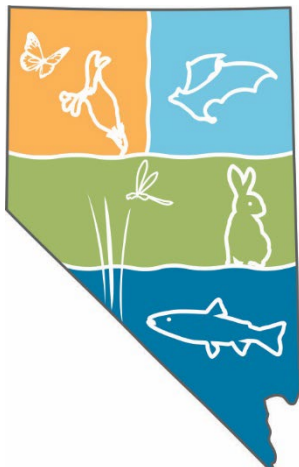


Collect Observation Data in Survey123



NEVADA
— DIVISION OF —
NATURAL HERITAGE

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[Quick reference link](#) from ESRI – For instructions on use of the Survey 123 app.

Install the Survey123 Field App

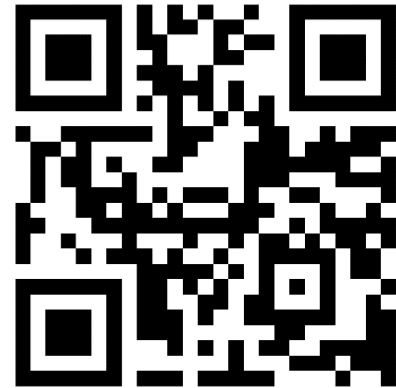


[Android App](#)

[Apple App](#)

[Windows App](#)

1. Click the survey link or take a picture of the QR code
2. If Survey123 is not installed, follow the prompt to download and install the Survey123 field app.
3. After installation, the Observation survey should open automatically.



[NDNH Observations Survey - https://arcg.is/0X54Lu1](https://arcg.is/0X54Lu1)

This survey can also be completed in a browser using the same link.

Collect Data

The **Nevada Division of Natural Heritage** survey will automatically be listed within *My Surveys* in the Survey123 field app for subsequent use. Data can be collected offline and submitted later.

1. Within the Survey123 for ArcGIS app, click the **Nevada Division of Natural Heritage** survey.
2. Within the survey, click **Collect** to start entering data.

For all dropdown lists, if you want to select a different option, you must delete the contents of the text box to see the complete list.

Headings in Red are required fields.

Agency

Select the agency where you work or select Contractor/Other and enter a company or group name. If you are not collecting data for a company or group, enter "Independent". This field is auto-populated for logged in NDNH staff members.

What was Observed?

Species/Community vs. Higher Taxonomy

If you know the species or community name, select species/community. If not, you can select a higher taxonomic unit such as Euphilotes, Asteraceae, or Vertebrate Animal.

Name or Higher Class Unit

Enter the scientific or common name of the species, community, or higher classification unit. A list of options will populate and you can select a taxon from the list. If you need to collect data

on a taxon that is not listed, please contact NDNH for help.
Depending on the type of organism or community selected, the subsequent questions will change so it's important to complete this step before entering more data.

Was the Species/Ecological Community Detected?

Yes means you observed the taxon or signs of it, such as scat or a nest. No means you did not observe the taxon.

If you are searching an area for multiple species, you can create copies of surveys that have been submitted and edit the taxon name. This function only works after the original survey has been submitted so you may need to wait until you are back in cellular or wi-fi range.

Scientific Name, Common Name, Global Rank, and Subnational (State) Rank are all populated automatically once a taxon is selected.

Restricted Data

Data can be restricted to protect taxa that are subject to poaching or sensitive to other human disturbance. It can also be used on private lands. We will automatically blur any locations on private lands or for taxa we deem sensitive. All requests for our data are screened so data not marked as restricted will **NOT** be automatically available to the public. Please only mark data as sensitive when necessary.

Restricted Data Reasons

Poaching/Collection Threat – Any unpermitted harvesting by humans that targets this species.

Proprietary Data – Unpublished research or copyrighted.

Land Owner Restrictions – Land owner has requested that precise location data not be released.

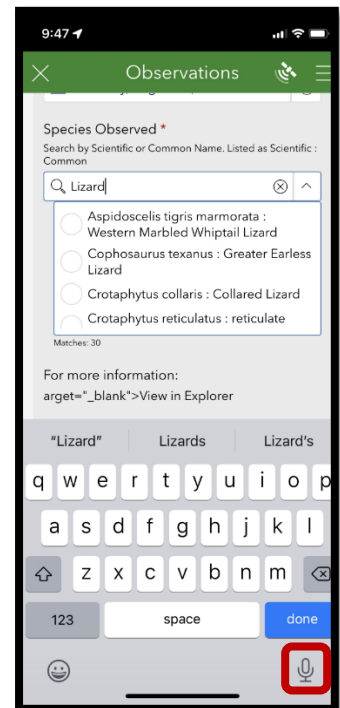
Fragile species or habitat – Location is sensitive to human intrusion such as a bat roost or bog.

Visit

Observer/Surveyor

Name(s) of observer(s). If you haven't submitted data to us before, please include your email address so we can contact you if we have any questions about your observation.

