WATERCRAFT DECONTAMINATION MANUAL

DEPARTMENT OF NATURAL RESOURCES

AQUATIC INVASIVE SPECIES AND THE WATERCRAFT INSPECTION PROGRAM

What is the purpose of this Aquatic Invasive Species (AIS) Decontamination Manual?

This manual outlines standard watercraft and equipment decontamination procedures and protocols. The procedures and protocols in this manual apply to trailered watercraft and water-related equipment of any kind. It includes motors, trailers, compartments, and any other equipment that routinely or reasonably could be expected to contain or have come into contact with water.

Who should use this manual? Minnesota Department of Natural Resources staff and Local Government Unit staff trained annually by the State of Minnesota.

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DEPARTMENT OF NATURAL RESOURCES

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Hot water, high pressure spray of a watercraft hull.

Section 1: An Introduction to Watercraft Decontamination

Why Decontaminate?

Aquatic invasive species (AIS) are able to travel long distances over land on watercraft and water related equipment. Many forms of AIS can survive extended periods of time out of the water. To effectively reduce the spread of these costly invasive species, an extensive education, inspection and decontamination program has been developed. Completing decontamination on watercraft and water related equipment by authorized personnel can help protect state waters from invasion.

Watercraft Decontamination in Minnesota

According to Minnesota statute, “decontaminate means to wash, drain, dry, or thermally or otherwise treat water-related equipment in order to remove or destroy aquatic invasive species (AIS)”. Decontaminations are completed to remove all mud, plants, organisms, and water from the interior and exterior of watercraft and equipment. In general there are two types of decontaminations that may be performed; manual decontamination is removal by hand, and mechanical decontamination uses hot water and/or high pressure. This handbook focuses on mechanical decontamination protocols used in Minnesota.

Level 2 Inspector Responsibilities

Level 2 inspectors are required to pass annual Level 1 watercraft inspection training, and all duties found in the Watercraft Inspection Manual should be followed at all times. In addition, Level 2 inspectors must pass annual Level 2 training and are responsible for following protocols covered in this manual.

Ensure personal and public safety

Your safety, and the safety of the public, is your top priority when performing a decontamination. Working with hot and high-pressure water can present many safety risks; if you cannot decontaminate a watercraft due to a safety hazard, do not do it.

Educate the public

You will be educating boaters about the decontamination process because the public may be curious. Be sure to explain the type of decontamination you will be completing so the boater is comfortable and informed about the process.

Perform watercraft inspections

Level 2 inspectors perform watercraft inspections. Watercraft users need to go through an inspection in order to determine whether or not decontamination is necessary. Complete the watercraft inspection survey before completing a decontamination survey. Accurately completing the survey is important. The data you record may help shape the program for the future.

Perform decontaminations

This responsibility is only for authorized Level 2 inspectors who have passed Level 1 and Level 2 watercraft inspection training.

Assist law enforcement

You may need to contact law enforcement to respond to violations. Remember to be a detailed witness and to document what happened. This will help law enforcement follow-up and respond to a violation.

Encourage Decontamination

As Level 2 watercraft inspectors you will be the experts in the field on watercraft decontamination, and play a key role in educating boaters about the advantages of decontamination. The different scenarios listed in this manual are intended to teach you how to best decontaminate equipment based on risk.

While working in the field you may encounter boaters that are not legally required to decontaminate and do not have enough time for you to complete all of the steps necessary for proper decontamination. In cases like this you can work with the boater to shorten the process and attempt to complete one or two of the steps. As an example, a flush of the live well and/or engine will only take a few minutes.

These simple actions can help reduce the risk of spreading AIS, and can demonstrate to boaters that decontamination is easy and safe for their equipment. Inspectors can help increase voluntary decontaminations by pro-actively encouraging boaters to take advantage of free decontamination.

Watercraft Decontamination Basics

Watercraft decontamination consists of a hot water rinse and a high pressure spray. The hot water kills the AIS, and the high pressure removes them. There are no soaps, bleaches, or chemicals used or recommended at this time. Chemicals are not as reliable as temperature at killing AIS, and are a liability because they can damage water-related equipment. At **140°F**, a hot water rinse for 10 seconds to each spot will kill all adult mussels. At 120°F, a contact time of 2 minutes is needed to destroy zebra mussels. Level 2 inspectors will adjust temperature and exposure times based on the equipment being decontaminated.

SAFETY MESSAGE: Always wear appropriate PPE (personal protective equipment) when working with hot water to avoid burns.

Section 2: Working with Watercraft Users

Education and outreach

Working with watercraft users is integral to your work. Watercraft users and other people may be curious about the unit and its operation or a decontamination in progress. Encourage them to ask questions, but make sure they do it from a safe location. It is important that you explain the decontamination process and answer any questions the operator may have prior to decontaminating their watercraft.

In working with watercraft users, you can help them adopt good habits such as watercraft decontamination. The DNR is using Community-Based Social Marketing (CBSM) to prevent the introduction and spread of AIS. CBSM is a social science approach to foster sustainable, environmentally beneficial behaviors over the long term. Behavioral science tells us there is often a gap between intention and action. Just because people intend or know they should do something, doesn't mean they always follow through (e.g. how often your dentist suggests that you floss your teeth, vs. how often you actually do). Here are some CBSM results and strategies that you can use to help promote the adoption and consistent practice of desirable AIS prevention behaviors, such as watercraft decontamination.

In a 2019 DNR survey of licensed anglers in Minnesota (N =1,612), when asked "What would prevent you from cleaning and draining your boat and trailer when leaving a lake or river?" the highest ranked response selected (27%) was "I don't have the tools/equipment I need." When asked what would motivate them to take action, the top three responses were "Having access to running water" (63%), "Knowing I am helping

prevent the spread of AIS" (60%), and "Having a staffed decontamination unit available" (52%). Finally, anglers prefer to receive AIS information at boat launches (66%), trust the Minnesota DNR for AIS information (92%), and believe preventing the spread is the right thing to do (94%).

Results from a 2020 DNR survey of registered watercraft owners in Minnesota were similar (N = 2,893; weighted average). When asked "Which of the following are most important to have at a public boat launch," 20% selected "Tools for cleaning weeds and aquatic invasive species." Additionally, most (77%) recreational boaters say they are willing to spend 30 minutes or less decontaminating their boat if a free unit is offered.

You can use these results in your day-to-day work to promote decontaminations because:

- Boaters want and need your services. They want to prevent the spread of AIS, want access to decontamination units, and are willing to spend the time to get a decontamination.
- The protocols you follow are from a highly trusted source, the DNR.
- You remove the "lack of tools" barrier by providing professional decontamination services.
- You provide AIS information where boaters prefer to receive it.

Another strategy that you can use is gathering commitments. Commitments are an essential tool used in a majority of behavior change programs. Social science studies show time and again that when people make a commitment to do something, they are more likely to follow through. Simply asking "can I count on you to get a decontamination?" can influence boater behavior positively.

You are a trusted messenger providing needed AIS prevention services at locations where boaters prefer to receive information. Your job plays a critical role in helping boaters adopt and consistently practice desired AIS prevention behaviors.

Walk-around with operator

Make sure the operator is aware and comfortable with what you are about to do. Prior to completing any part of the decontamination conduct a walk-around inspection with the operator, and complete that portion of the survey (page 27). Asking operators about their equipment can help you identify what needs to be decontaminated and how it should be done. This is useful when dealing with ballast tanks and identifying which thru-hull fittings are ballast outlets. Once the decontamination is completed conduct a final walk-around inspection.

Safety

When working with the public always keep safety in mind. You should perform certain components of decontamination that involve operator participation first to reduce the risk of watercraft users slipping on the wet mat. For example, flushing ballast tanks and motors involve the participation of watercraft users so they should be done before other decontamination components.

Also, make sure to establish a set of signals with the boater when flushing ballast tanks and motors. This will make it easier for both of you to communicate if the unit is too loud to talk over. A signal may be as simple as a "thumbs up" for starting the motor.

Inspector words of advice from the field

Decontaminations have been conducted in Minnesota since 2012, and some staff have found effective ways of promoting watercraft decontaminations.

Many inspectors refer to training and educating watercraft users, some have said:

"*I refer them back to the Clean, Drain, dispose message, completing a decontamination is an additional step to the "Clean"."*

"*I will talk about the decontamination process before I even suggest pulling onto the mat.*"

"*If someone is curious about decontaminations, I tell them or show them what I do by doing their watercraft.*"

Some inspectors found it easier to sell the decontamination by saying something about the process:

"*We have our unit set up over there we can decontaminate your boat by doing a quick soak of the hull.*"

"*I can do a quick hull soak with 140°F water in about 10 minutes, and that will reduce the risk of spreading AIS from this lake.*"

Inspectors have talked about building relationships with watercraft users to convince them to have a decontamination:

"*When someone is launching for a long weekend, I talk about the decontamination process then and where we will be so they can have one done.*"

"*Even when I might not be 100% confident on the inside, I never show that to the watercraft user and I refer to my manual and training if I have questions.*"

"*I thank them every time they get a decontamination, even if it was not protocol that they have one done.*"

Every conversation will be different when interacting with watercraft users. Some watercraft users have had decontaminations preformed before and know the process. Some even seek out the decontamination locations. The goal of the program is to create new habits and decontamination can be one of them.

Section 3: Decontamination Equipment

Decontamination Equipment

Required

- Decontamination unit attachments
  - Ballast flush hose
  - Extension hose
  - Fake-a-lake
  - High pressure wand with 40° nozzle
  - Low flow diffuser
  - Motor flush muffs
  - Trigger assembly
- Hand-held Thermometer
- Tablet
- Brush for removing AIS
- Plastic Scrapper (make sure to round edges)

Recommended

- Chocks
- Safety Cones
- First aid kit
- Crescent wrench
- Sponge (large, car wash style works best)
- Step ladder
- Squeegee if using a collection mat
- Reclaim System
  - reclaim and underlay mats
  - vacuum hose and attachment
- Battery powered or portable vacuum

Decontamination Equipment Terminology

Ballast Hose

A ballast hose can attach via a fitting to an extension hose. This hose is used to fill some ballast tanks by inserting the hose into the through-hull fitting that connects to the ballast tank.

