



*The question about fighting stallions: Is it for territory or for mares?*

believes, there is competition. BLM also believes the overgrazing is causing erosion in the area.

Dr. Michael J. Pontrelli of the University of Nevada at Reno believes the competition is much over-emphasized, although he does not insist the horses never compete with livestock or other wildlife. The horse herds, he believes, are more or less self-managing, partly because of their great tendency toward territoriality. He says the self-limited herds probably stay away from livestock by staying in the higher elevations of a range and by traveling long distances to water if necessary.

But James Feist, a wildlife specialist from the University of Michigan, Ann Arbor, who did behavioral studies of the horses in the Pryor Mountains, thinks the horses are not territorial. "I watched six to seven bands of the horses at once," says Feist. "There is absolutely no territoriality." Instead, he finds that a stud will group a harem of several mares around him to form a band. The bands remain discrete, with a stud fighting off other studs, but all of the bands will roam over the same territory.

This does not mean that Feist agrees there is a need to reduce the numbers of horses. "There is no appreciable competition between horses and the mule deer in the area," he says. (There is no domestic livestock on the Pryor range.) The reproduction rate of the horses—a .47 foal-mare ratio—is low, he says, and he agrees with Dr. Pontrelli that the horses are self-managing. Besides the low birth rate, he adds, only about half the newborn foals make it through the hard winters. Feist insists that until there is more data on the horses, there is no justification for reduction of the herd. "Just leave them alone for now," he suggests.

Feist has also scotched another controversy. BLM had earlier insisted that the Pryor Mountain horses had little if any Spanish blood, that more likely

they were descendants of plugs that had left neighboring farms and ranches. Feist says his examinations of the coloring and patterning of the horses, and of skeletons he found on the range, proves beyond doubt that there is a strong Spanish strain in the herd. The lumbar vertebra configuration of the mustang is unique, and Feist claims his skeletal examinations does prove Spanish descent.

As a practical matter, it appears that with the Pryor Mountain herd, most of the horse lovers' demands will be met. "I'm not sure there are two sides to this issue any more," Most says. If there is a need to thin the herd, humane methods—perhaps killing of maimed or deformed animals on the site—will be used. With the establishment of the refuge, there is little doubt the herd will survive.

The Jackson bill, or one like it, is probably assured of passage, and horses elsewhere in the West are also likely to be protected. Gradually, the horse lovers have worn down the resistance of cattlemen to preservation of the horses. The other prime anti-horse group, the wildlife interests, may be partly mollified by findings such as Feist's that indicate the competition is less than they had thought.

But there is little scientific data available. "We really don't know anything about the horses," says Most, and the other contenders, whatever their emotional persuasion, tend to agree. Far more detailed behavioral and ecological studies are required, they say.

The strongest argument yet made on either side may be author J. Frank Dobie's description of the wild horse as "The most beautiful, the most spirited and the most inspiring creature ever to print foot on the grasses of America." This argument appears to have saved the horses, and it is probably a good thing. Now, the scientists will have time to learn about the ecological realities of the mustangs. □

## films OF THE WEEK

**EYE IN THE SKY.** 16mm, color, sound, 25 min. This film calls attention to that part of the space program which looks backward upon the earth rather than outward to the stars. It illustrates how a variety of cameras and other sensory devices are being used for precisely locating the position of moving objects on the earth's surface, weather forecasting, military surveillance, mapping, agricultural surveys and exploration for natural resources. Includes examples of infrared photography, and closes with photographs taken by the Apollo 9 mission. Audience: general. Purchase \$300 or rental \$16 from McGraw-Hill Films, Dept. SN, 330 W. 42nd St., New York, N.Y. 10036.

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**HEY DOC.** 16mm, color, sound, 26 min. A film about Dr. Ethel Allen, a black physician who is medical adviser, confessor and friend to the people of north Philadelphia's ghetto jungle. Cameras follow her to schools, through the slum streets and into her office to spotlight the lives of the addicted, the aged, the angry. Presented without the use of narrators, scripts, actors or staged interviews. Audience: general. Purchase \$300 from Carousel Films, Dept. SN, 1501 Broadway, Suite 1503, New York, N.Y. 10036.

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**LIFE UNDER THE SEA.** 16mm, color, sound, 16 min. Filmed in the Adriatic, the film gives viewers who are not expert scuba divers a chance to see such underwater events as an octopus struggling with a lobster, hermit crabs disputing for possession of a desirable shell, a sinister moray eel hunting along the rocks and reefs, a sea urchin like a maritime hedgehog, and flower-like animals which extend their tentacles to catch the minute animals which are their food. Audience: students in general science, ecology, biology; general adult. Purchase \$200 from ACT Films, Dept. SN, 35 W. 45th St., New York, N.Y. 10036.

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**NEW DIMENSIONS IN INDUSTRIAL ARTS.** 16mm, b&w, sound, 9 min. Draws a comparison between traditional "skill training" industrial arts programs and the more modern technical "problem solving" types which really challenge secondary students in the Space Age. Content, material, process and methodology are drawn from space technology. The teacher becomes a resource person, the student a "researcher" and technical "problem-solver," and the shop an interdisciplinary classroom-laboratory situation. Concludes by depicting some advanced concepts for developing a modern industrial arts program within present-day facilities. Audience: high school, college. Purchase \$25 from Acme Film Laboratories, Dept. SN, 1161 N. Hollywood Ave., Hollywood, Calif. 90038 or rental \$2.25 from Education Media Center, Dept. SN, Florida State University, Tallahassee, Fla. 32306.

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**RADIOISOTOPES: TOOLS OF DISCOVERY.** 16mm, color or b&w, sound, 11 min. Demonstrates the proper techniques for handling radioactive materials in the classroom. Procedures emphasize safety in handling, recording and disposition of radioactive materials, as well as accuracy in recording data. Establishes the usefulness of radioisotopes in the laboratory by pursuing investigations with both plants and animals. Audience: high school. Purchase color \$135 or b&w \$70 from Encyclopedia Britannica Educational Corp., Dept. SN, 425 N. Michigan Ave., Chicago, Ill. 60611.

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*Listing is for readers' information of new 16mm and 8mm films on science, engineering, medicine and agriculture for professional, student and general audiences. For further information on purchase, rental or free loan, write to distributor or circle the appropriate number on the Reader Service Card.*