

FORESTLAND

Planning

Resource Management

Systems



Forestland

Planning Resource Management Systems

Successful resource management on forestland is the correct application of a combination of practices that will meet the needs of the forestland ecosystem (the soil, water, air, plant, and animal resources, and the objectives of the land user.

The minimum quality criteria that must be met on forestland for each of the resource concerns is explained in Section III-A of the Field Office Technical Guide.

Manipulation and management of the species composition is the basis of conservation of all the resources in a forested land use and supports all other practices included in a Resource Management System (RMS). The practice Forest Stand Improvement is an ESSENTIAL practice because its application accomplishes a variety of purposes to address all resource concerns and meets most landuser objectives. Proper consideration, planning, and installation of Forest Harvest Trails and Landings assures the minimization of soil, wildlife and plant disturbance during any management, forest product removal, and recreational activities.

All other practices planned on forestland are to either: (1) facilitate or enhance the application of the management plan and are identified as DESIRABLE practices, or (2) establish, renovate, more intensively manage, or accelerate changes in the forest and are identified as NEEDED practices. These NEEDED practices are planned when necessary to treat specific resource problems to meet the criteria for managing the soil, water, air, plant, and animal resources.

Resource Management Systems include combinations of practices that are:

1. ESSENTIAL – Those practices that are essential to successful forest management and are always planned in the RMS.
2. DESIRABLE – These practices facilitate or enhance the forest management practices.
3. NEEDED – These practices are planned when necessary to establish, renovate or more intensively manage the forestland, or accelerate changes in the forest by treating specific resource problems to meet the RMS criteria.

FOREST

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Successful resource management on forest land is the correct application of a combination of practices that will meet the needs of the total forest land ecosystem- the soil, water, air, plant, and animal resources, and the objectives of the land user. Quality criteria that must be met on forest land for each of the resource concerns is explained in Section III of the Field Office Technical Guide. A Resource Management System (RMS) is developed by selecting a combination of the ESSENTIAL, plus the DESIRABLE or NEEDED practices, or both, whose combined effects will meet the criteria for each resource.

ESSENTIAL Practices- These practices are essential for proper forestland management and sustainability, and are always planned in the RMS.

Forest Stand Improvement

DESIRABLE Practices-These practices facilitate the application of the essential practices.

Access Road (560)

Surface Drainage - Field Ditch (607)

Surface Drainage - Main/Lateral (608)

Forest Trails & Landings (655)

NEEDED Practices- These practices are planned when necessary to establish, renovate, or accelerate changes in forestland or to treat specific resource problems.

Access Control (472)

Bedding (310)

Clearing and Snagging (326)

Controlled Drainage (335)

Critical Area Planting (342)

Fence (382)

Firebreak (394)

Mulching (484)

Nutrient Management (590)¹

Prescribed Burning (338)

Filter Strip (393)

Fuel Break (383)

Forest Slash Treatment (384)

Road, Trail and Landing Closure (654)

Streambank & Shoreline Protection (580)

Structure for Water Control (587)

Tree/Shrub Establishment (612)

Tree/Shrub Site Preparation (490)

Tree/Shrub Pruning (660)

Upland Wildlife Habitat Mgt. (645)

Waste Utilization (633)¹

Wetland Wildlife Habitat Mgt. (644)

AGROFORESTRY Practices-These practices are planned when needed as specified in the appropriate Cropland, Hayland, Pasture or Headquarters Resource Management Systems.

Alley Cropping (311)

Silvopasture Establishment (381)

Windbreak/Shelterbelt Establishment (380)

¹Always plan when nutrients and/or animal waste were applied.

.S. Department of Agriculture
Natural Resources Conservation Service
Georgia

FORESTLAND RESOURCE MANAGEMENT SYSTEM (RMS)

Existing Conditions: The concerns identified are those that exist or have a high potential for occurring in the absence of needed treatment.

Fully stocked stand (90 acres) of 15-year old loblolly pine. Planted on a 6' x 10' spacing with 650 trees per acre present. Average DBH is 7".

Well-drained sandy loam soil is the dominant soil mapping unit. Site Index²⁵ is 60 for loblolly pine.

No significant understory.

Wildlife habitat food and cover is inadequate.

Canopy cover is 90% and crown ratio is 35%.

The field is located adjacent to a mature oak-hickory forest stand on one edge, through which passes a perennial stream about 200 feet from the pine stand. The remainder is adjacent to cropland.

Landuser objective is primarily timber production with wildlife and soil erosion reduction as secondary management priorities.

(Forestland – RMS – GA)

Option 1 – Manage for short-term pulpwood rotation.

Resource Problems

Conservation Practices	Soil				Water		Air		Plant		Animals	
	Erosion		Deposition		Quality		Quality		Condition	Mgt.	Habitat	
					Surface Water Contaminants	Aquatic habitat	Airborne Sed. & Smoke		Low Productivity	Improper Growth	Inadequate Food Supply	Inadequate Cover or Shelter
					Suspended Sediment	Suit.	Safety	Health				
Quality Criteria Met	√	√	√	√	√	√	√	√	√	√	√	√
Forest Harvest Trails & Landings	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A	N/A
Forest Stand Improvement	-	-	-	-	-	-	N/A	N/A	+	+	+	+
Prescribed Burning	-	-	-	-	-	-	-	-	+	+	+	+
Critical Area Planting*	+	+	+	+	+	+	N/A	N/A	+	+	+	+
Firebreak	+	0	+	+	+	+	+	+	+	+	+	+
Forest Site Preparation*	-	-	-	-	-	-	-	-	+	+	+	+
Tree/Shrub Establishment*	+	+	+	+	+	+	+	+	+	+	+	+
Upland Wildlife Habitat Mgt.	+	+	+	+	+	+	+	+	+	+	+	+

* Following timber harvest (clearcut)

(Forestland – RMS – GA)

Option 2 – Manage for long-term sawtimber rotation.

