

*Converting Vacant Land into  
Valuable Wildlife Habitat: Using Nature's Lessons  
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It seems nobody likes an old field. Unless you're a true lover of nature and wildness, the natural value of old fields is overlooked. In most cases the old field will eventually fall prey to the inevitable destroyer of most natural landscapes, the mower.

From an esthetic viewpoint, I can not argue that old fields are more pleasing to the eye or botanically diverse or more architecturally interesting than a landscaped yard a formal garden or even a manicured lawn. Beauty is in the eye of the beholder. But there is no question that old fields are environmentally and ecologically more valuable to native wildlife, are vitally important to maintaining the environmental quality of our land, air and water and serve as important buffers to minimize the impact of human activity. Consequently these lands are also important to the health and well being of you and me and our local communities. For all of these reasons these lands should be preserved.

Old fields provide their numerous ecological and environmental benefits at no cost to you and me and our society, but once destroyed those benefits are lost and society must pay the cost either by doing without or through monetary expenditures. Some of these free benefits are flood control, aquifer recharge, air and water purification, pollution control, noise filtering, wildlife habitat, open space and recreation.

If left up to the whims of human aesthetic and economic values, old fields will only be allowed to remain in a very few places. They will persist where a few enlightened folk appreciate the beauty in the obscure and undervalued plants and insects that live there. They will be tolerated where the owners are distracted or otherwise preoccupied by activities other than mowing their untidy fields.

Old fields run the gauntlet of human activity and few will survive for long without increased awareness and appreciation of their contributions to our personal as well as regional well being.

I believe more people will choose to save their old fields if they come to see the direct benefits these wild places give to them personally. Old fields provide habitat for the wildlife and birds that we like to watch at our bird feeders. People will develop a relationship with the land when they become acquainted with the plants that grow there and the ecological processes that take place there. When people become invested in these pieces of land they will have a greater stake in preserving them and improving them for the wildlife they value.

Nearly all old fields have come into being by accident or by benign neglect. The plants that grow happen to be there by chance of nature or by direct or indirect human activity. Any land if left alone will soon be covered by those that sprouted from the seeds that are present in the soil and any new seeds that are introduced by wind animals or man.

Old fields are as diverse and varied, as there are numbers of fields. They may persist with little change for several decades or they may change rapidly within a few years. Many fac-

tors contribute to this variety. The abundance and diversity of new seed inoculum, human or natural disturbance, the variety of wildlife present, soil type and drainage patterns all influence how the old field will evolve. Wind and wildlife disperse seeds in a haphazard way. Random chance has a severe limiting factor on how productive and diverse a piece of land will become or how quickly it will evolve. But a little positive human intervention can greatly improve the biological productivity of the land. As valuable as old fields are to many species of wild life, they can become even more productive with the proper management and stewardship.

To save and preserve the open space found in old fields, I believe it is necessary to quickly convert or manage the character of these lands. If left to natural succession the majority of land in the east US will eventually revert to some form of woodland. Trees and woodland are acceptable to most peoples sense of aesthetics, shrub lands are barely tolerated and weedy fields are deemed to be unsightly and repulsive. If weedy fields are managed to encourage their rapid conversion to shrub land and then to woodlands these lands have a greater potential to be spared permanent development or intensive human alteration. Promote advance

Direct human stewardship of old fields will be the instrument by which many old fields and natural areas will be given a reprieve from the mower. Only when individuals become actively involved in the preservation of a piece of land will they acquire a vested interest in seeing that land protected and preserved in its natural state. Stewards can participate in several beneficial activities that will improve the ecological carrying capacity of old fields without destroying its environmental integrity. Stewards can monitor and remove invasive species, they can plant and encourage native species, and they can construct trails, nest boxes or other beneficial structures which will benefit selected species.

The planned introduction of selected native species is the number one way to improve the biological productivity of an old field as well as make it visually more attractive to people. Chance or randomness restricts the abundance and diversity of species in old fields and creates a time barrier to colonization. Only species that are currently present or accidentally introduced by wind, passing birds and mammals will have a chance of establishing in the old field. This lack of species diversity can remain a permanent barrier to diversity and ecological complexity. Human stewardship can easily overcome this barrier to colonization. People can introduce native species in the form of bare root or potted seedlings or by collecting and dispersing native seeds. (See lists of native trees and shrubs for wildlife.)

Planting native shrubs will give you the quickest and most noticeable improvement in the appearance and ecological advancement of the old field. Native shrubs grow quickly and set fruit at an early age. These two traits are very important in creating habitat that are attractive to native birds and small mammals. The first step is to plant an assortment of native shrubs that will serve as a local source of seed inoculum for further colonization of the surrounding area and as attractive cover to draw desirable wildlife species. These shrubs will become magnets for song birds for perching, for use as nesting sites and as a fall and winter food supply. You can direct and advance this process by harvesting and spreading the seed yourself. Seed can either be collected in quantity and broadcast in high densities and left to chance, or seed can be collected and spot sown in the soil to improve the germination rate and reduce seed mortality. Both methods are easy cost effective ways to establish large numbers of native plants over large areas .

