

CHAPTER 12 – RIPARIAN AND WETLAND RESOURCES

Riparian areas and wetlands are some of the most diverse and productive portions of the land base, but on the landscape level they typically compose less than 1 percent of the total land area. Benefits from these areas are essential to both human and wildlife values. Riparian and wetland areas provide recreational, scenic, livestock production, and hunting values for humans. Additionally, the lifecycles of most mammals, birds, amphibians, and fishes rely partially or wholly on these areas. Often, riparian and wetland resources are among the first landscape features to show impacts from management activities and reflect overall watershed condition. The following Riparian and Wetland Resources Analysis of Management Situation (AMS) catalogues current management standards, practices, tools, opportunities and limitations; the regulatory setting; and consistency with non-BLM plans.

Riparian and wetland areas are sensitive vegetative or physical ecosystems that develop in association with surface or subsurface water (Leonard et al. 1992). Riparian and wetland ecological systems comprise less than 1 percent of the 22 million acres of public lands administered by BLM in Utah, but are among the most important, productive, and diverse ecosystems on the landscape. Benefits from riparian/wetland ecosystems are essential to both human and wildlife values and include:

- maintaining clean renewable water supplies;
- providing for diverse plant and wildlife ecosystems, including special status species providing for diverse plant, fish and wildlife ecosystems; including special status species;
- importance in cultural and historic values;
- economic value derived from sustainable uses (open space, hunting, livestock grazing and commercial recreation);
- greenbelt associated recreation and scenic values; and
- thermal/shade protection for both humans and wildlife, especially important within the arid southwest.

Riparian/wetland habitats are fragile resources often among the first landscape features to reflect impacts from management activities, and are used as indicators of overall land health and watershed condition. Some of the functions of healthy riparian systems filter and purify water as it moves through the riparian zone; reduce sediment loads and enhance soil stability; reduce destructive energies associated with flood events; provide physical and thermal micro-climates in contrast to surrounding uplands; and contribute to groundwater recharge and base flow (BLM Riparian Area Management Policy 1987).

12.1 RESOURCE OVERVIEW

BLM administers approximately 28,994 acres (1.3 percent) of riparian and wetland resources on public lands within the Monticello Field Office (FO) planning area. Linear riparian distance in the Monticello FO planning area totals 1078 miles (Figure 12-1). Wetlands in the Monticello FO planning area are primarily concentrated along the riparian zone. Some isolated springs do occur around the FO planning area, but these make up a very small percentage of wetland resources. However, these isolated waters are critical to both wildlife and livestock.

Within most riparian/wetland systems in the arid southwest, the potential of a riparian/wetland ecosystem is strongly dependent upon the availability of water. The degree, timing and source of water availability, among other physical factors, is commonly referred to in terms of

- Perennial- A stream that flows continuously. Perennial streams are generally associated with a water table in the localities through which they flow.
- Intermittent- A stream that flows only at certain times of the year when it receives water from springs or from some surface source such as melting snow in mountainous areas.
- Ephemeral – A stream that flows only in direct response to precipitation, and whose channel is above the water table at all times.

Various types of spring or river based riparian/wetland ecosystems can be described using these terms of water availability. See Chapter 15–Watershed and Soils, for additional details and definitions of water resources within the Monticello FO planning area.

Existing riparian vegetation communities were catalogued in 1990 under a private contract by aerial photo interpretation with some ground truthing. Identified species may reflect the dominant vegetation in the community depending on site characteristics. Existing riparian communities (from 1990) and percent composition of riparian area are included below in Table 12.1.

Table 12.1. Riparian Community Acreages, 1990 inventory, Monticello Field Office

Riparian Community	Percent Composition
Cottonwood	65.9%
Willow	<0.1%
Tamarisk*	30.2%
Grasses	0.3%
Oak	3.6%

*is an exotic, noxious weed

12.2 RIPARIAN/WETLAND RESTORATION

Restoration of riparian/wetland ecosystems can involve efforts to manually, mechanically, chemically, or biologically alter or restore riparian/wetland resources or conditions for the benefit of the riparian/wetland ecosystem.

