections. Reviews cleaning priorities and reaches out to appropriate contact if needed.	Double checks each collection has a seed tracking form by the end of the season.

Step-by-Step Workflow: Final Data QC and Shipping

This section provides step-by-step instructions for completing each of the five steps in the process, who is responsible, and any considerations to keep in mind. Note that some steps only apply to collections made in the Lower 48.



Step 1: Collector submits and reviews all data, team lead/supervisor does initial review.

When ready for official review, collector marks “Yes” to the “done collecting” and “done scouting” question on the form.

1. Collectors will submit their data in Survey123 and verify that they see the data on field maps.

2. Collectors should make edits in Survey123 until they have completed scouting or collecting from a population and all data has been entered.

3. Review data in the Data Management Site and edit if needed. For more information on what to look for as you review your data, consult section B, and section C.

4. When all data has been reviewed and all edits have been finalized in Survey123, select "Yes" to the question "Have you finished collecting from this population this season?" or "Are you done scouting from this population this season?" in the original Survey123 form.

5. Lower 48 collectors only (Alaska can skip this step) – Assign priority and final weight.
    a. *If the collector is involved with planning seed use*, assign a seed cleaning priority (low, medium, high*). If the collector does not know priority*, leaves status as "unknown".
    b. Once all Survey123 edits have been finalized, enter the final dry weight of the collection using the data management site.

Step 2: Regional reviewer will review collections and scouting points marked "yes" and does the data QC in the data management site.

If no Regional Reviewer is assigned, this step goes directly to a National Reviewer.

1. Marks as "incomplete" when doing initial data review. Works with crew to update data, make notes about what needs to be fixed in QC notes column.

2. Lower 48 collections only (Alaska skips this step)
    a. Once all Survey123 edits have been finalized, makes sure there is a priority and final collection weight listed in the data management site. If the Regional Coordinator does not know the end-use of the seeds, leave this fieldt as "unknown", and the National Reviewer will follow up with the correct person.

3. When the data is ready for a final check, they will update the status to "ready for review"

Step 3: National reviewer checks and "passes" data.

"Passed" means data sheets or herbarium labels are ready for export.

1. National Reviewers will review all "ready to review" collections once a week.

2. Follow up on collections with an "unknown" priority.

3. Once data has been reviewed and approved, select "passed".

Step 4: National curator assigns cleaning facility

Lower 48 collections only:

1. Sarah Hill will check what has "passed" at the end of each week and assign a cleaning destination for collections in the data management site column labeled "What is your assigned cleaning facility?".
2. If needing to ship a fleshy fruit, contact your Agency Coordinator as soon as you know you will be making a fleshy fruit collection, and they can advise you of the shipping location before the collection is made. Fleshy fruits should be sent to a cleaning facility ASAP after collection.
3. If we are waiting for space at a cleaning facility and a collection cannot be sent and received yet, Sarah will write "HOLD" in the notes and will update the location when a cleaning facility can accept it.

Alaska collections:

1. All Alaska collections will send seed to the Palmer Plant Materials Center. AK teams may export their data sheets as soon as their data has "passed" and do not need to wait for Sarah to assign a cleaning facility.

Step 5: Collectors can export data sheets for "passed" collections and ship to assigned location.

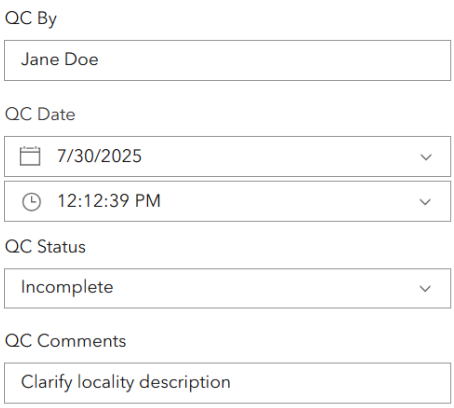
1. Once data has been "passed," collectors can export a data sheet from the data management site and include it in the box with the associated collection. Refer to the "All Digital Data Guides" section for instructions on exporting data sheets from the GeoPlatform.
2. The cleaning facility will be assigned on the last column of data management site QC page.
3. Make sure to pack collections going to different facilities separately.
4. When actively shipping, fill out a seed tracking form. If the shipper does not have access to fill out the seed tracking form, they should work with the collector to enter that information. If they cannot work with the collector, they should contact Sarah Hill, sehill@blm.gov for assistance.

5. Consult section 14 of the SOS technical protocol for specific details about shipping addresses, facility contacts, which mail service to use, and when to let a facility know a collection is being sent.

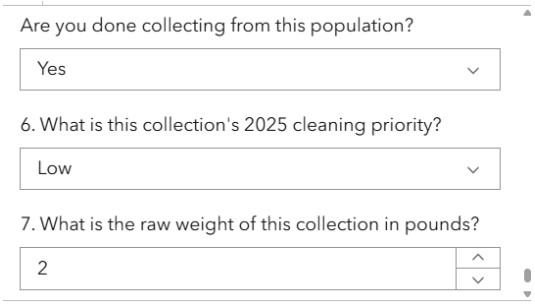
Example QC and Shipping Workflow - Collections

1. John Doe is collecting seeds under the crew code EXAMPLE. John is collecting from a population of *Balsamorhiza saggitata* and has determined that they are done collecting from that population for the season. **John will double check the following fields before marking "Yes" to the question "Have you finished collecting from this population this season?"**
    a. Scouting data has been reviewed, and John marked "Yes" to the "have you finished scouting?" question.
    b. Taxa is correct and the ID has been confirmed.
    c. The point and coordinate are in the same area of the actual population location. Not in an office, not on a road or at a campsite.
    d. A cut test has been submitted for each collection day.
    e. Phenology information has been entered for each collection day.
    f. Number of plants sampled, and acres collected from were updated during each collection day to reflect the total across all days.
    g. Associated species are all entered.
    h. Herbaria receiving the specimen are all entered.
    i. Detailed driving directions are entered, complete with any important notes like needing to get a key or gate code to access the site.
    j. All habitat and soils data have been collected and photos have been taken.
    k. Polygon information is entered and correct.
    l. The collection has a priority assigned (if known by the collector).
        i. John does not know the priority, so he leaves it as "unknown"
    m. The collection has a final weight entered on the data management site.
        i. John enters the final dry weight after verifying all other collection data is complete on the Survey123 form.

2. Jane Doe is the Regional Reviewer for John's collection team. After John has selected "Yes" to the question "Have you finished collecting from this population this season?", Jane will open the Data Management Site.
    a. In the Data Management Site, she will her name, the date, "Incomplete" or "Ready for Review", and any notes:



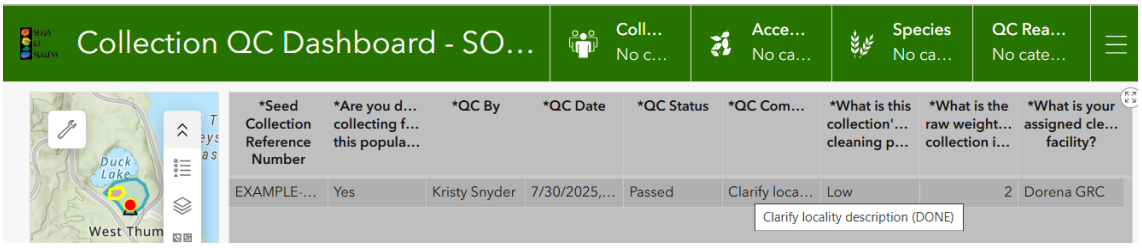
b. Jane noticed that the directions to the site were missing details and could not be used to get back to the collection location. She marked the status as "incomplete" and reached out to John to correct the information.
c. John added details to the locality description via the data management site and asked Jane Doe to review it again. Jane agreed that the data is now complete.
d. Jane noticed that the priority status was "unknown". She is involved in deciding the end-use of this collection and knows this collection is not needed for a project in 2026. Jane marks the status as "low" and verifies that the collection has a bulk weight entered:



e. Jane reviewed the data again and now assigns "ready for review".

3. Kristy Snyder is the National Reviewer for this team. Kristy reviewed the data and agreed that it is accurate and complete. Kristy marks the collection as "passed".

4. Sarah Hill saw that the data has "passed", has a cleaning priority, and a final weight. She assigns the collection to be sent to the Dorena Genetics Resource Center:



5. John Doe saw that the data had passed and has an assigned cleaning facility. John exports a data sheet from the GeoPlatform for this collection and several others that have passed and will go to the same cleaning facility. He packages the data sheets in the same box as the seeds, consults the Technical Protocol for the correct shipping address, and puts them in the mail.

6. John fills out a seed tracking form the same day that he ships the seeds.

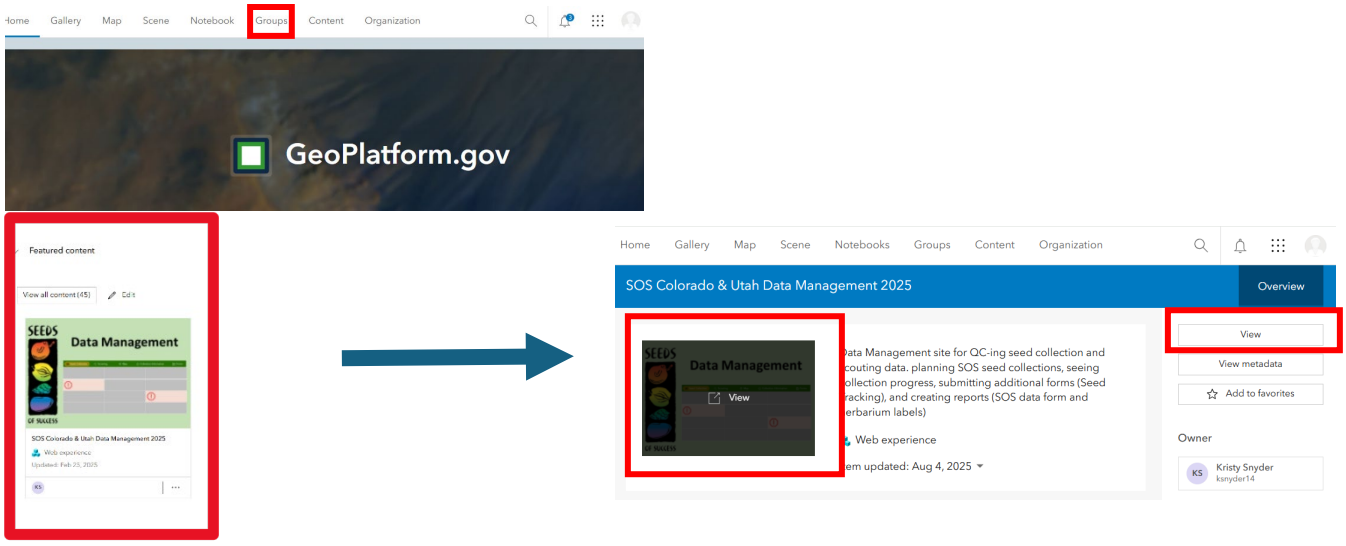
Section B. Using the Data Management Site to Review Data

Accessing the GeoPlatform Data Management Site

Data should be reviewed on the Data Management page in GeoPlatform.

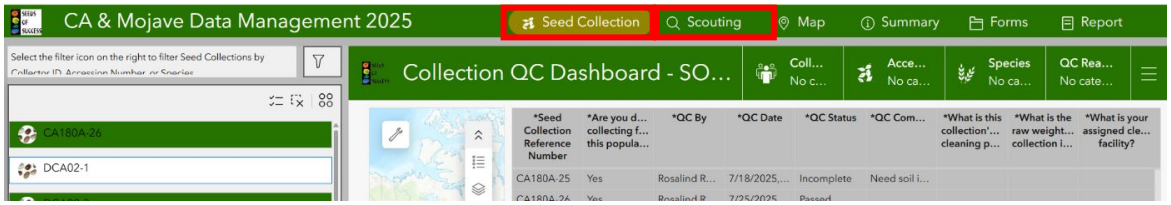
To access the Data Management site:

1. Navigate to the “Groups” tab at the top of your GeoPlatform home page.
2. Under “Groups,” select your SOS Regional Group.
3. Navigate to the “Featured content” section.
4. Select the content that has the “Data Management” cover page. You can either click on the tile image or click “view” on the right side of the page.

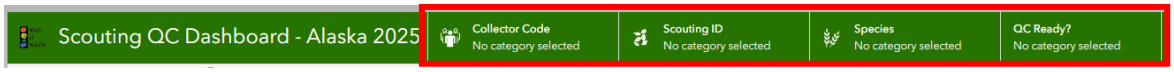


Tips for Using the Data Management Site:

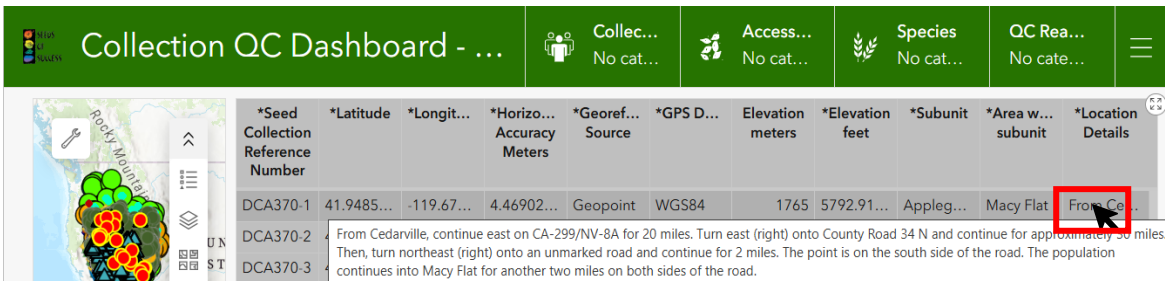
1. **There are two different dashboards used to review data: one for scouting points one for seed collections.** You can change the dashboard by clicking on either “Seed Collection” or “Scouting” at the top of the data management site. Both dashboards have the same mapping, filtering, and reviewing capabilities.



