

FSM 2500 - WATERSHED AND AIR MANAGEMENT

R-8 SUPPLEMENT 2500-92-1

EFFECTIVE 06/07/92

CHAPTER 2520 - WATERSHED PROTECTION AND MANAGEMENT

2522.04 - Responsibilities .2522.04b - Regional Foresters . The Regional Forester shall:

4. Approve watershed improvement prescriptions with an estimated implementation cost of more than \$50,000.
5. Approve all watershed improvement prescriptions that include intermittent and perennial stream channel work involving structures such as gabions and/or retaining walls.

2522.04c - Forest Supervisors .

3. Delegate approval authority in accordance with the following criteria:

a. Prescriptions with estimated implementation cost of less than

\$50,000 (see FSM 1239).

4. Individuals in the following designated positions shall represent the Forest Service in coordinating the implementation of the Surface Mining Control and Reclamation Act with various State and Federal agencies:

Alabama Forest Supervisor, NFs in Alabama

Arkansas Forest Supervisor, Ouachita NF

Oklahoma Forest Supervisor, Ouachita NF

Kentucky Forest Supervisor, Daniel Boone NF

Georgia Forest Resource Specialist for Disturbed

Surface Area Reclamation, RO,

Southern Region, Atlanta, Georgia

Tennessee Forest Supervisor, Cherokee NF

Florida Forest Supervisor, NFs in Florida

Louisiana Forest Supervisor, Kisatchie NF

Mississippi Forest Supervisor, NFs in Mississippi

North Carolina Forest Supervisor, NFs in North Carolina

Puerto Rico Forest Supervisor, Caribbean NF

South Carolina Forest Supervisor, Francis Marion

& Sumter NFs

Texas Forest Supervisor, NFs in Texas

Virginia Forest Supervisor, Jefferson NF

West Virginia NA, S&PF, Resource Management

Staff Cooperative Forestry, Broomall, PA

Research, National Forest Systems, and State and Private Forestry each have a vital role to play in cooperating with State and Federal agencies having a surface mining and reclamation interest. Forest Service representatives must represent all three areas.

a. Learn as much as possible about programs, activities, and concerns

within all three areas.

b. Maintain close liaison with State and Federal agencies and other parties, as appropriate, to insure that information on any program or activity involving the Forest Service is promptly disseminated to the appropriate personnel.

c. Ensure awareness of vital concerns and needs of other States and Federal agencies, and involve other Forest Service organizations when needed.

5. Coordinate surface mining reclamation projects with appropriate Federal and/or State offices.

2522.14 - Reclamation of Abandoned Mined Land. Include abandoned mines that are degrading the soil or water resource on the watershed improvement needs inventory, Form R-8 2500-1, 2500_WIN:WIN_DataBase. Secure funding for qualifying projects under Title IV - Abandoned Mine Reclamation of the "Surface Mining Control and Reclamation Act of 1977" (PL95-87). Use NFSW financing where such funding is not available or projects do not qualify.

Each Forest has a responsible official designated to represent the Forest Service in coordinating surface mining control and reclamation activities.

2522.2 - Watershed Improvement Planning. Prepare a watershed improvement prescription after determining that a proposed watershed improvement project is a high priority and a watershed condition survey is completed. Prepare prescriptions for all watershed improvement projects regardless of funds used. Follow the procedures outlined in FSH 2509.15, Watershed Improvement Handbook.

2522.23 - Selection and Ranking of Project Areas. Forest Officers in the Southern Region shall maintain

an active watershed improvement program, in accordance with the Forest Land and Resource Management Plan, to improve degraded soil and water conditions, regulate water flow and enhance soil productivity. Watershed improvement projects may be an individual need within a small selected watershed or several needs within a large watershed unit. Follow the procedures outlined in FSH 2509.15.

Give emergency status to watershed needs that produce a high risk to life or property as a result of natural disasters and include these needs in the Forest inventory of needs. Instructions are given in FSM 2512, 2523 and 3540 for emergency watershed treatment measures and funding.

Include watershed improvement needs on the Forest inventory of needs, Form R8-2500-1, 2500_WIN:WIN_DATABASE, and integrated into the Forest Service NEPA process (see FSM 1950). The Forest inventory of needs includes project priorities that are compatible with the Forest Plan, for funding consideration. Determine project priorities by a two part selection process consisting of category and benefit rating priority numbers on Form R-8-2500-1. Update the information on Form 2500_WIN:WIN_DataBase each year, review and adjust the category and benefit rating priority number already established for unfinanced projects if needed.

