

# Arkansas Forestry Commission



U of A  
Cooperative  
Extension  
Service  
September 27-28,  
2017

2017 NPS 319(h) Project Review



# Intentions may be great, but action may be lacking.

I'm Interested in 319h grant projects but eating lunch just wore me out today.



# Arkansas Silvicultural NPS Project

**Best Management Practices Assessment**

**Grant # C999610323**

**Project 15-1200**

**Major Task Include;**

- Technical Logger-Forester BMP Training
- Non-Technical Landowner BMP Training
- Courtesy Exams
- AFC BMP Guideline Books and Materials
- AFC Silviculture 8<sup>th</sup> BMP Implementation Assessment



# Technical BMP Training

## Forester – Logger Training

- Will conduct 9 BMP workshops
- Trainings will be both class room and Field
- To date 8 workshops with 409 Trainees



# Non-Technical BMP Training

## Landowner BMP Training

- Increase Landowner Awareness by conducting 3 workshops
- To date 2 Workshops have been held with 146 participants





# Courtesy Exams

## Prevent before the event

- Provide 3 site specific technical on the ground assistance
- 2 Sessions with 8 Foresters, 5 Loggers, 2 Contractors and 4 Landowners
- Exam address SMZ, temporary road BMP's, and a technical assistance summary report of site specific BMP recommendations.



# BMP Guideline Book & Materials

- AFC will redesign and print handouts
- Will re-print AFC BMP BOOK

## FOREST FACTS

### Firebreaks (Fire Lanes)

**Purpose**  
Firebreaks are also referred to as fire lanes and fire lanes are a non-forested strip of ground or a combination that serve the purpose of preventing the spread of fire. Properly designed firebreaks may also provide access to the property and benefit wildlife.

**FOR MORE INFORMATION...**  
ARFC BMP Guidelines: [www.arkforestry.org](http://www.arkforestry.org)  
http://aap.arkforestry.org

**Location**  
When possible, locate firebreaks on ridge tops, on the contour and through the forest at intervals of 10 to 12 miles. Clearing intervals are recommended in areas of high risk or for prescribed burning.

**When possible, locate firebreaks into existing features such as roads, cultural fields, pastures and utility right-of-ways. Lines tend to take streams, ponds or streams located in the Streamside Management Zone (SMZ) need to be land converted. To preserve water quality, use water bars where streams can occur and follow Arkansas Best Management Practices for Water Quality Protection.**

