

Local Greenprinting *for Growth* Workbook



*Using Land Conservation to Guide Growth
and Preserve the Character of Our Communities*

VOLUME II: HOW TO DEFINE A CONSERVATION VISION



The Trust for Public Land

The Trust for Public Land conserves land for people to improve the quality of life in our communities and to protect our natural and historic resources for future generations.

This is a publication of TPL's Center for Land and People. TPL's Center for Land and People is dedicated to exploring, understanding, and celebrating the connection between land and people and the importance of that connection to the spirit, health, economic vitality, and quality of life in all communities.

National Association of Counties

Founded in 1935, the National Association of Counties (NACo) is the only national organization in the country that represents county governments. With headquarters on Capitol Hill in Washington, D.C., NACo's primary mission is to ensure that the county government message is heard and understood in the White House and the halls of Congress. NACo's purpose and objectives are to

- ◆ Serve as a liaison with other levels of government
- ◆ Improve public understanding of counties
- ◆ Act as a national advocate for counties, and
- ◆ Help counties find innovative methods for meeting the challenges they face.

Through its research arm, the National Association of Counties Research Foundation, NACo provides county officials with a wealth of expertise and services in a broad range of subject areas, including job training, environmental programs, human services, welfare-to-work initiatives, housing, county governance, and community infrastructure.

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the Henry M. Jackson Foundation
and the Environmental Protection Agency



Conserving Land for People



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Will Rogers



Judge Robert Eckels

Dear Local Government Official:

Greenprinting—it is a conservation approach that works.

Greenprinting uses land conservation to steer growth around important land and water resources and toward existing infrastructure. It is a voluntary, incentives-based technique that can enhance traditional regulation and planning efforts and help a community achieve smart growth. Greenprinting can also provide important fiscal, economic, and quality-of-life benefits.

The *Local Greenprinting for Growth* series includes an executive summary and three in-depth reports. In this first report, we look at how to define a conservation and smart growth vision for your community. This is the information-gathering and planning phase, examining where a community should grow and which land deserves permanent protection. Essential elements include public participation, public-private partnerships, and local leadership.

Subsequent reports in the series address conservation funding and land acquisition and management—the issues a community faces once a vision has been defined.

Thank you for your interest in greenprinting. We welcome your questions and comments; please let us know if we can help you with any aspect of this process. Check our web site at www.tpl.org/greenprinting for more information and to order additional copies of reports in this series.

Sincerely,

A handwritten signature in black ink, appearing to read 'R. Eckels'.

The Honorable Robert Eckels
Chair, NACo Environment, Energy
and Land Use Steering Committee

A handwritten signature in black ink, appearing to read 'Will Rogers'.

Will Rogers
President
The Trust for Public Land

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Introduction

Greenprinting (grēn'prīnt'ing) *n.* a smart growth strategy that emphasizes land conservation to ensure quality of life, clean air and water, recreation, and economic health.
v. To employ a greenprinting strategy for growth.

Growth may be inevitable, but sprawl is not. Faced with increasing growth-related challenges, communities across the country are rejecting low-density, single-use, auto-dependent development patterns for a more sensible, smart growth approach.

Smart growth strategies and initiatives help communities anticipate and accommodate growth in a way that meets environmental and economic objectives. Communities are made attractive and livable, with walkable neighborhoods, a variety of transportation and housing choices, distinctive characters, and permanently protected open space, farmland, and sensitive water resource areas.

Why is the protection of open space an integral part of a smart growth strategy? In a nutshell, land conservation promotes smart growth goals by creating more healthy, livable, economically sound communities. How? By attracting home buyers and businesses, protecting public health and the environment, preventing costly flood damage, and preserving places that people value. Redirecting growth and redeveloping abandoned industrial sites, referred to as brownfields, also helps to revitalize older communities. Clearly land conservation—when used strategically—becomes a smart investment that protects both the quality of life and the bottom line for communities new and old.

A variety of techniques can be used to protect open space, including a process known as greenprinting. Greenprinting is a voluntary,

proactive approach to land conservation that is designed to steer growth toward existing infrastructure and away from a community's most sensitive land and water resources. Open space and development rights are acquired from willing sellers, and conservation becomes a powerful and cost-effective tool for managing growth—an equal partner with zoning and regulation.

