SNAPSHOT DAY

VOLUNTEER HANDBOOK

Coordinated in partnership by:

Extension
UNIVERSITY OF WISCONSIN–MADISON

RIVER ALLIANCE OF WISCONSIN

WISCONSIN DEPT. OF NATURAL RESOURCES

Updated Spring 2022

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INTRODUCTION

Welcome to the 9th annual Snapshot Day! On **Saturday, August 20, 2022** you and volunteers across the state will gather together to help prevent the spread of aquatic invasive species (AIS). Together you will learn how to identify species of concern and venture out into the field on a community science scavenger hunt. It is for this we say: THANK YOU!

The efforts of passionate volunteers, like you, are vital to the early detection of invasive species. Snapshot Day participants have helped identify new populations of AIS across Wisconsin during and after the event, allowing for WI Department of Natural Resources (DNR) and local partners to manage threats and protect our waters. So if you are ready to learn more, let's jump in!

A STATEWIDE SEARCH FOR AQUATIC INVASIVE SPECIES

Snapshot Day is a statewide AIS monitoring initiative coordinated in partnership by UW-Madison Division of Extension, River Alliance of Wisconsin, the Wisconsin Department of Natural Resources, and other partners across the state. Established in 2014 as an effort to identify AIS entering rivers at points of human access - like bridges - it has expanded to include lakes and wetlands. On Snapshot Day we work to empower communities to protect what they love by becoming AIS monitors.

WHAT MAKES A SPECIES INVASIVE?

WI DNR defines invasive species as, "plants, animals and pathogens that cause harm to the economy, environment and/or human health." Invasive species are often non-native but it is important to remember that not all non-native species are invasive. Invasive species are typically generalists - they can utilize a wide range of resources and survive in a wide variety of environmental conditions.

Faster growth rates or earlier reproductive maturity often help invasive species establish rapidly. When coupled with a reproductive advantage of sheer numbers - think hundreds of seeds or millions of eggs - they can have more offspring survive and continue the cycle. There are often a lack of predators or disease to control these growing populations allowing AIS to continue breeding, eating, and out-competing native species in Wisconsin.

Cover Photos courtesy of (from left to right) Stephanie Boismenu and AJ Leiden

OVERVIEW: WHAT HAPPENS ON SNAPSHOT DAY?

Photos courtesty of (1) Scott Caven
(2) Stephanie Boismenue (3) Jeff Jackson

TRAINING

- Learn how to identify aquatic invasive plants and animals
- Use identification resources as well as data and specimen collection materials are provided to help you in the field

MONITORING

- In teams, carpool to Monitoring Sites
- Search for AIS at river and lake Monitoring Sites
- Collect specimens and take photos

IDENTIFICATION

- Fill out datasheets
- Based on your training & resources provided make your best guess on species found
- Return to your Training Site - work with your Site Leader and other teams to help confirm finds

SNAPSHOT DAY AGENDA

8:30 - 9:00 am **Registration and materials distribution** - Volunteers sign-in. Site assignments, site packets, and supplies are distributed.

9:00 - 9:30 am **Training** - A *brief* training tailored to your location on AIS identification and monitoring protocols is provided.

9:30 - 11:30 am **AIS Monitoring** - Volunteers search for aquatic invasive species at designated monitoring sites.

11:30 - 12:30 pm **Submit Finds and Celebrate** - Volunteers return to the training site with their finds. Site Leaders assist with verifying species found and collecting data.

Some events may have modified times, based on the operating hours of Training Site locations. Information on specific sites will be shared by Site Leaders.

GETTING READY

REGISTRATION & SURVEY

Snapshot Day is free for all to attend, but we do ask that all participants register online. Advanced registration helps Site Leaders prepare for each event, ensuring that enough supplies are provided. Early registration guarantees free totes, boot brushes, and other volunteer appreciation items.

There is also a set of questions asked at the time of registration that help with planning. These include:

- What tools or help you can provide on the day?
- What is your comfort level for in-stream work?
- Are you age 14 or under?

