# APPENDIX C

# RIPARIAN CORRIDORS

## DEFINITION OF RIPARIAN CORRIDOR

### RIPARIAN CORRIDORS VERSUS RIPARIAN AREAS

Riparian Areas are functionally defined as three-dimensional ecotones of interaction that include terrestrial and aquatic ecosystems, that extend down into the groundwater, up above the canopy, outward across the floodplain, up the near-slopes that drain to the water, laterally into the terrestrial ecosystem, and along the water course at a variable width (Ilhardt et al. 2000). A Riparian Corridor, on the other hand, defines a fixed width area for management purposes, which may fall beyond the true Riparian Area and may include an upland component (USDA Forest Service, 2001). Within the Riparian Corridor management prescription area (Prescription #11), management practices are specified to maintain riparian functions and values. As a management prescription area, this includes corridors along all defined perennial and intermittent stream channels that show signs of scour, and around natural ponds, lakeshores, wetlands, springs and seeps.

## DETERMINATION OF RIPARIAN CORRIDORS

Due to their spatial extent, riparian corridors are not identified at the scale of the Forest Plan map of prescription allocations. For project planning and implementation, the following process will be used to determine the extent of site-specific riparian corridors.

Riparian corridor widths are designed to encompass the riparian area defined on the basis of soils, vegetation and hydrology and the ecological functions and values associated with the riparian area. The widths in Tables C-1, C-2, C-3 and C-4 shall be used to delineate the Riparian Corridor if the corridor is not site-specifically determined as described below.

If a site-specific field investigation determines the need to vary the widths in the Tables described above, that width shall become the project level Riparian Corridor. This corridor shall be determined by an interdisciplinary analysis using site-specific information to ensure that riparian values and functions are maintained.

The slope-dependent Riparian Corridor widths are measured in on-the-ground surface feet perpendicular from the edge of the channel or bank (stream, water body, etc.) and extend out from each side of a stream. For ponds, lakes, sloughs, and wetlands (including seeps or springs associated with wetlands) the measurement would start at the ordinary high water mark and go around the perimeter. For braided streams, the outermost braid will be used as the water's edge. An interrupted stream (a watercourse that goes underground and then reappears) will be treated as if the stream were above ground. (An acceptable level of error for on-the-ground measurements of these widths is $\pm$ 10 %.)

The Riparian Corridor includes human-created reservoirs, wildlife ponds, wetlands, and waterholes connected to or associated with natural water features. In addition, those areas not associated with natural water features, but support riparian-dependent flora or fauna, will have a riparian corridor designation.

The Riparian Corridor management direction does not apply to constructed ponds developed for recreation uses; or to human-made ditches, gullies, or other features that are maintained or in the process of restoration. For these areas, site-specific analysis will determine the appropriate protective measures. (See also the Forest-wide Standards in Chapter 2.)

## Riparian Corridor Widths on the Chattahoochee NF

**Table C- 1. Riparian Corridor Minimum Widths for Perennial Streams, Lakes, Ponds, or Wetlands on the Chattahoochee National Forest**

| SLOPE CLASS | 0-10% | 11-45% | 46% + |
|---|---|---|---|
| Minimum width in Feet (Measured as described above) | 100 | 125 | 150 |

**Table C- 2. Riparian Corridor Minimum Widths for Intermittent Streams on the Chattahoochee National Forest**

| SLOPE CLASS | 0 –10% | 11-45% | 46% + |
|---|---|---|---|
| Minimum width in Feet (Measured as described above) | 100 | 125 | 150 |

## Riparian Corridow Widths on the Oconee NF

**Table C- 3. Riparian Corridor Minimum Widths for Perennial Streams, Lakes, Ponds, or Wetlands for the Oconee National Forest**

| SLOPE CLASS | 0-30% | 31-45% | 46% + |
|---|---|---|---|
| Minimum width in Feet (Measured as described above) | 100 | 125 | 150 |