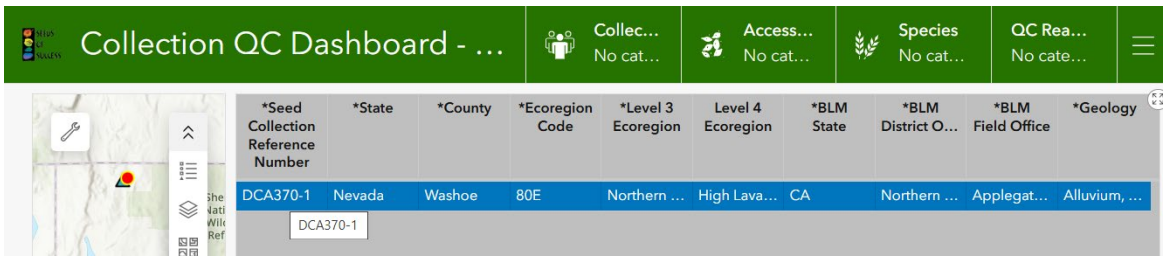
2. **Use the filters at the top of the QC dashboard to filter by collector code, accession number, species, or QC status.**



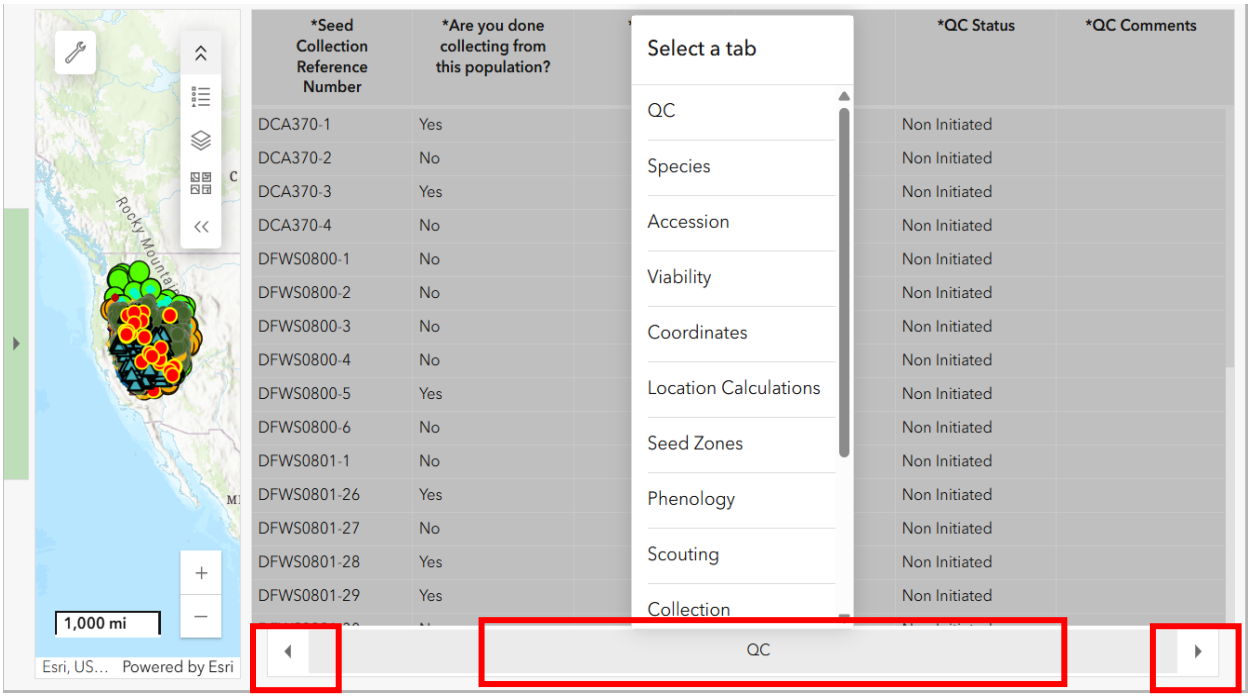
3. **Hover over the cells to view the full content of each field.**



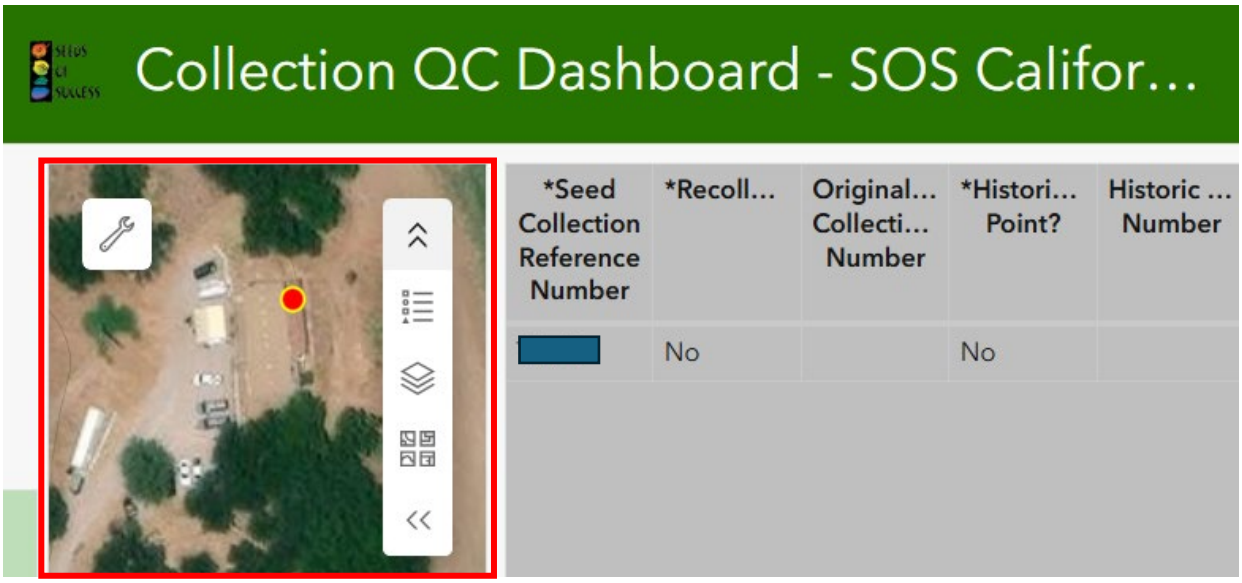
4. **Click on a collection or scouting point in the table to highlight collections of interest.** When rows are highlighted, the map and filters the dashboard will only show data for the highlighted row across all the tabs. You may select multiple points.



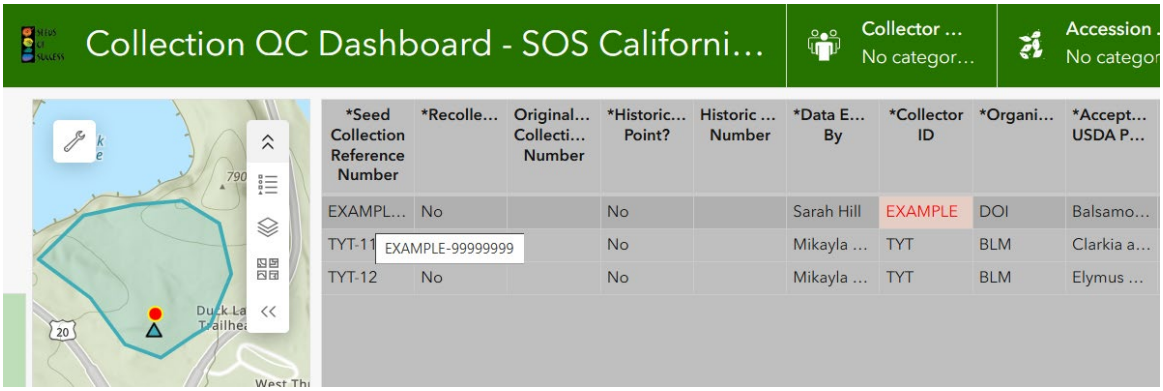
5. **Flip through each data category using either the directional arrows at the bottom of the data management site** or clicking on the bottom bar and selecting a tab from the popup menu.



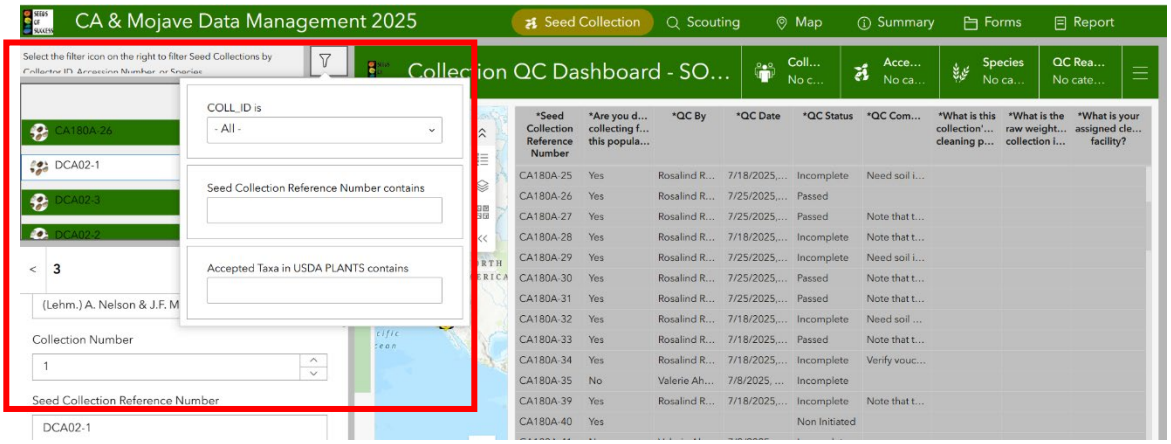
6. **Use the map feature to zoom in/out of selected points.** Change the basemap to "imagery" to verify locations and if points are in buildings or on roads.



7. **The "Example" entry on the Scouting and Collection dashboards shows an example of correctly entered data for a site with multiple scouting and collection days.** Use this example to compare your data's completeness and formatting. The example is based on the Preseason Activity located at Yellowstone National Park.



8. **The left section of the data management site is an editing pane**. This editing pane should ONLY be used after all data has been entered in the Survey123 form. The editing pane does not have the same formatting constraints as the form, and some fields cannot be edited here. For more information on editing data and special fields, go to section D**.** You can filter scouting and collection points to find the one you are interested in. ANYONE can edit ANY data in this editing pane, be very careful you are editing the correct data before making any changes.



Section C. What to Look for When Reviewing Data

Overview: How to review scouting and collection data

1. Ensure the written coordinates, mapped points, and associated location data are correct.
2. Check the dashboard for auto-flagged errors and alerts.
3. Review all other data tabs for accuracy, completeness, and common errors.
    a. Edit data according to "All Digital Data Guides" located in your GeoPlatform help documents**. (or refer to section D of this guide)**
4. Check for matching forms
5. Update the QC status as appropriate

1. Verify geographic coordinates and mapped points match

It is essential to review the coordinates associated with each scouting and collection point – many critical fields will autofill based on the location of the mapped point.

To verify that the coordinates match the location point displayed on the map:

1. Open the table and select each collection point to view its details and corresponding map location.

2. Verify that each collection point is represented by a red dot.

3. Verify that each scouting point is represented by a teal triangle.

4. Compare the location details to the geographic area the point occurs on the map. Are the state, county, and ecoregion where you expect them to be? Are the scouting and collection points at the correct sites? Are there any points floating in the ocean, a different country or a building?

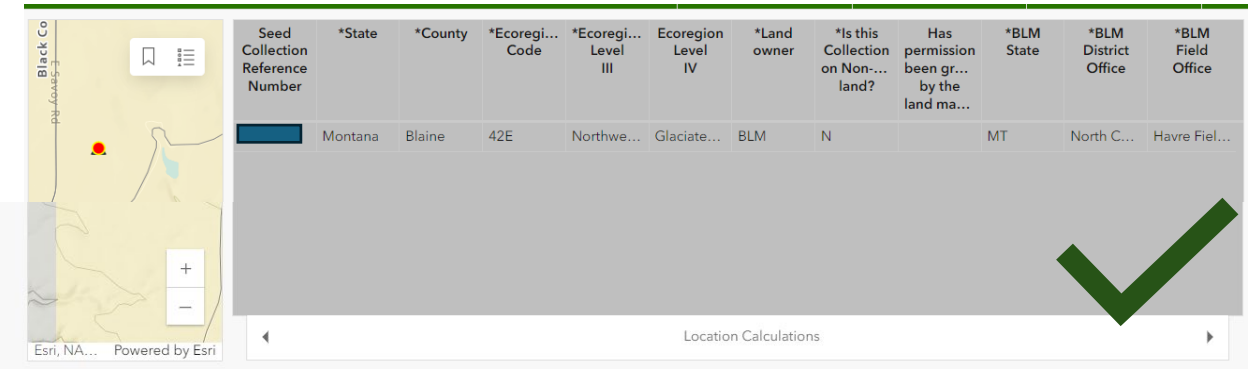
5. Verify that the "Location Details" are precise and accurate. These directions should provide descriptive details, such as cardinal directions, mileage, and permanent landmarks. Directions should be clear and detailed enough for someone unfamiliar with the area to find the exact coordinates without any prior knowledge.