Links to our registration page can be found at: **https://wateractionvolunteers.org/events/**

SNAPSHOT DAY IS FOR EVERYONE

Whether you're in the water, taking notes, taking photos, collecting specimens, or helping with decontamination/cleaning, there are ways for everyone to participate in monitoring for aquatic invasive species!

COORDINATION & COMMUNICATION

You will receive your first communication from UW-Madison Division of Extension's Rivers Educator once you register for Snapshot Day. Closer to the event your Site Leader will reach out to begin coordinating and provide updates to your team. **Before Snapshot Day you will receive a pre-event email covering:**

- Start times
- Site location maps and driving directions
- Site Leader contact information
- Updated information on site conditions
- Confirmation for which supplies you are bringing
- Any information that may be unique to your event

TOOLS OF THE TRADE

Snapshot Day is a team effort. River Alliance and your Site Leaders will provide many supplies on the day, but you can help by bringing the following items:

Volunteers are asked to bring:

1. Garden rake

Hard handled rakes are used to gather specimens from rivers & lakes

2. Cooler

A small cooler to help keep specimens from wilting or drying out

3. Binoculars

To help scan the waters and shoreline for AIS

4. Car and the ability to carpool

To provide transportation to Monitoring Sites from Training Site

5. Watch / Smartphone

Help keep track of time while monitoring

6. Camera /Smartphone

Take photos of your finds and the location to help with ID. Get some shots of your team in action to help share the Snapshot Day Story!

7. Polarized Sunglasses

Help reduce glare to see AIS in the water

8. Handscoop

Feeling crafty? Bring a homemade handscoop to collect samples (Instructions on page 23)

Site Leaders & UW-Madison Division of Extension will provide:

1. Specimens & Identification Resources

2. Clipboards, pencils & datasheests

3. Gallon bags for specimen collection

4. Snapshot Day SWAG (varies by location)

5. Refreshments or snacks (varies by location)

7. Decontamination stations / materials

Some locations may have extra rakes and handscoops - your Site Leader will let you know what items they already have to share.

Photo courtesy of Dane County 2021

BE PREPARED

On Snapshot Day there are several monitoring options. Whether you are visiting a wooded creek or sandy lake it is important to be prepared for working outside in a variety weather conditions.

As you prepare for the day remember:

- Wear sturdy shoes or waders
- Protect yourself from the sun and insect bites. Bring a hat, sunscreen, and bug repellent.
- Consider the conditions and dress for the outdoors



Photos courtesty of River Alliance and AJ Leiden

START THINKING STORY MAP AND MORE!

In 2018 River Alliance of Wisconsin began using Esri Story Maps to share tales of Snapshot Day successes from across the state. Our volunteers are a critical part of this story - we invite you to contribute a short "Snapshot Day Snapshot" - share some of your story with UW Extension after the event. Email us at: **emily.heald@wisc.edu**. Submissions may include:

- A photo of you or your team
- Answer a few questions of your choice:

  - Why did you join us on Snapshot Day?
  - Why does this work matter to you?
  - What is your favorite thing to do on/in the water?
  - If you have experience with AIS, which species is "your nemesis"?
  - Favorite thing about Wisconsin (outdoor or otherwise)?
  - Favorite river/lake in WI?
  - Share something unique about yourself!

Feel free to have fun with your replies! For examples, visit: **https://arcg.is/0y9SX1**

VOLUNTEER TRAINING

VIRTUAL VOLUNTEER TRAINING

Prior to Snapshot Day, a virtual volunteer training webinar will be held on **August 12, 2022 from 12:00 PM to 1:00 PM**. This webinar will be recorded and made available to volunteers who were unable to participate on that day. This virtual training will cover several topics:

- Snapshot Day Background
- Aquatic Invasive Species Identification
- Monitoring & Vouchering (photo and specimen collection) Protocols
- How to fill out datasheets
- Decontamination procedures
- Safety precautions in place due to the COVID-19 pandemic

DAY-OF VOLUNTEER TRAINING

Once you arrive, on Snapshot Day, Site Leaders will provide a brief training, covering several topics tailored to your location:

