Sustainable Forestry Initiative℠ Program

Best Management Practices to Protect Water Quality
The American Forest & Paper Association (AF&PA) is committed to growing America’s forests for future generations. That is why, each year, we plant 180 trees for every child born in America and naturally reforest over a million acres. We have donated hundreds of thousands of acres of wetlands, mountains and forests to conservation groups across the country. Because forests are more than trees, we also are committed to providing clean water and wildlife habitat. We work closely with state and federal agencies, as well as environmental groups, to improve the health, quality and diversity of our forests while we renew and replenish them. We do this so that we and our children will have the products we need for the future and the forests we need for our recreational pursuits.

Not so long ago, however, we learned that some Americans felt future generations would not have all the benefits from the forest we enjoy today. These concerns are sincere, and we took them to heart. We wanted Americans to understand that forest and paper people have a keen self-interest in making certain that forests remain healthy and productive. We answered the concerns with a bold new commitment to long-term forestry. It’s called the Sustainable Forestry Initiative (SFI) program. The SFI program is a comprehensive strategy composed of forestry and conservation practices designed to ensure that future generations of Americans will have the same abundant forests and wildlife that we enjoy today.

Sustainable forestry means managing all our forests to meet the needs of the present without compromising the ability of future generations to meet their own needs. It means practicing a land stewardship ethic that integrates the growing, nurturing, and harvesting of trees for useful products with the conservation of soil, air and water quality, and wildlife and fish habitat.

The SFI program is the most comprehensive approach to good forest stewardship ever devised. State officials, academicians, conservation groups, loggers and private woodland owners like you all participated in its development. The program extends beyond SFI Program Participants’ own forests to include efforts to provide woodland owners with better information on harvesting, reforesting and managing their forests. It is within this spirit of cooperation that we provide you this brochure on “Best Management Practices to Protect Water Quality.” AF&PA member companies and licensees, through the SFI program, are fully committed to following the substance and spirit of best management practices to protect water quality—on their own land and in operations they are involved in with other landowners and loggers. For more information about our commitment to the SFI program and our efforts to help protect the environment, visit our website at www.afandpa.org.
“I think probably most of the things in the Oregon Forest Practice Rules are things we were doing on our own before they were actually defined in law. Landowners that I know are more than willing to take on some responsibility even if it involves dollars...You’re talking about tree farmers...people that are not short sighted.”

— Wayne and Colleen Krieger were the 1993 National Outstanding Tree Farmers of the Year from the south coast of Oregon. In 1972, Oregon became the first state to have a Forest Practices Act that addressed BMPs and other practices. Wayne and Colleen own 310 acres of Douglas-fir and other coastal conifers with some hardwoods as well.
As a private woodland owner, you can take pride in owning forestland in the United States. You are one of more than ten million Americans who own approximately 58% of the commercial forestland in America. The forest industry owns 13% of the forests and the remaining 29% is managed by the U.S. Forest Service and other government agencies.

Wood products from U.S. forests are the nation’s most valued agricultural commodity. Plus, the forestry sector is one of the top ten industrial employers in 46 of the 50 states.

Your forest not only provides wood products but also provides other values for society and for you personally. Wildlife habitat, clean air and water, recreational opportunities, other ecological functions, and aesthetic values are just a few examples. Walking through your forest, you can see, feel, hear, and smell the forest bounty. What you do on your land...
affects sustainable forestry in America. Whether you are currently conducting forest operations on your property or have not had active operations for years, your management may influence water quality, the way wetlands function, and many other values of the forest. Forest operations need to be conducted so they maintain water quality and wetlands.

The term “nonpoint sources of pollution” is used to identify water quality problems from agricultural, forestry, and other land management as different from pollution coming from “point sources” such as sewage treatment facilities, or manufacturing discharges.

Forestry practices contribute only a very small part to the nation’s overall water quality problems, but they can have significant local impacts. And what’s more, they can be avoided through the use of “best management practices” or BMPs.

“The streamside management zone along the river maintains water quality, leaves a good corridor for wildlife, and provides aesthetics when viewed from the river itself. We use some of the proceeds from timber harvests to get things back in order, to construct and maintain roads, to put in culverts, and of course, replanting trees... I think the key thing to knowing what is the right thing to do comes with education... The woods are full of people who know what needs to be done and they're more than willing to help folks like us.”

