

Montana Forestry

Best Management Practices – Rethinking Forest Regulation

October 19, 2010
Lubrecht Forest

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Pyramid Mountain Lumber

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FOCUS

PROTECTION AND MAINTENANCE OF:

- FOREST STREAM WATER QUALITY
- FOREST SOIL PRODUCTIVITY
- OTHER FOREST RESOURCES
 - WET AREAS, ROADS

WATER QUALITY OVERRIDING FOCUS

**● LEGISLATURE APPROVES WITH
MONITORING PROVISION**

MONTANA'S FORESTRY BEST MANAGEMENT PRACTICES And BMP MONITORING FIELD REVIEWS



A SHORT HISTORY

- CLEAN WATER ACT
- HJR 49
- ALTERNATIVE TO
 - FOREST PRACTICES ACT
- OPTION TO FORMAL REGULATION



NPSP - Non Point Source Pollution

- ☞ Is a weather related function of precipitation drainage
- ☞ Comes from diffuse origins
- ☞ Contains natural & man made pollutants
- ☞ Occurs in the forest when water travels over the forest floor

☞ **BMP's are effective in limiting NPSP when properly applied.**

PRECIPITATION



INFILTRATION

MANAGED ENVIRONMENT

Harvest



Roads



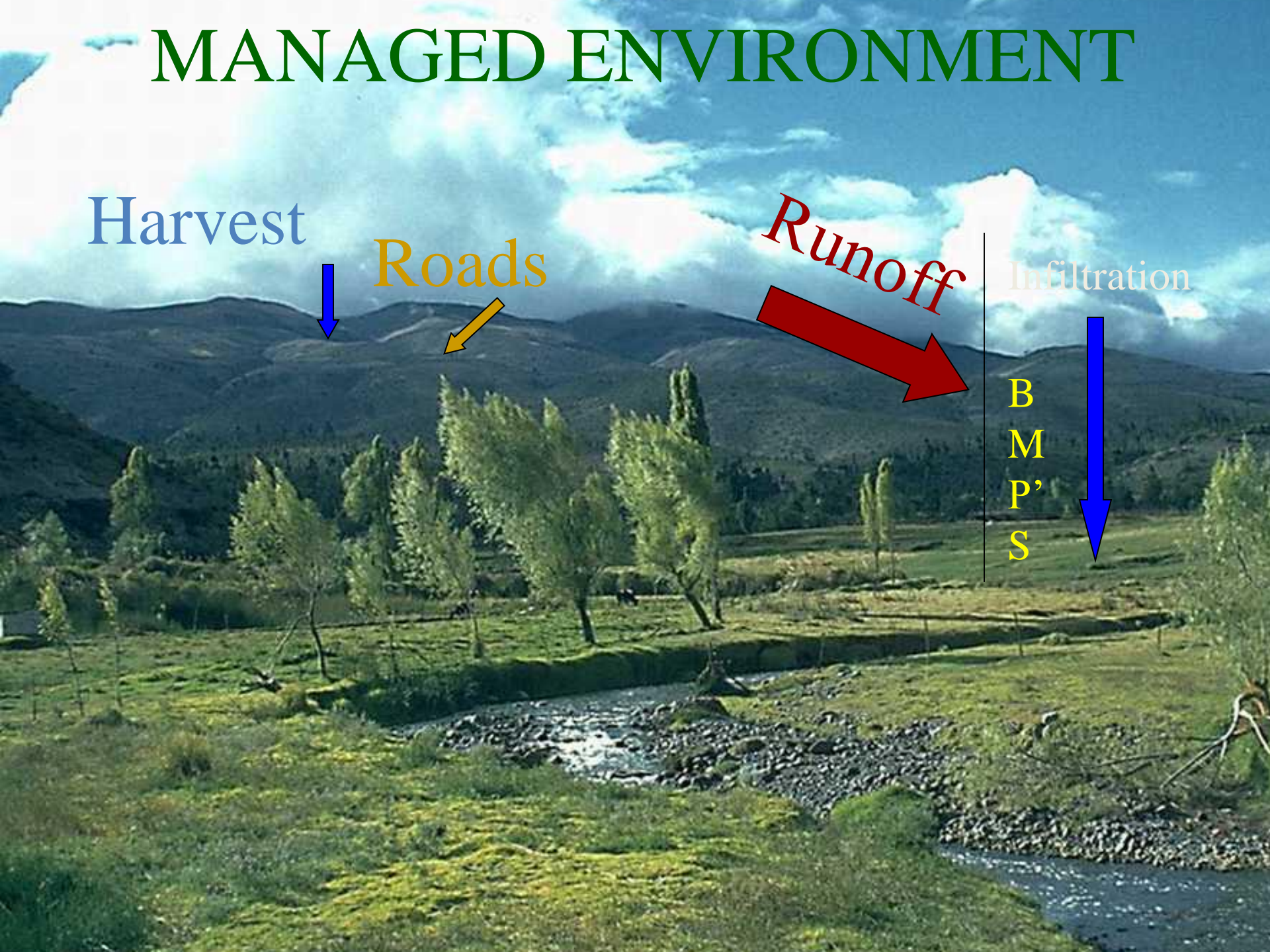
Runoff



Infiltration



B
M
P'
S



WHAT ARE BMP'S IN MONTANA

A SET OF **VOLUNTARY**
PRACTICES THAT IF
APPLIED CORRECTLY
WILL MINIMIZE IMPACTS
TO WATER, SOIL AND
OTHER FOREST
RESOURCES.



CATEGORIES

- FOREST PRACTICES NEAR & w/in SMZ'S
- ROADS, STREAM CROSSINGS
- HARVESTING AND SITE PREP
- WINTER LOGGING
- HAZARDOUS SUBSTANCES



BI-ANNUAL FIELD REVIEW OBJECTIVES

- LEGISLATURE
 - EVALUATE AND REPORT
- APPLICATION
- EFFECTIVENESS

- First Audit (Field Review) in 1987
- Conducted every 2 years starting in 1990.

- 3 interdisciplinary teams:

Northwest

West

East

- 4 Landowner Groups

State

Federal

