

Monitoring with IMAGINE

Jaycie Arndt
Chloe Mattilio
Brian A. Mealor



“At the most basic level, monitoring is just watching what is happening, then adjusting your management to make sure you will meet your goals. The only problem is, you have to watch those things...Too often we have collected useless information because we were told this is the best way, instead of monitoring for the information we really need.”

Monitoring Rangelands: Interpreting What You See

Why



Current
distribution



Current severity



Prioritization



Do you have the
opportunity for
improvement?



Vegetation
response to
treatments



Opportunity to
investigate
interactions



Provides data to
improve remote
sensing and
modeling

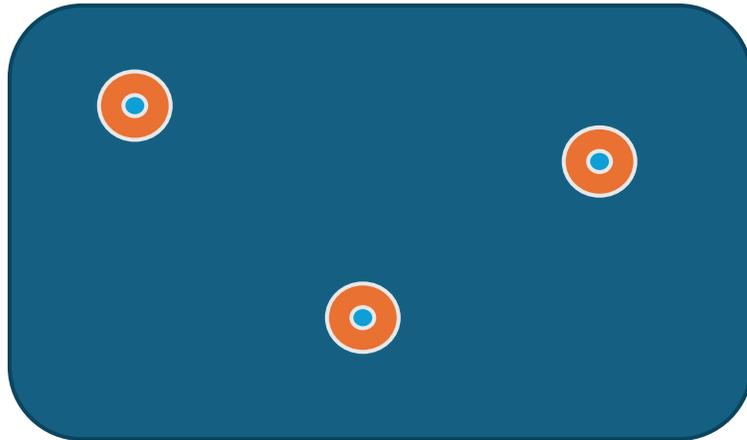
Logistics

- All data is uploaded to a single location in ArcGIS Online
- Only Chloe, Jaycie, and Brian have access
- No raw data or locations will be shared
- We will send your data once/month

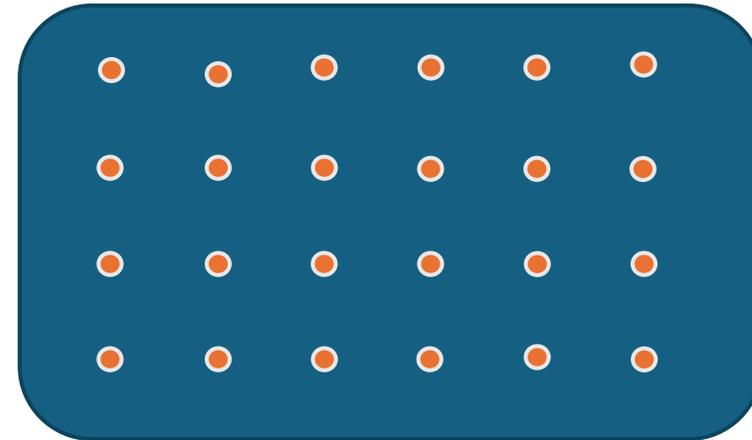
- Used for
 - Spatial models
 - Decision-making support
 - Analysis of IAG impacts, treatments, wildfire recovery, etc.

HOW

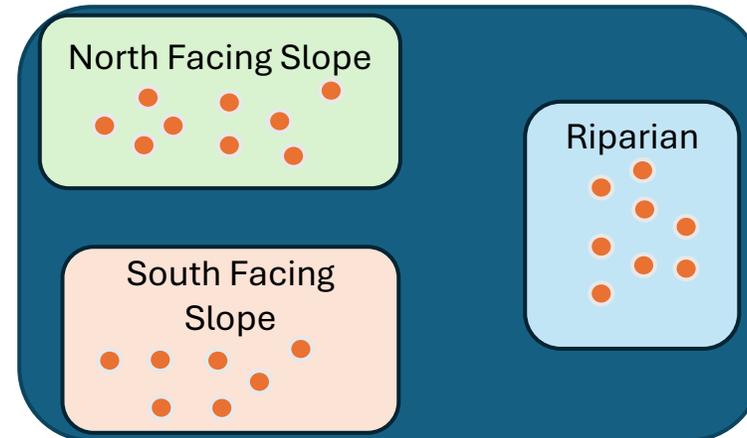
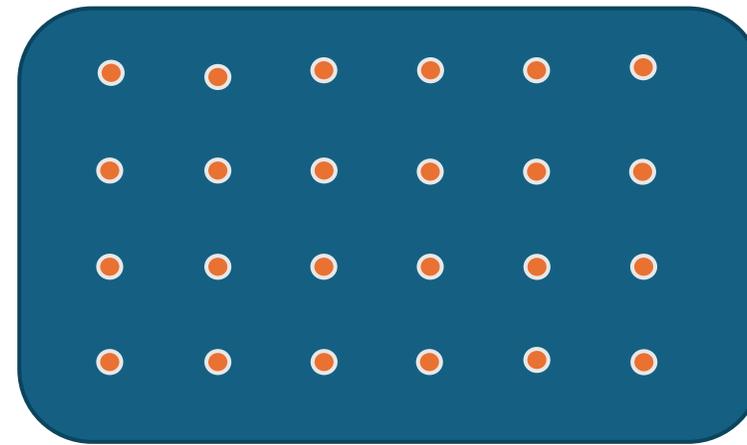
More information



