

ADVERTISEMENT FOR BIDS
TOWN OF HARDWICK
NRCS EWP BANK STABILIZATIONS

4-Week Bidding Schedule

RFP release: Thursday July 23, 2026

Pre-bid meeting: Wednesday August 5, 2026 at 8 am

Questions due: Monday August 10, 2026

Bids due: Monday August 17, 2026 at 4 pm

Notice of Award: Friday August 21, 2026

General Notice

The Town of Hardwick (Owner) is requesting Bids for the construction of the following Project:

NRCS EWP BANK STABILIZATIONS

Bidders are encouraged to submit bids via email with the subject "NRCS EWP Bank Stabilizations" to David Upson (david.upson@hardwickvt.gov) with the Engineer copied. Emailed bids must be received by 4:00 PM on Monday, August 17, 2026. Do not drop bids off in person. Bids will only be received via email.

Owner:
Town of Hardwick, Vermont
David Upson
Hardwick Town Manager
Phone: (802) 472-6120
Email : david.upson@hardwickvt.gov

Engineer:
Verdantas, LLC, formerly Horizons Engineering
Will Davis, PE LEED AP
Vice President
Phone: (603) 444-4111
Email: wdavis@verdantas.com

Bids will be read publicly at the Town of Hardwick Selectboard Meeting on Thursday August 20, 2026 at 6:00 pm.

The Project includes the following Work:

Bank stabilizations at three sites within the Town of Hardwick, including work within banks Cooper Brook and the Lamoille River.

Obtaining the Bidding Documents

Information and Bidding Documents for the Project can be found at the following designated website:

[Hardwick, Vermont – Chartered in 1781](#)

All official notifications, addenda, and other Bidding Documents will be offered through the designated website. If bidders would like to be emailed addenda directly, please indicate interest to david.upson@hardwickvt.gov. Neither Owner nor Engineer will be responsible for Bidding Documents, including addenda, if any, obtained from sources other than the designated website.

Pre-bid Conference

There will be an optional pre-bid conference on Wednesday August 5th at 8:00 AM at the Hardwick Memorial Building. Contractors will be provided with parking locations for each site upon arrival.

Instructions to Bidders.

For all further requirements regarding bid submittal, qualifications, procedures, and contract information, and award details, refer to the Instructions to Bidders that are included in the Bidding Documents.

This Advertisement is issued by:

Owner: Town of Hardwick

By: David Upson

Title: Hardwick Town Manager

Date: **July 23, 2026**

INSTRUCTIONS TO BIDDERS FOR CONSTRUCTION CONTRACT

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ARTICLE 1—QUALIFICATIONS OF BIDDERS

- 1.01 Bidder is to submit the following information with its Bid to demonstrate Bidder's qualifications to perform the Work:
- A. Written evidence establishing its qualifications such as financial data, previous experience, and present commitments.
 - B. A written statement that Bidder is authorized to do business in the state where the Project is located, or a written certification that Bidder will obtain such authority prior to the Effective Date of the Contract.
 - C. Bidder's state or other contractor license number, if applicable.
 - D. Provide at least two references for projects of similar scale and scope. References shall include name, email, and phone number.
- 1.02 A Bidder's failure to submit required qualification information may disqualify Bidder from receiving an award of the Contract.
- 1.03 No requirement in this Article to submit information will prejudice the right of Owner to seek additional pertinent information regarding Bidder's qualifications.

ARTICLE 2—INTERPRETATIONS AND ADDENDA

- 2.01 Owner on its own initiative may issue Addenda to clarify, correct, supplement, or change the Bidding Documents.
- 2.02 Bidder shall submit all questions about the meaning or intent of the Bidding Documents to david.upson@hardwickvt.gov or wdavis@verdantas.com.
- 2.03 Interpretations or clarifications considered necessary by Owner in response to such questions will be issued by Addenda delivered to all known Bidders. Questions received less than seven days prior to the date for opening of Bids may not be answered.
- 2.04 Only responses set forth in an Addendum will be binding. Oral and other interpretations or clarifications will be without legal effect. Responses to questions are not part of the Contract Documents unless set forth in an Addendum that expressly modifies or supplements the Contract Documents.

