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Emergency Erosion Control Techniques: Dealing With Severe Weather Conditions During an Active Timber Harvest

Practical, cost-effective techniques



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Collaboration between UNH Extension, NHTOA, NH Division of Forests and Lands

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NHTOA
NH TIMBERLAND OWNERS ASSOCIATION





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- ✓ Four workshops held around the state
- ✓ Emergency BMP publication

Contributors:

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- Steve Gaines, NH Timberland Owners Association
- Ryan Harvey, Consulting Forester
- Dennis McKenney, New England Forestry Consultants
- NH Division of Forests and Lands
- Steve Patten, Pine Tree Lumber, Inc.; NHTOA
- Logan Sears, Long View Forest
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Best Management Practices – Minimize the effects of logging on water quality

“Standard” BMPs – effective when used in “normal” circumstances

2016 Evaluation of BMP implementation – conducted by UNH Extension

Stable soil at stream crossings 82% of the time (up from 77% in 2005)

University of Wisconsin research – Frozen ground conditions shortened by 2-3 weeks from 1948 – 2012



Increasingly unpredictable and severe weather events

- ❖ Heavy rains
- ❖ Open winters – little or no snow
- ❖ Frequent freezing and thawing

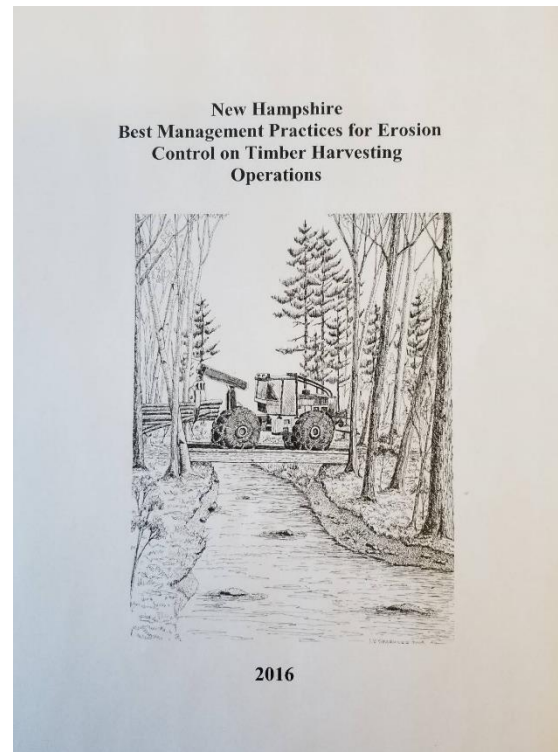




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- Suggested techniques are meant to augment, not replace NH BMPs for Erosion Control on Timber Harvesting Operations
- Techniques are to be used before closeout, or as temporary closeout





It's all about planning

Plan for the unpredictable

- ✓ Stockpile brush
- ✓ Timber mats or skidder bridge panels on hand
- ✓ Silt fence in truck

The alternative:

Idle time, lost production





Ask these questions:

- Where will the water come from and where will it go?
- What will that frozen ground do during the unpredicted thaw?
Unpredicted, but not unplanned for
- What will happen when the frozen skid trails and truck roads thaw in the spring?





Water Diverters

- ❖ Log-barrier water-diverter
- ❖ Snow and ice water-diverter
- ❖ Slash water-diverter





Straw wattle water-diverter





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Compost sock water-diverter





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Salt and sand to melt ice for water bar installation