More coverage



- Systemic sampling
 - Best for determining variable cover across the landscape
 - Best for comparing to remote sensing data, as you need presence and absence points
 - Walk across the landscape and drop a point every 100-200 feet
- Stratified sampling
 - Best for obtaining more data in high-priority portions of the landscape
 - Drop points every 50 feet in designated high-priority areas.
- Presence sampling
 - For determining IAG presence
 - Drop points every time you pass invasive annual grasses. Record data only for specific species, i.e., *ventenata*. If you have complete cover across the landscape, drop new points every 50 ft.



Monitoring Protocol

- Plotless ocular estimation
- Absolute cover
- IAG by species
- Pooled desirable perennial grass
- Big Sagebrush
- Other important shrubs
- Bare ground



- Cover Classes
- 0%
 - 0-1%
 - 1-5%
 - 5-15%
 - 15-30%
 - 30-50%
 - 50-75%
 - 75-100%

PERCENT COVER

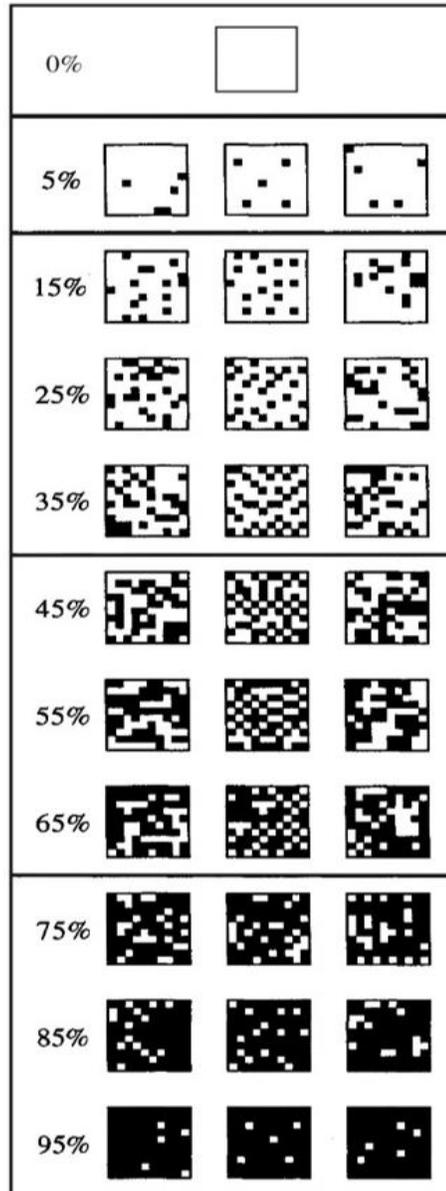
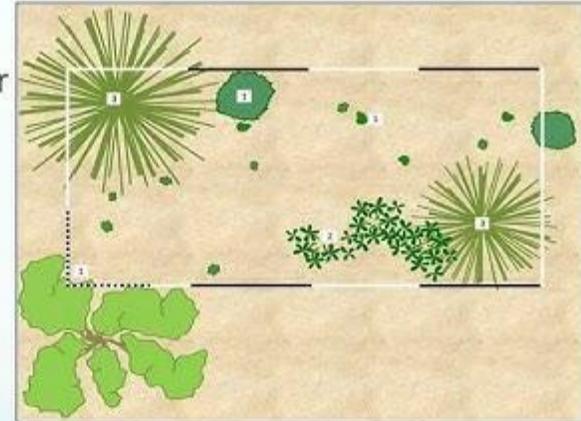