ARTICLE 3—BID SECURITY & BONDING

- 3.01 If the total bid amount is greater than \$250,000, the successful bidder shall furnish a Performance Bond in the amount of 100% of the contract price and a Payment Bond in the amount of 100% of the contract price. A Bid Guarantee equal to 5% of the bid price shall accompany each bid, in accordance with 2 CFR § 200.326.

ARTICLE 4—CONTRACT TIMES

- 4.01 The number of days within which the Work is to be substantially completed will be 30 calendar days from the Notice to Proceed or as set forth in the Agreement between the Owner and the successful bidder, with final completion within 60 days. The Contractor is encouraged to complete

the work during low-flow time. In-stream work is to be completed before October 1st. Contract completion shall be on or before November 1st, or as agreed to by the Owner and the Contractor.

- 4.02 The Contractor shall limit the duration of any required road closure on Brush Street as much as is practical with a target closure of no more than 14 calendar days. In no case shall the road be closed for more than 30 calendar days. The Contractor shall account for this constraint in the preparation of the bid. Contractor shall work with the Owner to develop a detour plan prior to implementation. If road closure is required, the contractor shall maintain emergency access and advance notice is provided to the Town.
- 4.03 Construction at the Mill Street site shall be coordinated with Buffalo Mountain Co-op to avoid delivery schedule conflicts.

ARTICLE 5—BASIS OF BID

5.01 *Unit Price*

- A. Bidders must submit a Bid on a unit price basis for each item of Work listed in the unit price section of the Bid Form.
- B. The “Bid Price” (sometimes referred to as the extended price) for each unit price Bid item will be the product of the “Estimated Quantity”, which Owner or its representative has set forth in the Bid Form, for the item and the corresponding “Bid Unit Price” offered by the Bidder. The total of all unit price Bid items will be the sum of these “Bid Prices”; such total will be used by Owner for Bid comparison purposes.
- C. Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.

ARTICLE 6—EVALUATION OF BIDS AND AWARD OF CONTRACT

- 6.01 Owner reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. Owner also reserves the right to waive all minor Bid informalities not involving price, time, or changes in the Work.
- 6.02 Owner will reject the Bid of any Bidder that Owner finds, after reasonable inquiry and evaluation, to not be responsible.
- 6.03 If Bidder purports to add terms or conditions to its Bid, takes exception to any provision of the Bidding Documents, or attempts to alter the contents of the Contract Documents for purposes of the Bid, whether in the Bid itself or in a separate communication to Owner or Engineer, then Owner will reject the Bid as nonresponsive.
- 6.04 If Owner awards the contract for the Work, such award will be to the responsible Bidder submitting the lowest responsive Bid.
- 6.05 *Evaluation of Bids*
 - A. In evaluating Bids, Owner will consider whether the Bids comply with the prescribed requirements, and such alternates, unit prices, and other data, as may be requested in the Bid Form or prior to the Notice of Award.

- B. For the determination of the apparent low Bidder when unit price bids are submitted, Bids will be compared on the basis of the total of the products of the estimated quantity of each item and unit price Bid for that item, together with any lump sum items.
- 6.06 In evaluating whether a Bidder is responsible, Owner will consider the qualifications of the Bidder. Because the work is occurring in a dynamic river system that requires a specific skill set, the award will not be made on price alone and will be based on qualifications.
- 6.07 Owner may conduct such investigations as Owner deems necessary to establish the responsibility, qualifications, and financial ability of Bidders and any proposed Subcontractors or Suppliers.