Exotic and noxious species (namely tamarisk, Russian olive, and Russian knapweed) are now common within most riparian/wetland ecosystems along major river ways in the Monticello FO planning area. Some of the common riparian native species are Fremont Cottonwood, coyote willow, rushes, and sedges. Some of the common exotics species are Russian olive and Tamarisk. Possibly the most devastating aspect of invasive exotic species is the cumulative alteration to an unhealthy riparian ecosystem. However, the individual functions or processes which exotic species can alter include:

- exotics often dewater riparian sites with deeper tap roots to out-compete natives for availability of water in arid environments;
- tamarisk secretes salt and increase soil and water salinity, resulting in reduced seed establishment of native species, and reduced downstream water quality with severe economic impacts. Additionally, tamarisk has deeper roots than native willows, and it will out-compete those for water as well;

- exotics compete for sun and space along the narrow riparian habitats;
- exotics reduce overbank flooding, decreasing establishment of nursery seed beds;
- exotics have large numbers of seeds and long seed establishment periods (very prolific in comparison to native species);
- exotic communities have reduced biodiversity (significant decreases in numbers and types of associated biotic species including birds, bats, insects, amphibians, etc.);
- exotic communities promote entrenched systems with highly destructive flooding energies which remain un-dissipated within deep channels, resulting in high bank loss, sedimentation, and salinity; and
- exotic plants are typically less palatable to livestock and wildlife (e.g., willow versus tamarisk), resulting in native species being grazed out of the riparian community.

Riparian/wetland management objectives include management of ecosystems to support diverse native species to the degree possible regarding exotic species management. Please refer to Chapter 13–Vegetation, for additional details regarding exotic species management.

Types of riparian restoration include riparian plantings, cottonwood protection (wire wrapping to prevent beaver depredation), proper use of fire, floodplain contouring and stabilization, fencing, improved grazing practices/systems, improved education or other types of manipulations, or mitigation to maintain/improve healthy ecosystems, and increase species diversity of native plants and seed sources.

12.3 SPECIFIC MANDATES AND AUTHORITY

Many mandates and authorities related to multiple-use activities overlap to protect sensitive riparian/wetland resources. Those most specific to riparian related values are discussed below.

In addition to those laws embedded in the very foundation of BLM as a public land managing agency (Taylor Grazing Act 1934, Federal Land Policy Management Act 1976, and Public Rangelands Improvement Act 1978), the premiere authority which provides for most protection of riparian/wetland and associated resources is the Clean Water Act of 1977. In response to the Clean Water Act, two central Executive Orders (Wetland and Floodplains) were signed under Presidential authority to protect riparian/wetland and associated floodplain and wildlife values. Other regulations, policy, and guidance have been developed relative to management of riparian/wetland resources.

12.3.1 National Mandates and Authority

12.3.1.1 Federal Clean Water Act (CWA)

The Clean Water Act is designed to protect both riparian resources and wetlands by restoring and/or maintaining the chemical, physical, and biological integrity of the nation's waters.

- Executive Order (EO) 11988 (May 24, 1977), referred to as the Floodplains EO, directs each federal agency to take action to avoid the long- and short-term adverse impacts associated with the occupancy and modification of floodplains. Agencies are required to avoid direct or indirect support of floodplain development whenever there is a practicable alternative.
- EO 11990 (May 24, 1977), referred to as the Wetlands EO, directs federal agencies to minimize the destruction, loss, or degradation of riparian/wetlands and to preserve and enhance the natural and beneficial value of wetlands in carrying out programs affecting land use.

- EO 12088 (October 24, 1978) requires all federal agencies to comply with local standards and limitations relating to water quality. Each federal agency is bound to recognize and adopt the policies, goals, and standards of area-wide water quality management plans in regard to those federal lands under its jurisdiction and to implement the standards of the plans to the maximum extent feasible in its own planning process and management activities.
- EO 12962 (1995) supports the conservation, restoration, and enhancement of aquatic systems for increased recreational fishing opportunities, and to minimize conflicts between recreational fish and endangered species.
- EO 13186 (2001) in support of the Migratory Bird Treaty Act of 1918 mandates the conservation and restoration of migratory birds and their habitats.