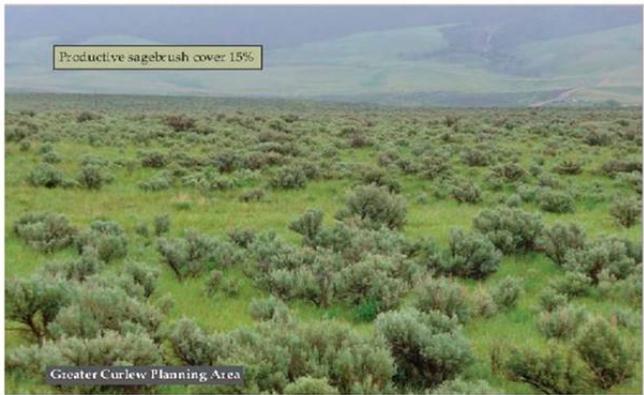
Figure: A cover reference photo provides 3 examples of percent cover amounts from 5-95%.

Daubenmire Cover Class Method

- Estimate species' cover as midpoint of each cover class

Cover Class	Midpoint
1	2.5%
2	15%
3	37.5%
4	62.5%
5	85%
6	97.5%





Photo



- Landscape
- Clear
- Distinguishes species





Variety

- Presence and absence
- Aspects
- Land types
- Different plant communities





ArcGIS Survey123

Requirements

- Portable electronic device with GPS capabilities
- Survey123 form downloaded
- Battery pack
- Compatible charger
- Offline maps of the area for reference



Download Survey123 App (Optional)

Apple App Store

Google Play

App Store Preview

Open the Mac App Store to buy and download apps.



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ArcGIS Survey123



IMAGINE Survey123 Monitoring Form

<https://arcg.is/0i5nbq>

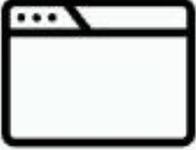


Click the Link and Choose

- Web browser or app options
- Can sign in with an existing ArcGIS account or not sign in at all



