Planning for Urban and Community Forestry  
A Literature Review

The Planning for Urban and Community Forestry review contains book, article, and government document citations. The list is part of a continuous process and may be considered both a literature review and a resource list for the project.

Each section is arranged first chronologically then alphabetically by author. This allows the newest material to be viewed first.

Texts were chosen for the review based on several criteria, including relevance to the topic of municipal planning, timeliness, and the ability to convey concepts accurately and concisely to an audience of planners.

The resource list is arranged under the following topics, Ecosystem Planning which includes green infrastructure and bio-diversity; Urban Forestry, general information; Watershed Planning; Municipal Planning, broken down further into Comprehensive Planning and Area Planning; Ordinances, Regulations, Incentives; Economic Benefits of Urban Forestry; Social Benefits of Urban Forestry; Environmental Benefits of Urban Forestry which has the further sub-topics of Air Quality, Water Quality, Soil, and Urban Heat Island.

This resource list will be updated regularly as new information becomes available. Additional web links and annotated descriptions of related web sites will be added continually.

Last updated May 2006.
ECOSYSTEM PLANNING


Details successful nature protection programs across the country. Over a dozen case studies are highlighted. Of particular interest are DeKalb County, Georgia’s Greenspace Program; Pittsford, New York’s Greenprint; and Loudoun County, Virginia’s Green Infrastructure plan.


The paper provides a more structured definition for green infrastructure plans, "best practices" guidelines, and a framework for evaluating green infrastructure plans for different scales of planning.


Introduces the science of ecology using the language of planners, architects, and landscape architects. Chapters of particular interest include, “Humans Plan,” “An Introduction to Ecology and Biodiversity,” “The Ecology of Landscapes,” “Nature in the Neighborhood,” “Ecologically Based Planning and Design Techniques,” and “Principles in Practice.”


An introduction to environmental planning. Of particular interest is the chapter, Landscape Ecology, Urban Forestry, and Wetlands.


A general treatise on environmental planning for the 21st century. Part III, Planning for Natural Areas, and Part IV, Planning for Working Landscapes contain the most pertinent information for community forestry.

A collection of papers examining local environmental law and its strategic role in shaping an appropriate response to a new generation of environmental and land use challenges.


Report provides communities with a six-step process for developing and implementing a green infrastructure plan. The steps are: Develop an approach, Inventory community resources, Envision the future, Find the hubs and links, Create the plan, and Build the system.


Introduces green infrastructure as a strategic approach for land conservation and provides eight guiding principles for successful green infrastructure initiatives.


A review of the CITYgreen software.


The book describes a four-step process for laying out residential development around the central organizing principle of land conservation. The four steps are: Identifying all potential conservation areas, locating the housing sites, designing street alignments and trails, and drawing the lot lines.


This handbook provides a ready reference list of procedures in planning for and responding to natural disasters. It promotes the regreening of communities.


A collection of essays focusing on public policy and public-private collaboration. Of special interest is section three, “Urbanization and Terrestrial Ecosystems.”


**URBAN FORESTRY**


A survey of Mississippi communities to determine levels of knowledge and participation urban and community forestry programs.


The proceedings of the first National Urban and Community Forestry Education and Outreach Conference for Minority and Underserved Communities.


The study examined small town tree commissions in Pennsylvania. It explored attitudes of commission members toward urban forestry and contrasted them with actual accomplishments.


Using technology to locate tree canopy — or lack thereof — and to plan for the future.


A textbook introduction to urban forestry. Appendices include a sample tree ordinance, sample tree protection ordinance, and a sample screening ordinance.

Grey defines urban forestry as, “that which must be done to make trees compatible and functional in the urban environment.” This volume is an elaboration on that theme.


Divided into four parts. Part 1, “Introduction and Historical Perspective” provides an excellent overview for those new to the topic. Part 2, “The Environmental Setting” includes a chapter on land use controls. Part 4, “Integration: Tradeoffs and Benefits” will probably provide the most insight to planners and foresters.


**WATERSHED PLANNING**


**MUNICIPAL PLANNING**

Comprehensive


This plan is divided into three sections, the third of which is devoted to trees and the role they can play in improving air quality, quality of life, and other environmental and social benefits.


This handbook was created to provide communities and citizens with the information, tools, and references necessary to begin to plan development with the green infrastructure of the urban forest in mind.