Category rating priority number for Form R8-2500-1:

1. Watersheds needing treatment for protection of public health and safety (low hazard risks to life or property) that do not qualify for emergency funding.
2. Project protection period needs initial implementation required to ensure success of the project. The project protection period is the entire period between initial implementation and watershed management release for other resource use. The project completion date is the date of release. Projects will remain on Form 2500_WIN:WIN_DataBase during the project protection period.
3. Declining watershed conditions are contributing to a significant reduction in water quality or quantity provided the prescribed treatment is cost-effective and will increase the production of market goods and services.
4. Declining watershed conditions are contributing to a loss of soil productivity where prescribed treatment is cost-effective and produces an improvement of other renewable resources.
5. Low productivity soils that are not measurably declining but enhancement would improve the watershed condition, increase production of market goods and services and would be cost-effective.
6. Watershed improvement of renewable resources where treatment would not be cost-effective.

Benefit rating priority number for R-8 2500-1:

To determine the benefit rating priority number, use the guide in Exhibit 01 for each project. Instructions for using the guide are given in the footnotes.

Project priority for R-8 2500-1:

To determine project priorities, assign each project a category rating priority number in accordance with definitions given for numbers 1 through 6 above. Projects in category 1 have the highest priority. Projects in category 6 have the lowest priority. At this stage, all projects in each category are equal in

priority and require determination of the benefit rating priority number for each project. The project having the highest benefit rating number will be the highest priority project within the category under consideration. Example: A project in category 3 with a low benefit rating number has a higher priority than a project in category 4 with a high benefit rating number.

2522.24 - Controls . Follow monitoring and evaluation procedures on each watershed improvement project implemented as prescribed in the Forest Plan. Conduct a minimum of on-site evaluations annually for three years following implementation. Extend the period until the project area is released from special management controls by the Forest Supervisor. Document monitoring and evaluation findings and place in the project file for each evaluation. Documentation may be in the form of a narrative or a formatted report and developed similar to the example outline in Exhibits 01 and 02. The outline includes the minimum data required for annual evaluations.

2522.25 - Use of KV Funds for Watershed Improvements. Support all proposed soil and water resource projects through the planning process for the sale area. Record proposed projects on Form R8-2500-1 and SAWSU:2500_WIN:WIN_DATABASE and update annually.

Plan soil and water resource projects to coincide with other sale area improvements in order to make maximum use of available funds, labor and equipment. When KV funds are not sufficient, joint financing will be utilized to the extent practical. Give soil and water projects within sale areas priority over other soil and water projects, other things being equal, even though K-V funds are not available. This enables the land manager to take advantage of the cleared conditions and readily available access.

For planning purposes, a partial listing of potential soil and water protection and enhancement projects are available on Form 2500_WIN:WIN_Data Base. Other projects can be proposed, providing they meet the requirements established in FSM 2477.22. Identify soil and water protection and enhancement activities by the terminology used on Form R8-2500-1 so that accomplishments can be summarized nationally in standard reporting categories. Select from the total listing of needs (all functions) activities by the responsible Forest Officer for accomplishment with K-V fundings. Plan all timber sale area watershed improvement projects on Forest Service Form FS-2400-50 (SAI Plan) to utilize KV funds (see FSM 2477). Sale Area Improvement (SAI) projects involving soil and water resource projects are subject to the same management controls as other watershed improvement projects. This includes approved plans for implementation, maintenance, etc.

2526 - RIPARIAN AREA MANAGEMENT . Riparian areas are valued for: (1) habitats for wildlife, fish, and other aquatic life, (2) recreation use, (3) archeological and cultural resources, (4) sustaining surface and ground water quality, (5) moderating streamflow, (6) visual resources, (7) sand and gravel, (8) a variety of unique and diverse plant and animal communities and life processes, and (9) wood fiber. Riparian Management Areas are established in Forest Plans which prescribe how these areas will be managed, including mandatory standards and guidelines (see FSM 1922.4).

2526.02 - Objectives . To ensure that activities in riparian areas promote long term conservation and productivity of riparian ecosystems; to clarify Forest Service goals, requirements and administrative responsibilities for riparian area management on National Forest System (NFS) lands in the Southern Region and to provide direction for planning, coordination, and implementation of Forest Plans.