The traditional approach to land conservation has been reactive and piecemeal: individual pieces of property are protected in order to prevent development, often without consideration for a larger conservation and growth vision. Greenprinting puts planning front and center in the land conservation process; a community plans for open space in the same way it plans for other aspects of its infrastructure—transportation and communication networks, schools, hospitals, utilities, and so on. And a community integrates conservation with other development and landuse plans. The result is an interconnected network of parks, open space, greenways, and natural lands that allows for growth where growth makes sense.

The Trust for Public Land (TPL) and the National Association of Counties (NACo), with support from the Henry M. Jackson Foundation, the Surdna Foundation, and the U.S. Environmental Protection Agency, are publishing a series of in-depth reports that are intended to help counties, cities, and towns explore greenprinting as an approach to land conservation.



KEN SHERMAN

The Forked River Mountains are the centerpiece of an extensive, unspoiled wilderness located in the Pine Barrens of Ocean County, New Jersey.

Local leaders in fast-growing Dane County, Wisconsin, have integrated growth management, land conservation, and agricultural preservation plans.



COURTESY OF THE NATURAL HERITAGE LAND TRUST

An advisory panel of local public officials—landuse experts from communities across the country—has also been created to advise this greenprinting series and provide case study information. TPL and NACo resources are available to public officials, legislators and staff, community advocates, land trust professionals, and other local leaders embarking on the greenprinting-for-growth process.

As developed by TPL, a national nonprofit land conservation organization, greenprinting follows these steps:

- ◆ *Step 1. Defining a conservation vision:* Developing a land protection plan that reflects a community's smart growth goals and enjoys public support

- ◆ *Step 2. Securing conservation funds:* Identifying and obtaining funds to implement the vision

- ◆ *Step 3. Acquiring and managing park and conservation lands:* Administering the greenprint program, completing transactions, and managing protected lands

This report focuses on the early phase of

greenprinting—defining a conservation vision. During this process, communities identify places of natural, cultural, and historic significance. They also develop strategies to protect these lands and direct growth toward existing infrastructure. This open space planning may serve as a basis for or be integrated with a community's larger comprehensive and smart growth plans.

An assessment of the value of open space may help a community launch the visioning process, measuring the costs and benefits of land conservation. A community must then determine the scope of the greenprinting program, conduct an inventory of natural resources, define conservation goals, and establish specific targets for protection.

What does it take to get this done? Successful communities have some combination of strong local leadership, effective partnerships, and active public participation. With these ingredients, the public support and expertise needed for implementation of a greenprinting plan can be secured.

CHECKLIST: DEFINING A CONSERVATION VISION

1. **Understand community values and cost/benefits of open space**
 - ◆ Conduct a fiscal analysis that weighs costs of services and measures property tax impacts
 - ◆ Solicit community input on values and sense of place: Why is land conservation important?
 - ◆ Assess threats to drinking water, clean air, and other public health issues
 - ◆ Assess infrastructure capacity and public investment plans to check readiness for growth and development
2. **Determine the initiative's scope**
 - ◆ Link local land conservation work with other local, state, and regional planning efforts
 - ◆ Integrate land conservation with other planning goals such as transportation and water services
 - ◆ Develop a program that meets current threats, addresses key community issues, and supports local values
 - ◆ Develop a rationale for the proposed program
3. **Inventory natural and cultural features**
 - ◆ Collect natural, cultural, demographic, and other relevant data
 - ◆ Use a Geographic Information System (GIS)
 - ◆ Simplify the analysis with overlay maps
 - ◆ Educate the public using maps and graphics to show links and connections among data
4. **Assess public priorities**
 - ◆ Develop community outreach tools and identify stakeholders
 - ◆ Create discussion forums in media, schools, and throughout the community
 - ◆ Employ polling and surveys to elicit broader response
5. **Define goals**
 - ◆ Consider revitalizing previously used land as well as protecting pristine lands
 - ◆ Consider goals for private lands, especially working landscapes such as farms, ranches, and forests
 - ◆ Focus on establishing relationships between land conservation and clean air and water
 - ◆ Consider both human recreation and resource protection
 - ◆ Use smart growth principles as guidelines
6. **Set targets**
 - ◆ Distinguish among types of land targeted for protection
 - ◆ Establish specific acquisition criteria that allow for the objective assessment of lands
 - ◆ Understand property values and land ownership issues
 - ◆ Blend regulatory tools with land conservation
7. **Take the lead**
 - ◆ Raise the issue of land conservation as a tool for shaping community and provide forums for broad community discussion
 - ◆ Encourage public participation and establish task forces to engage people
 - ◆ Forge partnerships, especially with private organizations that can help with action steps
 - ◆ Determine methods to measure results and evaluate success
 - ◆ Update the public on the program's progress