Extension (or Accessory) Hose

This hose connects to the trigger assembly, and is used to connect various decontamination tools.

Fake a Lake

A fake-a-lake tool is used to flush water through inboard engines, or to fill ballast tanks while a watercraft is out of the water.

High Pressure Wand

The high pressure wand is used to spray pressurized water to help remove stuck aquatic invasive species.

Low Flow Diffuser

The diffuser hose allows low-flow water to pump from the decontamination unit. This tool is used to decontaminate sensitive equipment, external surfaces, and internal compartments.

Motor Muff

Motor muffs are used to decontaminate sterndrive, and outboard engines by providing water to the intake.

Trigger Assembly

The trigger assembly is attached directly to the decontamination unit's high pressure hose, and is used to start and stop the flow of water.

Hand-Held Thermometer

A digital or analog thermometer should be used to confirm water temperatures throughout the decontamination process. Infrared temperature tools are not as accurate for measuring water temperature.

Brush for removing AIS

Plastic Scrapper

Brushes with nylon or plastic bristles can be used for AIS removal. Harsh bristle materials, such as metal, should be avoided.

Reclaim System

Some decontamination units will have reclaim systems that consist of a vacuum, reclaim tank, and filters, to allow decontamination water to be re-used.

Personal Protective Equipment (PPE)

Operating a decontamination unit may present various working hazards. Below is a list of personal protective equipment that should be worn at all times while performing decontaminations to protect yourself from those hazards.

- Face Shield
- Gloves (must be thermally rated)
- Rain Gear (for use during decontamination)
- Safety glasses
- Hearing Protection

Inspector using high pressure spray, wearing all required personal protective equipment.

Observe the traffic flow of the access when setting up the decontamination area; consider safety of the inspector and the public first.

Section 4: Decontamination Set-up and Operation

Site setup

Placing the decontamination unit

When placing the decontamination unit at an access, it is important to consider the ground surface, slope, and distance to the water body. Avoid placing the decontamination unit in a location where decontamination water may drain into a water body or connected drainage. Portable decontamination units are heavy when full; parking on the pavement is the best option when available. When this option is not available, park on the firmest ground possible.

Traffic patterns at the access should also be considered to avoid blocking traffic, to allow boaters to easily pull their watercraft onto the mat, and to ensure the safety of everyone.

Do not park in or block handicap, law enforcement, the launch-site, or other restricted spaces.

IMPORTANT MESSAGE: Ideally, watercraft inspections, draining, and decontamination should be located in the same general area. There should be clear control points so that boats can be prevented from launching until they have been through the inspection and/or decontamination.

Once your decontamination location is determined, set up all remaining equipment. Use cones to create a safe work area – consider creating the stations listed below:

1. Self-inspection and tie down area;
2. Watercraft Inspection Area; and
3. Decontamination area.

Creating the decontamination area

The decontamination equipment should be ready for use at all times. Set up the equipment as follows:

IMPORTANT MESSAGE: If a water collection system is not available, the station should be on a semi-permeable dirt or gravel site.

Reclaim and underlay mat

If your decontamination unit is equipped with a reclaim system, place the underlay, and then reclaim mat, on the ground. In order to extend the life of the mat, it should only be driven on by vehicles entering the decontamination station for decontamination. Ensure there is enough room for other vehicles to pass without endangering the driver or inspectors. Use cones to mark out space as needed.

Inspector reclaims water from mat using the vacuum head attached to vacuum hose.

Vacuum system

If your decontamination unit has the capability of reclaiming water, connect the vacuum hose to the decontamination unit and place the vacuum hose so it can reach the lowest point of the reclaim mat. If the lowest point of the mat is not on the same side as the decontamination unit, you will need to move the hose into position for each decontamination after the boater has parked on the mat. Do not allow the vacuum hose to be run over.

The vacuum hose will place the water into a reclaim tank the water will then get pumped back into the water tanks via the reclaim/transfer pump.

Attachments

Unwind the entire length of the high-pressure hose to be able to go around most watercraft easily; it is recommended by the manufacturer not to leave hose on the reel. Lay the hose out on the side of the mat away from the flow of traffic.

Connect the trigger to the high-pressure hose and have the attachments accessible; this will make the decontamination process go smoothly. Place the attachments in a safe location to prevent accidents.

Start the unit to ensure that it is functioning properly; check the temperature and test reclaim systems.

Decontamination unit operation

Information listed in this section will cover general operation guidelines. There are different types of decontamination units and you should always read the manufacturer's operator manual for specific operating instructions.

Unit start-up

Prior to starting the unit check the control panel and make sure the reclaim pump, vacuum, and burner are off.

- To start the unit, hold the trigger assembly (pointed in a safe direction) with the trigger squeezed; this will help the unit start easier by releasing excess pressure.
- Pull the choke out and turn the key; as soon as the engine is running push in the choke.
- Heat the water by turning on the burner and use a thermometer to ensure the unit is heating properly.
- The reclaim system can be turned on whenever water has accumulated on the mat.

IMPORTANT MESSAGE: Following these procedures can reduce wear and tear on the units, and help prevent break-downs.

Unit shut-down

- Prior to shutting the unit down, turn the burner off and continue to run water through the system until the water has cooled. This will prevent damage to the hose and burner coil.
- Turn the unit off.
- Once the unit is off point the trigger assembly in a safe direction and release the pressure by squeezing the trigger.
- Store attachments in a safe place for future use.
- The reclaim pump can be operated when the unit is not running. Once the reclaim tank is empty turn off the pump.

At the end of the shift store all equipment in a safe location for transport and scan the area for anything left behind.

Safety

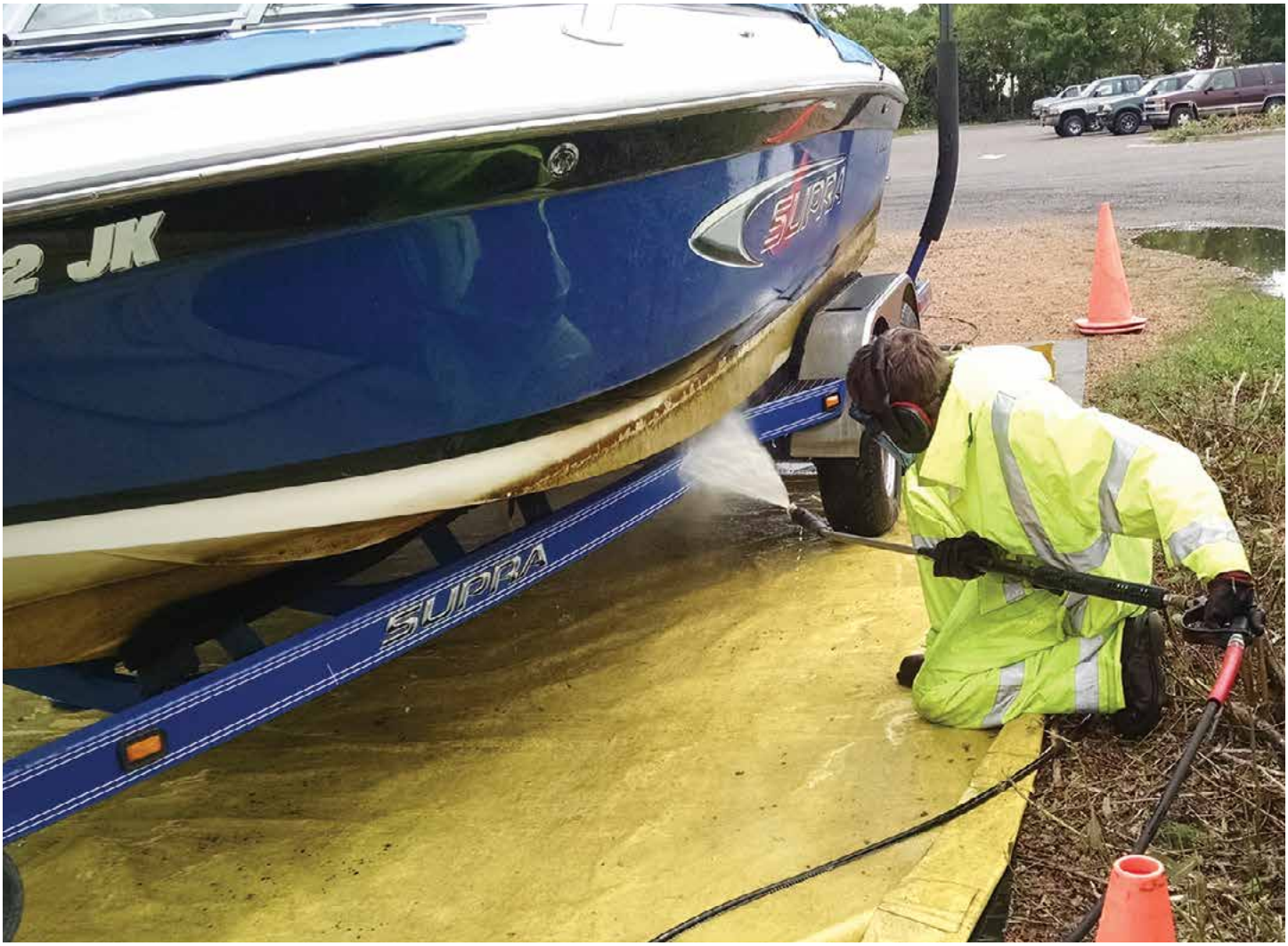
Only authorized level 2 inspectors should operate the unit. Personal protective equipment (PPE) requirements for DNR employees are listed in the Level 2 Policy Manual. Non-DNR inspectors should follow employer safety policies at all times. During a decontamination, inspectors should wear gloves, a face shield, and a safety vest. Raingear or long sleeves and pants are recommended. Appropriate footwear should be worn - fully closed shoes or boots.

