



UI Extension Forestry Information Series II

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Best Management Practices (BMP's) for Idaho Riparian Areas

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Idaho's forested land provides us with clean water and air, wildlife habitat, timber, multiple recreational opportunities, and beauty beyond compare. The practice of forestry has been described as being both an art and a science and those who own and manage forestland know this to be true. Some things can be measured, calculated, predicted, and formulated, while other things cannot - we can only forecast the weather, estimate growth, and predict forest health conditions. When it comes to forest management, one of the things we do know for sure is that "it depends". What happens in a forested ecosystem so often depends on past uses, current conditions, and future decisions. It depends on how much moisture we get and when, on dry lightening and fuel conditions, on soils, nutrients, and species compositions. As with other land management decisions and outcomes, in forestry "it depends".

But forestry is also a science. We have come a long way in understanding forested ecosystems. We have found our way through research and trial and error. And we are always learning something new. Best Management Practices (BMP's) were developed as recommendations for Idaho's forest owners and managers to follow, not only to comply with the Idaho Forest Prac-

tices Act, but also to enable us to be better land managers and stewards. BMP's have been determined to be the most effective and practicable means of preventing or reducing the amount of non-point pollution generated by forest practices. BMP's apply to all aspects of forest management

- road planning, design, construction, and maintenance, timber harvest planning and execution, and streamside management. This article addresses BMP's in riparian areas and stream protection zones (SPZ's).



Riparian areas are directly adjacent to bodies of water and have many important functions. They act as a filter and effectively trap sediment from entering stream environments from adjacent roads and uphill areas. Trout and other fish reproduce by laying their eggs in stream-bottom gravel. When too much sediment enters the stream environment, it fills the gaps in the gravel and suffocates eggs and fry of reproducing species. Excessive sediment also has an abrasive effect on sensitive gill tissues, kills aquatic insects and algae, fills in resting pools, and interferes with recreation.

Riparian areas provide shade to the stream environment. By maintaining vegetation along streams, water temperatures remain more con-

stant. Without streamside vegetation, water temperatures would be higher in the summer and lower in the winter. Aquatic species have a small temperature and dissolved oxygen range in which they successively reproduce and thrive. Warmer than average water temperatures decreases dissolved oxygen, increases algae growth, and effects spawning behaviors and success.

Vegetation along stream-banks reduces bank degradation and provides habitat to a multitude of wildlife species. Stream-banks are stabilized by the root systems of trees and shrubs that line the banks. Dense vegetation slows water velocities, which is especially important during flooding, and bank overhangs provide hiding places for fish where they can rest and feed with less pressure from predators.

In the Northern Rockies, 59 percent of land birds use riparian areas for breeding, 39 percent of which breed in no other habitats. Food and cover are abundant in riparian areas, not only for land animals, but also for those that live in the stream as well. Leaves and insects dropping into streams from overhanging vegetation provide 90 percent of the food that enters streams in forested environments. Dense riparian vegetation also serves as well-traveled wildlife corridors that connect one area with another.

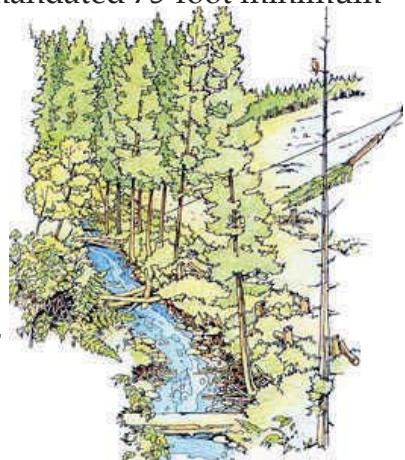
Stream Protection Zones (SPZ's)

The Idaho Forest Practices Act (FPA) states that streambeds and streamside vegetation shall be protected during and after forest practice operations, leaving them in the most natural conditions as possible to maintain water quality and aquatic habitats. To sum it up, stream protection zones are meant to "keep the dirt out of the creek". Forest owners and managers know that riparian

areas often support the best tree growth - trees respond to the deep fertile soils and moisture available in riparian areas. But the SPZ does not have to be a timber harvest "keep out" zone. With the right planning and execution, some trees in the SPZ can be harvested without damaging riparian habitats and other benefits of healthy riparian systems.

