

**Agency of Natural Resources  
Department of Environmental Conservation  
Waste Management Division**

**Removing Debris from Waterways  
October 5, 2011**

Debris removal, collection, and disposal after storm events is primarily a local responsibility. Debris can be comprised of a variety of materials, some hazardous, some reuseable, and much of it somewhere in between. It is especially important in catastrophic events for municipalities to actively participate in the damage assessment and evaluation of the magnitude of the problem and assessment of its capabilities for response. This guidance is based on an assumption that the town will request resources, including equipment, technical and financial when necessary. The State has and will continue to take the lead in coordinating the response for household hazardous and other specialized waste (e.g. E-Waste) collection and disposal. In the event of a federal disaster declaration, the state and local communities generally share in the match required for federal assistance and will work together to find the most cost effective means to achieve the restoration of the community and environment. FEMA Public Assistance is generally limited to those situations where removal of the debris is in the “public interest.” FEMA defines public interest as work necessary to meet the following:

Eliminate immediate threats to life, public health and safety; or

Eliminate immediate threats of significant damage to improved public or private property; or

Ensure economic recovery of the affected community to the benefit of the community-at-large; or

Mitigate the risk to life and property by removing substantially damaged structures and associated appurtenances as needed to convert property acquired through a FEMA hazard mitigation program to uses compatible with open space, recreation, or wetlands management practices.

The Natural Resources Conservation Service (NRCS) may offer technical or financial assistance for debris removal. However, NRCS is limited in its authority to debris-related activities of either runoff retardation or soil erosion prevention in response to a sudden impairment in the watershed and which creates an imminent threat to life or property. Typically, this includes debris within, or close proximity to, a channel.

Ideally, eligibility will be established prior to the commencement of the removal work, but in some cases it is recognized that that the work must proceed in advance of an eligibility determination. Regardless, document why debris removal is in the public interest and support the documentation with photographs whenever possible. And, track all expenses with debris removal if it happens the costs are eligible for reimbursement.

- If the debris does not pose an imminent threat, contact ANR Rivers Management staff or NRCS staff. Contact information can be found at:  
[http://www.anr.state.vt.us/dec/waterq/rivers/docs/rv\\_contact.pdf](http://www.anr.state.vt.us/dec/waterq/rivers/docs/rv_contact.pdf)  
or  
<http://www.vt.nrcs.usda.gov/contact/>

- Debris management and removal from waterways should be performed by a municipality, or contractor to a municipality, if at all possible. Assistance may be provided by NRSC and other Federal and State agencies. If a town is experiencing difficulties with debris in waterways, please contact the appropriate regional planning commission for help connecting with the appropriate organization(s) that can provide assistance.

## When Removing Objects from Riverbanks

### Hazardous objects

- Secure hazardous materials prior to moving the object. Check for leaks and seal or empty tanks.
- Work from the top of the bank whenever possible.
- Remove debris blocking access to object.
- Whenever possible lift the object rather than drag it up the bank.
- When dragging is the only option:
  - if material is available to protect the riverbank such as mulch, matting or woody debris, lay this over the bank and drag the object over it;
  - cover any newly exposed soil with mulch hay and seed, if this is not possible, temporarily cover with small stone.
- Report hazardous materials found the Vermont Department of Environmental Conservation (DEC) - call 211 or 1- 800-641-5005 and ask for the Vermont Hazardous Materials Response Team or DEC Spill Team.

### Woody debris jams

1. **Removing debris:** Large woody debris (LWD) is beneficial in natural stream systems as it contributes greatly to the roughness of the stream channel, reducing the overall velocities and the stream power acting on the bed and banks of the stream. Importantly, LWD provides critical ecological benefits. Three risk levels are evaluated:
  - a. High Risk: During a large event, such as Tropical Storm Irene, massive quantities of trees were eroded from hill slopes and may have clogged the stream channel. Similar to sediment deposits, a risk assessment is needed. When trees have entered and formed a debris jam that spans a channel that is confined between the valley walls and/or roadway embankment, and there is no relief, or flow path around the debris jam, water may build up to significant depth upstream of the jam such that the debris mass may be remobilized. Debris jams in this situation should be removed if its sudden release during the next flood would cause a surge of water and/or sediment that would risk critical infrastructure and public safety. Channel spanning jams where the stream channel is not confined between the valley walls may cause severe channel infilling and stream avulsion, where the flood waters may jump from the existing channel and form a new stream path elsewhere in the valley where other developed properties may be at risk. Debris in this situation should be removed.
  - b. Moderate Risk: Large side bar or mid-channel accumulations of woody debris where channels are unconfined between the valley walls and potential channel avulsion does not threaten improved property, may pose a moderate level of risk and should be evaluated for their potential to become mobilized and jam against a nearby bridge or culvert downstream. If this is likely, the debris accumulation should be recommended for removal.
  - c. Low Risk: Other side bar accumulations of wood or single embedded pieces of wood are considered low risk and should be left in place as beneficial habitat and channel roughness.
2. Consult with Rivers Management. Contact information can be found at: [http://www.anr.state.vt.us/dec/waterq/rivers/docs/rv\\_contact.pdf](http://www.anr.state.vt.us/dec/waterq/rivers/docs/rv_contact.pdf)

- Work from the top of the bank whenever possible.
- Whenever possible lift the debris rather than drag it up the bank.
- When dragging is the only option:
  - if material is available to protect the riverbank such as mulch, matting or woody debris, lay this over the bank and drag the object over it;
  - cover any newly exposed soil with mulch hay and seed, if this is not possible, temporarily cover with small stone.

## **Management of Woody Debris that is Removed**

**Woody Debris** will be a major component of the flood waste stream. This material will likely be contaminated with small quantities of non-wood or treated wood, and these contaminants must be carefully screened before the woody debris can be processed or beneficially used. The ANR encourages beneficial use of clean wood as mulch for landscaping or compost, or as biomass fuel, and discourages landfill disposal. Clean, untreated, unpainted wood may also be burned at locations pre-approved by the Air Pollution Control Division (241-3840) but the Agency believes that preferred management options exist:

- Clean, untreated, unpainted wood can be beneficially used. You can pile it up on your property, use it for firewood, or contact your town office to see if they are making any arrangements for disposal of debris.
- Towns can establish temporary staging or storage areas for clean wood debris.
- A list of private business that chip or grind clean wood can be found at <http://www.vtfpr.org/resource/documents/Chipping%20Contractors.pdf>
- If a town is experiencing difficulties in managing removed woody debris, please contact Buzz Surwilo of the DEC Solid Waste Management Program at [James.Surwilo@state.vt.us](mailto:James.Surwilo@state.vt.us) or 241-3841.