Road Decommissioning Monitoring
-Wildlife Habitat, Vegetation, and Soils-

SWCC CFLRP Monitoring Workshop - November 7-8, 2012

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Road Decommissioning Monitoring - Wildlife Habitat, Vegetation, and Soils - Partners: 

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Introduction

Long-term plan objectives:

• B4: Manage roads and trails to improve wildlife habitat quality while retaining desired public use/recreation and resource management access

• B6: Prevent, remediate, or control invasions of exotic terrestrial species
Introduction

Proposed Outputs for Fiscal Years 2010-2019:

- “400 miles of road storage or decommissioning”
- “86,600 acres of weed treatment (this is also wildlife habitat improvement)”
- “9,500 wildlife security acres restored with road decommissioning (for elk, lynx, and grizzly bear specifically)”
While much $ is being spent, there is very little monitoring/research on impact of road decommissioning on wildlife habitat, vegetation and/or soils:
Question 1: Soils

• Are soils restored on temporary and decommissioned roads as measured by the rate of forest floor development under different road treatments?
Question 2: Wildlife Habitat

• How are weeds and wildlife food and hiding cover influenced by decommissioning and temp roads?
Methods

• Soil development — (Lolo NF)
  • Root-tight depth
  • Duff/litter depth
• Cover type (Kootenai NF)
  • Point line intercept
• Wildlife foods and weeds (WCPR and UM)
  • Quadrats of trees, shrubs, weeds
• Wildlife hiding cover (WCPR)
  • Quadrats of trees and shrubs > 1m
Sampling Design – road position

Original slope

Cutslope

Roadbed

Recontoured slope

Fillslope
Sampling Design – road position
Sampling Design – monitoring methods

CFLRP Road-Vegetation/Soils Sampling Design

- Photo point
- Ground cover point line intercept transect
- Wildlife foods, cover, and noxious weed quadrat
- Additional noxious weed quadrat
- Soil pit (duff, root-tight)
Sampling Design

• **Baseline** (before)
  – Road slated for decommissioning
    • Ripping (level 3)
    • Recontour (level 5)
  – Road slated for temporary construction
    • New construction
    • Existing roadbed

• **Control** – road with no treatment

• **Reference** – adjacent forest
Sampling Design – Baseline/control decomm roads

- Open or gated
- Mid-slope
- Low levels of regrowth – (high regrowth = no treatment)
Sampling Design – Temporary Roads

- New construction
- Existing roadbed
Sampling Design – Reference Sites
Results - Field Site Locations

Total of 50 sites sampled
Results - Horseshoe West
Results - Horseshoe West
Results - Center Horse
Results – Cottonwood / Shanley
Results - Center Horse
Results – Preliminary Findings

- Soil development
- Cover type
- Wildlife foods and weeds
- Wildlife hiding cover
Sampling Design – road position

Reference
Cutslope
Roadbed
Fillslope
Recontoured slope
Soil Development
Root-tight depth and duff/litter depth
Soil Development
Root-tight depth and duff/litter depth

Open road
Overgrown road
Road Cover Type
Point line intercept

![Bar chart showing the number of points for different cover types.](chart.png)
Wildlife Foods and Weeds
Quadrats of trees, shrubs, weeds
Wildlife Foods and Weeds
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Wildlife Foods and Weeds
Quadrats of trees, shrubs, weeds
Wildlife Foods and Weeds
Quadrats of trees, shrubs, weeds
Wildlife Hiding Cover
Quadrats of trees and shrubs > 1m

![Bar chart showing mean cover for different species.
- Douglas fir (red) and Lodgepole pine (purple).
- Sub-alpine fir, Western larch, Cottonwood, Sitka alder, Rocky Mountain maple, and Serviceberry have very low cover values.]
Results – Preliminary Findings

Wildlife Cameras
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Wildlife Cameras
Outreach - Coordination

• Fieldtrip with Seeley Lake High School
  • Camera traps
  • Wildlife habitat
Outreach - Coordination

- Committee meetings

- Fieldtrip with Tom Black – FS GRAIP lead

- Media Fieldtrip with Missoulian - FS Seeley Lake District Ranger, Forest specialists, The Wilderness Society, and the Blackfoot Challenge
Challenges / Issues
Next steps / anticipated funding

- **FY13** –
  - No funding request for wildlife habitat or soils b/c no treatments
  - Funding request for wildlife camera monitoring

- **FY14** –
  - Resample Colt Summit, Horseshoe West, and Stemple (re-route) year 1 post-treatment
  - Establish additional baseline sites on Center Horse and Blackfoot Travel Stonewall

- **FY15** –
  - Resample Colt Summit, Horseshoe West, and Stemple year 2 post-treatment
  - Resample Cold Jim, Center Horse, and Blackfoot Travel Stonewall year 1.
Timeline of results/feedback to managers

• Baseline and year 1
  – ID general baseline and reference conditions
  – ID if monitoring protocols need to be adjusted

• Year 2 post treatment
  – General trends of vegetative and soil response to different road treatments.

• Year 5 post treatment
  – Vegetative and soil response trends should be established and statistical analysis conducted
Help the Forest Service determine the effectiveness of different road treatment types and revegetation methods at:

- Reducing weed infestations, restoring wildlife habitat, and soil development
- Prioritize future restoration efforts
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