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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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Sarah Smith – Forest Industry Specialist, emeritus

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

Partially funded by US Forest Service Landscape Scale Restoration Grant

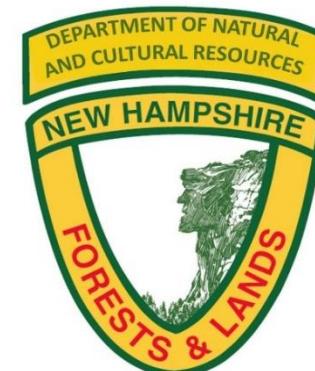


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**NHTOA**  
NH TIMBERLAND OWNERS ASSOCIATION





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

### **Contributors:**

- Ray Berthiaume, Wagner Forest Management
- Bryan Comeau, Dalton Mountain Forestry, LLC
- Steve Gaines, NH Timberland Owners Association
- Ryan Harvey, Consulting Forester
- Dennis McKenney, New England Forestry Consultants
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- Steve Patten, Pine Tree Lumber, Inc.; NHTOA
- Logan Sears, Long View Forest
- Sarah Smith, UNH Cooperative Extension, emeritus
- Nate Taylor, Long View Forest



**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

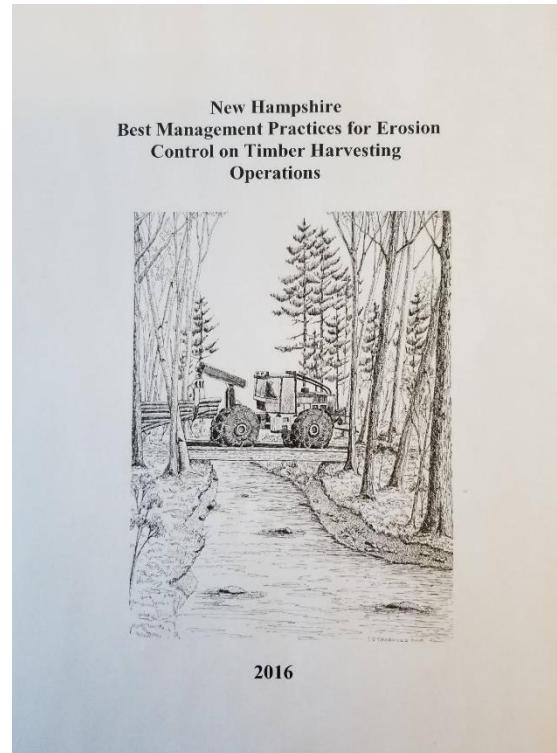




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- Suggested techniques are meant to augment, not replace NH BMPs for Erosion Control on Timber Harvesting Operations
- Techniques are to be used before closeout, or as temporary closeout