12.3.1.2 Fundamentals of Rangeland Reform (1995)

Established regulation under 43 CFR 4180 – Fundamentals of Rangeland Health and Guidelines for Grazing Administration which develops Standards and Guidelines for each BLM state to implement in the management and protection of healthy functioning rangeland ecosystems including riparian/wetland resources, processes, and associated values including wildlife and fish.

12.3.1.3 National Riparian Area Management Policy (NRAMP 1987)

Establishes standards and technical methods for riparian area assessment and inventory. Soon after, the BLM Director's Riparian/Wetland Initiative for the 1990s (1991) established the inventory and management of riparian and wetland resources as a priority and developed several technical references to assist land managers in assessing lentic and lotic systems.

12.3.1.4 National Cooperative Riparian Restoration Program, (1996)

This cooperative program was established between the BLM, the USDA Forest Service, and the Natural Resources Conservation Service (NRCS). The goal of this effort is to achieve riparian restoration through collaboration among federal agencies, state and local governments, volunteer and non-profit organizations, and, most particularly, private landowners and organizations. The BLM and the Forest Service have defined two program elements for this effort. The first element includes the National Riparian Service Team (NRST) and state training cadres for each of the 11 western states. The second element is an extended riparian coordination network that includes representatives from government, university, industry, conservation, and community organizations, and individuals, working together to restore and maintain properly functioning riparian/wetland areas.

12.3.2 Utah Mandates and Authority

12.3.2.1 Division of Water Rights

The Utah State Engineer's Office administers a Stream Alteration Permit Program with the purpose of regulating activities affecting the bed or banks of natural streams in the state. The State Engineer's working definition of a natural stream is any natural waterway in the state, which has flows of sufficient duration to develop a characteristic ecosystem distinguishing it from the surrounding environment. Activities affecting any natural streams must be permitted through the State Engineer's Office.

12.4 CURRENT MANAGEMENT PRACTICES

12.4.1 Rangeland Health Assessments

The Fundamentals of Rangeland Health give management priority to maintaining healthy “functioning ecosystems.” In response, Utah’s Standards for Rangeland Health and Guidelines for Grazing Management (1997) were developed to assess and protect ecological communities and their associated values. Standards are descriptions of the desired condition of the biological or physical components and characteristics of rangelands applied to management of all public land resources and uses. Guidelines are management approaches, methods, and practices intended to achieve established standards. To date, Utah BLM has developed guidelines for livestock grazing (1997) and recreation activities (2001), with additional guidelines to be developed for other resource uses.

Each of the four Utah Standards is applied to all resources within a rangeland ecosystem, which can directly or indirectly apply to riparian/wetland ecosystems. However, Standard # 2 directly pertains to riparian condition and functions. Please refer to Chapter 13–Vegetation, which contains the complete version of Utah Standards for Rangeland Health and Guidelines, developed to date.

Utah BLM Rangeland Health Standard # 2. Riparian and wetland areas are in Properly Functioning Condition, stream channel morphology; and functions are appropriate to soil type, climate, and landform. As indicated by:

1. Stream bank vegetation consisting of, or showing a trend toward, species with root masses capable of withstanding high stream-flow events. Vegetative cover adequate to protect stream banks and dissipate stream-flow energy associated with high-water flows protects against accelerated erosion, captures sediment, and provides for groundwater recharge.
2. Vegetation reflecting: desired potential community, maintenance of riparian and wetland soil moisture characteristics, diverse age structure and composition, high vigor, large woody debris when site potential allows, and providing food, cover, and other habitat needs for dependent animal species.
3. Re-vegetating point bars; lateral stream movement associated with natural sinuosity; channel width, depth pool frequency, and roughness appropriate to landscape position.
4. Active floodplain.

Additionally, Guidelines for Grazing and Recreation activities have been developed for Utah BLM, which are practices designed to achieve the Standards. With respect to riparian/wetland ecosystems, these guidelines require specific actions or criteria to maintain or improve riparian/wetland resources to Properly Functioning Condition (PFC). Please refer to Chapter 11–Recreation, for complete listing of Utah Guidelines for recreation standards.

12.4.2 Recreation Management Areas and Plans

Additional protections to riparian resources may be created from management prescriptions for special area designations such as the San Juan River, Grand Gulch Plateau, and the Dark Canyon Wilderness Study Area (WSA).