Industry

Non-Industrial Private



TEAM MEMBER ROLES

- FISHERIES
- HYDROLOGY
 - SOILS
- FORESTRY
- ENGINEERING & ROADS
 - CONSERVATION
 - NIPF/LOGGER
 - OBSERVER

2010 BMP FIELD REVIEW TEAM

MEMBERS

	NORTHWEST	WEST	CENTRAL / EAST
FISHERIES	Tom Weaver, DFWP + Leo Rosenthal, DFWP # Mike Hensler #	Shane Hendrickson + (Jim Bower, DNRC) + 2 (Katie Gaut, CFC) #	Trevor Selch, DFWP +
HYDROLOGY	(Dean Sirucek, USFS) + (Brian Sugden, PCTC) + 2 (Jeff Schmalenberg DNRC) +*	2 Gary Frank, DNRC +* 2 (Christine Brick, CFC) # 2 (Katie Gaut, CFC) # 2 (Will McDowell, CFC) #	Mark Nienow, USFS + Wayne Green, USFS +
SOILS	Lou Kuennen, USFS + Dean Sirucek, USFS + 2 Jeff Schmalenberg DNRC +* (Derek Milner) #	Wayne (Skip) Barndt +	NRCS +
FORESTRY	Paul McKenzie, Stoltze + (Dave Jones, DNRC) + Mark Boardman, Stoltze +	2 Dwight Crawford, SML + Jim Mountjoy + 2 Steve Hayes, BBER +	2 Don Kasten, BIA +** 2 Doug Mote + 2 (Steve Flynn, SML) # 2 (Dennis Davaz, R-Y Timber) + 2 (Dwight Crawford, SML) +
ENGINEERING AND ROADS	(Vic Andersen, PCTC) + 2 (Jeff Schmalenberg DNRC) +*	Beth Dodson # 2 Steve Hayes, BBER + 2 Rex Anderson, SML # 2 Dwight Crawford, SML + 2 Gary Frank, DNRC +*	Gordy Sanders, PML +** 2 (Dennis Davaz, R-Y Timber) + 2 (Steve Flynn, SML) # 2 Rex Anderson, SML # 2 (Dwight Crawford, SML) +
CONSERVATION		(Robert Benson, CFC) + 2 (Christine Brick, CFC) # 2 (Katie Gaut, CFC) # 2 (Will McDowell, CFC) #	
NIPF/LOGGER		Debra Parker Foley, MFOA + 2 Rex Anderson, SML #	Terry Mann, Logger + 2 Doug Mote + 2 Rex Anderson, SML # 2 Don Kasten, BIA +**
OBSERVER	Tom Weaver, DFWP + Leo Rosenthal, DFWP # Mike Hensler #	Shane Hendrickson + (Jim Bower, DNRC) + 2 (Katie Gaut, CFC) #	Trevor Selch, DFWP +

