

# PRESERVING NEW JERSEY'S VEGETATION

MURRAY F. BUELL

*Professor of Botany*

Rutgers — The State University

New Brunswick, N. J.

## The need for preserving natural areas in New Jersey

Preserving an adequate representation of New Jersey's vegetation for future generations seems like an important enough objective to those of us who have made a study of New Jersey's vegetation. People who travel about the state may be impressed by the extensiveness of our forests and marshes. Considering ours is one of the most populous states, the areal extent of forested lands and marshes is impressive. However, what is in jeopardy is less the extensiveness of areas as it is our diversity of natural areas. The really extensive areas that are protected or at least semi-protected represent much duplication of the same thing and are on poor, unproductive sites — in the pine barrens region or in the more rugged parts of our hilly northwest. These are lands less wanted by private enterprise and have hence more readily come into the hands of the state for state forests, parks or game preserves. In the more fertile lands over which agriculture has successfully spread — on limestone, shale, river alluvium or other productive substrata — we find only the most fragmentary bits of the native biotic associations still present. It is these now rather rare natural communities that will support the greatest diversity of organisms. It is these scattered remnants of the least common, existing kinds of native vegetation that need our major effort in natural area preservation.

From the naturalist we hear much about the need for saving endangered species, the population biologist worries about the depauperization of the gene pool, the ecologist about the loss of diversity of natural systems. We are all concerned about the same thing. If we examine this mutual concern in more detail the identity of our interest becomes clear. People speak with distress about vanishing species and when they do it is in reference to some of the more dramatic species like the sand hill crane, the trumpeter swan, the peregrine falcon and even the coyote. There are splendid sustained campaigns to preserve them. There are likewise many "vanishing species" that don't reach the headlines. In New Jersey such plants as the chinquepin oak (*Quercus Muhlenbergii*), the table mountain pine (*Pinus pungens*), and the small limestone cliff dweller, the fern *Asplenium ruta-muraria* that are on their way out. Population geneticists are particularly concerned about maintenance of the gene pool of which these are a part. They commonly also speak of the depauperization of the biotype. Biotype-rich species are those that occur over a wide range of habitats and typically consist of many interfertile biotypes each with a distinct set of genes that make it particularly adapted to one of the habitats in which the species is successful. For example, the red maple is probably, among trees, the most biotype-rich species because of its extremely wide habitat range. Thus for example, if a biotype-rich species is eliminated from all but the sandy pine barrens area, it means that most of its biotypes are gone and only that biotype is left that is adapted to the pine barrens. The gene pool for that species is that much reduced. It becomes a biotype-poor species restricted to the pine barrens. The ecological amplitude of the species is narrowed and danger of the species' extinction is increased. From a practical point of view if such a species were ever found to have medicinal or other significant value to man much could have been lost if biotypes of the species had been destroyed. This is partly because the useful features could have been more developed

in some of the biotypes than in others. Hence for this and other reasons the concern about the preservation of the gene pool — the need to preserve species and to preserve biotypes of species.

Since one does not know which organisms may prove to be of major importance — anything from soil bacteria and fungi to trees — the ecologist seeks to preserve whole ecosystems intact — soil plus plants plus animals — as functioning systems. He regards the system itself as of importance. On different sorts of soil and geological formations the ecosystems differ greatly in composition and function. If you see differences in trees you can be sure of equally great differences in all other parts of the ecosystem — herbs, shrubs, animals, fungi and bacteria. Saving representatives of the greatest diversity of ecosystems will go a long way to preserve species and biotypes from extinction.

### Preservation of a natural area — an example

How do we go about preserving this diversity of natural systems? What sort of help do we find available when we start out to save a worthwhile segment of the natural systems of New Jersey?

I shall illustrate how one might go about this by recounting the course of the campaign to preserve Mettler's Woods, now known as the William L. Hutcheson Memorial Forest and I hope it will be suggestive of useful procedures. This 65-acre old oak forest is located on the Piedmont of central New Jersey near East Millstone.