12.4.3 Allotment Management Plans

Of the 74 allotments within the Monticello FO planning area, 2 allotments have allotment management plans (AMPs). Additional protections to riparian resources maybe created from management prescriptions stated in these AMPs.

Where riparian resources are functioning at risk or non-functioning, AMPs for the Monticello FO planning area allotments should address management measures for riparian areas within the allotments. An AMP would also provide the land manager with a mechanism to manage livestock with BMPs, should riparian or upland resources become degraded.

12.5 RIPARIAN/WETLAND STUDIES

Regardless of the type of riparian or wetland ecosystem, PFC is assessed for each stream or individual segments of the stream. Data exist for riparian functioning condition, and a preliminary summary of these data were prepared by Paul Curtis, Rangeland Conservationist, Monticello FO (Table 12.2). This data was collected by private contract in 1994 and by BLM interdisciplinary team from 1994 to present. Approximately 50 percent or less of the actual stream mileage was traversed. Functioning condition is divided into five classes and these are defined below, with corresponding miles of riparian habitat in each class for the Monticello FO planning area (TR 1737-15, 1998):

PFC: Currently 639 miles (59 percent) of riparian/wetland areas are in PFC when adequate vegetation, landform, or woody debris is present to:

- dissipate high-energy water flow ;
- filter sediment, capture bedload, and aid floodplain development;
- improve floodwater retention and groundwater recharge;
- develop root masses that stabilize streambanks;
- develop diverse fluvial geomorphology (pool and channel complexes) to provide habitat for wildlife; and
- support greater biodiversity.

Functioning at Risk, trend not apparent (FAR): Currently 240 miles (22 percent) of riparian/wetland habitat are in functional condition, but at least one soil, water, or vegetation attribute makes them susceptible to degradation following high flow events. The trend in these systems is not apparent. Management practices which may make them At Risk dependent on individual stream segments are commonly livestock grazing, presence of roads, off-highway vehicle (OHV) activities, and recreational activities and development.

Functioning at Risk, upward trend (FAR>): Currently 43 miles (4 percent) of riparian/wetland habitat are in functional condition, but an existing soil, water, or vegetation attribute makes them susceptible to degradation following high flow events. However, the limiting attribute is improving, causing the system to trend upward. Some degradation could be natural. Management practices which may make them At Risk dependent on individual stream segments are commonly livestock grazing, presence of roads, OHV activities, and recreational activities and development.

Functioning at Risk, downward trend (FAR<): Currently 149 miles (14 percent) of riparian/wetland habitat are in functional condition, but an existing soil, water, or vegetation attribute makes them susceptible to degradation following high flow events. The limiting attribute is not improving, causing the

system to trend downward. Some could be natural degradation. Management practices which may make them At Risk dependent on individual stream segments are commonly livestock grazing, presence of roads, OHV activities, and recreational activities and development.

Non-Functioning (NF): Currently 7 miles (0.6 percent) of riparian/wetland habitat are clearly not providing adequate vegetation, landform, or large wood debris to dissipate stream energy associated with high flows, and thus are not reducing erosion, improving water quality, etc. Some degradation could be natural. Management practices which may make them At Risk dependent on individual stream segments are commonly livestock grazing, presence of roads, OHV activities, and recreational activities and development.

Riparian/wetland exclosures have been constructed within 15 sites: Comb Wash (1), Indian Creek (3), Montezuma Creek (4), Nancy Patterson (1), Monument Canyon (1), Horsehead (1), and Cross Canyon (4), to either determine ecological site potentials or protect/improve natural functions. Riparian pastures have been established within the Montezuma Canyon allotment to provide special protection to sensitive riparian/wetland ecosystems. Grand Gulch and major portions of Fish and Owl, Mule, Road Canyons, and Arch Canyon receive no livestock grazing.

12.5.1 Routine Riparian/Wetland Management

Riparian/wetland management activities that will continue to occur on a routine basis include:

- Riparian/wetland habitats will continue to be inventoried, monitored, and revised with respect to PFC and Rangeland Health Assessments, site data, or surface management to maintain or improve functioning health.
- Riparian/wetland restoration continues seasonally with respect to exotic species control, riparian protection, and stabilization based on available funding and workforces.
- Site-specific review, analysis and protection of riparian/wetland resources will continue in response to multiple-use activities and applications to maintain or improve functioning health.
- Coordination regarding Stream Alteration Permits for potential disturbances within riparian/wetland ecosystem will continue according to regulation.
- Riparian/wetland habitats will continue to be managed to maintain or improve biotic diversity and in accordance with endangered or special status species management.