SITE SELECTION CRITERIA

MINIMUM CRITERIA

- Harvest Unit/Road Within 200 Feet of Stream
- Harvest completed within 2 Years of Field Review
- Volume/Acre Harvest Requirement
- Minimum size is 5 acres

PRIORITIZATION CRITERIA

- Multiple new stream crossings - 5 points
- Single new stream crossing - 4 points
- New road construction - 3 points
- Reconstruction - 2 points
- SMZ Harvest - 2 points
- Existing stream crossings - 1 point

2010 FIELD REVIEW SITES

- 22 SITES IN THE NORTHWEST
- 16 SITES IN THE WEST
- 7 SITES IN THE CENTRAL/EASTERN

GENERAL PROCESS

- INITIALLY MEET OFFSITE
- DECIDE WHERE TO LOOK
 - ROADS, STREAM CROSSINGS, HARVEST UNITS, SMZ AREAS, OTHER POINTS OF INTEREST
- TOUR THE SITE – GATHER INFORMATION
 - DISCUSS, OBSERVE, WALK, DRIVE
 - EACH TEAM MEMBER PROVIDES EXPERTISE
- RE-GROUP POST TOUR TO COMPLETE THE MONITORING FORM

BMP FIELD REVIEW MONITORING FORM

- RECORD SITE AND FIELD REVIEW INFORMATION
- RECORD RATINGS FOR REVIEWED PRACTICES
- ABBREVIATED TEXT OF ACTUAL BMP LANGUAGE
- OBSERVATIONS
- SMZ MONITORING
- FISH PASSAGE FORM

MONTANA FOREST PRACTICES REVIEW WORKSHEET

BMPs Applicable to:

+ New Road Construction

Existing Roads

➤ Reconstruction

RECOMMENDED BEST MANAGEMENT PRACTICES		APPLICABLE TO SITE (Y/N)			COMMENTS
		APPLICATION EFFECTIVENESS			
SECTION III—ROADS					
<u>ROAD PLANNING & LOCATION</u> <u>SECTION III. A.</u>					
➤+	1a. Minimize number of roads necessary.				
#	1b. Use existing roads unless aggravated erosion.				
+	3. Avoid long, sustained, steep road grades.				
+	4. Locations avoid high-hazard sites (i.e., wet areas and unstable slopes).				
+	5a. Minimize number of stream crossings. Number _____.				
+	5b. Choose stable stream crossing sites.				
<u>ROAD DESIGN</u> <u>SECTION III.B.</u>					
➤+	2. Design roads to minimum standard necessary to accommodate anticipated uses.				

PROCESS OF SITE EVALUATION



The on-site assignment of subjective, qualitative BMP rating values by an interdisciplinary team is a complex process. It relies on successful interactions among a number of professionals with sometimes conflicting objectives, differing opinions and experiences working with BMP's. To arrive at a consensus rating for this process requires that individuals pool their knowledge and experiences in natural resource management.

WHAT IS EVALUATED

- APPLICATION
- EFFECTIVENESS



DEFINITIONS

Adequate—Small amount of material eroded; Material does not reach draws, channels, or floodplain.

Minor—Erosion and delivery of material to draws but not stream.

Major—Erosion and subsequent delivery of sediment to stream or annual floodplain.

Temporary—Impacts lasting one year or less; no more than one runoff season.

Prolonged—Impacts lasting more than one year.

APPLICATION

**WAS THE CORRECT
PRACTICE
APPLIED...**

- ...SPECIFICATIONS??
- ...PLACE??
- ...NUMBER OF TIMES



APPLICATION GUIDE

APPLICATION

- 5—Operation Exceeds Requirements Of Bmp
- 4—Operation Meets Requirements Of Bmp
- 3—Minor Departure From Bmp
- 2—Major Departure From Bmp
- 1—Gross Neglect Of Bmp



EFFECTIVENESS

HOW EFFECTIVE WAS
THE PRACTICE AS
APPLIED ON THE
GROUND?



EFFECTIVENESS GUIDE

EFFECTIVENESS

5—Improved Protection Of Soil And Water Resources Over Pre-Project Condition

4—Adequate Protection Of Soil And Water Resources

3—Minor And Temporary Impacts On Soil & Water Resources

2—Major And Temporary Or Minor And Prolonged Impacts On Soil And Water Resources.