- Target Aquatic Invasive Species
- Overview of Monitoring Sites
- Brief Overview of Monitoring Protocols
- Safety Precautions

TARGET SPECIES

Through the volunteer trainings you will learn about AIS that are of particular concern to Wisconsin and your region of the state. Any of the following species may be covered:

Aquatic Plants
Curly-leaf Pondweed
Eurasian Water Milfoil
Hydrilla
Brazilian waterweed
Water chestnut
European frog-bit
Starry stonewort
Parrot feather
Yellow floating heart
Water lettuce
Water hyacinth

Emergent Plants
Flowering rush
Purple loosestrife
Phragmites
Japanese knotweed
Japanese hops
Yellow iris

Animals
Faucet snails
New Zealand mudsnails
Quagga mussels
Zebra mussels
Asian clam
Rusty Crayfish
Red Swamp Crayfish

No Need to be an Expert

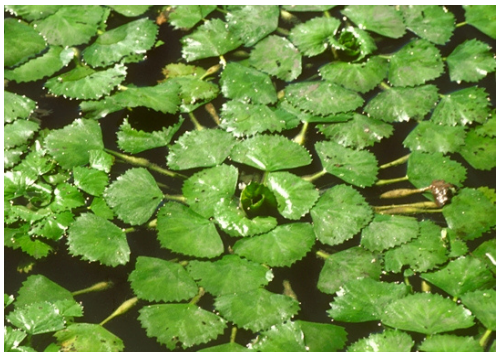
You are NOT required to memorize each of these species! Visual ID guide and reference materials will be provided.
No experience with AIS ID is required, just bring your enthusiasm and curiosity!

Curly-leaf Pondweed

Eurasian Water Milfoil

Hydrilla

Brazilian waterweed



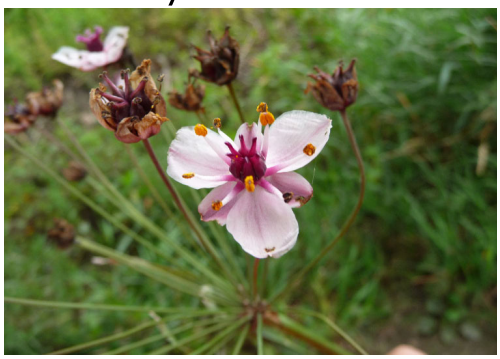
Water chestnut

European frog-bit

Starry stonewort

Parrot feather

Yellow floating heart



Flowering rush

Phragmites

Japanese knotweed

Japanese hops

Water lettuce

Water hyacinth

Yellow iris

Asian clam

Purple loosestrife

Quagga mussel

Rusty Crayfish

Faucet snail

New Zealand mudsnail

Zebra mussel

Red swamp Crayfish

ON SNAPSHOT DAY

KEEP IT SAFE AND KNOW YOUR LIMITS

On Snapshot Day you will have the option to monitor from the shore using Dry Protocols or enter the stream using Wet Protocols. Remember - safety first!

You should use caution and common sense when entering a body of water. Do not enter the water if:

- There is a fast current
- Any chance of over-topping your waders
- If the banks are too steep

Once in the stream or lake, watch your step and watch for rocks or holes. You may wear a life jacket. You should avoid getting too near any dam or water control structure. If monitoring near a dam, begin well below the influence of the dam.

Remember, only do what you are comfortable doing. There are many different ways you can help on Snapshot Day:

- Take photos of invasive species and your group in action
- Fill out datasheets and help time your monitoring partners
- Bag and label specimens
- Decontaminate equipment and shoes

