

# **Social, Ecological, and Economic Factors that Influence Forest Management Decisions:**

## **Social and Economic Factors**

(based on an article by Robert Averill in National Forestry, Autumn 2007)

Water is the lifeblood of all civilization, and all growing things depend upon it. The importance of water was recognized in the Organic Act of 1897, which governs the administration of the National Forests. The act provides that no national forest may be established except to improve and protect the forest, or to secure favorable conditions of water flows, and to furnish a continuous supply of timber. Forest health, water supplies, and timber production were the three main concerns in early forest management.

As other uses and concerns were recognized (recreation, wilderness, wildlife, urban sprawl, environmental concerns), foresters were expected to manage for multiple uses. This was identified and emphasized by the Multiple-Use Sustained Yield Act of 1960 and later the National Forest Management Act of 1976. Forestry and agricultural management practices were impacting wildlife so the Endangered Species Act was enacted in 1973.

The National Environmental Policy Act of 1969 requires federal agencies to disclose environmental impacts of any proposed projects. Under this act land managers must evaluate any management activity that might adversely impact wildlife or the environment before any work could begin. These additional steps cost money and time, so fewer projects were planned or completed. Land managers must also consider the cultural and historical impact of working in an area according to the National Historic Preservation Act of 1966. Even smoke from prescribed burns must be managed to follow state air quality rules limiting when burns may be attempted.

Our forests today are unhealthy and overcrowded with smaller, less valuable trees competing for limited water, light, and nutrients. A decade of drought and several new attacks of insects have stressed New Mexico forests even further. The population has exploded in forested areas and more people are moving to rural areas. These areas are called the wildland urban interface. Within them, land managers must balance decisions that impact life safety, new homes and developments, forest and watershed health, fire prevention, forest thinning, and aesthetics.

All these factors have had an impact on land management agencies that are responsible for fire suppression. For example, the US Forest Service now spends 41% of their budget (FY06) on fire alone, with costs expected to rise in the future. This leaves little money to perform multiple-use management. Our federal government's budget is stretched thin by the war effort. Therefore, many forest programs and activities are not being funded.

## Ecological Factors

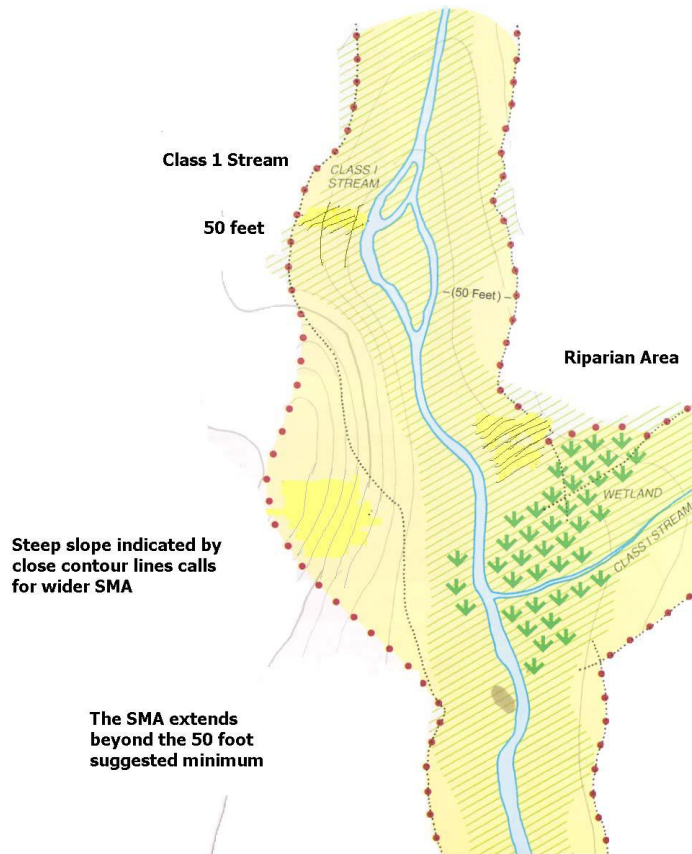
(from NM Forest Practices Guidelines)

As learned in the Wildlife section, riparian and wetland areas are crucial to a healthy forest ecosystem. Here we discuss how to establish protected zones or areas around these riparian and wetland areas to ensure that skidding and other harvesting practices do not damage them.