ARTICLE 7—CONTRACTS TO BE ASSIGNED

- 7.01 The Contractor, prior to being awarded a contract, shall apply for registration with the Vermont Secretary of State's Office to do business in the State of Vermont, if not already so registered. The registration form may be obtained from the Vermont Secretary of State, 128 State Street Montpelier, VT 05633-1101, PH: 802-828-2363, Toll-free: 800-439-8683; Vermont Relay Service – 711; web site: <https://www.sec.state.vt.us/>. The contract will not be executed until the Consultant is registered with the Secretary of State's Office. The successful Contractor will be expected to execute sub-agreements for each sub-contractor named in the proposal upon award of this contract.
- 7.02 The Contractor's attention is directed to the VTrans' Disadvantaged Business Enterprise (DBE) Policy Requirements. These requirements outline the State's and the consultant's responsibility with regard to the utilization of DBEs for the work covered in the Bid Documents. It is expected that all contractors will make good faith efforts to solicit DBE sub-contractors.
- 7.03 Prior to beginning any work, the Contractor will execute a standard Hardwick Contract, provide a W- 9, evidence of Workers Compensation insurance and certificate of insurance in accordance with the attached contract requirement package.
- 7.04 If the award of the contract aggrieves any firms, they may appeal in writing to the Town of Hardwick, 20 Church Street, PO Box 523, Hardwick, VT 05843. The appeal must be post-marked within seven (7) calendar days following the date of written notice to award the contract. Any decision of the Town is final.
- 7.05 All bids upon submission become the property of town. The cost of preparing and submitting the bid is the sole expense of the firm. The Town reserves the right to reject any and all bids received as outlined in Article 6 or to cancel this Request for Bids in part or in its entirety if it is in the best interests of the Town. This Request for Bids in no way obligates the Town to award a contract.

ARTICLE 8—CONSTRUCTION OBSERVATION

- 8.01 The Owner will engage an Engineer to provide observation services during the active construction period of the Contract. The Engineer will provide observation of the conduct of the construction and be able to state that the work is generally being performed in substantial accordance with the Contract Documents. The Engineer shall report to the Town and the Contractor work that is unsatisfactory, faulty, or defective or does not conform to the Contract Documents.
- 8.02 The Engineer shall not undertake any of the responsibilities of the Contractor, subcontractors or the Contractor's superintendent, or expedite the Work, and shall not advise on any issue relative to safety, OSHA regulations, or the means, methods or procedures of construction.

BID SCHEDULE

BASE BID

Item No.	Brief Description; Unit or Lump Sum Price (both words and numbers)	Quantity and Units	Item Price
-------------	---	-----------------------	---------------

- | | | | |
|----|--|------|---------|
| 1. | General Conditions, Mobilization, and
Miscellaneous Work, Per Lump Sum:
_____Dollars
And _____Cents (\$_____) | 1 LS | \$_____ |
| 2. | Bank Stabilization at 380 VT-14, Per Lump Sum:
_____Dollars
And _____Cents (\$_____) | 1 LS | \$_____ |
| 3. | Bank Stabilization at Mill Street, Per Lump Sum:
_____Dollars
And _____Cents (\$_____) | 1 LS | \$_____ |
| 4. | Bank Stabilization at Brush Street, Per Lump Sum:
_____Dollars
And _____Cents (\$_____) | 1 LS | \$_____ |

Total Base Bid Price in Words
(Total Base Bid Price shall be inclusive of all work
and bid as a lump sum fee amount.)

MEASUREMENT AND PAYMENT

PART 1 – GENERAL

1.1 SUMMARY

- A. This Section specifies administrative and procedural requirements for the measurement and payment of Contract pay items.

1.2 SUBMITTALS

- A. Provide the following submittals.
 - 1. Field notes of all measurements for payment purposes.

1.3 SCHEDULING

- A. Notify Engineer as far in advance as possible of pay item measurements a minimum of three days prior to submission of the application for payment.
- B. Allow for and afford Engineer ample time, space, and equipment to observe and verify measurements.

1.4 DESCRIPTION

- A. For lump sum items, the Contractor shall be paid on the basis of actual work accepted until the work item is completed. Upon completion of the item, 100 percent of the lump sum price may be paid, subject to the terms of the General Conditions or Supplemental Conditions.
- B. All units of measurement shall be standard United States convention as applied to the specific items of work by tradition and as interpreted by the Engineer.

