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by Mark Moseley, State Range Conservationist, Stillwater, OK

**GLCI Spotlight:  
Society for Range Management**

A new feature of our newsletter. This issue highlights the Society and two individuals who serve on the National GLCI Steering Committee.

**Pete Jackson,**  
Harrison, Montana  
**L. N. "Bud" Purdy,**  
Pocahontas, Idaho

### Announcements

**The Chair's Corner**  
Results of the National GLCI Steering Committee's Fall Business Meeting in Tennessee.

**Cover photograph:**  
Angora goats on shinnery pasture. Ranchers cooperated with NRCS, RC&D, Langston University, U.S. Forest Service, Upper Washita Conservation District, and Atwoods Country Store in a shinnery grazing demonstration project near Cheyenne, Oklahoma.

# GLCI News



## Managing Sand Shinnery With Goats

By Mark Moseley, State Range Conservationist, USDA-NRCS, Stillwater, OK

Sand shinoak (shinnery) is native to many thousands of acres in Oklahoma, Texas, and New Mexico. It occurs on coarse, sandy soils and is an important plant on these sites. However, in many instances shinnery has increased to densities much greater than what was presumed to have occurred historically. Shinnery has increased to the point that it completely dominates many rangeland areas in the region. Sites dominated by shinnery have fewer environmental benefits than areas with a more diverse plant composition.

Many methods of managing shinnery have been used, including chemicals, fire, mowing and mechanical. Goats have been commonly used in Texas on the hill country type of shin oak, but not for sand shinnery. To explore the possibility of using goats on sand shinnery, ranchers cooperated with NRCS, RC&D, Langston University, U.S. Forest Service, Upper Washita Conservation District, and Atwoods Country Store in a shinnery grazing demonstration project near Cheyenne, Oklahoma.

Project goals were to change the plant composition from its current 95:5 percent shinnery to herbaceous ratio to about a 20:80 percent shinnery to herbaceous ratio within a 3-year time frame while holding the death loss on goats to 3% in an area with a high population of coyotes. The operating principle is very simple. Grasses grow from their bases while shrubs grow from their tips. Anytime more than half of the growing leaf is removed the plant has to call upon reserves to maintain itself. Because of this difference in growth physiology, grasses can withstand grazing pressure better than shinnery. The shinnery will deplete its food reserves first. The key is to use animals that prefer shrubs over grass.

The project was established on 80 acres of U.S. Forest Service National Grasslands. The area was divided into 8 pastures utilizing two sets of goats with guard dogs. One set of goats was rotationally grazed, while the other was continuously grazed during the growing season. One pasture was designated as the target pasture. Goats were stocked so as to defoliate the shinnery in the target pasture by 80 percent within 7 days, then they were moved into the grazing rotation. When the leaves in the target pasture had regrown to about half of their mature size, the goats were pulled out of the rotation and put back into the target pasture. Each time the goats were put back into the target pasture, the goal was to get 80 percent defoliation of the shinnery. When this was achieved, they were put back into the rotation. This cycle was continued for the entire growing season for 3 years.

*(Continued on next page)*

## ... Managing Sand Shinnery With Goats ...

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Stocking rate and other management adjustments were made each year based on what was learned from previous experience. Records kept during the trial reveal the following grazing pressures on the target pasture:

- Year 1 - 990 goat days per acre
- Year 2 - 681 goat days per acre
- Year 3 - 533 goat days per acre
- 2204 total goat days per acre

**This progressive lowering of the stocking rate corresponds to shinnery reduction.**

### FORAGE QUALITY AND DIET QUALITY TEST RESULTS

#### Forage quality (digestible protein) of shinnery

| Date | Current | Growth | Regrowth |
|------|---------|--------|----------|
| 7/28 | 6.2%    |        | 9.5%     |
| 8/25 | 4.3%    |        | 3.6%     |

Crude protein amounts can be misleading because tannins in the oak leaves may tie up the protein.

