

The following policy statement was adopted by the NASF membership in [NASF Resolution No. 1994-2](#).

POLICY STATEMENT:

NATIONAL ASSOCIATION OF STATE FORESTERS

An Ecological Approach to Urban & Community Forestry

BACKGROUND

Our nation's urban and community forests provide many benefits including recreational opportunities, wildlife habitat, wood products (i.e. lumber, firewood, mulch, compost, etc.), energy savings, carbon sequestering, reduced heat island effects, visual barriers, windbreaks, reduced soil erosion, enhanced real estate values and other environmental, aesthetic, sociological and economic returns. Urban and community forests not only affect the lives of millions of people living in the nation's more than 40,000 cities and communities, but also influence our developing rural environments and native forest lands. Urban and community forests are where a majority of our citizens live, work, and play.

The efficient and effective management of urban and community forests are essential to the environmental quality and social well being of people. By the turn of the century, over 80 percent of all Americans will be living in or next to metropolitan centers. We need to manage our urban and community forests and integrate these resources into the infrastructure of our nation's communities, thereby, making positive changes in the quality of these resources and the quality of life for urban residents.

The concept of an ecological approach to urban and community forest management is not new. In 1965, it was introduced by Eric Jorgensen, a University of Toronto Forestry Professor, when he wrote, "...urban forestry does not deal entirely with city trees or with single tree management, but rather with tree management in the entire area influenced by and utilized by the urban population. This area naturally includes the watershed areas and the recreational areas serving the urban population. The politically established boundaries for municipalities rarely include the entire geographical area influenced by urbanization."

Over the past century, an expanding population and land-use changes have had a negative impact on the extent and quality of urban and community forest resources throughout the United States. When examining the condition of many of these forests, it is difficult to go beyond the need to care for existing trees and planting the vacant planting sites. Insects, diseases and a lack of care have ravaged the tall, gracious trees that our parents and grandparents enjoyed. If this pattern of deterioration and neglect continues, it will result in further reductions of species populations, loss of genetic diversity and an increasing vulnerability of species to insect and disease outbreaks that downsize our urban and community forests.

Trees and urban vegetation are rarely considered during the basic infrastructure planning and development of most cities. The infrastructure systems, such as

transportation, sewage, water and utilities are commonly coordinated in the initial planning process. If done separately, the waste and inefficiencies would be enormous. Unfortunately, the "green" components, trees and other vegetation, are rarely a part of the total infrastructure planning. They are considered as an afterthought rather than a critical component of the whole.

As we prepare to enter the 21st century, the problems and values of our urban and community environments demand solutions. One very important part of this solution is to begin taking an ecological approach in the management of our urban and community forests. The trees, forests, greenspaces, and associated natural resources of our urban areas are the lifeblood of this ecosystem. These resources connect the urban dwellers with nature, protect them from the elements, purify the air, reduce temperatures, conserve energy and lower utility bills. Urban and community forests can improve the economic efficiency of communities. They need not be a burden on community finances.

Federal, state and local governments working in partnership with community leaders, government officials, local businesses and volunteer groups must rise to the challenge of integrating urban and community forest resource management into community planning, development and fiscal structure through an interdisciplinary team approach. Communities must develop a stewardship ethic that focuses on conserving, developing and maintaining functional, sustainable urban and community forest ecosystems.

WHAT IS URBAN AND COMMUNITY FORESTRY?

Urban and community forestry can be defined as the planning for and management of urban and community forests to enhance the quality of life for all residents. The process integrates the economic, environmental, political, historical and social values of the community into a comprehensive management plan for the forest.

In the past, one of the major focuses of urban and community forestry has been the culture and management of street trees and has largely been the domain of horticulturists, landscape architects and nurserymen. Their approach often ignored basic tree biology with respect to urban and community forestry design and establishment. In many cases, the near term aesthetic impact of the urban forest design overshadowed important biological considerations. Urban and community forestry expands upon traditional arboricultural practices through the development of tree inventories and forest management plans. This enables communities to manage trees as groups of populations within the context of the entire community resource.

Many urban and community forestry programs have evolved from tree removal and planting initiatives which resulted from a variety of natural and human-made disasters. To respond to these losses and other concerns, many communities created street tree coalitions to support tree planting and other beautification projects. Over time, these coalitions have provided the political impetus necessary to create and expand local forestry programs. Today, a comprehensive urban and community forestry program consists of six major components:

- Community plan / vision;
- Tree care and maintenance;
- Tree planting;

- Tree removal;
- Leaf and waste wood recycling / utilization; and
- Citizen involvement / education.