Silt fence – using sand to secure bottom





Interesting use of rope





Soil Stabilization

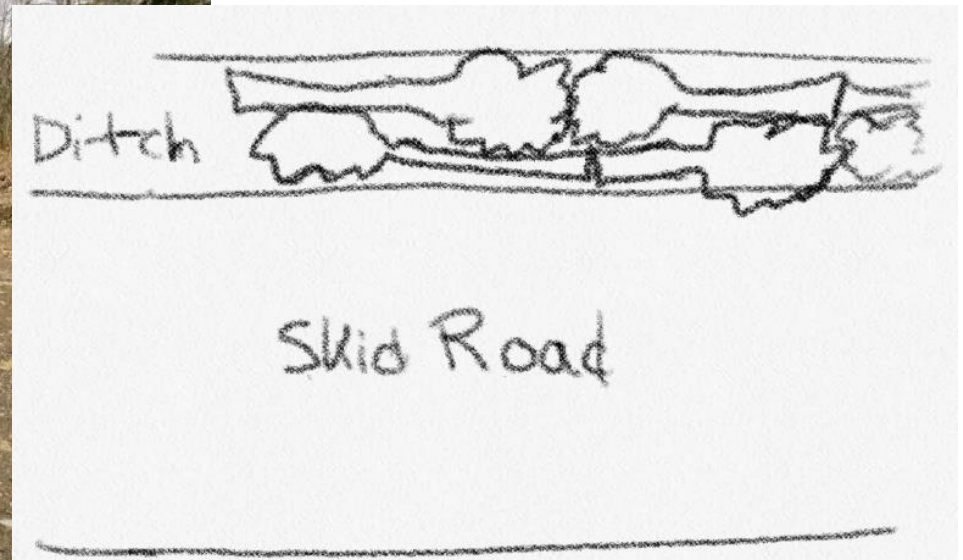
- ❖ Round bales – unroll across area to be stabilized – equipment needed
- ❖ Wood chips and slash
- ❖ Leave woody material in place on skid trails and landings





Catching Sediment

Brush and tree tops
"Hitches in Ditches"





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Preventing Rutting and Compaction

Brush mats





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Corduroy





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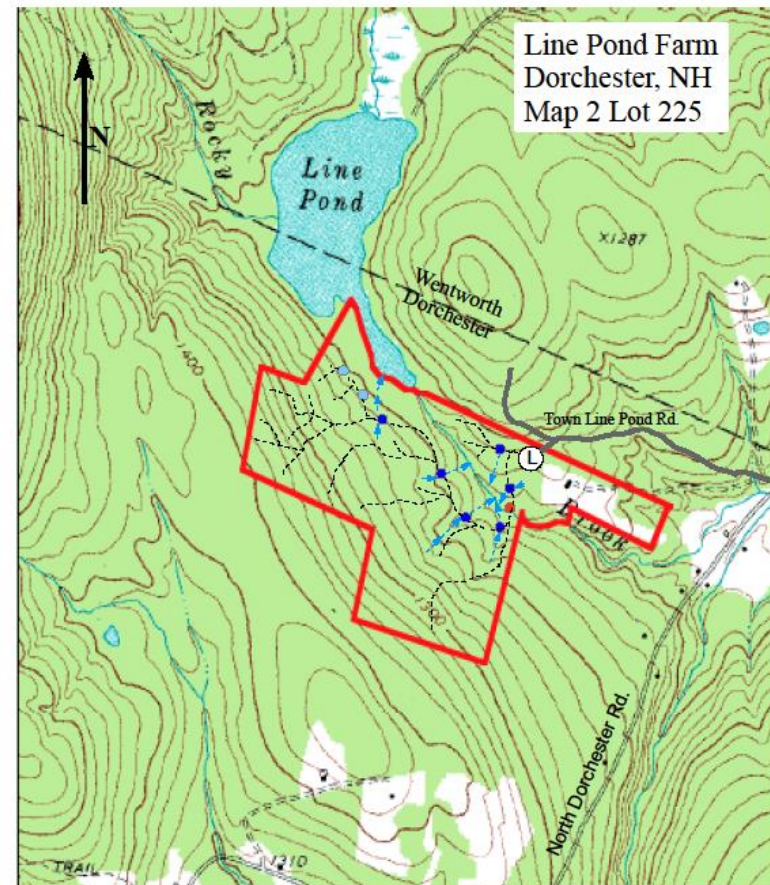
Timber mats





Case Study - Dorchester Site

- 80 acre timber sale
- 50 acres harvested first winter - 2018
- One large brook, several intermittent streams
- Soils – moderately well to somewhat poorly drained
- Old skid trails provide access
- Mid-February thaw



Line Pond Farm
Timber Sale Map

RJH 12/11/2017

Crossings:
● Skidder Bridge
● Pole Ford
● Brush Ford (seeps)
*All Crossings are Temporary



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Case Study - Errol Site

- 289 acre timber sale
- 1st entry: Summer-fall – 91 acres, 900 cords
- 2nd entry: Winter – 198 acres, 1950 cords
- Large stream crossing – two locations
- Used old truck road for main skid trail





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Skid Road



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Questions?



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Thank You!

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**Emergency Erosion Control Techniques
publication:**

www.nhwoods.org – Woodlot management –
Forestry Field Notes

**[https://extension.unh.edu/resource/forestry-field-
notes](https://extension.unh.edu/resource/forestry-field-notes)**