1.5 MEASUREMENT REQUIREMENTS

- A. Where payments are to be made on a unit price or adjustment item unit price basis, notify Engineer so that they may observe existing conditions and the status of work-in-place and may witness measurements being made. Where Engineer has not witnessed required measurements and cannot verify or substantiate quantities, they may not recommend payment for same.
- B. Maintain complete and legible field notes for all measured items. Notes shall contain spaces for Contractor's and Engineer's signatures plus additional space for comments. An original and copy shall be made for all notes with the copy being submitted to Engineer. The Engineer's signature shall not be construed as an acceptance of the Work or the

measurements made but shall mean the Engineer was present when the measurements were made.

- C. The Owner reserves the right to reject the Contractor's measurement of work-in-place and to have this Work measured by the Engineer or independent party acceptable to the Contractor at the Owner's expense.

1.6 LIMITS OF PAYMENT

- A. Payments will be made for the quantities installed and accepted in accordance with the Contract. Upon completion of construction, if actual quantities are different than the quantities estimated in the Bid, the Contract unit prices will still prevail, except as follows. When alterations in the quantities of work not requiring Change Orders are ordered and performed, the Contractor shall accept payment in full at the Contract price for the actual quantities of work done. No allowance will be made for anticipated profits. Increased or decreased work involving Change Orders will be paid for as stipulated in such Change Orders.
- B. The Contractor shall accept as full payment for furnishing all materials, labor, tools, equipment, and incidentals necessary to complete the work and for performing all work; also for all loss or damage arising from the nature of the Work, or from the action of the elements, or from any unforeseen difficulties which may be encountered during the prosecution of the work. No extra payment shall be made to the Contractor for any delays caused by defective workmanship or rescheduling of work by others.

1.7 WORK ELIMINATED FROM CONTRACT

- A. Should any work be deleted from the Contract a Change Order shall be issued.

1.8 PARTIAL PAYMENTS

- A. All partial invoices and payments shall be subject to correction in the final quantity invoice and payment. No monthly payment shall be required to be made when, in the judgment of the Engineer, the Work is not proceeding in accordance with the provisions of the Contract.
- B. No partial payment shall be made upon fuels, supplies, lumber, false work, or other materials, or on temporary structures of any kind which are not a permanent part of the Contract.
- C. Each subsequent Application for Payment shall include an affidavit of the Contractor stating that all previous progress payments received on account of the Work have been applied to discharge in full all of the Contractor's obligations reflected in prior Applications for Payment. The Owner shall have the right to deduct from the next progress payment an amount equal to payment for said material and/or equipment if reasonable and adequate proof is not submitted.

1.9 FINAL PAYMENT

- A. The Contractor will prepare a final payment requisition for review by the Engineer for the work performed. Upon approval by the Engineer, the Owner will pay the entire sum found to be due less any retainage provided for in the Agreement and any previous payments.

1.11 PAYMENT FOR MATERIALS DELIVERED

- A. Payment may be made for all or part of the value of materials stored on site. The application for payment shall be accompanied by a summary of materials stored on site that will establish the Owner's title to the materials and protect the Owner's interest therein, including insurance. The amount thus paid by the Owner shall reduce the estimated amounts due the Contractor as the material is incorporated into the Work. Materials stored on site, that have been paid for by the Owner, shall become the property of the Owner and, in the event of default on the part of the Contractor, the Owner may use these materials in the construction of the Work. The Contractor shall be responsible for any damage to, or loss of, any materials.

PART 2 – PRODUCTS

2.1 GENERAL

- A. Provide all labor, materials, facilities, measuring devices and all other equipment necessary to perform all measurements for payment purposes.

PART 3 – EXECUTION

3.1 GENERAL

- A. Perform all measuring required by this Section.
- B. No separate payments will be made for Work under this Contract except for the pay items stipulated in this Part 3. All costs in connection with the Work shall be included in one or more of the pay items as appropriate.
- C. The names of pay items in this Section, the Schedule of Values, or the Bid Form may be abbreviated or non-comprehensive and are for general identification purposes of the item only. The names shall not be construed to represent a complete description of all the Work included under each pay item. Refer to the subsequent paragraphs of this Section for more complete descriptions of Work to be included under each Contract pay item.

