

F3 Seeing the Forest Through the Trees with BMPs

10:30 am – 12:00 pm | Room 19 , **Michael Crump**, USDA Forest Service

- History and Development of the U.S. Forest Service's National BMP Program; Integration of the Agency's National BMPs with State and Local BMPs
 - **Michael Crump**, *USDA Forest Service*
- Development of BMP Monitoring Protocols
 - **Pam Edwards**, *USDA Forest Service*
- Data Management and Rating Evaluation Outcomes: Scoring/Rating System for BMP Implementation, Effectiveness and Overall Results
 - **Joan Carlson**, *USDA Forest Service*
- BMP Program: Implementation, Results and Adaptive Management
 - **Michael Eberle**, *USDA Forest Service*

National Forest System Lands

154 National Forests
20 National Grasslands
193 million acres
44 states & Puerto Rico
57,000 miles of stream
400,000 lake acres
7.2 million wetland acres
Provide 20% of America's
clean water supply



Our Mission: Sustain the health, diversity, and productivity of the nation's forests and grasslands to meet the needs of present and future generations

National Forests and Grasslands are managed for multiple uses



Watershed stewardship

A fundamental value for the Forest Service



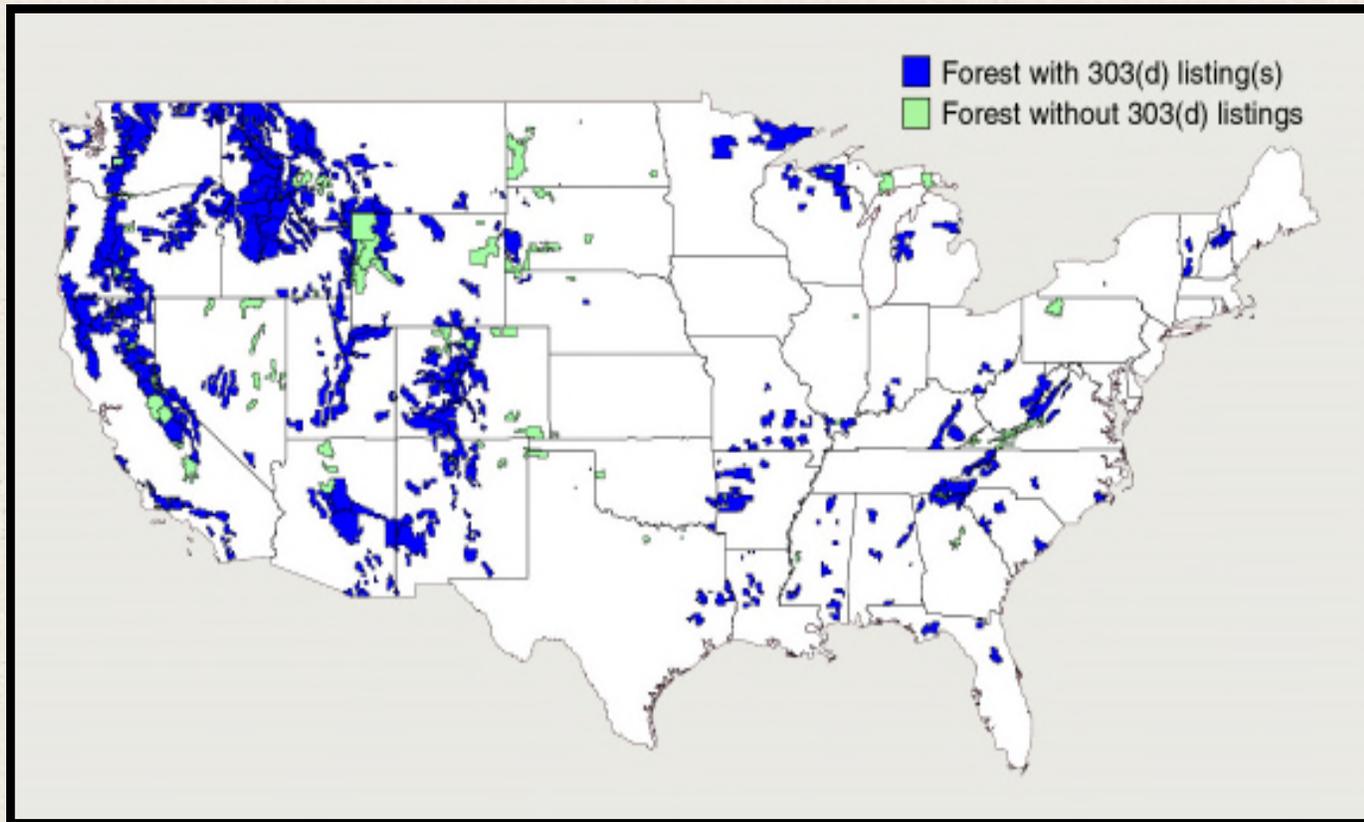
Riparian vegetation provides stream shading 😊
Green Mountain NF, Vermont