As defined by FPA, Class I streams are used for domestic water supply or are important for the spawning, rearing, or mitigation of fish. Class II streams are usually headwater streams or minor drainages that are used by only a few, if any, fish for spawning and rearing. Streams do not have to have water in them to be classified as streams by the state. FPA defines a stream as "a natural water course of perceptible extent with definite beds and banks which confines and conducts continuously or intermittently flowing water. Definite beds are defined as having a sandy or rocky bottom which results from the scouring action of water flow." Any reference in the FPA rules to Class I streams also applies to lakes.

Class I SPZ's are a mandated 75-foot minimum slope distance on each side of the ordinary high water marks. Class II SPZ's are a mandated 30-foot minimum slope distance on each side of ordinary high water marks. For Class II streams that do not contribute surface flow to Class I streams must be treated to provide soil stabilization and water filtering effects by leaving undisturbed soils in widths sufficient to prevent washing of sediment. In no case will this width be less than five feet slope distance on each side of the ordinary high water marks.



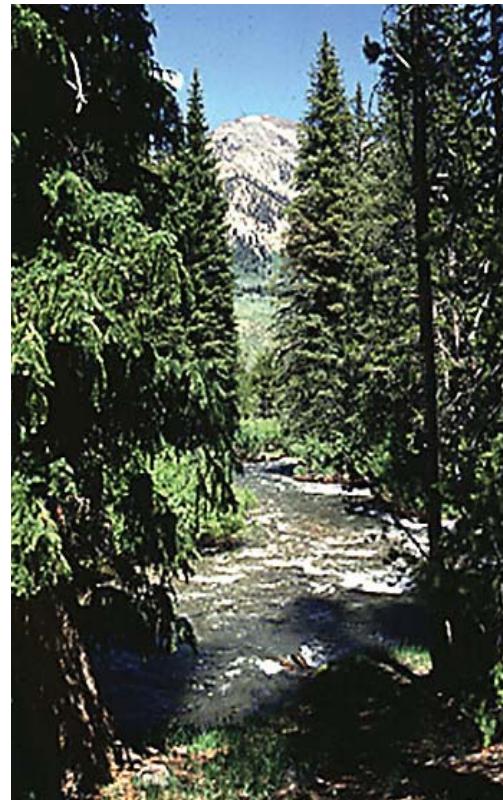
In addition:

- SPZ's must extend beyond the 75-foot minimum when steep or erosive soils border the stream corridor. The steeper the slope, the wider the SPZ.
- SPZ's also extend beyond the 75-foot minimum when wetland areas lie adjacent to a stream. Boundaries then need to loop out to include any wetlands in the SPZ.
- Lakes require an approved site specific riparian management prescription prior to conducting forest practices within the SPZ.
- SPZ's boundaries should be clearly marked with plastic flagging, paint, or signs.
- Equipment is not allowed in SPZ's or wet areas, but harvesting is allowed.
- When harvesting within a SPZ, leave 75 percent of current shade cover adjacent to streams. This can be in the form of hardwoods, unmerchantable trees, and shrubs. You must also provide for large organic debris, soil stabilization, wildlife cover, and water filtering effects of vegetation.
- Directional falling and/or mechanical feller bunchers allow the removal of some SPZ trees without damaging the SPZ. Avoid falling trees into streams or water bodies.
- Suspend the lead end of the log when skidding trees out of the SPZ whenever possible. Ground based skidding in or through streams is not permitted.
- Keep slash out of streams by limbing or topping trees above the high water mark. Whole-tree or tree-length yarding can reduce slash disposal in the SPZ.
- Hand-scalp and plant trees by hand in SPZ's.

Best management practices are part of the tool kit provided to forestland managers through research, trial, and error, that, when applied correctly, allows us to practice the art and science of forestry.

For more information on BMP's, contact your Idaho Department of Lands Forest Practices Advisor (listed in your phone book) or the UI Extension Forestry office (208-885-7718) for a copy of the following publications:

- "Rules Pertaining to the Idaho Forest Practices Act, Title 38, Chapter 13, Idaho Code"
- "Forestry BMP's for Idaho".



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