3.2 LUMP SUM PRICE PAY ITEMS

- A. Measurement - no measurements will be made.

- B. Payment shall be on a lump sum basis, based on the percentage of work completed and accepted by the Engineer for each lump sum pay item.

3.3 UNIT PRICE PAY ITEMS

- A. Measurement and payment shall be made by the unit.

3.4 DESCRIPTION OF PAY ITEMS

The following pay items describe the measurement of and payment for the work to be done under the items listed in the Bid.

Item 1 – GENERAL CONDITIONS, MOBILIZATION, AND MISCELLANEOUS WORK

- A. Measurement: Mobilization shall consist of preparatory work and operations including but not limited to, the following items:
1. Testing not paid for by the Owner
 2. Furnishing of insurance
 3. Project record drawings
 4. Submittals
- B. Payments: The Owner will be responsible for payment in accordance with the terms of the Contract. Payments will be on a reimbursement basis. Payment for the project will be made in installments based on a schedule of values of the bid items. The final payment will only be made after project completion and approval from the Engineer following a final site inspection. Payment will be based on percent complete of the lump sum bid items. Prior approval is needed from the Engineer for all change orders. All invoices will be emailed to the Owner at David.upson@hardwickvt.gov.

Item No. 2 – BANK STABILIZATION AT 380 VT-14

- A. Measurement: Mobilization shall consist of preparatory work and operations including but not limited to, the following items:
1. Control of water including all temporary measures required to complete the work
 2. Equipment delivery
 3. Sanitary facilities
 4. Traffic control including traffic control plan, signage, maintenance of signage
 5. Dust control
 6. Survey/layout
 7. Marking location of existing septic tank and leach field
 8. Removal and disposal of dredged materials
 9. Clearing, grubbing, stripping
 10. Installation of riprap
 11. Clean-up

12. Construction signs/project signs
13. Steel and/or wood sheeting as required
14. Installation and removal of temporary facilities

Payments: The Owner will be responsible for payment in accordance with the terms of the Contract. Payment for the project will be made in installments based the percent of work completed. The final payment will only be made after project completion and approval from the Engineer following a final site inspection. Prior approval is needed from the Engineer for all change orders. All invoices will be emailed to the Owner at David.upson@hardwickvt.gov.

Item No. 3 – BANK STABILIZATION AT MILL STREET

B. Measurement: Mobilization shall consist of preparatory work and operations including but not limited to, the following items:

1. Control of water including all temporary measures required to complete the work
2. Equipment delivery
3. Sanitary facilities
4. Traffic control including traffic control plan, signage, maintenance of signage
5. Dust control
6. Survey/layout
7. Removal and disposal of dredged materials
8. Installation of riprap
9. Clearing, grubbing, stripping
10. Clean-up
11. Construction signs/project signs
12. Steel and/or wood sheeting as required
13. Installation and removal of temporary facilities

Payments: The Owner will be responsible for payment in accordance with the terms of the Contract. Payment for the project will be made in installments based the percent of work completed. The final payment will only be made after project completion and approval from the Engineer following a final site inspection. Prior approval is needed from the Engineer for all change orders. All invoices will be emailed to the Owner at David.upson@hardwickvt.gov.

Item No. 4 – BANK STABILIZATION AT BRUSH STREET

A. Measurement: Mobilization shall consist of preparatory work and operations including but not limited to, the following items:

1. Control of water including all temporary measures required to complete the work
2. Equipment delivery
3. Sanitary facilities
4. Traffic control including traffic control plan, signage, maintenance of signage
5. Dust control

6. Survey/layout
7. Removal and disposal of dredged materials
8. Installation of riprap
9. Clearing, grubbing, stripping
10. Clean-up
11. Construction signs/project signs
12. Steel and/or wood sheeting as required
13. Installation and removal of temporary facilities

B. Payments: The Owner will be responsible for payment in accordance with the terms of the Contract. Payment for the project will be made in installments based the percent of work completed. The final payment will only be made after project completion and approval from the Engineer following a final site inspection. Prior approval is needed from the Engineer for all change orders. All invoices will be emailed to the Owner at David.upson@hardwickvt.gov.