12.6 RESOURCE DEMAND AND FORECAST

Riparian/wetland ecosystems are strong attractors for both animal and human activities, especially in the arid southwest where summer temperatures often exceed 100 degrees Fahrenheit (°F). Demand for diverse riparian/wetland ecosystems is high and currently exceeding the average capacity, sustainability, and proper functioning condition. The recreational demand within riparian/wetland is highest during critical spring growing seasons when seedling establishment and stand recruitment occurs, but recreation peaks again during fall seasons after extreme summer temperatures decline. Demands for water resources with potential direct and indirect impacts to associated riparian/wetlands would likely increase in response to current and prolonged droughts. With decreasing quantity and quality of riparian/wetlands due to growing popularity, the demand for diverse wildlife habitat and refuge becoming even more critical as more species and habitats become sensitive or endangered.

The demand for riparian/wetland resources does not appear to diminish. Special management or zoning of riparian/wetland ecosystems may reduce resource issues created in demand for these sensitive resources.

12.6.1 Recreation

Recreational pressures on the riparian resource will increase in the future. Details of increased recreation use occurring in the Monticello FO planning area are described in the recreation section of this AMS.

12.6.2 Grazing

Livestock production continues to be a source of income for some San Juan County residents, and these operations rely on public lands to feed their livestock. The riparian areas and peripheral water developments in the Monticello FO planning area are critical water sources for both livestock and wildlife and will continue to be used in the future.

Grazing has the potential to maintain or improve riparian areas by stimulating new vegetative growth in grasses and shrubs. This positive effect is contingent on the timing and intensity of grazing.

12.7 CONSISTENCY WITH NON-BUREAU PLANS

12.7.1 Federal and State Plans

Standards employed by the Utah BLM are consistent with both state and federal plans. The Utah Rangeland Health Standards, Standard 4, best summarizes the Monticello FO's consistency with state and federal non-BLM plans (BLM 2002):

Standard 4 – BLM will apply and comply with water quality standards established by the State of Utah and the federal Clean Water and Safe Drinking Water Acts. Activities on BLM lands will fully support the designated beneficial uses described in the Utah Water Quality Standards (R317.2) for surface and ground water. As indicated by:

- Measurement of nutrient loads, total dissolved solids, chemical constituents, fecal coliform bacteria, water temperature, and other water quality parameters.
- Macroinvertebrate communities that indicate water quality meet aquatic objectives.

Additionally, the Monticello FO cooperates with the Manti-LaSal National Forest with respect to riparian management and improvement projects.

Moab Fire Management Plan (1998) identifies management priority and criteria for wildfire suppression and management within rangeland resources including sensitive riparian/wetland ecosystems.

12.7.2 County Plans

San Juan County recognizes the Monticello FO's multiple-use mandate, except where riparian management strategies conflict with economic interests such as mining, grazing, recreation, etc.

12.8 ISSUES OR CONCERNS

12.8.1 Recreation

Current and future recreation planning should consider riparian areas and reduction of impacts to these areas. Recreation management plans should examine ways to reduce or eliminate recreation impacts

(primitive camping, OHV use, mountain biking, etc.) to riparian resources. In the event that recreation activities cause a Functioning at Risk – Downward Trend in the riparian resource, a contingency plan should be developed to allow recovery.

The majority of developed BLM recreational campgrounds, trails and facilities are located in association with riparian/wetland ecosystems. Native cottonwoods are some of the most susceptible species with regard to functioning condition and long-term sustainability, but are also the most desirable native and diverse riparian/wetland ecosystem within Monticello FO planning area. Recreational developments within riparian/wetlands increase competition for natural habitats, or eliminate habitats critical to riparian-dependent wildlife species.