Wear gloves when switching attachments; the brass fittings become extremely hot with use. Keep the safety mechanism on the trigger assembly engaged at all times when switching attachments.

Don'ts:

- Don't allow members of the public or unauthorized inspectors to operate the unit. Be sure to keep everyone well back from the watercraft and decontamination unit when in use.
- Don't point any of the attachments at anyone. ALWAYS ensure that the safety is engaged on the trigger assembly when not in use.
- Don't put a hand in front of the water stream for any reason, no matter what attachment is in use.
- Don't allow anyone to walk around the decontamination unit or watercraft while the level 2 is decontaminating the boat. This is a distraction and possible hazard if they do something unexpected.
- Don't have anyone working on the watercraft while a decontamination is taking place.
- Don't touch the burner/engine during or after use.
- Don't place any equipment on top of the unit.

SAFETY MESSAGE: Call for emergency help if there are serious injuries of any kind to anyone. Report ALL injuries to your supervisor IMMEDIATELY.



An inspector crouches down to use high pressure spray on the underside of a hull in order to complete a full decontamination.

Section 5: Decontamination Procedures

What types of decontaminations will I do?

There are multiple types of decontaminations you will perform depending on the scenario. Each of these will be described in detail later in the manual. Each decontamination must be recorded in the decontamination survey.

All types of decontamination fall into one of two categories: full or partial.

A full decontamination is performed when multiple attached zebra mussels or spiny waterfleas are detected during the inspection. AIS can be easily missed during an inspection or hand removal process, by completing a full decontamination it will lessen the chances of AIS spread. This decontamination is the most complicated and ensures that the watercraft has been completely decontaminated inside and out.

A full decontamination consists of all of the following:

- Exterior Decontamination
- Internal Decontamination
- Engine Decontamination
- High-Pressure Spray

A partial decontamination consists of any of the elements listed above. Below are types of partial decontaminations Level 2 inspectors perform.

SAFETY MESSAGE: Place watercraft trailer on the reclaim mat properly, vehicle in park, vehicle turned off and chocks are under wheels of trailer.

Internal Decontamination

This protocol is performed to kill veligers or other microscopic AIS when there is water inside the watercraft that can't be sponged out or drained, otherwise known as residual water. This decontamination applies to interior compartments that come into contact with lake or river water including, but not limited to: live wells, bait wells, bilge areas, and ballast tanks. Wet equipment may be included in this decontamination such as anchors and anchor ropes, swim platforms, etc.

Engine Decontamination

The majority of watercraft engines use lake water to keep the engine running at operating temperature. Some engines will hold water once they are shut off. This protocol is performed to flush and kill any AIS inside engine compartments that hold water.

Exterior Decontamination

All external areas of the hull and trailer will be decontaminated when a watercraft:

- has been in the water for longer than 24 hours.
- will be placed in another water body within 48 hours.
- has attached AIS (e.g. zebra mussels).

Plant Decontamination

This decontamination is preformed whenever plant material cannot be fully removed by hand. This process is specific to areas where plant material is found. Prior to treating with hot water remove as much plant material as possible. Application of hot water to these areas are localized and need 140°F water for 15 seconds.

When should a decontamination be completed?

Decontaminations are done only after a full inspection has been completed. The inspection process will reveal what type of decontamination is needed. There are a variety of scenarios that may require or we would encourage the watercraft user to complete the decontamination process. See the list below:

- Zebra mussels, spiny waterfleas, or other AIS are found attached to the watercraft/equipment
- Suspicious organic material
- Residual water after draining or the watercraft/equipment cannot be drained fully
- Ballast tanks with water in them
- Aquatic plants attached that cannot be removed by hand
- Watercraft or equipment has been in the water 24 hours or more
- Watercraft or equipment is launching within 48 hours
- A licensed peace officer deems one necessary
- Courtesy Decontamination

Specific protocols for decontaminations start on page 21.

Zebra mussels can be attached to the watercraft, trailer, or any water related equipment.

Check all water-holding compartments, like this bait well, to ensure they have fully drained.

Work with the watercraft operator to ensure all ballast areas are free of residual water.

Aquatic plants can be stuck to watercraft or trailer parts.

How to Perform Decontaminations–Learning the Process

Internal Decontamination

The interior compartments, such as ballast tanks, holding areas, and accessories should be decontaminated first then a motor flush. This will allow fluids and potential AIS to drain.

The areas inside a watercraft will require low-pressure, high-temperature (120°F) water flush for decontamination. The attachment used for this procedure is called a diffuser or low-flow hose and reduces the exiting water pressure.

Internal compartment decontaminations should be completed while standing outside of the watercraft. If you must enter the watercraft ask the operator for permission, and ask for the best way to enter.

SAFETY MESSAGE: Be aware of the pressure hose at all times–damage could occur to the watercraft if it rubs on the hull.

With the trigger assembly, accessory hose, and diffuser connected, begin the flushing of all compartments exposed to lake water, this may include live wells, bait wells, or bilges. All compartment drains must be open during the flushing process to allow all water to drain, this ensures the drains are treated with hot water. Likewise, any interior pumps must be operated when flushed with hot water. The boater is responsible for operating the pumps. The flushing procedure is performed by aiming the diffuser assembly into a compartment and pulling the trigger on the trigger assembly. Note that it is very important that water is up to the operating temperature of 120°F with a contact time of at least 2 minutes. The exposure time should be longer if the temperature falls below 120°F. If any adult mussels are observed, they should be physically removed after hot water kill. Take time to ensure that all compartments and potential water holding areas are hot water rinsed and flushed.

Ballast Tank Decontamination

Ballast tanks may be found in various watercraft such as sailboats and wakesport boats. It is important to verify with the watercraft user where the ballast tanks are located and whether the ballasts are soft or hard tanks before starting a ballast tank decontamination.

To flush hard ballast tanks on wakesport style boats, start by asking the watercraft user to turn on the drains and confirm which thru-hull fitting leads to each ballast tank. Ballast tanks will drain through the side thru-hull fittings (see picture below), the thru-hull fittings on the underside of the watercraft, or on the transom. Depending on where the water drains from, that will be your best chance of getting water into the ballast tank.

Location of soft ballast tanks in a wakesport boat.

There are a several different methods of getting water into the tanks:

- **Ballast tank diffuser hose** for the side thru-hull fittings
- **Fake-a-lake** for the thru-hull fittings on the underside of the watercraft
- **Low Flow Hose** ram driven systems (drains on the transom of the watercraft). Soft ballast tanks that have been removed

Ballast Tank Diffuser Hose

To use the ballast tank diffuser hose, verify with the watercraft user that the pumps are shut off (not set to drain). Insert the ballast hose into the thru-hull fitting where water was pumped out of the ballast tanks. NOTE: Do not put the ballast tank diffuser hose in a thru-hull fitting that you did not verify water came out of or could hear the pump located on that line. Before pulling the trigger make sure that the ballast hose is in as far as it can go with out pushing past any resistance that may occur. Place a hand as close to the watercrafts thru-hull fitting and grasp the ballast diffuser hose so that it will not come back out of the thru-hull fitting.

Fill each ballast tank on the watercraft with 120°F water for 5 minutes.

SAFETY MESSAGE: DO NOT exceed 120°F, damage to the ballast pumps may occur.

Inspector uses ballast tank diffuser hose to flush 120°F water into a ballast tank. The water is held in the tank for at least 5 minutes before being pumped out.

Ask the watercraft user to turn on the ballast pumps to drain some water so that the inspector can verify that the water is at 120°F in the tanks. If the water is not close to 120°F, add more water to the tanks and check the temperature again. Once the temperature has reached 120°F, allow the water to sit in the tank for 5 minutes. The operator should then be asked to turn on the ballast pumps and expel as much water as possible from the tanks. **Caution: Do not stand near the thru-hull fittings when this occurs.** In the event a ballast tank cannot be filled because a check valve is located in the thru-hull fitting or there is a 90° angle bend in the fitting, locate the thru-hull fitting on the underside hull of the watercraft and use the fake-a-lake attachment (as seen in photo below).

Fake-a-lake attachment used to fill a ballast tank from the bottom through hull fitting.

Fake-a-lake

To use the fake-a-lake attachment to pump water into each ballast tank, position the fake-a-lake attachment so that the opening inside is closest to the thru-hull fitting. Start running the water by squeezing the trigger assembly. Once water is flowing and the fake-a-lake remains in place, ask the operator to start the ballast tank fill pump to draw water into the tank. Fill for 2 minutes then ask the watercraft user to turn off the pump. Stop the flow of water. Allow the 120°F water to sit in each tank for 5 minutes before pumping the water out.

Low Flow Hose

To flush soft ballast tanks, remove any soft tanks from the watercraft if possible (see photo below) and verify if the tanks are empty. If a tank contains water, drain the tank on the collection mat or permeable surface and use the ballast diffuser hose to fill the tank with 120°F water. Allow the water to sit in the tank for 5 minutes, then drain.

To flush ram driven systems, have the watercraft owner close the drains. Place the low flow hose up to the vent and fill for 2 minutes. Have the watercraft user open the drains, water may not drain out until they pull away depending on the angle of the trailer.

Inspector removes a soft ballast tank.

Sailboat Ballast Tanks

Ballast tank decontamination is different for sailboats. The opening for a sailboat ballast area is usually located on the transom of the boat. The area can be raised and lowered to allow water into the ballast area and to drain from it. Because of this location, it is not possible to fill the ballast area and let the hot water sit in it. Insert the low flow hose or ballast tank hose into the opening and soak the ballast area with hot water. Use caution because the hot water will begin to drain back out of the opening.