Open in browser



Open in the Survey123 field app

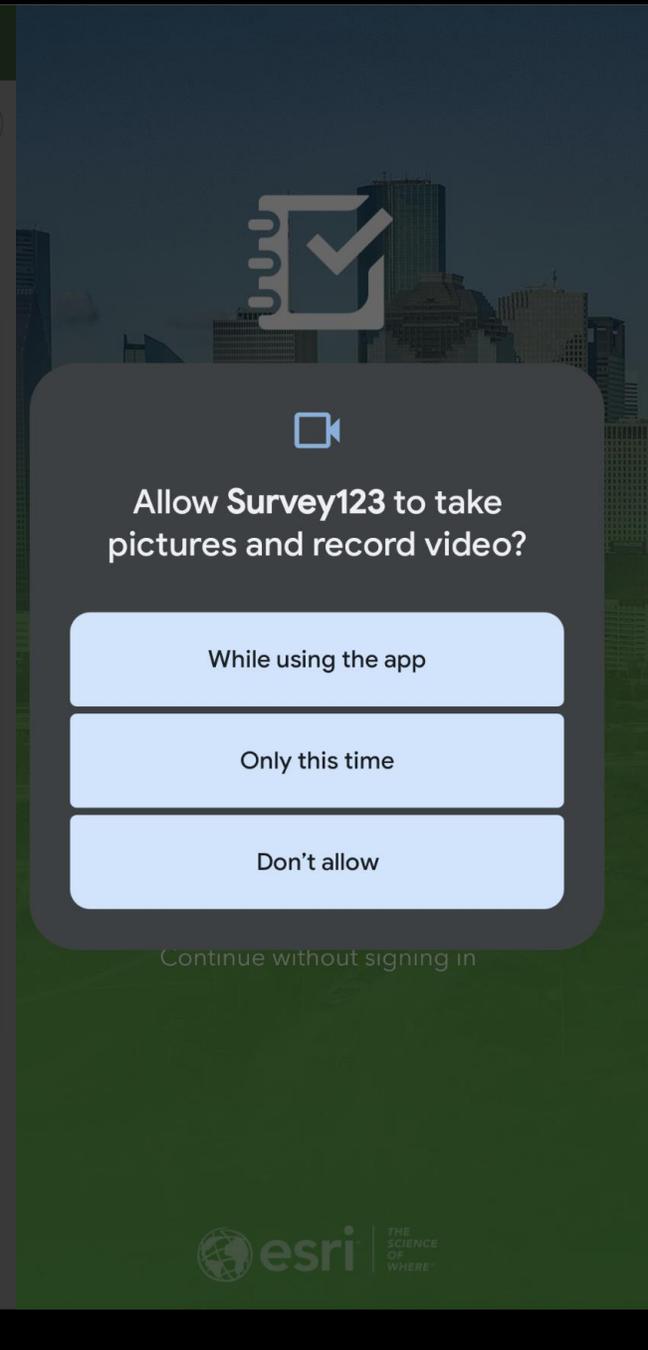