— Kirby Beam of Savannah, Georgia. Kirby and his wife Linda are the 1994 National Outstanding Tree Farmers of the Year. They manage 685 acres on one farm and double that acreage of adjoining family holdings.
National and state laws on water quality and wetlands identify best management practices to reduce pollution from non-point sources and to protect wetlands. A number of states require best management practices and other states strongly recommend them in programs of voluntary compliance with water quality goals and laws.

The term “Best...” can be a bit confusing. The idea actually comes out of an approval process at a state or region level relating the practice to a pollution concern or resource protection effort. The term does not mean the most expensive practice nor a practice that might not be practical to implement. Generally, BMPs are practices that are effective from a forestry standpoint, economical, effective from an environmental standpoint, and socially acceptable.

Best management practices became an established concept in the 1972 Federal Water Pollution Control Act and its subsequent amendments. The 1972 law first called for improved methods to reduce pollution and then in amendments defined the term in guidelines as:

“...The term ‘Best Management Practices’ means a practice or combination of practices that is determined by a State (or designated areawide planning agency) after problem assessment, examination of alternative practices and appropriate public participation to be the most effective, practicable (including technological, economic, and institutional considerations) means of preventing or reducing the amount of pollution generated by nonpoint sources to a level compatible with water quality goals.”
Examples of best management practices to protect water quality include:

- Erosion control measures on roads and skid trails
- Leaving vegetated buffer strips along streams
- Guidelines for stream crossings
- Recommended practices for harvesting and site preparation for reforestation
- Guidelines for pesticide use
- Control of waste disposal on forest lands

Each state handles BM Ps differently; thus, this publication refers you to other sources of information and education specific to your state. By contacting some of the organizations listed, you will receive more information explaining the way BM Ps are handled in your own state.

“Best management practices are listed in our objectives for watershed protection along with timber, wildlife habitat, education, recreation and aesthetics. We do a number of these things because we think it's right for the environment.”

—Richard Heck. Richard owns 205 acres of the finest hardwoods in the country in southeast Indiana. Indiana is now implementing voluntary BM Ps. Richard was the 1984 National Outstanding Tree Farmer of the Year.
You probably know better than anyone the resources on your property that you want to protect. You know where the streams and wetlands are located. Plus, you can identify other resources that are of particular interest to you, such as special places on your property, and any historical, cultural or aesthetic areas to protect during forest operations.

Water quality standards exist in your state that list the water characteristics to protect. Usually these relate to soil entering waters (sedimentation) and include the suspended sediments that give water its cloudy appearance (turbidity).

Other standards address changes in the physical characteristics of water, including changes in temperature or chemical composition. These relate to the possible introduction of wastes or pesticides to water and also to natural biological functions such as changes resulting from algal blooms due to excessive nutrients.

Many best management practices address operations in streamside management zones (SMZs). Streamside management zones are areas adjacent to the edge of the water on each side of the stream with distances and boundaries set by laws, regulations, or recommended guidelines. The streamside management zones may vary in width depending on the characteristics of the stream and the beneficial uses the water provides.

In contrast to specific streamside management zone distances or sizes, the term “riparian zone” is often used to describe the biological influence of streams, lakes and wetlands on the surrounding areas. Riparian zones are located in the forest next to water and are identified by different plants, soil and water relationships, flood zones, and uses of these areas by fish and wildlife. Streamside management zones (SMZs) are used to protect riparian zones as well as the stream or waterway.
“Of course we’re in this business for the long run and we hope to leave things better than what they were. We’ve tried to close the logging roads in a decent manner, built water bars properly and spaced them out, seeded landings, and bridged our stream crossings.”

— Pete McNeil, 1988 National Outstanding Tree Farmer of the Year. In Kentucky, which is a voluntary best management practices state, Pete manages about 1500 acres of woodlands next to his farm.

**Wetlands**

If you have wetlands on your property, you would be concerned with specific requirements and BMPs that cover your expected operations. The definition of wetlands, like streamside management and riparian zones, can be either biologically defined or specified in rules and regulations. The regulatory definition of wetlands is:

“Wetlands means those areas that are inundated or saturated by surface or ground water at a frequency or duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.”

