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研究報告

Introduction to Urban and Community Forestry Programs in the United States

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【ABSTRACT】

Urban forestry is the science and management of forest resources in cities and urbanizing areas ranging from single trees to groves, on public and private property. Urban forestry in the United States has evolved from a street tree focus in the early 20th century, to sophisticated tools and techniques for understanding and managing citywide forest ecosystems. Grassroots and volunteer activity has been integral, thus many describe the social movement as community forestry. This article provides an overview of urban and community forestry (U&CF) programs in the United States, starting with an introduction to the national program, and including issues of forest resource benefits and values, management practices, and the roles of diverse partners (including volunteers). The program summary ends with case studies of recent developments.
Key words : urban forestry, community forestry, urban greening, arboriculture, management

1. Introduction

The value of trees in cities is undeniable! The history of all nations includes the emergence of cities that have been centers of commerce, politics and the arts; most also became known for the appeal of their forests and parks. Such cities continue to be held up as places of great civic beauty and quality of life (Figure 1).

Figure1 : Urban Forest of Savannah, Georgia U.S.A. (photo credit: Kathleen Wolf)

Today there are many challenges to creating new urban forests and effectively stewarding those that are already established. Increasing human population places additional demands on landscapes and nature, as people consume more resources and geographic living space. Many nations are enacting policy and programs to address drastic losses of trees and greenspace within urban landscapes.

Urban forestry is a community-based urban greening activity in the United States. America, though a young nation, has a long history of forest conservation and management but earliest efforts were applied to wildland tracts. In recent decades concerns about the trees and forests within a landscape spectrum-from city core, to suburbs, to rural areas-have propelled innovative programs, science and management practices.

This overview of America's urban and community forestry programs starts with an introduction to programs at the national government level. Then, a review of the scientifically confirmed benefits and functions of trees in cities is provided. Both policy and management are needed to optimize tree benefits through effective planting and stewardship. An overview of the activities of municipal U&CF programs is presented. Volunteers and citizen foresters are active participants in urban forestry; a summary of volunteer and non-profit organizations follows. Finally, several program highlights, from the national to local scale, are introduced.

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2. History of Federal Program

The urban forestry movement in the United States has included a combination of national, regional and local activity. In the early 1900s many large cities initiated urban forestry programs. New programs were quickly started when Dutch elm disease (*Ceratocystis ulmi*) ravaged urban tree populations. A general mood of environmental concern took hold in the U.S. during the 1970s as citizens became concerned about air and water quality. City tree programs continued to expand, as did the professional field. In the 1970s urban forestry became a recognized sub-discipline of forestry (Miller 1997).

Actions at the federal level reflected expanding environmental awareness, and increased presence of tree programs in American cities and towns. In June 1967 the Citizens Committee on Recreation and Natural Beauty recommended to the U.S. President that an urban and community forestry program be created in the Forest Service agency of the Department of Agriculture (USDA), to provide technical assistance, training and research. In 1968 the Bureau of Outdoor Recreation presented an urban forestry proposal that would provide educational and training assistance to communities. However it was not until 1971 that the Urban Forestry Act was introduced in the United States Congress. This bill, passed May 5, 1972, amended the Cooperative Forestry Assistance Act of 1950.

Following passage of the federal bill, many states amended their own cooperative forestry laws with provisions for urban forestry programs.

The Cooperative Forestry Assistance Act of 1978 expanded the federal government's commitment by authorizing the Secretary of Agriculture to provide financial and technical assistance to state foresters. U.S. $ 3.5 million were allocated. This financial commitment did not change for more than a decade.

The 1990 Farm Bill amended the Cooperative Forestry Assistance Act and launched a much greater federal commitment to urban forestry. The Act contained three major provisions:

- Expand the authority of the Forest Service to work with States to administer grants and technical assistance.
- Raise funding from U.S. $ 2.7 million in 1990 to U.S. $ 25 million in 1993.
- Create a fifteen member National Urban and Community Advisory Council (NUCFAC) to be appointed by the Secretary of Agriculture

To qualify for grants and technical assistance states were required to establish an urban forestry coordinator position in state government, and to appoint a state urban forestry advisory council (more information later). Federal appropriations continue to support national to state level activity. The 2003 budget appropriation was U.S. $ 36 million.