End of Section

Attachment 1: Lakewise Invasive Species BMPs



Managing Invasive Plants

Controlling invasive plants safely

Lake friendly living
means using lakeshore
BEST MANAGEMENT
PRACTICES

BMP

Managing Invasive Plants

STANDARDS

Recreation Area

- Maintain natural, native conditions

LAKE BENEFITS

Managing invasive plants responsibly on and around your lakefront property and shoreline is important to lake health. By controlling and eradicating invasive species wildlife habitat is preserved and species diversity, water quality, aesthetic and recreational value, and healthy fisheries is maintained.

Understanding the implications and rules surrounding pesticide use for invasive species removal close to or in water bodies is crucial. Following label instructions for storage, application and disposal is a must

Managing Invasive Plants

Description: *Invasive species* are nonindigenous plants, animals, algae, fungi or pathogens that threaten the diversity and survival of native species or the ecological stability of infested ecosystems, or commercial, agricultural or recreational activities dependent on these natural resources.

Invasive plants along shorefronts pose a significant threat to landowners and lakeshore habitats. Among the threats is a loss of ecosystem services (i.e. water filtration, wildlife habitat, flood protection, pollination, etc.) provided by native species. Knowing the correct way to manage invasives species on your land reduces these threats to your family, neighbors and community.

This worksheet will provide you with:

- ◆ The specifics on invasive species management for three common species found along shoreline properties.
- ◆ Rules and permitting related to pesticide application in Vermont.
- ◆ Tips for safe and effective herbicide application.
- ◆ Useful links for invasive species management.

5 Steps for Successful Invasive Plant Control:

- 1. Prevention and early detection.** Do not use fill from a location where invasive species are found—this is probably the most prevalent way they are spread. Learn to identify invasive species and promptly eradicate new invasions.
- 2. Assess the situation.** Print or hand draw a map of your property. Mark the areas of invasive species and describe the population: Is it small (list # of plants), is it in clumps, and/or is it a large dense monoculture? Include areas of importance such as: swimming areas, wildlife paths, buildings and drinking wells. Keep the map for reference and to gauge progress.
- 3. Develop a long-term treatment plan.** Treatment of invasive plants is sometimes a process that takes place over a number of years. Writing a simple management plan that outlines invasive treatment using a simple timeline is helpful. Make sure the amount of work you've planned is realistic for you to accomplish each season. If you need help, try to engage your neighbors or the local lake association.
- 4. Understand herbicide application.** Treatments differ by plant species and size of population. If using herbicide near a water source, follow the *Rules for Efficient and Safe Use of Herbicides* and *State Regulations for Applying Herbicide Near Water Bodies* (pages 3 & 4). Herbicides should be used as a last resort.

Managing Invasive Plants

Controlling invasive plants safely

5. Follow through. The secret to the successful treatment of invasive species is early detection and sticking to your plan. Keep notes about each treatment and track your progress.

JAPANESE KNOTWEED (*Fallopia japonica*)

Background Information. Japanese knotweed is an herbaceous plant that looks similar to bamboo and grows in dense monocultures up to 10 feet tall. It reproduces by roots, shoots and seeds (not common). It tolerates a variety of conditions including full sun, drought and moist environments. It is most common along riparian areas and roadside ditches.

Mechanical removal. Cut stalks at least once per month throughout the growing season (every two weeks if possible). Use a scythe, loppers or even a lawn mower, depending upon the ground surface you are working on.

Repeat cuts for five years. Do not replant until the knotweed is under control and the plants are much smaller and have lost their vigor. Replant with good sized natives.

