A Riparian Research Program

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"What would you do with a riparian, if you could catch one?" Personnel of the Forest Service's Intermountain Research Station's new riparian research program often begin talks to civic and community groups with such a question—recognizing that their research topic isn't exactly a household word. Although the term may not be well known, many public resource managers in the Intermountain West believe that conflict surrounding the management and use of the productive and sensitive land adjacent to lakes, streams, seeps, and springs is potentially one of the most explosive land management issues.

The days when disagreements were settled with a six-shot revolver are history. But conflict over, and abuse of, riparian areas has continued to the present. Human activity in riparian areas—home building, crop production, road construction, mining, timber harvesting, recreation, and grazing—has jeopardized the ability of these areas to provide what has been demanded of them.

The Intermountain Research Station has responded to the growing interest and controversy over competing uses for riparian areas. The new "Riparian-Stream Ecology and Management" research work unit, based at the Forestry Sciences Laboratory in Boise, Idaho, is chartered "to improve the understanding of riparian and stream habitats and improve methods of managing them for the conservation of resources and production of livestock, wildlife, and fish."

The project leader is range scientist Warren Clary. Other members of the unit include research fisheries biologist William Platts, wildlife biologist Dean Medin, botanist Nancy Shaw, fisheries biologist Richard Torquemada, range technician John Kinney, and economist Fred Wagstaff, who helps part-time.

The new unit will build upon a foundation of work established during 10 years of research by Platts. Establishing research plots in Nevada, Idaho, and Utah, Platts studied the effects of damaged riparian areas of fish production. His work has provided evidence that livestock grazing, road construction, timber harvest, and mining in riparian areas can reduce the capacity of streams to produce fish, and that the impact of damaged riparian areas can be severe and far reaching.

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Streams and their associated riparian areas provide fish and wildlife habitat, and livestock forage.

Riparian-stream research will lead to livestock grazing regimes that rehabilitate and protect riparian areas.

With the concentration of expertise from a variety of scientific disciplines now focused on this issue, the new unit has become a center of Forest Service riparian research. Members of the unit bring different perspectives to bear on a variety of aspects. In response to the recreational values of nongame wildlife, Medin will use his wildlife background to study how livestock grazing in riparian areas affects the habitat of small mammals and birds. Shaw will utilize her botany training to develop handling and planting techniques for woody plants such as willow, cottonwood, and alder. These species can help rehabilitate damaged riparian areas, by stabilizing streambanks, providing shade and shelter for wildlife, and furnishing organic material to streams. Wagstaff provides an important economic focus to the problem of competing uses on riparian areas. He'll address such questions as, "How many added recreation days of fishing justify the expense of fencing a stream?" He'll also study the cost effectiveness of various management practices and techniques.

The project will not be without help. According to Clary, National Forest and BLM personnel will be important partners in the work of project personnel. "We have worked closely with National Forests in Idaho and Nevada, and with BLM folks in Idaho, Nevada, Oregon, and Utah in establishing numerous study plots."

One problem personnel in the new research work unit must tackle is the variability of riparian areas. Some areas are able to withstand heavy use by man and his animals with little damage to streambanks, loss of forage and wildlife cover, or reduced fish production. Other areas are very fragile, and will be severely damaged by even moderate use. Some areas recover quickly from impacts, others will show the scars of disturbance for many years.

Why the variability? The structure of streams varies—from small, fast-moving relatively straight streams, to larger, older, slower-moving, meandering streams. Some streams run through highly erodible material while others lie in very hard, durable rock. In addition, the character of streams and riparian areas is influenced by topography, soil types, weather patterns, and vegetative cover.

"Because riparian areas are not all alike, we simply can't generalize our research findings," says Clary. "We need to establish study plots on many different sites to develop a feel for the range of conditions—and then we can develop associated management practices that apply in different settings."

With their research mission established, personnel in place, problems selected for study, and action plans written, the unit has set out on an aggressive 5-year program of work. Studies are being designed to provide information regarding different types of riparian areas. But what specifically will result from this work?

Clary stresses the practical application of the work. "We want to develop an understanding of when, where, and how grazing of riparian areas is appropriate. With this knowledge, managers can develop livestock grazing practices specific to their unique situations. After we understand more about what's going on in riparian areas—how the various components of water, soil, topography, weather, animals, and plants interact—then we can devise management guidelines to ensure that man's activities won't damage the system."

Debate over the use of riparian areas is likely to continue. The demand for water, grazing, fish production, and wildlife habitat will increase. But because of the attention Clary and others are focusing on the areas, the future of riparian areas—and all that they mean to the West—looks brighter.