**Caring for the land
and serving people
= Abundant, clean
water**

*“Every user of water which originates in
the national forest must look to the forests
for safeguarding his supply.”*

Samuel T. Dana, Assistant Chief, USFS
(1920 – 1921)

We are responsible for water quality protection



Almost 3,000 water bodies on NFS land do not meet water quality standards.

The trend has been increasing regulatory control

- New stormwater regulations
- Roads considered point sources
- Increased reliance on Total Maximum Daily Loads (TMDLs)

Management Flexibility

BMPs are not new!



Gravel surface of haul road with drivable dip to divert water from roadbed reduces water velocity and sediment transport 😊
George Washington-Jefferson NF, Virginia

1980's

Interagency agreement between FS and EPA on use of BMPs

FS/EPA publication of procedural guide on silviculture nonpoint sources

FS regional BMP guidance

BMPs as standards and guidelines in Forest Plans

Why a National BMP Program?



To strengthen collaboration and data ...

**Nationally consistent
BMP program needed
for agency
accountability**

**Mandates to maintain
and improve
watersheds**

**Document Clean Water
Act compliance**

How can the Forest Service assure the public and our partners that we value water, that our practices are sound, and that we did what we said we would do?



Latrine in a wetland ☹️

Expected Outcomes from a National BMP Program:

- **Maintain and improve water quality**
- **Improve relationships with partners**
- **Demonstrate results in watershed management**
- **Use adaptive management**
- **Improve NEPA compliance**



History and Development of the U.S. Forest Service's National BMP Program

Integration of the Agency's National BMPs with State and Local BMPs

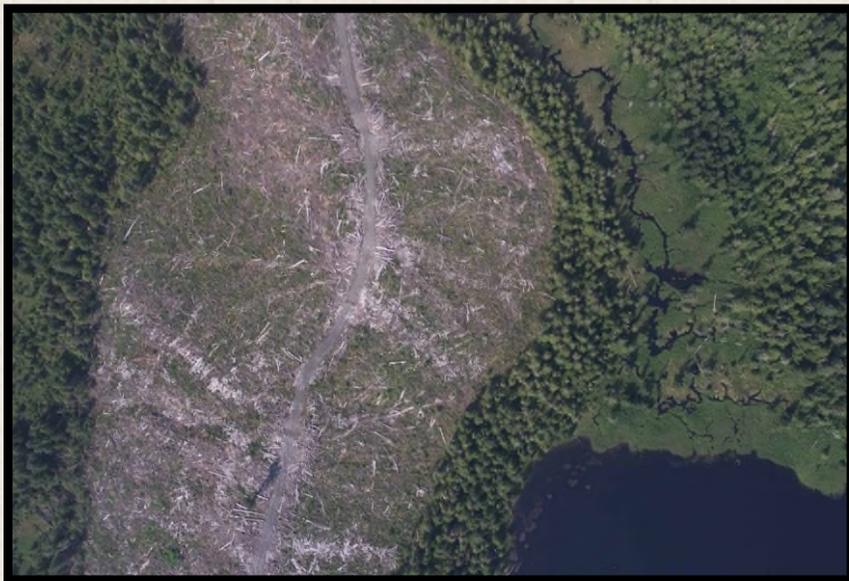
**Michael A. Crump, Regional Hydrologist
USDA Forest Service, Southern Region**