The BMPs to protect wetlands will be related to the kinds of operations you might conduct and applicable federal or state requirements. Examples of wetlands BMPs may include:

- Minimizing excavation and filling that disrupt water flows
- Use of buffer areas around specific wetlands
- Concentrating periods of operations to the dry or frozen seasons
- Protection of certain areas for fish or wildlife habitats
- Minimizing the area disturbed by operations
“We practice integrated resource management for timber and wildlife. We keep three streams on our property pristine. Our roads were built initially to maintain their condition to minimize erosion. We keep people off the roads when it’s muddy and the frost is going out of the ground. The rest we do with a shovel.”

— Harry Chandler, 1986 National Outstanding Tree Farmer of the Year. Harry owns 240 acres of mixed eastern hardwoods and boreal conifers in northeastern Vermont. Vermont calls for use of “Acceptable Management Practices” which are similar to BMPs and carry the force of law to meet state water quality statutes.
**BMPs ARE A PART OF SUSTAINABLE FORESTRY**

- BM Ps are a critical part of sustainable forestry. It is just good sense to plan forest operations carefully and consider their impacts before starting.
- It is also a good idea to establish streamside management zones to protect water ways and riparian areas.
- By good design, construction, and maintenance of forest roads, you not only protect water quality but also protect your investment in the road itself.
- Everyone should be interested in using pesticides and herbicides carefully and leave untreated vegetated buffer strips around water and property boundaries.
- The cost of BM Ps are fundamentally borne by the landowner. They may require actual expenditures or may involve foregone revenues in some areas if management options are restricted.
- The costs of failures resulting from not using BM Ps could be exceedingly high. For example, an improperly designed and constructed road that fails and introduces sediment in forest streams is nearly always much more costly to repair than doing it right in the first place.
- Often money is more readily available for BM Ps implemented during forest harvesting operations. Also during timber harvesting, the equipment and workers to do BM Ps are already mobilized on your property, and it is generally more cost-effective to implement them at this time.
- In some states, the penalties imposed for not following BM Ps can be significant.

“We’ve practiced BM Ps since 1959 when we came up here. We knew about water pollution and erosion. Best management practices are not new things... just good ideas. Cost is not a problem because whenever we do logging or anything, we take care of it at the time and consequently, it doesn’t build up.”

— Dr. Terry Ozier, National Outstanding Tree Farmer of the Year for 1990. Terry and his wife Anne own 1800 acres in central Mississippi.

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You have several options for implementing BMPs on your property. BMPs can be a part of your contract for the sale and harvest of your timber or other operations you conduct. You can also have an agreement with those doing the work on your property to use the BMPs you prescribe and demonstrate appropriate techniques as they work on your land. And those landowners who do their own work in the forest can implement the needed BMPs as part of their ongoing operations.

For some BMPs you will need to be responsible even if no active operations are underway, e.g. road maintenance and erosion protection measures. In states with BMPs required by law, both you and your contractors may have legal responsibilities for implementing BMPs associated with your forest management.

The important point is that you should personally become knowledgeable about BMPs and communicate your wishes to those who work on your forest lands. A good way to do this is to schedule a pre-harvest walk through with the forester and the logger before your harvest begins. It is also a good idea to identify areas in a written plan with a map where special measures are needed. These areas should also be clearly marked on the ground prior to conducting any forest operations.
WHAT CAN YOU DO TO LEARN MORE ABOUT BMPs?

Fortunately, there are many people willing to help you with BMPs on your property. The professional foresters from industry who buy products from your forest can help you. Consulting foresters provide a range of services to forest landowners. Most loggers have received training on the use of BMPs in conjunction with harvesting and other forest operations. The Cooperative Extension Service foresters through your state universities provide education and information about BMPs. State forestry agencies will provide technical assistance for implementing BMPs. Many states have developed manuals that describe in detail recommended or required forest management activities for a particular state. Also, those involved in administering BMPs have information on how to meet your state’s BMPs requirements or water quality standards through BMPs. You are not alone when it comes to using BMPs!

There are a number of organizations to help you learn more about your forest resources and how to protect them with best management practices. These include:

- Your state forestry agency has information and technical assistance available.
- Your state forestry association can provide information.
- Your local office of the Cooperative Extension Service offers education.
- Your local or state office of the Natural Resources Conservation Service (formerly the Soil Conservation Service) can provide information.
- Your state or federal agency dealing with environmental quality.
- The person who provided you with this publication will be able to suggest where you can get more information, education, and assistance.
Sustainable Forestry Initiative℠ Program
Growing Tomorrow’s Forests Today®

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