3. National to Local Administration

Early policy and legislation on behalf of urban and community forestry addressed not only funding but also the administrative structure of how fiscal resources would reach communities and local groups (Figure 4).

3. 1 Federal agencies

At the federal level the USDA Forest Service plays a primary role in urban and community forestry. Cooperative Forestry (2003) is the primary subagency. Programs and science also occur within other agency divisions-the National Forest System, Research and Administration. Additional agencies-Natural Resources Conservation Service, Environmental Protection Agency, Small Business Administration-occasionally launch programs to encourage tree planting.

3. 2 Volunteer advisory council

A council of volunteers is appointed from throughout the United States to provide guidance for policy and program development. Members of the National Urban and Community Forestry Advisory Council (NUCFAC) (2003) are representatives of academia, government agencies, green industry, and urban greening organizations. Meetings are held in various U.S. cities so that council members can observe local projects and meet with project organizers.

3. 3 National funds distribution

National U&CF funding is distributed in four ways. First, federal level staff receive operating funds. Then, NUCFAC receives a pool of funds, some of which is awarded annually to grant applicants. The competitive grant process starts with preproposals in autumn of each year, followed by invitations to selected applicants to submit full proposals. Grant awards support policy development, marketing and communications, and research efforts that are judged to have national significance and impact.

Third, funds are designated for "national investments." Some investments are allocated to create and support

useful products, such as marketing or education materials. One example is Treelink (2003), an on-line web site that is a national clearinghouse for community forestry information and organizations.

Investments also provide supplemental support for national non-profit organizations, including American Forests (2003), National Tree Trust (2003), and the National Arbor Day Foundation (2003). Each uses the annual budget allotment as a fiscal foundation, from which to assist communities, conduct fund raising, and carry out their respective missions.

3. 4 National investment organizations

American Forests is the nation's oldest nonprofit citizens' conservation organization, founded in 1875. The core goals of the organization are to assist communities in planning and implementing tree and forest actions to restore and maintain healthy ecosystems and communities. A national magazine is one tool used to broaden awareness of the interdependence of communities and forests. The NPO has also developed CityGreen GIS software for assessing and valuing the condition of a city's urban forest.

Created in 1990, the National Tree Trust seeks to increase volunteerism, citizen involvement and awareness of the value of trees in communities across the U.S. The Trust has three primary programs. It partners with local governments and organizations to plant trees on public lands and along the nation's roadsides. Growing Together and Trail of Trees are education programs. A grants program supports local planting projects and community education.

The Arbor Day Foundation was founded to commemorate J. Sterling Morton, who originated Arbor Day in 1872. The idea took off and the annual spring planting festival is held in communities throughout the United States. The Foundation also sponsors the Tree City USA program. Cities meeting certain criteria are designated for the award; thousands of U.S. communities participate.

3. 5 Distribution to states & communities

The final allocation of funds is made to each of 50 states, based on an eight-factor formula that is weighted by state population. Each state has at least one professional staff member, located in a state level forestry or natural resources agency, who advises state leaders on U&CF policy, offers technical assistance to communities, and administers the remaining federal funds and any funds provided by states. Most states have an advisory council and, as at the federal level, members are appointed from a diverse base of U&CF interests. Some councils serve as policy advisors; other councils have become non-profit organizations in order to expand their activities and conduct fund raising.

