Ecological Restoration - Its Success all depends!

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You've made a commitment to be a part of the conservation initiative of the golf industry. Congratulations! You've put up a nest box and had some success, the out of play area behind the 8th hold has been left unmown, and you have chosen to plant 3 native plant species as part of the club's beautification program. You're working with an IPM program from tee to green and you reduced your water use. You've been recognized by the ACSP for your efforts, **but**, the natural area is not looking as good as you had hoped and expected. The native plants are losing a competitive battle with the vines that seem to love their location. You wonder if there isn't more you should do or if you should be implementing specific management strategies for these natural areas. The answer is yes. But the specifics of what you should do all depends.

Leaving areas unmanaged, essentially allows natural succession to occur. It has been for a long time a false perception that the natural succession process is a linear process with results in a predictable aesthetically pleasing environment. Contrary to this belief, there are selective physical and biological factors which change the rate and species composition of succession. These include soils, nutrient availability, light and competition from ornamental and non-native species. It is only with detailed knowledge of the ecology and function of a community (both the existing community and the community desired) can we begin to make decisions on appropriate management. Ecological restoration in the purest sense must be guided to a specific end.

Restoration of native communities does not come easily and unfortunately there is no cook book recipe for success. Maximizing the potential of any site requires a detailed look at the physical characteristics of the site. Some critical decisions must be made regarding the desired community structure that will produce an aesthetically pleasing and habitat rich environment. A strong knowledge of the elements of the ecosystem, its functions and interactions are critical to success. In other words: "LETTING NATURE TAKE ITS COURSE IS NOT ENOUGH!"

The Society For Ecological Restoration defines ecological restoration as *"the process of intentionally altering a site to produce a specified historic ecosystem. The intent of the work is to emulate the natural structure, function, diversity, and dynamics of a defined, indigenous ecological system."*(1)

The Department of Landscape Architecture at Rutgers University is currently doing research regarding variations in old field succession. This research experiment has evaluated the effects of three resource interventions including 1) soild acidification with elemental sulfur intended to lower nutrient availability, 2) germination site reduction by bark mulching, and 3) lowering light levels with shade cloth structures. Information gathered from this research is valuable to the success of future restoration efforts. As noted in the abstract:

"This project demonstrates that very distinct communities can be established in early succession. Landscape restoration and meadow establishment studies may begin to manipulate starting conditions for plant establishment to enhance the success of management strategies."(2)

There has been much written about the opportunities that exist on golf courses to preserve native habitats for wildlife and plant life preservation. The golf industry has stressed the importance of taking part in such an initiative for its value in reinforcing a positive image of the golf course environment. To truly make a contribution to preservation of native communities, golf courses must be willing to do more than just stop mowing areas of the course and planting a few native species. The golf industry has a tremendous opportunity to make a significant contribution to the knowledge base of restoration ecology by investing some of its resources into the detailed evaluation of native habitats of importance to the site and the region within which it is located, followed by implementation of appropriate management strategies recommended by restoration experts, and lastly the documentation of the success and failure of various management programs aimed at achieving specific restoration goals.

1. "Wetland Restoration in the Mitigation Context" Restoration and Management Notes - Vol. 9, No. 2 Winter 1991.
2. Hartman et al. "Design + Values: Variations in Old Field Succession" Council of Educators in Landscape Architecture Conference Proceedings CELA 1992, Vol. IV.