Time is always at a premium, and one needs to make decisions on how best to use ones time and resources. Broadcasting seed invests a bit more time in collecting large quantity of seed but less time in planting and care of the seed itself. This process mimics nature and leaves germination largely to the whims of chance. Spot sowing takes very little time to harvest the seed but invests a bit more care in placement of the seed in suitable locations and placing the

seed in the soil to ensure greater chances of germination and survival. Both methods do not automatically guarantee high survival but the time investment is small compared to the potential returns in colonization and habitat creation. Compared to the traditional method of planting seedlings, collecting and dispersing seed has the potential to impact vastly larger land areas, producing many more seedlings at a fraction of the cost in time and money. Seed dispersal compensates for high mortality, chance, randomness and low odds by sheer force of numbers.

Most native shrubs are both ornamentally interesting as well as providing food and cover for desirable wildlife, especially birds. A diverse assemblage of native shrubs is more interesting to look at as well as providing an assortment of food sources and cover types. Each species of plants is adapted to grow in different soil and environmental conditions. The insects associated with each species will also be different adding to biological diversity.

As with shrubs the planting of native trees will also add to long term species richness and diversity. Trees add vertical complexity to the landscape and will gradually encourage the land to transition from old field to shrub land and then to woodland. Trees attract perching songbirds that require woody plants as part of their core habitat. Birds use perches for hunting insects, preening, territorial and breeding displays and for spotting predators. Hawks and owls will use perches as hunting platforms. Trees are a focal point for the dispersal of new species. Birds deposit new seeds in their droppings which add to species diversity.

Planting a diverse selection of native trees species in the early stages of succession does help to speed up the long term process of succession to mature woodland. It is wiser to plant a few seedlings of many species and let nature tell us which will grow and prosper than for us to make a large investment in a few species with a greater potential for failure and loss. When planting only a few seedlings we can take extra care in securing their long term survival but if the numbers become too large then the task becomes impractical and cost prohibitive. You are better off spending your time collecting and planting the seed of desirable tree and shrub species.

Early to mid successional species have evolved to produce abundant seed at an early age dispersed by wind or birds. These early maturing species introduce a ready source of seed inoculum into the old field after only a few years and can be enlisted to help establish hundreds of new seedlings throughout the old field. These trees are fast growing and generally intolerant of dense shade. Species like Gray birch, Black cherry, Ash, Red maple & Aspen quickly colonize available openings in the old field vegetation and serve to further shade and reduce the herbaceous layer. This encourages the germination and rapid growth of more shade tolerant trees.

Large seeded species like the oaks hickories and walnuts are easy to establish by seed but slow to grow during the seedling stage. Planting a few seedlings of these valuable species will provide the future seed source for their later colonization and spread in the young woodland. These species grow best under a light to medium shade and do poorly with herbaceous competition. These species can take from 10 to 20 years to begin producing a good seed crop. So it is wise to establish them early.

As we did with shrubs, we can help to introduce sources of desirable tree seed into the old field.

Each type and species of tree has its specific ecological niche and place in the ecology of the evolving woodland. Many species have a narrow window of opportunity in the successional process in which it will establish and grow. Trying to establish this species too soon or too late is prone to failure. It is beyond the knowledge of any individual to know which species

and at what point in time that species is best suited to your woodland. Don't put all your apples in one basket. Introduce many species with the knowledge that nature will select the ones best suited to that site. We should be an attentive observer of nature and follow nature's cues. See which species are doing well and thriving at each stage of succession. Promote those species that germinate well and grow with ease. At a later time we can intervene to select the plants that we want to encourage and remove the less desirable species.

The monitoring and removal of invasive species is an important activity in maintaining the ecological integrity of old fields. Old fields are prime sites for the spread of several invasive species that can quickly dominate old field habitats. Autumn olive, European buckthorn, Japanese honeysuckle, Multiflora rose and Black locust are the primary woody invasive species. There are many more herbaceous invasive species including Black swallowwort, Teasel and Spotted knap weed. Existing invasives should be removed and regular monitoring conducted to spot and remove new infestations. It is far easier to remove one or two plants than a large infestation. Inform and educate yourself as to these and new biological threats.

Making trails through your old field will allow you to better access and enjoy your nature refuge. Difficulty in walking is one reason old fields are often subjected to mowing. By creating a trail network, which can be as simple as mowing a path, one can gain access to all areas of the old field without disturbing the plant communities present. Mowed paths can actually create diversity from the edge effect. A well laid out trail network will create a sense of spaciousness and space and allow easy access without obstruction.

Man made structures can also help enhance the usefulness of the land for wildlife and give a real sense of involvement and purpose to one's activities. Building nesting boxes, stone piles, brush piles, seeps and small wetlands will create habitat for specific species.

This article gives you an overview of the need to become a steward of your land and the ways you can manage it for wildlife. But the fun is in the details.

I can help you get started by supplying you with a complete manual on habitat creation. This manual can be purchased for \$15 plus shipping from White Oak Nursery. Make a request at [jimengel@whiteoaknursery.biz](mailto:jimengel@whiteoaknursery.biz)