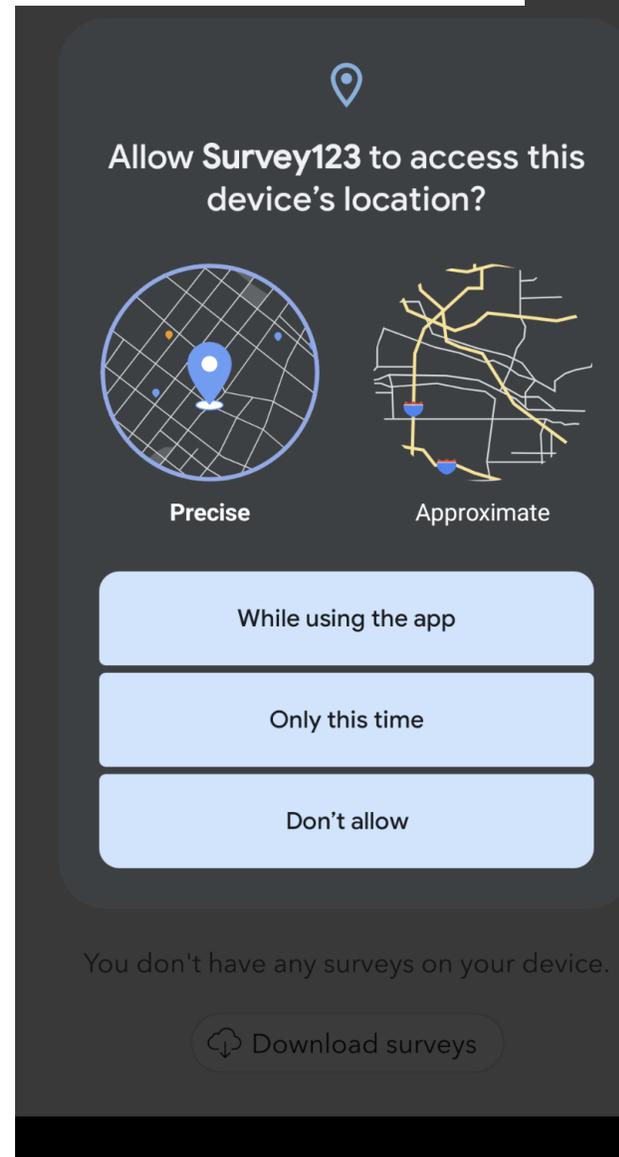
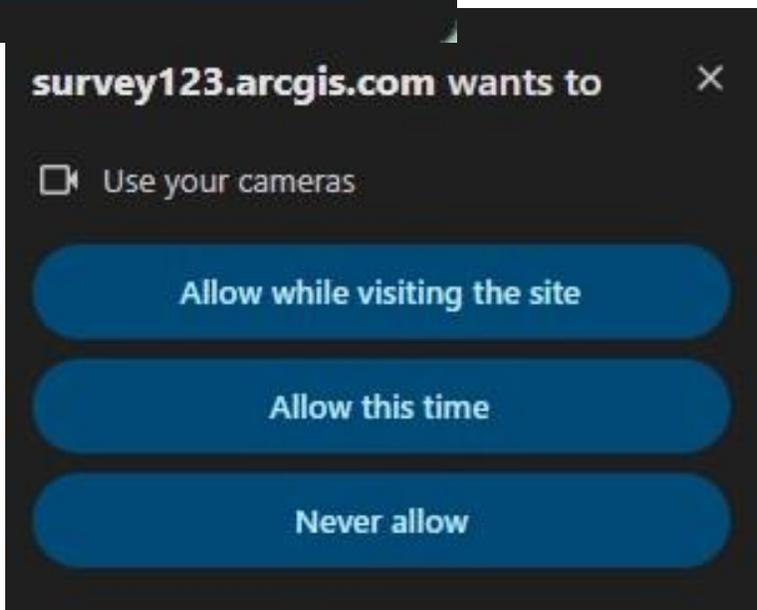
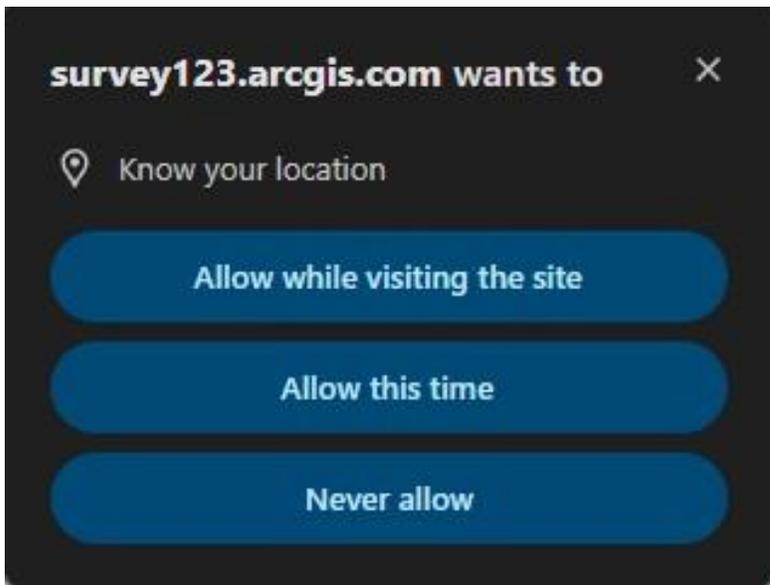