NOTE: Voice to text works within the Survey123 mobile app. Just click the microphone button (or appropriate for your device) and talk!



Date

You can record a single date or a range of dates if surveying over multiple days. You cannot select multiple, non-consecutive dates but you can put these in the visit notes.

Voucher Specimen

If you have collected a voucher specimen, please enter your collection number and the location where the specimen will be housed. Be aware that collecting specimens of rare taxa may require multiple permits from federal and state agencies and the landowner. If this collection requires a permit from the Nevada Division of Forestry, BLM, USFS, or other management agency, please enter the permit number in the General Visit Comments.

Seeds Collected (Plants Only)

If you have collected seeds from this location, please indicate whether the collection was bulk or maternal lines (seeds from individual plants collected and stored separately.) Add a collection code or identification number if available and the intended final storage facility for the seeds. If this collection requires a permit from the Nevada Division of Forestry, BLM, USFS, or other management agency, please enter the permit number in the General Visit Comments. Estimate the percentage of plants from which seeds were collected.

Identification

Select the level of confidence you have in the identification of the taxon. If you used specific references such as keys or guidebooks, list them in the visit comments.

Community Science Observations

If you have collected observations of this species occurrence on community science platforms, please enter the ID numbers of those observations here. If the platform is not listed, please put the information in the General visit comments.

General visit comments

Any notes about your visit that aren't covered by other fields. If you have permit numbers for collections, please add them here.

Mapping

At least one mapped feature is required. Geotagged photos collected in the survey do not count as mapped features.

Mapped Area

Point: observation area is a small area (observed area \leq 9m wide or long) Example: individual nest or burrow.

Line: observation area is a Linear area (observed area \leq 9m in one direction & $>$ 9m in the other) Example: narrow stream.

Polygon: observation area is a large area (observed area $>$ 9m in all directions) Examples: Marsh, colony, or large patch.

Locational Uncertainty Type

Location Uncertainty is a measure of how precisely the location is mapped. It might be small like a GPS point or track, or it might be large if you don't have access to GPS coordinates or you are estimating the extent of a large area.

Estimated: locational uncertainty > 9 m diameter (GPS accuracy is > 4.5 m). This will apply a buffer of the specified number of meters around the mapped area.

Linear: uncertainty follows a line where one dimension is > 9 m and the other is not, such as a stretch of trail or stream.

Delimited: uncertainty > 9 m which varies in multiple directions and can be defined by a specific area. This can be an area such as a lake or field or it could be an estimate of the area where the taxon was spotted through binoculars.

Negligible: locational uncertainty is < 4.5 m, as recorded by GPS

For more examples, download our [Guide to Locational Uncertainty and Conceptual Feature Types](#)

Draw method – Only for lines or polygons

Sketch: Draw on the map

Streaming: Collect data directly from the GPS

Location



Based on the [Conceptual Feature Type](#) and [Locational Uncertainty Type](#) entered, the Location of Element will either be defined by a Point, Line or Polygon, according to the [Spatial Feature Development Summary](#).

Add a location feature by tapping the + symbol, then tapping the map symbol. If the map symbol has a slash through it, you will need to connect to wifi or cellular data or download offline map packages before using in the field.

If you are collecting points, the map will automatically capture your current point. You can delete this point with the X in the upper right-hand corner of the map. Tap the crosshairs symbol to capture a new point.


To add another feature, tap the + symbol again. There is no limit to the number of features that can be added. The total count (points), length (lines), or area (polygons) will be shown below the map section.

Sketch

The Sketch method is used to capture the geometry in a single motion, with the capture completing once the user has stopped drawing this single line. To begin capturing Sketch geometry, tap the Sketch button ( or ) in the lower left of the map page and trace the line or polygon outline on the map (hold down the mouse button if using a desktop computer.) When you have finished sketching the geometry, lift your finger from the screen or release the mouse button. The geometry is then complete, with the geoshape connecting



the beginning and end of the shape if necessary. The length of a geotrace, or the area and perimeter for a geoshape, is displayed below the map.





Tap the undo button in the lower right-hand corner to draw a new shape. Sketches cannot be edited in Survey123.

The Sketch method also provides a smart shape option, which attempts to simplify your sketched geometry into an ellipse, rectangle, or triangle. To use smart sketching, tap the Smart Shape button  in the lower left corner of the map page, and tap the map to begin sketching. If your sketch is recognizable as an ellipse, rectangle, or triangle, the app automatically converts it. If your sketch doesn't resemble one of these shapes, no geometry is drawn.

Tap the checkmark in the lower right-hand corner to complete your sketch and return to the survey.

Streaming

The Streaming method allows more precise geometric capture of a line or shape by streaming and/or placing vertices that connect together. To begin capturing Streaming geometry, tap the Vertex button  in the lower left of the map page and tap the map to place your first vertex or the Follow button  to begin streaming. While streaming, line or area vertices are captured at a nominated minimum distance interval as you move around. The default minimum distance interval is 10 meters.

