SWAMP THINGS: INSTALLATION & RESTORATION OF TEMPORARY WETLAND CROSSINGS

March 11, 2016
Swamp Mats: Start to Finish
from Site Preparation to Restoration

Adam Rosenblatt, CPESC
Project Manager & Senior Wetland Scientist
Site Preparation Prior to Swamp Mat Installation

- The Basics

- Problem Areas
  - Large caliper woody vegetation
  - Surface stones and boulders
  - Existing fill roads too narrow to accommodate construction equipment
  - Steep slopes
The Basics

- Do you have a valid permit(s)?
- Has the matting contractor reviewed the plans?
- Are Limits of Work/Swamp Mats being staked out?
- What is the condition of the wetland flagging?
- Stone transitions being installed or do field conditions merit extending the swamp mats further into upland?
The Basics: Limits of Work/Swamp Mats
Larger Caliper Shrubs

- Shrub/Sapling caliper too large to safely lay down and mat over
- Using grapple or mat to uproot shrub can result in soil disturbance
Larger Caliper Shrubs

- Cut larger caliper Shrubs/Saplings with handheld chainsaws or brush cutter prior to matting
Surface Stones and Boulders

- Smaller surface stones and boulders can be matted over, however...

- ...some can’t
Surface Stones and Boulders

- **Stone and boulder removal:**
  - Remove via grapple rather than bulldozer to minimize soil disturbance.
  - Place stockpile in uplands.
Surface Stones and Boulders

- Stone and boulder removal: 3 years following construction
Surface Stones and Boulders

- Stone and boulder removal: creating vernal pool habitat
Existing Fill Roads too Narrow

- Existing access road only 8-12’ wide and in shallow unstable fill.
Existing Fill Roads too Narrow

- Existing access road only 8-12’ wide and in 2’ deep fill.
Steep Slopes

- >10% sloping access road to wetland crossing.
Steep Slopes

Install water bars / slope breakers.
Other Site Preparations:

- During Mat Installation and Prior to Construction
- Preparing Exclusion Areas in vernal pools to minimize amphibian migration to active drill sites and control sediment
Other Site Preparations:

During Mat Installation and Prior to Construction

Installing geotextile to minimize sediment discharge through mats, especially important where mats have many rigging holes.
Restoration and Monitoring Following Project Completion

- **Standard or Simple Restoration: The “Fluff and Buff”**
  - Remove Mats
  - Restore previous grades
  - Temporarily stabilize with mulch
  - Vegetation regrows naturally

- **More Complex Examples of Restoration**
  - Removal of Incidental Fill
  - Stream Bank Stabilization
  - Stone Ford Installation
Monitoring

- As required by permit condition
- Typically monitor until swamp matted areas have vegetative stabilization (>75% cover)
  - May not apply to existing “wet” gravel access roads kept clear of vegetation due to vehicle traffic
- Where vegetation is slow to regrow, supplemental seeding with a native wetland seed mix may be warranted/necessary
Standard Restoration

- The Fluff ‘n Buff

12/10/2012
Standard Restoration

- The Fluff ‘n Buff
Standard Restoration

- The Fluff ‘n Buff
Standard Restoration

- + 1 Growing Season
Standard Restoration
Standard Restoration

- + 3 Growing Seasons
Standard Restoration

- Approx. 1 acre mat field in place for 3 growing seasons
- Portion of mat field
- Majority used mats with rigging holes

View Prior to Matting
Standard Restoration

- Trash removal from both pre-existing and construction following mat removal
- Mid – first growing season post mat removal
Streambank Stabilization
Streambank Stabilization
Streambank Stabilization
Permanent Stream Ford Crossing

- Installed gabion mattress filled with 3” crushed stone
- Wrapped with mirafi fabric
- Topped with 1 ½” crushed stone
Permanent Stream Ford Crossing

- 3 Years Since Construction
Great Swamp

October 2007

August 2009