

# COVER IT UP SUMMER'S END

# FIELD PACKET

Training: [bit.ly/ciu-tutorial](https://bit.ly/ciu-tutorial)

Before doing these activities at your site, complete the tutorial: [bit.ly/ciu-tutorial](https://bit.ly/ciu-tutorial). This packet is for field use, **not** a training.

## COVID-19

### Safety:

Prioritize health by wearing masks, washing hands, and practicing social distance.

## Timing:

Complete Activities 1, 2, 3 & 4 **while leaves are still green**. Aim for late August or before mid-September.

**Thank  
you and  
have  
fun!**

## Overview:

Summer's end is time to make observations and record data. This time-sensitive work entails:

- Complete the online tutorial.
  - How long: 1 hour to 90 minutes
  - When: Ready now – try it out!
  - Link: [bit.ly/ciu-tutorial](https://bit.ly/ciu-tutorial)
- Join a Zoom meeting (or several).
  - *Strongly encouraged*
  - Register: [bit.ly/ciu-zoom](https://bit.ly/ciu-zoom)
  - When: 7 pm on Wednesdays & Thursdays, August 26–September 24, 2020
  - Need help? Ask us! Hop into a Zoom room to ask questions of Cover It Up staff. We encourage you to attend a Zoom meeting *after* starting or completing the tutorial. Please note that training itself happens via the tutorial and Zoom meetings support your learning and activities.
- Complete 4 outdoor activities.
  - How long: 1–3 hours
  - When: While leaves are still green
- Complete an online survey.
  - How long: 30 minutes
  - When: Aim to complete by the start of October.
  - Link: [bit.ly/ciu-2020data](https://bit.ly/ciu-2020data)

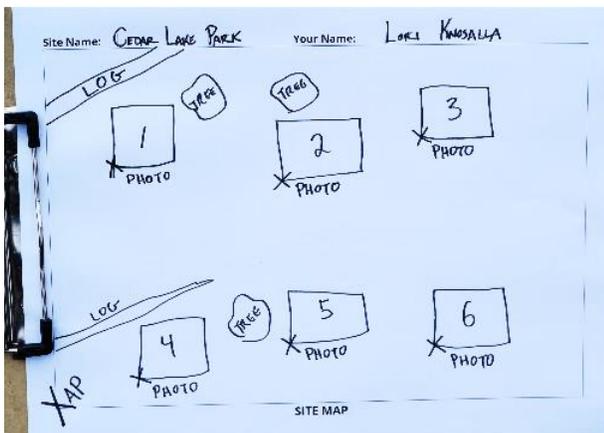
**SITE NAME:**

# COVER IT UP SUMMER'S END

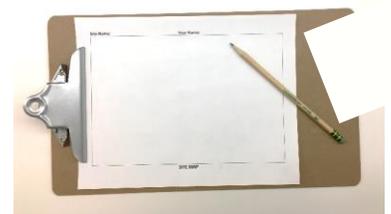
# SUPPLIES

*Other than this packet, no new supplies are being shipped. \*Asterisked materials were shipped to citizen scientists in April–June.*

- \_\_\_ Your hand-drawn sitemap
- \_\_\_ Camera phone
- \_\_\_ Recommended: Scissors & light-colored twine (200 feet is ideal)



- \_\_\_ Laminated cards\*
- \_\_\_ Ruler\* (with inches)
- \_\_\_ Fisheye lens\*
- \_\_\_ Clipboard\*
- \_\_\_ Pencil\*
- \_\_\_ Sharpie marker\*
- \_\_\_ Datasheets (pages 8, 9, 16, and 19–22 in this packet)



If you can't find an item from your kit, please email Abbie ([coveritup@umn.edu](mailto:coveritup@umn.edu)) as soon as possible. This work is time-sensitive.

**How to use this packet:** Keep this packet for use at the end of every summer (2020, 2021 and 2022). The upper right corner of every page describes the page's content/theme. The kinds of pages in this packet are as follows:

- **REVIEW** – Restates the goal of the activity. This page lists terms and skills you learned in the tutorial. (For a refresher, open [bit.ly/ciu-tutorial](http://bit.ly/ciu-tutorial).)
- **ACTION STEPS** – Describes how to make observations and record data.
- **DATASHEET** – Pages to write down your data. (There will be new datasheets every year.)