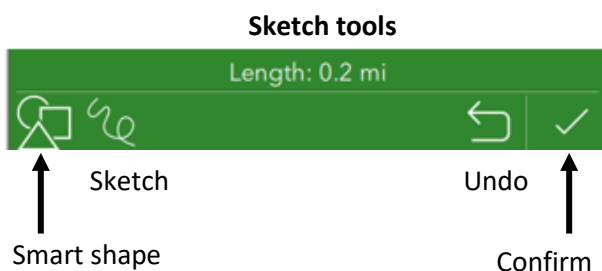
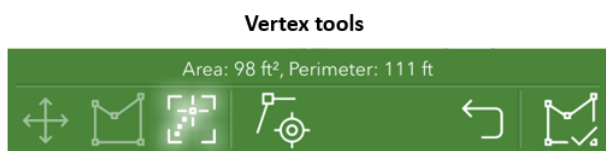
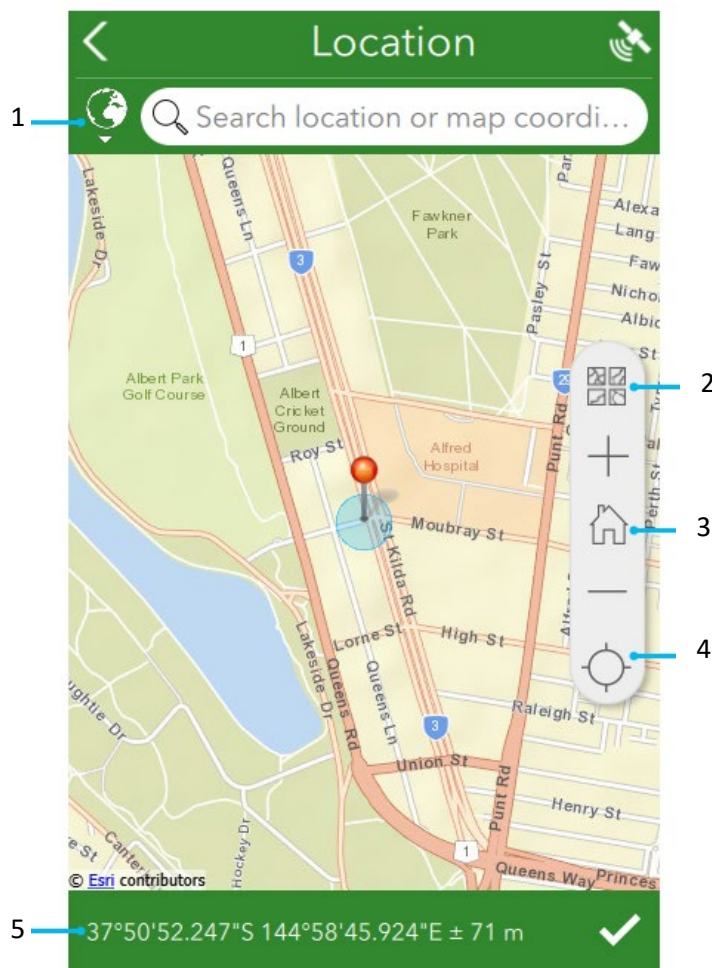
More vertices can be placed manually by tapping the map again or tapping the Capture Vertex at Location button  to place a vertex at your device's location (this enables you to map an area or transect as you walk). To move the map instead of placing vertices, tap the Pan and Zoom button  to change map interactions to navigation mode. You can then capture a vertex at the map's central point with the Capture Vertex at Crosshair button . If at any point you place a vertex at the wrong position, tap the Undo button  in the lower right to remove the last vertex placed.







When you're done, you can tap the Confirm button to accept this geometry. The bottom menu bar will change to Vertex, Edit, Undo, and Confirm.

Editing Vertices

In the editing screen, you can drag vertices to new locations or drag a line to create a new vertex. To delete a vertex, drag it to the trash icon at the top of the map (icon only appears when dragging vertices.) When you are finished editing, tap the Confirm button in the lower right-hand corner to finalize the shape.

Once the polygon is finalized, select the Confirm button again to return to your survey.