If you don't have the Survey123 field app, please download it first.

Get it from
Microsoft

Powered by ArcGIS Survey123

Permissions – Location and Camera



Name, Email, and Location

- Put your name in once, then can use your initials going forward
- Email address, enter once when you first start filling out the form so we can contact you if necessary
- Tap into gray box to record location
 - Cross hair button can be used to zoom to location

Observer Name*

Include your first and last name

Email Address

Please enter your email once while filling out the form

Location*

Be sure to allow the app to record your location

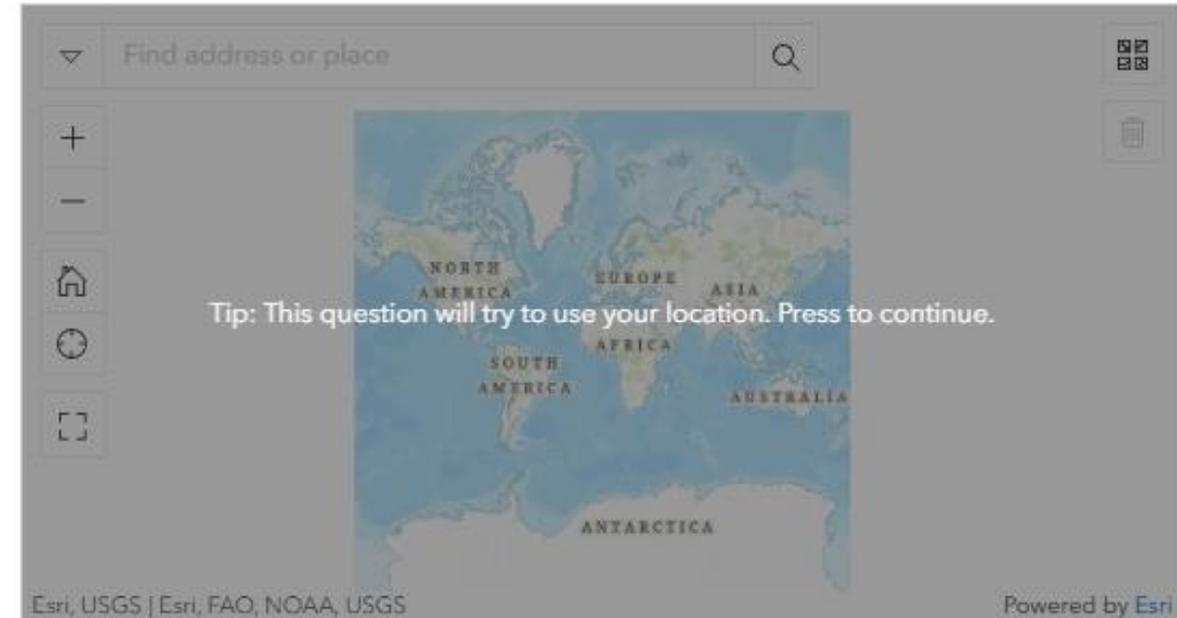


Photo and Invasives

- Click on the "Take a photo" box then hit the camera icon to capture image
 - Focus on vegetation
 - Make sure major species are recognizable
 - Try to keep shadows out of pictures
- Drop down selection for invasive annual grass canopy cover classes
 - Cheatgrass and Japanese brome are required
 - Ventenata, Medusahead, and Bulbous bluegrass are optional

Photo*

Take a picture that represents your observation

Take a photo 

Cheatgrass canopy cover (%)*

-Please select- ▼

Japanese brome canopy cover (%)*

-Please select- ▼

Ventenata canopy cover (%)

-Please select- ▼

Medusahead canopy cover (%)

-Please select- ▼

Bulbous bluegrass canopy cover (%)

-Please select- ▼

Other Vegetation and Bare Ground

- Drop down selection for vegetation canopy cover classes
 - Perennial grass, Big sagebrush, and Bare ground are required
 - Other major shrubs are optional
 - Separate additional shrub species names with a comma

Perennial grass canopy cover (%)*

-Please select-

Big sagebrush canopy cover (%)*

-Please select-

Other major shrub canopy cover (%)

-Please select-

Name(s) of major shrub species

Bare ground cover (%)*

-Please select-

Noxious Weeds and Notes

- If noxious weeds are present, select "Yes"
- List noxious weeds present with comma between species
- Make notes meaningful!
 - If there is a common observation, use the same code each time
 - Separate individual notes with a comma
 - Keep it brief