#### Fecal protein and digestible organic matter of shinnery

| Date | Fecal Protein | DOM |
|------|---------------|-----|
| 7/20 | 15%           | 54% |
| 7/29 | 17%           | 63% |
| 8/11 | 14%           | 55% |
| 8/25 | 12%           | 50% |

Goats recycled the nutrients in the vegetation and the nutrients eaten in the supplemental feed.

Vegetation production was near 3100 lb. per acre in both the control plot and the target plot. At the end of three years, the target pasture had 11 different species of plants while the control only had 7 different species.

#### Percent production by weight by kinds of plants are:

|                 | Control | Target |
|-----------------|---------|--------|
| Oak             | 95%     | 50%    |
| Grasses & Forbs | 5%      | 50%    |



There is much to be learned when managing shinnery with goats. However, this experience does suggest that goats are an effective tool to manipulate sand shinnery to accomplish a management objective. For more information, contact Mark Moseley at (405) 742-1235 or [mark.moseley@ok.usda.gov](mailto:mark.moseley@ok.usda.gov). ■



Defoliation of shinnery at the end of a grazing period.



Plant recovery at the end of the third growing season.

#### Conclusions:

- Be committed to making it work, allow 3 years to see significant shifts in plant composition.

Goats select what they eat based on quality and what they are familiar with. Goats that came from a background of grass ate a higher proportion of grass and forbs than did the goats with a background of brush. The goats were selective, even between shinnery ecotypes.

Use well trained guard dogs. Death loss was less than 3% where guard dogs were used.

Use net wire fences or permanent power fences of at least 4 strands.

Have a good health program, a good nutritional program, and a marketing plan.

- Introduce the goats to the shinnery as soon after bud break as possible. There is a small chance

that some goats may get bud poisoning, but the toxicity is reduced after about two weeks. If the oak leaf gets too mature the goats will shift to better forage.

We used 6 goats per acre stocking rate. For the 5 pasture rotation, as many as 124 goats were in the herd. This means each pasture was stocked with a density of 21 goats per acre.

The goats in the non-rotation system gained weight initially but lost weight rapidly after mid-July. This was attributed to the fact that once the goats had grazed all the quality forbs and grasses from the pasture, they were left with low-quality shinnery. The rotation goats gained weight throughout the entire summer. The rotation pastures had a greater variety of forages, allowing the goats to select higher quality diets.

Continuous grazing is an option, but should have diet quality and the resulting plant composition as a consideration.

Goats reduced the competition from the shinnery, releasing the herbaceous plants. This improved the carrying capacity for cattle. The resulting stocking rate can be estimated from the forage production figures.

Wildlife species such as white-tailed deer, quail, and lesser prairie chicken benefit from changes in the plant community including increased diversity of plants and the change in cover structure.

## Announcements

I am pleased to announce that Rod Baumberger has accepted the position of National GLCI Coordinator. Rod has extensive background with the Natural Resources Conservation Service and GLCI. He has served at local, area and state positions with NRCS for the past 35 years and as Northern Plains GLCI Coordinator for the past six years. Rod will be located in Sturgis, South Dakota. ■



Rod Baumberger



Also I would like to recognize Charles Whitmore, Regional Conservationist, USDA NRCS Midwest Region, for creating a permanent full time Regional GLCI Coordinator on his staff. Jim Wallace, 29 year NRCS employee from Marion, Illinois was selected, effective October 7. Jim has served as the Midwest Region GLCI Coordinator in a part time capacity since 1996. We will look for continued good news from the Midwest! With the selection of Jim Wallace, five of the six NRCS administrative regions now have a permanent full time GLCI Coordinator. ■



## GLCI SPOTLIGHT

### Society for Range Management

The Society for Range Management (SRM) is one of the original member organizations involved with the establishment of the Grazing Lands Conservation Initiative (GLCI), and is one of nine organizations which currently make up the membership of the National GLCI Steering Committee.

SRM is the professional scientific society, conservation organization, and professional partnership whose members are concerned with scientific study, conservation, management, and sustainability of all rangeland resources, which comprise nearly half of the land in the world. SRM is an international organization which was established in 1948, and currently has more than 4000 members in 48 countries. Its members represent a diverse group that includes producers, land managers, scientists, educators, students, and conservationists guided by a code of ethics and unified by a strong land ethic.