1—Major And Prolonged Impacts On Soil And Water Resources.

RESULTS



16 YEAR FIELD REVIEW COMPARISON

Category	2008	2006	2004	2002	2000	1998	1996	1994	1992
Application of practices that meet or exceed BMP requirements.	97%	96%	97%	96%	96%	94%	92%	91%	87%
Application of high risk practices that meet or exceed BMP requirements.	90%	89%	89%	90%	92%	84%	81%	79%	72%
Number of sites with at least one major departure in BMP application.	8 of 42 (19%)	4 of 44 (9%)	5 of 39 (13%)	10 of 43 (23%)	4 of 42 (10%)	8 of 47 (17%)	12 of 44 (27%)	17 of 46 (37%)	20 of 46 (43%)
Average number of departures in BMP application, per site.	1.19	1.52	1.3	1.8	1.4	2	3	3.9	5.6
Percentage of practices providing adequate protection.	97%	97%	99%	97%	98%	96%	94%	93%	90%
Percentage of high risk practices providing adequate protection.	91%	92%	95%	92%	93%	89%	86%	83%	77%
Number of sites having at least one major/ temporary or minor/ prolonged impacts.	8 of 42 (19%)	7 of 44 (16%)	10 of 39 (25%)	15 of 43 (35%)	9 of 42 (21%)	12 of 47 (26%)	15 of 44 (34%)	13 of 46 (28%)	17 of 46 (37%)
Average number of impacts per site.	1.02	1.05	.56	1.3	1	1.5	2.3	3	4.6

2010 RESULTS BY OWNERSHIP

	DNRC	Federal	Industry	NIPF	Totals
BMP Application	99%	96%	98%	97%	97%
BMP Effectiveness	99%	97%	99%	99%	98%
SMZ Application	100%	94%	100%	98%	98%
SMZ Effectiveness	100%	95%	98%	100%	98%

Changes and Emerging Issues

- NIPF Sites
- Field Review Team Membership
- Non-Audited BMP's
 - Fish Passage
- Broadening Scope –
 - High risk vs. Low risk

Application guidelines are an attempt to determine the “stream crossing structure’s” ability to emulate or mimic the adjacent natural conditions.

Hazardous Material Regulation

“Know and comply with the regulation governing the storage...”

“Petroleum-based spills >25 gallons and with a direct link to water require a report to DEQ.”

“Petroleum-based spills ≤ 25 gallons and without a direct link to water do not need a report.”