**Seasonal timing:** It is important to complete these outdoor activities while **leaves are still green**. This includes green leaves on trees as well as understory plants.

**Time commitment:** Plan to spend 30–90 minutes for the tutorial, 1–3 hours for the outdoor activities, and 30 minutes completing the survey. If you spread the work over more than one day, aim to complete all steps within a 2-week window.

**Weather:** If possible, pick an overcast day to complete the outdoor activities. You will be taking photos that work best under diffuse light conditions, rather than direct sunlight. It is more important to complete the activity than to wait for the perfect day. That said, you'll want to avoid rain to keep your phone dry.



**Site upkeep:** Check the flags for faded writing. Use the Sharpie marker to refresh all flag labeling so it is clear and legible.

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These time-sensitive activities occur at the end of the growing season and while leaves are still green.

## Activity 1: Describe understory cover.

- p 5: REVIEW
- p 6: ACTION STEPS
- p 7: DENSITY CLASS ILLUSTRATION
- pp 8–9: DATASHEETS

## Activity 2: Take photos.

Activity 2a: Take 6 non-fisheye photos looking down.

- p 10: REVIEW
- p 11: ACTION STEPS

Activity 2b: Take 6 fisheye photos looking up from ~eye-level.

- p 12: REVIEW
- p 13: ACTION STEPS

Activity 2c: Take 12 fisheye photos looking up from ground level.

- p 14: REVIEW
- p 15: ACTION STEPS
- p 16: DATASHEET for Activities 2a, 2b, and 2c

## Activity 3: Assess test seedlings.

- p 17: REVIEW
- p 18: ACTION STEPS
- p 19: DATASHEET

## Activity 4: Answer five questions.

- p 20: REVIEW, ACTION STEPS & DATASHEET
- p 21-22: DATASHEETS

## Activity 5: Complete online survey.

- p 23: REVIEW & ACTION STEPS

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## Activity 1: Describe understory cover.



**Goal:** Focus on plants shorter than ~5 feet tall. Estimate how much ground is covered by groups of plants, grasses, wildflowers, shrubs, conifers, etc.

**Be prepared:** Before doing the steps, be sure you have used the tutorial to learn the following terms and skills:

### Glossary terms:

- Cover
- Percentage cover
- Density class
- Understory
- Understory groups

### Skill practice:

- Identify understory groups
- Assign density class

## ACTION STEPS

**Tip:** For this activity, carry out each step at all 6 squares *before proceeding to the next step*. That is, do Step 1 at all six squares. (If you don't have enough twine for all six squares, don't worry. You can move the twine from square to square as you go.) After Step 1, do Step 2 at all six squares. Then do Step 3 at all six squares, and so forth. Working in this sequence tends to be less overwhelming \*and\* matches the layout of the datasheet.

**Step 1: (Recommended) Run twine around each square to create a visual outline.**

- Loop twine around the corner flags. This makes the edges of every square visible.
- It is not essential to tie the twine, unless it is windy or for some reason the twine doesn't stay in place.

**Step 2: This step is a warm-up that gets you ready to use new skills and ways of looking.**

- Ignore the overstory (or canopy). Focus on the understory.
- Look down at each square and imagine a view from directly above.
- Inventory which of the 5 groups are present or absent. (This means, for example, you might have to look hard to find small grasses.)
- Imagine the square as a 2-dimensional puzzle, each piece assigned to one group.
- Walk around to see the whole square from multiple angles. This is especially important if you have understory plants taller than a foot.

**Step 3: Assess the density class for "Bare ground, leaf litter, and mosses." at each square.**

- Standing outside Square 1, look down and estimate how much of the square is covered by the group in question. (Remember to imagine noon-day shadows.)
- Use the illustration (page 7) as a guide to assign a density class for Square 1.
- Assign density classes for Squares 2 through 6.
- After assigning a density class for Squares 1 through 6, keep focusing on the same group and revisit each square to see if your answers are the same or different. Use your experience to improve your estimates.
- Use the datasheet to write an "X" indicating your answers.

