



**US Army Corps
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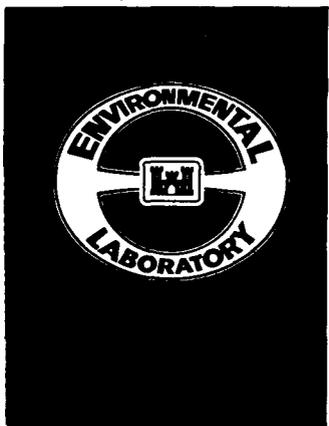
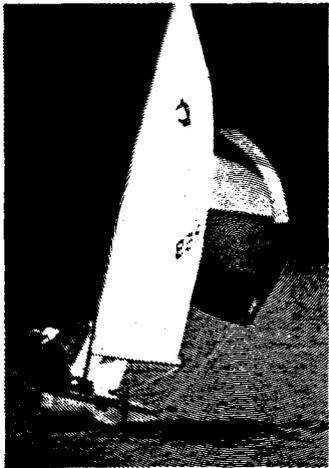
Waterways Experiment
Station

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Camcorder used at Big Bend Project

Camcorder Used in Natural Resource Management

*Dan Hayes, Ranger
Big Bend Project
Omaha District*

The use of compact video camera--recorders (camcorders) and video editing is proving to be an effective tool in resource management. Videotaping is a time- and money-saving adjunct to conventional photographic and audio-visual methods. Several advantages of videotaping over conventional photography quickly become evident to the resource manager.

All sides of a problem or situation can be shown. A video camera can document the effects of erosion on a shoreline, for example, or a leaking crack in a wall. Many problems, such as how a parking lot drains or the flow of traffic through an area, are best understood in terms of time and

motion. Videotaping allows for a complete recording of events that can often be comparable to a site visit.

Video camera-recorders are now available in extremely compact units (weighing as little as 1.65 lb), making them no more difficult to transport and use than a Polaroid camera. Their compact size makes them ideal for use in confined spaces or in remote areas.

The recorded tape is ready to be viewed as it is being recorded and may be reviewed on most camera-recorders in the field. It may be taken back to a field office to allow supervisors the opportunity to view a situation "first hand" without having to leave their desks.

At the Big Bend Project, Omaha District, we have been using videotapes to record the progress of erosion. Maps, legal descriptions, and other data can be included on the tape by recording them separately and, using a video editor, splicing them into the prerecorded erosion footage. We have found that recording narration on the tape after it has been spliced can lend a great deal of clarity to the sequence. The video camera can record the problem, show the area surroundings, and orient the viewer. Thus, an expensive and time-consuming site visit by District personnel can often be averted, making videotaping equipment an extremely cost-effective investment.

In addition to resource management applications, the Big Bend Project is using its video equipment for dam safety, construction, and powerhouse repair inspections and interpretation. An interpretive program can be significantly improved by having the ability to produce original productions of extremely high quality. Ranger training is also enhanced by using prerecorded tapes to allow seasonal employees on various shifts to receive the same training. With a camera-recorder and editor, training tapes can be developed to meet specific needs.

The Big Bend Project's first video equipment was a camera, a VHS video cassette recorder, and a 19-in. color television. We upgraded our equipment with the video editor. The editor allows tapes to be edited and footage to be inserted in previously recorded tape. We are also able to add sound and make high-quality copies of tapes because of the editor's built-in enhancer, which reduces the loss of video quality over generations.



Ranger Dan Hayes, video editor, VHS cassette recorder and television set to make high quality video tapes

Camera-recorders cost between \$1,000 and \$2,000 depending upon their features. We are using standard VHS since it is the most common and is compatible with the editing equipment. The editor consists of two professional quality video cassette recorders (VCRs), a monitor, and an editing control board that costs approximately \$2,500. A quality four-head VCR (for high-quality still frames) costs approximately \$750.

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Identifying Boundary Line Posts with Orange Pipe

*Don Strickland, Park Manager
Rough River Lake, Kentucky
Louisville District*

Since Rough River Dam was completed on the Rough River in 1961 by the Louisville District, the project boundary line has been periodically "walked-out" by Corps rangers. The rangers help maintain the boundary line and resolve or report encroachments. Maintenance involves locating all boundary monuments, often by clearing a line of sight and using a transit, reporting monuments not found, replacing boundary monument witness

posts, and repainting these posts and trees along the line.