The extreme susceptibility of some native riparian species (Fremont cottonwood) requires careful use of fire as a management tool considering severe susceptibility of some native riparian species to fire temperatures. BMPS should be developed to protect native riparian ecosystems and requirements (buffer strips, etc).

Conversion of native riparian/wetland communities due to alteration by exotic and noxious species, and catastrophic loss from wildfire (including human caused) is an issue. Once destroyed, many native species or communities cannot be replaced under currently altered riparian/wetland systems. BLM facilities in association with severely fire-prone tamarisk communities should be re-examined with respect to human safety.

Periods of prolonged or severe drought have stressed riparian/wetland ecosystems through loss of water tables, and increased susceptibility to surface disturbing impact due to dry soils.

Recreational demand for hiking, horse trails, and commercial recreation permits often concentrate uses along streams due to the available water source, thermal protection, and scenery. However, unconsolidated alluvial soils often located within riparian canyons have shown to be extremely susceptible to erosion and degradation by such uses.

12.8.2 Grazing

Current and future livestock management plans should examine ways to reduce livestock impacts to riparian areas. In the event that grazing causes a Functioning at Risk - Downward Trend in the riparian resource, a contingency plan should be developed to allow recovery.

12.8.3 Invasive Species

Tamarisk and Russian olive have invaded waterways throughout the Monticello FO planning area, drastically changing the composition of riparian vegetation communities. Populations of Russian knapweed and camelthorn have also reached high levels in many river corridors. Strategies used to control tamarisk and other riparian invasive species appear in Chapter 13–Vegetation. The management and maintenance of native diverse ecosystems has become a larger issue in recent years. Vegetative conversions to invasive or exotic species have occurred within riparian/wetlands through management practices, including a vast insurgence of noxious weeds. Native communities are preferred but not always attainable or affordable. Management requirements related to prevention of weed spread, including weed-free hay certification and clean vehicle stipulations are necessary to stop the distribution of adverse species. Biological control agents for exotic or noxious species may soon become available for local release following proper authorization.

12.9 MANAGEMENT OPPORTUNITIES AND LIMITATIONS

12.9.1 Opportunities

- Best management practices could be implemented to alleviate riparian/wetland area stresses.
- Riparian/wetland management alternatives could include grazing season adjustments to allow for protection of vegetation, sensitive watershed, riparian, wildlife, threatened and endangered (T&E) species, and scenic or other resources values. Alternatives proposed in the 1991 resource management plan (RMP) may be re-evaluated for possible use in the upcoming RMP.
- Riparian/wetland management alternatives could include restoration and conservation of sensitive or degraded ecosystems to promote diverse and functioning native communities as primary objectives.
- Special areas/prescriptions could be considered in the development of management alternatives to favor management of riparian/wetland areas.
- Despite special management designations, such as in OHV limitations to reduce impacts to riparian/wetland ecosystems, increased enforcement and compliance of activities and education of users is required to adequately manage for objectives.
- Biological control for exotic species may soon be available for future restoration efforts within riparian/wetland ecosystems.
- Maintain existing oil and gas lease stipulations to include all floodplain resources and associated surface related values including riparian/wetlands.

12.9.2 Limitations

One of the greatest limitations the Monticello FO planning area faces is lack of funding to effectively manage, protect, and restore riparian areas. Currently, two rangeland management specialists manage 74 allotments on greater than 2 million acres of land.

Additionally, the inventory of riparian resources is limited in that most data are qualitative. The PFC assessments do not provide quantitative water quality data such as the total maximum daily load (TMDL) or total dissolved solids (TDS).

12.10 REFERENCES

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San Juan County. 1996. San Juan County Master Plan.