6. If the coordinates and mapped point are not correct, consult the editing flowchart in section D for how to update that information.

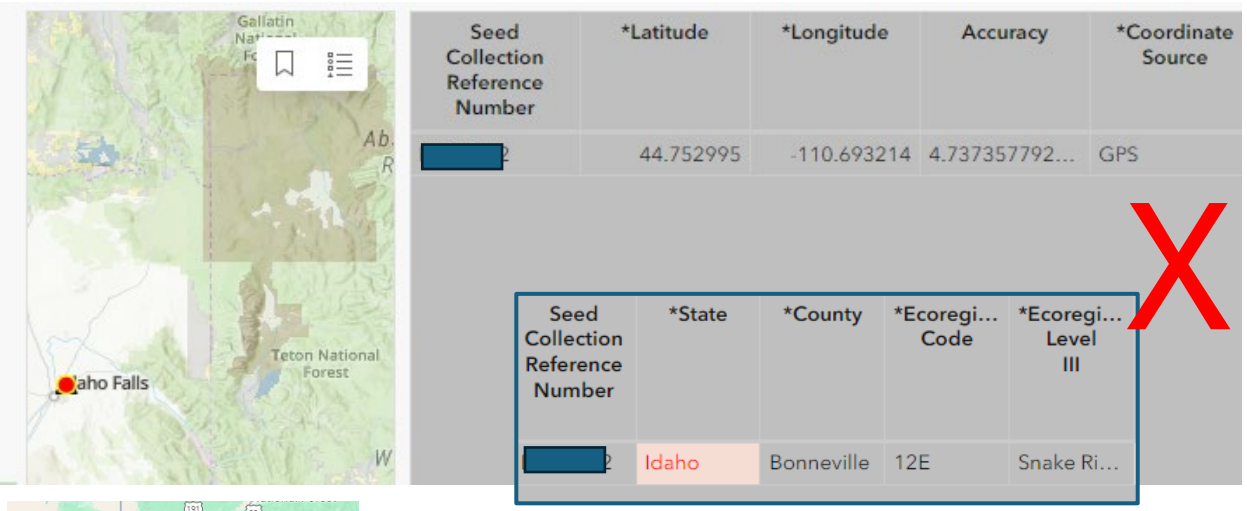
Examples of correct and incorrect coordinates

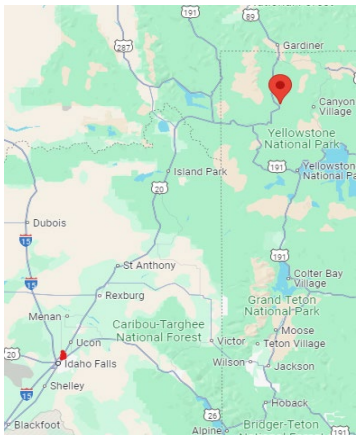
Correct coordinates & point

Red collection circle and optional teal scouting triangle are in the same population, all location calculation fields are what you would expect.



Incorrect point *on map due to coordinates being manually entered incorrectly*



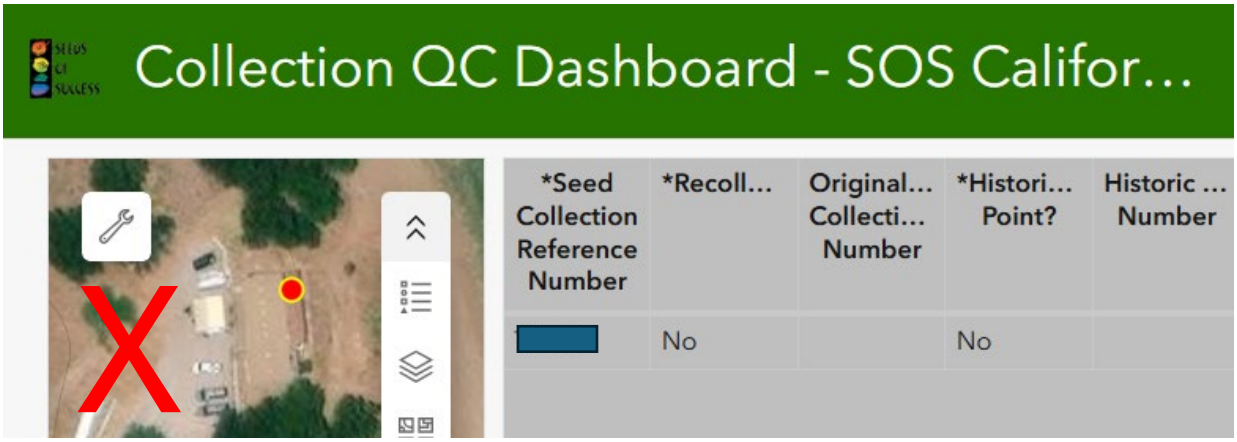


The map on the top shows the collection location in a different place than the entered coordinates. The map on the bottom is where the point should be according to the lat/long coordinates. You can also see that the location data is populating as a collection in Bonneville County, Idaho in the Snake 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 via page 3 of the collection form.

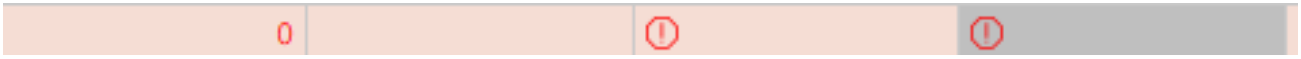
Points on roads or in buildings

Zoom into each scouting and collection point and verify that it is not inside of a building or on a road. Because mapped points generate based on where the Survey123 form is opened, a common error is for them to be inside of office buildings, at a camp site, or on a road if the form was opened in a moving vehicle. Points on roads and in buildings should be automatically examined to verify the actual location of the population. Points on roads MAY be acceptable if in the written directions specify that the population is on both sides of the roadway.



2. Check for auto-flagged errors and alerts

Data displayed on the QC dashboard may display **red text, highlighted cells, or alert symbols (!)**, which indicate that data does not meet formatting requirements. These alerts **do not** check accuracy or completeness of the information.



- Always review highlighted or flagged entries carefully to ensure they are accurate and complete.
- Even if a collection does not display red text, highlights, or alert symbols (!), errors may still exist. Review all data for potential errors.
- If information looks correct, but is still flagged, check for:
    - A leading or trailing space in the data field and delete it.
    - Formatting errors using appendix C.

The QC dashboard alerts do not check some data

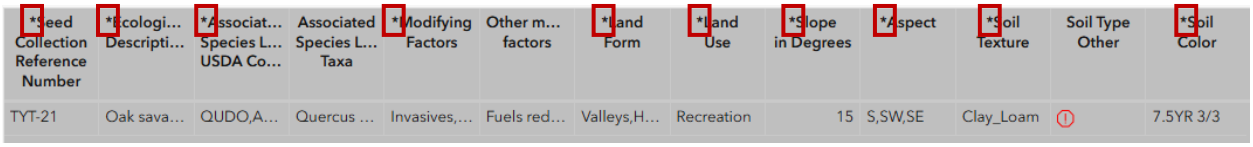
Collectors must independently verify that these fields are correct:

- Accuracy of coordinates or data content.
- Mismatches between coordinates and the mapped collection point.
- Whether the first collection date is recorded after the second collection date.
- Whether the unique identifier in the collection equation form contains more than three characters.
- If permissions have been obtained if collected on non-BLM land.

Verify blank data fields flagging red

Blank fields highlight red in the Data Management Site. Some fields may remain blank, while others must have data fill in.

On the Scouting and Collection forms, fields that have an asterisk (*) next to the name are required to initially submit the data forms, but there are additional data that is required before the final collection day. On the Data Management Dashboard, columns with an asterisk in the title are all required fields that must be filled in before data forms are finalized and can be exported. Required fields should never be left blank.



*Seed Collection Reference Number	*Ecologi... Descripti...	*Associat... Species L... USDA Co...	Associated Species L... Taxa	*Modifying Factors	Other m... factors	*Land Form	*Land Use	*Slope in Degrees	*Aspect	*Soil Texture	Soil Type Other	*Soil Color
TYT-21	Oak sava...	QUDO,A...	Quercus ...	Invasives,...	Fuels red...	Valleys,H...	Recreation	15	S,SW,SE	Clay_Loam	ⓘ	7.5YR 3/3

Some fields may remain blank if they are not applicable to a collection. Data can pass QC with highlighted blank fields, if it has been verified that there truly is no data to enter in the flagged field.

Optional fields in the Collection Form:

- Recollection and original seed collection reference number
- Historic scouting point and scouting number
- Second or additional collection dates (e.g., for single-day collections)
- Alternate collection number
- Viability information (except for cut tests)
- Coordinate horizontal accuracy if you used a device other than your tablet to get coordinate information, and you did not record the horizontal accuracy at the time of data collection.
- Elevation in meters

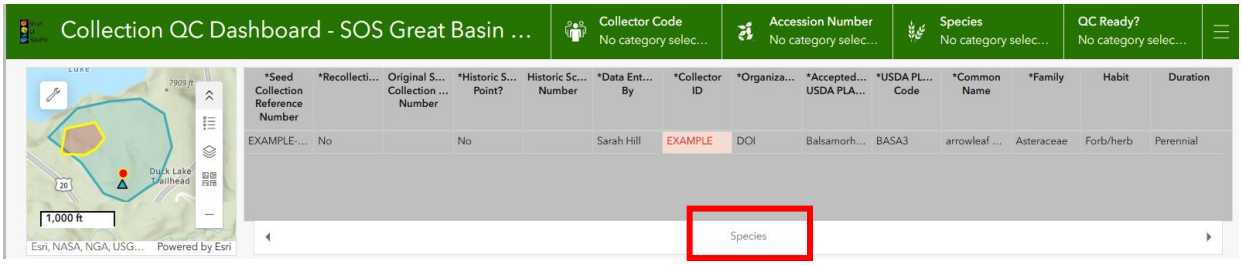
- Scouting notes
- Field notes
- Any “Other” fields such as method used to collect seed, modifying environmental factors, soil type
- Alternative voucher number
- Non-applicable seed zone transfer zone fields
- Polygons
- Tricky Taxonomy

Optional fields in the Scouting Form:

- Historic scouting point and scouting number
- Any “Other” fields such as potential collection type
- Scouting notes
- Coordinate horizontal accuracy if you used a device other than your tablet to get coordinate information, and you did not record the horizontal accuracy at the time of data collection.
- Elevation in meters
- Habitat information (modifying factors, landform, land use, slope, aspect)
- Voucher and identification information
- Non-applicable seed zone transfer zone fields
- Polygons
- Tricky Taxonomy

3. Review data for accuracy, completeness, and common errors.

This section is organized by data reviewed in order across each tab on the data management site, and groups data by Collection Form and Scouting Form. Use the “EXAMPLE- 99999999” collection to compare to your collection and scouting data.



3a. Collection form common errors

Species tab – compare your data to the example provided

Recollections not connected to original collection

- Mark recollections as "Yes" and are linked to Original Seed Collection Reference Number.
- Write "RECOLLECTION" in field notes.

*Seed Collection Reference Number	*Recollecti...	Original Seed Collection ... Number
DFWS0801...	Yes	NV930-15

Accession tab – compare your data to the example provided

Multiple collections with same collection number / out of sequence

- Each collection number should only be used one, and collection number should be sequential.

- If there are unique collections with the same collection number, change the number for one of them. Then make sure you change the collection number everywhere it occurs in the datasheet. Update collection number on photos and vouchers

- If you have multiple collections because separate forms were used each day of collection at the same site:
    - Consolidate forms – pick one form and add the other collection information onto it. Be sure to update collection dates, phenology, acres collected, plants sampled, polygons (if included in duplicate points) for each collection day.
    - Update numbering on photos and vouchers.

Collector names incomplete / incorrectly formatted

- Names of all collectors should be included individually, not as an organization

- Names should be entered in a "LastName, FirstInitial." and names should be separated by a comma
    - Snyder, K., Hill, S., Thomas, K.

Collection dates are missing, out of order, or incorrectly formatted

- Each collection must include a date in the “First Collection Date” field.
- The first collection date should always come before any additional collection dates.
- Errors can occur if a second collection date is entered incorrectly. For example, if the first collection date is after the second collection date, or if a second collection date is entered without a first collection date.
- Date range must be entered in the MM/DD/YYYY-MM/DD/YYYY. May 1-3, 2023 is 05/01/2023-05/03/2023. If days are not consecutive, enter dates separated by commas (05/01/2023, 05/03/2023). Utilize the first two date fields before entering any remaining dates in this text box.

Viability tab – compare your data to the example provided

**This is a special field that can only be edited on the original Survey123 form. For more information about editing this data, go to section D.

- Cut test information is required for every day that you collect.
- If you are collecting multiple days, make sure you have updated the “Number of Plants Sampled From” on page 5 of the collection form to reflect the total plants collected from over all days.
- If you are required to enter viability information, there should be at least the PLS is at least 10,000 collected by the last visit. Though 3,000 PLS is the lowest amount that can be accepted for the SOS program, we suggest targeting 10,000 PLS to ensure that at least 3,000PLS will be available after cleaning to send to USDA-ARS partners for storage and the research collection, so there is some seed remaining for restoration use. If collection estimates are smaller than 4,000PLS, reach out to your Agency Coordinator and they can advise you on whether to submit the collection to SOS.

Coordinates tab – compare your data to the example provided

Lat/long coordinates and mapped point not matching

- Should be reviewed and updated if needed using instructions in section D.