STREAMSIDE MANAGEMENT ZONE LAW AND RULES

77-5-301 TO 307 MCA

33.11.301 TO 310 ARM

ONLY APPLY TO *COMMERCIAL TIMBER SALES*

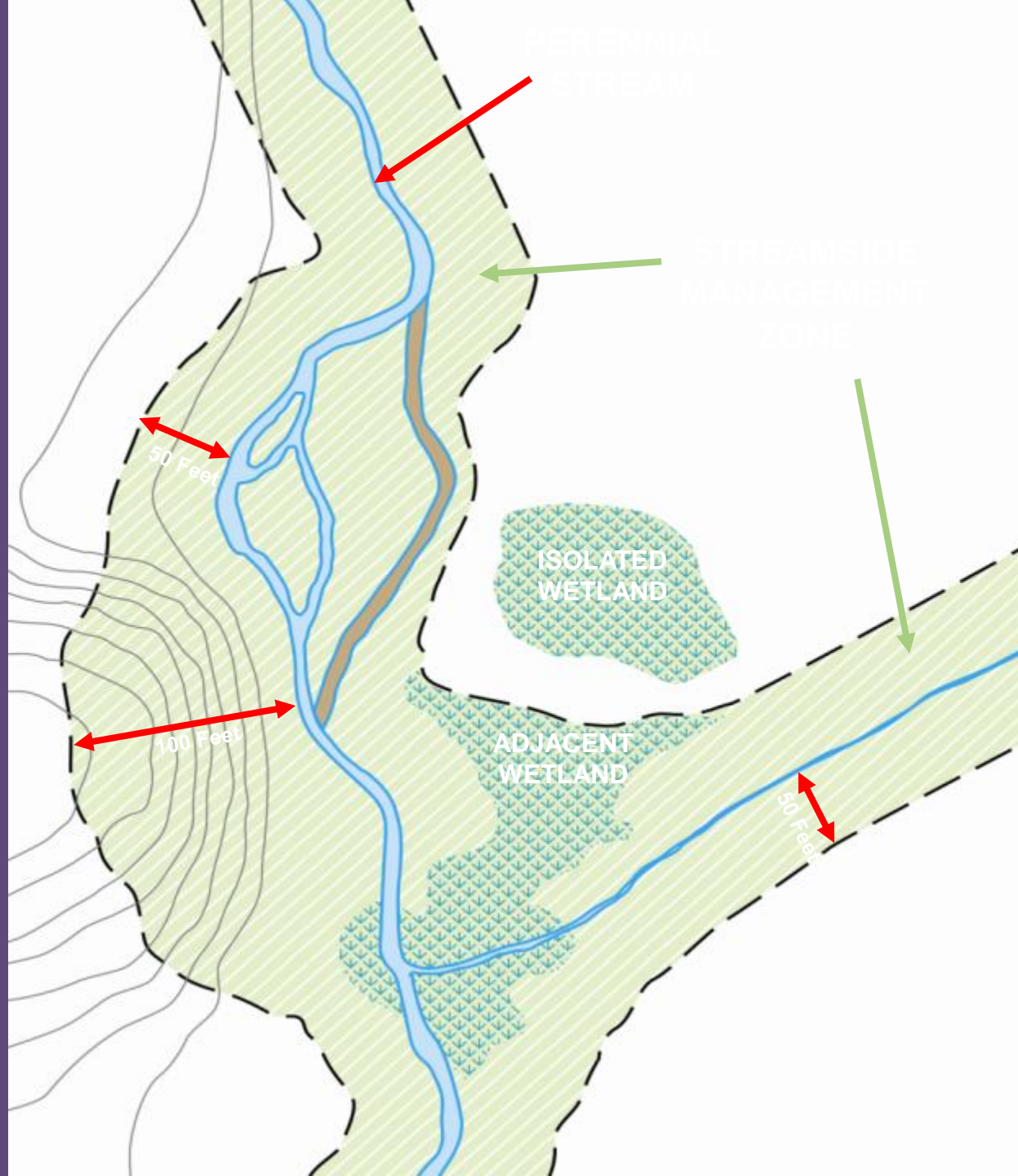
“Streamside Management Zone” or “SMZ”

means the stream, lake or other body of water and an adjacent area of varying width where management practices that might effect wildlife habitat, water quality, fish, or other aquatic resources need to be modified. The streamside management zone encompasses a strip at least 50 feet wide on each side of a stream, lake, or other body of water, measured from the ordinary high-watermark, and extends beyond the high water mark to include wetland and areas that provide additional protection end Zones with steep slopes or erosive soils.



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FUNCTIONS OF THE SMZ

MCA 77-5-301 (1) (a) – (e)

- ❖ Acts as an effective sediment filter to maintain water quality
- ❖ Provides shade to regulate stream temperature
- ❖ Supports diverse and productive aquatic and terrestrial riparian habitats
- ❖ Protects the stream channel and banks
- ❖ Provides large woody debris that is eventually recruited into a stream to maintain riffles, pools, and other elements of channel structure
- ❖ Promotes flood plain stability



SEVEN PRACTICES THAT ARE PROHIBITED IN AN SMZ

- ❖ Broadcast burning.
- ❖ The operation of wheeled or tracked vehicles except on established road.
- ❖ The forest practice of clearcutting.
- ❖ The construction of roads except when necessary to cross a stream or wetland.
- ❖ The handling, storage, application, or disposal of hazardous or toxic materials.
- ❖ The side-casting of road material into a stream, wetland, or watercourse.
- ❖ The deposit of slash in streams or other water bodies.



PURPOSES OF THE SMZ LAW

MCA 77-5-301 (5) (a) – (d)

- ❖ To protect the legitimate public interest in the quality and quantity of forest water.
- ❖ To provide for standards, oversight, rehabilitation, and penalties to ensure that forest practices are conducted in a manner that conserves the integrity of Montana's streamside zones.
- ❖ To provide guidelines for the management of wildlife habitat in streamside zones.
- ❖ To allow operators necessary flexibility to use practices appropriate to site-specific conditions in the streamside management zone.



SMZ RULES ADDRESS

- ❖ STREAM DEFINITION AND CLASS
- ❖ SMZ WIDTH REQUIREMENTS
- ❖ EACH PROHIBITED PRACTICE
- ❖ WHAT REQUIRED, WHAT ALLOWED
- ❖ ALTERNATIVE PRACTICES