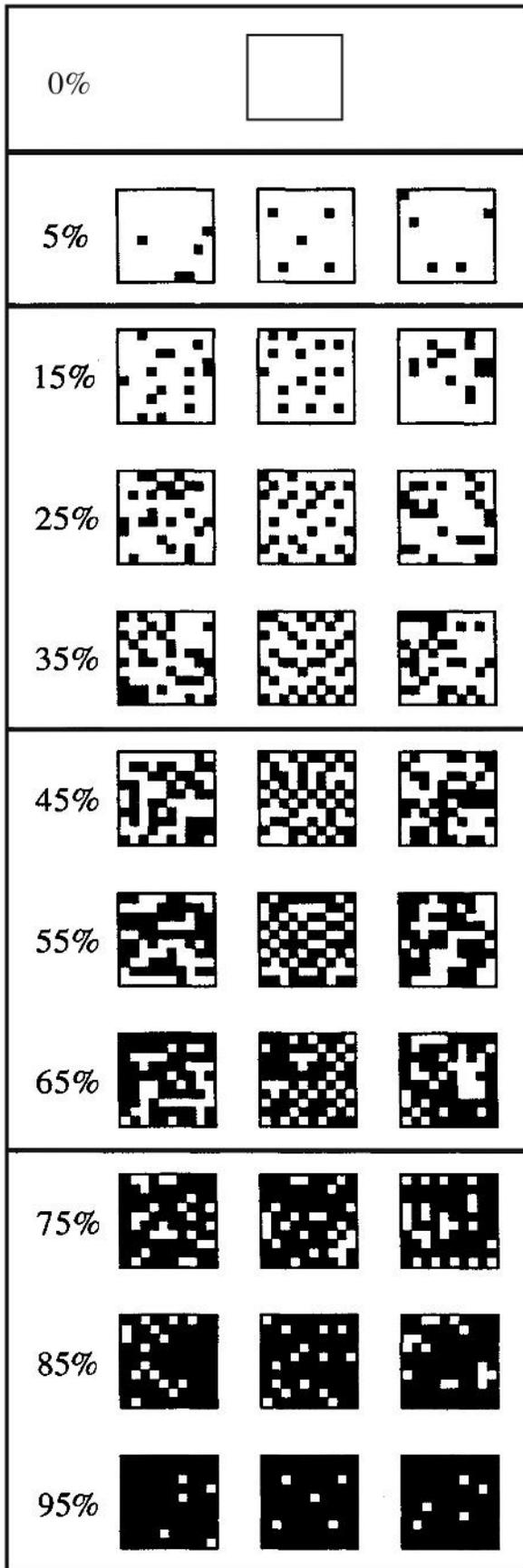
**Steps 4-7: Assign density classes for the remaining 4 understory groups.** (Repeat Step 3 for "Grasses & sedges," "Ferns," "Conifers," and "Broadleaf plants.")

**PERCENT COVER**

**DENSITY CLASSES**

**ACTIVITY 1**

**DENSITY CLASS ILLUSTRATION**



**None**  
0%

**Very Sparse**  
1% - 10%

**Sparse**  
11% - 40%

**Moderate**  
41% - 70%

**Dense**  
71% - 100%

# COVER IT UP SUMMER'S END

# ACTIVITY 1

Date (MM/DD/YY): \_\_\_\_\_

Observer: \_\_\_\_\_

Site name: \_\_\_\_\_

## DATASHEET

(1 of 2)

Write an "X" in the cell to indicate the density class for each square.