National BMP Program



- **Developed by broad spectrum of agency resource professionals**
- **Modeled after existing BMP program employed by Forest Service Region 5 and many states**
- **All land-disturbing and land-use activities that the FS engages in
i.e., beyond traditional forestry BMPs**



*Aquatic Management Zone (AMZ)
utilized alongside a clearcut
Tongass NF, Alaska*



National BMP Program Components



- National “Core” BMPs
- National BMP Monitoring Protocols
- Data Management System
- Corresponding National Direction



*Infiltration basin at work for stormwater control in an administrative site parking lot
Lake Tahoe Basin MU, California*



National Core BMPs - The dilemma

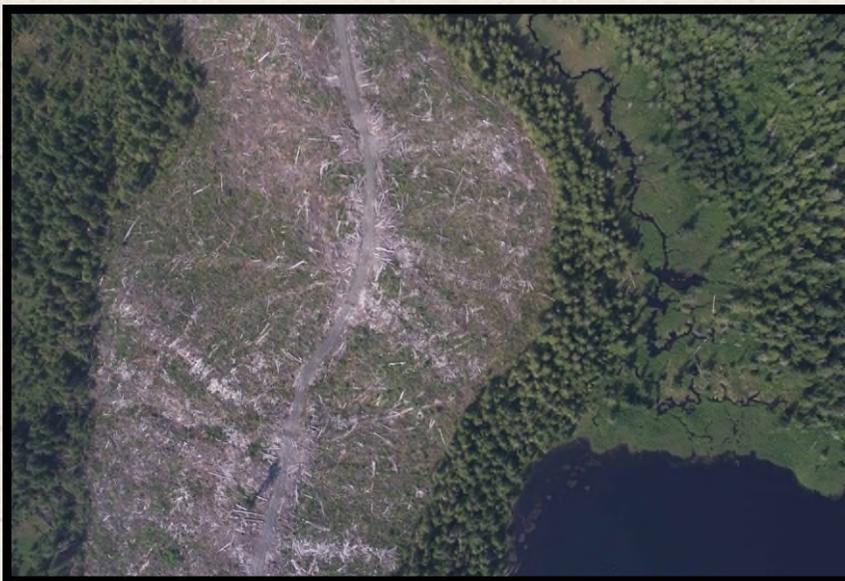


➤ Forest Service BMPs

- 14.06 Riparian Area Designation
- WCP 12.1 Water Influence Zone
- 24.16 Streamside Management Zone Designation
- T-7 Streamside Management Unit Designation
- 2.5 Riparian Area Management

➤ State BMPs

- Wisconsin – Riparian Management Zone
- Montana – Width of SMZ Marking Boundary
- Alabama – Streamside Management Zones
- New Hampshire – Filter Areas



