

Cleaning Heavy Equipment used on Land to Minimize the Introduction and Spread of Invasive Species

Vehicles and heavy equipment can gather plants and soils which can spread invasive plant seeds and invasive earthworms. It is DNR policy (Op Order 113) to minimize the movement of invasive species through DNR activities and activities DNR regulates, funds (contracts and grants), or issues permits.



Left photo: Bulldozer with soil and plants.



Right photo: Tool for scraping out soil and plants

There is a high risk for moving invasive species when moving from site to site, going off trail, visiting areas with lots of invasive species and then visiting other areas with very few invasive species. By being mindful and spending some time cleaning, we can reduce the spread of invasive species.

Where to start?

Know your equipment and your sites.

- **Plan your day:** Visit the highest-quality sites (least invasives) first and save the highly invaded sites for last.
 - Inventory – know which invasive species are present.
- If the piece of equipment is mostly staying at one site, the risk may be less than a piece of equipment that is loaned out to other sites.
 - Consider dedicated equipment for a site.
- Equipment like ATVs can be high risk because they go off-road.
- Start with clean equipment so you are not bringing invasives with you to the site.
- Work on purchasing equipment that is less likely to gather material in hard to reach places and equipment that is easy to clean – equipment ideas such as wheel to wheel running boards, stiff mud flats, etc. that would prevent material from becoming attached to equipment.

What should you do on-site?

You've used the equipment at a site and the equipment has soil or plants on it.

- Do what you can in the field in terms of removal of invasives. In most cases, you would start with a hand tool and manually knock off the large pieces of soil, mud, and plants.
- In many cases, a lot of good can be accomplished with a good hand tool and 15 minutes of time.
- Keep cleaning tools in or on the equipment so they are easily accessible on site.
 - Hand tools and leaf blowers can accomplish a lot and are fairly easy to transport.
 - Be careful with hand tools not to damage the finish of the machine.



Photo: A **leaf blower** can blow a lot of plants (and their seeds) off a mower.

You are back at an office, but the equipment needs additional cleaning.

- If you have a dirty truck, take it to the car wash.
- If you have a pressure washer or a garden hose, you can use water to clean off the equipment. Unlike equipment that has been used in waters infested with zebra mussels, with terrestrial invasive species heat is not important. You want the equipment clean of soil and plants. Hot water to kill microorganisms is not required.
 - **Pressure washing requires safety equipment and training.** Water can be damaging to some pieces of equipment. Consult cleaning recommendations from the manufacturer. When water is needed for cleaning, sometimes a garden hose may be just as effective as a pressure washer.

Follow-up in cleaning area

- Seeds may wash off your equipment and sprout near your cleaning area. Regularly inspect the area where you clean off equipment for invasive plants. Pull or treat invasive plants when found. Carefully consider and manage the run-off from a cleaning site.

Day to Day Invasive Species Prevention

- One-size fits all guidelines may be impractical
 - Guidance depends on the piece of equipment, the tools available, whether or not the equipment is moving off site, the time of year, if you are leaving an area with an invasive of high concern, if you are entering a high quality area, if you are trying to clean mud or dry soil and vegetation, etc.
- When loaning out equipment, make it an expectation that the piece of equipment is loaned out clean and when it is returned it is returned clean.
- Discuss invasive species prevention needs with supervisors and DNR contacts ahead of time (such as tools needed or the potential need for authorization of overtime to get something cleaned).

Safety Concerns when cleaning equipment

- Plants such as poison ivy or wild parsnip can hurt your skin. Wear gloves and avoid skin contact when manually removing plants and soil – you don't know what's in there.
- Wear ear & eye protection when needed
- Use caution related to water and hot engines and hot surfaces.
- Use caution when using pressure washers; make sure people are trained in on needed safety equipment, releasing the pressure, and proper usage.
- Follow manufacturer's recommendations to avoid a pressure washer damaging brakes or other parts of the equipment.
- Personal protective equipment, such as respirators, may be needed if equipment has residues such as pesticides, salts, treated seeds (fungicide), etc.