1. The geosearch bar allows you to locate an address or point of interest by searching for it, before snapping your geopoint and map to that location. The globe icon next to the search bar provides options to limit the extent of the geosearch capability, and to change the geocoder being used. For more information, see [Geosearch and geocode](#).
2. The Basemap button  provides a number of alternative basemaps to the default, for a range of different purposes. This is also where any directly associated basemaps can be selected. **NOTE:** Should you require basemaps for offline use, see the [Prepare basemaps for offline use](#) and [Use offline basemaps](#) topics.
3. Home  returns the map marker to where the survey creator has defined a home location. If no home location has been defined, it instead returns the marker to the user's location.
4. The Location icon  is first displayed in black, indicating the location sensor is disabled. Select the button to switch to Navigation mode , enabling Location and tracking the device's current location. Moving the map marker from here, either directly on the map or by changing the coordinates, changes the location and coordinates of the answer, but the device's location remains visible as a pulsing blue dot while doing so. When this happens, the button switches to an Active Location icon ; select it to return to Navigation .
5. The coordinates of your current location are listed here, using the coordinate format that has been set for that survey in Survey123 Connect. Pressing the area copies the location coordinates into the geosearch bar, allowing you to define a different location. Altitude is also included here if it has been enabled for the question. For more information, see [Geopoints](#). In addition, pressing and holding these coordinates will perform a reverse geocode to give you the location, placed above the coordinates. As with the coordinates, pressing the location will copy it into the geosearch bar.

Location Details

Base Layer: The basemap used for mapping (you must delete the default entry to see the list of available options.)

Locational Uncertainty Comments: Any notes about the locational uncertainty or feature type.

Confidence Extent: Select an option for the full extent of the taxon at this location.

Descriptor: Labels used to differentiate between patches or populations.

Location Description: A description of the location, may include local landmark names or driving directions.

Location remarks: Comments about the methods used to map this observation.

Depth & Elevation

Length units are available in either meters or feet.

Minimum and Maximum elevations and depths are useful for habitat modeling.

Area/Length

You can estimate the size of the observation. If a line or polygon was mapped previously, this will be filled automatically.

Photos

Add photos by using the camera directly or by selecting previously captured images. Photos can be renamed or deleted using the three dots menu. Photos should include views of whole organism and close-ups of parts needed for identification. Photos can also include habitat or evidence of threats.

Recording

Audio recordings can be added, similar to adding photos.

Population, Biology, and Phenology

Multiple counts can be added, such as [90% fruiting and 10% seedling plants] OR [5 adult males and 3 adult females] by tapping the + symbol. Does not apply to communities.

Quantity Type: Select the method of counting

Individual – Single animal or plant.

Abundance – Abundant, Common, Frequent, Occasional, Rare.

Estimate – Estimated number, choose a numeric category.

Clumps – Plants only, physical clumps that may be clonal or groupings of genetically distinct individuals.

% Cover – Plants only, enter numeric value.

Life Stage (Animals): Select the life stage you are counting

- Adult** – Able to reproduce
- Adult (R)** – Actively reproducing
- Alevin** – Newly hatched fish with yolk sac
- Carcass** – Deceased animal
- Chick** – Young bird
- Eft** – Juvenile stage of a newt
- Egg Mass** – Group of eggs
- Egg/Embryo** – Not yet hatched
- Fledgling** – Can fly, but depends on parents
- Hatchling** – Recently hatched, downy
- Juvenile** – Has not reached sexual maturity
- Larvae** – Pre-adult stage of many insects & amphibians
- Metamorphosing** – Larval to adult phase
- Nestling** – Has not left the nest
- Pupae** – Inactive phase from larvae to adult
- Sub-adult** – Independent, but unable to reproduce
- Tadpole** – Larval stage of a frog or toad
- Unknown**
- Yearling** – Has not completed its second year
- Young** – In the early stages of development

Gender (Animals): Select the gender you are counting

Dominant Life Stage (Plants): Select the condition you are counting. If more than one type on the same plant, select the most abundant.

- Seeds** – Ungerminated seeds
- Seedling** – First-year individuals, cotyledons usually present
- Vegetative** – Green leaves or photosynthetic stems present, no flowers or fruits
- Flowering** – Flowers or buds present on plants
- Fruiting** – Mature or immature fruits present on plants
- Dispersing** – Mature seeds dispersing from plant
- Dormant** – Alive, without green leaves
- Senescent** – Appears dead

Total count: The form will automatically sum the entered quantities.

Distribution Pattern (Plants/Communities): Select the pattern that best describes the distribution of the taxon within the observation.

Solitary individual – One plant. Use Point feature type.

Scattered – Individuals plants scattered > 4.5 m apart. Use Points, Line(s) or Polygon(s).

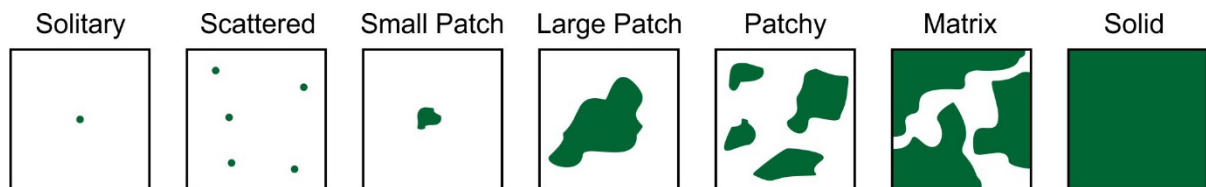
Small Patch – Area of plants or community < 9 m diameter. Use Point(s).

