



Colorado Forestry Best Management Practices (BMP) to Protect Water Quality in Colorado

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Mark Loveall, *Forestry Program Specialist*
Forest Planning & Implementation Division



Introduction to Forestry BMPs

Forest treatments for multiple objectives

- **Water quality / infrastructure protection a main or secondary objective**
- **Treatments have the potential to impact water quality**



Nonpoint Source (NPS) Pollution

- Often from land runoff, precipitation, atmospheric deposition, drainage, seepage or hydrologic modification
- Diffuse sources



As runoff moves, it picks up and carries away natural and human-made pollutants, finally depositing them into lakes, rivers, wetlands and groundwater

Nonpoint Source (NPS) Pollution & BMPs



Source: Timbco

- The most significant NPS pollution from forestry activities is excessive sediment entering waterways, usually from roads & skidding trails
- NPS pollution is preventable if sound forestry & timber harvest practices (BMPs) are implemented

Defining Forestry BMPs

Accepted or determined to be effective and practicable means of preventing or reducing the amount of pollution generated by nonpoint sources



Defining Forestry BMPs

Can be both structural and non-structural



Primary forestry NPS pollution problems

- **Sediment**
- **Nutrients**
- **Forest chemicals**
- **Organic debris**
- **Temperature**
- **Stream flow**



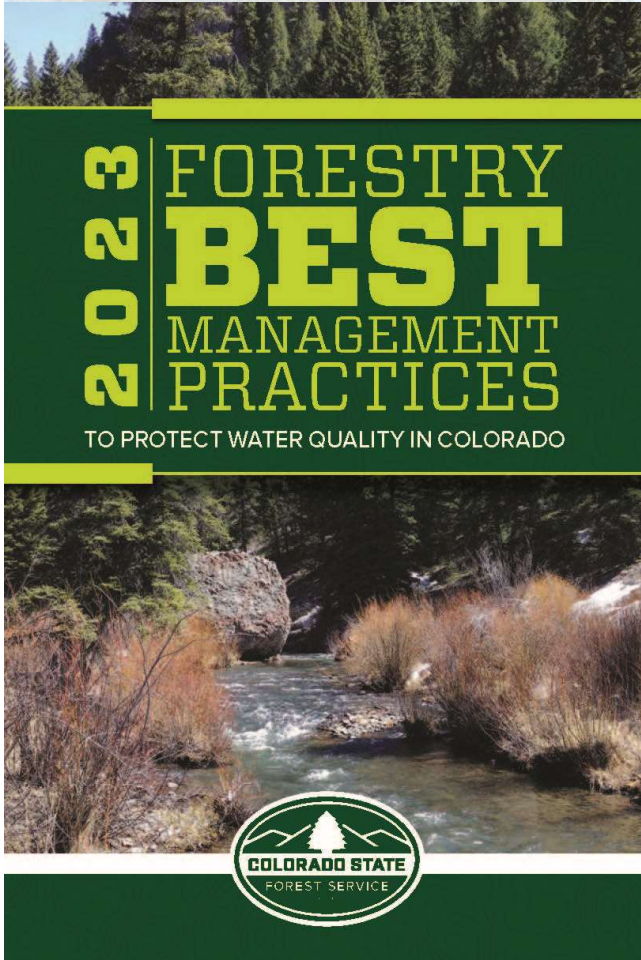
Photo: Pam Wilson

Defining Forestry BMPs

- **Voluntary in CO (*private/state vs. federal*)**
- **Require practice and personal judgement**
- **Applied as a system of practice rather than singularly**
- **Applied before, during and after management**
- **Dependent on site-specific conditions and feasibility**



CSFS BMP Program Guiding Documents



Forestry BMPs involve:

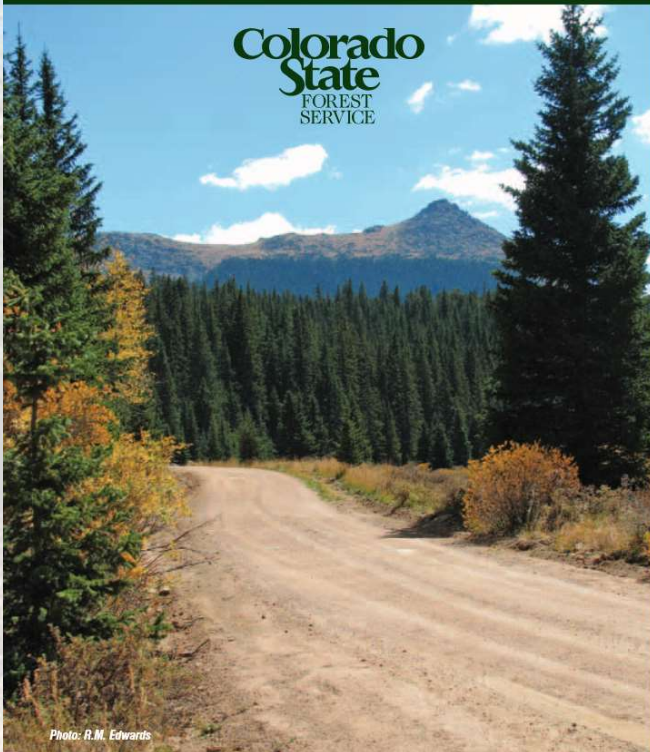
- Pre-Harvest Planning
- Roads
- Streamside Management Zones (SMZs)
- Timber Harvesting
- Hazardous Substances
- Stream Crossings
- Fire Management

Find this document within the list of CSFS publications:

<https://csfs.colostate.edu/csfspublications/>

CSFS BMP Program Guiding Documents

Colorado Forest Road Field Handbook



Forest Road Field Handbook:

** Update coming in late fall 2024*

- Road Surface
- Road Location
- Cross-Drainage Structures
- Stream Crossing
- Inspection/Maintenance/Repair
- Wet-Weather Operations
- Assistance

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CSFS BMP Program Monitoring / Outreach

Banded Peak Ranch Water Quality Monitoring

- **Sampling and analysis planning**
- **SMZ marking and mapping**
- **Treatment** (thinning, product removal)
- **2 years post-treatment water monitoring**
- **Enhancing partnerships**



CSFS BMP Program Monitoring / Outreach

- **Ongoing State Forest Water Quality Monitoring (25+ years, Jackson County)**



CSFS BMP Program Monitoring / Outreach

Field Monitoring 2008-2023

Diverse representation:

- CTIA
- CPW
- USDA-USFS
- CO Tree Farmers
- Private Forest Landowners
- Counties
- NASF
- CSFS
- EPA



Colorado Forestry Best Management Practices

Forest Stewardship Guidelines for Water Quality Protection

2021 Field Monitoring Report
Compiled November 2021

Diana Selby, Manager of Program Delivery



CSFS BMP Program

Field Monitoring

Objectives:

- Monitor the protection of soil & water resources during harvest & road construction
- Monitor road-building effects
- Evaluate the level of timber harvest planning & design with respect to soil and water resources protection
- Evaluate the function and efficacy of streamside management zones (SMZs)



CSFS BMP Program

Field Monitoring



- **Conducted every two years**
- **Regional focus**
- **Project nominations solicited**
- **Project evaluation and ranking**
 - BMP application & effect
 - Group consensus
- **Reports available on CSFS publications page**



Photo: John Barkowski

Thank you!

Mark.Loveall@colostate.edu

(719) 200-3939