Dr. John Small had used it for his classes as far back as the 1930's through permission of the owner, Mr. Thomas Mettler. More recently others of us had taken classes there. Some research had also been initiated in the forest. On Thanksgiving day, 1950, a severe windstorm did a great deal of damage to the forest. In 1951 salvage operations were undertaken to remove what was of value in the fallen and broken trees. Then in 1952 the state forester, Mr. E. B. Moore, was asked to measure and mark the remaining trees preparatory to harvest. Mr. Moore did this but then he informed me about it and said that in his opinion the forest was of great enough value as a sample of natural vegetation that it ought to be saved if at all possible. There the matter stood because the location of the property in central New Jersey made it a pretty valuable piece of real estate and I could visualize no available source of funds of the proportions needed. It is difficult to say who was responsible for putting in motion the campaign to get the money to buy it but perhaps it would be fair to give considerable credit to Mr. Seldon Bard (a New York lawyer). It was shortly after Mr. Moore's phone call to me that Dr. Gily Bard invited Mrs. Buell and me to dinner in her apartment in Greenwich Village. At dinner her husband said "Why don't you ask Mr. Mettler if he will sell it to you? There are lots of people who would contribute to its purchase if they knew about it." So I asked Mr. Mettler for an option on it. He had a good idea of the current financial status of a professor so was a bit surprised until I outlined the plan for setting up a campaign to raise funds to buy it.

The next problem was to develop if possible an approximation to what is known among ecologists as a deviation amplifying system, a system that once it reaches a certain point will continue to grow, each step naturally stimulating further progressive development. The campaign did essentially develop into such a system albeit not without some continued nudging on the part of a group of us who became intensely interested in its success.

To recount the history of the campaign to preserve "Mettler's Woods" in the appropriate time and space available is impossible. It grew into an unbelievably extensive

and intricate program with many people and organizations taking part from the Audubon Society, Nature Conservancy and Green Mountain Club to the Boy Scouts, Girl Scouts, Cub Scouts and Brownies. It was an intricate web of activity with contributions from all parts of the U.S. as well as South America and Europe ranging from 1¢ to \$20,000 (the latter being the contribution of the Old Dominion Foundation through the Nature Conservancy). The history and activities of this project would fill a book. What I should like to do here is to trace the main evolutionary growth as an illustration of how a campaign to preserve a natural area can grow.

Dr. Fred Mettler of the College of Physicians and Surgeons in N.Y.C. learned about the campaign in 1952 and became most anxious that the Mettler family do all it could to save the woods. His interest was so intense and his determination so great that Dr. Lewis Webster Jones, then President of Rutgers University, invited him to a luncheon meeting at the University on December 3, 1952. Dr. M.A. Johnson and Dr. Wm. H. Cole and a few others were at this luncheon meeting. Before the meeting broke up Dr. Mettler insisted that President Jones appoint a committee. So on the spot Dr. Jones appointed Dr. Cole chairman and directed him to organize a committee. The "Citizens Scientific and Historical Committee for the Preservation of Mettler's Woods" thus got a start.

One of the initial steps taken by this committee was to prepare a brochure on the woods. We had the enthusiastic contribution of the time and talent of a Madison Avenue advertising man, Mr. Robert Smock, to prepare this. When this was published and distributed appropriately and widely, things began to happen. We were asked by people and groups of people to show them the woods. All sorts of interested groups -- scouts, garden clubs, service clubs, etc. -- invited us to lecture at their meetings. When we attended national scientific meetings people asked us about the woods. Some of us took time to go on a door to door canvas. A semi-regular newsletter was prepared and distributed which maintained a high level of interest in the forest.

A particularly helpful circumstance during the campaign was that *Life Magazine* had been publishing their "World Around Us" series and was ready to start the "Woods of Home" article. Miss Marian Steinman who was in charge of gathering data for this story was sent by Mr. Richard Pough to look over our woods to see if it would be useful as a basis for this "story". Mr. Pough knew it would be since he was aware that our studies were detailed enough so we could point to a patch of dead leaves on the ground in November and say with confidence that a Jack-in-the-pulpit would emerge at the center of it in May. To illustrate the cycle of the seasons in our deciduous forest was one of their objectives. So they used Mettler's Woods for their "Woods of Home" article and kindly gave the "Citizen's Scientific and Historical Committee for the Preservation of Mettler's Woods" a page telling about our campaign. There were other magazine articles that helped too. For example Dr. Gily Bard wrote an article for *The Garden Journal* and John T. Cunningham published one in *Audubon Magazine* and special feature articles appeared in the *Flower Grower* and the *Bulletin of the Garden Club of America* and *Living Wilderness*. There were numerous newspaper articles as well.