Table 12.2. Riparian Functioning Condition, Monticello FO Planning Area

Drainage	Acres	Miles	Proper Functioning Condition		Functioning at Risk, trend not apparent		Functioning at Risk, trend improving		Functioning at Risk, trend declining		Not Functioning	
			Percent	Miles	Percent	Miles	Percent	Miles	Percent	Miles	Percent	Miles
Alkali Canyon	151.60	6.59		0	100%	6.59		0		0		0
Arch Canyon	222.53	8.22	100%	8.22		0		0		0		0
Armstrong	8.40	0.50	100%	0.50		0		0		0		0
Beef Basin	169.28	7.27	11%	0.80		0		0	89%	6.47		0
Big Canyon North	0	0	dry	0		0		0		0		0
Big Canyon South	189.54	8.57		0	100%	8.57		0		0		0
Big Indian	0	0	dry	0		0		0		0		0
Black Steer	0	0	dry	0		0		0		0		0
Blue Cyn-Red	0	0	dry	0		0		0		0		0
Bogus	0	0	dry	0		0		0		0		0
Bowdie	202.22	10.86	100%	10.86		0		0		0		0
Bradford	10.69	0.89	100%	0.89		0		0		0		0
Bridge Canyon	45.30	2.15	100%	2.15		0		0		0		0
Brushy Basin	137.10	7.53	100%	7.53		0		0		0		0
Bullet	47.68	3.46	100%	3.46		0		0		0		0
Butler	929.96	42.11	30%	12.63		0	40%	16.85	30%	12.63		0
Butler WashNorth	303.17	19.07		0	35%	6.67	65%	12.40		0		0
Castle	415.35	18.89	30%	5.67	18%	3.40		0	34%	6.41	18%	3.41
Cedar Cyn-Mancos	0	0	dry	0		0		0		0		0

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Drainage	Acres	Miles	Proper Functioning Condition		Functioning at Risk, trend not apparent		Functioning at Risk, trend improving		Functioning at Risk, trend declining		Not Functioning	
			Percent	Miles	Percent	Miles	Percent	Miles	Percent	Miles	Percent	Miles
Cheesebox	162.16	8.95	100%	8.95		0		0		0		0
Coal Bed	284.00	18.93	76%	14.39	24%	4.54		0		0		0
Colorado	615.38	18.00	100%	18.00		0		0		0		0
Comb Wash	2201.57	36.07	7%	2.52	93%	33.55		0		0		0
Corral	0	0	dry	0		0		0		0		0
Cow Tank	0	0	dry	0		0		0		0		0
Cross Canyon	389.66	8.16	55%	4.49	45%	3.67		0		0		0
Dark Canyon	69.27	5.23	90%	4.70	10%	0.53		0		0		0
Davis	214.62	6.49	49%	3.18	51%	3.31		0		0		0
Deer Canyon	36.59	2.36	100%	2.36		0		0		0		0
Devils Canyon	164.82	6.40	100%	6.40		0		0		0		0
Dodge Canyon	20.43	1.00	100%	1.00		0		0		0		0
Dog Tanks	42.29	2.88	100%	2.88		0		0		0		0
Dripping & Step	53.83	3.15	100%	3.15		0		0		0		0
Dry Valley	0	0	dry	0		0		0		0		0
Dry Wash	314.07	15.80		0	40%	6.32		0	60%	9.48		0
East Canyon	160.64	12.40		0	50%	6.20	50%	6.20		0		0
Fable	318.72	11.43	80%	9.14	20%	2.29		0		0		0
Fish & Owl Creek	973.72	49.42	90%	44.48	10%	4.94		0		0		0
Forgotten	32.79	2.38	100%	2.38		0		0		0		0
Fortknocker	0	0	dry	0		0		0		0		0

Table 12.2. Riparian Functioning Condition, Monticello FO Planning Area

Drainage	Acres	Miles	Proper Functioning Condition		Functioning at Risk, trend not apparent		Functioning at Risk, trend improving		Functioning at Risk, trend declining		Not Functioning	
			Percent	Miles	Percent	Miles	Percent	Miles	Percent	Miles	Percent	Miles
Fry Canyon	62.27	2.02		0	100%	2.02		0		0		0
Grand Gulch	2238.39	101.50	100%	101.5		0		0		0		0
Gravel	0	0	dry	0		0		0		0		0
Gypsum	93.09	9.30	100%	9.30		0		0		0		0
Hart Draw	604.98	26.42	38%	10.04	50%	13.21		0	12%	3.17		0
Hideout	0	0	dry	0		0	0	0	0	0		0
Horse Canyon	69.60	3.81		0	100%	3.81	0	0	0	0		0
Horsehead	60.62	3.00	100%	3.00		0	0	0	0	0		0
Indian Creek	1747.18	64.06	37%	23.70		0		0	63%	40.36		0
Johns Canyon	290.34	13.52	100%	13.52		0		0		0		0
Johnson Creek	93.75	3.98	50%	1.98		0	50%	2.00		0		0
Kane Gulch	48.32	2.60	100%	2.60		0		0		0		0
Knowles	38.11	2.60	100%	2.60		0		0		0		0
Lake Canyon	183.49	9.57	22%	2.11		0		0	45%	4.30	33%	3.16
Lavender	41.06	1.54		0	100%	1.54		0		0		0
Lean-To	49.11	3.13	100%	3.13		0		0		0		0
Lime Creek	707.80	40.00	50%	20.00	50%	20.00		0		0		0
Lockhart	55.60	4.00	40%	1.6	60%	2.4		0		0		0
Long Canyon	0	0	dry	0		0		0		0		0
Lost Canyon	0	0	dry	0		0		0		0		0
Mancos	0	0	dry	0		0		0		0		0
McCracken	194.90	4.65		0		0		0	100%	4.65		0

