

Marlow, C.B., and T.M. Pogacnik. 1986. Cattle feeding and resting patterns in a foothills riparian zone. J. of Range Manage. 39(3):212-216.

KEYWORDS: GRAZING, FOOTHILLS RIPARIAN ZONE, SEASONAL FEEDING PATTERNS IN RIPARIAN AREAS

ABSTRACT

Cattle impact on riparian areas is dependent upon both their behavior and utilization of streamside vegetation. Development of grazing strategies for riparian environments would be enhanced by and understanding of cattle behavior in riparian and adjacent uplands. Results of a 2-year study indicate that a seasonal trend in cattle use of riparian and upland areas exists. Unless low precipitation limited upland forage quality/production, cattle spent a significant (P 0.05) occurred in the riparian zone from late August through September. Resting patterns differed only during the early part of the grazing season when cattle spent significantly more (0.5) of their time resting in upland areas.

Martin, K.E. 1984. Recreation planning as a tool to restore and protect riparian systems. Pages 748-757 in California Riparian Systems: Ecology, Conservation, and Productive Management, Warner, R.E. and K. Hendrix eds. 1035pp. University of California Press, Berkeley, CA.

LOCATION: CA

KEYWORDS: RECREATION

ABSTRACT

This paper examines planning strategies which assures the protection of riparian systems while providing for recreation use. A riparian forest adjacent to a densely populated area and subject to intensive recreation use is investigated. The popular recreation activities that occur in connection with a riparian system are identified and methods for controlling recreation use are discussed.

McCluskey, D.C. 1983. Willow planting for riparian habitat improvement. US Dep. Inter., Bur. Land Manage. Tech. Note 363 Federal Center, Bldg. 50, Printed Materials Distribution Center, Denver, CO 80225-0047. 21pp.

LOCATION: UT

KEYWORDS: WILLOW PLANTING, REVEGETATION, HABITAT IMPROVEMENT

ABSTRACT

This report is designed for field personnel who are interested in employing willow (Salix spp.) planting as a technique for riparian habitat improvement. While other methods are available which utilize seedlings or tube packs, the technique discussed here will only deal with vegetative cuttings of willows because they are, for many areas, the easiest to obtain, lowest in cost, usually locally acclimated and produce a good benefit/cost ratio for the project.

Meehan, W.R., and W.S. Platts. 1981. Influence of forest and rangeland management on anadromous fish habitat in Western North America. US Dep. Agric. For. Serv. Gen Tech. Rep. PNW-124, Pacific Northwest Forest and Range Experiment Station. Portland, OR. 25pp.

LOCATION: WESTERN U.S.

KEYWORDS: GRAZING, RANGE MANAGEMENT, FISH HABITAT

ABSTRACT

This paper documents current knowledge on interactions of livestock and fish habitat. Included are discussions of incompatibility and compatibility between livestock grazing and fisheries, present management guidelines, information needed for problem solving, information available for problem solving, and future research needs.

Moore, E., E. Janes, F. Kinsinger, K. Pitney, and J. Sainsbury. 1979. Livestock grazing management and water quality protection-State of the art reference document. EPA, Water Div., 1200 6th Ave. Seattle, WA 98101; EPA Water Div., 1860 Lincoln, Denver, CO 80203; US Dep. Inter., Bur. Land Manage., Federal Center, Denver, CO 80225. 174pp.

LOCATION: WESTERN U.S.

KEYWORDS: WATER QUALITY, LIVESTOCK GRAZING, POLLUTION NONPOINT SOURCE, BEST MANAGEMENT PRACTICES

ABSTRACT

The report is a state of the art reference of methods, procedures and practices or methods suitable for preventing or minimizing water quality impacts, and alternatives for the assessment of a rangeland watershed's total runoff and pollution production.

Moring, J.R., G.C. Garman, and D.M. Mullen. 1985. The value of riparian zones for protecting aquatic systems: General concerns and recent studies in Maine. Pages 315-319 in Riparian Ecosystems and Their Management: Reconciling Conflicting Uses. Proceedings of the Symposium. US Dep. Agric. For. Serv. Gen. Tech. Rep. RM-120, 523pp. Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO.