Noxious weeds present?*

No

Yes

Noxious weed species present

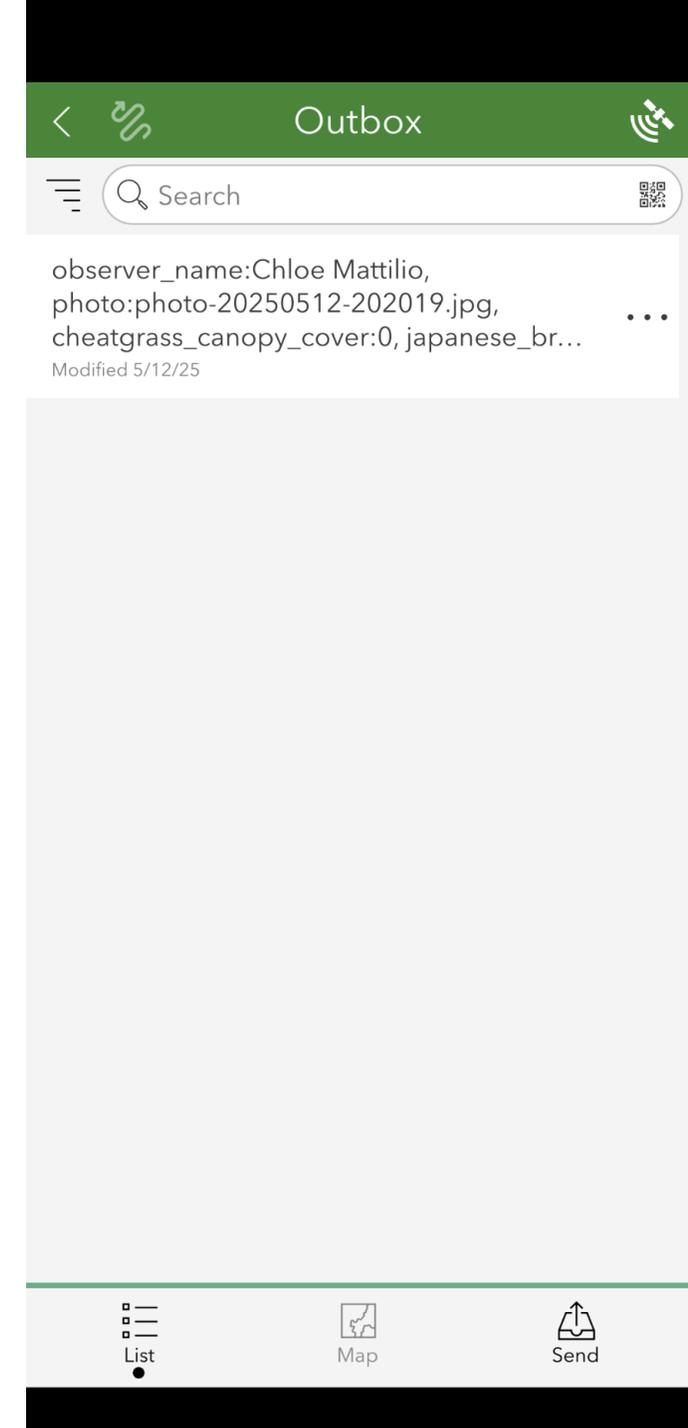
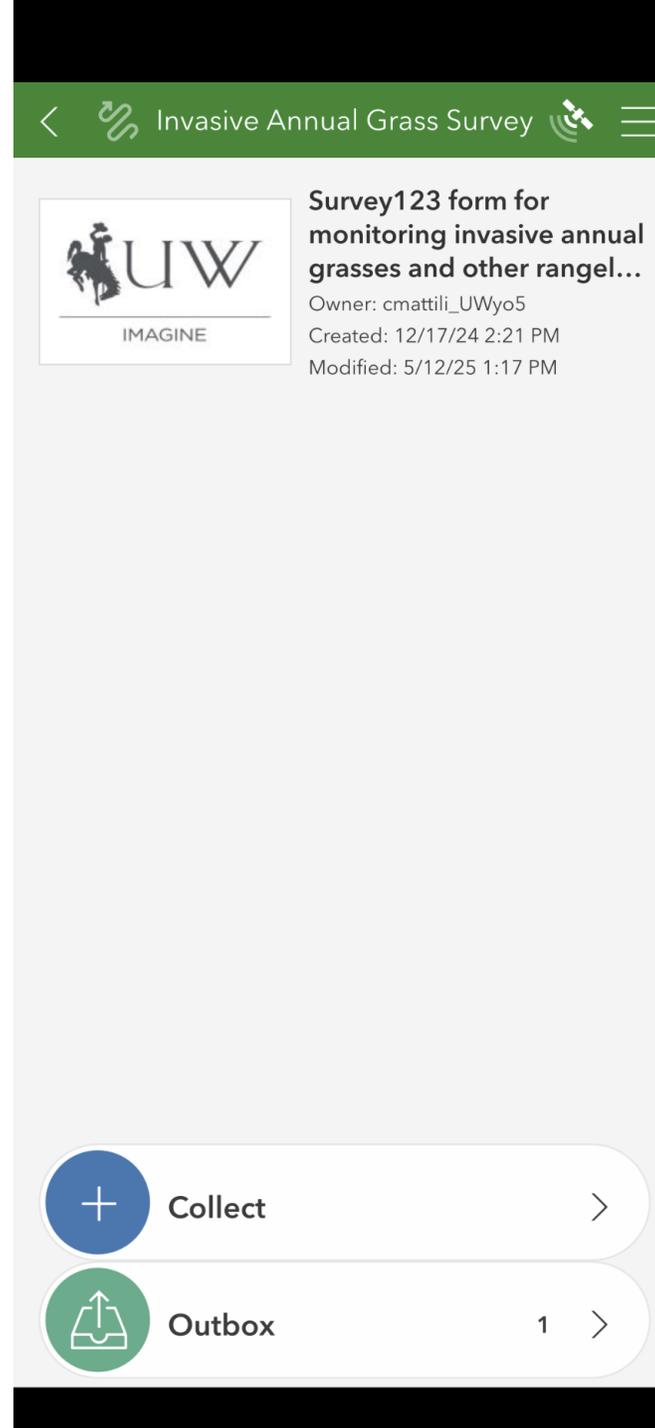
Separate multiple species names with a comma - ,

Additional notes?

