

Tonto Rangelands—A Journey of Change

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The Tonto National Forest occupies about 3 million acres which generally lie north to Phoenix, Ariz., to the Mogollon Rim and east to the San Carlos and Fort Apache Indian reservations. The west side is approximately Interstate 17 which stretches north of Phoenix to Flagstaff. There are 103 grazing allotments and 87 grazing permittees. Allotments range in size from 600 to 188,000 acres. The lower elevations are of the Sonoran Desert type while the northern portion of the Forest is generally Pinon Juniper and Ponderosa Pine types. The duration of most grazing permits is year long; however, a few winter seasonal permits occur.

This article describes a brief history of rangeland problems and the

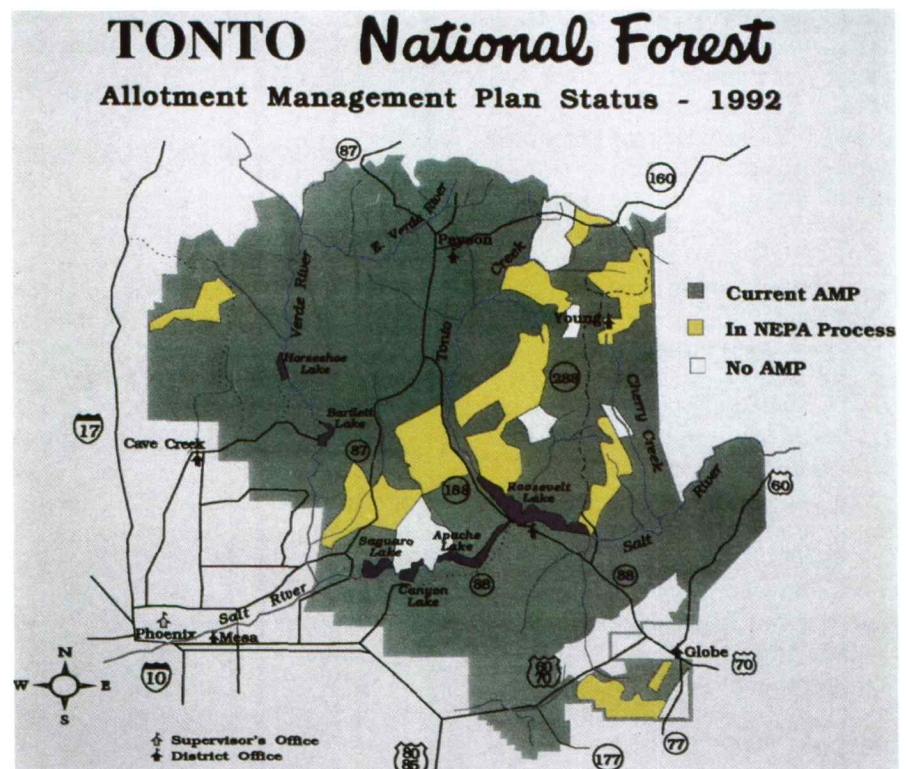
evolution of management strategies to improve the vegetation resource on the Tonto National Forest. The results reported in this article are of accomplishments made during the past 15 years. However, significant progress was made prior to this time in implementing the Forest Service policies for rangeland management, and by working with the grazing permittees to initiate some level of controlled livestock grazing. It is not intended to imply that resource management problems no longer exist on the Tonto. Unacceptable resource conditions do exist in some areas of the Tonto National Forest and it is up to resource managers to continue to implement the best management strategies to improve the resources. Rangeland managers on the Tonto National

Forest have, however, made some outstanding accomplishments. Currently 85% of the grazing allotments are under proper management. During 1992 the Tonto National Forest was awarded the Forest Service Chief's Award for outstanding accomplishments in the range management program.