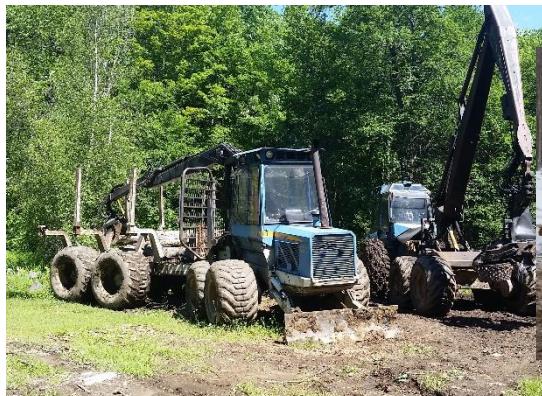


## It's all about planning

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





## **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

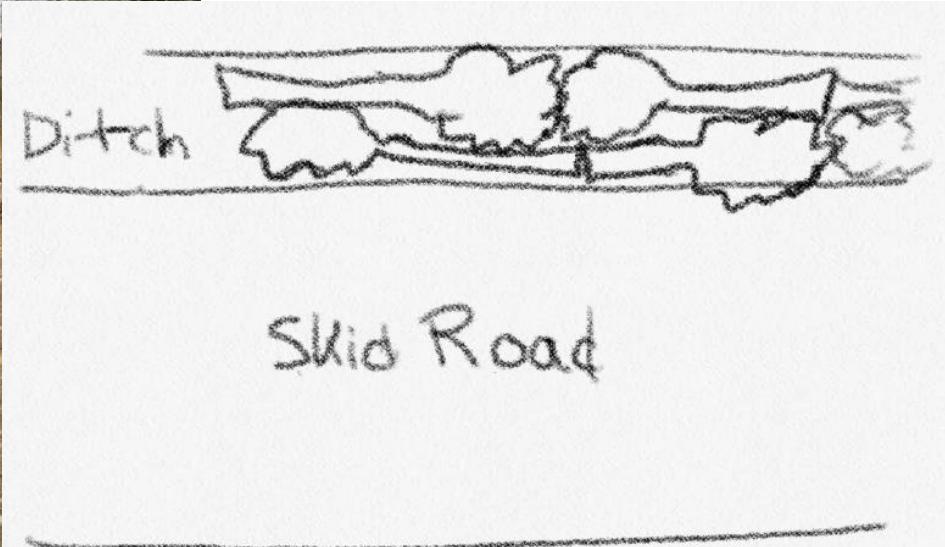
- ❖ Round bales – unroll across area to be stabilized – equipment needed
- ❖ Wood chips and slash
- ❖ Leave woody material in place on skid trails and landings





# Catching Sediment

Brush and tree tops  
"Hitches in Ditches"