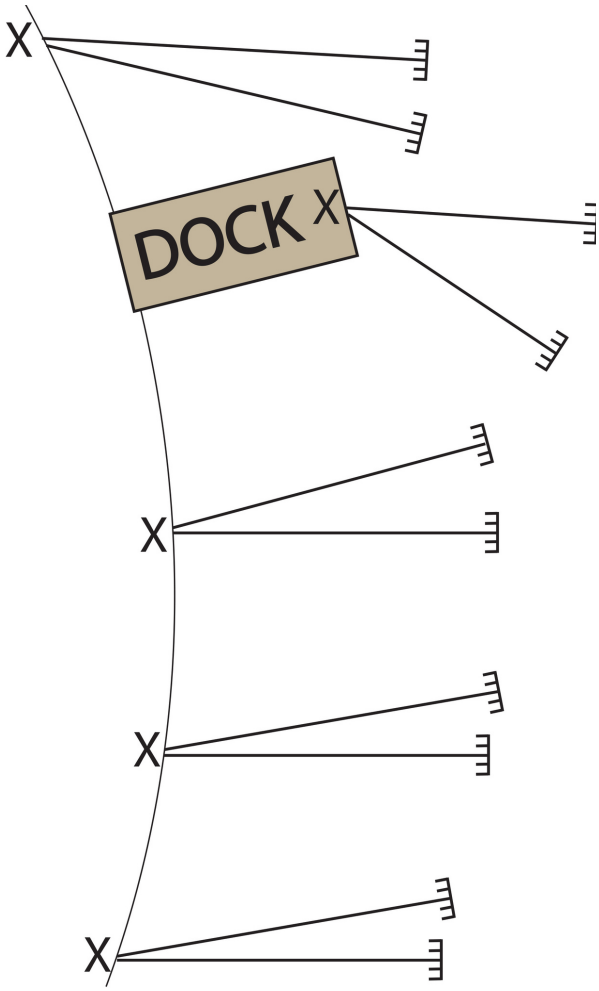
MONITORING PROTOCOLS

For each rive/stream monitoring protocol we follow a simple set of steps. Spending at least 30 seconds per step you will:

- LOOK - scan the shoreline for aquatic invasive species
- RAKE - drag the rake for submerged vegetation
- SCOOP - when possible, scoop to collect substrate and look for aquatic critters

COLLECT specimens of interest as you go and CLEAN your gear before heading to the next monitoring site.

1.Upon arrival at the designated site, identify the boundaries of public access that you wish to sample, typically within 50-100 feet of a single point along a lake, bridge site, or river. You will begin your search at one end and walk to the other along the shore or within the river. If you are sampling along a river, a reach of 50 feet is a good goal, but you may need to alter this depending on your site conditions.



2.Stop five times along your way at approximately equal intervals. If you are at a river site, work downstream to upstream to avoid sediment disturbance which could inhibit your ability to look into the water. You can consider all public docks/piers as sampling locations within your station, even if they are not equally spaced. If the access point is narrow or less than 20 feet, choose three sites - one on each side and one in the middle. Follow the steps 3-5 at each location.

3.Scan the area for at least 30 seconds. If there is heavy vegetation, spend more time as needed. While scanning, examine plant fragments and shells on the shore as well as plants and animals in the water. If possible, use a handmade scoop or your hands to collect substrate from the shore. Sift through sample for invertebrates. If available, use binoculars to scan the distant shorelines.

4.Toss the sampling rake from the shore into the water, aiming for concentrations of plants. Be sure to hang onto one end of the rope. If you are at a narrow river site, you may wish to use a long-handled rake. Pull off and examine all the attached aquatic vegetation. Use the provided resources to help you identify suspicious plants or animals.

5.If you can do so safely, wade into the water to collect any suspicious plants/animals you may see. Avoid concrete pads at boat launches as these can be very slippery. If the water is too deep or you cannot collect the organism safely, attempt to use your rake to collect it. If you are unable to collect it, make note of the location, write a description, photograph it if possible, and report back at the Training Site at the end of the day.

6.If you are using a dock or pier as a sampling point, walk to the end of it and complete a 30 second scan as described in step 1, and complete 2 rake tosses.

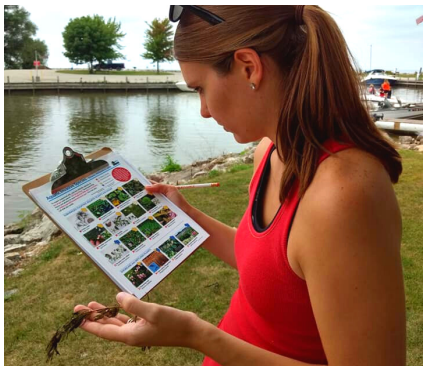
7.When monitoring is completed, be sure to follow the decontamination steps: Remove attached plants, animals, and mud. Scrub equipment with a brush and rinse with water. Use bleach solution or steam if available.