- The written latitude and longitude should be the same location as the mapped point and marks the actual population location.

GPS datum missing/incorrect

- If using another device (phone, external GPS, etc) to record lat/long coordinates, record the datum that device uses. Incorrect datums can cause coordinates to be off by hundreds of feet.

Elevation (feet) missing

- Manually enter if you have moved the collection point in the Survey123 form.

Subunit missing or lacking detail

- The descriptive name of the area given to it by the landowner or land manager. This may include the city, town, village, park, forest, or refuge in which the material was collected. E.g., Blue Mountains, Antelope Island State Park, Ridgecrest Field Office, Phoenix.

Area within subunit missing or lacking detail

- The geographic area where this collection was made. Geographic areas are physical or logical areas that transcend the geopolitical areas defined in the State, County, Subunit fields. These may include mountain ranges, river valleys, trail names, etc. e.g., Marigold Trail, Red Rocks Canyon, or Maroon Bells.

Location details missing or lacking detail

- Detailed location descriptions are critical for verifying collection locations and guiding future recollections.

- Directions should reflect on-the-ground site conditions (e.g., road conditions, accessibility) which is more accurate than what is displayed by mapping tools such as Google Maps.

- Use a point of reference at the start of your location details, use cardinal directions (North, South, East, West) and mileage to describe directions of travel, and include information on where the plant population is located once you park the vehicle.

- If gate codes or keys are needed, specify who to talk to for access information. Do not put the gate code or other contact information in the directions. *Ex: "….. Gate code needed to access Smith Road. Contact the botanist for the NW Oregon District for the code."*

Example of Good and Poor Location Details

Good Directions	Poor Directions
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 then turn East towards the creek bed. Population extends along creekbed for .5 miles.	Population largely along roadside. Lot off of grand loop road. Lot has 2 bathrooms and a dumpster. Near Jackrabbit Spring.

Location details with derogatory road or place names

- Remove derogatory terms from place names, including racial slurs. There is an ongoing effort to remove and update historic derogatory placenames within the SOS database. For more information about these efforts, see this announcement from Secretary Deb Haaland in 2024: https://www.doi.gov/pressreleases/secretary-haaland-takes-action-remove-derogatory-names-federal-lands.

- Contact the GIS Analyst with any questions regarding historic name corrections.

Permissions tab – compare your data to the example provided

The QC filters do not validate this field. Ensure all entries are correctly filled out and reflect the proper permissions.

Below is an example of what the permissions tab looks like correctly for a collection on BLM managed lands, NPS managed lands, and a non-federal organization. Permissions for USFWS managed lands are formatted the same as NPS.

*Seed Collection Reference Number	Federal Land Managing Agency	Other Land Manager	Land Owner	Is this Collection on Non-BLM land?	Has permission been granted by the land manager?
CA180A-31	Other	The Nature Conservancy	Other,The Nature Conser…	Yes	Yes
CA370-301	BLM		BLM	No	
EXAMPLE-99999999	NPS		NPS	Yes	Yes

Permissions missing

- If the Land Managing Agency is not BLM, the “Is This Collection on Non-BLM Land” field should be marked “Yes”.

- If permissions have been granted by the Land Managing Agency, the “Has Permission Been Granted by the Land Manager” should be marked “Yes”. Teams must submit the necessary permits/permissions with their end-of-season reporting documents.

- If the Land Managing Agency is BLM, the “Is This Collection on Non-BLM Land” field should be marked “No”.

Formatting inconsistent

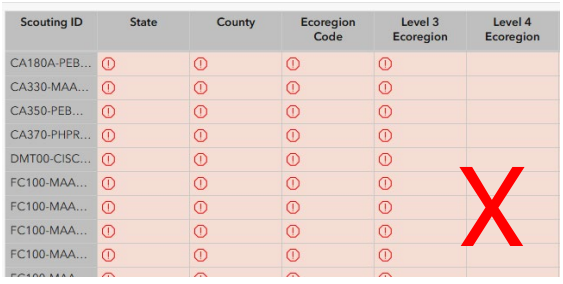
- Use standardized formatting for Land Managing Agencies. For example, the BLM should always be written as “BLM” not “bureau of land management” or blm. In addition, NPS should always be written as “NPS” not “national parks service” or Nps.

- For organizations like The Nature Conservancy, ensure uniformity across all entries. Use “The Nature Conservancy” rather than a mix of abbreviations (e.g., “TNC”) or inconsistent capitalization (e.g., “the Nature conservancy”).

Location Calculations tab – compare your data to the example provided

Red highlights / missing information

- National office regularly runs a code that fills in everything on the location calculations tab based on the location of the mapped point (left). If it is blank, the code has not been run yet and anything that is manually entered, will be overwritten by the code (right).



Information not matching expected location

- If the location information is not where you expected it to be, then the point is incorrect. Change your coordinates following the information in section D.

Seed Zones tab – compare your data to the example provided

Missing information

- National office regularly runs a code that fills in all applicable Seed Transfer Zones based on the location of the mapped point. If it is blank, the code has not been run yet, or your point is not withing that Seed Transfer Zone. For example, Alaska does not have Provisional Seed Transfer Zones.

Information not matching expected location

- If the seed zone information is not where you expected it to be, then the point is incorrect. Change your coordinates following the information in section D.

Phenology tab – compare your data to the example provided

**Phenology fields are special fields that can only be edited on the original Survey123 form. For more information about editing this data, go to section D.

- If you did not record phenology information for each collection day, do not make up information after that date. If you need to make edits to the phenology information after you have begun editing in the Data Management Site, contact the GIS Analyst to make changes.

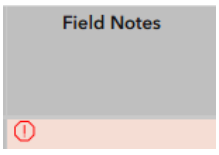
Collection tab – compare your data to the example provided

Number of Plants Sampled

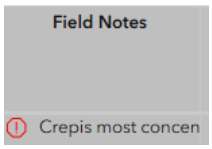
- The number of plants sampled cannot be greater than the number of plants found.

Field Notes highlighted red or with alert symbol

- Field highlights red if it is blank. If there isn't anything note worthy to say about this collection it can be blank.



- If there is text with an alert symbol, check for leading or trailing space.



Habitat tab – compare your data to the example provided

Associated Species highlighting red

- **This is a special field that can only be edited on the original Survey123 form. For more information about editing this data, go to section D.

- If the Associated Species field is flagged, it is likely because fewer than five species have been listed.

- Associated species are the five most common species (native or non-native) found at the collection site, excluding the target species.

- Each collection should include at least five associated species if possible. If there were less than five associated species at the site, it is ok to have fewer than 5 entries.

Modifying Factors

- If you see a red highlight, please look at Appendix C to see how this field should be formatted.

Slope and Aspect incorrect

- The slope can be between 0 and 90 degrees. If the slope is 0-3 degrees, then the aspect can be marked as "Flat". If the slope is above 3 degrees, a cardinal aspect must be selected.

Soil texture or Soil color missing /incorrectly formatted

- Soil texture and color are required for every collection.

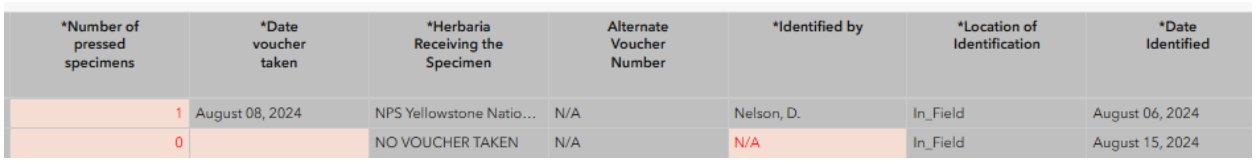
- When using the Munsell Soil Color Chart, the soil color should be formatted as "*Hue Value/Chroma"* or "10YR 4/3" where 10YR describes the hue, 5 describes the value, and 3 describes the chroma.

Identification Tab - compare your data to the example provided

Number of pressed specimens highlighted

- Each collection needs at least one Voucher. Field will highlight if no vouchers are entered or if the value 0 is entered.

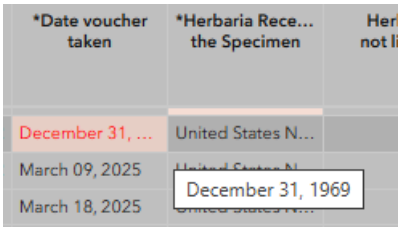
- If vouchers were not collected, indicate this in the Herbaria field. Enter "*NO VOUCHER TAKEN*" in the Herbaria field and include this omission in the annual report. This informs the SOS National Coordinating Office of the missing vouchers, instead of it looking like there was data but it wasn't entered.



*Number of pressed specimens	*Date voucher taken	*Herbaria Receiving the Specimen	Alternate Voucher Number	*Identified by	*Location of Identification	*Date Identified
1	August 08, 2024	NPS Yellowstone Natio...	N/A	Nelson, D.	In_Field	August 06, 2024
0		NO VOUCHER TAKEN	N/A	N/A	In_Field	August 15, 2024

Date voucher taken highlighted red

- Known error - if identification date or date voucher taken is filled on the scouting form, it will incorrectly populate on the collection form, and it will need to be manually changed. Date should match the date in the scouting record



Herbaria receiving specimen missing

- Field will highlight red if information is missing. Enter the Herbaria each voucher is going to before you finalize data for the season.

Identified by, location of identification, date Identified missing or highlighted red

- Field will highlight red if information is missing. Enter the information for each voucher before you finalize data for the season.

- If no voucher was collected, enter the information for whoever preformed the final ID verification.

- Field will also highlight if entry has words with spaces instead of underscores, but its okay to have spaces

Alternate Voucher Number alert

- This is an optional field, the alert indicates missing information or a trailing or leading space. If there is no alternate voucher number, leave blank.

Tricky Taxonomy Tab

- This is an optional section that only needs to be filled out if a botanical expert suggests a more updated taxon. There are two ways to enter your taxonomy:
    - Enter the preferred genus and species of the collection in a free text field, along with the source of the preferred name.
    - Select the preferred name in USDA PLANTS from the dropdown menu. This will autofill the preferred USDA PLANTS name, preferred USDA PLANTS code, and the accepted USDA PLANTS code.

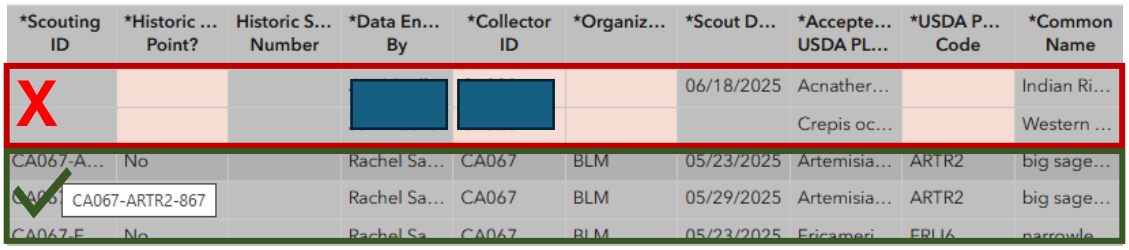
What is the preferred Genus and Species for this collection?	What is the source of this preferred name?	What is your preferred USDA PLANTS name?	Preferred NRCS PLANTS Code	Accepted NRCS PLANTS Code
Dichanthelium polyanthes	Flora of North America			
		Buchnera floridana	BUFL	BUAM

3b. Scouting form common errors

Species Tab

All scouting records should have an autogenerated scouting ID. The Scouting ID functions like the Seed Collection Reference Number – it serves as a unique identifier for specific populations and scouting dates. The three-character unique identifier at the end of the Scouting ID differentiates multiple scouting events that occurred on the same day, by the same crew, for the same species.

Scouting ID Blank/formatted incorrectly or highlighted fields



- Ensure that the Scouting ID follows the correct format: **Collector Code-NRCS PLANTS Code- three-character unique identifier.** For example, ID931-AMCI2-3de.

- Correct formatting issues if the Scouting ID does not follow the format above. Users can assign their own three-character unique identifier when reformatting the Scouting ID.

- If scouting ID field is blank, and there are red highlighted fields, the data was not collected on a Survey123 form, and will need to be completely reentered.

- If a collection was made from the scouted population, ensure the corrected Scouting ID is also included on the Collection form.

New scouting points made from historic scouts which are not connected to the historic scouting number

- Mark "Historic Scouting Point" as "Yes" and add the Historic Scouting Number:

*Scouting ID	*Historic ... Point?	Historic S... Number	*Data En... By	*Collector ID	*Organiz...	*Scout D...	*Accepte... USDA PL...	*USDA P... Code
CA180A-...	No		R Rowe	CA180A	BLM	06/05/2025	Euthamia...	EUOC4
CA180A-...	Yes	CA180A-...	Rosalind ...	CA180A	BLM	05/29/2025	Galium a...	GAAP2
CA180A-...	No	CA180A-GAAP2-20240709-e8		A	BLM	08/07/2025	Helianthu...	HEAN3

Scouting tab

Site rejected unnecessarily

A site has "Future potential" if there is ANY potential for an SOS Seed Collection, even if the species is not going to be collected this season or is not a target species for the season.

- Rejecting a site means that no one should ever bother going back to that location for the scouted species. Rejections happen because populations are too small, have the incorrect species, are seeded, don't have permission from a landowner, or "other" which must be a good reason that a specific site is not suitable for seed collection.