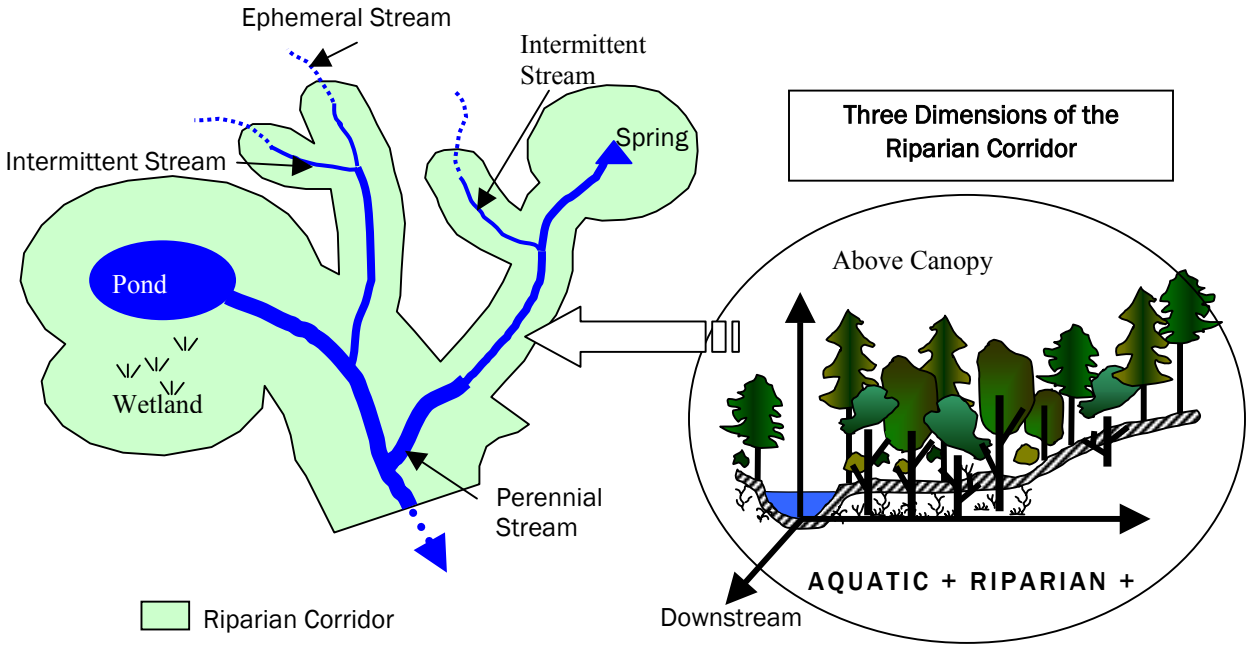
**Table C- 4. Riparian Corridor Minimum Widths for Intermittent Streams on the Oconee National Forest**

| SLOPE CLASS | 0 –30% | 31-45% | 46% + |
|---|---|---|---|
| Minimum width in Feet (Measured as described above) | 50 | 75 | 100 |

## OVERVIEW OF RIPARIAN CORRIDORS

Figure C-1, below, is a simplified representation of the Riparian Corridor. It demonstrates the extension on both sides of a watercourse, down into the water table, and laterally around wetlands and other surface water sources. Since the Riparian Corridor is defined by a fixed width by stream type, it may fall within or beyond the true Riparian Area.

**Figure C - 1. Representation of the Riparian Corridor**




## OPERATIONAL DEFINITION FOR A RIPARIAN AREA

Riparian Areas are areas associated with the aquatic ecosystem and that portion of the terrestrial ecosystem that is substantially affected by the presence of surface and ground water. Riparian areas consist of perennial streams, natural ponds, lakes, wetlands, and adjacent lands with soils, vegetation and landform indicative of high soil moisture or frequent flooding. Riparian areas have variable widths that are determined by ecologically significant boundaries rather than arbitrary distances. The extent of riparian areas is determined on-the-ground using features of soil, landform and vegetation. No feature is used alone to delineate these ecosystems. Characteristics indicative of these areas include:

**Soils**: soils with poor drainage or a high water table during the growing season such as Toccoa, Cartecay, Suches, Chewacla, Wehadkee

**Landform** – the 100-year floodplain (relatively flat areas including the area subject to a 1 percent (100 year recurrence) or greater chance of flooding in any given year).