Many states conduct annual grant application programs to help local communities plan and implement their urban forest. Local grants support a variety of activities including tree inventories, management plan development,

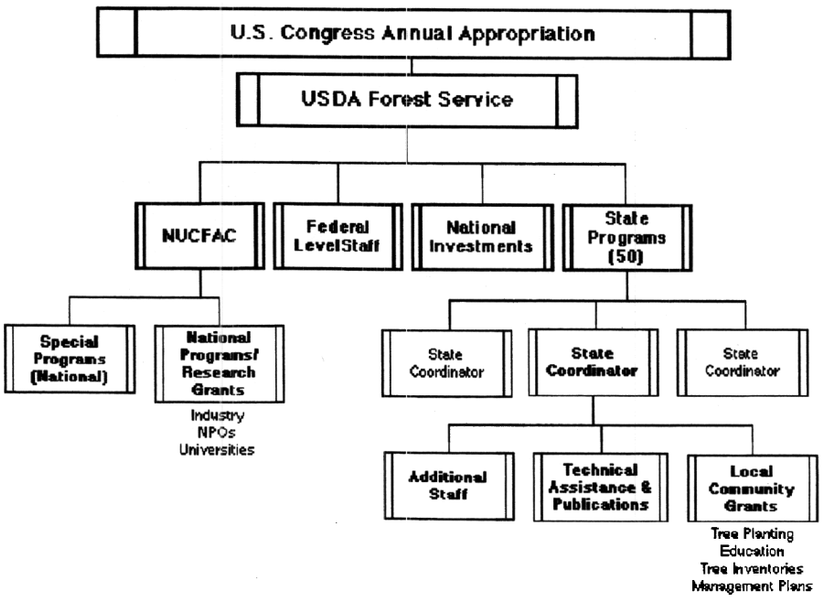

Figure 4 :Distribution of Federal Urban and Community Forestry Funds

tree planting, education programs and ecosystem work. An important dynamic in the distribution of community funds is that all project grants include cost-share obligations. The receiving entity must commit dollar-for-dollar value, and this match may include local funding or in-kind contributions of project or program partners. Often, city tree boards or commissions, the local counterpart of state councils, initiate grant proposals and administer supported projects.

4. Benefits and Values of Urban Forests

The U.S. federal government has put in place a fiscal and administrative structure to encourage regional, state and municipal urban forestry programs. Ongoing demonstrations of the importance of urban trees and forests are necessary. Research on urban and community forest benefits has revealed that urban forests provide extensive and diverse "services" for city residents. Scientific studies provide convincing evidence, providing the basis for tree program commitment.

Throughout history, in many cultures, civic leaders and perceptive urban inhabitants have intuitively recognized the positive effects of having trees in cities. But intuitions alone do not effectively place urban forestry as a priority in the urban policy arena. There are public misconceptions that trees are merely an issue of "beautification" or that "trees can take care of themselves." Yet trees experience many stressors in cities. Resources are needed to grow and steward the urban forest. These needs are often deemed less important than other city services such as transportation, police or fire response.

4. 1 Environmental benefits

There are two dimensions of urban forest benefits research. One aspect of benefits research focuses on environmental improvements and enhancement (McPherson 1995). Strategically placed trees can reduce residential energy costs by reducing air conditioning needs. They also reduce urban heat island effects, a key contributor to carbon dioxide emissions and ozone levels (Akbari et al. 1992). Trees improve air quality by absorbing gaseous pollutants and intercepting particulate matter. And trees reduce stormwater runoff as leaves and branches intercept water, and organic material in soils enhances water absorption (Xiao et al. 2000).

4. 2 Psychosocial benefits

A second dimension of benefits research is the psychosocial benefits associated with passive and active encounters with nature in cities. Scientific evidence confirms our hunches that human health and well-being is improved if people in cities have contact with small bits of "nearby nature," as well as larger green spaces. Experiences of nature are associated with enhanced worker productivity (Kaplan 1992), traffic stress reduction (Parsons et al. 1998), faster recovery in hospitals and rehabilitation centers, emotional stress mitigation (Ulrich 1986), restoration of cognitive capacities needed for basic human functioning and productivity (Kaplan & Kaplan 1989), and revitalization of business districts (Wolf 2003). Also, citizen involvement in urban forestry projects has a positive effect on community building and local group empowerment.