- If the population was rejected because it is not a target for this year, change the future potential to "Yes" and change the "Target Species?" question to "No". Example:

*Scouting ID	*Estimated p... size at time of scout	*Estimated n... of acres at time of scout	*Future Potential?	Reason for Rejection	Reject Type Other	*Potential Collection Type	Collection Type Other	*Target Species?
CA180A-RUU...	6	0.01	Reject	TooSmall,other	Clonal, could ...			No
CA180A-SPA...	45,000	1.00	Yes			Standard_SO...		No
CA180A-TRL...	160	0.01	Yes			Standard_SO...		Yes

Phenology tab – compare your data to the example provided

**Phenology fields are special fields that can only be edited on the original Survey123 form. For more information about editing this data, go to section D.

- If you did not record phenology information for each collection day, do not make up information after that date. If you need to make edits to the phenology information after you have begun editing in the Data Management Site, contact the GIS Analyst to make changes.

Coordinates, Location Calculation, and Seed Zone tabs – compare your data to the example provided

For all Scouting Form location information, follow QC guidance in the Collection form Coordinates, Location Calculations, and Seed Zones section.

- If you changed the location information of a collection, you will also need to change the location information of the scouting point. Once a collection form has been created from a scouting point, any future edits made to either a scouting or collection point will not autofill across forms.

Habitat and Identification tabs – compare your data to the example provided

Fields highlighted red or with an alert symbol

- Highlights and alerts indicate fields are blank. This tab is optional for the scouting form, so blank fields are allowed.

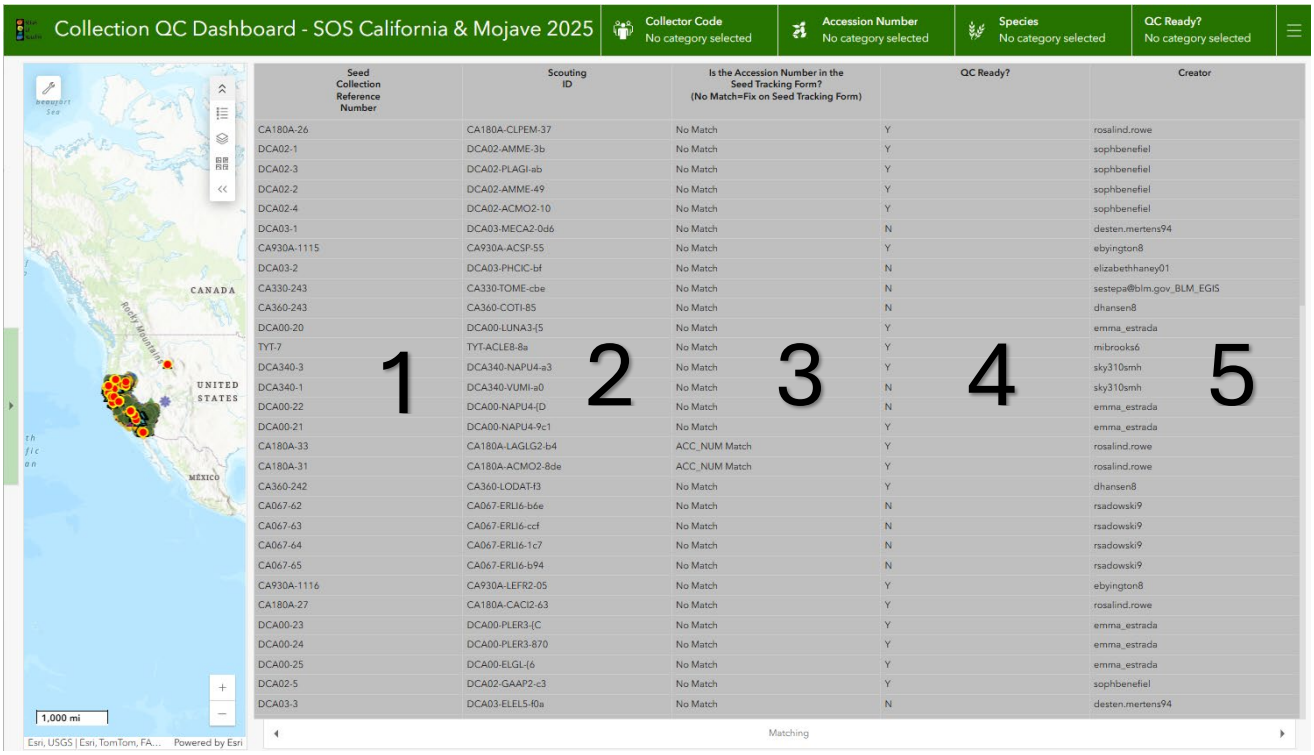
- If data was entered on the scouting form, and was later changed on the collection form, update the corresponding fields on the original scouting form.

Scouting Form – Tricky Taxonomy Tab

- For all Scouting Form tricky taxonomy, follow QC guidance in the Collection form Tricky Taxonomy section.

4. Matching tab - Completing and connecting data forms

When accessing the Data Management Dashboard, a new tab titled “Are all of your forms filled out?” will appear in the Collection QA/QC Dashboard. This tab verifies that Seed Collection Reference Numbers, Scouting IDs, and Seed Tracking Numbers are connected.



1: The Seed Collection Reference Number on the collection form

2: The associated Scouting ID from the collection form

3: Lists whether a seed tracking form for that collection has been submitted. “No Match” will be listed in column 3 until a seed tracking form is submitted when seed is shipped. “ACC_NUM Match” means the Seed Collection Reference Number matches the number on the Seed Tracking form.

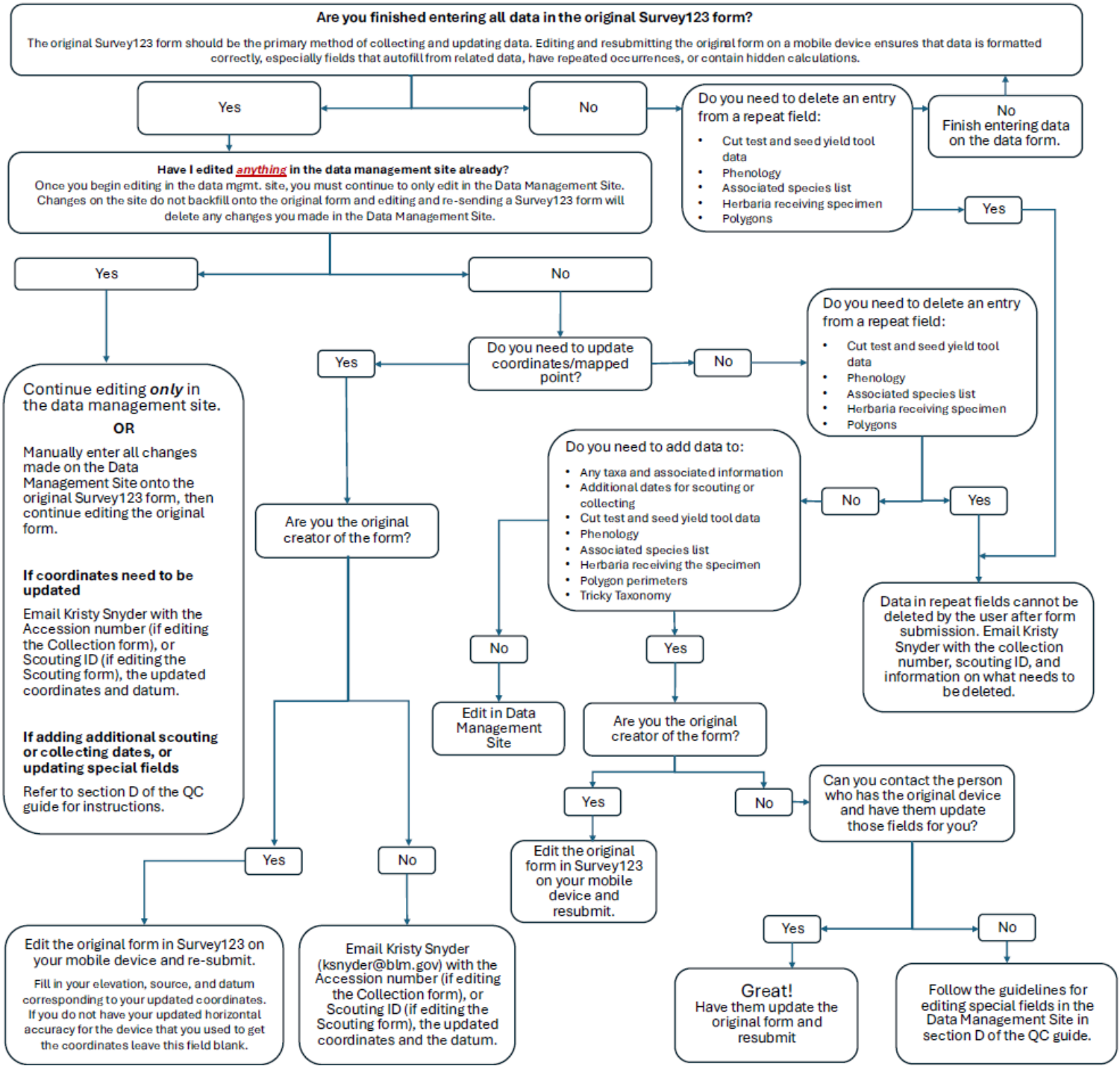
4: If the entry is ready for the data QC process or not

5: The username of the original creator of the Survey123 form

Section D. Editing and Deleting Data

This section contains details on where and how to edit data, tips on formatting, and instructions for editing special fields

Use this flow chart to determine where to edit data



Editing Data – Overview

There are two ways to update data, depending on the type of edits needed:

1. Editing the Original Survey123 Form
2. Using the Data Management Dashboard (GeoPlatform)*

** If you have already made changes in the Data Management Dashboard, you should continue using it for further updates or edits. While Survey123 forms are linked to the Data Management Dashboard, the connection does not work in reverse – updates made in the Data Management Dashboard do not sync back to Survey123. As a result, if you edit a Survey123 form after making changes in the Data Management Dashboard, those changes will be overwritten and lost.*

Special fields that are difficult to update in the data management site

Some fields are difficult to edit or cannot be edited in the data management site and must be edited in the original Survey123 form.

Fields that must be edited on Survey123 form:

- All Mapped Point/Coordinate updates
- Population Permitter Polygons
- Anything with repeat fields or behind the scenes calculations
    - Additional dates for scouting or collecting
    - Phenology
    - Cut test and seed yield tool data
- Anything that has connected information that auto-fills from another field:
    - All species information
    - Associated species list
    - Herbaria receiving the specimen
    - Tricky Taxonomy

If something happens and you absolutely CANNOT edit the data on the original Survey123 form, you will need to follow the steps outlined in the next section to edit in the data management site.

1. Editing via Original Survey123 Form

The best way to edit data is by updating the original Survey123 form, especially when **updating coordinates, moving a mapped point, or editing fields that autofill other fields.** For example, the "Accepted Taxa" field in the Survey123 form autofills the "USDA PLANTS Code", "Common Name", "Family", "Habit", "Duration", and "AUTHOR" fields. When updating location information or the mapped point, follow the directions outlined in the "All Digital Data Guides" help document.

Always verify that you are editing the correct fields and the correct collections/scouting points before saving any changes.

Adding another day – Survey123 form is accessible

If you need to add another scouting or collection day, you will need to update the following fields in Survey123:

Scouting

- Update the population size and estimated acres on page 2
- Add another phenology date on page 3

Collection

- Add dates on page 1
- Add another cut test on page 2
- Add another phenology date on page 4
- Update the number of plants sampled and acres on page 5

If you cannot find the Survey123 form on the original device

After submission, forms are temporarily stored in your mobile device in a SQLite database. These forms are typically located in the "Sent" folder in Survey123. If a form is missing from this folder, it was likely overwritten by a system update. **In this case, use the Data Management Dashboard for any necessary edits.** If you need to update the location of a mapped point, email the GIS Analyst for assistance.

2. Editing via Data Management Site

The Data Management Dashboard in GeoPlatform (GPLAT) should be used for **general data updates that do not involve coordinates or fields that autofill other fields.** For example, the "Data Entered By" field on the Scouting Form will not autofill any other fields in the Scouting or Collection forms.

Adding another day – Survey123 form is not accessible

Update the following fields in the data management site, and then email the GIS Analyst the information in Appendix D:

Scouting

- The population size and estimated acres
- Add another phenology date

Collection

- Add dates to date 2 and/or the date range
- The number of plants sampled and acres

Editing special fields in the Data management Site

All Mapped Point/Coordinate updates

If you are not the original creator of the form and need to update coordinates, Email the GIS Analyst with the Scouting ID (Scouting form) or Seed Collection Reference Number (Collection form), the updated coordinates, and the new datum.

Population Permitter Polygons

In field maps, use the measure feature to draw what the polygon should look like and take a screenshot. Email the GIS Analyst the Scouting ID (Scouting form) or Seed Collection Reference Number (Collection form), size of the old polygon, and the screenshot.

Phenology

Email the GIS Analyst the Scouting ID (Scouting form) or Seed Collection Reference Number (Collection form), the phenology date, and the updated phenology values.

Cut test and seed yield tool data

Email the GIS Analyst the Scouting ID (Scouting form) or Seed Collection Reference Number (Collection form), the seed yield date, and the updated values.

All species information

If you have not sent your seeds to a cleaning facility, update the Accepted Taxa in USDA PLANTS, USDA PLANTS Code, Common Name, Family, Habit, Duration, AUTHOR, Scouting ID, and outboxID in the data management site. Then email the GIS Analyst the Scouting ID (Scouting form) or Seed Collection Reference Number (Collection form) with the old and new species information. All species information can be found at plants.usda.gov.