**Vegetation** – the presence of hydrophytic ("water-loving") vegetation, classified as obligates or facultative wetland species as defined by the US Fish and Wildlife Service in the National List of Plants that occur in Wetlands: Southeast Region.

## RELATIONSHIP OF RIPARIAN CORRIDOR MRx 11 WITH OTHER MANAGEMENT PRESCRIPTIONS

The Riparian Corridors occur within other management prescription allocations. In order to establish precedence, the following rules apply:

**Where the Riparian Corridor management prescription area occurs within lands that have been allocated to the following Management Prescriptions, then whichever management direction is the most restrictive will apply**:

- 1A/1B – Congressionally Designated Wilderness or Recommended Wilderness Study
- 2A/2B – Congressionally Designated Wild & Scenic River or Rivers Recommended or Eligible as Wild & Scenic Rivers
- 3A – National Scenic Areas
- 4D – Botanical – Zoological Areas,
- 4H – Forest Designated Outstandingly Remarkable Streams
- 9F – Rare Communities

For lands allocated to all other management prescriptions, where the riparian corridor occurs within these allocations, the direction in the Riparian Corridor Management Prescription will take precedence.

## RELATIONSHIP WITH STREAMSIDE MANAGEMENT ZONES AND BEST MANAGEMENT PRACTICES

The direction for water quality in the Chattahoochee-Oconee National Forests Land Management Plan meets or exceeds Georgia's Best Management Practices (BMPs) for Forestry (1999). The current Georgia BMPs Handbook is incorporated as direction in the Forest Plan and is implemented for those silvicultural activities required to meet resource objectives. Standards for other resource activities (non-silvicultural) are included in Chapter 2 of the Plan – Forest-wide Standards, or specific direction in individual Management Prescriptions. The current version of the *Manual for Erosion and Sediment Control in Georgia (5th edition, 2000)*, and other applicable Forest Service resource handbooks also provide direction and recommendations.

The Streamside Management Zones (SMZ) recommended in the Georgia Forestry BMP Handbook identified above are designated areas directly adjacent to perennial and intermittent streams and water bodies where silvicultural activities are controlled primarily to protect water quality and aquatic organisms from upslope land uses. As described, Riparian Corridors are fixed width management prescription areas that maintain ecological processes and functions. SMZs identify recommended practices to protect water quality, including maintaining shade, minimizing sediment movement into streams, and providing habitat and travel ways. SMZs may be the same width or smaller than the riparian corridor, however, in some cases they may extend beyond the corridor. The Georgia BMP handbook recommends a 100 foot SMZ on streams classified as trout waters. The distances in Tables C-1 and C-2 comply with this recommendation.

## RELATIONSHIP WITH EPHEMERAL STREAMS

Ephemeral streams do not have riparian areas, but are hydrologically connected to perennial and intermittent streams downstream. They rarely carry enough runoff to displace soil, however they may move the litter on top of the soil. They flow only in direct response to precipitation, lack defined channels and are above the water table at all times. Some ephemeral streams exhibit evidence of scouring from storm events. Ephemeral streams lack riparian vegetation and have soils typical of the surrounding landscape.

Standards for the Ephemeral Stream Zone are found in Chapter 2, Watershed Management, of the Forest Plan. The primary purpose of this zone is to maintain the ability of the land areas to handle storm flows and filter sediment from upslope disturbances while achieving the goals of the adjacent management prescription area. In addition, the emphasis along ephemeral streams is to maintain stream stability and sediment controls by minimizing vehicle entry into the stream bottom and maintaining, restoring, or enhancing large woody debris. The management direction in this zone reflects the adjacent management prescription and may be modified as a result of watershed analysis.

The ephemeral stream zone is identified as 25 feet on each side of an ephemeral with evidence of scouring. Scouring is described as movement of the duff or litter material on the surface due to water movement, exposing the soil below.