A Brief History of a Rangeland Problem

The valuable rangeland resource was the center of tremendous controversy among ranchers about the turn of the century. The Pleasant Valley War involved one of the most vicious feuds in Southwestern history and began because of a disagreement between cattlemen and sheep-

Fig. 1. The majority of rangelands on the Tonto National Forest are under a range management strategy which is meeting or moving toward meeting the objectives of the Forest Land Management Plan.



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men on how the rangeland should be used. Stories on the Pleasant Valley War as well as other books on the history of this area gave a feeling for the strength of the characters who settled the Southwest and how closely they were dependent on the land. Senior Forest Ranger Fred Croxen presented a paper on the history of livestock grazing on the Tonto National Forest during a range conference in Phoenix back in 1926. He actually interviewed many of the ranchers who first settled within the Tonto National Forest. Mr. Croxen reported that livestock moved into the country which is now the Tonto National Forest after the Civil War when army posts were established and roads were built. The area was fully stocked by 1890, at which time the market for livestock disappeared. During that year ranchers kept their yearling livestock since they could not sell them. By 1900 the numbers of livestock peaked. From the interviews, Mr. Croxen estimated there were 15 to 20 times as many livestock in 1900 as there were in 1926. If that is true, there must have been one and one half to two million cattle grazing what is now the Tonto National Forest. Today, 26,414 cattle are permitted to graze the Tonto National Forest.

Mr. Croxen told of ranges being grazed and trampled out by the turn of the century; then came the drought of 1904. It failed to rain for 18 months. Trees were cut along stream sides to provide forage for cattle; cattle died by the thousands. Even though the numbers of livestock were never restored, the resources remained damaged for years to come.

Progress was made when the Tonto became part of the National Forest reserves in 1905. This marked the beginning of formal administration of resource uses. However, improvement of vegetation condition on deteriorated sites was very slow. It also took years to construct adequate fences and water facilities that were needed to manage livestock grazing on these huge acreages.

During the mid 1970s public pressure began to increase concerning management of the National Forests.

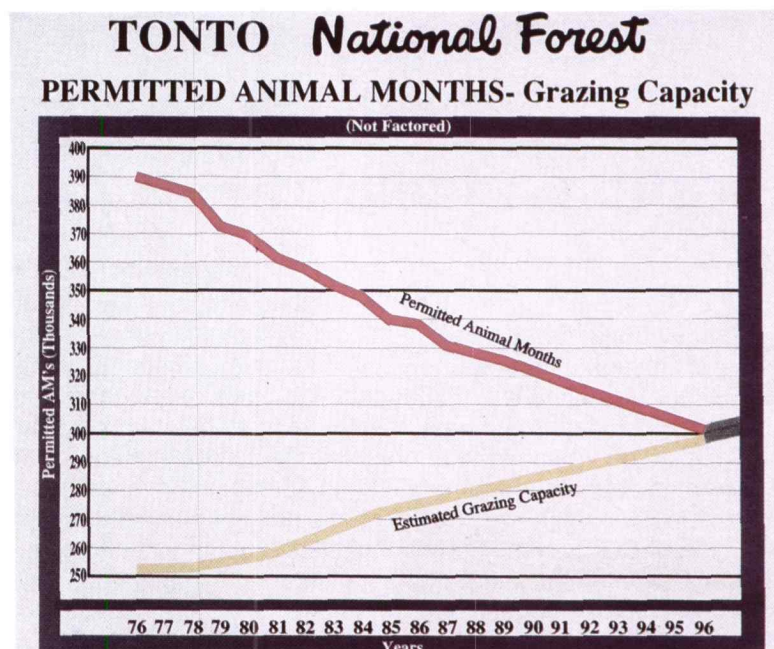
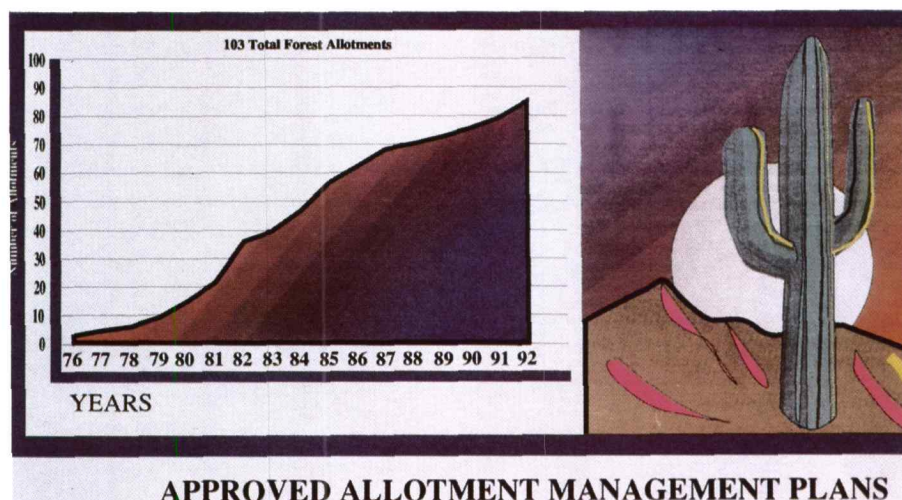