Publication provides examples of how communities have incorporated urban forestry principles into critical elements of growth management planning.


Area


The presence of urban trees was associated with higher visual quality ratings and was perceived to be an integral amenity of the central business district. The study utilized an on-site survey of visitors to the Athens CBD. Quantitative and qualitative research outcomes are included.

**ORDINANCES, REGULATIONS, INCENTIVES**


“The lessons of ecology and conservation biology can enable local decision makers to use their familiar land use tools more effectively in making their development and redevelopment more nature friendly.”


This study explores the relationship between community characteristics and municipal tree ordinances using data from 151 Illinois communities. There are significant correlations between ordinance provisions and a community’s characteristics relating to wealth and education.


A review of methods to meet tree cover requirements in rezoning or new development. The article focuses on the relocation of trees from the site to conservation areas.


Ordinances from 41 states. Arranged by state but with an excellent index. Topics include parking lots, buffers and screens, site design standards, tree preservation, and tree protection.


Title 3 is the section of Portland’s Urban Growth Management Functional Plan that refers to “Water quality, flood management, and fish and wildlife conservation”. This particular model ordinance provides for the protection of
the region’s floodplains, water quality and reduction of flood hazards, and the implementation of erosion control practices.


From the abstract, “Regulation at sale offers a pragmatic, low-cost method to improve older neighborhoods [through street plantings] and stimulate local economic development.”


Chapters include “Establishing the Value of Trees,” “Legal Aspects of Tree Conservation,” “Crafting an Effective Tree Conservation Ordinance,” and “The Politics and Practice of Tree Conservation.”


**ECONOMIC BENEFITS OF URBAN FORESTRY**


City trees are viewed as a best management practice to control stormwater, an urban-heat–island mitigation measure for cleaner air, a CO₂-reduction option to offset emissions, and an alternative to costly new electric power plants. Measuring benefits that accrue from the community forest is the first step to altering forest structure in ways that will enhance future benefits. This article describes the structure, function, and value of street and park tree populations in Fort Collins, Colorado; Cheyenne, Wyoming; Bismarck, North Dakota; Berkeley, California; and Glendale, Arizona.

A method for calculating past, present and future tree canopy. Intended to be used during community visioning events.


The presence of urban trees was associated with higher visual quality ratings and was perceived to be an integral amenity of the central business district. The study utilized an on-site survey of visitors to the Athens CBD. Quantitative and qualitative research outcomes are included.


This study provides a mixed methodological approach, combining remote sensing technology with standard statistical analysis. It is intended to provide planners, landscape architects, and governmental officials with a method of demonstrating the economic importance of urban forests.


This paper provides a methodology for locating high-value greenspace. Stevens Point, Wisconsin was used as a case study. Parcels were identified and the ecologic, recreational, and aesthetic value of each parcel was rated.


Previous studies on the effects of urban vegetation have focused primarily on parks and residential settings. This study attempts to link urban vegetation
and forest canopy to inner city central business districts and demonstrate the
economic development benefits.


Guidebook analyzes the benefits — economic and environmental — that trees can provide to communities. Case studies focus on Southern California.


ENVIRONMENTAL BENEFITS OF URBAN FORESTRY


An analysis of Stevens Point, Wisconsin using CITYgreen software to assess the environmental and budgetary benefits to urban trees.


A discussion of the environmental benefits of conserving trees. The Campus Club Apartment complex in Gainesville, Florida is used as an example. Focus is given to the CITYgreen GIS program and the stormwater management benefits of tree preservation.
Air Quality


A primer on the role trees play as pollution filters and air coolers.

Water Quality


Nonpoint source pollution is a main contributor to water quality problems in developed areas. This report looks at how stormwater management can be tackled at the site planning level through such principles as minimizing impervious surfaces, preserving contiguous open space areas, and making maximum use of existing infrastructure.


“This handbook communicates basic stormwater management concepts, case study examples of how this approach has been successful elsewhere, practical design solutions and methodologies, and a strategy for implementation of ‘green’ streets in the Portland Metro region.” From the introduction.


A discussion of the use of canopy cover to improve water quality.