ESTIMATING DISTANCE

50 feet is approximately as long as a line of 3 pickup trucks, or a semi truck trailer.

100 feet is approximately one third the length of a football field, or 2 semi truck trailers.

SPECIMEN COLLECTION PROTOCOLS


Photos courtesy of (from left to right) AJ Leiden, Chris Acy, and Anna Cisar.

If possible, you should try to collect up to 5 intact specimens of any AIS you find. When collecting plants, try to get the root system, all leaves as well as seed heads and flowers if present. Specimens should be placed in one of the provided plastic bags. Ensure that the site name on the label matches the site name on the datasheet. Transport bags back in cooler if possible, and hand in with your datasheets at the Training Site after all monitoring sites are visited.

If it is not feasible to collect specimens, photographs can be taken. Remember to share photos with your Site Leader back at the Training Site. Include the name of the site you took the picture at when you send the photo.

PREVENTING THE SPREAD - DECONTAMINATION PROTOCOLS

STOP AQUATIC HITCHHIKERS!™
Be A Good Steward.
Clean. Drain. Dry.
StopAquaticHitchhikers.org

While we are having fun on our AIS Scavenger hunt, it is important that our monitoring activities don't contribute to their spread. Site Leaders will provide spray bottles and other supplies for decontamination between monitoring sites.

After you return to your vehicle upon completion of monitoring each site, you should follow these basic steps to clean off shoes, boots, waders, clothing, and sampling equipment, using the provided equipment.

- Rinse equipment and gear with water or water/bleach mix
- Scrub equipment with boot brushes, working to remove all mud, debris, seeds, etc.
- Rinse again and dry with towels

UPSTREAM OR DOWNSTREAM?

On Snapshot Day teams will work upstream to downstream to prevent the spread of AIS. However, stream monitoring protocols direct volunteers to work downstream to upstream. Confused?
We actually follow both steps. Here is how and why:

1. Upstream to Downstream: On Snapshot Day you may have several sites to monitor within a watershed. Site Leaders will send volunteer to upstream locations first. This is to prevent the spread of AIS from downstream locations to upstream locations.

2. Downstream to Upstream: At an individual site volunteers will begin sampling downstream and work their way upstream for the following reasons:

   - Disturbance - If you move upstream to downstream you can dislodge debris and sediment, clouding the water and making it difficult to see and gather specimens.
   - Safety - Facing upstream you can see where you are walking and are less likely to have your feet swept out in the current.

Decontamination Protocol Training Video online at: **https://youtu.be/Od0RJ6NObEs**

FILLING OUT DATASHEETS

Every team will receive a Snapshot Day Datasheet for each of the sites they are assigned to monitor. These will have the site name, station ID, coordinates, and name of your Site Leader pre-printed. You will only have to fill out a portion of the form. Please enter the following information (corresponding to boxes in blue on the example below):

- Your full name + names of your team members
- Y/N rake used, scoop used, walked the shoreline, checked surfaces
- Start/End Time
- Best guesses on species type, area & density
- Whether you took a picture or collected a sample
- If you made any other observations
- If you did not find any AIS at your site

It is important to complete forms as accurately as possible to help your Site Leaders and the UW-Madison Division of Extension Rivers Educator with data entry and verification.

Aquatic Invasive Species Snapshot Day Datasheet **Date:**_____

The purpose of this form is to notify DNR of aquatic invasive species (AIS) surveillance results.
To find where aquatic invasive species have already been found, visit: http://dnr.wi.gov/topic/invasives/report.html
Notice: Information on this voluntary form is collected under ss. 33.02 and 281.11, Wis. Stats. Personally, identifiable information collected on this form will be incorporated into the DNR Surface Water Integrated Monitoring System (SWIMS) Database. It is not intended to be used for any other purposes but may be made available to requesters under Wisconsin's Public Records laws, ss. 19.32 - 19.39, Wis. Stats.
If the plant or animal cannot be collected due to safety concerns or it is located on private property, please take a photo (see Sample section below). DNR staff will then follow up if further monitoring is needed for identification.
Instructions: Bold fields must be completed.