If, at any time, there are difficulties with the ballast tank decontamination and it cannot be fully performed, make clear comments in the survey.

Exterior Decontamination

The diffuser is used for exterior decontamination. Inspectors should systematically work their way around the watercraft, rinsing each section of the hull for at least 10 seconds with 140°F. Rinse the thru-hull fittings, motor, gimbal area, trim tabs, trailer, and any other exterior part that may have been exposed to the water.

The back of watercraft can have numerous features that need a high-temperature soak. This can include transducers, trim tabs, ladders, pumps, swim deck, etc. The outdrive gimbal area is protected and a likely location for mussels due to its shielded location on the boat transom.

Inspectors must take ample time and make certain that all exterior boat devices are thoroughly soaked. The diffuser hose can be inserted in the gimbal area and moved around to ensure complete coverage. Effective decontamination takes time and dedication to ensure every possible location is soaked with water at 140°F for 10 seconds.

Engine Decontamination

Outboard and Sterndrive (Inboard-Outboard)

Inboard/outboard and outboard motors have a water intake on the lower unit. Water from the lake is pumped into the cooling system of the engine and returned to the exhaust port located at the prop center. The engine must run long enough during this process to allow the thermostat to open for a thorough flush. Monitor fluid discharge temperature if possible to ensure 120°F minimum is reached for at least 2 minutes. To avoid damaging engine systems, water temperatures should never go above 140°F.

Intake on an outboard motor.

This procedure uses the motor muff attachment or flush bag to supply water to the lower unit. Before you begin, clear everyone from the motor area. Have the operator lower the motor. Ensure the operator doesn't hit the ground with the motor. **DO NOT START MOTOR. Position the muffs over the water intake on both sides of the lower unit.** Before starting the engine instruct the operator to keep it in neutral. Activate the trigger assembly to start water flowing, then instruct the operator to start the engine. If water does not exit the engine through the exhaust within 30 seconds, have the operator stop the engine. Adjust muffs and try again. Once water is flowing out of the exhaust, continue squeezing trigger assembly and allow engine to warm up. Monitor water temperature coming out of the exhaust until water is up to 120°F, and allow the engine to run for 2 minutes. Once sufficient time of 2 minutes has passed the engine can be turned off, the trigger released, safety engaged, and the motor muffs removed.

SAFETY MESSAGE: Some engines are electronically monitored and may actually shut down when temperatures are too high. Continually monitor the water temperature to ensure that the maximum temperature never exceeds 140°F.

Inboard

Inboard engines have a straight drive shaft from the engine through the hull. Water intakes for these motors are located at the bottom of the hull and/or lower transom of the watercraft. There may be multiple water intakes on the watercraft's hull. Water discharge will typically be at the engine exhaust located at the transom. Again, water will be circulated through the system until the confirmed temperature at exhaust is achieved.

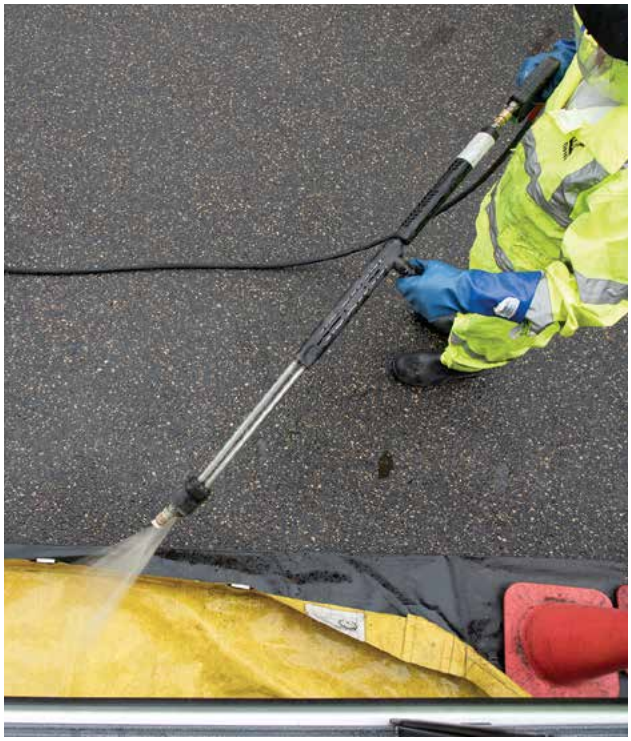
Fake-a-Lake is positioned over the water intake.

Locate all through hull water intake points and exhaust points. Attachments for this task will be the inboard motor flush attachment, or fake-a-lake. Position the fake-a-lake attachment against the hull at a water intake point. The engine water intake is typically covered by an oval brass fitting that protrudes from the hull. It will have slits facing toward the front of the boat that block large debris from entering. Before starting the engine, instruct operator to keep the engine in neutral. Also instruct the operator to watch engine temperature gauge to prevent overheating. Activate the trigger assembly to flow hot water. Confirm water flow and have the operator start the engine. If water does not exit the engine through the exhaust, have the operator stop the engine. Adjust fake-a-lake and try again.

Once water is flowing out of the exhaust, continue squeezing trigger assembly and allow engine to warm up. Monitor water temperature coming out of the exhaust until the water is up to 120°F, and allow the engine to run for 2 minutes. Continually monitor the water temperature to ensure that the maximum temperature never exceeds 140°F. Once sufficient time has passed the engine can be turned off, the trigger released, safety engaged, and the fake-a-lake removed.

Inboard engine intake (large oval) and ballast tank intake (small round)

As stated, there may be multiple water intake points on the watercraft. Locate additional intake points and repeat flush procedures. Do not confuse other through hull drains or ports with water intake points for the engine. Inspectors may need to take time to climb aboard the watercraft once again to identify a thru-hull fittings purpose and location. If this is necessary receive operator permission before entering any watercraft.



SAFETY MESSAGE: Never point the wand at another individual and be careful of graphics or other sensitive areas on the watercraft and trailer.

High-Pressure Spray

The high-pressure procedures do not depend upon high-temperature water for decontamination. Rather, these procedures use water pressure to remove anything that may be attached to a surface.

The high-pressure wand incorporates a variable pressure adjustment valve located about mid-shaft. Rotating the adjustable pressure post will adjust the pressure of the water leaving the white nozzle. Inspectors should familiarize themselves with the operation of this wand. When spraying areas that could be damaged by high pressure, pressure can be reduced to prevent damage. **At the end of the wand, attach the white quick connect spray nozzle. This is a 40° flat fan spray nozzle.**

To perform high-pressure decontamination of exterior surfaces, hold the wand so it is at a 45° angle from the surface (see diagram below). The tip of the wand should be 12” to 16” away from the surface at all times. Move horizontally, systematically covering all hull areas that were exposed to lake or river water. Start near the waterline and work down. Move around the watercraft making sure all surface areas are treated. Inspectors must be very careful to ensure that high-pressure nozzle is used safely.

Another attachment used to clean under boats is called an undercarriage sprayer, used with a 40° angle white nozzle. The nozzle end of this assembly is designed to slide on the containment mat. The wand end nearest the trigger gun has an insulated hand grip for stability and guidance of nozzle. Each time the trigger is activated, a high-pressure spray will be produced at the white nozzle. This attachment can be useful when decontaminating pontoon boats, portable boat lifts, etc. Take sufficient time to cover the entire underside of the hull and along the underside of trailers. Use caution, the high-pressure spray can damage electrical wiring or other fixtures.

An undercarriage sprayer can be attached to a cradle with one or more wheels to increase mobility and stability.

What if the boater refuses decontamination?

Incoming watercraft: If the watercraft operator refuses a decontamination prior to launching, and there is no other way to bring the watercraft into compliance, deny launch. **Denying launch should only be used as a last resort.**

Exiting watercraft: Record the refusal in the Level 2 survey. Remember to always record the reason given for the refusal. If the boater refuses a decontamination that is legally required see steps listed on page 20.

How to legally require on-site decontamination

State statute allows authorized inspectors, conservation officers, and other licensed peace officers to require that decontamination be completed on-site if a unit is present **when specific conditions are met**. The following situations will require decontamination of the watercraft and equipment with the use of a decontamination unit. The following paragraphs provide protocols for how to utilize this authority by detailing when to issue on-site or off-site decontamination orders. Step-by-step protocols for completing these decontaminations are found starting on page 14.

Scenarios listed below are the only scenarios that will trigger a **legally required on-site decontamination**. For any other scenario a decontamination will be recommended, but the owner has the ability to choose where and how to decontaminate.

If on-site decontamination is refused remember to always note the reason in the comment section of the decontamination survey.

Legally Required Decontamination Scenarios

- Water related equipment that has attached zebra mussels or other AIS that will require hot water decontamination for successful removal. Complete a **full decontamination** as listed on page 21.
- Water related equipment that has verifiable water present that is unable to be drained. Complete a **water unable to drain** decontamination as listed on page 22.
- Water related equipment that has ballast tanks which contain water. Ballast tanks are not 100% efficient and water may remain inside the tanks after the ballast tanks stop pumping water. If you are able to confirm the presence of water, decontamination will be required. This step will be required at zebra mussel or spiny water flea infested waters, on exiting boats only. Complete a **ballast tank** decontamination as listed on page 23.

Additional protocols for legally required on-site decontamination

Wait Time Protocol for legally required decontaminations on exiting watercraft:

Watercraft users will not be required to wait in excess of 15 minutes from the time they are notified that decontamination will be legally required until the watercraft is pulled onto the decontamination mat. If situations arise that will create wait times in excess of 15 minutes the inspector conducting the decontaminations will follow a triage system in order to decontaminate water related equipment considered to have the greatest potential risk. Watercraft meeting Scenario 1 should be the highest priority, followed by 2, and so on. If a user's equipment won't be decontaminated on-site, inform them they are still required to self-decontaminate prior to launching next (following 84D.01 Subd. 3a. Decontaminate definition).