4. 3 Public goods

Urban trees and forests provide "public goods," that is, they are social investments (similar to education or coastal navigation aids) that provide returns not easily estimated or directly tradable on economic markets. Scientific confirmation of environmental benefits is being translated into economic valuation of the public services provided by trees (McPherson et al. 2002, Center for Urban Forest Research 2003). Estimates of infrastructure replacement costs for equivalent services are used to establish economic value. For instance, if trees are reducing stormwater flow, the cost savings of reduced amounts of drains and pipe can be estimated. Public goods valuation also involves indirect methods that explore proxies (e.g. hedonic pricing method) or public attitudes (e.g. contingent valuation method) to establish market price equivalents. Communication about environmental services in fiscal and economic terms enable forest managers to justify tree expenses when competing with other municipal services budgets.

4. 4 Benefits research funding

Both environmental and psychosocial benefits research has been sponsored in large part by the U.S. Forest Service, the lead federal agency for urban forestry. Much of the research has been conducted by regional Forest Service laboratories that allocate a portion of their resources to developing knowledge about trees in urban settings (State and Private Forestry 2003). In addition, the federal government has awarded grants to university and industry scientists based on competitive proposal programs. Recently, the Forest Service has developed a strategic plan for technology transfer so that scientific results are

efficiently shared with local professionals and citizens (National Technology Transfer Team 2002).

5. Municipal Forest Management

The federal government provides "top-down" resources. Yet, the substance of urban forestry practices happens on the ground in cities and towns. There are many definitions of urban and community forestry. Each typically acknowledges the values and benefits of city trees located on both public and private property, spanning a landscape continuum from urban to suburban to rural settings. Definitions often address the complexity of greenspace functions, noting that trees are important to watersheds, wildlife habitat, outdoor recreation, and biodiversity.

There are many challenges associated with urban trees, including soils of poor structure that are often compacted, reduced availability of oxygen, water and nutrients, confined growing spaces, root spaces that conflict with underground utilities, and damage by vandalism. While many people enjoy the act of planting a tree, a more important (and often neglected) activity is the follow-up maintenance and management that is required if a tree is to generate benefits (Kuser 2000).

In recent decades cities have developed and employed a number of strategies to extend tree lifespan and functions. The best local programs use a comprehensive approach, treating an entire city's forest as a resource, rather than responding to tree-by-tree or scattered service requests. Funding is often provided by a combination of sources-general tax revenue, special assessments for districts, permit fees and fines, and donations.

5. 1 Sustainable urban forests

A recent model of urban forest sustainability (Clark et al. 1997) provides a framework for evaluating a city's urban forestry program. The framework contains three components: vegetation resource, community framework and resource management. Each component contains up to nine criteria, each having performance indicators. For example, the Vegetation Resource component contains criteria of Canopy Cover, Age Distribution, Species Mix and Native Vegetation, each with four indicator benchmarks. The Community Framework acknowledges that a program must involve and educate people whose lives take place within the trees (Grey 1996). Resource Management includes the tools and practices that enable trees to generate benefits across many decades.

5. 2 Forest inventory

Perhaps the most important tool to understand the forest resource is a tree or forest inventory. Miller's textbook (1997) provides an overview of inventory approaches. Some municipal inventories focus on street trees while others record trees on all public properties, such as parks and public buildings. Data records for each tree can be quite detailed, including such information as size, age, health, and maintenance records (e.g. pruning schedules). There are also methods for inventorying forests in greenbelts and greenways. An inventory may contain data collected for each tree or tree stand, or a sampling scheme may be used to provide a more general understanding of a city's forest. Geographic Information Systems (GIS) software is a common toolfor inventory data recording. A thorough inventory can be used to generate summary information on forest health (species diversity, age composition, disease), and used as a planning tool for fieldwork.

5. 3 Management plan

Many communities will draft a management plan to protect existing forest resources and plan for future needs. A team of people typically composes a management plan: a professional urban forester (on staff or on contract), city or parks planners, a technical advisory panel (including members of key community organizations), parks managers, and perhaps transportation officials.