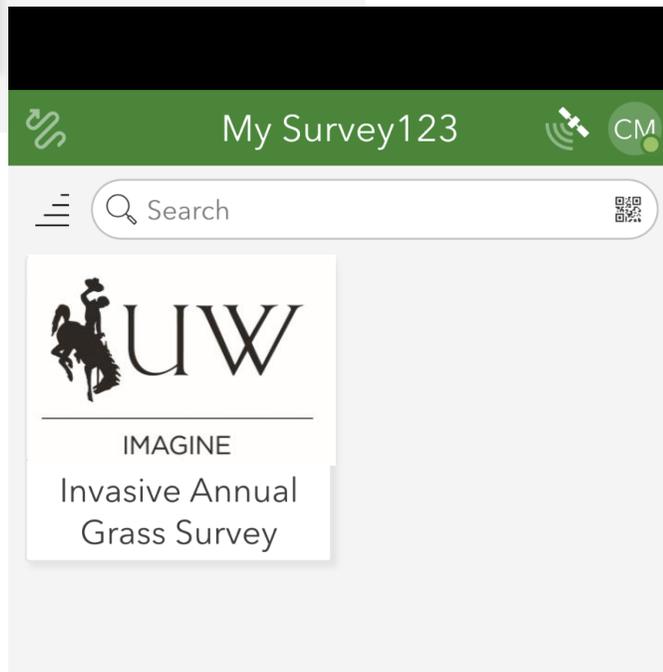
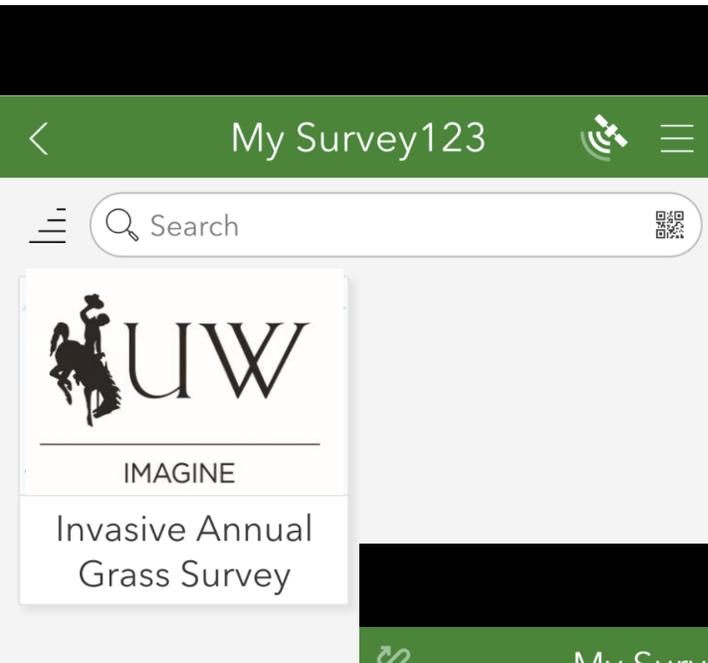
Submit

Survey123 Outbox

- If you are offline while filling out the form, it will be sitting in your "Outbox"
- When you are back online, go to the survey, then the Outbox, and hit "Send"



Make Sure to Download Survey for Offline Use



- Once you open the survey for the first time, whether you signed in or not, it should be in your list of available surveys on this device
- If you sign in, you have the option to download the survey for offline use
- If you plan to switch between Survey123 forms while offline, recommend signing in and downloading all desired forms for offline use

Questions or
issues?

Thank you!

jarndt1@uwyo.edu

cmattili@uwyo.edu