Successful urban and community forestry programs are the result of local efforts that:

- Involve citizens, community groups, and local government leaders;
- Inventory and assess the community's forest resources;
- Inventory areas of social and economic concern and how they relate to forest resources;
- Develop implementation strategies; and
- Establish monitoring and enforcement measures.

Urban and community forestry programs must develop and implement management strategies that address all urban and community forest resource components. To accomplish this goal, it is important to recognize that several professions have traditionally been involved in the management of urban forests:

Forestry—the science and art of cultivating, maintaining and developing forest systems;

Arboriculture—the care and cultivation of individual trees in populated areas;

Entomology—the scientific study of insects, that includes localized behavior, potential mobility, current range and potential for population control;

Plant Pathology—the scientific study of the agents that cause disease especially microorganisms such as bacteria or fungi;

Horticulture—the science and art of cultivating fruits, vegetables, flowers and plants or the cultivation of a garden;

Landscape Architecture—the art or profession of planting or changing the natural scenery of a place for a desired effect; and

Soil Science—the scientific study of the soil as a natural resource and its relationship to plant growth.

To address the total need of urban and community forest resources and the citizens who live, work and play in our communities, the development of an ecological approach to urban and community forestry must seek greater levels of participation from the following disciplines:

Ecology—This discipline focuses on understanding, creating, enhancing and protecting habitats for humans and other biological organisms. The urban and community habitat includes plants, climate, air, water, and soils. Trees, as part of

this habitat, reduce energy usage, remove air-borne particulate matter, mitigate heat islands, reduce storm water runoff and erosion, provide food and shelter for wildlife and, in general, improve human comfort. Urban and community habitats would be used to maximize environmental benefits.

Economics—Urban and community forestry activities provide many benefits, but do not come without costs. Properly maintained and managed urban and community forests require substantial financial investments. To sustain these forests, the resource manager must understand the costs and benefits of plant management to secure and maintain appropriate levels of support.

Planning—Planning is vital to any urban and community forestry program. The application of planning principles and practices will bring together the design elements; specifications; ordinances; master plans; experts must involve local citizens, community leaders, government officials, planners, architects, engineers, fire protection specialists and resource managers in the assessment of risks and other values. The identification of these risks and values will facilitate the selection of appropriate management alternatives.

Sociology—Urban and community forests can play an important role in enhancing community spirit, increasing civic pride and reducing human stress. These forests can provide a common ground for interaction between cultural groups. Community groups formed around tree planting and other tree care activities have found that, in addition to aesthetic and environmental benefits, many substantial social benefits are derived from their activities. Effective communication and educational outreach are critical components of programs to successfully meet the need of all ethnic and community groups. The integration of this discipline will assist resource managers in examining the relationship between people and trees in developing demographic evaluations, establishing outreach strategies and identifying cultural values and barriers which can serve to develop a stewardship ethic in urban dwellers.

Psychology—Urban and community forests are an important element of mental well being in the urban environment. Trees impact deeply on our moods and emotions providing numerous psychological benefits. They create feelings of relaxation and well-being, provide privacy and a sense of solitude and security, and shorten post-operative hospital stays when patients are placed in rooms with a view of trees and open space. Trees and vegetation would be utilized to maximize these health benefits.

Wildlife—Urban and community forests play an important role in providing food and cover for wildlife. Many urban residents are interested in the wildlife they can attract to their backyards. For many of these residents, trees, shrubs and other vegetation serve as attractants for birds and other wildlife. The resource manager needs to understand the role various plant species play in either attracting or discouraging the use of an urban and community forest by wildlife species.

To be successful, urban and community forestry must embrace and integrate all of the disciplines mentioned above including public interest. No one element can stand alone, but all act interdependently. Urban and community forestry programs, while they may include all the components mentioned above, will not be successful without

knowledgeable, committed and enthusiastic community leaders and guidance from professional resource managers.

WHAT IS AN ECOLOGICAL APPROACH TO URBAN AND COMMUNITY FOREST MANAGEMENT?

Ecosystems can be defined as the interaction of a group of organisms (microbes, plants, invertebrates and vertebrates) and their environment (climate, water, soil and air). Ecological management of urban and community forests recognizes the interdependence of all these components and takes a holistic approach to maintain healthy ecosystems. It features trees as the dominant plant species and humans as the dominant animal species. Other species of wildlife and vegetation also interact with the physical environment to form this ecosystem.