The vision of the Society for Range Management is productive, sustainable rangelands. The mission of SRM is to promote and enhance the stewardship of rangelands to meet human needs based on science and sound policy. The objectives through which SRM strives to accomplish its mission are:

1. Proper care of the basic rangeland resources of soil, plants, and water.
2. Understanding of rangeland ecosystems and of the principles applicable to the management of range resources.
3. Assistance to all who work with range resources to keep abreast of new findings and techniques in the science and art of range management.
4. Improvement of the effectiveness of range management to obtain the products and values necessary for human welfare from range resources.
5. Public awareness and appreciation of the economic and social benefits obtained from range resources.
6. Professional development of its members.

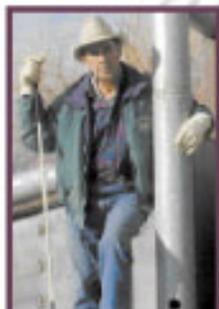
SRM supports all of the objectives and goals of GLCI. The organization has adopted a recommendation that states The Conservation of Private Grazing Lands program needs to be fully funded and implemented. Program activities need to be coordinated through existing local, state, and national GLCI Steering Committees. Farm Bill programs should provide incentives that encourage good stewardship and proper management of grazing lands.

SRM has been a leader since the very beginning of GLCI, and continues its strong support for the Grazing Lands Conservation Initiative. SRM has an active GLCI Task Group to maintain a direct communication link between SRM and the National GLCI Steering Committee. Don Gohmert of Alexandria, Louisiana, is the current chairman of that task group.

Samuel W. Albrecht is the Executive Vice President of the Society for Range Management. For more information about their programs and activities, contact SRM at: 445 Union Blvd., Suite 230, Lakewood, CO 80228; Phone: 303-986-3309; Fax: 303-986-3892

Email: [srmden@ix.netcom.com](mailto:srmden@ix.netcom.com)

#### L.N. Bud Purdy



L.N. Bud Purdy ranches and farms near Pocatello, Idaho. He represents the Society for Range Management on the National GLCI Steering Committee. His diversified ranching and farming operation consists of about 30,000 acres which includes private land as well as two BLM grazing allotments. He and his son run about 1000 head of cows and 2000 yearlings on their rangeland and irrigated pasture. They also produce and sell high quality dairy hay. Their irrigated farming operations include about 1500 acres of beer barley and seed potatoes. Wildlife is abundant and an important part of the operation. A trout stream runs through their land, and they have a fee fishing

operation that has a substantial waiting list of prospective fishermen.

Bud has been involved with grazing land management and has been an advocate for grazing land management for many years. He first developed a conservation plan with the Soil Conservation Service back in 1952 or '53 and he still has that original plan map. He has a long history of working with the SCS/NRCS and is complimentary of the technical assistance he has received throughout the years.

He is a strong supporter of Coordinated Resource Management (CRM) process, and said that one of the first CRM plans in Idaho was developed on one of his ranches. Bud served on the Idaho Rangeland Committee for several years, and currently serves on the Idaho Rangeland Commission which was established by the Idaho legislature. The Commission is involved with activities to educate the public about the importance of grazing lands and the benefits of good grazing management. They conduct workshops for teachers and sponsor educational tours for the public among many other activities.

Bud believes that technical assistance needs to be the top priority of GLCI. With all of the emphasis on conservation programs and environmental issues in the Farm Bill, he worries about the availability of enough high quality technical assistance to provide technical support and information to landowners. He also is a strong supporter of increased funding for research on grazing land issues.

#### Pete Jackson



Pete Jackson, rancher from Harrison, Montana, represents the Society for Range Management (SRM) on the National GLCI Steering Committee. In addition to the land he owns, his ranching operation includes two U.S. Forest Service grazing permits and one BLM grazing permit. He runs about 1100 sheep and 200 cattle on approximately 10,000 acres. His ranch consists of about 2/3 native rangeland and 1/3 irrigated pasture, and is all grazing land. Pete says "Hay costs you money, and grass makes you money."