If you have already sent your seeds to a cleaning facility, then contact the SOS Coordinator and GIS Analyst for further guidance.

Associated species list

In the data management site, update both the USDA code and full taxa associated species lists.

Herbaria receiving the specimen

In the data management site, update the herbaria name in the format of "Herbaria name (herbaria code)" separated by semicolons. For example, United States National Herbarium, Smithsonian Institution (US). Herbaria names and codes can be found at NYBG Steere Herbarium index herbariorum website (https://sweetgum.nybg.org/science/ih/)

Tricky Taxonomy

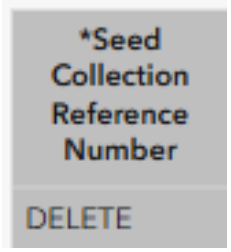
In the data management site, update the Preferred and Accepted species codes and name using the USDA PLANTS information.

Deleting Scouting or Collection information

While most fields can be edited by a collector, some information can only be deleted by the PCRP GIS Analyst.

To delete a Scouting or Collection point from your digital data records:

1a. **Scouting:** Write "DELETE" in the "Scouting ID" field on Page 3 of the Scouting form



1b. **Collection:** Write "DELETE" the "Seed Collection Reference Number" field on Page 1 of the Collection form.

2. Email the GIS Analyst the Seed Collection Reference Number or Scouting ID, and the name of the form, including the *region (Example: CA067-999, California & Mojave collection form)*.

3. Points will be removed by the GIS Analyst on a regular basis.

Data with repeats (data entered by using the grey + on the data form)

You can only add information in the Survey123 form, you cannot delete it:

- Additional dates for scouting or collecting
- Phenology
- Cut test and seed yield tool data
- Associated species list

If you need to DELETE any entries after form submission, email Kristy Snyder (ksnyder@blm.gov) with the ScoutingID or Seed Collection Reference Number, and the date of scouting/collecting record that needs changing, and the information that needs deleted.

Appendix A -List of Crews, Regional, and National Reviewers

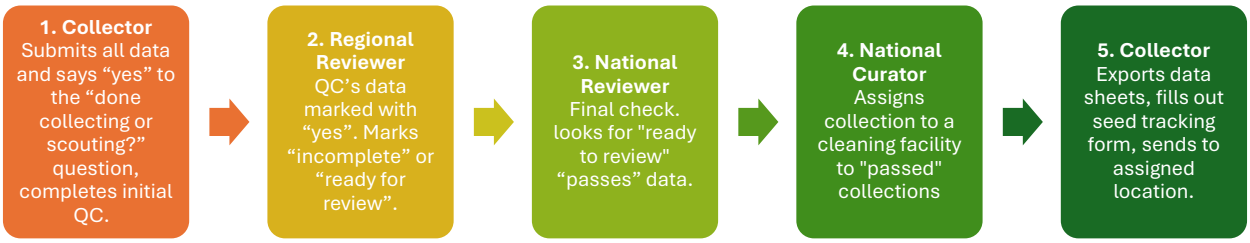
Region	Collector Code	Regional Reviewer	National Reviewer
Alaska	NPAK00 NPAK01 NPAK02 NPAK03 NPAK04		Jonathan Chase
Alaska	AK930 AK930A AK930B AK930C AK930D DAK930 DAK931 DAK932	Rebecca Ubalde	Kristy Snyder
California/Mojave	DCA00 DCA02 DCA03 DCA04 DCA340	Monica Depies	Jonathan Chase
California/ Mojave	BLR CA067 CA180A CA320/CA370 CA330 CA360 CA930A CTLR DCA067 / DCA660 TYT	Matt Mirkes	Kristy Snyder
Colorado & Utah	DUT00 DUT03 DUT04	Monica Depies, Liz Enoch	Jonathan Chase
Colorado & Utah	NPCO00	Ben Shreeves	Jonathan Chase

Colorado & Utah	UT030 UT060	Liz Enoch	Kristy Snyder
BLM Contract Group/EcoPoint	DCO110 DCO160/DCO150/DCO200 AZ010 DN 070/DCO810 NV052 DUT075 UT020/WY090/ID320 WY930	Liz Enoch	Kristy Snyder
Great Basin	DCA350/DCA370 DFWS0800 DFWS0801 DNV010/ DNV040A /DNPNV00 NV030 DNV060, DCA170 DUT040/DNV065A/DNVBRM	C Olson	Kelly Thomas
Great Basin	DNPNV00A	Monica Depies	Jonathan Chase
Mid Atlantic	FWS0502 DFWS0504		Kelly Thomas
Mid Atlantic	ES041	Rebecca Ubalde	Kristy Snyder
Midwest	ES040	Rebecca Ubalde	Kristy Snyder
Midwest	NPMI00	Ben Shreeves	Jonathan Chase
Northern Great Plains	DCO00 DMT01 NPSD00 DWY00 DWY01 DWY02	Ben Shreeves	Jonathan Chase
Northern Great Plains	MT050 MT100 MT923	Rebecca Ubalde	Kristy Snyder
Northern Great Plains	DFWS0600		Kelly Thomas
Pacific NW	DID00 NPID00	Amy Alverson	Jonathan Chase

	DOR00 DOR020/DOR030 DWA01 DWA02		
Pacific NW	DWA00	Amy Alverson	Kelly Thomas
Pacific NW	FWS0100 FWS0101		Kelly Thomas
Pacific NW	OR080 OR110	Rebecca Ubalde	Kristy Snyder
Southeast	FWS0400 FWS0401 FWS0403 FWS0404	Gus Raisch	Kelly Thomas
Southeast	DFWS0407	Zach Wood	Kelly Thomas
Southeast	DFWS0408		Kelly Thomas
Southwest	DAZ00 DAZ01 DAZ02 DAZ03 DCO01/DNM01	Ashlee Wolf	Jonathan Chase
Southwest	NM080 NM930	Kara Barron	Kristy Snyder
Southwest	NM018	Rebecca Ubalde	Kristy Snyder
Southwest	NPNM00	Kara Barron	Jonathan Chase
Southwest	FWS0202	Kara Barron	Kelly Thomas

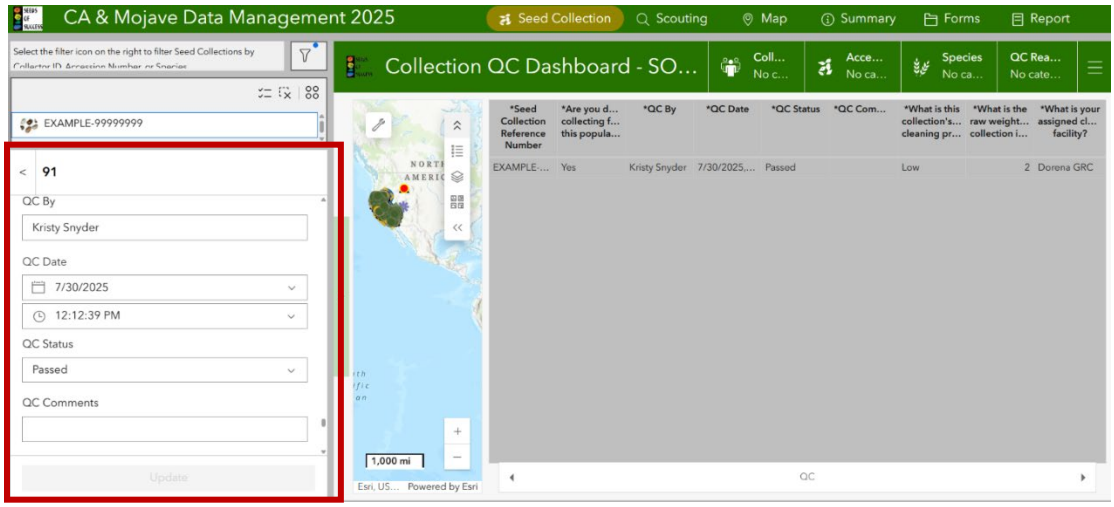
Appendix B – QC and Shipping Quick Guide

A five-step data finalization process must be completed before seeds can be shipped to a cleaning facility. Details of roles, responsibilities, and considerations for each of these steps are outlined in the document "Seeds of Success Digital Data QC Guidelines 2025".



Collectors, Regional Reviewers, and National Reviewers are all responsible for checking and finalizing SOS collection and scouting data. Following the five-step process below ensures data sheets or labels are not exported too soon or with incomplete/incorrect information and allows the National Office to prioritize collection cleaning needs. If seeds are shipped with incorrect data sheets, we must get information corrected by the seed cleaning facilities. Form corrections after seeds are shipped decrease the capacity of the seed cleaning facilities AND can incur extra charges to the program for each request to change information.

Implementing the QC process occurs though the data management site and can be visualized on the QC tab of the dashboard. Instructions on using the data management site for data review and QC are detailed in the main QC guide.



Reviewing scouting and collection data

Use the 2025 Data management site and 2025 QC guide to check data for accuracy and completeness. There are five steps to reviewing your Scouting and Collection data:

1. Ensure the written coordinates, mapped points, and associated location data are correct.
2. Check the dashboard for auto-flagged errors and alerts.
3. Review all other data tabs for accuracy, completeness, and common errors.
    a. If needed, edit data according **to section D of the 2025 Data QC guide.**
4. Check for matching forms
5. Update the QC status as appropriate

Once data has been reviewed and is passed collectors may ship to a designated seed cleaning facility.

Alaska Collections – Shipping to Palmer Plant Materials Center

Once data has "passed" National QC review, collectors may export their data sheets, pack up collections, ship them to the Palmer Plant Material Center, and fill out a seed tracking form when shipping. They do not need to wait to be assigned a cleaning facility.

Lower 48 Collections – Need a collection cleaning priority, bulk seed weight in lbs, and to wait for a cleaning

All collections in the lower 48 need to have an assigned cleaning priority (Low, Medium, High) and have their bulk seed weight in lbs. listed to be assigned a cleaning facility. Priorities can be assigned by the collector if they are involved in determining the end use of the seed. Collectors should mark "unknown" if they are not planning seed use. A Regional or National Reviewer will follow up on "unknown" collections during the QC process.

Cleaning Priority Definitions

Unknown: Collector does NOT know/is not involved in planning the end use of these seeds. Status will be updated via the Data Management site during final QC review.

Low: Collections that are **not needed** back for use in 2026. These are the easiest for cleaning facilities to accommodate. Seeds will be cleaned, tested, and stored at various cleaning facilities and will remain in the SOS inventory for future use.

Example: Conservation collections, collections that are too small to use for a project this year, or collections that don't have an anticipated use in 2026.

Medium: Collections that **might** need test results or seed returned before fall 2026. These will be considered with high-priority collections based on monthly capacity. If tests or seeds are needed by May 1st, submit a clearance form by January 30th. Otherwise, seeds and test results will remain in SOS inventory at a cleaning facility for future use.

Example: A collection that depends on final PLS results for use in 2026, or a collection you can de-prioritize if too many others are considered higher priority.

High: Collections with **strong likelihood** of needing test results or seeds returned by May 1, 2026. Cleaning space for high priority collections is limited each month, and Sarah will help coordinate priority needs across partners.

Example: You have a confirmed 2026 project for these seeds and plan to submit a seed clearance form by January 30th, 2026.

Appendix C. Data Field Definitions and Formatting Requirements

If you see a red highlight on a field with a constraint, check the formatting requirements below to verify that your entry is entered correctly

Survey123 Field	**What information is collected?**	**Data Type**	**Required or optional?**	**Formatting requirements / options for entry** (If blank there are no formatting constraints besides the accepted data type)
Recollection?	Is this a Recollection?	Text	Optional	Yes or no
Original Seed Collection Reference Number	Historic official SOS collection number used as an accession number	Text	Optional	
Historic Scouting Point?	Has this point been scouted from in past years?	Text	Optional	Yes or no
Historic Scouting Number	Historic scouting number if revisiting a site that has been scouted from in past years	Text	Optional	
Data Entered By	Person who entered the data on the tablet, regardless of account being used	Text	Required	
COLL_ID	Team code	Text	Required	Dropdown
Organization	Federal Organization funding or managing your crew. Most BIL BAR teams will have DOI as their organization	Text	Required	BLM, NPS, FWS, DOI
Accepted Taxa in USDA PLANTS	Full genus and species	Text	Required	Drop down
USDA PLANTS Code	USDA PLANTS Code	Text	Required	Autofill from Taxa field
Common Name	Common name from USDA PLANTS	Text	Required	Autofill from Taxa field
Family	Family from USDA PLANTS	Text	Required	Autofill from Taxa field

Habit	Growth habit from USDA PLANTS	Text	Required	Forb/herb, Graminoid, Shrub, Subshrub, Tree, Vine
Duration	Duration from USDA PLANTS	Text	Required	Annual, Biennial, Perennial
AUTHOR	Author from USDA PLANTS	Text	Required	Autofill from Taxa field
Collection Number	Collection number	Long	Required	
Seed Collection Reference Number	Official SOS collection number used as an accession number	Text	Required	Team code-collection number
Alt. Collection Number	Another collection code or number that is not associated with the SOS collector code or number	Text	Optional	
preadjustedDate	UTC offset calculation for the first date	Date	Required	Date
COLL_DT	First date collected	Date	Required	Date
Did you collect on a second date?		Text	Optional	Yes or no
Date 2	Second date collected	Date	Optional	Date
Did you collect on additional days?		Text	Optional	Yes or no
Date range	Additional dates collected, entered in a MM/DD/YYYY format	Text	Optional	
Collector Name(s)	Full names of all people collecting in “Last Name, First Initial., Last Name, First Initial.” Format. Example: Hill, S., Snyder,K.	Text	Required	
Total number of plants sampled from	Total sum of all the plants sampled from on multiple dates	Long	Optional	
Average fruit per plant	Average of all the number of fruits per plant	Long	Optional	