Bare ground, leaf litter & mosses	None 0%	Very sparse 1-10%	Sparse 11-40%	Moderate 41-70%	Dense 71-100%
Square 1					
Square 2					
Square 3					
Square 4					
Square 5					
Square 6					

Sedges & grasses	None 0%	Very sparse 1-10%	Sparse 11-40%	Moderate 41-70%	Dense 71-100%
Square 1					
Square 2					
Square 3					
Square 4					
Square 5					
Square 6					

# COVER IT UP SUMMER'S END

# ACTIVITY 1

Date (MM/DD/YY): \_\_\_\_\_

Observer: \_\_\_\_\_

Site name: \_\_\_\_\_

## DATASHEET

(2 of 2)

Write an "X" in the cell to indicate the density class for each square.

Ferns	None 0%	Very sparse 1-10%	Sparse 11-40%	Moderate 41-70%	Dense 71-100%
Square 1					
Square 2					
Square 3					
Square 4					
Square 5					
Square 6					

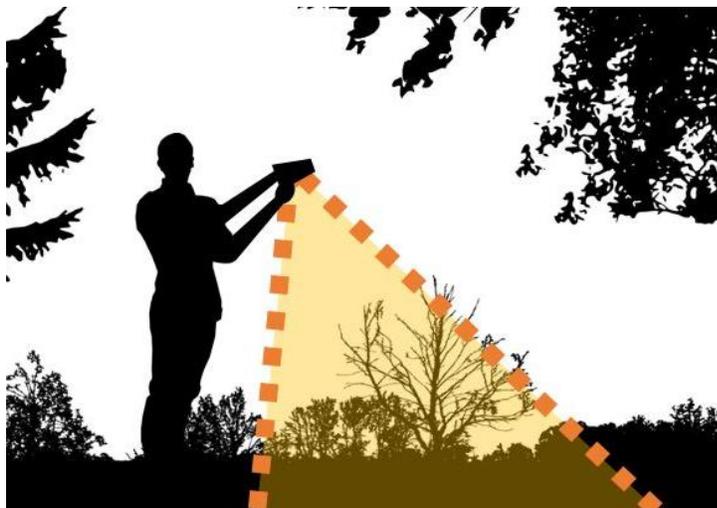
Conifers (understory only)	None 0%	Very sparse 1-10%	Sparse 11-40%	Moderate 41-70%	Dense 71-100%
Square 1					
Square 2					
Square 3					
Square 4					
Square 5					
Square 6					

Broadleaf plants (understory only)	None 0%	Very sparse 1-10%	Sparse 11-40%	Moderate 41-70%	Dense 71-100%
Square 1					
Square 2					
Square 3					
Square 4					
Square 5					
Square 6					

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## Activity 2a: Take 6 non-fisheye photos looking down at Squares 1-6.



**Goal:** Document change by repeating these photos at the start of the experiment and at the end of every summer.

**Be prepared:** Before doing the steps, be sure you have used the tutorial to learn the following terms and skills:

**Glossary terms:**

- Photo file properties
- Placeholder photo
- Vantage point

**Skill practice:**

- Assess photos for quality

## ACTION STEPS

**Important:** It is essential to take these photos in order, one photo per square, from Square 1 to Square 6.

**Important:** These 6 photos do **not** require use of the fisheye lens.

**Important:** Complete Activity 2a before going to Activities 2b and 2c.

**If possible:** Complete this activity when it is overcast to avoid strong shadows.

**Step 1: Take a “birds-eye view” photo looking down at Square 1. (Activity 2a repeats what you did in spring 2020 after setting up your site.)**

- Use your sitemap to locate the designated vantage point.
- Place the laminated photo marker on the ground, just outside the square, near the metal tag.
- Stand at the midpoint of the square’s edge (not near a corner).
- Open the camera app and use the *default* “rear camera.” This means that while taking the photo, the screen faces up, toward the sky and your face. The back of the phone faces the ground.
- Holding the phone at roughly eye-level will make it easiest to preview the image, hold the camera still, and click the “take photo” button.
- Tap the “take photo” button.

**Step 2: Check the photo and use the datasheet (page 16) to track your work.**

- If acceptable, check the appropriate box on the datasheet and go to the next step.
- If not acceptable, delete the photo and take it again.