Large Patch – Area of plants or community > 9 m width or length. Use Line or Polygon.

Patchy – Areas of plants or community occupy multiple patches within the mapped area(s) which are separated by unoccupied areas. Use Line(s) or Polygon(s).

Matrix – Plants or community occupy large, contiguous areas within the mapped area(s) but unoccupied areas also exist within the mapped area. Use Polygon(s).

Solid Cover – Mapped area(s) completely occupied by target plants < 4.5 m apart or community. Use Polygon(s).



Condition

Extant – Taxon is present.

Poor – Taxon is declining, low reproduction, high threats, imminent danger of extirpation.

Fair – Taxon is stable to declining, low reproduction or high threats, habitat becoming unsuitable for taxon.

Good – Taxon is stable, good reproduction, habitat area is stable with some threats.

Excellent – Taxon is stable to increasing, habitat area is large and stable with few threats.

Comments

Notes about site quality, taxon population trends, or threats can be added here. Habitat description and cover/count fields are available in the Population Biology and Additional Details sections.

Threats

Threat Types:

- Housing & urban development
- Commercial & industrial development
- Tourism & recreation development
- Annual & perennial non-timber crops

- Wood & pulp plantations
- Livestock farming & ranching
- Marine & freshwater aquaculture
- Oil & gas drilling
- Mining & quarrying
- Renewable energy
- Roads & railroads
- Utility & service lines
- Shipping lanes
- Flight paths
- Hunting & collecting terrestrial animals
- Gathering terrestrial plants (other than logging)
- Logging & wood harvesting
- Fishing & harvesting aquatic resources
- Recreational activities
- War, civil unrest & military exercises
- Other human activities
- Fire & fire suppression
- Dams & water management/use
- Other ecosystem modifications
- Invasive non-native/alien species/diseases
- Problematic native species/diseases
- Introduced genetic material
- Problematic species/diseases of unknown origin
- Viral/prion-induced diseases
- Diseases of unknown cause
- Domestic & urban waste water
- Industrial & military effluents
- Agricultural & forestry effluents
- Garbage & solid waste
- Air-borne pollutants
- Excess energy
- Geological events
- Habitat shifting & alteration
- Droughts
- Temperature extremes
- Storms & flooding
- Other climate impacts

Threat Scope – How much of the observation is affected.

Pervasive – >75% of the observation

Large – 40% to 75% of the observation

Restricted – 5% to 40% of the observation

Small – <5% of the observation

Threat Timing – How often the threat occurs.

Continuous
Frequent
Infrequent
Rare or Past

Threat Severity – How intense the effect is in affected areas.

Extreme
Serious
Moderate
Slight

Associated Species

Plants and Communities Only

The full list of species and communities are available to add as associated species. Higher Taxon Units are not supported at this time but can be added to the notes section below. Tap the + to add taxa to the list. Each entry can include quantities. See Population, Biology, and Phenology section for an explanation of quantity types.

Saving the survey as a draft and reopening may result in an error message about duplicate species. If this occurs, scroll through the list of associated species and the message should go away.

Notes

Add comments about associated species, including higher taxonomy not included in the list above.

Additional Details

Sampling Effort: Describe the search effort such as transect width, types of equipment, number of hours.

Sampling Protocol: If a sampling protocol was used select it from the list. If the protocol is not in the list, add the protocol name or description to the Sampling Effort field.

Behavior (Animals, multiple): Select the primary behavior of the taxon at this site.

Roosting/Resting – Any resting place, short or long-term

Foraging/hunting – Gathering food

Caching Food – Storing food for later consumption

Drinking – Drinking at a water source

Mating/Territorial Display – Males displaying or calling to attract mates or defend their home or breeding territory

Territorial Marking – Urination, defecation, rubbing, scratching, or otherwise marking at the boundaries of their territory

Breeding - Copulating

Ovipositing – Laying eggs not in nests (mostly insects and amphibians)

Nesting – Constructing, laying eggs, incubating, brooding, feeding young inside a nest, gathering nest materials

Brood Rearing – Raising young outside of a nest

Walking/Running – Moving on the ground

Flying – Moving in the air

Swimming – Moving in the water

Hibernating/Estivating – Torpor or dormancy during any season

Burrowing – Digging a burrow other than for nesting or foraging

Basking – Sitting in the sun for purposes of thermal regulation

Habitat: Text description of the habitat. May include vegetation types, soil types, topography, and any other information that may help us identify similar habitats.

Habitat Use (Animals): Any notes about ways the taxon is using this habitat.

Establishment Means

Native – Occurs in this location naturally and likely occurred here before European settlement.

Non-Native/Invasive – Deliberately or accidentally introduced from another area, spreads beyond introduction area.