Protocols to follow when a boater refuses on-site legally required decontamination:

All refusals to decontaminate should be recorded in the decontamination survey and uploaded to the server within 24 hours. Providing additional comments are required. Follow up with your supervisor as soon as possible to notify them of the violation. Provide a written statement as described in Section 6 of the Watercraft Inspection Handbook.

Protocols for boaters who refuse legally required decontamination due to extenuating circumstances:

Situations may arise in which a boater refuses decontamination due to an emergency (as determined by the boater), or may be returning to the same access while the inspector is still going to be present.

For users who need to leave for emergency purposes:

- If Scenario 1 criteria is met, the refusal will be forwarded on to enforcement for follow up. Document the situation and provide information to the investigating officer. For scenarios 2 and 3, order an off-site decontamination.

For users with unverifiable water who refuse a decontamination due to the fact that they will be returning on the same day, during hours that the inspector will be there, the following procedures apply:

- Explain to the user that they are choosing not to obey an order to decontaminate and are committing to return to the same access, within a set time period, in order to be re-inspected. Explain that if, for any reason, they are not re-inspected within the allotted time frame the refusal to decontaminate will be forwarded to enforcement. The authority to order the re-inspection is listed in statute 84D.09 Subd 3 (b).

Inspector Discretion

Inspectors may choose to require an off-site self-decontamination of equipment that has a high risk of being damaged by on-site decontamination equipment. Fragile watercrafts such as antique wooden boats fall into this category. Inspectors should record this as a refusal in the survey and must record "inspector discretion {reason}" in the comment box under user refused decontamination.

What Types of Decontamination Will I Do: Based on Scenarios

Hot water decontamination is an effective tool to prevent possible AIS from entering or leaving a water body on water related equipment. Scenarios apply to incoming and outgoing watercraft unless otherwise noted. Some scenarios include violations of MN AIS laws, in those cases be sure to follow protocols learned in Level 1 training. Scenarios 1–3 may be legally required to be completed on-site under certain circumstances. See page 19 for more details. If more than one scenario applies, complete all required steps from each scenario met.

Zebra mussels cover the bottom exterior of this trailered watercraft.

SCENARIO 1

Water related equipment that has a confirmed presence of attached zebra mussels, or other AIS that will require decontamination for successful removal. In the case of attached zebra mussels, proceed with a full decontamination even if you think you removed them all by hand.

Full decontamination will be completed and will consist of a hot water soak of the hull and other areas exposed to water, a flush of the motor (if present), and high pressure spray to remove attached AIS. This decontamination is the most comprehensive and ensures that the watercraft has been completely decontaminated inside and out.

Required steps:

- Internal Decontamination (page 14)
  - Ballast Tank Decontamination–if present (page 14)
- Exterior Decontamination (page 16)
- Engine Decontamination (page 16)
- High-Pressure Spray (page 18)

STOP **Decontamination is legally required if a decontamination unit is on site.**

SCENARIO 2 WATER UNABLE TO DRAIN

Bilge areas are often tight spaces. An inspector may see residual water but be unable to sponge it out.

SCENARIO 2

Water related equipment that has residual water that is unable to be drained.

Watercraft and other equipment may not be able to drain all of the water that they are holding. This leftover water is called “residual water.” Watercraft may have trapped residual water due to a variety of reasons. Residual water decontaminations should be completed when there is enough water present where sponging or toweling is not an option. This criteria is targeted, and a decontamination will consist of a hot water flush of any compartments containing residual water.

Residual water decontaminations are performed to kill and flush veligers or other microscopic AIS. The interior compartments include, but are not limited to: live wells, bait wells, bilge areas, and ballast tanks. Residual water decontamination also includes flushing the outboard motor, inboard/outboard engine, or inboard engine of watercraft.

Required steps:

- Internal Decontamination (page 14)
- Engine Decontamination (page 16)

STOP

Decontamination is legally required if a decontamination unit is on site.

Ballast tanks can be installed underneath floors, and oftentimes a watercraft can have hard and soft tanks in the same area.

SCENARIO 3

Water related equipment that has ballast tanks which may contain unverifiable water.

Ballast tanks, hard and soft, are designed to add additional weight to a watercraft by holding large amounts of water. Pumps attached to the tanks are able to pump out most of the water, but are unable to fully drain each tank. Since many ballast tanks are solid colored, or are installed under floors, tanks cannot be verified as empty.

Decontamination will consist of partially filling the ballast tanks with appropriate temperature water and then draining. Note: If the watercraft only has soft tanks that can be verified as completely empty, a decontamination will not be required. Completely dry ballast tanks are rare, and you must be able to verify that all tanks are dry. Even new boats may have water in ballast tanks as they are typically tested prior to sale

Incoming ballast tank watercraft:

Visually inspect the tanks during the standard inspection and check to see if you can confirm the presence of water, or ask the boater to run the drain pumps. If you can confirm water is present conduct the decontamination. If the decontamination is refused, deny launch. If you cannot confirm water is present instruct the boater that a decontamination is recommended, but not required.

Outgoing ballast tank watercraft:

A decontamination should be performed on all exiting watercraft with ballast tanks. These can be done on site (preferred), or at the operator's discretion. However, if the watercraft is leaving zebra mussel or spiny waterflea infested waters and water is still present in the tanks, on-site decontamination is legally required (see How to Legally Require Decontamination on page 19).

Required Steps (for incoming and outgoing):

- Ballast Tank Decontamination (page 14)
- Engine Decontamination (page 16)

STOP Decontamination is legally required if a decontamination unit is on site and water is present in the tanks.

SCENARIO 4 ATTACHED AQUATIC PLANTS

The inspection process may reveal more plants, attached in hard to reach places, that are initially visible when approaching the watercraft.

SCENARIO 4

Watercraft or trailer has attached aquatic plants that cannot be removed by hand.

If a watercraft or trailer has attached aquatic vegetation that you cannot completely remove by hand, decontamination can be done to kill and/or remove trapped fragments. To kill plant fragments that are stuck you will need to soak that area for 15 seconds with hot water at 140° F. Targeted use with high-pressure spray may be required.

Required Steps:

- Exterior Decontamination (page 16)

Highly Recommended Steps:

- Engine Decontamination (page 16)
- Internal Decontamination
- High Pressure Spray (page 18)

Although an inspection may not reveal AIS, if a watercraft has been in the water for over 24 hours, and is going to a new waterbody within 24 hours, a partial decontamination is recommended.

SCENARIO 5

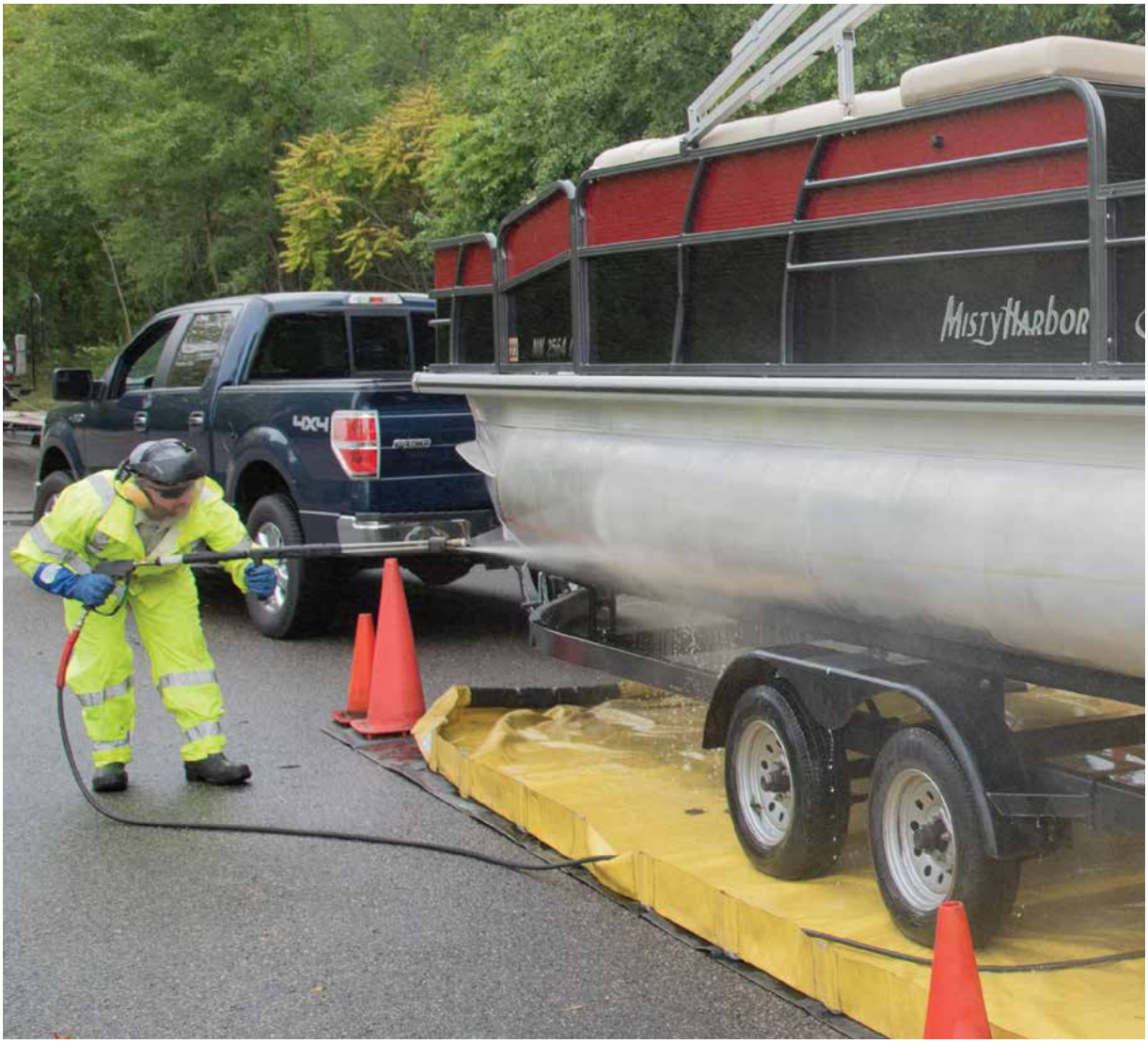
For exiting water related equipment only. The water related equipment has been in the water for 24 hours or more. No confirmed AIS were found during the inspection.

