

CHAPTER 9

OPEN SPACE STEWARDSHIP

*“Health is the capacity of the land for self-renewal. Conservation is our effort to understand and preserve this capacity.”
Aldo Leopold, Sand County Almanac*

Open Space Stewardship

Simple open space acquisition does not necessarily constitute open space preservation. Retaining the current levels of service from existing open space areas requires some level of management and upkeep. An area of open space, whether a traditional park or a passive natural area, without periodic maintenance and management, quickly slips into an unbalanced state of ecological health. Traditional parks require programmed maintenance to keep their athletic facilities and public space at highly functional and safe levels. Without some level of management, natural areas will succumb to ever-expanding levels of disturbance and threat from overly aggressive plant and animal species. Due to their conflicting objectives, the management approach appropriate for athletic fields is vastly different from that for natural areas, like those located along the creeks and valleys of Whitemarsh Township. Within a municipality, it is often very difficult for land managers to balance the different management requirements of the different types of open space. Compounding this situation are the larger parks within Whitemarsh Township, which contain both traditional park uses and natural areas, and therefore multiple maintenance and stewardship mindsets. The potential management and financing difficulties that stem from additional open space acquisitions will require Whitemarsh Township to plan

for the additional maintenance and management of these lands.

Open Space Management Principles

Traditional Park Management

The traditional image of a “park” in most people’s minds includes clusters of athletic facilities separated by sweeping lawns and public facilities. Parks should serve many different functions and provide services to a large array of potential users. Traditional parks are hubs of active recreational activities. True parks, however, provide a balance of active and passive activities. These passive areas are often managed with similar practices to the active areas. The natural areas located in or adjacent to traditional parks are also often managed using the same strategy or managed using no strategy at all. The results of this approach are parks that are potentially degrading to the ecological health of a region.

The fabric of a traditional park is often its sweeping expanse of manicured turf, which provides an excellent surface for many team sports and recreational activities. Turf maintenance is a well-understood science honed in the management of sports fields and golf courses. It primarily consists of regular mowing, trimming, periodic fertilization and chemical weed control, coupled with a progressive scouting and integrated pest-management system. These measures keep weeds at bay and the lawn areas healthy. Additional maintenance tasks, such as leaf clean up and

CHAPTER 9 · OPEN SPACE STEWARDSHIP

tree trimming may occur on an annual or semi-annual basis.

The care and maintenance of large expanses of turf are the responsibilities of the Whitemarsh Township Parks and Recreation and Public Works Departments. Both of these organizations possess the proper tools and skill sets for this type of management.

Natural Area Management

Natural areas are those open space parcels intended to serve only passive recreation uses. They are meant to be maintained in some undisturbed or slightly disturbed state and are important for the ecological services they provide. Examples of these services include the flood-water control provided by healthy riparian buffers and the provision of wildlife habitat. Recent scientific research has proven that the value of ecological services to the surrounding community far exceeds the financial cost of their preservation. Often a direct correlation exists between the ecological health and diversity of these areas, the level of services they provide, and the quality of life for wildlife and residents of Whitemarsh Township.

The pressures exerted upon natural areas today are vastly different than those prior to European settlement. Two hundred years of modern influences have vastly changed the trajectory of natural systems. This becomes evident with a walk through any natural area within Whitemarsh Township. In the past, an abandoned farm field could be expected to follow a predictable course of change (from fallow field to young woodland to climax forest) as it evolved into a rich, diverse forest ecosystem. This distinctly linear progression is rarely still evident in the natural areas surrounding today's urban and suburban developments. Instead, what is more likely to be witnessed is an eco-

system of limited diversity and negligible health. An ecosystem in this state provides a very limited level of ecological service.

Two prime factors threaten natural areas through the northeastern United States: disturbance and invasive species. Unfortunately, the existence of one of these factors often promotes the proliferation of the other. Disturbance comes in many forms - natural and anthropogenic. Man-made forms of disturbance are dramatic and often easily identified; however, natural forms are not always so obvious. Perhaps the best example of an increasing natural disturbance is the white-tailed deer. Removal of large predators from North American forests and the propagation of edge habitat, primarily through suburbanization, have created circumstances that promote the rampant reproduction of the white-tailed deer. The overabundance of this large herbivore is one of the most immediate threats to our natural areas. The presence of large numbers of white-tailed deer provide a constant level of intense disturbance which interrupts the natural balance of local ecosystems.

An ecosystem off balance is less hospitable to the type of niche-dependent species that, in total, create a diverse and stable community. What results instead are ideal conditions for the proliferation of generalist species. This type of plant or animal is good at filling in the holes left by other species, but because it is a generalist, it is not usually suited to perform the same ecosystem-specific functions of the species that it replaced. In recent years, the invasion of these types of plants and animals has become a priority challenge for natural area managers and restorationists. Exotic plant species are of particular concern. These plants are often "escapees" from residential landscapes and gardens. Since most of these plants are far from their

OPEN SPACE STEWARDSHIP

natural range, they lack the natural predators to manage their expansion. Some plant species of particular concern to Whitemarsh Township are:

- Norway maple (*Acer platanoides*)
- purple loosestrife (*Lythrum salicaria*)
- Japanese knotweed (*Polygonum cuspidatum*)
- mile-a-minute (*Polygonum perfoliatum*)
- tree-of-heaven (*Ailanthus altissima*)
- Japanese stilt grass (*Microstegium vimineum*)
- garlic mustard (*Alliaria petiolata*)

This is only an abbreviated list of the invasive species that threaten natural areas within Whitemarsh Township.