2526.03 - Policy .

2. Forest Officers shall recognize riparian dependent and associated resources and values in the day-to-day management of NFS lands. When conflicts arise, priority will be given to riparian dependent

resources consistent with other laws and regulations.

6. Plan, implement and evaluate land management activities in riparian areas to ensure that activities are consistent with management direction in Forest Plans.

7. Manage riparian areas to provide for long-term conservation, productivity, biological diversity, and ecosystem integrity.

2526.04 - Responsibilities .

2526.04b - Regional Forester . Regional Forester shall:

1. Establish management direction in Forest Plans to achieve riparian management policy goals and objectives. Provide planning guidance for riparian area management. On projects that are in, or influence, riparian areas, assure interdisciplinary involvement and consideration in environmental disclosure processes for which approval authority is given.

2. Maintain technology transfer tools and guidance in the directives system, and provide training in riparian area identification, analysis, monitoring, and Forest Plan implementation.

4. Identify and document information needs for management and monitoring of riparian areas (see FSM 1390).

5. Assure appropriate coordination and involvement of organizations, agencies, Forest Service personnel, and the public in Regional riparian issues, methods, and plans. Conduct riparian area management reviews.

2526.04c - Forest Supervisors . Forest Supervisors shall:

1. Develop riparian management area prescriptions, standards and guidelines in Forest Plans. On projects and activities that are in, or influence, riparian areas, assure interdisciplinary planning, environmental analysis and disclosure.

3. Assure through monitoring and evaluation that riparian management area prescriptions are suitable for local conditions and are implemented and effective in achieving riparian area management goals, standards and guidelines in Forest Plans and environmental disclosure documents. Identify and document information needs for management and monitoring of riparian areas (see FSM 1390).

4. Designate a riparian demonstration area on each Forest/Area.

5. District Rangers . District Rangers shall:

a. Assure interdisciplinary involvement and consideration in project planning and in the environmental analysis process on those projects and activities that are in, or influence, riparian areas. Assure that site-specific riparian analysis, prescriptions and mitigation measures are incorporated in project design; for example, layout and construction release form, special-use permits, and C provisions.

b. Assure that project plans are properly communicated to permittees, contractors, and purchasers and that they understand land management and riparian objectives. Delineate specific riparian areas in project plans.

- c. Provide adequate administration and inspection of activities to assure that permit or contract standards and conditions are met and that project decisions are adequately implemented.
- d. Monitor implementation of standards and guidelines that apply to riparian areas to assess the degree to which project objectives have been met. Assure that all required riparian mitigation or restoration is done before closing-out or accepting the activity as complete.
- e. Document and report to the Forest Supervisor, the implementation and effectiveness of riparian management area prescriptions, standards and guidelines and other protective measures. Identify and document information needs for management and monitoring of riparian areas (see FSM 1390).
- f. Provide follow-up interdisciplinary team (IDT) evaluation of activities in riparian areas.

2527.02 - Objectives

- 1. To ensure that activities in floodplains and wetlands promote long-term conservation and productivity of floodplain and wetland ecosystems.
- 2. To clearly define Forest Service goals, objectives, requirements and administrative responsibilities for floodplain and wetland management on National Forest System (NFS) lands in the Southern Region and to provide direction for planning, coordination and implementation of Forest Plans.
- 3. To increase public awareness of flood hazards and Forest Service permitting requirements, for activities occurring in the floodplain.
- 4. To manage wetlands in coordination with riparian areas (see FSM 2526).
- 5. To complete a balancing test for wetlands and a flood hazard analysis for floodplains involved in land ownership adjustments.
- 6. To manage floodplains to meet the intent of the "Unified National Program for Floodplain Management".
- 7. To notify states of Forest Service permit requirements for special use activities occurring in a floodplain.
- 8. To notify recipient of conveyed property the results of applicable flood hazard analyses.

2527.04 - Responsibilities .

2527.04c - Forest Supervisors .

- 1. Assure that the decision-making process at Forest and District levels will give special attention to Forest Service activities covered by Section 404 of the Clean Water Act to determine if a planned activity:
 - a. Does not involve wetlands covered under provisions of Section 404.
 - b. Is categorically exempted by 33 CFR 323.4. This section exempts normal silvicultural operations and temporary roads and skid trails that maintain the wetland character of the site and incorporate practices

identified in the exemption.