Some management plans target a particular segment of the urban forest, such as a large park or street trees while others consider the conditions and needs of the entire city. The challenge of the latter is to acknowledge different land uses and the appropriate level of forest presence or canopy cover.

The intent of management plans is to improve and coordinate forest management and administration. While small cities may have only a single staff person doing work with trees, medium to large sized cities usually have multiple departments whose activities involve trees: Planning or Community Development, Public Works, Streets and Transportation, Utilities, Parks and Recreation. A management plan provides umbrella policy for citywide tree activities, and insures consistency of field practices.

Management plans usually begin with a goals statement that provides overarching guidance. Goals often include four elements. First, the plan acknowledges the value of existing trees and forests, using such concepts as

protection, preservation, and restoration. Then goals indicate the need for additional trees and forests, noting unequal distribution of trees within a city or inadequate numbers citywide. Third, stewardship goals acknowledge the value of agency and citizen partnership to enhance the health and quality of the forest. Goals may also include fiscal matters, indicating the need for consistent, ongoing dedication of resources to sustain a city's forest.

Recommendations are specific action items that accompany goals, and are often followed by further specification of activities or programs. Recommendations often relate to coordination of programs and effort, the ongoing documentation and evaluation of the forest, and forest expansion efforts. Recommendations may also include regulations and development incentives, funding and budget, education, and citizen involvement.

Examples of urban forest management plans from United States cities include Athens, Georgia (2001), Portland, Oregon (2003) and Eugene, Oregon (1992). The City of Palo Alto, California (2001) also has a technical manual that provides detailed specifications for management practices.

A management plan is only as good as the people who will ultimately implement it. Increasingly, large cities will have an urban forester on staff to oversee tree work and provide technical assistance to city offices whose activities impact trees and forests.

5. 4 Arboriculture science and professionals

Urban forestry entails a systems approach to trees in the city. Many of the best practices of urban forestry are derived from arboriculture, defined as the science and management of individual trees in built settings. Founded in 1924, the International Society of Arboriculture (ISA) (2003) is a professional organization that has supported extensive research on planting, growing and stewarding trees in built environments. This knowledge, published in the Journal of Arboriculture (2003), has provided the foundation for best management practices.

ISA has also established the standards of professionalism for urban forestry (ISA Certification 2003). ISA certification has become the accepted qualification regarding tree work for government staff, contractors and private consultants. Study materials for the certification examination are available through regional chapter workshops and on-line. Attendance at continuing education events is necessary to maintain ISA qualification (Figures 2 and 3).

Figure 2 : Arborist Climbing Training
(photo credit: ArborMasters Inc.)

Figure 3 : Equipment for Safe Climbing and Pruning
(photo credit: ArborMasters Inc.)

In addition, the Society of Municipal Arborists (another USFS national investment) is a non-profit organization specifically oriented to the professional and technical needs of foresters who work in or with local government agencies (Society of Municipal Arborists 2003).

5. 5 Management issues and practices

In the past several decades in North America urban forest management has evolved from sporadic, local activity to comprehensive approaches that are informed by scientific research and implemented with high professional standards. Periodic surveys of municipal management activities help individual communities and the entire U&CF discipline to fine-tune management practices (Tschantz & Sacamano 1994; Keilbaso & Cotrone 1989) and identify needs.

Having trees in cities can present formidable challenges, as the needs of vegetation may conflict with other human pursuits. For example, fire-safe practices are being developed to encourage residential landscaping practices

that reduce wildfire spread in fire-prone landscapes. Also, hazard tree management includes practices that diminish damage to property or people if trees should fail due to age, disease, or natural disasters. Finally, standard practices of tree planting, pruning, mulching and nutrient provision are essential if the sweeping goals and recommendations of a management plan are to be achieved.

6. The Role of Citizens and Volunteers

From it's earliest inception urban and community forestry has been a peoples' movement and reliant on grassroots support and activities. Scattered throughout the United States, in cities large and small, are community leaders who are passionate about improving their communities by planting and stewarding trees.