Average viability	Average of all the number of viable seeds per fruit	Long	Optional	
Estimated PLS collected this season	Total sum of Pure Live Seeds (PLS)	Long	Optional	
Estimated seed collected in grams this season	Estimate of the total grams of seed collected for this population this season	Double	Optional	
Estimated seed collected in pounds this season	Estimate of the total pounds of seed collected for this population this season	Double	Optional	
numPlants_comma	Number of plants sampled with each date sampled separated with a comma	Text	Optional	
avgFruitPerPlant_comma	Average number of fruits per plant with each date sampled separated with a comma	Text	Optional	
avgSeedPerFruit_comma	Average number of viable seeds per fruit with each date sampled separated with a comma	Text	Optional	
totalSeed_comma	Estimated Pure Live Seeds (PLS) with each date sampled separated with a comma	Text	Optional	
Latitude	Latitude in decimal degrees format	Double	Required	
Longitude	Longitude in decimal degrees format	Double	Required	
Horizontal Accuracy in Meters	Horizontal accuracy in the units of your device. Please use meters	Double	Required	
LATITUDE	Latitude in degrees, minutes, seconds format	Text	Required	
LONGITUDE	Longitude in degrees, minutes, seconds format	Text	Required	

GEOREF_SOURCE	Source of the coordinates. If receiving coordinates from tablet, it will be from the Geopoint	Text	Required	GPS, Geopoint, Other
GPS Datum	Datum of coordinates. If using the tablet, the default datum is WGS1984. If datum is not an option in the dropdown list, you will need to enter the correct datum in the Data Management Site.	Text	Required	WGS84, NAD83, NAD27
Elevation in meters	Elevation in meters, this is the default of the Geopoint	Long	Optional	
Elevation in feet	Elevation in feet, this is a calculation of the elevation in meters	Double	Required	
Subunit	The descriptive name of the area given to it by the landowner or land manager.This may include the city, town, village, park, forest, or refuge in which the material was collected. E.g., Blue Mountains, Antelope Island State Park, Ridgecrest Field Office, Phoenix.	Text	Required	
Area within subunit	The geographic area where this collection was made. Geographic areas are physical or logical areas that transcend the geopolitical areas defined in the State, County, Subunit fields. These may include mountain ranges, river valleys, trail names, etc. e.g., Marigold Trail, Red Rocks Canyon, or Maroon Bells.	Text	Required	

Location Details	The locality of the collection site, including driving and hiking directions from some recognizable point to the collection site. Be detailed enough that someone can retrace the location details and find the population using cardinal directions, mileage, and permanent landmarks.	Text	Required	
Land Managing Agency	Federal Land Managing Agency	Text	Required	
Other Land Manager	Non-Federal Land managing agency or landowner. State, County, or City landowners are to be written as “State of …”, “County of ….”, and “City of…”.	Text	Optional	
LAND_OWNER	Combination of all land managing agencies or landowners. State, County, or City landowners are to be written as “State of …”, “County of ….”, and “City of…”.	Text	Required	
Is this Collection on Non-BLM land?		Text	Required	Yes or no
Has permission been granted by the land manager?		Text	Required	Yes or no
State	State name, capitalized	Text	Required	
County	County name, capitalized and without the word “county”	Text	Required	
Ecoregion Code	Level 3 ecoregion number. Must have an “E” at the end of the number.	Text	Required	
Ecoregion Name (Level 3)	Level 3 ecoregion name.	Text	Required	

Ecoregion Name (Level 4)	Level 4 ecoregion name.	Text	Required	
BLM State	Bureau of Land Management state office.	Text	Required	
BLM District Office	Bureau of Land Management district office.	Text	Required	
BLM Field Office	Bureau of Land Management field office.	Text	Required	
Provisional Seed Zone	Bower el al. Provisional Seed Transfer Zones using the “new_label” field. Please pay attention to the spacing when entering this value, there are spaces after each individual character (“-“, “/”), number (“25”, “10”, etc.), or word (“humid”, “semi-humid”, etc.)	Text	Required	25 - 30 / arid, 20 - 25 / arid, 10 - 15 / arid, 0 - 5 / arid, 5 - 10 / arid, 15 - 20 / arid, 30 - 35 / arid, 35 - 40 / arid, 40 - 45 / arid, 45 - 50 / arid, 50 - 55 / arid, 25 - 30 / very humid, 10 - 15 / very humid, 5 - 10 / very humid, 20 - 25 / very humid, 15 - 20 / very humid, 30 - 35 / very humid, 40 - 45 / very humid, 35 - 40 / very humid, 0 - 5 / very humid, <0 / very humid, 45 - 50 / very humid, 10 - 15 / humid, 30 - 35 / humid, 15 - 20 / humid, 20 - 25 / humid, 35 - 40 / humid, 5 - 10 / humid, 25 - 30 / humid, <0 / humid, 0 - 5 / humid, 40 - 45 / humid, 45 - 50 / humid, 50 - 55 / humid, >55 / humid, 10 - 15 / semi-humid, 20 - 25 / semi-humid, 0 - 5 / semi-humid, 15 - 20 / semi-humid, 5 - 10 / semi-humid, <0 / semi-humid, 30 - 35 / semi-humid, 35 - 40 / semi-humid, 25 - 30 / semi-humid, 40 - 45 / semi-humid, 45 - 50 / semi-humid, 50 - 55 / semi-humid, >55 / semi-humid, 0 - 5 / semi-arid, 15 - 20 / semi-arid, 5 - 10 / semi-arid, <0 / semi-arid, 10 - 15 / semi-arid, 20 - 25 / semi-arid, 25 - 30 / semi-arid, 30 - 35 / semi-arid, 40 - 45 / semi-arid, 35 - 40 / semi-arid, 45 - 50 / semi-arid, 50 - 55 / semi-

				arid, 30 - 35 / very-arid, 35 - 40 / very-arid, 25 - 30 / very-arid, 40 - 45 / very-arid
Eastern States Seed Transfer Zone	Eastern States Seed Transfer Zones	Text	Required	
Desert Southwest Seed Transfer Zone	Desert Southwest Seed Transfer Zone	Text	Required	
Empirical Seed Transfer Zone - Climate Matched	Climate Matched Empirical Seed Transfer Zones, values are the GridCode or Zone.	Text	Required	
Empirical Seed Transfer Zone - Common Garden	Common Garden Empirical Seed Transfer Zones, values are the GridCode or Zone.	Text	Required	
Empirical Seed Transfer Zone - Landscape Genetic	Landscape Genetic Empirical Seed Transfer Zones, values are the GridCode or Zone.	Text	Required	
Geology	The mineral structure of the collection site, either a formation type or specific rock which makes up the parent material	Text	Required	
uniqueID		Guid	Required	
Scouting ID	ScoutingID in the format of [Collector Code]- [NRCS PLANTS Code]-3 code unique identifier. For example, ID930-ACMI2-bd4. The three code unique identifier can be a combination of letters and numbers.	Text	Required	Autofilled from “COLL_ID”, “NRCS PLANTS CODE”, and unique identifier created when form is first created.

Scouting Notes	Notes to help with scouting the specimen	Text	Optional	
Approximate Number of Plants Found	Total number of plants found in the area.	Long	Required	
Number of Plants Sampled	Total number of plants seed was collected from	Long	Required	
Collection Area Sampled in Acres	Size of collection area in acres	Double	Required	
Seeds Collected From	Location where seeds are collected from	Text	Required	P, G, B, U
Average Plant Height in Feet	Average height of plants in feet	Double	Required	
Field Notes	Notes to help with identification of specimen. If the entry in a recollection, then “RECOLLECTION” needs to be entered here.	Text	Required	
Method used to collect seeds	Method used to collect seeds	Text	Required	HandStripped, Cut, Beat, Bagged, Plucked, Other
Other method to collect seeds	Describe another method used to collect seeds that were not	Text	Required	
Ecological Site Description, Habitat Type and/or National Vegetation Classification	Description of the collection site as a plant community or ecosystem	Text	Required	
Associated Species List - USDA Code	Associated species displayed in NRCS PLANTS code, separated by commas	Text	Required	Species list is in the GeoPlatform forms. If you do not see your species in the forms, please reach out to the SOS National Curator and the GIS Analyst.
Associated Species List - Taxa	Associated species displayed in Genus Species, separated by commas	Text	Required	Species list is in the GeoPlatform forms. If you do not see your species in the forms, please reach

				out to the SOS National Curator and the GIS Analyst.
Modifying Factors	Any event that has altered the collection site, such as burning, grazing, or seeding.	Text	Required	None, Mowed, Burned, Grazed, Flooded, Seeded, Trampled, Invasives, Other
Describe other modifying factors	If “other” was selected as a Modifying Factor, you can type in a description here.	Text	Required	
Land Form	Description of local topography	Text	Required	Alluvial_Fan, Alluvial_Valley, Arroyo, Backslope, Badlands, Bajada, Bald, Ballon, Basin, Bench, Blowout, Bottomland, Break, Canyon, Cliff, Coastal_Plain, Colluvial_Fan, Colluvium, Depositional_Stream_Terrace, Depression, Drainage, Draw, Drumlin_Field, Dune_Field, Escarpment, Flat, Floodplain, Floor, Foothills, Footslope, Gorge, Gulch, Gully, Highland, Hills, Hillslope, Hummock, Intermontane_Basin, Knob_and/or_Mound, Lowlands, Plains, Plateau, Ravine, Ridge, Rift_Valley, Rim, Saddle, Scour, Scree, Seep, Shoulder, Stream_Reach, Stream_Terrace, Swale, Talus, Till_Plain, Toeslope, Trench, Valleys, Wash
Land Use	How the land is used by humans	Text	Required	Conservation, Grazing, Housing, Military, Mining, Multiple_Use, Nature_Preserve, None, Park, Private, Protected, Rangeland, Recreation, Renewables, Roadside, Timberland, Transportation, Wilderness, Wildlife_Habitat, Other
Approximate Slope in Degrees	Average slope in degrees, only one number can be entered and it must be between 0 and 90.	Long	Required	

Aspect	Aspect the slope is facing. If less than 3 degrees, “Flat” can be entered,	Text	Required	N, S, E, W, NE, NW, SE, SW, Flat
Soil Texture	Describes the soil at the collection site with the following terms: clay, silt, and sand etc.	Text	Required	Clay, Clay_Loam, Loam, Loamy_Sand, Sand, Sandy_Clay, Sandy_Clay_Loam, Sandy_Loam, Silt, Silt_Loam, Silty_Clay, Silty_Clay_Loam, Other
Soil Type Other		Text	Optional	
SOIL_COLOR	Refer to the Munsell Soil Color Chart and document color using the code and descriptive name.	Text	Required	2.5R, 5R, 7.5R, 10R, 2.5YR, 5YR, 7.5YR, 10YR, 2.5Y, 5Y, 7.5Y, 10Y, 2.5GY, 5GY, 7.5GY, 10GY, 2.5G, 5G, 7.5G, 10G, 2.5BG, 7.5BG, 10BG, 2.5B, 5B, 7.5B, 10B, 2.5PB, 5PB, 7.5PB, 10PB, 10PB, 2.5P, 5P, 7.5P, 10P, 2.5RP, 5RP, 7.5RP, 10RP, N
Number of pressed specimens	Total number of pressed voucher specimen. Must be at least 3 and an integer.	Long	Required	
Date voucher taken	Date the voucher was taken in MM/DD/YYYY format	Date	Required	
Herbaria Receiving the Specimen	List the herbaria receiving specimen separated by commas	Text	Required	
Are specimen being sent to an herbaria that is not listed?		Text	Optional	Yes or no
Please write the name, affiliation, and code for the the herbaria that is receiving the specimen.		Text	Optional	
Alternate Voucher Number	Optional field to enter another associated voucher number	Text	Optional	
Identified by	Full name of the person who identified the species	Text	Required	
Location of Identification	Where the specimen was identified.	Text	Required	In_Field, From_Pressed_Specimen_on_Day_of_Collection,

				From_Pressed_Specimen_on_Another_Date, From_Photograph
Date Identified	Date the species was identified in MM/DD/YYYY format.	Date	Required	
Do you want to take polygons of this population?		Text	Optional	Yes or no
Total Perimeter (kilometers)	Total perimeter of polygons in kilometers	Double	Optional	
Total Perimeter (miles)	Total perimeter of polygons in miles	Double	Optional	
Total Area (hectares)	Total area of polygons in hectacres	Double	Optional	
Total Area (acres)	Total area of polygons in acres	Double	Optional	
1. Are the number of acres and number of plants sampled accurate? If you collect over multiple days, update your total number of unique plants sampled and total numbers of acres sampled (page 6) each day.		Text	Required	
2. Is the soil information (color / texture) complete? You must complete those fields by the time you finish this collection.		Text	Required	
3. The following fields are required to be completed by the end of the season. You may submit forms without this data for now, but they must be completed eventually. Click to confirm that these fields will be completed before the season ends.		Text	Required	
4. Have you taken your photos?		Text	Required	
Enter any information about photo locations, file names, etc.		Text	Optional	
What is the preferred Genus and Species for this collection?		Text	Optional	
What is the source of this preferred name?		Text	Optional	
What is your preferred USDA PLANTS name?		Text	Optional	