**Step 3: Go to *Square 2* and repeat bullets under Steps 1 and 2.**

**Step 4: Go to *Square 3* and repeat bullets under Steps 1 and 2.**

**Step 5: Go to *Square 4* and repeat bullets under Steps 1 and 2.**

**Step 6: Go to *Square 5* and repeat bullets under Steps 1 and 2.**

**Step 7: Go to *Square 6* and repeat bullets under Steps 1 and 2.**

**Step 8: Take a “placeholder” photo of your datasheet or your hand.** Check off this final item on the datasheet (page 16). This photo’s sole purpose is to signal where Activity 2a ends and Activity 2b begins. It only needs to be visually distinct from other photos.

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## Activity 2b: Take 6 fisheye photos, looking up from ~eye level at Square 1 through Square 6.



**Goal:** Understand how much light passes through (and doesn't pass through) the upper layer of the forest or woodland. In turn, we use this to analyze how the overstory affects the understory.

**Be prepared:** Before doing the steps, be sure you have used the tutorial to learn the following terms and skills:

### Glossary terms:

- Overstory and understory
- Fisheye lens
- Front camera
- Placeholder photo

### Skill practice:

- Attach fisheye lens
- Center fisheye lens
- Assess photo quality

## ACTION STEPS

**Important:** It is essential to take these photos in order, one photo per square, from Square 1 to Square 6.

**Important:** Complete Activity 2b after Activity 2a and before Activity 2c.

**If possible:** Complete this activity on an overcast day. Aim to **finish Activities 2b and 2c on the same date** so that the light conditions are relatively consistent.

### Step 1: Get your phone ready.

- Open the camera app and switch to *front camera*.
- Attach the fisheye lens to the camera and adjust its placement until it is centered.
- Take some practice images to inspect quality. Delete practice photos.

### Step 2: At Square 1, take a fisheye photo from ~eye-level looking up at the overstory.

- Stand along one edge at the midpoint. It is a good idea to stand at the fixed vantage point, but standing at any side of the square will be okay.
- With the screen and lenses facing up toward the sky, position the camera over the square at approximately eye-level.
  - **Camera height:** Position the camera so it is above the understory. This is important so that tall plants in the understory do not interfere by being too close to the lens and obstructing the view. Eye level works well because that ensures you are not in the picture and you can still hold the camera steady and tap the button.
  - **Reach distance:** Do not worry about positioning the camera perfectly above the square's center. Reach far enough to avoid taking your own picture, but not so far that you can't tap the "take photo" button.
- Tap the "take photo" button.

### Step 3: Check the photo and use the datasheet (page 16) to track your work.

- If acceptable, check the box on the datasheet and go to the next step.
- If not acceptable, delete the photo and take it again.

**Steps 4-8: Go to the next square and repeat the bullets under Steps 2 and 3.** Stop when you have one photo of each square, taken in order from Square 1 to Square 6.

**Step 9: Take a "placeholder" photo of your datasheet or your hand.** Check off this final item on the datasheet (page 16). This photo's sole purpose is to signal where Activity 2b ends and Activity 2c begins. It must be visually distinct from other photos.

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## Activity 2c: Take 12 fisheye photos, looking up from ground level at Flags 1A through 6B.



**Goal:** Understand how much light passes through (and doesn't pass through) multiple layers of the forest or woodland to reach the ground. This allows us to study the combined effects of the overstory and understory on the survival and growth of seeds and seedlings at your site.

**Be prepared:** Before doing the steps, be sure you have used the tutorial to learn the following terms and skills:

**Glossary terms:**

- Fisheye lens
- Front camera

**Skill practice:**

- Attach fisheye lens
- Center fisheye lens
- Assess photo quality

## COVER IT UP SUMMER'S END

## ACTIVITY 2c

### ACTION STEPS

**Important:** Move carefully and do your best to minimize disturbance within the squares.

**Important:** Take photos in order, one photo per white flag, from Flag 1A to Flag 6B.

**Important:** Only do Activity 2c after you have completed Activities 2a and 2b.

**If possible:** Complete this activity on an overcast day. Aim to **finish Activities 2b and 2c on the same date** so that the light conditions are relatively consistent.