LOCATION: ME

KEYWORDS: VEGETATION ALTERATION

ABSTRACT

Riparian zones serve important functions for fisheries and aquatic systems: shading, bank stability, prevention of excess sedimentation, overhanging cover for fishes, and energy input from invertebrates and allochthonous material. Impacts from loss of riparian areas are discussed in relation to aquatic ecosystems, and the results of two recent studies in Maine are reviewed.

Odum, E.P. 1978. Ecological importance of the riparian zone. Pages 2-4 in Strategies for Protection and Management of Floodplain Wetlands and Other Riparian Ecosystems. Johnson, R.R. and J.F. McCormick, tech. coords. Proc. Symp. Callaway Gardens, GA. US Dep. Agric. For. Serv. Gen. Tech. Rep. WO-12. Washington DC. 410pp.

LOCATION: U.S.

KEYWORDS: RIPARIAN ZONE FUNCTION

ABSTRACT

Riparian zones have their greatest value as buffers and filters between man's urban and agricultural development and his most vital life support - water. Preservation based on public riparian rights provide an effective hedge against overdevelopment of urban sprawl and agricultural or forest monoculture.

Ohmart, R.D., B.W. Anderson, and W.C. Hunter. 1985. Influence of agriculture on waterbird, wader, and shorebird use along the lower Colorado River. Pages 117-122 in Riparian Ecosystems and Their Management: Reconciling Conflicting Uses. Proceedings of the Symposium. US Dep. Agric. For. Serv. Gen. Tech. Rep. RM-120, 523pp. Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO.

LOCATION: AZ, CA

KEYWORDS: AGRICULTURE, WATERBIRD, WADING BIRDS, SHOREBIRD

ABSTRACT

Waterbird, wader, and shorebird use of the Colorado River was restricted to habitats in or immediately adjacent to the river prior to agricultural development. We studied agricultural habitats systematically for three years and identified those agricultural settings that were most important for individual species and groups of waterbirds, waders, and shorebirds.

Parker, M., F.J. Wood, B.H. Smith, and R.G. Elder. 1985. Erosional downcutting in lower order riparian ecosystems: Have historical changes been caused by removal of beaver? Pages 35-38 in Riparian Ecosystems and Their Management: Reconciling Conflicting Uses. Proceedings of the Symposium. US Dep. Agric. For. Serv. Gen. Tech. Rep. RM-120, 523pp. Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO.

LOCATION: WY

KEYWORDS: BEAVER, DOWNCUTTING

ABSTRACT

Streams often are described as being in a state of dynamic equilibrium. We hypothesize that, in lower order streams, beaver may be able to resist perturbations to this equilibrium if the perturbations are not too great. After suggesting the thermodynamic and mechanistic bases, we propose a simple model by which the potential of beaver to resist perturbations can be quantified. The model accounts for many common observations, and appears applicable to a variety of management problems.

Platts, W.S. 1979. Livestock grazing and riparian/stream ecosystems--An overview. Pages 39-45 in Cope, O.B. ed. Grazing and Riparian/Stream Ecosystems: Proceedings of the Forum. Trout Unlimited Inc., Denver, CO. 94pp.

LOCATION: WESTERN U.S.

KEYWORDS: GRAZING IMPACTS, STREAM MANAGEMENT

ABSTRACT

Livestock grazing can affect all four components of the aquatic system--streamside vegetation, stream channel morphology, shape and quality of the water column, and the structure of the soil portion of the streambank. Livestock grazing can affect the streamside environment by changing, reducing, or eliminating vegetation bordering the stream. Channel morphology can be changed by sediment accrual, altered channel substrate composition, disrupted pool-riffle relationships, and channel widening. Livestock can trample streambanks causing banks to slough off, creating false setback banks, and exposing banks to accelerated soil erosion.

Platts, W.S. 1981. Sheep and cattle grazing strategies on riparian-stream environments. Pages 252-270 in Proceedings of the Wildlife-Livestock Relationships Symposium: Univ. of Idaho, Forest, Wildlife and Range Experiment Station, Moscow, ID.

LOCATION: WESTERN U.S.

KEYWORDS: SHEEP GRAZING, CATTLE GRAZING

ABSTRACT

Research studies involving the effects of cattle and sheep grazing strategies on stream riparian habitat are discussed. Initial results indicate that herded sheep grazing may have little effect on streams and the riparian environment. The effects of cattle grazing first appear on the streambanks and riparian vegetation. Habitat alteration occurs at utilization rates of 65% or more, and alteration is insignificant when utilization is less than 25 percent. Continued research is needed to identify grazing strategies compatible with riparian environments, and to develop new grazing strategies.