If it has been in the water for 24 hours or more there is an increased risk of transporting small AIS that may be missed during an inspection. If this condition is met, a decontamination should be highly encouraged to lower the risk of spreading unseen AIS.

Required Steps:

- Internal Decontamination (page 14)
- Exterior Decontamination (page 16)
- Engine Decontamination (page 16)

IMPORTANT MESSAGE: The 21 day dry time rule still applies to all docks and lifts, even if a decontamination is completed.



SCENARIO 6

This scenario targets residual water that could be trapped in water related equipment. Residual water could contain residual water and AIS such as zebra mussel veligers. Treating this residual water with hot water will help to minimize the risk of introducing these veligers to new water bodies for water related equipment going to new water bodies within 48 hours.

Entering

The water related equipment was in another body of water within the past 48 hours.

Exiting

The water related equipment is going to be placed in a new body of water within the next 48 hours.

Required Steps:

- Internal Decontamination (page 14)
- Exterior Decontamination (page 16)
- Engine Decontamination (page 16)

IMPORTANT MESSAGE: The 21 day dry time rule still applies to all docks and lifts, even if a decontamination is completed.

Watercraft users may arrive at an access to have a courtesy decontamination.

Section 6: Courtesy Decontamination

Watercraft users are seeking a decontamination at an access where they will not be launching. Generally, decontamination locations are found either through the courtesy decontamination website or by calling a program supervisor.

Many of the watercraft that arrive for a courtesy decontamination will be clean. There are many reasons a boater may seek decontamination, and these watercraft users are going above and beyond to prevent the spread of invasive species. Working with these customers helps to support good AIS prevention practices and can further improve the education and outreach of the program. The more other boaters see decontamination actions occurring, the more often these services will be used.

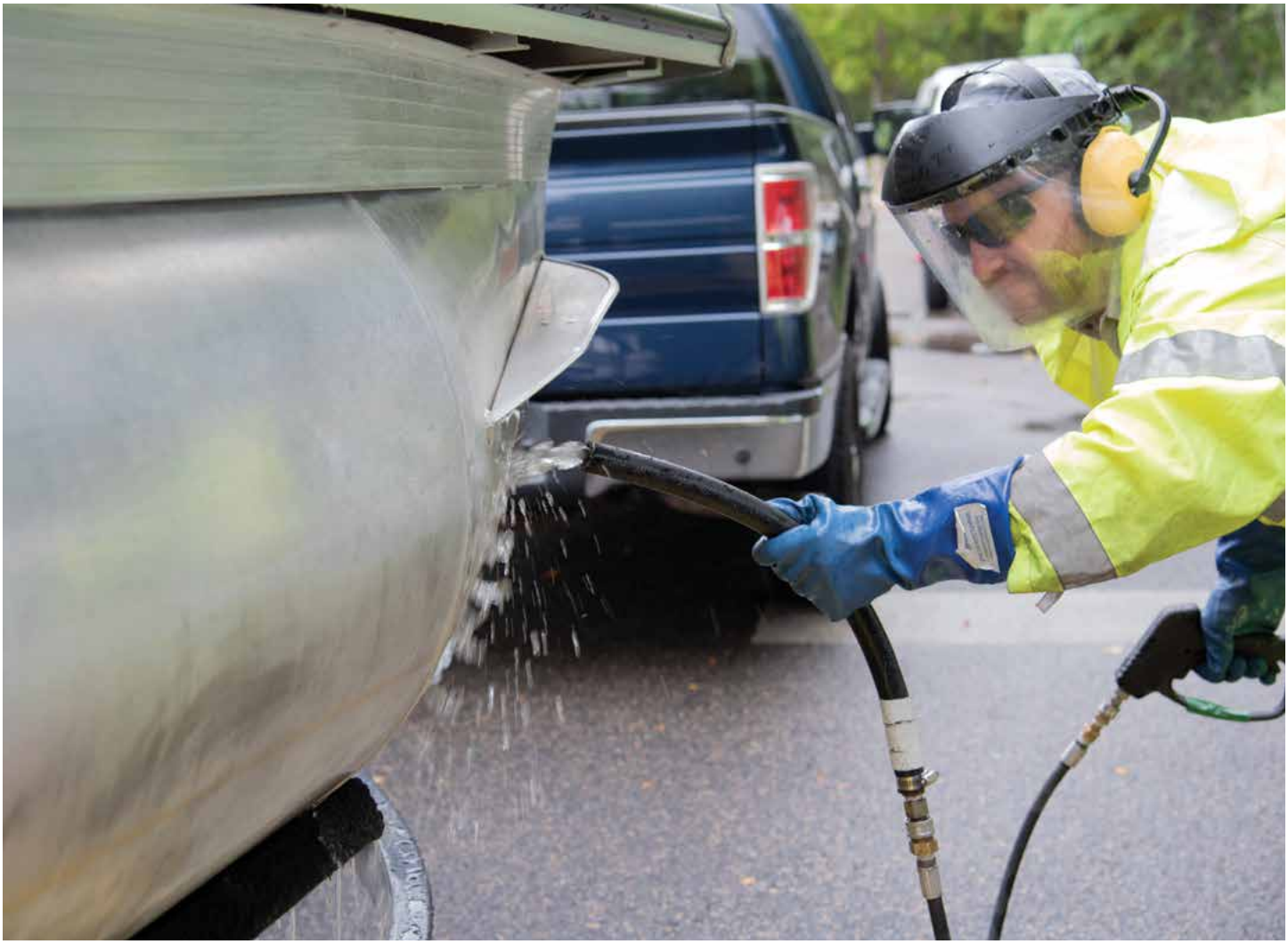
You must follow these steps for all watercraft arriving for a courtesy decontamination

- Complete a courtesy inspection in the level 1 survey
- Complete a courtesy decontamination in the level 2 survey
- Thank the watercraft user for stopping to use the decontamination site
- Courtesy decontaminations usually do not take as much time as the previously listed scenarios. It is still important that you complete these steps in the decontamination:

Required Steps

- Exterior Decontamination (page 16)
- Engine Decontamination (page 16)
- Highly Recommended
- Internal Decontamination (page 14)
- Ballast tank Decontamination, if present

Reminder if you have a boat that falls under one of the decontamination scenarios, that watercraft will take priority over the courtesy decontamination.



Section 7: Safety Do's and Don'ts

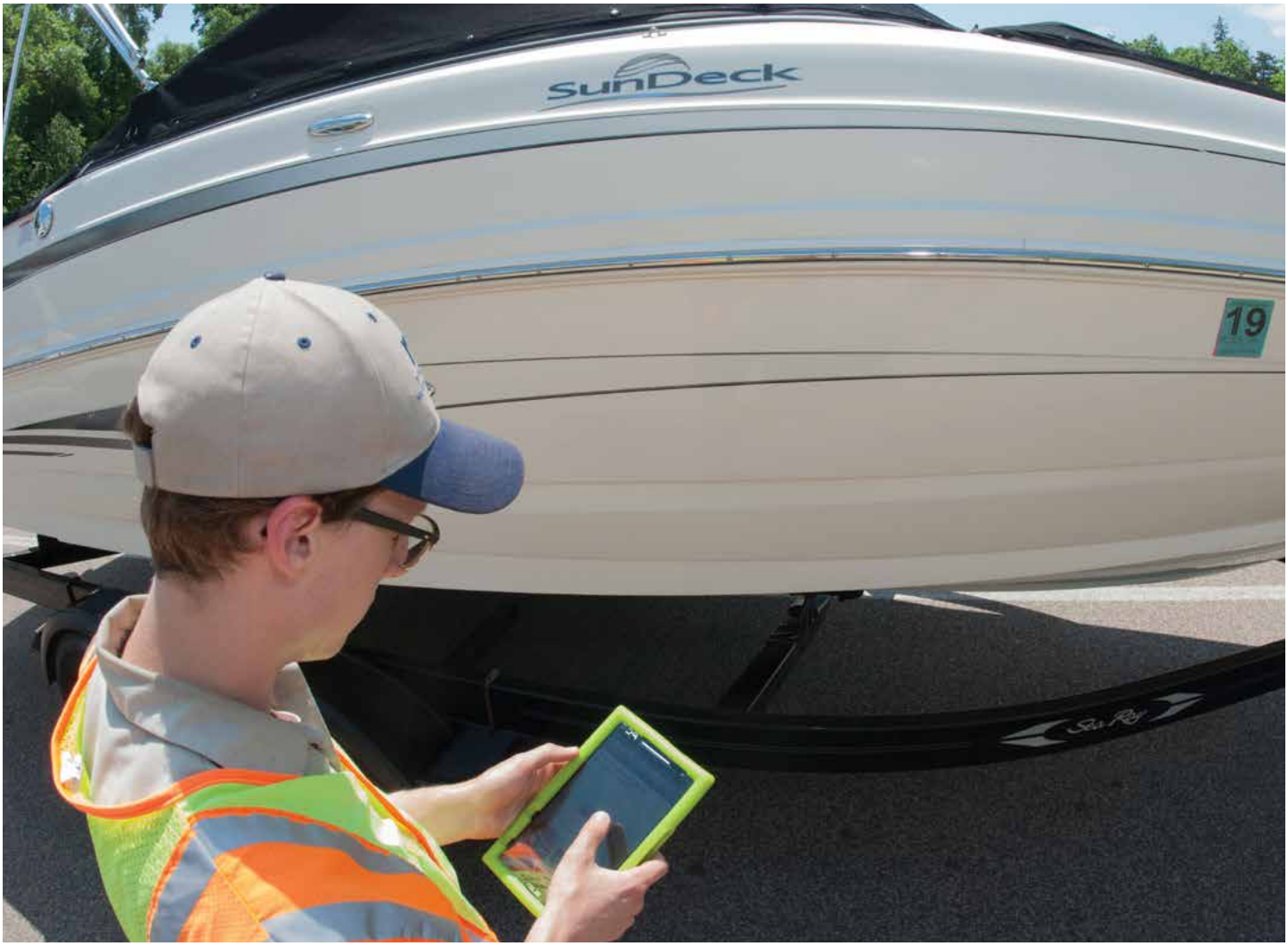
Remember that safety is the top priority. Operating a decontamination unit involves working with hot water and high pressure, both of which present safety risks if not handled properly. Only authorized individuals can operate the unit.