**Soil**


**Heat Island**


**SOCIAL BENEFITS OF URBAN FORESTRY**


A report of the partial results of a nationwide survey of residents in the 112 most populated metropolitan areas in the continental U.S. This report focuses on the knowledge and attitudes of urban residents regarding trees in cities; how much urbanites agree that trees are important to their quality of life; whether demographic factors influence responses; and whether people’s attitudes toward trees and quality of life influence their attitudes toward other characteristics of urban trees.

Results of a survey of park users in Cleveland, Ohio indicate that "reflective thought" is a popular use of forests and parks. Visitors spend an average of two-plus hours within these settings.

**Allied Organizations and Websites of Interest**

**American Forests**
American Forests is the nation’s oldest nonprofit citizens’ conservation organization. It is a world leader in planting trees for environmental restoration, a pioneer in the science and practice of urban forestry, and a primary communicator of the benefits of trees and forests.

**Center for Urban Forest Research**
One of 13 research work units affiliated with the Pacific Southwest Research Station, a USDA Forest Service Organization. As part of the center’s vision they work to provide communities with an increased understanding and appreciation of the urban forest and choose to make an investment in the care and maintenance of community trees to ensure continued health of the urban forest.

**Center for Watershed Protection**
Provides local governments, activists, and watershed organizations around the country with the technical tools for protecting some of the nation’s most precious natural resources: our streams, lakes, and rivers.

**GreenInfrastructure.net**
Green Infrastructure is our nation's natural life support system — an interconnected network of protected land and water that supports native species, maintains natural ecological processes, sustains air and water resources and contributes to the health and quality of life for America's communities and people. The Conservation Fund and the USDA Forest Service cosponsor the site.

**Human Dimensions of Urban Forestry and Urban Greening**
Featuring research on people's perceptions and behaviors regarding nature in cities.

**i-Tree**
i-Tree is a state-of-the-art, peer-reviewed software suite from the USDA Forest Service that provides urban and community forestry analysis and benefits assessment. It currently integrates four urban and community forestry tools: UFORE (Urban Forest Effects Model), STRATUM (Street Tree Resource Analysis Tool for Urban Forest Managers), MCTI (Mobile Community Tree Inventory), and the Storm Damage Assessment Protocol.

**International Society of Arboriculture**
The International Society of Arboriculture (ISA) has served the tree care industry for over eighty years as a scientific and educational organization.
The Alliance for Community Trees (ACT) is both the nucleus and catalyst for the fast-growing field of citizen forestry. Along with its 68 community-based member organizations nationwide, ACT's concern is the environment where 80 percent of Americans live and work — our cities, towns, and villages. Through information sharing, training, technical assistance, policy and program development, and advocacy, ACT pulls together the pioneering work of citizen foresters across the country to improve the quality of life for all of us.

The National Map
The National Map is a framework for geographic knowledge needed by the nation. It provides public access to high quality, geospatial data and information from multiple partners to help support decision-making by resource managers and the public. The National Map is the product of a consortium of federal, state, and local partners who provide geospatial data to enhance America's ability to access, integrate, and apply geospatial data at global, national, and local scales. The U.S. Geological Survey (USGS) is committed to meeting the nation's needs for current base geographic data and maps. Our vision is that, by working with partners, we will ensure that the nation has access to current, accurate, and nationally consistent digital data and topographic maps derived from those data.

The National Urban and Community Forestry Advisory Council
The National Urban and Community Forestry Advisory Council is an organization that supports education, projects, and groups related to urban and community forestry.

Society of Municipal Arborists
The SMA is an organization of municipal arborists and urban foresters. The membership also includes consultants, commercial firms and citizens who actively practice or support some facet of municipal forestry.

TreeLink
An urban forestry portal. TreeLink's vision is to provide the best technology resources to grow the movement and discipline of urban and community forestry to the widest audience. We plan to expand the canopy of knowledge about Urban and Community Forestry and reach into widespread community roots with potent, accessible communications resources.

CUES utilizes USGS data and science expertise to develop decision support tools and other science applications to address critical issues facing the nation’s urban areas, including, the consequences of urban growth, and conservation and protection of parks, wildlife refuges, and other natural resources.

Urban Forestry South
The Internet partnership of the Southern Center for Urban Forestry Research & Information, Southern Regional Extension Forestry, the Southern Group of State Foresters, and the Warnell School of Forest Resources at UGA. It also hosts the Southern Cooperative Council’s work.