The purpose of an ecological approach to managing urban and community forests is to integrate the natural systems into our human-made community systems. Maintenance of biological diversity by emphasizing cultivars and regionally native plant species that have demonstrated suitability for landscape plantings in urban settings is an important concept in urban and community forest management. Biological diversity is important if we are to develop systems that are sustainable. Future generations must not be faced with potentially disastrous results of single species management. Our urban areas, while difficult and harsh environments for growing trees, can be designed to withstand natural and human-made disasters.

The challenge to urban and community forest managers in the 1990s and beyond is to manage the entire forest as a viable, functional and sustainable ecosystem. An ecological approach to management is a fundamental step towards enhancing environmental benefits of the urban and community forest. This approach can be used to produce desired resource values, products, services and conditions. The skillful application of this knowledge will sustain the diversity and productivity of the ecosystem. To successfully implement an ecological approach to managing urban and community environments, managers must coordinate natural processes and systems with land-use planning and community development initiatives.

The management of urban and community ecosystems cannot stop at the edge of the city, but must encompass the rural areas as well. Within this environment, there is a gradient from the inner city to the urban / rural fringe that requires varying degrees of management.

The development of an ecological approach to land and resource decision-making is an evolutionary rather than revolutionary method of managing our urban and community forests. The concept does not abandon existing conservation principles nor our continuing search for a basic understanding of the structure and function of natural systems. A scientific foundation is fundamental and essential in helping us better understand the linkages of components of the community environment and essential in developing urban and community forest management strategies.

WHY EMPHASIZE AN ECOLOGICAL APPROACH TO MANAGEMENT?

The following points illustrate the need to adopt an ecological approach to the management of urban and community forests.

The earth is losing environmental diversity at an accelerated rate in part due to rapid expansion and shortsighted development of urban and rural areas;

By the turn of the century, 80% of the nation's population will live in urban areas;

The urban and community forest is an integral part of the natural and human-made environment of communities;

Trees in urban areas confirm the value of the natural environment as a significant contributor to the health and well-being of the urban population;

Many communities have been developed without consideration of the impact on the natural system, thus creating an image of desolate areas void of vegetation and the economic and environmental benefits within them;

As the environmental benefits of urban and community forests become more widely known and integrated into existing systems, we can create a positive image of the urban area;

An ecological approach to land development and urban and community forest management is needed to integrate natural systems into our human-made systems;

Integrating urban forest systems into land-use planning, design standards, policy regulations and management practices will create physical and psychological conditions that will help restore the health and vitality of our cities;

Many urban residents rarely leave their environments. As a result, they have not experienced the natural resources of the nation. An ecological approach to managing urban and community forests will provide opportunities to develop programs that can educate urban residents about environmental ethics and natural resource management issues and practices; and

An Ecological approach to the management of our urban and community forest resources will provide the same opportunities to all communities in developing and incorporating strategies in outreach and planning activities directed towards protecting and enhancing natural features in low income and minority populations.

The modern development of cities has historically been in conflict with the viability of their natural systems. The separation of work, home, and commerce; the tendency towards sprawl; the elevated status of the automobile; and the destruction of natural systems have all contributed to non-sustainable developments. Sustainable developments must begin with the understanding that natural systems are the foundation from which development grows. The adoption of an ecological approach in managing our urban and community forests will result in sustainable environments, but, more importantly, improving the living conditions for the citizens of our nation's communities.

RECOMMENDATIONS

NASF makes the following recommendations regarding the development of an ecological approach to managing urban and community forests:

1. Establish national, state and local urban forestry initiatives and incentives that assist communities in the implementation of an ecological approach to the management of their urban and community forest resources.
2. Develop ecological management policies, guidelines (BMPs) and model ordinances that will be used by community leaders to reestablish and enhance existing trees and vegetation, improve our suburban areas and protect the urban / rural interface from unchecked developments.
3. Expand on existing methodologies, such as geographic information systems (GIS) and computer software for inventories that will enable communities to integrate their forest into the community'' infrastructure, thereby enabling land-use planners, city officials and developers to consider this resource in their planning and development efforts. Assist in the establishment of model ecosystem management areas within communities ranging from highly developed areas to potential development sites.
4. Expand outreach and training programs to assist communities and organizations in integrating an ecological approach to urban and community forestry management into community planning efforts.
5. Provide information, utilizing a variety of approaches (i.e. educational programs, technical assistance, etc.), to the general public that defines and clarifies an ecological approach to urban and community forest management.
6. Develop partnerships with the business community to help integrate an ecological approach to urban and community forest management into business goals and objectives.
7. Develop technology and markets for products derived from urban and community forest resources such as lumber, compost, woodfiber products, etc.

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