Site name: **Station ID:**	**Latitude:** **Longitude:**	**Start Time:** **End Time:**
Names of Volunteers:		**Site Leader/Initial Verifier:**
Hand scoop used? Yes No Rake used? Yes No Walked along shoreline? Yes No Checked surfaces (piercs, docks, etc.)? Yes No		

List each suspected aquatic invasive species observed, estimate the area and density of population, or indicate in the check box below if none were observed.
Indicate whether you collected a sample and/or took a picture.

Suspected Species	~Area (m^2 or ft^2)	Density*	Sample Collected?		Picture taken? (Include form in photo!)		Comments	*Site Leader*		
								Final Species ID	DNR office/person specimen submitted to	DNR office/person photo submitted to
			Y	N	Y	N				
			Y	N	Y	N				
			Y	N	Y	N				
			Y	N	Y	N				

*Density Ratings 1: A few individuals (1-25) 2: Many small, scattered populations (25 – 500) 3: Dense population (> 500)

☐ Check box if no aquatic invasive species were observed

TEAM PHOTOS

Snapshot Day is as much about having fun and creating community as it is about preventing the spread of aquatic invaders! On the day of the event, please take as many pictures as possible of your team in action. **Post on Facebook, Instagram, & Twitter - #SnapshotDay2022.** You can share photos with your Site Leader or send them directly to UW-Madison Division of Extension's Rivers Educator at **emily.heald@wisc.edu**.

These photos help UW-Madison Division of Extension tell the Snapshot Day Story and may be used on our website, guides, and Story Map.

KEEP CALM AND MONITOR ON

Did you catch the monitoring bug? We hope so! Our volunteers have continued to help long after their first Snapshot Day, finding new populations of AIS across the state. Your work is invaluable - early detection of aquatic invasive species is a critical first step in prevention. If you are looking for more ways to protect Wisconsin's waters, consider these opportunities:

Water Action Volunteers (WAV) is a citizen science program that recruits, trains & supports volunteer stream monitors. WAV strives to educate and empower citizens & collect high quality data that is shared and used in natural resource management decisions.
https://wateractionvolunteers.org/

The Citizen Lake Monitoring Network (CLMN) creates a bond between 1000+ citizen volunteers statewide and the Wisconsin Lakes Partnership. CLMN staff provide volunteers with the necessary equipment and training to conduct monitoring activities, including AIS, Water Quality, Native Aquatic Plant Monitoring and more.
https://www.uwsp.edu/cnr-ap/UWEXLakes/Pages/programs/clmn/default.aspx

And don't forget to visit the River Alliance and local partner websites for more AIS monitoring programs and opportunities!
https://www.wisconsinrivers.org/

THANK YOU!

SNAPSHOT DAY CONTACTS

UW EXTENSION

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UW-EXTENSION LAKES PROGRAM

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WI DEPARTMENT OF NATURAL RESOURCES

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APPENDIX - DIY HANDSCOOP INSTRUCTIONS

From: *A Citizen-Based Aquatic Invasive Species Monitoring Protocol for Wisconsin Shorelines*
Written by: Patrick Miller, Kaci Baillies, and Shannon Davis-Foust – Univeristy of Wisconsin Oshkosh

To create your own hand scoop to sample areas with loose substrate, you will need:

- 1 – one pound coffee can (preferably with a handle already on it)
- Drill
- Permanent marker
- 3/8 inch drill bit or other size you deme worthy

Building instructions:

1. Take coffee can and make X's on the face of the can in a grid like pattern like shown below.
2. Drill 3/8 inch holes in the coffee can to allow water to drain from the sediment as you bring it out of the water (you can also use smaller holes to catch more debris while draining)

Step 1 - Mark grid pattern

Step 2 - Drill

Finished Product