Chemical removal. For small infestations: Cut stalks of knotweed in late June. Cut again after August 1 and drip a 18-25% glyphosate herbicide solution into the stems. An injector gun can also be used for application. For larger infestations: Cut the plants back in June. In late summer, when other populations are flowering, use a low volume foliar spray of 3-8% glyphosate. Spray only on nonwindy days and in patches that are absent of native species. Any time you are near water, use aquatic formulations; foliar sprays are not recommended for shorefront treatment. The following year, spot-treat remaining plants. For a detailed treatment guide visit:

www.vtinvasives.org/invaders/japanese-knotweed.

COMMON REED (*Phragmites australis*)

Background Information. Common

reed is a tall graceful grass that can reach heights of 10 to 12 feet. It grows in dense patches most commonly found in gravelly to sand substrate in wetlands, roadside ditches, and lakeshores.

Mechanical control. Hand-cut individual stems at the end of July when most of the plant's food reserves are in the aerial portion of the plant, before the flowers produce seed. Plants should be cut below the lowest leaf, leaving a 6 inch or shorter stump. Hand-held cutters, gas-powered hedge trimmers and weed whackers with a circular blade are particularly efficient. Repeat in second year and then every three to five years. Cut stems can be composted or allowed to decay in a dry area. Some patches may be too large to cut by hand, but repeated cutting of the perimeter of a stand can prevent vegetative expansion.



Young Japanese knotweed shoots (left) and mature plant foliage (right).

Source: www.knothybits.com

What is Glyphosate?

Glyphosate is non-selective, meaning it kills all plant material it contacts. Choose the correct form of application to avoid damage to non-target plants. Glyphosate acts by interrupting the photosynthetic processes of plants. In low concentration, this chemical does not negatively impact insects, mammals or birds. It is considered to be safe* for terrestrial and aquatic systems.

*However, the surfactant in RoundUp can be harmful to fish and amphibians, so Rodeo is more appropriate to use near wetlands.



Common reed provides poor wildlife habitat and fish populations suffer higher mortality in areas inundated with it.

Source: sr.wikipedia.org



Managing Invasive Plants

Controlling invasive plants safely

Mow large stands of common reed annually between July and September to reduce plant vigor and stem density. Common reed will spread by seed or root pieces, so be sure to thoroughly clean all mowing equipment after its use to prevent the reed's spread. After cutting, lay a sheet of black plastic over the area if on land. Use sand bags or bricks to secure the edges and keep covered for a year. Check for new growth around the plastic.

Caution!! Since common reed is a grass, cutting several times during a season at the wrong times may increase stand density.

Chemical control. For small infestations: Cut the plants back in the winter. In late summer, cut stems of common reed and drip an 18-21% glyphosate solution into the stem if on land. If on water, follow permitting rules and use aquatic formulations.

For larger infestations: Cut the plants back in the winter. In late July or early August, when the plants are flowering, use a car wash mitt to wipe a 2% glyphosate solution onto the entire plant. Repeat in following years as necessary. For a detailed treatment guide visit: www.vtinvasives.org/invaders/common-reed.

PURPLE LOOSESTRIFE (*Lythrum salicaria*)

Description: Purple loosestrife is a perennial plant with magenta blooms that reaches heights of 3 to 5 feet. Because of its beauty, landowners often overlook the threats of this plant that invades wetlands, lake and pond shores and fields. Each plant can produce



1,000,000 seeds, 97% of which are viable.

Mechanical Control. For small infestations: Hand pull individual plants by grasping each stem at its base and pulling slowly to remove all the root. Break off flower heads before they go to seed. Put the discarded vegetation into a plastic garbage bag to decompose.

DO NOT COMPOST THIS PLANT!
Plant fragments can re-sprout.