# **Preventing Rutting and Compaction**

## **Brush mats**





## **Corduroy**



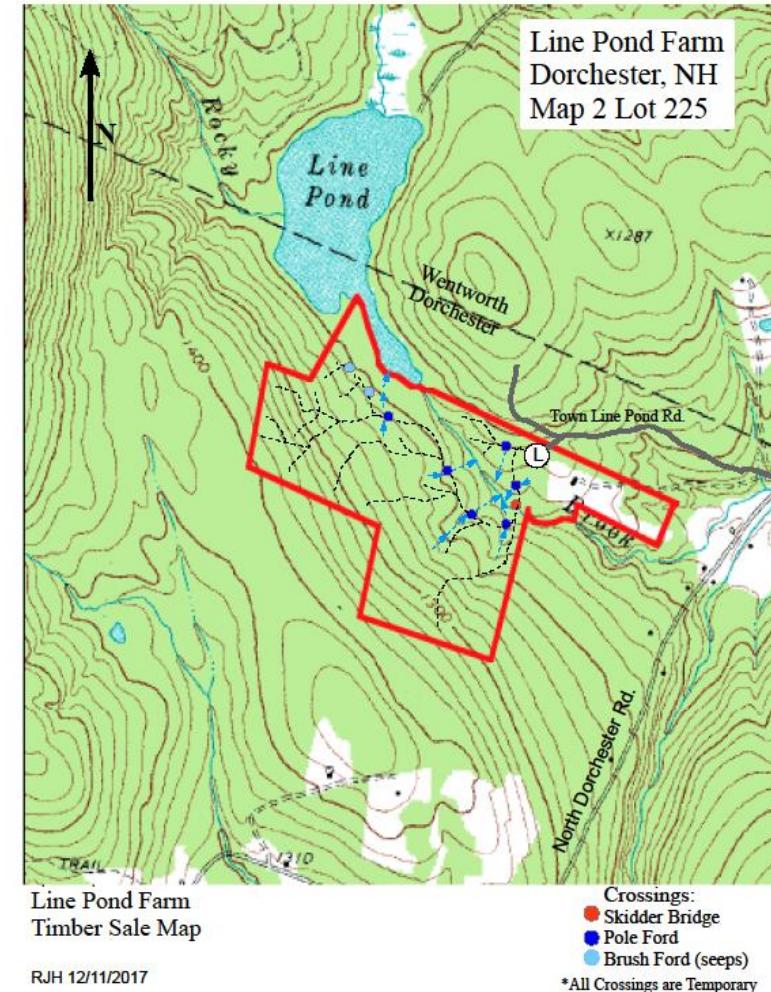


## Timber mats



## 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





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## Case Study - Errol Site

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





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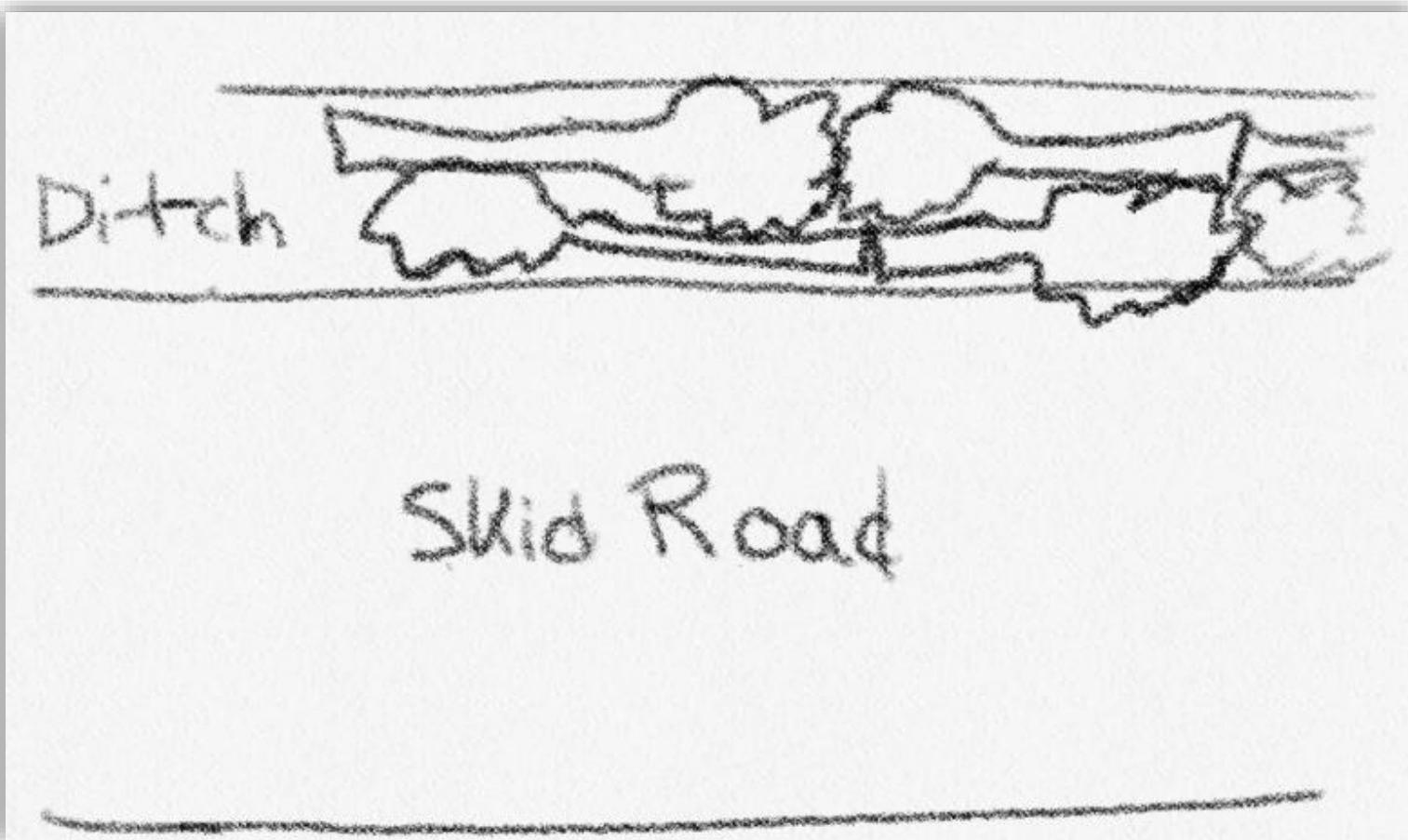




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# Questions?



# Thank You!

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**Emergency Erosion Control Techniques  
publication:**  
[www.nhwoods.org](http://www.nhwoods.org) – Woodlot management –  
Forestry Field Notes

<https://extension.unh.edu/resource/forestry-field-notes>