#### Step 1: Get your phone ready.

- Open the camera app and switch to *front camera*.
- Attach the fisheye lens to the camera and adjust its placement until it is centered.
- Take some practice images to inspect quality. Delete practice photos.

#### Step 2: At a white flag (start at 1A) take a fisheye photo from ground-level looking up.

- Kneel just outside the square. Reach your arm to position the camera about 3 to 4 inches from where the white flag inserts into the ground.
- Position the screen and lenses facing up toward the sky.
- It may be easiest to rest the phone on the ground. You can also hold it very near the ground, but this can make it difficult to hold the camera stable and snap a photo.



- **Clear away obstructions:** If there are leaves within 4 inches of the lens, hold them out of the way.
- **Level the phone:** Your goal is to have the phone stable, low, and pointing up at the sky.
  - For example, if the ground is sloped, try propping up one corner using a small object (such as keys or a Sharpie marker).
  - Or if the ground is bumpy, remove debris so the phone is close to level.
- **Crouch low and reach far** (see left) to avoid appearing in the image yourself. *This takes practice and effort.*
- Tap the “take photo” button.

#### Step 3: Check the photo and use the datasheet (page 16) to track your work.

- If acceptable, write down the time (hour:minutes) on the datasheet. Go to next step.
- If not acceptable, delete the photo and take it again.

**Steps 4-14: Go to the next flag (1B, then 2A, 2B, 3A, and so on through 6B) and repeat the bullets under Steps 2 and 3.** Stop when you have checked all boxes on the datasheet.

# SUMMER'S END ACTIVITIES 2a, 2b, 2c

## DATASHEET

### Activity 2a

#### 2a photo checklist:

- No fisheye lens was used
- Laminated marker is visible
- All 4 corner flags are visible
- Square fits snugly within image
- Only one photo per square
- Photo is sharp, not blurry

Square 1 \_\_\_\_\_

Square 2 \_\_\_\_\_

Square 3 \_\_\_\_\_

Square 4 \_\_\_\_\_

Square 5 \_\_\_\_\_

Square 6 \_\_\_\_\_

Placeholder photo \_\_\_\_\_

For Activities 2a and 2b, take the photo, check the photo, and if the photo is acceptable, write an "X" on the corresponding blank line.

### Activity 2b

#### 2b photo checklist:

- Taken with fisheye lens
- No blurry or shadowy edges (lenses must be aligned)
- Photo itself is sharp (camera didn't shake)
- No people in the image
- Only one photo per square

Example: Square 1  X

Square 1 \_\_\_\_\_

Square 2 \_\_\_\_\_

Square 3 \_\_\_\_\_

Square 4 \_\_\_\_\_

Square 5 \_\_\_\_\_

Square 6 \_\_\_\_\_

Placeholder photo \_\_\_\_\_

For Activity 2c, take the photo, check the photo, and if the photo is acceptable, write down the time (hour & minutes) on the corresponding blank line.

### Activity 2c

#### 2c photo checklist:

- Taken with fisheye lens
- No blurry or shadowy edges (lenses must be aligned)
- Photo itself is sharp (camera didn't shake)
- No people in the image
- Only one photo per flag
  
- NOTE: Leaves in the image are ok but must be  $\geq 4$  inches from the lens
- NOTE: It is **okay** if a white flag appears in the image so long as it is farther than 4 inches from the lens.

Example: Flag 1A  3:05

Flag 1A \_\_\_\_\_

Flag 1B \_\_\_\_\_

Flag 2A \_\_\_\_\_

Flag 2B \_\_\_\_\_

Flag 3A \_\_\_\_\_

Flag 3B \_\_\_\_\_

Flag 4A \_\_\_\_\_

Flag 4B \_\_\_\_\_

Flag 5A \_\_\_\_\_

Flag 5B \_\_\_\_\_

Flag 6A \_\_\_\_\_

Flag 6B \_\_\_\_\_

\_\_\_\_\_  
Date (MM/DD/YY)

\_\_\_\_\_  
Observer name

\_\_\_\_\_  
Site name

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## Activity 3: Assess test seedlings.