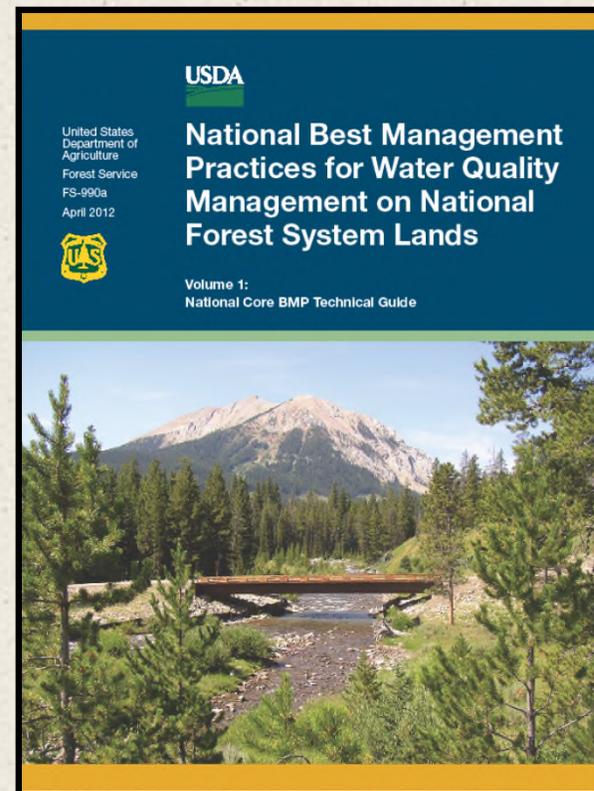
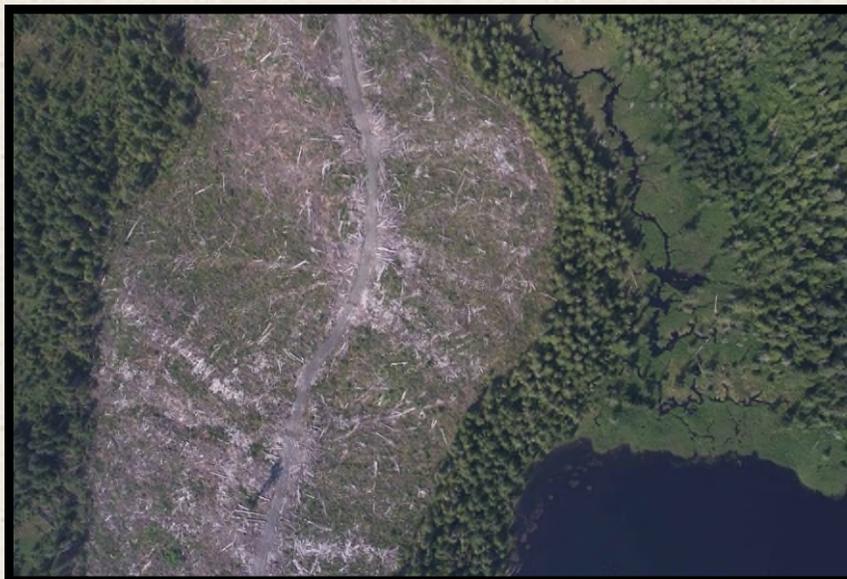
*Aquatic Management Zone (AMZ)
utilized alongside a clearcut
Tongass NF, Alaska*



National Core BMPs - Solved



- National Core BMPs
- Veg-3 Aquatic Management Zone (AMZ)



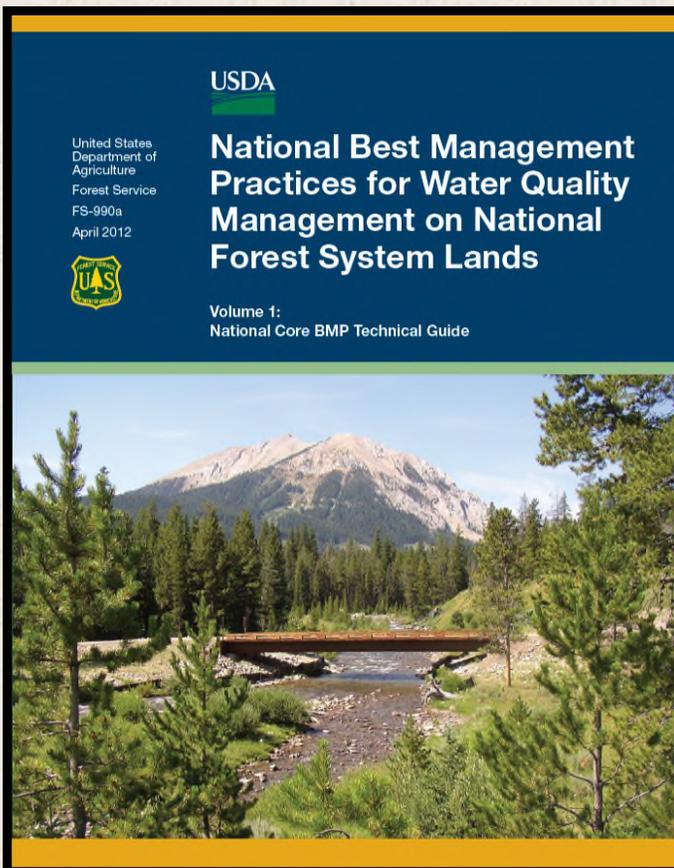
*Aquatic Management Zone (AMZ)
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National Core BMPs