Platts, W.S. 1981. Protection and enhancement of Pacific salmonids on ranges grazed by livestock: An overview. Pages 62-65 in Hassler, T.J. ed. Proceedings: Propagation, Enhancement, and Rehabilitation of Anadromous Salmonid Populations and Habitat in the Pacific Northwest Symposium. Humboldt State University, California Cooperative Fishery Research Unit, Arcata, CA.

LOCATION: WESTERN U.S.

KEYWORDS: GRAZING IMPACTS, GRAZING STRATEGY

ABSTRACT

When European man arrived on the Pacific Coast, the streams were teeming with salmonids in a natural environment. Since the mid-1800s, a decline in the quality of the salmonid habitat has occurred. One land use responsible for part of this decline has been improper grazing by both sheep and cattle. The solutions that will reverse this decline rest with range and fishery specialists, who must coordinate their studies and tackle the riparian issue together. They must determine the suitability of each habitat type for grazing, and the correct grazing strategy with proper animal distribution.

Platts, W.S. 1982. Livestock and riparian-fishery interactions: What are the facts? Trans. of the 47th N. Am. Wildlife and Natural Resources Conference. 47:507-515 Wildlife Management Institute, Washington, DC.

LOCATION: WESTERN U.S.

KEYWORDS: GRAZING-FISHERY INTERACTIONS

ABSTRACT

Land managers are having a tough enough time trying to properly manage the riparian-stream habitats without the literature confusing their thinking. This report attempts to evaluate past findings and to place the facts in better perspective. Many articles in the literature discuss the effects of livestock grazing on riparian-fishery habitats, but most are either intuitively developed or are a state-of-the-art reports that do not include actual data for analysis.

Platts, W.S., W.F. Megahan, G.W. Minshall. 1983. Methods for evaluating stream, riparian, and biotic conditions. US Dep. Agric. For. Serv. Gen. Tech. Rep. INT-138. Intermountain Forest and Range Experiment Station, Ogden, UT. 70pp.

LOCATION: WESTERN U.S.

KEYWORDS: AQUATIC HABITAT, FISH, STREAMS, INVENTORY

ABSTRACT

This report develops a standard way of measuring stream, riparian, and biotic conditions and evaluates the validity of the measurements recommended. Accuracy and precision of most measurements are defined. This report will be of value to those persons documenting, monitoring, or predicting stream conditions and their biotic resources, especially those related to impacts from land uses.

Platts, W.S. 1984. Riparian system/livestock grazing interaction research in the intermountain west. Pages 424-429 in California Riparian Systems: Ecology, Conservation, and Productive Management, Warner, R.E. and K. Hendrix eds. 1035pp. University of California Press, Berkeley, CA.

LOCATION: INTERMOUNTAIN WEST

KEYWORDS: RESEARCH, GRAZING

ABSTRACT

Research which identifies the influences livestock grazing has on riparian and aquatic ecosystems is limited. A research study initiated in 1975 by the USDA Forest Service is studying these influences and finding solutions so managers will have better information to evaluate rang management alternatives. Preliminary findings on continuous and rest-rotation grazing systems are discussed.

Platts, W.S., K.A. Gebhardt, and W.L. Jackson. 1985. The effects of large storm events on Basin-Range riparian stream habitats. Pages 30-34 in Riparian Ecosystems and Their Management: Reconciling Conflicting Uses. Proceedings of the Symposium. US Dep. Agric. For. Serv. Gen. Tech. Rep. RM-120, 523pp. Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO.

LOCATION: NV, UT

KEYWORDS: STORM EVENTS, FLOODING, UNGRAZED RIPARIAN, GRAZED RIPARIAN

ABSTRACT

Large storm events had major impacts on stream riparian reaches that had received heavy livestock grazing. One ungrazed rehabilitated stream reach actually improved in habitat condition while the two adjacent grazed stream reaches decreased. Each stream reacted differently to channel erosion, with two streams showing mainly lateral channel movement and the third stream vertical channel movement.

Platts, W.S., and R.L. Nelson. 1985. Stream habitat and fisheries response to livestock grazing and instream improvement structures, Big Creek, Utah. J. of Soil and Water Cons. 40(4):374-379.