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Drainage	Acres	Miles	Proper Functioning Condition		Functioning at Risk, trend not apparent		Functioning at Risk, trend improving		Functioning at Risk, trend declining		Not Functioning	
			Percent	Miles	Percent	Miles	Percent	Miles	Percent	Miles	Percent	Miles
Mikes	113.70	7.70		0	100%	7.70		0		0		0
Moki Canyon	424.97	21.90	50%	10.95		0		0	50%	10.95		0
Montezuma	1101.24	30.51	12%	3.66	18%	5.49		0	70%	21.36		0
Monument	406.59	15.54		0	100%	15.54		0		0		0
Mule Canyon	268.44	12.80	65%	8.32	35%	4.48		0		0		0
Navajo-Grey Mesa	12.98	0.70	100%	0.70		0		0		0		0
North Cottonwood	391.86	11.56	51%	5.90		0	49%	5.66		0		0
North Creek	4.31	1.73	100%	1.73		0		0		0		0
	0	0		0		0		0		0		0
North Gulch	60.85	4.00	100%	4.00		0		0		0		0
Pearson Canyon	14.25	1.00	100%	1.00		0		0		0		0
Peters Canyon	16.94	1.22	100%	1.22		0		0		0		0
Point Lookout	168.72	10.08	100%	10.08		0		0		0		0
Recapture	1251.01	41.42	25%	8.00	75%	33.42		0		0		0
Red Canyon	0	0	dry	0		0		0		0		0
Road Canyon	726.19	41.21	29%	11.95		0		0	71%	29.26		0
Ruin	107.17	4.46	55%	2.45	45%	2.01		0		0		0
Salt Creek	0	0	dry	0		0		0		0		0
San Juan	4075.16	56.13	50%	28.07	50%	28.06		0		0		0
Seep Creek	2.31	0.21	100%	0.21		0		0		0		0

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Drainage	Acres	Miles	Proper Functioning Condition		Functioning at Risk, trend not apparent		Functioning at Risk, trend improving		Functioning at Risk, trend declining		Not Functioning	
			Percent	Miles	Percent	Miles	Percent	Miles	Percent	Miles	Percent	Miles
Slick Rock Grey Mesa	3.99	0.29	100%	0.29		0		0		0		0
Slickhorn	392.44	22.19	100%	22.19		0		0		0		0
South Canyon	3.02	0.27	50%	0.13	50%	0.14		0		0		0
South Cottonwood	2424.95	77.44	100%	77.44		0		0		0		0
Spring Creek	96.30	5.26		0	100%	5.26		0		0		0
Squaw Canyon	146.67	7.69	50%	3.84	50%	3.85		0		0		0
Steer Gulch	0	0	dry	0		0		0		0		0
Steer Pasture	146.28	8.00	100%	8.00		0		0		0		0
Ute	48.15	3.37	100%	3.37		0		0		0		0
Westwater	131.30	5.37	100%	5.37		0		0		0		0
White Canyon	893.02	40.22	100%	40.22		0		0		0		0
Youngs	95.12	4.45	100%	4.45		0		0		0		0
TOTAL	28993.9	1077.6	59.3%	639.35	22.2%	239.51	4.0%	43.11	13.8%	149.04	0.6	6.57%