By May 1955 the committee had received \$57,619. We need \$75,000 to acquire the property. It was at this point that Mr. Raleigh Rajoppi, an officer of the United Brotherhood of Carpenters and Joiners of America in New Jersey, came to us with the proposition that the Brotherhood buy the deed and give the property to Rutgers University with the understanding that the woods be saved in perpetuity and that they be named "The William L. Hutcheson Memorial Forest" in memory of a former president of the Brotherhood. The \$57,519 so far raised would be used as an endowment to care



for the property and to support continuing research there. Mr. Rajoppi's proposal was welcomed by both the University and the Brotherhood.

The transfers of land and the fund were accomplished under a deed and an indenture respectively which similarly defined obligations of the University in accepting the land and the fund, and the reverter process in case the University fails to fulfill those obligations. The William L. Hutcheson Memorial Forest thus became a living museum, an outdoor laboratory, an historical monument and a research facility made possible by gifts from over 2000 individuals and organizations plus the United Brotherhood of Carpenters and Joiners of America. At the Dedication ceremonies held on October 15, 1955 President Lewis Webster Jones gave a most appropriate recognition to this act by the carpenters as follows:

"It is particularly gratifying, and particularly significant, that a trade union should endow a memorial of this kind to a former leader. Apart from the delightfully appropriate thought that it is the carpenters who have "spared the trees," this action by the United Brotherhood of Carpenters and Joiners of America is another indication that the great trade union movement has fully come of age, taking its proper share in the responsibility for our civilization by preserving natural resources, and endowing basic research."

Subsequent to the dedication, the Carpenters built a memorial archway at the entrance and a caretaker's cottage. Scientists from the University have been studying the many aspects of the systems represented by the forest and its associated fields ever since. New knowledge coming from these studies enrich the experience of those persons who attend the guided tours that are regularly scheduled at the forest. They also add to the experience of classes of students from universities and colleges which use the forest for their field studies.

#### **New Jersey's Natural Lands Trust as an agency to help preservation of natural areas.**

Now, what were the essentials that made this effort successful? In the first place there has to be some one person who is aware of a natural area that needs to be preserved. He must be thoroughly convinced that preserving it is essential. He must be ready to devote energy, time and enthusiasm to keeping a campaign going. *But he must first of all be convinced that anyone who has such a conviction can do something about it.* It took Gily Bard's husband to teach me that. Once a campaign is really started, "off the ground" you might say, it will do a lot of its growing itself if properly nudged along and this Dr. Cole did admirably in our campaign. It was he who got it off the ground and kept it going. An essential element in our campaign was having an institution like Rutgers University that was interested in taking custody of such a natural area once acquired.

Until this year, a person not in a public institution like Rutgers University which was willing to accept such an obligation, had really no good way to accomplish preservation without a generous endowment to cover taxes. Times have changed, though, as more people have come to see the need for natural area preservation. At its last session the State legislature made provision for the Natural Lands Trust. This Trust is composed in part of citizens with devotion to natural lands preservation and in part of State officials with related responsibilities. The Trust has the power to acquire and hold lands significant as natural areas and to preserve and administer them. It can accept gifts, legacies, bequests, and endowments. Hence this Trust is in a position to act as Rutgers University did in the early 1950's during our campaign. The Board of Trustees have the power to

appoint employees so that presumably there could be some functioning organization to help in raising money for natural area preservation.

The Trust held its first organizational meeting on June 10 and became completely functional on September 16. Now anyone wanting assistance in saving a worthwhile tract of forest or bog or marsh or whatever in New Jersey should get the kind of competent enthusiastic help he needs to accomplish it and a tax exempt organization to take custody of it.

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—An Environment Fit For People, by Raymond F. Dasmann.