LOCATION: UT

KEYWORDS: STREAM HABITAT, LIVESTOCK GRAZING, STREAM IMPROVEMENT

ABSTRACT

Fisheries habitat and fisheries response were compared on an area protected from grazing for 11 years and on adjacent, heavily grazed areas of similar structural and riparian character. Prohibiting grazing dramatically improved riparian vegetation, streambanks, and stream channel conditions. But this improvement was countered by off-site upstream influences and on-site instream improvement structures that function as fine sediment traps. Fish population did not respond to improving habitat conditions because the relatively small size of the livestock enclosure did not reduce incoming, limiting influences created by upstream conditions and the artificial nature of the fishery.

Platts, W.S., and R.L. Nelson. 1985. Streamside and upland vegetation use by cattle. J. of Rangelands. 7(4):5-7.

LOCATION: WESTERN U.S.

KEYWORDS: GRAZING, STREAMSIDE VEGETATION, CATTLE USE

ABSTRACT

In the Western United States, some streams no longer have their once productive streamside vegetal cover. A century of heavy grazing on these riparian zones has caused cumulative impacts to streambanks that have resulted in the transformation of many riparian habitats from a dominant growth of trees to brush to forb. Inadequate animal drinking water on upland areas and preference for streamside vegetation have been traditionally important factors causing streamside corridors to be more heavily grazed than are other rangeland areas.

Platts, W.S., and R.L. Nelson. 1985. Will the riparian pasture build good streams? J. of Rangelands. 7(4)7-11.

LOCATION: WESTERN U.S.

KEYWORDS: RIPARIAN PASTURE, GRAZING

ABSTRACT

Since the mid 1930s, improved range management practices have steadily enhanced the deteriorated rangelands that existed at that time. Although overall rangeland conditions have continually improved, riparian range sites (lands supporting vegetation that requires free or unbound water or moist soils) have not necessarily followed suit. Many riparian areas remain in a deteriorated state because they fail to respond favorably to the management strategies being applied to the allotment.

Platts, W.S., and J.N Rinne. 1985. Riparian and stream enhancement management and research in the Rocky Mountains. N. Am. J. of Fish. Manage. 5:115-125.

LOCATION: ROCKY MOUNTAIN STATES

KEYWORDS: RESEARCH NEEDS, RIPARIAN

ABSTRACT

This report reviews past stream enhancement research in the Rocky Mountains, its adequacy, and research that should be done to improve the effectiveness of future stream enhancement projects. Research is lacking on stream improvement in a watershed context on a long-term basis. Not all streams can be enhanced. Enhancement should be attempted only after techniques described in the literature have been carefully considered and judged appropriate for the selected site.

Prichard, D.E., and L.L. Upham. 1986. Texas creek riparian enhancement study. N. Am. Wildl. and Nat. Res. Conf. 47:

LOCATION: CO

KEYWORDS: STREAM IMPROVEMENT, GRAZING IMPACT, RIPARIAN IMPROVEMENT, STREAM IMPROVEMENT, REVEGETATION

A riparian habitat enhancement study was conducted on Texas Creek, a small cold water stream in south central Colorado on public land administered by the Bureau of Land Management. The objective was to quantitatively measure responses in riparian vegetation, channel profile, and fish population resulting from manipulation of livestock and selected treatments i.e., gabions, plantings, and stream bank stabilization. A one-half mile (0.8 km) portion of Texas Creek was divided into three study segments. Segment A represented deferred seasonal livestock grazing with no habitat manipulation treatments. Segment B excluded livestock grazing with intensive habitat treatments. Segment C excluded livestock grazing with no habitat manipulations.

Richards, M.T., and A.B. Wood. 1985. The economic value of sportfishing at Lees Ferry, Arizona. Pages 219-222 in Riparian Ecosystems and Their Management: Reconciling Conflicting Uses. Proceedings of the Symposium. US Dep. Agric. For. Serv. Gen. Tech. Rep. RM-120, 523pp. Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO.

LOCATION: AZ

KEYWORDS: FISHERIES, SPORTFISHING ECONOMIC VALUE, RECREATION

ABSTRACT

Economic values were estimated for trophy and non-trophy anglers at Lees Ferry, Arizona. Management recommendations are made, based on these values, that permit discrimination between various users of the riparian environment and among anglers specifically.