Resource Problems

Conservation Practices	Soil				Water		Air		Plant		Animals	
	Erosion		Deposition		Quality		Quality		Condition	Mgt.	Habitat	
					Surface Water Contami-nants	Aquatic habitat Suit.	Airborne Sed. & Smoke		Low Productivity	Improper Growth	Inadequate Food Supply	Inadequate Cover or Shelter
					Suspended Sediment		Safety	Health				
Quality Criteria Met	√	√	√	√	√	√	√	√	√	√	√	√
Forest Harvest Trails & Landings	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A	N/A
Forest Stand Improvement	-	-	-	-	-	-	N/A	N/A	+	+	+	+
Prescribed Burning	-	-	-	-	-	-	-	-	+	+	+	+
Critical Area Planting	+	+	+	+	+	+	N/A	N/A	+	+	+	+
Firebreak	+	0	+	+	+	+	+	+	+	+	+	+
Upland Wildlife Habitat Mgt.	+	+	+	+	+	+	+	+	+	+	+	+

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FORESTLAND RESOURCE MANAGEMENT SYSTEM (RMS)

Existing Conditions: The concerns identified are those that exist or have a high potential for occurring in the absence of needed treatment.

Fully stocked, all-aged stand (30 acres) of mixed pine (short leaf/loblolly) & hardwoods (oak/hickory).

Well-drained sandy clay loam soil is the dominant soil mapping unit. Site Index is 64 for white oak and 72 for loblolly pine.

Wildlife food and cover is inadequate for upland game species due to open understory.

Canopy cover is 90%.

The field is surrounded by cropland and pastureland, and is bisected by a perennial stream. Pine is the predominant species on the upland, with the hardwoods predominating adjacent to, and upslope of, the stream.

Landuser objectives are primarily long-term timber production with wildlife, family recreation, and soil erosion reduction as secondary management priorities.

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(Forestland – RMS – GA)

Option 1 – Manage existing stand for sustained pine and hardwood sawtimber production.

Resource Problems

Conservation Practices	Soil					Water		Air		Plant		Animals	
	Erosion			Deposition		Quality		Quality		Condition	Mgt.	Habitat	
						Surface Water Contaminants	Aquatic habitat Suit.	Airborne Sed. & Smoke		Low Productivity	Improper Growth	Inadequate Food Supply	Inadequate Cover or Shelter
						Suspended Sediment		Safety	Health				
Quality Criteria Met	√	√	√	√	√	√	√	√	√	√	√	√	√
Forest Harvest Trails & Landings	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A	N/A
Forest Stand Improvement	-	-	-	-	-	-	-	N/A	N/A	+	+	+	+
Prescribed Burning	-	-	-	-	-	-	-	-	-	+	+	+	+
Critical Area Planting	+	+	+	+	+	+	+	N/A	N/A	+	+	+	+
Firebreak	+	0	0	+	+	+	+	+	+	+	+	+	+
Stream Crossing	+	+	+	+	+	+	+	N/A	N/A	0	0	0	0
Recreation Area Improvement	+	+	0	+	+	0	0	0	0	+	+	+	+
Upland Wildlife Habitat Mgt.	+	+	+	+	+	+	+	+	+	+	+	+	+
Use Exclusion	+	+	+	+	+	+	+	+	+	+	+	+	+

(Forestland – RMS – GA)

Option 2 – Clear-cut with site preparation and tree planting.

Resource Problems

Conservation Practices	Soil					Water		Air		Plant		Animals	
	Erosion			Deposition		Quality		Quality		Condition	Mgt.	Habitat	
						Surface Water Contaminants	Aquatic habitat Suit.	Airborne Sed. & Smoke		Low Productivity	Improper Growth	Inadequate Food Supply	Inadequate Cover or Shelter
						Suspended Sediment		Safety	Health				
Quality Criteria Met	√	√	√	√	√	√	√	√	√	√	√	√	√
Forest Harvest Trails & Landings	+	+		+	+	+	+	N/A	N/A	N/A	N/A	N/A	N/A
Forest Stand Improvement	-	-		-	-	-	-	N/A	N/A	+	+	+	+
Prescribed Burning	-	-		-	-	-	-	-	-	+	+	+	+
Critical Area Planting	+	+		+	+	+	+	N/A	N/A	+	+	+	+
Firebreak	+	0		+	+	+	+	+	+	+	+	+	+
Forest Site Preparation	-	-		-	-	-	-	-	-	+	+	+	+
Tree/Shrub Establishment	+	+		+	+	+	+	+	+	+	+	+	+
Upland Wildlife Habitat Mgt.	+	+		+	+	+	+	+	+	+	+	+	+
Stream Crossing	+	+		+	+	+	+	N/A	N/A	0	0	0	0
Recreation Area Improvement	+	+		+	+	0	0	0	0	+	+	+	+
Use Exclusion	+	+		+	+	+	+	+	+	+	+	+	+