Non-Native/Non-invasive – Deliberately or accidentally introduced from another area, does not spread beyond introduction area.

Re-introduction – Occurred in this area historically but was extirpated and later deliberately re-introduced to the area.

Evidence Type (multiple): Select the types of evidence observed or collected during the visit.

Specimen – Whole organism or enough parts to be readily identifiable or appropriate for museum or herbarium specimen

Sample – Tissue or other sample for genetic or chemical testing

Photo – Photo or video, digital or film

Recording – Audio recording, including ultrasonic recordings

Heard – Heard by observer

Seen – Seen by observer

Captured – Captured and examined

Telemetry – Radio collar readings

Nest – Nest with or without live animals

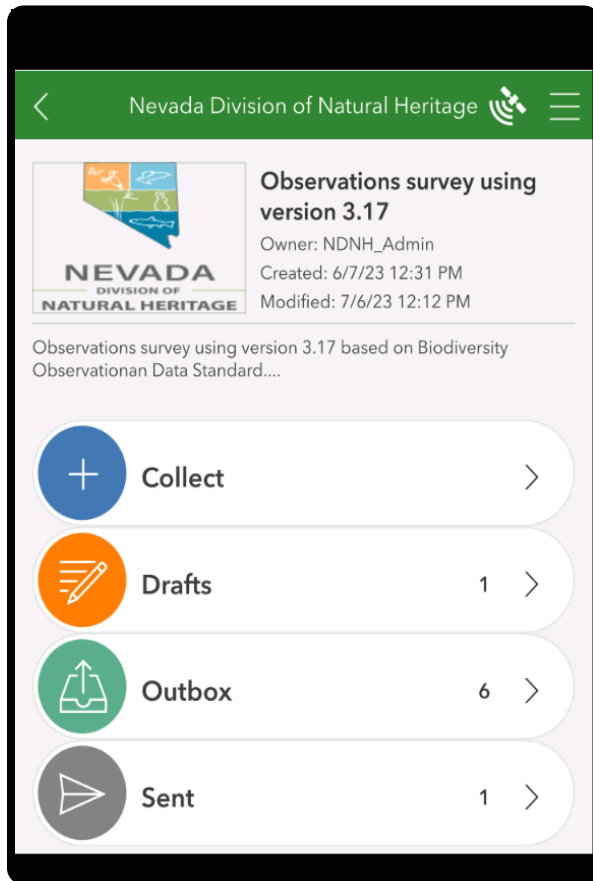
Scat – Feces, frass, pellets, or other droppings

Tracks – footprints

Other – Describe below

Evidence Comment: Notes about the evidence.

Use the checkmark in the lower right-hand corner to complete the survey. Tap on the X in the upper left to discard the survey or save it as a draft and exit.



Saving and Sending Surveys

If you have a data connection, you will see the option to send the survey upon completion or save it in your outbox. You can see a list of sent surveys in the home screen for the survey.

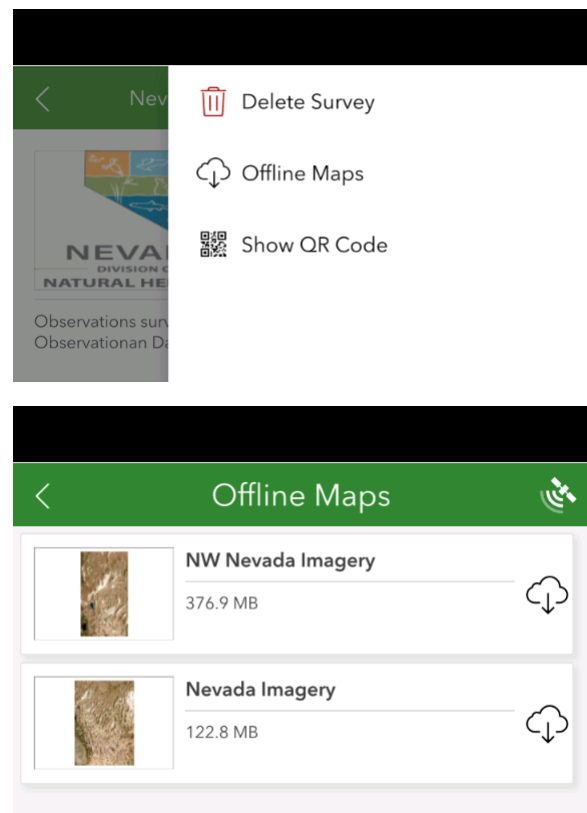
If you don't have a connection, surveys can be saved to the outbox. When you have a data connection, tap on the outbox in the home screen and send the surveys. Drafts can be reopened and completed at a later time. Sent surveys can be edited and resubmitted, see page 19 for instructions.

Offline Maps

If you will be collecting data without an internet connection, an offline basemap can be downloaded before your survey.