**Goal:** Understand how many test buckthorn seeds survive and how well seedlings grow.

**Be prepared:** Before doing the steps, be sure you have used the tutorial to learn the following terms and skills:

### Glossary terms:

- Test buckthorn seedling
- 1<sup>st</sup> year seedling
- Cotyledons & true leaves
- Parallax error
- Browse

### Skill practice:

- Find test seedlings
- Measure stem height
- Avoid parallax error
- Demonstrate parallax error

## ACTION STEPS

**Important:** Move carefully and do your best to minimize disturbance within the squares.

**Important:** Start at Flag 1A and do not go to the next flag until you have completed the first 4 steps. Once done with Flag 1A, repeat the first 4 steps at Flag 1B, 2A, all the way through Flag 6B.

### Step 1: Find & count test buckthorn seedlings (at a specific white flag).

- Visit one white flag at a time.
- To find test seedlings, remove some dead leaves and debris. Be careful to avoid damage to living plants. You do not need to clean the entire area around a flag of all litter. Instead, remove just enough to be confident that no seedlings are overlooked. (Every site is unique – at some sites, you will have to remove a lot of debris, but at other sites, there will be very little to remove.)
- Examine all green plants **within 3 inches** of where the flag inserts into the ground.
- Determine if those plants are common buckthorn or not.
- Use the paper datasheet (page 19) to record the number of live test buckthorn seedlings present. If there are no seedlings at a flag, be sure to write "no seedlings" in the first box and then draw a line through the other cells in that row.
- Proceed to Step 2 *before* going to the next flag.

### Step 2: Measure the height of the tallest seedling (at a specific white flag).

- It is acceptable to identify the tallest seedling by “eyeballing it,” without using a ruler to compare plants that are close in height.
- Measure its height and take care to **avoid parallax error**.
  - Avoid touching seedlings. If a stem is crooked or curved, **do not pull** or straighten the stem.
  - Rest the ruler on bare ground and measure to the top of the stem. Keep in mind that leaves often extend above the stem and we are only interested in stem height.
  - Round your measurement to the nearest 1/4 inch.
- Use the paper datasheet (page 19) to record the tallest seedling's height.
- Proceed to Step 3 *before* going to the next white flag.

### Step 3: On the tallest seedling (at a specific flag), count true leaves that are at least 3/4 inch long.

- Looking only at the tallest test seedling at a specific flag, count the number of true leaves that are at least 3/4" long, from the base of the leaf blade to the tip. Do **not** count cotyledons.
- On the paper datasheet (page 19), write down the number of true leaves that are  $\geq 3/4$  inch.
- **NOTE:** In year one, it is normal to have **zero or very few** true leaves that are at least 3/4 inches.
- Proceed to Step 4 *before* going to the next flag.

### Step 4: Describe the condition of the tallest seedling (at a specific flag).

- Look for evidence of browse. Check to see if the stem or leaves are “chewed.”
- For this step, ignore damage by insects. Instead look for missing leaves or leaves that are torn.
- On the paper datasheet (page 19), record the condition as “chewed” or “not chewed.”
- **NOTE:** In year one, do not be surprised if you observe zero “chewed” seedlings. One explanation is that a browsed seedling is likely to be a dead or non-detectable seedling. This is okay.

**Steps 5-15: Repeat Steps 1 through 4 at each of the remaining white flags.** You are finished when the datasheet grid is completely filled in.

# COVER IT UP SUMMER'S END

# ACTIVITY 3

## DATASHEET

Date (MM/DD/YY): \_\_\_\_\_

Observer: \_\_\_\_\_

Site name: \_\_\_\_\_

If there are no seedlings at a flag, be sure to write "no seedlings" in the cell (first column) and then draw a line through the other cells in that row.