### SMA Boundaries

- Designate streamside management areas to provide stream shading, soil stabilization, sediment and water filtering effects, and wildlife habitat.
- “Stream” means a natural watercourse of perceptible extent with defined beds or banks which confine or conduct continuously or intermittently flowing water.
- Defined beds have a sandy or rocky bottom which result from the scouring action of water flow.
- The SMA encompasses a strip at least 50 feet wide measured from the ordinary (yearly average) high-water mark or definable bank of a pond or lake, or on each side of the stream or river. The width of the SMA may extend beyond the 50 feet to include riparian areas along the stream bottom and to provide additional protection in areas of steep slopes and erodible soils.
- Consult with forestry professionals (see District Offices, page **Error! Bookmark not defined.**), soil and water conservation specialists, or biologists if assistance is needed in setting appropriate SMA boundaries.



### ***Marking SMA Boundaries***

To be sure equipment operators have no question about the **SMA** boundary it should be clearly marked. Plastic flagging, degradable paint, or signs should be used at frequent intervals. A walk-through may also be appropriate before operations commence.

The purpose of marking a **SMA** is to be sure everyone working around a stream, lake, or other body of water knows the extent of the protected area.

Perennial streams are easy to identify. Intermittent streams can be more difficult to identify during dry periods. However, most intermittent streams are included on USGS topographic maps. Whether wet or dry, perennial or intermittent, during drought or wet years, streams should be protected with a **SMA**.

Individuals must be aware of wetlands by watching for water loving plants and plan activities and equipment locations accordingly. When a wetland is adjacent to a stream, the **SMA** should loop out to include any wetlands and provide protection. Proper **SMA** location requires practice and personal judgment.

## HARVESTING IN SMAS

Use the following BMPs when performing restoration activities in the Streamside Management Area.



NOTE: an alternate practice is needed with your harvest permit to harvest within the SMA. If a harvest permit is not required, typical harvest activity is still not allowed in the SMA. Please contact the nearest District Office (page **Error! Bookmark not defined.**).

Because of the value of the SMA, timber harvesting or thinning in the SMA should only be done to remove invasive species or otherwise restore the health of the ecosystem.

Especially important are streambank trees and shrubs. They anchor the bank, shade the stream, provide food, supply cover for fish, and habitat for birds and other wildlife.

**BMP** Leave snags and unmerchantable trees in the SMAs. They are habitat for many birds and animals.

Items to mention in Alternate Practice (Section 19.20.4.10):

- BMP** Directional falling should be done within SMA.
- BMP** Suspend the lead end of the log during skidding whenever possible
- BMP** Use cables to end line logs out of SMAs and wetlands when ground skidding systems are employed.
- BMP** Logs should be fully suspended when skyline skidding across a stream and above streambanks.
  
- BMP** Whole tree or tree-length yarding can reduce the need for slash disposal in the SMA.
  
- BMP** Keep slash out of water bodies by removing limbs and tops well above the stream high-water mark. Slash and other forest debris can clog and damage culverts and irrigation diversions; and decomposing slash can degrade water quality and habitat for fish and other aquatic animals.
  
- BMP** Trees on the bank eventually fall across the stream, helping to create a stair step of pools in the stream channel, providing a fish habitat component. Larger trees increase the benefits for the habitat.
  
- BMP** Protect SMAs with a slash free strip around the border.
  
- BMP** Do not service vehicles where chemicals, oil, or other toxic substances might contaminate soils, waterways, or waterbodies.