In the Observations Survey home screen, tap on the menu button in the upper right-hand corner and select Offline Maps. Your device may take a minute to load the available maps so don't worry if it says "No compatible maps are available."

Once the list of maps loads, you can select a layer to download. Your device will need enough space to store the maps. The available offline maps are of limited resolution because of storage limitations.

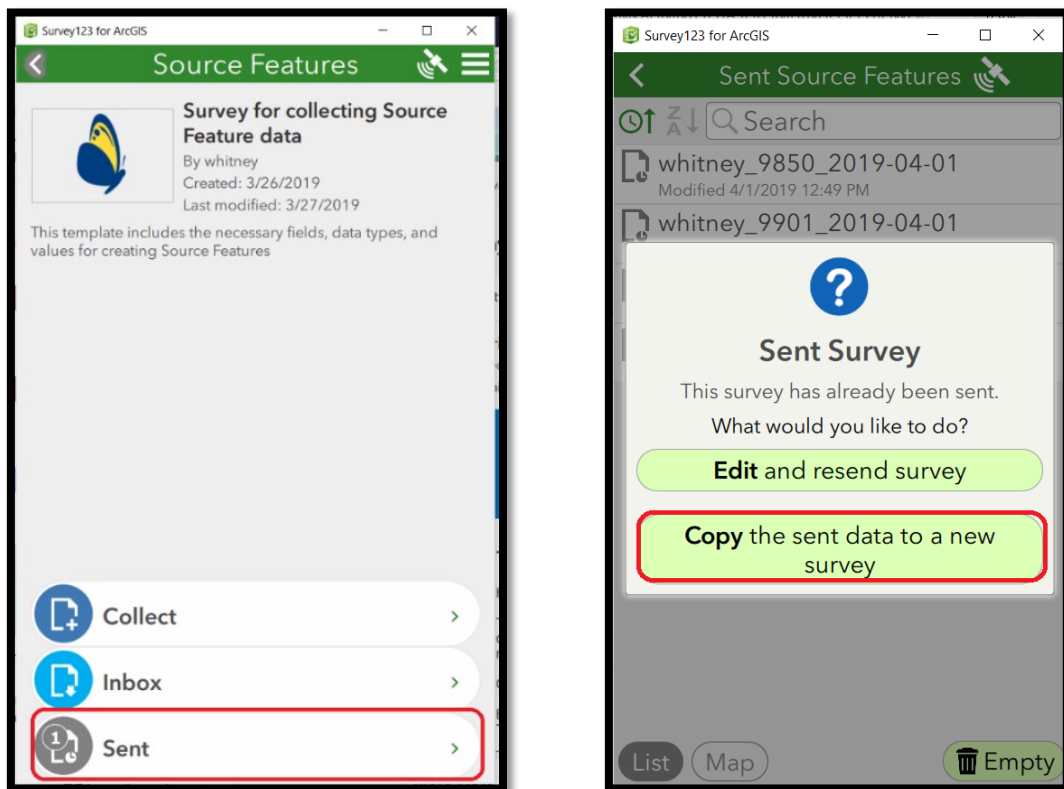


Copy an observation and edit it (if there are two elements in the same location):

There are two ways to copy data from a single collection to replicate it in subsequent collections, to minimize data entry.

- Copy
- Favorite answers

Copy

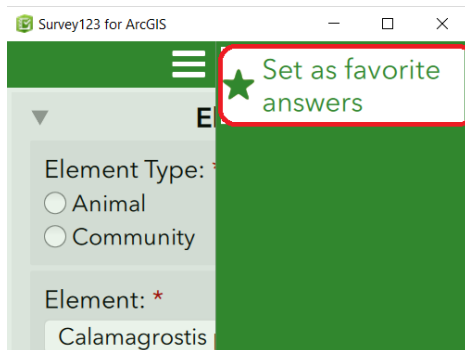


1. After having sent in the original collection, go to the **Sent** section
2. Select the data collected via the List or Map and click **Copy the sent data to a new survey**.
3. Edit the data for the second collection.
4. Repeat as necessary!

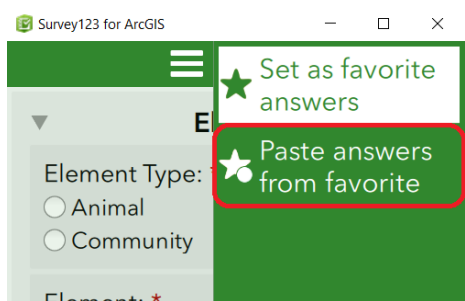
Favorite answers

Favorite answers facilitate entering repetitive information in subsequent surveys. **NOTE:** Favorite answers do not include the location information.

1. Complete a survey response with your preferred answers.
2. Before submitting the response, using the menu in the upper right corner, choose **Set as favorite answers** to set the current state of your survey to act as your favorite answers. The saved survey is now marked with a star icon in the **Sent** list.