Fig. 2a. Estimated Capacity versus Permitted Numbers.



APPROVED ALLOTMENT MANAGEMENT PLANS

Fig. 2b. Allotment Management Plans completed on the Tonto National Forest.

Many of these people were interested in management of rangelands for purposes other than livestock grazing. Ranchers, Forest Service, Agricultural Extension Service, Arizona's State universities, the Sierra Club, and other special interest groups worked together to help the Forest Service initiate a change in resource management on the Tonto National Forest.

A Strong Commitment to Proper Management

With an attitude of urgency to get on with improving rangelands, re-

source managers and grazing permittees adopted new ways of doing business for improving the rangelands: 1. They accepted the sobering fact that there was serious mismanagement and deterioration of the rangeland resources. This condition did not meet the expectations of publics, grazing permittees, or the Forest Service. 2. When a serious resource management problem was obvious, years of study was not necessary before changing management to improve the resource. 3. Livestock numbers were too high to allow resource improvement on some allotments. In these situations, numbers of livestock

were adjusted to the proper stocking level before the new management plan was implemented.

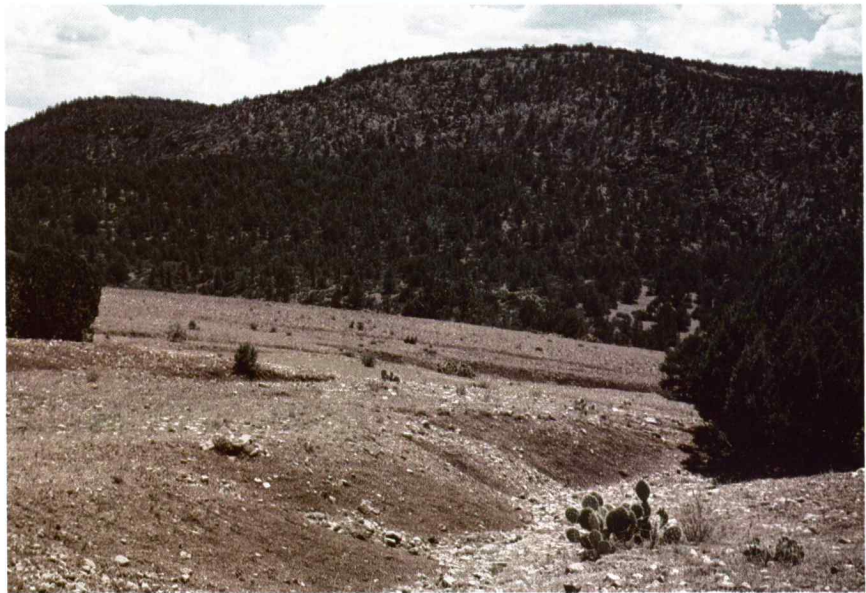
In 1976 about 390,000 Animal Months (AMS) were permitted on the Tonto, while the estimated capacity was only about 250,000 AMS (See Figure 2a). After implementing management and decreasing permitted numbers, range condition improved and animal carrying capacity steadily increased. By 1995 the numbers of permitted animals and the grazing capacity should be in alignment. With the continuation of proper management, the grazing capacity will be in balance with, or exceed, the number of permitted animals in the future.