Do:

- Wear proper personal protective equipment (PPE).
- Notify your supervisor of any malfunctioning equipment.
- Keep safety in mind, yours and the public.
- Report any accidents to your supervisor immediately.
- Check labels before fueling.
- Ensure that the safety is engaged on the trigger assembly when not in use, or switching attachments.
- Concentrate on the decontamination process.

Don't:

- Don't allow the public or unauthorized inspectors to operate the unit.
- Don't have multiple people on or around the watercraft during the decontamination process.
- Don't point the wand at anyone, including yourself.
- Don't put a hand in front of the water stream for any reason no matter what attachment is in use.
- Don't answer questions while conducting a decontamination. Stop what you are doing first, or wait until you are completed.



Section 8: Surveys

Selecting Surveys

As an authorized level 2 inspector you will collect survey data on all inspected watercrafts and all watercraft decontaminations. Don't forget to fill out a watercraft inspection survey before filling out a watercraft decontamination survey. Surveys should be completed using a mobile device.

Survey data collected during inspections and decontaminations helps shape the watercraft inspection program, and accuracy is very important.

As a Level 2 Inspector you will have access to the standard watercraft inspection survey and an additional decontamination survey. This additional survey is to be used on every watercraft that needs to be decontaminated after an inspection is completed. Remember to always complete a decontamination survey even if the boater has refused one.

Inspectors will need to switch which survey they are on when completing an inspection of a watercraft or conducting a decontamination.

Switching Between Surveys

Your device should come to you loaded with all of the surveys you will need. If not, please contact your supervisor.

In order to switch between surveys, go to the Start screen. On the Start screen there is a drop down menu on the upper left side where you can choose which survey you want. You will be able to ensure you are on the correct survey by reading the title with the current year.

The Inspection and Decontamination Start screens look different. The Decontamination survey says it is the Decontamination survey at the top of the Start screen. The decontamination survey is noted on the top of the Start screen.

Start screen of the survey on an Android tablet. Quick select menu is in the upper left corner. Upload cloud in the middle right.

Completing Electronic Decontamination Surveys

Each time a decontamination is done, a decontamination survey must be completed. This includes watercraft, equipment, docks and lifts. If you send a watercraft to another inspector to be decontaminated, the inspector completing the decontamination should fill out the survey.

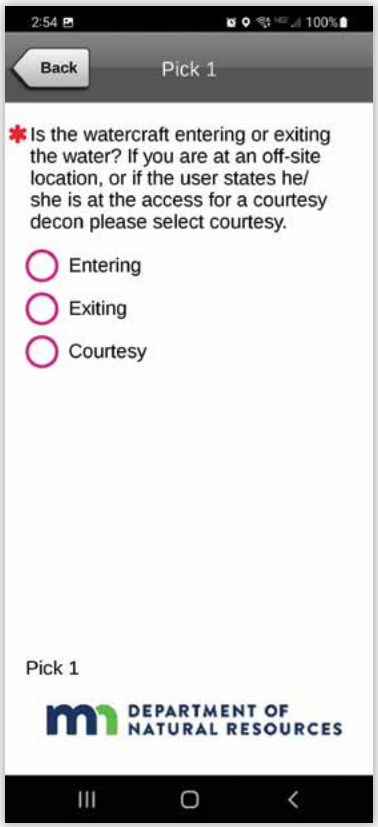
The survey must be completed each time, **even if the user refuses decontamination**, or simply requested a courtesy decontamination.

To begin, select the decontamination survey from the drop down menu on the Start screen of your app. You will see a message that welcomes you to the decontamination survey and asks you to hit start once the watercraft is safely in position. Once you are ready to begin, hit the start button and the survey will open to the first page.

Begin entering the following data:

1. Case number of your access
2. Vehicle license plate number and state
3. Watercraft type
4. Specify between entering, exiting, or courtesy

Survey shows numbers 1 through 3.



Survey shows number 4.

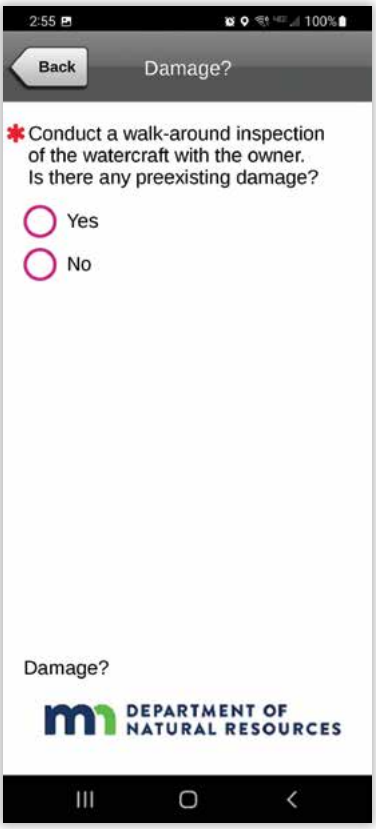
The final step before decontamination is conducting a walk around to look for existing damage. When performing the walk around, inspect the watercraft and trailer for any damage. This could be dents, scrapes, peeling paint or decals, damage to the motor and prop, loose carpet, etc. Have the boater conduct the walk around inspection with you. Point out any damage that you notice and record it in the survey to ensure that we are not held responsible for damage that was already present. The survey will prompt you to take a photo of the damage in the survey app.

Enter the type of decontamination being done in the survey.

As a Level 2 inspector, you will have to decide what the most appropriate decontamination process will be completed based on state protocols.

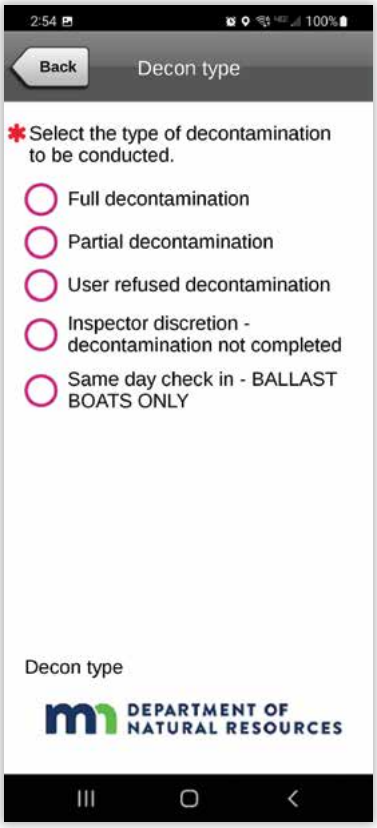
There are 5 options:

1. Full decontamination
2. Partial decontamination
3. User refused decontamination: If you select that the user refused the decontamination, be sure to include the reason for the refusal.
4. Inspector Discretion—Decontamination not completed: select this only if the decontamination could damage the water-related equipment. Example: wood boats.
5. Same day check in—BALLAST BOATS only: This option is for ballast boats that would require a legally required decontamination, scenario 3. This watercraft will have to check out/in with you only.

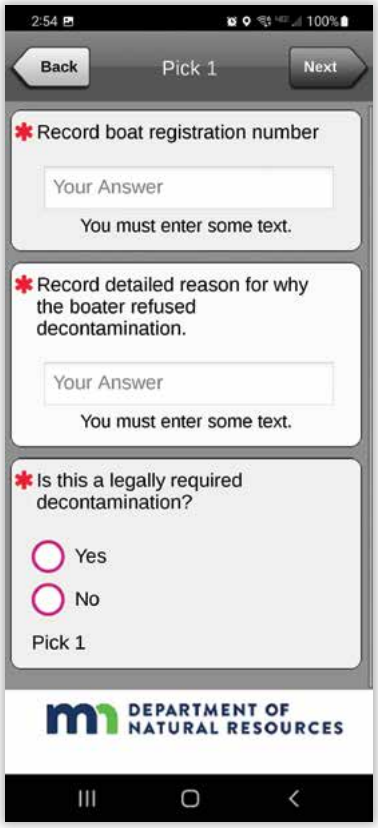


Preexisting damage.

Preexisting damage comments.