Preferred NRCS PLANTS Code		Text	Optional	
Accepted NRCS PLANTS Code		Text	Optional	
status		Text	Required	
QC By	Person or people who have quality controlled the data	Text	Required	
QC Date	Date that the QC took place	Date	Required	
QC Status	Stage in the QC process that the scouting or collection point is in. Not initiated means the process has not begun. Incomplete means it has been started but is not finished. Ready for Review means that a regional coordinator has check the data and believes it is complete and accurate. Passed means an agency coordinator has reviewed the data and a report (form) can be generated.	Text	Required	Not Initiated, Incomplete, Ready for Review, Passed
QC Comments	A place to leave any questions or comments for folks needing to do QC	Text	Required	
Survey Mode		Text	Required	
Was this collection combined with other accessions?		Text	Optional	
List all seed collection reference numbers that were combined.	List all of the collections that were combined	Text	Optional	
What is the new accession number?	The accession number that will be sent to cleaning facilities – this is new/unique number that should be	Text	Optional	

	used and captures all the combined information			
What is the elevation range of this combined accession (in feet)?	Elevation range of the combined accessions	Text	Optional	
Add any notes about the combined population here.		Text	Optional	
CreationDate		Date	Required	
Creator		Text	Required	
EditDate		Date	Required	
Editor		Text	Required	
5. Are you done collecting from this population?		Text	Required	Yes or no

6. What is this collection's 2025 cleaning priority?	Unknown: Collector does NOT know/is not involved in planning the end use of these seeds. Status will be updated via the Data Management site during final QC review. Low: Collections that are not needed back for use in 2026. These are the easiest for cleaning facilities to accommodate. Seeds will be cleaned, tested, and stored at various cleaning facilities and will remain in the SOS inventory for future use. Medium: Collections that might need test results or seed returned before fall 2026. These will be considered with high-priority collections based on monthly capacity. If tests or seeds are needed by May 1st, submit a clearance form by January 30th. Otherwise, seeds and test results will remain in SOS inventory at a cleaning facility for future use. High: Collections with strong likelihood of needing test results or seeds returned by May 1, 2026. Cleaning space for high priority collections is limited each month, and Sarah will help coordinate priority needs across partners.	Text	Required	Unknown, Low, Medium, High

7. What is the raw weight of this collection in pounds?		Double	Required	
8. What is your assigned cleaning facility?		Text	Required	

Appendix D. Format for additional scouting or collection dates when Survey123 form is no longer available

Send spreadsheet with all fields filled out to the GIS Analyst, Kristy Snyder (ksnyder@blm.gov) for updating.

Use this template for additional cut and viability test dates.

Seed Collection Reference Number	Scouting ID	Date	Number of seeds cut open	Number of viable seeds	Which seed collection method will you be using?	What percentage of each plant will you collect?	Average number of fruits per plant	Average number of seeds per fruit	Target number of seeds you want to collect	Number of plants physically collected from	Estimated PLS collected today	Weight of bulk material in grams collected today	Weight of bulk material in pounds collected today

Use this template for additional phenology dates.

Seed Collection Reference Number	Scouting ID	Date	Dormant	Vegetative	Bud	Flower	Pre-Seed	Seed	Post Seed

Appendix E. Example data sheet export

EXAMPLE- ORIGINAL COLLECTION- SEEDS OF SUCCESS FIELD DATA FORM

Seed Collection Ref. Number:	NM930-114	**Collector Code:**	NM930
Date(s) Collected (MM/DD/YY):	09/02/2020 9/9/2020	**Collector Name(s):**	Chambliss, S., Primer, S., Howard, M.
		Collection Number:	114
		Alt. Collection Number:	Howard 427
	Recollection: Y **N**	**If yes Recollection, Original Seed Reference #:**	

COLLECTION DATA

Phenology = 100%	Dormant 5% Vegetative 10% Bud 5% Flower 5% Pre Seed 10% Seed 50% Post Seed 15%		
Family:	Asteraceae	**No. of Plants Sampled** (min. 50):	300
Genus:	Verbesina	**No. of Plants Found** (approx.):	5000
Species:	enceliodes	**Area Sampled** (acres):	2
Subspecies/Variety:		**Seeds Collected From:**	*Plants Ground Both Unknown*
Plant Habit:	*Tree Shrub* ***Forb*** *Succulent Grass/Grasslike*	**Avg Plant Height** (ft):	3
Field Notes to assist in identification of pressed specimen (e.g. flower color):	Yellow flowers, strong odor when crushed		
Collection Method: (circle)	*Hand stripped Cut Beat into tarp/container Plucked individual seed heads with hands Other (describe):*		
Common Name(s) of Plants:	Golden crownbeard	**NRCS PLANTS Code:**	VEEN

LOCATION DATA

Ecoregion (Omernik Level III):	24		**State:**	NM	**County:**	Dona Ana	
Provisional STZ	**25 - 30 / semi-arid**	**Empirical STZ**		**Desert SW STZ**		**Eastern States STZ**	
Subunit (BLM area, park name, etc.):	Floral Delight Conservation Area		**Area within Subunit** (trail name, etc.):	Marigold Trail			
Land Owner:	BLM		**Non-BLM Permission Filed:**		Y N		
Location Details:	From Las Cruces Field Office, take I-10 West of Las Cruces 7 mi, cross to the south side and travel 2 mi to County Road B005, continue for 2.1 miles, population on west side of road.						
Source Used:	*GPS Survey 123 Other:*				**Accuracy:**	7 meters	

GPS Datum:	*NAD83* *NAD27* *WGS84* *Other:*		
Latitude (dg/min/sec) (ex: 40° 34' 19.5" N):	32° 13' 47.9" N	**Elevation:**	4347
Longitude (dg/min/sec) (ex: 107° 36' 51.54" W):	107° 4' 34.0" W	**Unit** (ft or m):	ft

HABITAT DATA

Associated Species (Scientific Name):	Prosopis glandulosa, Gutierrezia sarothrae, Salsola kali, Dimorphocarpa wislizeni, Atriplex canescens, Amaranthus sp., Bouteloua aristidoides
Ecological Site Description, Habitat Type and/or National Vegetation Classification :	Chihuahuan Semi-Desert Grassland

Modifying Factors:	*Mowed Burned Grazed Flooded Seeded Trampled Other:*		
Land Form:	Sand dunes	**Avg Slope** (degrees):	0-2
Land Use:	Grazing	**Aspect:**	*N NE E SE S SW W NW*
Geology:	Quaternary Aeolian sands		
Soil Texture:	*Clay Silt Sand Other: Loamy fine sand*	**Soil Color:**	7.5 YR 5/6

HERBARIUM VOUCHERS

Number of pressed specimens:	*3*	**Date Voucher Taken:**	9/2/2020
Herbaria Names (Smithsonian, Regional, Local):	Smithsonian, University of New Mexico, BLM Las Cruces Office		

SPECIALIST IDENTIFICATION

Identified by (name and organizational affiliation):	M. Howard, BLM-NMSO		
Material Identified (circle):	***In Field*** *From Pressed Specimen on Day of Collection* *From Pressed Specimen on Another Date* *From Photograph*	**Date Identified** (MM/DD/YY):	**9/2/2020**

CUT TEST AND SEED YIELD TOOL *Fields in this section with an * are required. The rest are "optional" though may be required for some teams. All teams may use this section to track estimated PLS. This section should be filled out each collection day.*

***Total # seeds cut:**	20	***# viable of seeds:**	16	***Estimated viability** (decimal percent):	.8

Seed collection method (circle):	All seed from every fifth plant (20%) *OR* **___20__% of each plant (can't exceed 20%)**

Avg # fruits/plant:	8	**Avg # seeds/fruit:**	30	**Target # seeds you want to collect:**	10,000	**# plants needed for target:**	260

Total # plants collected from today:	300	**Estimated PLS from today:**	11,520 PLS

Use the following equations to calculate answers for some of the fields above. *Example data: 10 seeds per fruit, 10 fruits per plant, .8 viability, 20% harvest. 10,000PLS target amount. At the end of the collection day, the team sampled 700 plants.*

Number of plants needed = Target # seeds / ([Avg # fruits/plant x Avg # seeds/fruit x Estimated viability] x Decimal percent of seed taken from each plant)

10,000/([10*10*.8]*.2) = 625 plants needed

Estimated PLS= ([Avg # fruits/plant x Avg # seeds/fruit x Estimated viability] x Decimal percent of seed taken from each plant) * total plants collected from

([10*10*.8]*.2)*700 = 11,200 PLS

EXAMPLE- RECOLLECTION- SEEDS OF SUCCESS FIELD DATA FORM

Seed Collection Ref. Number:	NM930-200	**Collector Code:**	NM930
Date(s) Collected (MM/DD/YY):	09/07/2024 9/15/2024	**Collector Name(s):**	Hill, S., Snyder, K.
		Collection Number:	200
		Alt. Collection Number:	Hill 87
	Recollection: Y N	**If yes Recollection, Original Seed Reference #:**	NM930-114

COLLECTION DATA

Phenology = 100%	Dormant 5% Vegetative 10% Bud 0% Flower 5% Pre Seed 10% Seed 50% Post Seed 20%		
Family:	Asteraceae	**No. of Plants Sampled** (min. 50):	400
Genus:	Verbesina	**No. of Plants Found** (approx.):	5000
Species:	enceliodes	**Area Sampled** (acres):	2
Subspecies/Variety:		**Seeds Collected From:**	*Plants Ground Both Unknown*
Plant Habit:	*Tree Shrub* ***Forb*** *Succulent Grass/Grasslike*	**Avg Plant Height** (ft):	3
Field Notes to assist in identification of pressed specimen (e.g. flower color):	Yellow flowers, strong odor when crushed		
Collection Method: (circle)	*Hand stripped Cut Beat into tarp/container Plucked individual seed heads with hands* *Other (describe):*		
Common Name(s) of Plants:	Golden crownbeard	**NRCS PLANTS Code:**	VEEN

LOCATION DATA

Ecoregion (Omernik Level III):	24	**State:**	NM	**County:**	Dona Ana		
Provisional STZ	**25 - 30 / semi-arid**	**Empirical STZ**		**Desert SW STZ**		**Eastern States STZ**	
Subunit (BLM area, park name, etc.):	Floral Delight Conservation Area	**Area within Subunit** (trail name, etc.):	Marigold Trail				
Land Owner:	BLM	**Non-BLM Permission Filed:**	Y N				
Location Details:	From Las Cruces Field Office, take I-10 West of Las Cruces 7 mi, cross to the south side and travel 2 mi to County Road B005, continue for 2.1 miles, population on west side of road.						
Source Used:	*GPS Survey123 Other:*	*Accuracy:*	5 meters				

GPS Datum:	*NAD83* *NAD27* *WGS84* *Other:*		
Latitude (dg/min/sec) (ex: 40° 34' 19.5" N):	32° 13' 47.9" N	**Elevation:**	4347
Longitude (dg/min/sec) (ex: 107° 36' 51.54" W):	107° 4' 34.0" W	**Unit** (ft or m):	ft

HABITAT DATA

Associated Species (Scientific Name):	Prosopis glandulosa, Gutierrezia sarothrae, Salsola kali, Dimorphocarpa wislizeni, Atriplex canescens, Amaranthus sp., Bouteloua aristidoides
Ecological Site Description, Habitat Type and/or National Vegetation Classification :	Chihuahuan Semi-Desert Grassland

Modifying Factors:	*Mowed Burned Grazed Flooded Seeded Trampled Other:*		
Land Form:	Sand dunes	**Avg Slope** (degrees):	0-2
Land Use:	Grazing	**Aspect:**	*N NE E SE S SW W NW*
Geology:	Quaternary Aeolian sands		
Soil Texture:	*Clay Silt Sand Other: Loamy fine sand*	**Soil Color:**	7.5 YR 5/6

HERBARIUM VOUCHERS

Number of pressed specimens:	*3*	**Date Voucher Taken:**	8/30/2024
Herbaria Names (Smithsonian, Regional, Local):	Smithsonian, University of New Mexico, BLM Las Cruces Office		

SPECIALIST IDENTIFICATION

Identified by (name and organizational affiliation):	S. Hill, BLM-NMSO		
Material Identified (circle):	***In Field*** *From Pressed Specimen on Day of Collection* *From Pressed Specimen on Another Date* *From Photograph*	**Date Identified** (MM/DD/YY):	8/30/2024

CUT TEST AND SEED YIELD TOOL *Fields in this section with an * are required. The rest are "optional" though may be required for some teams. All teams may use this section to track estimated PLS. This section should be filled out each collection day.*

***Total # seeds cut:**	20	***# viable of seeds:**	13	***Estimated viability** (decimal percent):	.65

Seed collection method (circle):	All seed from every fifth plant (20%) *OR* **___20__% of each plant (can't exceed 20%)**

Avg # fruits/plant:	10	**Avg # seeds/fruit:**	20	**Target # seeds you want to collect:**	10,000	**# plants needed for target:**	384

Total # plants collected from today:	400	**Estimated PLS from today:**	10,400

Use the following equations to calculate answers for some of the fields above. *Example data: 10 seeds per fruit, 10 fruits per plant, .8 viability, 20% harvest. 10,000PLS target amount. At the end of the collection day, the team sampled 700 plants.*

Number of plants needed = Target # seeds / ([Avg # fruits/plant x Avg # seeds/fruit x Estimated viability] x Decimal percent of seed taken from each plant)

10,000/([10*10*.8]*.2) = 625 plants needed

Estimated PLS= ([Avg # fruits/plant x Avg # seeds/fruit x Estimated viability] x Decimal percent of seed taken from each plant) * total plants collected from

([10*10*.8]*.2)*700 = 11,200 PLS