Figure 2b shows less than 5% of the Tonto was with proper rangeland management in 1976. Currently 85% of the allotments on the Tonto have management plans which are moving toward meeting Forest Plan objectives.

Photographs 1a through 3b show conditions of rangelands before implementing proper management and the results after the management plan had been implemented. Photograph 1a was taken on the Bar X Grazing Allotment. The photograph shows typical rangelands that are recovering from poor management on the allotment. The Bar X Allotment sustained large decrease in permitted numbers when the management plan was implemented. Now that conditions have improved, the numbers of animals permitted to graze has increased, while the rangeland resource condition is continuing to improve.

The left side of the fence in photograph 2a is the Winters Allotment while the right side is an ungrazed highway right of way. The highway right-of-way is certainly in better condition considering ground cover and plant density. Photograph 2b shows the exact same location 7 years after proper management had been implemented. Currently the left side of the fence (the grazed side) is in better condition than the right side (ungrazed highway right of way) with respect to ground cover and vegetation diversity.

The LX Bar and Red Creek Allotments were combined into one allotment in about 1980. Photographs 3a



Photograph 1a. Bar X Allotment 1977.



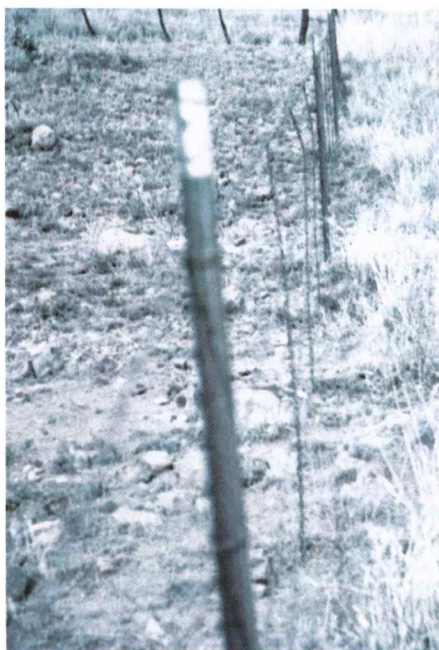
Photograph 1b. Bar X Allotment 1985

and 3b are of the same Parker 3 step cluster in 1980 and 1984. A new management plan was implemented in 1980. The grazing permittee on this allotment administers his own annual vegetation monitoring program in cooperation with the Agriculture Extension Service, Forest Service, and his own family. The data collected are as important to him for managing the rangeland resource as weighing his calves is important for livestock management.

Stages of Rangeland Management

Rangeland management on the Ton-

to National Forest has evolved in 3 stages: Stage one was gaining control of livestock numbers and designating areas for grazing. Stage two involved the grazing permittee, the Forest Service, and Range Conservationists working together to implement management to meet objectives for livestock grazing, range condition and watershed conditions. Phase three, the phase of management most of the grazing allotments are under now, involves recognizing the value of other diverse uses on rangelands such as recreation, wildlife, and fish, as well as other issues, such as threat-