State Regulations for Applying Herbicide Near Water Bodies

- ◆ A permit is required for activities used to control nuisance aquatic plants IN WATERS of the State of Vermont if controlling with pesticides or biological control. Hand pulling is okay. Permitting is managed by VT Department of Environmental Conservation (DEC). Contact: Misha Cetner (802) 490-6199.
- ◆ A Vermont Shoreline Encroachment Permit may be needed if the removal of plants along the shoreline is below the mean water level or would disturb the underlying substrate and cause erosion.
- ◆ The Vermont Wetland Rules prohibit the use of any invasive plant management, except hand pulling of invasive plants, in state-classified wetlands. If you have a Class 1 or Class 2 wetland on your property you must obtain permission from the VT DEC. Contact: Zapata Courage (802) 490-6179.
- ◆ Herbicides cannot be applied within 200 feet of a Public Water Source Protection Area unless the Water Supply Division is notified. Call 1-800-823-6500 for more information.
- ◆ You need to be certified to apply herbicides on land that you do not own. Contact the VT Department of Agriculture at 802-828-3482 or go to http://agriculture.vermont.gov/pesticide_regulation for more information.
- ◆ You can not apply herbicides within 100 feet of a well-head. Contact VT DEC at (802) 490-6179 for more information.

Managing Invasive Plants

Controlling invasive plants safely



Galerucella spp.

Biological Control. For large infestations: Mechanical means are ineffective against large well-established purple loosestrife populations. In addition, these methods can inadvertently damage native plant communities. Instead bio-agents are used in the form of two beetle species that feed on purple loosestrife without harming farm crops or native plant species. If you are interested in beetle control contact Ryan Crehan, U.S. Fish and Wildlife Biologist, at 802-872-0629 ext. 24 or ryan_crehan@fws.gov.

Information for Invasive Plant Mechanical and Biological control was sourced from the "Wise on Weeds" Fact Sheet Series.

Helpful Links:

Vermont Landowner's Guide to Invasive Terrestrial Plant Management: <http://www.nature.org/ourinitiatives/regions/northamerica/unitedstates/vermont/volunteer/nature-conservancy-invasives-landowner-guide-april-2010.pdf>

Comprehensive Website on Invasive Species Information in Vermont: www.vtinvasives.org

Invasive Species Prevention: www.weedcenter.org/store/docs/CIPM_prevention.pdf

Helpful FAQs About Invasive Species: www.fws.gov/invasives/faq.html#q2

Economic Impacts of Invasive Species: www.invasivespeciesinfo.gov/economic/main.shtml

Rules for Efficient and Safe Use of Herbicides

Adapted from the Vermont Landowner's Guide to Invasive Terrestrial Plant Management

- 🌐 **Develop an Integrated Plant Management approach.** Use chemical control as only ONE piece of your prevention and management strategy. Chemicals should only be used when another approach will not be effective.
- 🌐 **Hire a contractor to manage large infestations.** In order to ensure effective treatment and minimal damage to non-target species, it is recommended that a landowner contract a certified herbicide applicator who specializes in invasive plant management. This is especially true for medium to large infestations where it is easy to exceed the legal application limits.
- 🌐 **The label found on the pesticide container is the law.** Read this label in its entirety. It will teach you what concentrations to use, what protective clothing to wear, how to apply the product, and what environmental and human health hazards are associated with the chemical. Pesticide labels can also be found at <http://www.msds.com/>
- 🌐 **Follow directions precisely for both environmental and personal safety.** Before you purchase or begin using herbicides, take a workshop and consult other resources. Improperly used herbicides can cause both short- and long-term health and environmental problems. More is not better!
- 🌐 **A pesticide applicators license is required to purchase certain chemicals.** Go to http://agriculture.vermont.gov/pesticide_regulation/applicator_dealer_resources for more information.
- 🌐 **Do not use higher concentrations than are required by the label.** It is critically important to apply the correct formulation and concentration of herbicide with the appropriate method at the appropriate time of year. This will depend upon the invasive, the site, and the size of the infestation. Using more herbicide does NOT make the formulation more effective.
- 🌐 **Use aquatic formulations within ten feet of water.** Commonly available glyphosate formulations are not permitted to be used in wetland areas. Use of Class A restricted herbicides, which are designed for use in and near wetlands, requires a Vermont Pesticide Applicator's License.