

## How to Monitor a Management Unit: Video Transcription

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In this video, you're going to learn how to conduct the field activities required to submit a monitoring report but before we do that make sure that you have an account already set up at [www.pamportal.net](http://www.pamportal.net) and then come back and we'll continue.

Monitoring for PAMF happens each July and the corresponding report should be submitted by August 1st. That way you can receive management guidance by the middle of August each year. Before you head out into the field make sure that you have all the necessary equipment.

- You're going to need a piece of paper and a pencil or you can use a smartphone or some sort of web capable device.
- You're also going to need Vernier calipers,
- quarter meter squared quadrat, and
- GPS capable device.

Now that you have all of the necessary equipment, make sure that you write down the Web Hub provided coordinates before you head out into the field.

*[Video shows woman placing flagging tape on Phragmites. She continues to walk around the boundaries of the Phragmites patch while recording her tracks via the ViewRanger app on her smartphone.]*

First thing you want to do in the field is retrace your management unit boundaries. You can use your enrollment GPX file as a guide to estimate percent establishment. Weave through the unit to gauge the amount of area which *Phragmites* occurs throughout the unit's boundaries. Remember that stem density doesn't matter, only consider the portion of your management unit that contains live *Phragmites*. You can report this as either 0 to 10 percent, 11 to 50 percent, or 51 to 100 percent establishment. Depending on how you enrolled your management unit and how you set those boundaries, you may not even start with the management unit that's over 50 percent established.

*[Video shows woman taking photos of her management unit with her phone. She then uses her phone to access her Web Hub generated monitoring location and walks to that location.]*

We suggest that you take photos each time you visit your management unit so you can answer future monitoring questions. Next, you will navigate to each of the five

suggested monitoring locations. Coordinates are provided on the Web Hub under the view management tab. If the suggested location does not contain any live *Phragmites*, is outside of your management unit, or you lose GPS signal, please navigate to a new random location. Further instructions for creating a participant establish location can be found in the [PAMF Participant Guide](#). Record your new GPS coordinates if possible.

[Video shows woman placing a quadrat over a patch of *Phragmites* in the water. The quadrat floats on the water. Cuts to woman placing quadrat around *Phragmites* on land. She removes dead debris out of the quadrat and ensures the quadrat is lying flat. She continues to count all of the live *Phragmites* stems within the quadrat.]

Once you've navigated to your first monitoring location, set up the quadrat being careful not to place it where you've been walking. If your monitoring sites are underwater, you're still able to monitor at those locations as long as live stems are present above the water's surface. Simply float the quadrat on the water's surface to take the measurements. Count the number of live *Phragmites* stems within the quadrat including only those that are rooted within it. Make sure not to count others similar looking grasses. Some stem counts may be as low as 8 or 10 despite the presence of dead biomass sometimes making stands appear much denser.



Figure 1

Next you'll need to take 3 stem diameter measurements using the Vernier calipers. Measure as close to the ground as possible. To minimize bias, measure 2 stems from opposite corners of the quadrat and then one in the middle. The quadrat has 2 opposite colored corners as a reminder. To read the instrument, find the last number on the main scale before the 0-hash mark at the Vernier scale. Record the main scales number as the stem diameter in millimeters. In this case we would record the stem diameter as 9 millimeters (Fig. 1). If you're monitoring site is submerged under the water measure the stem diameters at the water surface.

[Video shows woman assessing *Phragmites* leaves for damage. Figure 2 shows examples of environmental stress, Figure 3 pathogen stress, and Figure 4 insect damage.]



Figure 2



Figure 3



Figure 4

Now assess the *Phragmites* within the quadrat for signs of stress not associated with your management actions. If the majority of the *Phragmites* within the quadrat show signs of stress, record that type of stress as either environmental (Fig 2), pathogen (Fig 3) or insect herbivory (Fig 4). If uncertain, report uncertain. We encourage you to take pictures of the signs of stress and upload them along with the monitoring report to the Heb Hub. Environmental stress may include wind damage, drought or flood induced stress. Pathogen or fungal stress can appear as dark spots on leaves. Insect herbivory appears as holes in the plant tissue or insects actively eating the plants. Insects simply present on the plant does not necessarily indicate stress.

Repeat this protocol for all 5 monitoring locations. Record any unique conditions or characteristics in the note section of the monitoring report. If you have further questions, please refer to the resources tab on the Web Hub or feel free to contact us at [pamf@glc.org](mailto:pamf@glc.org).

