Restoration: a Global Perspective

by George D. Gann-Matzen

Those of us interested in plants native to Florida should consider the benefits of international conservation. The first of several excellent reasons is that many of our native plants are also native to foreign countries. From gumbo-limbs and live oaks to terrestrial orchids and sea-grasses, we share our heritage with countries as nearby as the Bahamas and as far away as Africa. If we truly care for these plants and wish to protect them and regenerate their depleted populations, we should do so wherever they are indigenous.

From a biological standpoint, this argument also rings true. All living things are dependent upon their own genetic diversity, as well as the diversity of the global environment. The reduction, extirpation, or extinction of plant species abroad leaves our own native populations more susceptible to extinction.

There are numerous examples of plants whose native populations could be destroyed by such random events as hurricanes or wildfires (or such non-random events as development). Normally, if our native populations were destroyed, these plants could be reintroduced to our area through natural dispersal mechanisms, human assistance, or a combination of these two, using surviving populations abroad. If the foreign gene pool is seriously depleted or the species have been extirpated abroad, then this is no longer a possibility. This argument is even more important for our native fauna, many of which migrate.

Nature preserves are dependent upon the health of the surrounding environment. The example of Everglades National Park shows how manipulations of the hydrology, the introduction of exotic pest plants, and uncontrolled development outside of the park boundaries have seriously affected the health of the park ecosystems and the native plants which depend upon them.

This is also important on a global level. Particularly hazardous to Florida is the potential for a global climate change related to tropical deforestation and the excess burning of fossil fuels. A slight rise in sea level could destroy many of our native plant communities through displacement.

A change in precipitation patterns could be even more devastating. Normally this change would be part of the evolutionary process. Plant and animal species would migrate to new, more amenable environs as the local climate became inhospitable. Some species would become extinct and some new species would possibly evolve.

Today, most major migration corridors are blocked by development. Species unable to adapt to the changing conditions may become extinct within a nature preserve, while more adaptable species may be unable to reach the site. This leaves a depauperate ecosystem unable to function as it was originally intended.

The time is ripe for the formation of an international coalition of groups interested in native plants and native plant communities. Already this is occurring within the rainforest movement. But there are major differences between this type of coalition and native plant movements within the United States.

In the United States, and particularly in Florida, preservation has been the basis of the native plant movement. More recently, restoration as a conservation alternative has received some attention, although it is certainly not accepted by all. Most of the international movements, in contrast, are beginning to take a more holistic approach to conservation. This is especially true of those movements, such as the rainforest movement, which are concerned primarily with the Third World.

At a recent international conference on tropical rainforests presented by the Kula Sní Research Group, Inc., in affiliation with the University of Colorado Environmental Center, the National Wildlife Federation, the New York Botanical Garden, the Rainforest Action Network and others, the main emphasis was on development and how to direct it in a positive fashion, rather than on preservation per se. In fact, the by-line of the conference was "Strategies for Wise Management", indicating a need for positive action.

By the end of the conference two major strategies had emerged. The first was to redirect short-term, destructive development towards long-term, ecologically-based, sustainable development. The second was to push for the regeneration of degraded lands, both to relieve pressure on relatively intact ecosystems and to increase overall environmental health. It is important to note the preservation of intact ecosystems is seen as a fundamental part of both of these processes.

In Florida, restoration is often part of the mitigation process. In other words, it is done to compensate for damages inflicted upon the environment by development. On a global level, however, restoration should be viewed as part of a package of options we can use to improve environmental health, not an inferior process to be used when preservation fails.

Some countries, such as Haiti and Costa Rica, have already lost the vast majority of their undeveloped ecosystems. Restoration of degraded areas will be necessary if we hope to stop the loss of species. This is the basis of projects such as the Guanacaste National Park restoration project in Costa Rica. Created by Dr. Daniel Janzen of the University of Pennsylvania, the project is designed to restore former cattle pasture to tropical dry forest. This will provide additional habitat space for Santa
GLOBAL PERSPECTIVE, from p. 4

Rosa National Park, a preserved natural area.

Where restoration is not feasible, as has been suggested in the case of large tracts of tropical rainforest converted to cattle pasture, rehabilitation of the ecosystem should be considered. Rehabilitation implies the Third World where productive the restoration of some of the ecosystem structures and/or services but not a return to a former state.

This concept is especially useful in living space is at a premium. Agroforestry systems, for instance, which mimic the successional patterns of the forest, provide wildlife habitat and environmental services (such as watershed protection) in addition to economic goods and services. These systems can be used to buffer strict nature preserves that are currently surrounded by biologically sterile cattle pastures. Another option is the extractive reserve which preserves habitat while providing economic goods such as rubber or Brazil nuts.

By concentrating on sustainable development, rather than preservation, as a goal, international conservation movements seem to be moving ahead in terms of meeting the environmental needs of the future. Development is an inevitable process which we can become involved in and influence in a positive fashion. In recognizing this, we can use concepts such as restoration as positive contributions to the challenge of creating a more healthy environment.

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