3. Once you've set your favorite answers, the **Paste answers from favorite** menu becomes available. Select it to enter your favorite answers into your new survey.

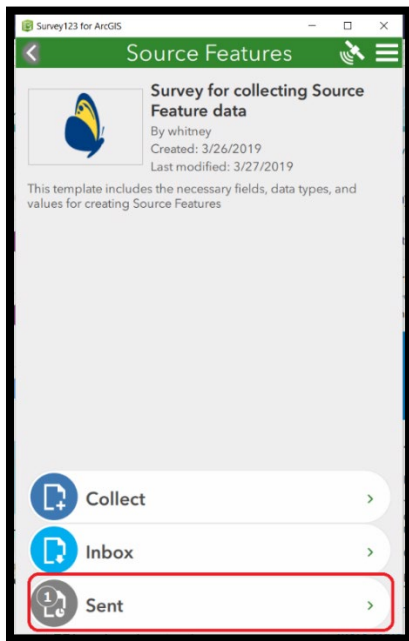


4. To change your favorite answers, enter changes into your current survey and click **Set as favorite answers**.

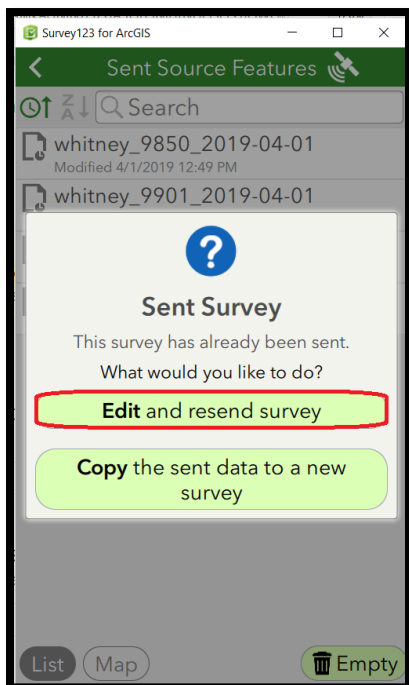
Edit existing data

Again, whether data within the Sent and Inbox are available are determined by the Settings defined in the **Inbox** and **Sent Surveys** settings in Survey123 Connect.

1. Select **Outbox** (if not Sent), **Sent** (if already Sent), as shown below, or **Inbox** (if sent in a previous session):



2. Select the data collected, via the List or Map, and click **Edit and resend survey**.



3. Edit the data as desired.

Retrieving survey photos from your device

Android

Use the built-in Android “Files” app to navigate to the following folder:

Internal Storage > Android > data > com.esri.survey123 > files > ArcGIS > My Survey Attachments

Some devices may not allow access to files in the Android folder. In this case, you must plug the device into a computer, allow USB file access, and then navigate to the files.

iPhone/iPad

Use the built-in “Files” app to navigate to the following folder:

Survey123 > ArcGIS > My Survey Attachments

Recovering data from a device that won't sync

There are times when you can't send surveys from your mobile device—either wireless internet connectivity isn't possible or something unexpected has happened to your mobile or server database.

Your survey data is stored on your mobile device as a .sqlite database. You can copy and edit this database to aid data recovery.

If your issue is internet connectivity from your mobile device, you can copy your .sqlite database to your desktop, open it in the desktop version of the Survey123 field app, and send your surveys.

Before starting the following steps, download the survey from which you are attempting to recover results to your desktop version of the Survey123 field app.

1. Copy the .sqlite file from your device.

If you're using an iOS device, you'll need to use an iOS file browser app.

On macOS version 10.15 Catalina or later, you can use **Finder** as a file browser. On earlier versions of macOS, or on Windows, you can use **iTunes** or another file browser app. The file is automatically stored in Survey123/ArcGIS/My Surveys/Databases.

If you are using an Android device, the file is automatically stored in the app specific storage location of Android/data/com.esri.survey123/files/ArcGIS/My Surveys/Databases. Prior to Survey123 version 3.12 files were stored in the internal storage location of ArcGIS/My Surveys/Databases.

2. Paste this .sqlite file into the equivalent Survey123 folder on your desktop (for example, on Windows, it would be C:\Users\<username>\ArcGIS\My Surveys\Databases).

If you've already collected surveys on the desktop, you may already have a database there. If so, you can save this into a subfolder, or rename the database folder and create

one for the copied files. If you don't have completed surveys you need to send, you can safely delete the existing database on the desktop.

3. If your survey has image, audio, or file questions, also copy the **My Survey Attachments** folder from your device to your desktop.
4. Open the Survey123 field app, go to **Settings > Advanced** and click the **Fix Database** button.
5. Browse to your survey and confirm that there are surveys ready to send.
6. Send your surveys.

See more data recovery troubleshooting tips here:

<https://doc.arcgis.com/en/survey123/desktop/get-answers/troubleshootgetanswers.htm>