It's a time-consuming, difficult job requiring surveying skills as well as considerable stamina. To compound the difficulty, a bright red paint applied to trees and the steel fence posts used as witness posts often is not durable.

Carlie Ross, a park ranger at Rough River Lake,



Rough River Lake, Kentucky Park Ranger Stan Akin drives section of orange pipe onto boundary line witness post

recently devised an innovative method of maintaining a bright color on the steel witness posts. Ross selected a bright orange, hollow polyethylene pipe (1-in. inside diameter, approximately 1.32-in. outside diameter, 8-ft length) used by utility companies to clearly mark guy wires on transmission line poles. The pipe is cut along one side using a table saw. Each 8-ft length is then cut on a band saw into four 2-ft lengths.

While walking the boundary line, the rangers carry a supply of the lightweight, orange pipe sections in backpacks. Using a mallet, a ranger can quickly drive a 2-ft section of polyethylene pipe over every steel witness post. The pipe fits tightly and is difficult to remove. The bright

orange color and durability of the polyethylene material result in a sharp reduction of man-hours required for locating boundary line monuments and for maintaining the boundary. The cost of each 2-ft section is about \$0.57.

For further information, contact the author at commercial number (502) 257-2061 or the Louisville District Natural Resources Management Branch at FTS 352-5584 or commercial number (502) 582-5584.

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Interpretation Helps Solve Problems at DeGray

*Johnny C. Cantrell, DeGray Lake
(Reprinted from Interp Alert, Vol 5, No. 1
Information Exchange Bulletin
Vicksburg District)*

Most campers are accustomed to a few unwanted guests around their campsites and do not become too excited about a wasp, bee, spider, or even a snake in the area. But when the critters consist of thousands of yellow jackets, even the bravest of souls has a difficult time enjoying his camping trip. This was the case at DeGray Lake

during summer 1986. Well over 100 stings were suffered by campers who selected a campsite close to one of the many nests in the area. In fact, the complaints were so numerous, it was decided that something had to be done to reduce the number of yellow jackets in our more popular camping areas.



Visitors examine yellow jacket nest

A visit to the campgrounds showed that the campers had been very conservative in estimating the numbers of these pests. The visit also proved that many of the campers knew very little about yellow jackets. This was evident after talking to one camper who reported looking around the hallways of all the shower buildings in the area and failing to find a single nest. Another sting victim led me to one of the shower buildings to show me a small nest he had found. This was in fact a paper wasp nest.

It became clear that, before we could expect help from the campers in locating the nests, we would have to teach them what to look for and where to look. They also needed to know the potential dangers that could be associated with an allergic reaction to the venom. Interpretive Information sheets were distributed to explain how to help locate nests by observing flight patterns and to provide the campers with interesting and useful facts about yellow jackets. Meanwhile, efforts were stepped up to locate and destroy nests in the areas where the greatest numbers of stings had occurred.

Most yellow jackets build nests in the ground, with the only visible evidence being an entry hole that is about the size of a dime or smaller and is usually obscured by leaves or underbrush. Covering several acres of campgrounds looking for

these openings can be very discouraging. Various methods of baiting and coursing the insects were tried, with very little success until we used small dishes of carbonated soft drinks as bait. The yellow jackets were attracted to the sweet liquid and quickly gorged themselves until their flight speed was considerably slower. This enabled us to follow their flight pattern with much greater accuracy.

Working in the Arlie Moore Area, where the most recent outbreak of stings had occurred, bait cups were set out by midmorning. Within an hour, the first nest was located on a ridge about 50 yd from the camping loop. During the next hour, five more nests, all of which were from 25 to 50 yd from the nearest campsite, had been located along the same ridge. These nests were marked so that we could return later that afternoon, when more of the yellow jackets would be back in the nest and could be destroyed. A combination of Zep Tox, sprayed directly into the nest entrance for a quick stunning effect, and Dursban, poured directly into the opening for a residual killing effect, proved very effective in eliminating almost all the individuals from the nest sites.