Citizen activity is often motivated by neighborhood needs. A general decline in tree numbers or quality, the loss of a historic tree, or the threat of tree losses during development projects have prompted people to take action on behalf of trees and become advocates in local government.

6. 1 Local NPOs

Some informal groups have grown, become formal non-profit organizations (in accordance with U.S. Internal Revenue Service law) and have expanded their reach to a citywide, regional or state level of activity.

Figure 5: Community Tree Planting:
Tree program volunteers donate thousands of hours per year (photo credit: National Alliance for Community Trees)

The character and mission of such non-profits is diverse. Some provide technical assistance and leadership for less formal tree groups, becoming the interface between neighborhoods and government for community tree plantings (Figure 5). Some contract with local government to provide specific services, such as greenbelt maintenance or neighborhood tree planting, making use of their volunteer recruitment and training capability. Some work with regional organizing committees to implement planting and landscape goals for special events, such as the Olympic Games. Some act as a liaison between government agencies that may have similar goals but do not have the administrative structure in place for community programs. Finally, NPOs may respond to targeted governmental grant programs to implement short-term projects that reflect emerging community needs (e.g. youth environmental education, habitat restoration for endangered species).

An example of a grassroots start-up that has grown to become a regional partner in urban forestry and urban greening is Tree People (2003) of Los Angeles, California. At start-up in the early 1980s the NPO supported neighborhood tree planting events. The founders published a manual for citizen foresters; the Simple Act of Planting a Tree (Lipkis & Lipkis 1990) has become a standard reference for community tree planting.

In the past decade TreePeople has grown and diversified its services. A K-12 education program works with local schools to raise environmental awareness. A plant nursery provides trees for plantings. TreePeople has been a key player in a Los Angeles basin partnership to improve watershed management, acting as a liaison among diverse agencies for water and energy conservation, flood prevention and stormwater pollution abatement.

6. 2 National NPO network

The National Alliance for Community Trees (ACT) (2003) is an umbrella NPO founded in 1992 as a problem-solving center for leaders of community-based urban forestry groups. Another USFS national investment, it serves as a national network of more than 50 urban forestry and community greening groups. Members are local and state non-profit organizations dedicated to grassroots approaches to community greening, public education, policymaking, job training, environmental design and other activities that support better urban forest stewardship. Members receive professional and technical assistance. Annual meetings include presentations on salient topics like media relations, fundraising, and emerging issues in urban forestry. ACT tracks national policy developments and testifies to the U.S. Congress on urban forestry budget appropriations.

6. 3 Agency programs

Finally, municipal governments have started programs to involve citizen volunteers. Extensive training and technical guidance is provided so that volunteers are effective and informed citizen foresters. A greater reliance

on volunteers entails sophisticated procedures for planning projects, identifying volunteer skill needs, conducting training, and creating the incentives or rewards that will keep volunteers returning.

Some programs are built on the Tree Stewards or Tree Keepers model where volunteers, following training, are deployed in community projects that may include tree planting, weeding and mulching, small tree pruning, or education about these topics. The NeighborWoods model is somewhat different in that citizen volunteers enter training to facilitate a tree planting in their neighborhood, then recruit friends and neighbors for initial tree planting and follow-up watering and maintenance.

7. New Developments

Both scientific knowledge and best management practices regarding urban trees have improved dramatically in North America in recent decades. A major synthesis is underway, as science and management is being integrated with public policy and communications. The public goods of trees in cities are well documented. The following projects are examples of how analytic approaches are being translated into tools and information that local groups can use to sustain the urban forest.

7. 1 Regional Ecosystem Analysis

In the past ten years American Forests has developed Geographic Information Systems (GIS) tools to conduct Regional Ecosystem Analyses (2003). Satellite imagery is used to analyze the health of urban ecosystems, calculated by tracking tree canopy gain or loss over multiple decades. Canopy cover rates are used to generate economic valuations of the energy, air quality and stormwater management benefits provided by trees. Twenty-one analyses have been done in and around U.S. cities. The projects are a pioneering effort to define and communicate benefits provided by trees and urban ecosystems. Local partners use analysis reports to make the case for local support of tree programs. Summary information from the reports is now being used to compute the National Urban Tree Deficit, an estimate of the number of trees needed to provide America's largest cities with adequate tree cover.