Pete is considered to be one of the founding fathers of the Grazing Lands Conservation Initiative. He was at the initial meeting that led to the establishment of GLCI. That meeting was held in Bozeman, Montana in June of 1991. Pete has been actively involved with GLCI ever since then. In fact, he is one of the original members of the National GLCI Steering Committee. He also served as chairman of the SRM's GLCI Task Force for several years.

Pete Jackson is committed to the principles supported by GLCI. Some of the major issues that Pete feels are important for GLCI and SRM to be involved in are:

1. The important role that grazing lands have in watershed management. The proper management of vegetation on grazing lands is the key to an abundant supply of clean water for our nation. This vitally important function of grazing lands is not recognized or understood by the general public.
2. The availability of high quality technical assistance to grazing land owners and managers has been significantly reduced over the last 15 years. Federal and state agencies that traditionally provided that technical assistance have shifted their priorities to other activities and programs in many locations. GLCI encourages those agencies to make technical assistance more available on grazing lands.
3. Extension, education, and research activities related to grazing lands are vitally important. More emphasis and funding are needed for these functions. It is especially important that grazing lands receive higher priority in youth education and extension programs.
4. The Society for Range Management and universities need to get more actively involved in the GLCI effort. The success of GLCI will result in the need for more technical assistance on grazing lands. That should translate into increased membership potential for SRM. The need for more technical assistance should also increase employment opportunities for students majoring in grazing land related degree programs. That should lead to increased enrollment in those degree programs.

One of his personal goals is for every state GLCI coalition to have an SRM representative on it. As you can see, Pete Jackson has tremendous enthusiasm and a strong commitment to the grazing land resources of our nation and the people who manage them. ■

# THE CHAIR C R E R

The National GLCI Steering Committee held the fall business meeting at Nashville, Tennessee on October 19 and 20. A pasture tour was held on Friday October 19 with sixty people attending the tour. Committee members and guests looked at grazing systems, water developments and pasture renovation on the Brann farm northeast of Nashville.

Saturday the National GLCI Steering Committee toured the Nashville Convention Center where the 2003 Second National Conference on Grazing Lands will be held. GLCI is partnering with the Society for Range Management to put this conference on. Upon returning to the meeting hotel the group conducted its business meeting. There were presentations on Plant Materials, Ecological Sites, Animal Feeding Operations and Public/Private Land Interface.

Because of the concern with lack of technical assistance on grazing lands, and burdensome rules and regulations, the committee came up with the following resolution:

**Whereas, coordinated, science-based management of private, State and Federal grazing lands produce and provide food, social, economic and wildlife values for the citizens of the United States. And, whereas, conservation and proper management enhance all resource values in grazing land watersheds. Now, Therefore be it resolved, that the National GLCI Steering Committee supports:**

- Science-based management of grazing lands,
- Streamlining and developing consistent procedures for grazing land policy implementation, and
- Providing for adequate funding to meeting technical assistance needs.

Other actions taken by the committee were to:

- Re-elected Bob Drake (Oklahoma) as Chairman, Flavius Barker, (Tennessee) Vice-Chairman and Pete Jackson (Montana) as Secretary,
- Updated the committee on the 501C3 and 501C6 tax status (Rooter Brite, Texas),
- Reviewed and discussed Farm Bill status,
- Changed committee by-laws to state that any organization, which becomes a member of GLCI after Jan. 1, 2000 shall have one voting member. Original organizations have two voting members.

This was another very successful meeting and all of the National GLCI Steering Committee member organizations were represented at the meeting. ■

**Bob Drake, Chairman**  
*National GLCI Steering Committee*

## GLCINews

Contact these affiliated organizations:

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Bureau Federation**  
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**American Forage and  
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**Dairy Industry**  
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**National Association of  
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**National Cattlemen's  
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**National Farmers Union**  
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**Soil and Water  
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