Flag ID	Number of live seedlings (If zero, write "no seedlings")	Height of tallest seedling, round to nearest 1/4 inch	Number of true leaves on tallest seedling that are at least 3/4 inch from base to tip	Does the tallest seedling show evidence of mammal browse? (Check one box)	
				Chewed	Not chewed
1A					
1B					
2A					
2B					
3A					
3B					
4A					
4B					
5A					
5B					
6A					
6B					

## Activity 4: Answer five questions.

REVIEW, ACTION STEPS  
& DATASHEET (1 of 3)



**Goal:** Learn more about local conditions at your site.

### Step 1: Answer 5 additional questions about your site.

- While at your site, answer each question to the best of your ability.
- Write down your answers and notes on these datasheets (pages 20–22).

**QUESTION 1:** How much deer herbivory was your site potentially exposed to since April 2020? Choose the option that applies best based on what you know.

### Answer choices:

- **None** (e.g., “I had a fence around the site or squares all season,” or “I never see deer or their tracks”)
- **Some** (e.g., “There is no fence. I see deer around the site at least once a year but not every month,” or “There is a fence but I put it up part-way through the season”)
- **Frequent** (e.g., “I had no fence and I see deer at the site at least once a month”)

Observer:

Site name:

Date assessed:

Circle one: None / Some / Frequent

Notes:

Observer: \_\_\_\_\_

Site name: \_\_\_\_\_

**DATASHEET**

(2 of 3)

**QUESTION 2:** Since September 2019, have there been major changes in the tree canopy at your experimental site? We're interested in events such as a large tree falling over and opening up the canopy, which would change light levels. We don't need to know about buckthorn removal (already reported) or the usual annual tree growth.

Date assessed:

Circle one: Yes / No

If yes, describe:

**QUESTION 3:** Since September 2019, did any trees larger in diameter than your arm fall on any of your squares?

Date assessed:

Circle one: Yes / No

If yes, which squares? Were you able to remove the tree(s) or not?

Observer: \_\_\_\_\_

Site name: \_\_\_\_\_

**DATASHEET**

(3 of 3)

**QUESTION 4:** Since September 2019, did your site get flooded? (Define “flooded” as covered in standing water for more than a day.)

Date assessed:

Circle one: Yes / No

If yes, record details such as approximate date(s) or comments on severity:

**QUESTION 5:** Since September 2019, have there been any other notable environmental changes at your experimental site that you think would help us understand your results?

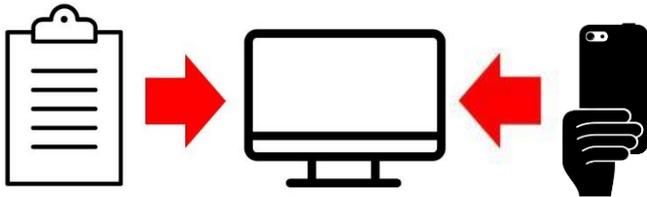
Date assessed:

Circle one: Yes / No

If yes, describe:

## Activity 5: Complete online survey.

## REVIEW & ACTION STEPS



**Goal:** Upload your photos. Transcribe data from your paper datasheets to an online form.

### Step 1: Gather these materials:

- The paper datasheet you used to track summer Cutting efforts from June through August ([bit.ly/ciu-cutting](http://bit.ly/ciu-cutting), page 3).
- Activity 1 datasheet (pages 8–9 of this packet)
- Activity 2 photos: Your camera phone, a cable to connect your phone to a laptop, and 24 photo files:
  - 6 non-fisheye photos looking down at each square
  - 6 fisheye photos looking up from ~eye-level
  - 12 fisheye photos looking up from ground level
  - NOTE: Do not rename photos. Because they were taken in sequence, each photo can be matched to its source.
- Activity 3 datasheet (page 19 of this packet)
- Activity 4 datasheets (pages 20–22 of this packet)

**Step 2: Open a web browser. Type [bit.ly/ciu-2020data](http://bit.ly/ciu-2020data) in the address bar. Complete the survey.**

## Do you have questions?

Join a Q&A Zoom meeting: [bit.ly/ciu-zoom](http://bit.ly/ciu-zoom)

FAQ: <https://coveritup.umn.edu/resources/faq>

Email: [coveritup@umn.edu](mailto:coveritup@umn.edu)

Call: 612-708-6354 (Abbie's cell, not an office)

# THANK YOU!