7. 2 STRATUM

New software tools have been developed by scientists at the Center for Urban Forest Research-Street Tree Analysis Tool for Urban forest Managers (STRATUM) (Maco & McPherson 2003). The software uses street tree inventory data to generate information on forest benefits, costs and management needs. Urban foresters, arborists, non-profit tree organizations, landscape architects and contractors, planners, and environmental consultants can use the tool. Using a rapid sample inventory technique, users assess the structure of a city's street trees (e.g. diversity, canopy cover, health) and estimate management needs. The software produces data, tables and graphs that managers can use to legitimize funding, build program support and investment, and promote sound decision making.

7. 3 TreePeople's Community Forestry Center

The Center will be the first community resource of its kind (TreePeople 2003). Displays and seminars will demonstrate the latest technologies that can help citizens of Los Angeles save water and energy, and create a safer place to live. The Center will be both a resource and catalyst to foster individual responsibility, environmental education and community building around issues of urban forestry on local and regional levels. It will include teaching facilities, a conference center, native gardens, a seedling nursery and a tool bank - all intended to support community action and facilitate environmental learning and collaboration. To date, a broad coalition of private and public donors has contributed more than three-quarters of the U.S. $10 million construction costs.

7. 4 Casey Tree Endowment Fund

A U.S. $50 million dollar donation from Betty Brown Casey launched a new urban forest NPO in Washington D.C. (Casey Tree Endowment Fund 2003). Funds will be used to replace and maintain the city's trees. Much work is needed restore street tree canopy in the nation's "City of Trees." Satellite imagery analysis shows that the canopy has decreased by 64% since 1973. The program has started with an inventory of the city's existing trees and will be followed by research to develop the best planting techniques, with particular focus on disease prevention and control (e.g. Dutch Elm disease). In addition, an educational program about planting techniques and tree management will be developed for both citizens and city officials. These goals are being met through a partnership that includes the Casey NPO, municipal government agencies, and the national government (i.e. Forest Service). All activities are being documented to provide community action models for other U.S. cities.

8. Conclusions

While often perceived as a simple matter, effective installation and management of trees in cities requires a sustained commitment of fiscal support and diverse scientific knowledge. Compared to wildland forest reserves or national parks, a unique aspect of urban and community forestry is the extensive involvement of local people in tree planting and decision-making.

This article provides an overview of urban forestry benefits, and values, programs and administration. The discipline of arboriculture, while not receiving much attention here, is the tree-by-tree science that informs best practices in urban forestry. Additional information about arboriculture is found in Harris et al. (1999) and Campana (1999).

Up to date information is needed by scientists, professionals and citizens for effective urban forestry programs. In 1924 the first national conference on urban trees was held. The National Shade Tree Conference focused on individual trees, marking a time when arboriculture was developing into a respected profession.

In 1978 the first national conference on the subject of urban forestry was held in Washington D.C. It was initiated by a group of scientists who felt they had insufficient interaction with people practicing urban forestry. The first and subsequent conferences have served as a forum for exchange of knowledge and identification of research needs. The tradition has continued. In September 2003 the 11th National Urban Forest Conference (2003) was held in Texas, focusing on the theme of "Engineering Green."

Urban forestry in the United States has evolved from concerns about individual street trees to visions of how forest canopy in cities can replace and supplement traditional engineering systems (such as stormwater management or energy). This expansion of vision and activity has occurred through partnerships with people from local neighborhoods to national agencies. Urban and community forestry still receives less fiscal support than more traditional wildland resource programs. North American demographic trends show increasing numbers of people living in cities. The urban and community forestry movement is an essential force in creating healthy and vibrant cities.

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