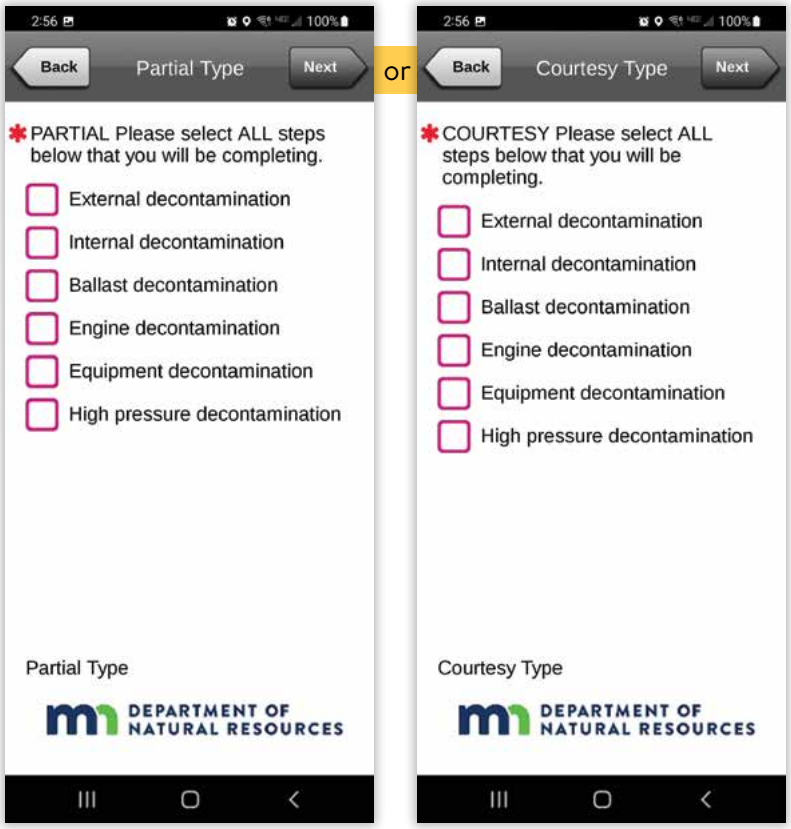
List of all five decontamination type options.



Refusal Comments.

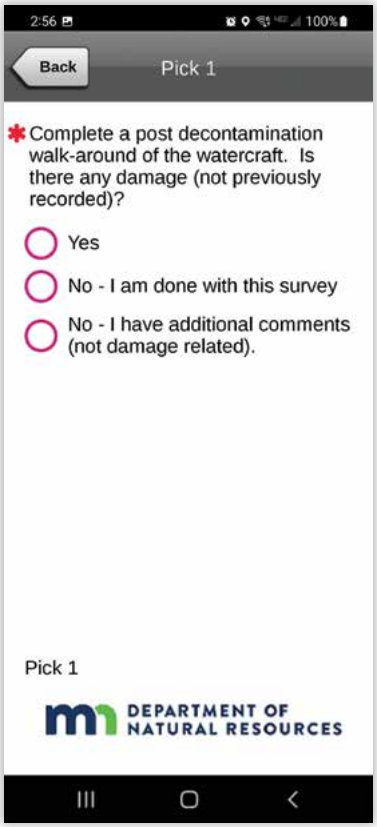
Partial and Courtesy Decon Options

For the Partial and Courtesy decontamination options, the inspector needs to select the decontamination steps they will be completing.



Select steps of decontamination that will be completed.

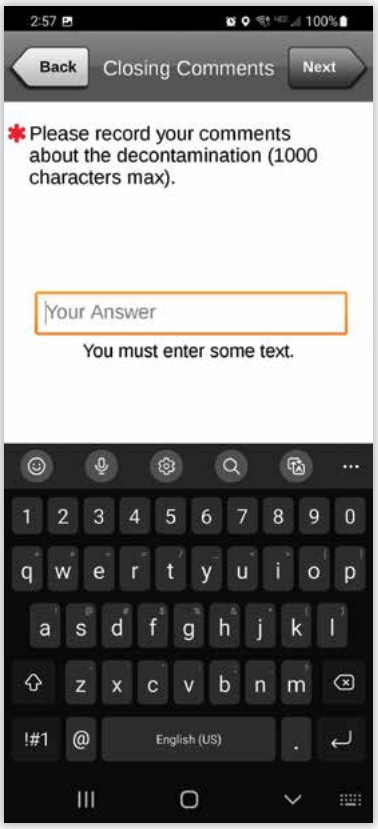
After completing your decontamination, the next step is to complete a post decontamination walk around. Look for any damage that was not observed before the decontamination was completed. This is damage that may have been caused during the process, or may have been missed during the first walk around. If something is found, select yes and describe the damage. The survey will also prompt you to take a photo, with the survey app, of the damage. Ask for their contact information and notify your supervisor immediately if this happens.



This page asks inspector to check for any damage on the watercraft and document yes or no.

Document any damage found on watercraft or trailer.

If no additional damage is observed, decide if you have any additional comments. The inspector is encouraged to record a comment that explains why the decontamination was completed. Some examples include attached zebra mussels, going to another access within 24 hours, or in the water over 24 hours.



Additional comments page

Uploading Survey Results

Surveys must be uploaded at least once a week (or within 24 hours as needed for certain situations). Your tablet must be connected to Wi-Fi to upload survey results.

To upload results:
Press and hold the start button until the administration screen appears. If there are surveys to upload the fourth box will be black and will say upload results with the number of surveys. Simply select the “Upload Results” button. When the upload is complete press “Run Current Survey.” The fourth button will be greyed out if no surveys are ready for upload. Or on the main screen with the start button, tap on the yellow cloud in the lower right of the screen. The cloud will be grey if there are no surveys to upload.

Administration page showing where to upload the surveys.

Section 9: Minnesota Aquatic Invasive Species Laws

Selected Minnesota Laws Related to Decontamination. Please see the watercraft inspection handbook for a more complete list of aquatic invasive species statutes.

July 1, 2015

M.S. 84D.01 DEFINITIONS.

Subd.3a. Decontaminate.

"Decontaminate" means to wash, drain, dry, or thermally or otherwise treat water-related equipment in order to remove or destroy aquatic invasive species using the "Recommended Uniform Minimum Protocols and Standards for Watercraft Interception Programs for Dreissenid Mussels in the Western United States" (September 2009) prepared for the Western Regional Panel on Aquatic Nuisance Species, or other protocols developed by the commissioner.

M.S.84D.10 WATERCRAFT REQUIREMENTS AND PROHIBITIONS.

Subdivision 1. Launching prohibited.

A person may not place or attempt to place into waters of the state water-related equipment, including aquatic plant harvesting or control equipment that has aquatic macrophytes, zebra mussels, or prohibited invasive species attached except as provided in this section.

Subd. 3. Removal and confinement.

(a) A conservation officer or other licensed peace officer may order:

(1) the removal of aquatic macrophytes or prohibited invasive species from water-related equipment, including decontamination using hot water or high pressure equipment when available on site, before the water related equipment is transported or before it is placed into waters of the state;

(2) confinement of the water-related equipment at a mooring, dock, or other location until the water-related equipment is removed from the water;

(3) removal of water-related equipment from waters of the state to remove prohibited invasive species if the water has not been listed by the commissioner as being infested with that species;

(4) a prohibition on placing water-related equipment into waters of the state when the water-related equipment has aquatic macrophytes or prohibited invasive species attached in violation of subdivision 1 or when water has not been drained or the drain plug has not been removed in violation of subdivision 4; and

(5) decontamination of water-related equipment when available on site.

(b) An order for removal of prohibited invasive species under paragraph (a), clause (1), or decontamination of water-related equipment under paragraph (a), clause (5), may include tagging the water-related equipment and issuing a notice that specifies a time frame for completing the removal or decontamination and re-inspection of the water-related equipment.

(c) An inspector who is not a licensed peace officer may issue orders under paragraph (a), clauses (1), (3), (4), and (5).

Section 10: Frequently Asked Questions and Scenarios

Even though the decontamination units have been in use for several years there still is a great deal of curiosity surrounding the process. You will be speaking with a wide variety of people who often ask very similar questions. Be sure to answer any questions prior to starting a decontamination as it is difficult to communicate while the unit is running. The following are some of the most frequently asked questions:

Q What are you spraying on my boat?

A Only water is used to complete the decontamination process. Hot water is used to soak all areas of the boat that contact or hold water. High pressure spray (2,500-3,000 psi) is used to remove potential threats that cannot be removed by hand.

Q Do the decontaminations take a long time or cause big traffic back-ups?

A The majority of decontaminations do not take a long time. A majority of boats will likely not even need a decontamination, but the ones that do can take anywhere from 10-60 minutes depending on the type of decontamination that is performed.

Q Why aren't you doing this on Lake _____?

A The DNR is operating decontamination units primarily at zebra mussel infested waters. We try to speak to as many boaters as we can with the inspectors available. Our public awareness efforts focus on all boaters in Minnesota. They include signs at water accesses and information in fishing and boating regulations booklets.

Q Is this a free boat wash? Will you just wash my boat if it's dirty?

A No, decontamination services are used only to reduce the risk of spreading AIS. Staff will perform an inspection prior to completing a decontamination to determine if a decontamination is necessary and if so what type.

Q How hot is the water and how high is the pressure?

A Decontamination uses a maximum of 140°F. The maximum pressure can range between 2,500 to 3,000 psi inside the system, and loses pressure as it leaves the wand.

Q Where can I find a list of available decontamination units?

A There are multiple units being operated by DNR and local Government partners. Generally, they are scheduled at busy public water accesses on zebra mussel infested waters to help prevent the mussels from being transported to other waters. Unit locations are advertised on the DNR website at mndnr.gov/decon

Q Can we get rid of the zebra and quagga mussels that have been found in Minnesota lakes and rivers?

A Currently there is no way to completely remove a population of zebra or quagga mussels. Chemicals are not 100% effective and require long time periods to affect the mussels.

Q What does "after pumping" mean when talking about ballast tanks with water in them?

A Have the watercraft user turn on the pumps for the ballast tanks. If there is a steady stream of water coming out, the tanks have not been fully pumped out. Let the pumps run till no water is coming out. Shut off the pumps wait a couple minutes, then have the watercraft user turn the pumps back on. If water comes out again, then this is when a decontamination will be legally required, if a decontamination unit is present.

DEPARTMENT OF NATURAL RESOURCES

AQUATIC INVASIVE SPECIES AND THE WATERCRAFT INSPECTION PROGRAM

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