**Typical firebreaks may be access roads, vegetated firebreaks, disked firebreaks and graded firebreaks.**

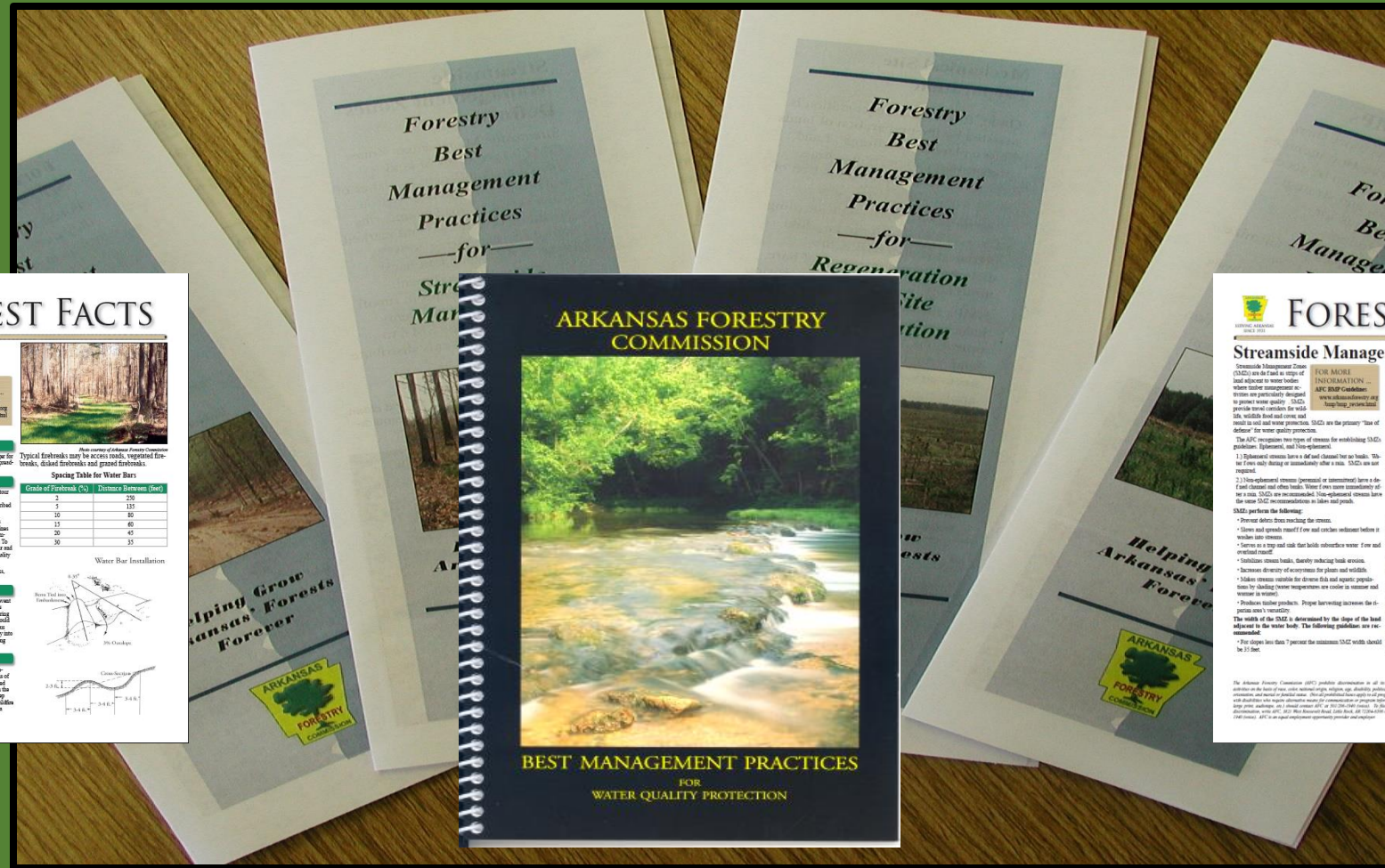
**Spacing Table for Water Bars**

Grade of Firebreak (%)	Distance Between (feet)
2	250
5	150
10	80
15	60
20	45
30	35

**Water Bar Installation**

**Firebreak Installation**  
Firebreaks should be located around the whole area to prevent the fire from escaping onto adjacent land. Follow Arkansas Best Management Practices for Water Quality Protection during construction of firebreaks. Plowing by lanes with a plow should be avoided unless necessary, because they often create surface erosion problems. Where rippled firebreaks that lead directly into a stream. On steep slopes firebreaks should be established using a linear erosion control and water bar.

**Water Diversion**  
Develop water diversion ditches on slopes to maintain erosion. Pitches of slopes will determine spacing and dimensions of the ditches. Ditches here should be 2 to 3 feet high and spaced approximately 15 degrees down slope, rather than directly on the contour. Ditches can be located with open ends down slope. Open ends can be located at intervals and should be located on the contour. Spacing should be based on the following criteria: (spacing is different for broad-based fire and rolling slope).



## FOREST FACTS

### Streamside Management Zones (SMZs)

**FOR MORE INFORMATION...**  
ARFC BMP Guidelines: [www.arkforestry.org](http://www.arkforestry.org)  
http://aap.arkforestry.org

The ARFC recognizes two types of stream for establishing SMZs: ephemeral, intermittent, and perennial.

1) Ephemeral streams have a defined channel but no banks. They flow only during or immediately after a rain. SMZs are not required.

2) Non-ephemeral streams (perennial or intermittent) have a defined channel and other banks. These flow more consistently than a rain. SMZs are recommended. Non-ephemeral streams have the same SMZ recommendations as lake and ponds.

**SMZs perform the following:**

- Prevent silt and debris from reaching the stream.
- Allow and create runoff of rain and control sedimentation in water into streams.
- Provide a dry and safe site that helps submerge water flow and prevent runoff.
- Stabilize stream banks, thereby reducing bank erosion.
- Increase diversity of ecosystems for plants and wildlife.
- Make streams suitable for diverse fish and aquatic populations by holding water temperatures low in summer and warmer in winter.
- Produce timber products. Proper harvesting across the riparian zone's productivity.

**The width of the SMZ is determined by the slope of the land adjacent to the water body. The following guidelines are recommended:**

- For slopes less than 7 percent the minimum SMZ width should be 35 feet.
- For slopes between 7 and 20 percent, the minimum SMZ width should be 50 feet.
- For slopes greater than 20 percent, the minimum SMZ width should be 75 feet.

**Remember, SMZs are marked on both sides of non-ephemeral streams, but width is determined by the adjacent slope, which may not be equal on both sides. A SMZ may be 50 feet on one side of a stream and 75 feet on the other.**

Occasionally a non-ephemeral stream may be located, meaning the stream is considered to run through several classes of riparian habitat. A SMZ includes all the land between the channels on both sides of the prescribed SMZ - a width adjacent to the most sensitive channel.

Some of the best fish and timber growth occurs in SMZs. Therefore, create timber harvest is necessary. However, an additional area of less than 50 square feet of basal area may prior to harvest. All streams in a SMZ are done to work to maintain the soil disturbance and not break the SMZ.

Guidelines for 40-BP can be found in the Arkansas Forestry Commission Best Management Practices For Water Quality Protection booklet, or online at [www.arkforestry.org/bmp](http://www.arkforestry.org/bmp), or see link.

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# Silvicultural BMP Assessment

## Previous BMP Implementation Averages

- 7: 2010-2011 - 89%
- 6: 2007-2008 - 86%
- 5: 2005-2006 - 87%
- 4: 2002-2003 - 85%
- 3: 2000-2001 - 83%
- 2: 1998-1999 - 80%
- 1: 1996-1997 - 85%



### 2016 – 2017: In Progress

- Using Landsat Imagery we collected 3012 pool sites
- Started to look at 250 random selected sites starting July 2017
- Plan to complete survey by January 2017
- Plan to analyze data and publish data by April 2017

# Obstacles Encountered

None up to this point





# Acknowledgements



**Arkansas Natural Resource Commission**



**Environmental Protection Agency,  
Region 6**



**Arkansas Timber Producers Association**



**Arkansas Forestry Association**



**School of Forest Resources**

# Arkansas Forestry Commission



Questions?

[www.arkansasforestry.org](http://www.arkansasforestry.org)

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**AFC BMP Coordinator**



# 8<sup>th</sup> BMP Implementation Survey Considerations

- 🌲 Site Selection Method
  - satellite imagery, severance tax, deeds, etc.
- 🌲 Ensuring Randomness
  - random number generator
- 🌲 Stratification
  - county, landowner, watershed.
- 🌲 Data Storage
  - database, spreadsheet, paper trail
- 🌲 Data Analysis