The generalist phenomenon is not restricted to the plant world. Recent invasions of neo-tropical bird species threaten to decimate those northeastern birds dependent on a specific niche to complete part of their lifecycle.

At most, a very limited number of truly natural areas remain within Whitemarsh Township that are not, to some extent, suffering from both disturbance and invasive species. Without some form of management, these areas will continue to degrade and lose much of their inherent value. Habitat management is a relatively recent science, still highly dependent on research. Fortunately, several organizations already exist within Whitemarsh Township whose mission includes the successful management of natural areas. Two of the more prominent organizations are

the Natural Lands Trust and the Wissahickon Valley Watershed Association. The Township has also established the Environmental Advisory Board to promote good stewardship practices and inform the Township's Board of Supervisors and Planning Commission on issues related to land development.

Most land-management organizations use one of two prescriptions to attain their goals: management or restoration. Management includes the activities used to maintain the status-quo of general ecosystem health. Management activities can take many forms and are the backbone of any program intended to promote healthy functioning ecosystems. Common management activities include invasive plant control, controlled burning and culling of deer herds. The result of a comprehensive management strategy will be the slow renewal of ecological stability.

General management techniques are good for the minimal remediation of most areas. Some locations, however, have suffered from a catastrophic disturbance or have ceased functioning all together. These sites are in need of restoration, the more intense prescription for land management. Restoration activities typically involve the full-scale reconstruction and recreation of as many elements of the historic ecosystem as possible. Activities constituting a restoration project can be extremely varied and often include simple tree and shrub plantings, meadow and grassland plantings, stream-bank stabilization and wetland mitigation. The influence of restoration activities on the surrounding environment can also change drastically. Tree and shrub plantings would produce minimal impacts. In contrast, some stream-bank stabilization projects involve large amounts of earth moving and regrading. Whatever the extent, restoration activities all strive to replicate a healthy, func-

CHAPTER 9 · OPEN SPACE STEWARDSHIP

tioning ecosystem. The intended result is a healthy stable system that is better able to react to external influences and disturbances.

Educational Programming and Public Outreach

A responsible view of land management should not stop with Whitemarsh Township parks and open space. These parts of the Township should become educational instruments, providing Township residents with local examples of proper management techniques. This notion of education speaks to both traditional parks and natural area management. Homeowners could benefit from a range of programs by discussing everything from mowing regimes to integrated pest management and proper use of herbicides and fertilizers. Programming on topics pertaining to natural areas is often presented by local conservation organizations such as the Wissahickon Valley Watershed Association and Pennypack Ecological Restoration Trust, located in nearby Huntingdon Valley. In an ideal situation, Whitemarsh Township would integrate these programs into Township publications, and provide information on the Township website.

Informing the public about the necessity and intent of major projects, especially in natural areas, works well to avoid the conflicts that often arise when this type of activity commences and neighbors are misinformed or uninformed. This Open Space Plan calls for establishment of an ongoing public education program that could provide information to the public about the need to protect and preserve habitats and about appropriate stewardship methods.

Environmental Advisory Board

The purpose of the Whitemarsh Township Environmental Advisory Board (EAB) is to provide ad-

vice to the Township Planning Commission and the Parks and Recreation Board. The EAB consists of seven residents, appointed by the Board of Supervisors, who serve overlapping three-year terms. The EAB has been tasked with the following:

- Identify potential environmental problems.
- Recommend plans and programs to promote and conserve the Township's natural resources.
- Make recommendations on the possible use of open land areas.
- Promote community environmental programs.
- Catalogue natural areas with the purpose of obtaining information on their proper use and management.
- Advise the Township in the acquisition and management of new open space parcels.
- Undertake similar environmental tasks as requested by the Board of Supervisors.

The EAB's concern for, and consideration of, natural areas and their management makes it an important resource for the Township. The responsibilities for developing many of the programs and management strategies listed in this chapter would entail the involvement of the EAB to ensure their sustained success, and thus the Township should work to incorporate the EAB throughout the planning process.

OPEN SPACE STEWARDSHIP

Other Potential Strategies for Improving Open Space Stewardship

through the National Wildlife Federation's Backyard Wildlife Habitat program.

Conservation Zoning

Assuming passage of the pending Growing Greener Ordinance, some subdivision standards could also be relaxed to encourage land owners to preserve natural areas on their property.

Landscape Ordinance

The Whitemarsh Township, Zoning and Subdivision and Land Development Ordinances could be updated to require that any plant materials used for public projects be native species appropriate to the site. The ordinance could also include a clause that prohibits, or strongly discourages, the use of non-native species, especially those listed on the Pennsylvania Department of Agriculture's Noxious Weed List. Any such ordinance could also stipulate the use of "green engineering" solutions throughout the Township. The EAB and Township could also consider the extension of these possible recommendations to cover new land development and subdivisions.

Habitat Garden Certification

Within higher-density areas, the Township could consider the certification of habitat gardens. This certification would allow property owners to bypass existing zoning provisions regarding the appearance and maintenance of yard areas. Any such area would still need to meet a high level of aesthetic appearance, but would also be subject to consideration for the types of species and the amount of habitat provided. Additional information on such programs, model ordinances and national certification can be obtained