Rinne, J.N. 1985. Livestock grazing on southwestern streams: A complex research problem. Pages 295-299 in Riparian Ecosystems and Their Management: Reconciling Conflicting Uses. Proceedings of the Symposium. US Dep. Agric. For. Serv. Gen. Tech. Rep. RM-120, 523pp. Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO.

LOCATION: NM

KEYWORDS: GRAZING IMPACT, RESEARCH

ABSTRACT

Conducting viable research on the effects of domestic livestock grazing on stream environments and biota in southwestern National Forests is problematic. The multiple-use concept, spatial temporal factors, inadequate control and replication, and changes in land management objectives and direction render it difficult to effectively study grazing impacts.

Rosgen, D.L. 1985. A stream classification system. Pages 91-95 in Riparian Ecosystems and Their Management: Reconciling Conflicting Uses. Proceedings of the Symposium. US Dep. Agric. For. Serv. Gen. Tech. Rep. RM-120, 523pp. Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO.

LOCATION: WESTERN U.S.

KEYWORDS: STREAM CLASSIFICATION

ABSTRACT

A stream classification system is presented which categorizes various stream types by morphological characteristics. Delineation criteria are stream gradient, sinuosity, width/depth ratio, channel materials, entrenchment, confinement, and soil/landform features. Applications include riparian management guidelines, fisheries habitat interpretations, hydraulic geometry and sediment transport relationships.

Schultze, R.F., and G.I. Wilcox. 1985. Emergency Measures for Streambank stabilization: An evaluation. Pages 59-61 in Riparian Ecosystems and Their Management: Reconciling Conflicting Uses. Proceedings of the Symposium. US Dep. Agric. For. Serv. Gen. Tech. Rep. RM-120, 523pp. Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO.

LOCATION: CA

KEYWORDS: STREAMBANK STABILIZATION, REVEGETATION, FLOODING

ABSTRACT

Severe storms of 1978 through 1983 caused considerable damage to streams in California. The Soil Conservation Service used several mechanical and revegetation techniques to stabilize streambanks and re-establish riparian vegetation. Results of evaluations made on 29 projects are discussed and recommendations made to improve success.

Siekert, R.E., Q.D. Skinner, M.A. Smith, J.L. Dodd, J.D. Rogers. 1985. Channel response of an ephemeral stream in Wyoming to selected grazing treatments. Pages 276-278 in Riparian Ecosystems and Their Management: Reconciling Conflicting Uses. Proceedings of the Symposium. US Dep. Agric. For. Serv. Gen. Tech. Rep. RM-120, 523pp. Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO.

LOCATION: WY

KEYWORDS: STREAM EPHEMERAL, GRAZING IMPACTS, STREAM-CHANNEL MORPHOLOGY

ABSTRACT

Studies of the effects of seasonal grazing on ephemeral stream morphology are summarized. Results indicate that spring grazing has no significant effect on channel morphology. Summer and fall grazing is associated with increases in channel cross-sectional area, with the degree of these impacts varying with climatic differences. Seasonal grazing can be used as a management tool for modifying channel morphology to promote channel stabilization.

Simcox, D.E., and E.H. Zube. 1985. Arizona riparian areas: A bibliography. University of Arizona, School of Natural Resources, Tucson, AZ. 38pp.

LOCATION: AZ, U.S.

KEYWORDS: HYDROLOGY, WILDLIFE, FISHERIES, ECONOMICS, LAW

ABSTRACT

381 bibliographic references related to riparian areas are listed. An extensive keyword index is included.

Short, H.L. 1985. Management goals and habitat structure. Pages 257-262 in Riparian Ecosystems and Their Management: Reconciling Conflicting Uses. Proceedings of the Symposium. US Dep. Agric. For. Serv. Gen. Tech. Rep. RM-120, 523pp. Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO.

LOCATION: U.S.

KEYWORDS: WILDLIFE HABITAT STRUCTURE, RIPARIAN HABITATS

ABSTRACT

Many management goals can be developed for riparian habitats. Each goal may dictate different management policies, strategies, and tactics and result in different impacts on wildlife. Habitat structure, expressed in terms of habitat layers, can provide a useful framework for developing effective strategies for a variety of management goals because many different land uses can be associated with habitat layers. Well-developed goals are essential both for purposeful habitat management and for monitoring the impacts of different land uses on habitats.