- **BMPs for all resource activities**
- **75 practices in 11 resource areas**



Planning
Aquatic Ecosystem Improvements
Chemical Uses
Facilities Management
Fire Management
Minerals Management
Range (Grazing) Management
Recreation Management
Roads Management
Vegetation Management
Water Uses



National Core BMPs



- **Each practice provides a framework for site-specific BMP prescriptions tailored to site conditions**
 - **State BMPs, requirements and regulations**
 - **Forest Service BMPs and land management plan direction (standards and guides)**
 - **BMP monitoring results**
- **Core BMPs = what to do**
- **Local resources = how to do it**



National Core BMPs



- **Each practices includes:**
 - **Reference-** Identifies the Forest Service Manual or Handbook direction pertinent to the BMP
 - **Objective-** Describes the desired results or attainment of the BMP as it relates to maintaining water quality
 - **Explanation-** Background information to provide context for the BMP. Describes criteria or standards used when applicable
 - **Practices Lists-** Methods to achieve the BMP objectives



National Core BMPs



➤ Categories of activities covered by Practices

Planning

Aquatic Ecosystem Improvements

Chemical Uses

Facilities Management

Fire Management

Minerals Management

Range (Grazing) Management

Recreation Management

Roads Management ←

Vegetation Management

Water Uses



National Core BMPs



➤ Practices identified for the Category

Road BMPs	
Road-1	Travel Management Planning and Analysis
Road-2	Road Location and Design ←
Road-3	Road Construction and Reconstruction
Road-4	Road Operations and Maintenance
Road-5	Temporary Roads
Road-6	Road Storage and Decommissioning
Road-7	Stream Crossings
Road-8	Snow Removal and Storage
Road-9	Parking and Staging Areas
Road-10	Equipment Refueling and Servicing
Road-11	Road Storm-Damage Surveys



National Core BMPs



Road-2. Road Location and Design

Manual or Handbook

Reference FSM 7720 and FSH 7709.56.

Objective Locate and design roads to avoid, minimize, or mitigate adverse effects to soil, water quality, and riparian resources.

Explanation Roads are located according to standards and specifications to meet their use objectives while protecting other resources. Well-defined project objectives are needed to locate and design roads that will best address environmental and resources issues as well as road use, safety, and traffic requirements.

New roads can be designed to avoid or minimize adverse effects to soil, water quality, and riparian resources, while existing roads may need to be redesigned or relocated to mitigate such effects.



National Core BMPs



Practices



Develop site-specific BMP prescriptions for the following practices, as appropriate or when required, using State BMPs, Forest Service regional guidance, land management plan direction, BMP monitoring information, and professional judgment.

Location

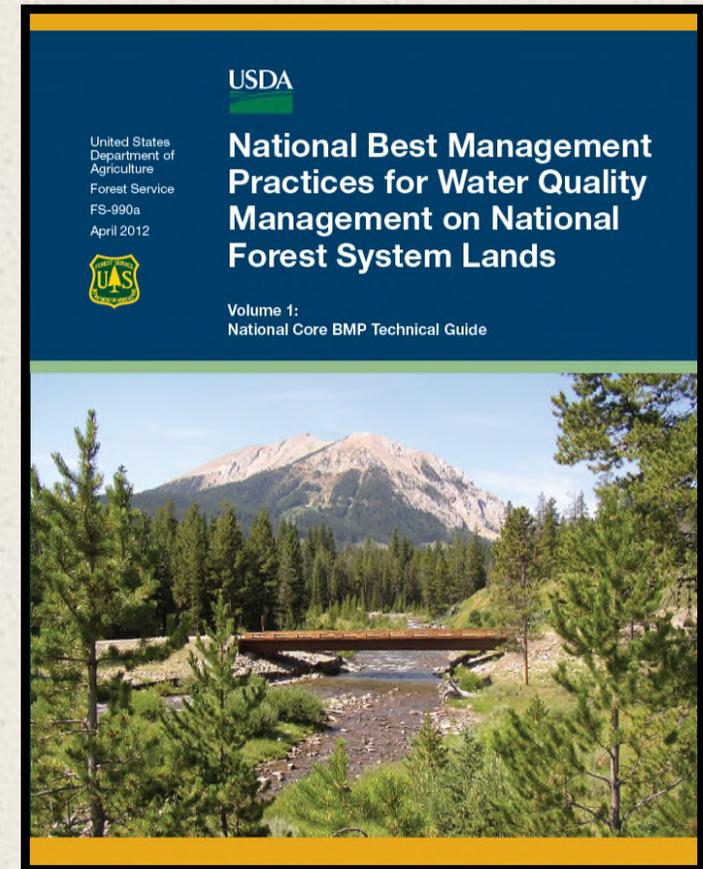
- Locate roads to fit the terrain, follow natural contours, and limit the need for excavation.
 - Avoid locations that require extended steep grades, sharp curves, or switchbacks.
- Locate roads on stable geology with well-drained soils and rock formations that dip into the slope.
 - Avoid hydric soils, inner gorges, overly steep slopes, and unstable landforms to the extent practicable.
- Locate roads as far from waterbodies as is practicable to achieve access objectives, with a minimum number of crossings and connections between the road and the waterbody.