- c. Qualifies under one of the current COE national, regional, or programmatic general permits and that necessary measures outlined in these permits have been incorporated in our activities.
- d. Requires an individual permit and that actions will await the required permit.

2527.05 - Definitions .

- 1. Balancing Test - Evaluation of functions and values of wetlands and riparian areas for lands proposed for conveyance and/or acquisition. The goal is to help assure the attainment of "no net loss" of wetland and riparian functions and values.
- 2. Drainage Basin Response Unit (DBRU). A third or fourth order watershed delineated on 1:24000 USDI USGS maps. (USDA Forest Service, Southern Region.

2527.5 - Posting of Past and Probable Flood Heights.

- 1. The method for determining priority for signing, based on probability of rapid rises of water level are:
 - a. All camp grounds and administrative sites known to be flooded one or more times per year.
 - b. Drainage Density: The greater the drainage density, the greater the probability of a rapid rise in water levels. Drainage density is the total length (miles) of perennial, intermittent and ephemeral streams within the watershed of concern divided by the area (square miles) of the watershed of concern. The delineation of perennial, intermittent and ephemeral streams for most Forests in the Region has been completed by the Forest Water Resource Specialist as part of the delineation of Drainage Basin Response Units. Contact the Forest Water Resource Specialist for instructions on how to delineate and measure streams and watersheds.
- 2. Signing .
 - a. Signing is in accordance with FSM 7160.
 - b. Post the local AM and FM radio stations which broadcast weather and flash flooding reports at all campgrounds.
 - c. A plat drawing of the campground with the floodplain boundaries for the 100-year flood may be used. If known, the flood of record may be drawn on the plat. Post this plat with the indicated floodplain boundaries on the campground bulletin board. For administrative sites, the plat drawing with floodplain boundaries may be posted at a visible location on the premises.

2522.24 - EXHIBIT 01

RIPARIAN AREAS, WETLANDS AND FLOODPLAINS

SEE THE PAPER COPY OF THE MASTER SET

2522.24 - EXHIBIT 02

METHODS FOR DETERMINING FLOODPLAINS 1/

Methodologies

Floodplain Forest Planning (Concern Is for Project Planning (Concern

Third Order or Greater Stream) For All Order Streams)

100-YEAR 1. State USGS publications for 1. Available techniques

determining flood depth for are the same as for

various return frequencies. Forest planning.

Once depth of 100-year flood However, field evaluation

is determined extend elevation and verification are

across on a 7 1/2 minute USGS necessary for all

topographic map. methods.

2. State USGS publications

for determining peak flows

for various return frequencies. 2/

3. Log Pearson III analysis of

available and appropriate stream

gage data, using procedure in

Guidelines for Determining Flood

Flow Frequency, United States

Water Resources Council, Bulletin

#17 of the Hydrology Committee,

March 1976. 2/

4. Unit Hydrograph Analysis using

procedure in A Method for Estimating

Volume and Runoff in Small Watersheds,

USDA, SCS, SCS-TP-149, January 1968. 2/

5. Available floodplain maps prepared by other Federal, State and local agencies which in the judgment of the Forest Supervisor are of sufficient precision and reliability.

2522.24 - EXHIBIT 02 Continued...

METHODS FOR DETERMINING FLOODPLAINS 1/

Methodologies

Floodplain Forest Planning (Concern Is for Project Planning (Concern Third Order or Greater Stream) For All Order Streams)

500-Year 1. A procedure for determining 1. Available 500-year 500-year floodplain for critical floodplain maps prepared actions (FSM 2527.05) at the by other Federal, State project level shall be defined and local agencies. in the Forest Plan.

2. Seek assistance from other Federal and State agencies or acquire services of persons experienced and qualified in the determination and delineation of 500-year floodplains.

1/ The standard error (precision) of the estimate obtained using the USGS publications is stated. The

standard error (precision) of the estimate using Manning's equation and/or runoff curve numbers is unknown unless validation at the Forest level is accomplished.

2/ After flow is determined then FCCC program hydraulics of bridge waterways/ is applied to determine flow depth. Once depth is determined, extend state elevation contours on 7 1/2 minute USGS topographic map.