April 19, 2004

Monongahela National Forest-Forest Plan Revision

Recommendation for a Forestwide Riparian Conservation Corridor Management Prescription

Introduction

The Forest Plan Revision Soil and Water Team recommend that a Riparian Conservation Corridor (RCC) Management Prescription be developed for protection of forest aquatic resources and riparian areas. The motivation for doing this stems from the need to shift the focus of our management around streams, lakes and wetlands to better manage the ecosystem and protect the values associated with aquatic and riparian-dependent resources.

Purpose and Intent

The purpose of management within riparian areas is to maintain or improve the conditions of riparian and aquatic resources. These conditions include the composition, structure, and function of the riparian area and the hydrologic processes of the drainage network, with an emphasis on providing for beneficial uses, water quality, and diverse and sustainable aquatic and riparian habitats that support dependent plant and animal communities.

Desired Conditions

Primarily natural processes (e.g., plant succession, wind-throw, ice damage, floods, erosion, and seasonal flows) modify and determine the resource conditions within the riparian conservation corridor. Management treatments are designed to maintain or improve the riparian and aquatic resource conditions. The area has an abundance of woody debris and organic inputs and low levels of accelerated fine sediment in the stream. In-stream flows support channel function, aquatic biota and wildlife habitat, floodplain function, and aesthetic values. Floodplains properly function as detention/retention storage areas for floodwaters, sources of organic matter to the water column, and habitat for riparian-dependent species. Adequate levels of nutrients are present in both the terrestrial and aquatic components of the ecosystem. Stream channels are stable and include a complex distribution of habitat for fish and other aquatic organisms. Vegetation is primarily made up of a mixture of riparian and upland species. Some current and older roads, trails, and recreation developments exist to provide access and opportunities for Forest users, but impacts from these sources are kept within acceptable levels. Water quality is within a range that ensures survival, growth, reproduction, and migration of aquatic and riparian-associated wildlife species, and meets the state designated uses for those waters.

Goals

The physical structure, biological components, and ecological processes of riparian areas sustain the functions and values of aquatic, riparian, and associated upland communities. Riparian management retains, restores, or enhances the inherent ecological processes and functions of the associated aquatic, riparian, and upland components within the corridor.

The management prescription for the Riparian Conservation Corridor should include goals or objectives such as:

1. Maintain or enhance canopy conditions that regulate riparian and stream temperature regimes, considering various scales.
2. Maintain or enhance the natural recruitment potential for large, stable woody debris to stream channels, wetlands, lakes, ponds and floodplains to improve channel stability and promote aquatic habitat conditions.
3. Maintain natural levels of nutrient inputs into aquatic systems from terrestrial sources.
4. Maintain or enhance the ability for riparian vegetation to provide stability and structural integrity to floodplains and toe-slope positions, and provide habitat for riparian-dependent species.
5. Maintain or enhance the ability of the riparian area to minimize the potential for stream sedimentation from soil-disturbing activities.
6. Promote or enhance the normal riparian/floodplain function in flood water storage and flow moderation.
7. Maintain or enhance the connectivity of aquatic habitats and terrestrial wildlife corridors.
8. Facilitate the conservation of riparian-dependent plants and animals.

Various management techniques may be used to accomplish these goals or objectives. These include but are not limited to:

- stream channel and bank stabilization,
- floodplain restoration,
- stream habitat enhancement,
- removal of artificial barriers to aquatic organism passage,
- riparian planting and silvicultural treatments, and
- prescribed fire.

Background

The 1986 Forest Plan includes a filterstrip requirement for all perennial, intermittent and ephemeral water courses that have formed a functioning channel. The filter strip is designed to help trap sediment and other non-point sources of pollution before they reach stream channels. The width of this filterstrip is based on an evaluation of the erodibility of the soil-rock complex. Appendix R of the 1986 Forest Plan has a table that establishes a *minimum* filter strip width for each side of the channel that ranges from 50-250 feet. An adjustment of the filter strip width may be made for activities taking place near ephemeral streams that have formed a functioning channel. For slopes of 30 percent and less, the filterstrip width along ephemeral channels may be multiplied by 0.3. For slopes

of 31 percent and higher, the filterstrip width along ephemeral channels may be multiplied by 0.5. Activities that could expose potentially damaging amounts of mineral soil are prohibited within the filterstrip.