National Core BMPs



- **Based on existing State BMPs and Forest Service BMP guidance – not intended to replace State BMPs**
- **General and non-prescriptive – require site-specific BMP prescriptions**
- **Facilitate a national monitoring program**



*FS-990a Technical Guide Volume 1 The
National Core BMPs*



National Core BMPs



- **Core BMPs = Tree**
- **Site specific prescriptions = Decorations**
- **The same tree everywhere, just different decorations**



Interaction with the States



- **History of working with States to implement BMP programs**
 - **Formalized with a written agreement – 28 States**
 - **Focused solely on silviculture activities**
- **Many national forest units monitor BMPs**
- **National BMP Program modeled after Forest Service / State developed program**
- **Expectation that State requirements and BMP programs contribute the criteria for site-specific BMP prescriptions**
- **Consistent with State silviculture BMP programs.**
- **Core BMPs do not change the substance of site-specific BMP prescriptions**



Interaction with the States - California



- **Forest Service incorporates the State silviculture BMPs into their activities**
- **Monitoring implementation and effectiveness annually since 1992**
- **29 protocols focused on silviculture**
- **Average 500+ evaluations a year on NFS lands within CA**
- **Transition to National Program by summarizing findings over program lifetime and revise BMPS with low effectiveness when implemented.**



Interaction with the States - Montana



- **Forest Service incorporates the State silviculture BMPs into their activities**
- **Monitoring implementation and effectiveness biennially since 1990**
- **State, Federal, and Private lands**
- **Includes the use of an Interdisciplinary team made up of State/federal/industry participants**
- **Federal compliance rates consistently achieve 95% + for both categories**
- **Will continue to occur alongside Forest Service transition to National Program – Shift staff resources from silviculture only to all activities**



Interaction with the States – Southern Region



- **13 States and Puerto Rico (TX to VA; KY to FL)**
- **Forest Service uses State silviculture BMPs**
- **State monitoring programs include State, Federal, and Private lands**
 - **20 years of oversight**
 - **State evaluations conducted independently of NFS**
 - **Trend toward remote sensing and aerial evaluations**
 - **Generally consistent evaluation process between states**
- **NFS evaluations based on Forest specific protocols, not consistent from unit to unit**
- **Will continue collaboration on silviculture evaluations– Shift staff resources from silviculture only to all activities**



National BMP Program - Summary



- **Agency's nonpoint source pollution control program for achieving and documenting water resource protection.**
- **Demonstrates a commitment to land stewardship and protection of water quality consistent with the CWA, State regulations, and other requirements.**
- **Not intended to interfere with State and tribal CWA programs, but to support States and tribes in their efforts to ensure compliance on NFS lands.**
- **A nationally consistent, creditable, and scalable framework to ground monitoring activities.**





Questions?

<http://www.fs.fed.us/biology/watershed/BMP.html>