2a. Winters Allotment 1978



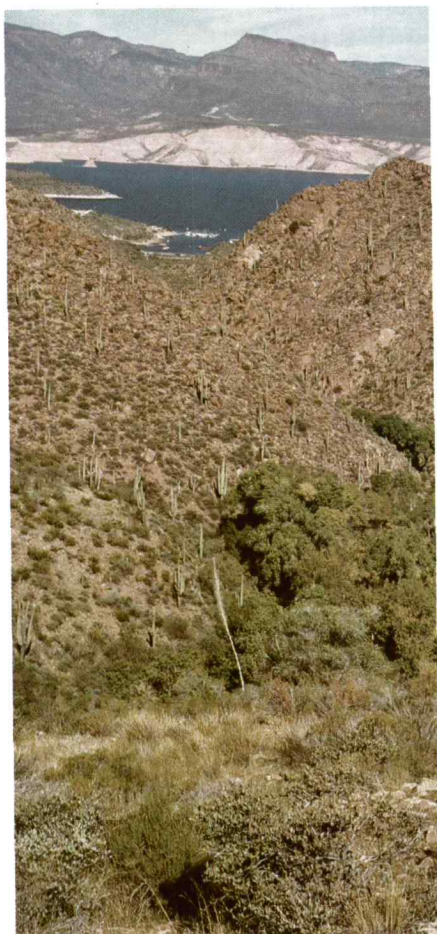
2b. Winters Allotment 1985



Photograph 3.a Red Creek (Old LX) Allotment 1980



Photograph 3b. Red Creek Allotment 1984



Photograph 4. Unique features of the desert ecosystem on the Tonto. This riparian area carries water from the scenic uplands to Roosevelt Lake, one of the largest recreation areas in Arizona.



Photograph 6a. Tonto Creek, 1983. (Notice the boulder where the stream splits)



Photograph 5. One of many riparian areas on the Tonto Basin Ranger District which is moving toward meeting objectives.



Photograph 6b. Tonto Creek, 1990. (The boulder is nearly covered with vegetation).



Photograph 7a. Hess Canyon, June, 1986.



Photograph 7b. Hess Canyon, June, 1987.



Photograph 7c. Hess Canyon, Nov., 1989.

ened and endangered species, riparian condition, watershed condition, and the value of range forage.

Riparian areas in the hot desert ecosystem provide a precious habitat for living organisms including wildlife, fish, and people. They also serve as nature's giant sponge during heavy run off. The Tonto National Forest has placed a very high priority on proper management to protect and restore riparian habitat. A full-time riparian specialist provides leadership for the riparian management and monitoring program. Each applicable allotment management plan contains riparian management objectives described in terms of desired vegetation. Monitoring is also part of each allotment management plan to assure that the management is effective in meeting the objectives. Included

in the riparian effort is an outstanding volunteer monitoring program initiated with a Phoenix organization: "Mothers for Clean Water." Also, the Forest Service is continuing to set up permanent riparian monitoring stations which are monitored and photographed annually by volunteers.

Photographs 6a through 8b show the positive response of riparian areas after proper management was implemented. Most management strategies involved shortening the duration of grazing in the riparian areas and providing rest during the summer months. Some of these riparian areas have continued to wash out during heavy flooding. However, with proper grazing management, the vegetation appears to respond much quicker and the overall desired riparian characteristics are growing in strength.

Rangeland Management in the Future

It is difficult for us to know exactly what challenges and opportunities rangeland managers will face in the future on the Tonto National Forest. However, it is almost certain that the health of rangeland ecosystem will become more important to more people. This fact will bring a continued emphasis on the following: 1. Rangeland managers will use scientific information, along with history, to predict the vegetative response to management strategies. 2. Monitoring must be accomplished to track the effectiveness of management in reaching vegetation objectives. 3. Rangeland management will become part of an overall strategy to manage for healthy ecosystems.



Photograph 8a. Hess Canyon, June, 1985.



Photograph 8b. Hess Canyon, Nov. 1987.

Literature Cited

- Coolidge, Dane.** Book Copyright 1938 and 1966, second printing, 1989. *Arizona Cowboys*. Univ. of Arizona Press, Tucson 85719.
- Forrest, Earle.** Book Copyright 1950 and 1979. *Arizona's Dark and Bloody Ground*. Univ. of Arizona Press, Tucson 85719.
- Croxen, Fred W. 1926.** Paper presented by Senior Forest Ranger Croxen at the Tonto National Forest Grazing Conference in Phoenix, Ariz., November 4 and 5, 1926.