In July 1999 the Forest adopted management guidelines developed by a Riparian Working Group. These guidelines describe how riparian vegetation will be managed, and are in addition to the filterstrip requirements in the 1986 Forest Plan. The guidelines specify a minimum no programmed harvest (NPH) zone for perennial, large intermittent (>50 acre watershed), small intermittent (<50 acre watershed), and ephemeral channels.

The transitional area between the aquatic and terrestrial ecosystems is referred to as the riparian ecosystem. The riparian area includes both the aquatic ecosystem and the riparian ecosystem. Delineation of the riparian area is dependent on characteristics of landform, water regime, soil, and vegetation. The riparian area must include all of the following, if they are present: aquatic ecosystem, riparian ecosystem, and wetlands. The 1999 guidelines place limits on the amount of timber that can be harvested within the riparian area that extends beyond the no programmed harvest zone. For perennial and large intermittent streams (drainage area>50 acres), a minimum of 70 square feet of basal area per acre must be maintained within the riparian area that lies outside of the NPH zone. For small intermittent and ephemeral channels (drainage area<50 acres), a minimum of 40 square feet of basal area per acre must be maintained within the riparian area that lies outside of the NPH zone. The NPH zone may contain the entire riparian area in many areas. Occasionally, the riparian area may extend beyond the NPH zone, particularly along major streams and rivers, or where floodplains are especially wide

Riparian Conservation Corridor Definition

In considering the area that this Management Prescription would apply to, we looked at the 1986 Forest Plan and the 1999 Riparian Guidelines. The majority of the team felt that it was necessary to maintain the current level of stream protection provided by the 1986 Forest Plan and the 1999 Riparian Guidelines. It was discussed that the area for this management prescription should be defined using the greatest level of protection required by the filterstrip requirements in the Forest Plan. As mentioned above, the filterstrip for ephemeral channels may be modified based on slope. It was discussed that the distinction between an ephemeral and intermittent channel may often be difficult to determine in the field. The 50 acre watershed distinction in the 1999 guidelines may be a more practical break. We determined that this management prescription would apply to lands within 250 feet of all streams with a watershed greater than 50 acres and, using the 0.5 multiplier, lands within 125 feet of all stream channels with watersheds less than 50 acres.

The soil-water-rock sensitivity rating and filterstrip table could be referenced in the plan, but kept as a separate document so that updates could be completed without the need for an amendment. The width of the RCC could be adjusted at the project level using the soil-water-rock sensitivity rating and filterstrip table. Site-specific analysis may also require adjustments to the RCC width so that at a minimum it includes:

1. The 100-year floodplain
2. The extent of riparian vegetation

Activities within the RCC would be allowed as long as they do not detract from our ability to achieve the goals and objectives defined for this management prescription.

Management Prescription Standards & Guidelines

The basal area requirements, established in the 1999 guidelines, would be dropped. However, the no programmed harvest widths would be included in this management prescription, with the following changes to the widths:

Stream Classification	1999 Guidelines Width	Revised Plan Width
Perennial	100’	100’
Large Intermittent (>50 watershed acres)	50’	100’
Small Intermittent (<50 watershed acres)	25’	25’
Ephemeral	25’	25’

The NPH zone must at least include the riparian area as defined by FSM 2526. In some areas, the 50-year floodplain may also need to be included in the NPH zone, but this determination can be made at the project level. The 100 foot NPH zone would apply to all perennial channels, even those with watersheds less than 50 acres in size. The proposed changes would eliminate the difficult task of determining stream flow regime in the field.

Activities that *promote* the goals and objectives would be allowed in the no programmed harvest area. Designated stream crossings would be allowed with site-specific analyses and mitigation.

As always, please feel free to send me your comments and suggestions.

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