An audience of observers quickly gathered as the first nest was removed from the ground. Only one camper had ever seen a yellow jacket nest, which is built in round, stacked layers with each layer being separated by toothpick-size piers, giving the



Bait dishes

inside of the nest the appearance of a miniature parking deck. The outside covering of the nest is a very fragile, paper-mache type material several layers thick. This gives the nest an appearance similar to a hornet's nest, only much smaller and much more delicate. The largest nest we removed was about the size of a volleyball.

After the first six nests were eliminated, a drastic reduction in the number of yellow jackets in the vicinity was observed, and no more stings were reported. The search was moved to other problem areas, with similar results. In each area there were campers who had read the interpretive sheet; in some cases, campers had already located a nest near their campsite and quickly directed Corps personnel to the site so the nest could be destroyed.

The interest in locating other nests spread rapidly throughout the campgrounds as more campers read the information sheets and realized that, by being more observant and knowing what to look for when walking through the campgrounds, they could have a part in eliminating the problem of yellow jackets.

Three weeks after recognizing a problem in the campgrounds and developing a plan, more than 30 nests had been destroyed in the more heavily used camping areas. Since most colonies contain up to 6,000 yellow jackets, this meant a substantial reduction in the number invading campsites around DeGray Lake. About half of these nests were discovered by campers who had only recently learned how to locate them.

Why was there such a drastic increase in the number of yellow jackets? Probably because the

unusually mild winter of 1986 allowed more mated females to survive. This, along with the hot, dry conditions of early summer 1986, which caused flowers and blossoms to wither and die, resulted in the loss of much of their natural food supply and forced the yellow jackets to find another food source.

They descended upon the camper's picnic tables to feed on summer delicacies such as watermelon, cantaloupe, tomatoes, and other fruits and vegetables, along with soft drinks, ice cream, and other foods having a high sugar content. The large concentration of yellow jackets made camping conditions very unpleasant for a short time. But with the help of the campers who were "out and about" in the campgrounds and had learned what to look for, the problem was solved quickly.

Many times we produce an interpretive information sheet, give it to the campers, and never know whether they read the material. This time the results were clear, as campers learned an interpretive lesson and immediately put the knowledge to work by assisting Corps personnel in making DeGray Lake a safer, more enjoyable place to visit.

For further information contact:

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Natural Resources Technical Support (NRTS) Program

Do you have a problem related to natural resources/recreation management that the staff at the Waterways Experiment Station (WES) could assist in solving? Could the solution be provided in a few days? If the answers are yes, have we got a deal for you!

The NRTS Program is designed to provide rapid response to requests for help in solving field problems related to natural resources/recreation management. To request assistance, simply send a letter to the Manager of the Natural Resources Research Program at WES stating the exact nature of the problem and describe the services requested. Please include the name and phone number of a point of contact in your letter.

Upon receipt of your letter, the proper technical staff will be alerted to respond to your request. We will inform you whether your problem qualifies for assistance under the NRTS Program; if it does, we will work with you toward a solution.

Address your request to:

**Commander and Director
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Waterways Experiment Station
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PO Box 631
Vicksburg, MS 39180-0631
Phone: (601) 634-3657 (FTS 542-3657)**



NATURAL RESOURCES RESEARCH PROGRAM

This bulletin is published in accordance with AR 310-2. It has been prepared and distributed as one of the information dissemination functions of the Environmental Laboratory of the Waterways Experiment Station. It is primarily intended to be a forum whereby information pertaining to and resulting from the Corps of Engineers' nationwide Natural Resources Research Program can be rapidly and widely disseminated to OCE and Division, District, and project offices as well as to other Federal agencies concerned with outdoor recreation. Local reproduction is authorized to satisfy additional requirements. Contributions of notes, news, reviews, or any other types of information are solicited from all sources and will be considered for publication as long as they are relevant to the theme of the Natural Resources Research Program, i.e., to improve the effectiveness and efficiency of the Corps in managing the natural resources while providing recreation opportunities at its water resources development projects. This bulletin will be issued on an irregular basis as dictated by the quantity and importance of information to be disseminated. Communications are welcomed and should be addressed to the Environmental Laboratory, ATTN: A. J. Anderson, U.S. Army Engineer Waterways Experiment Station, P.O. Box 631, Vicksburg, MS 39180-0631, or call AC 601, 634-3657 (FTS 542-3657).

DWAYNE G. LEE
Colonel, Corps of Engineers
Commander and Director

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