

Vulture Research Begins at Gettysburg



Like some Halloween apparition, this lone Gettysburg vulture surveys the scene.

By Victoria Brenner Greenlee

It all began a few years ago with a friendly argument between the newly arrived Natural Resource Management Specialist and the YCC Camp Director, a native of the area. In reality, it may have begun over 100 years ago, and the story gained in status and embellishment until it became local folklore, recounted to thousands of historically-minded Americans by the Battlefield Guides at Gettysburg National Military Park (NMP) in Pennsylvania.

The argument, and the legend, hold that today's unusually large colony of vultures on the battlefield is a direct result of the aftermath of the three day battle. Also, being very long-lived birds, some of those birds now soaring above the Round Tops and eyeing visitors and Park staff may have cast the same hungry eyes at the bodies of the unfortunate horses and soldiers in July, 1863. Naturally, being a native, the YCCer supported the folklore while the Park staffer cast a jaundiced eye at the whole idea.

After a bit of background study, Natural Resource Management Specialist Hal Greenlee found that Gettysburg's vulture population was indeed unusual, not just its size, but also in the fact that it included a large concentration of black vultures, whose known range is more southerly in nature. He found that very little authentic scientific research had been done on vultures anywhere in the United States, and after several years of talking, asking, cajoling, and conjecturing he was able, with the help of NPS Regional Scientist John Karish, to set up such a study.

Turkey and black vultures are important components of the fauna of Gettysburg NMP from ecological, aesthetic, and historical points of view. Ecologically, the vultures are the largest avian scavengers regularly observed in the park. They are capable of rapidly removing the carcasses of dead animals in or near the park and thus recycle the nutrients involved.

From aesthetic and recreational points of view, the vultures, as the largest soaring birds and most conspicuous social animals in the park, afford visitors the opportunity to view exceptionally beautiful aerobatic performances and interesting animal behavior at

close range. The birds also are tied closely to the history of the park because, whether or not vultures were actually present before the battle, it is likely that the carrion provided by the large numbers of dead horses resulting from those three days in July 1863, did indeed attract vultures from other areas.

Because Gettysburg NMP is currently involved in a large-scale vegetative restoration program designed to restore the 1863 historic scene, such restoration would be incomplete without the Gettysburg vultures. The current population ranges from about 200 birds in summer to 800 in winter. The terrain in the area of their identified roosts is wooded and rocky with farmfields, pastures, and historic farm buildings nearby. The casual observer can see vultures in all these locales at any season. In some cases, the observer can get close enough to see clearly such features as the featherless head, small eyes, ear openings, etc.

In 1981, 11 people interested in promoting research on black turkey vultures in the eastern United States met at the Park to discuss the voids in knowledge of the ecology and management of vultures and to initiate a long-term research program in the Park. In addition to Resource Management Specialist Greenlee and Regional Scientist Karish, representatives attended from the School of Forest Resources of the Pennsylvania State University, Pennsylvania Cooperative Fisheries and Wildlife Research Unit, the U.S. Fish and Wildlife Service (USFWS), the Department of Fisheries and Wildlife Science, Virginia Polytechnic Institute and State University (VPI & SU), and Eastern National Park and Monument Association (ENPMA), a non-profit organization operating in many eastern national parks.

As a result of the meeting, a two year, in-depth study of the vultures has been undertaken by the universities involved. National Park Service contributions will consist of logistical support and coordination, housing for the researchers, use of a vehicle for the program duration, and use of equipment such as spotting telescope, binoculars, etc. The ENPMA has agreed to fund part of the project, their first plunge into natural research, at a rate of \$7,500 per year.

These funds are being used to purchase radio transmitters, tags, airplane and helicopter tracking time, etc. At present, it appears that the USFWS has had to drop out of the study due to recent budget cuts, although they are funding part of Penn State's study.

Anthony Wright, a Master's degree student at the Pennsylvania State University arrived in Gettysburg in December 1982 to begin the part of the study to be accomplished by that University. He is living in the historic Snyder farmhouse on what is known as the Granite Farm, right in the middle of one of the identified winter roost areas. During the past winter and in 1983-84, he and other Penn State Biologists will be estimating population densities of black and turkey vultures at nocturnal roost sites, examining fluctuations in winter densities at these sites and determining which areas of the park function as actual roost sites, as opposed to staging areas prior to roosting. The emphasis of the Penn State study next winter will be given to describing and comparing habitat features of roost sites, determining diurnal use by both species of vultures and determination of habitat preferences and requirements.

Methods used include regular censusing of potential roost sites at dawn and dusk using a spotting scope and/or night-vision scope. A minimum of 11 habitat variables will be quantified around each roost tree. Statistical analyses will be made comparing actual roost sites with control sites. Land use features surrounding roost sites and distances from these sites to the nearest human dwelling, road, or activity will be measured.

Wright and his advisors Dr. Richard H. Yahner and Dr. Gerald L. Storm also are utilizing the services of selected members of the local Audubon Chapter in making their observations.

During the summer just passed, John Coleman, a Master's Degree student at Virginia Polytechnic Institute and State University and his advisor, Dr. James D. Fraser worked at the site with a team of researchers. Objectives of the two-summer Virginia Polytechnic Institute program was to estimate the summer home range and foraging distances of Gettysburg's



Awaiting processing, these trapped vultures stand in a holding pen. They will be weighed, tagged, and their blood sampled.

black and turkey vultures, to determine whether important areas of congregation for feeding do exist, and, if they do, to locate and describe them. Their work involved capturing vultures using walk-in-traps, noose carpets, and cannon nets. Some captured birds were fitted with radio transmitters while others were marked with cattle eartags and patagial markers. Standard measurements were made on captured birds and blood was taken for hormone analysis. The radio-equipped birds will be followed by automobile and aircraft.

Both research teams are doing a complete review of the historical literature available on the Battle of Gettysburg to glean facts about the presence or absence of vultures during the battle. Results of the studies will be published as Master's theses by Wright and Coleman.

The results of all this natural research will be incorporated into the educational programs developed for visitors, adding a new dimension to their enjoyment of the Park. Increased information about the habitat requirements of the vultures will help Park officials plan and implement programs, such as restoration of the historic scene, so as not adversely to affect the vulture populations. National Park Service personnel



Radio transmission equipment and tag are affixed to this vulture by John Coleman (left), wildlife biology graduate student at Virginia Polytechnic Institute and State University, his professor Dr. James D. Fraser (center), and Rose Norris, undergraduate wildlife biology student at VPI&SU, assisting in the field research. The radio equipment is made by the same outfit that has been fitting the California condors with tracking devices. Six of the vultures now are so equipped and are furnishing information on range and behavior patterns.

will have explicit data and expertise available to counter any unfounded criticisms of Park management policies. Results also will contribute to development of urban forestry practices by identifying important wooded tracts used as roost sites. Features characterizing these sites can be delineated and incorporated into management recommendations of wooded habitats for vulture roost sites at other eastern Parks.

A compendium of historical fact regarding the vultures and the battle will be available to serious historians for the first time. The study will complete a priority research need, identified in Gettysburg's National Resource Management Plan at little cost to the Park and provide the scientific basis for a possible Eastern National Park and Monument Association publication on the subject. In addition to National Park Service benefits, this project will be affiliated with the Southeastern Vulture Research Project, so valid information obtained at Gettysburg will be available to all interested parties. Because vultures are thought to be decreasing in the Southeast, this benefit may take on increasing importance in future years.

Greenlee is a Volunteer-in-the-Park at Gettysburg National Military Park.



A collegial group of vultures roost together in the Gettysburg oaks.