



Garlic Mustard Pulling Instructions

Thank you for your dedication to protecting our natural resources! This instruction sheet will provide you with all the information to remove garlic mustard from parks and recreation areas and to document your efforts. This helps us increase our capacity to protect natural areas and improve habitat. Please do not hesitate to contact your regional Natural Resource Steward with any questions you may have.

The Basics

Terms & Definitions

Garlic mustard may also be referred to as GM, gm, *Alliaria petiolata* (Latin name, genus/species), ALLPET (6 letter Latin name abbreviation)

Required Materials to Review

Garlic Mustard Field Tutorial

Garlic Mustard Video: <http://garlicmustardchallenge.wordpress.com/about>

Site priorities and maps (in a separate email) – Note if the crew is planning to work (spray or pull) in one of your target areas. If so, contact your regional Natural Resource Steward for details of their work (timing and locations) prior to going out to pull.

Learn to identify dame's rocket (HESMAT, *Hesperis matronalis*) and narrow-leaf bittercress (CARIMP, *Cardamine impatiens*). These plants usually grow near garlic mustard and **scattered** plants can be pulled while you're pulling garlic mustard. Google image search by Latin name or visit these sites:

- <http://www.minnesotawildflowers.info/flower/dames-rocket>
- <http://www.minnesotawildflowers.info/flower/narrow-leaf-bittercress>

Required Materials: Submit to regional Natural Resource Steward as soon as possible

Volunteer Waiver and Release of Liability – covers the season

Permission letter – carry while volunteering

Invasive Species Treatment Form – verify data, note what you found at each point before pulling

Stewardship Treatment Record (STR) – submit one STR for each site, can include multiple dates. Also include treatment form and/or map showing where you pulled.

Hours Log – record each day's hours, location, and activity

Report the number of bags pulled to the Stewardship Network Garlic Mustard Challenge

Tips for a Good Outing:

Things to take into the field:

- Garbage bags
- Long pants, long sleeves, and gloves
- Boots or waterproof shoes
- Water and snacks
- Sunscreen and bug spray or head net
- GPS unit to locate known points (optional)
- Camera (optional)

Be aware of potential field hazards!

- **Mosquitoes** and **Stinging insects**
- **Poison Ivy** can occur in the same area as GM. If you are sensitive to it prepare accordingly before going into the field, and wash yourself with Tecnu and launder your clothes afterward.
- **Muddy areas** are possible.
- You may encounter **thorny brush and shrubs** while searching and pulling GM, remember to look under these shrubs for hiding GM plants.

Additional Resources about GM

http://web4.msue.msu.edu/mnfi/invasive-species/control/Alliaria_petiolata.pdf – fact sheet

<http://www.misin.msu.edu/facts/detail.php?id=22> – fact sheet

http://www.uwgb.edu/biodiversity/herbarium/invasive_species/allpet01.htm - photos

Stewardship Treatment Record – This is a general summary for each site which includes information such as number of bags pulled, general location and hours worked. One STR for each site can include multiple dates. Please indicate the number of hours worked pulling and/or scouting (Task Hours). Total hours include drive time to and from the site. Volunteers will not have to fill out all information on the form (see sample below).

The form is titled 'Michigan Department of Natural Resources - Parks and Recreation STEWARDSHIP TREATMENT RECORD'. It is divided into several sections:

- DATA ENTRY (OFFICE USE ONLY) STR #**: Includes checkboxes for VOLUNTEER DATABASE, PROJECT DATABASE, GIS, and MANAGEMENT HISTORY.
- PARK/BAS NAME:**, **STEWARDSHIP MANAGEMENT UNIT(S):**, **SITE OR FOCUS AREA:**, **PROJECT:**, **ACTIVITY:** (e.g., Invasive Species Control), **TASK:** (e.g., Hand Pull Garlic Mustard).
- TREATMENT DESCRIPTION**: Includes **START DATE:**, **END DATE:**, **TOTAL # DAYS WORKING ON SITE:**, and a section for **DETAILED NARRATIVE OF TREATMENT AND STATISTICS** with fields for *Number of gallon bags pulled:*, *Task hour breakdown:*, *pulling hrs:*, and *scout/surveying hours:*.
- PERSONNEL INFORMATION**: Includes **TASK LEADER NAME:** (Laurel Malvitz-Draper/Heidi Frei), **POSITION:** (Natural Resource Steward), and a table for recording hours and costs.

DNR STAFF	TASK HRS	TOTAL HRS	PAY RATE	TOTAL COST
			\$	\$
			\$	\$
			\$	\$
			\$	\$
			\$	\$
			\$	\$
			\$	\$
			\$	\$
			\$	\$
			\$	\$
			\$	\$
			\$	\$
			\$	\$
			\$	\$
			\$	\$
<input checked="" type="checkbox"/> VOLUNTEERS - NO.				
TOTALS FOR PERSONNEL:				\$

- ATTACHMENTS & OTHER INFORMATION**: Includes checkboxes for GPS USED - TYPE: _____, PESTICIDES USED (ATTACH 43148), INVASIVE MAPPING FORM ATTACHED, and MAP ATTACHED. Also includes TASK COMPLETE FOR SEASON.
- EQUIPMENT, MATERIALS, & PPE Used**: LIST: *garbage bags, gloves, dandelion diggers (optional)*.
- COST/FUNDING**: Includes fields for **SUPPLIES & PESTICIDE COST:** \$, **TRAVEL & VTS COST:** \$, **TOTAL TREATMENT COST (INCLUDING PERSONNEL):** \$, **TREATMENT COST PER ACRE:** \$, **FUNDING SOURCE(S):**, and **MATCH FOR:** (e.g., SWG12 Match-Inv: volunteer hrs).
- TREATMENT RESULTS**: Includes **NAME:**, **DATE:**, and **FOLLOW-UP/RE-TREATMENT NEEDED:** YES NO.
- PROJECT LEADER SIGNATURE** _____ **DATE** _____

An STR can be used for multiple dates at one site.

Summarize your task hours and total hours here.

Include bags pulled, pulling hours and scouting hours. You may include other comments like follow-up treatment needed.

Check here if including maps or treatment form.

Hours Log – This form should capture all the time you spend on this individual project. For each day you pull garlic mustard on your own, record the park, site, activity/task (Invasive Species Control/Hand Pull Garlic Mustard), task hours and travel time (in minutes) in the Excel spreadsheet. If you can't use Excel, please print out a paper form and fill out the same details – total hours must be rounded to the nearest whole hour (no partial hours).

Stewardship Network Garlic Mustard Challenge bag reporting – Go to <http://stewardshipnetwork.org> and click on “Report Your Bags Here” (left). This link should be available starting mid-April. If you have questions about what to enter for a specific field, contact your regional Natural Resource Steward.