How to Assess the Value of Open Space

WHY THIS IS IMPORTANT:

Can we afford to conserve land? Can we afford not to? Understanding the costs and benefits of open space is the first step in designing a greenprinting vision. With this information, local leaders can educate the public about the benefits of protecting the land and invest conservation dollars wisely.

Land conservation is a big investment. Done strategically, it can also yield significant fiscal, economic, and quality-of-life benefits. Yet these benefits are often overlooked. The bottom line is that understanding how to assess and communicate the value of open space can make or break a local government's greenprinting program. This is because, in almost every community, one question will have to be answered repeatedly: Given our current budget constraints, can we really afford to purchase more open space? To answer this, it is necessary to look at the value of open space and consider all its potential benefits to the community.

- ◆ **Consider the bottom line.** Buying land or development rights costs money. So does

residential and commercial development, which requires public investment in schools, roads, utility lines, libraries and recreation facilities, and ongoing public services such as police and fire. So in the process of allocating dollars, where do preservation and growth lie on the priority scale?

This question was addressed in a pair of studies conducted by TPL in 1998. Examining the relationship between land conservation and property taxes in Massachusetts, TPL found that, in the long run, towns that had protected the most land enjoyed the lowest tax rates. While every community is unique, the study concluded that open land typically provides more in taxes than it costs a town in services, unlike new residential development that results in long-term infrastructure costs such as schools, roads, and water and sewer systems. In addition, although commercial and industrial developments generally provide more in taxes than they directly cost the towns to service, the creation of jobs can lead to residential development that can mean more municipal costs. The study also concluded that the conservation of certain key parcels may influence the location and pattern of development, which may make the delivery of municipal services more efficient and less costly.¹

GLOSSARY OF CONSERVATION TERMS

Greenprinting A smart growth strategy that emphasizes land conservation to ensure quality of life, clean air and water, recreation, and economic health

Open space A broad term for land largely free of residential, commercial, and industrial development (including formerly developed brown-field sites) that can provide wildlife habitat, access to recreation, and scenic viewscapes

Greenways Corridors of open space that connect people and places, provide recreational opportunities, protect natural habitat, improve water quality, and reduce the impacts of flooding

Conservation land Open space with critical natural resources protected by federal, state, or local governments, land trusts, and conservation organizations

Parts of the section "How to Assess the Value of Open Space" are adapted from *Community Open Space: New Techniques for Acquisition and Financing*, developed by the Trust for Public Land and published in the MIS Report by the International City/County Management Association; co-editors are TPL's D. Ernest Cook and urban consultant William P. Ryan.



A purchase of development rights program is helping preserve working ranches in Custer County, Colorado.

The view that open space cannot pay for itself has been challenged in many communities where officials have discovered through fiscal-impact analyses that open space can enhance property values and generate tax revenues. Researchers in Boulder, Colorado, found that the aggregate property value for one neighborhood increased \$5.4 million with proximity to the greenbelt and resulted in \$500,000 of additional annual revenues.² The increase in property tax revenues alone could recover the initial costs of the \$1.5 million purchase price in just three years. And in California, San Francisco's Golden Gate Park increases the value of nearby property from \$500 million to \$1 billion, in the process generating \$5 million to \$10 million in annual property taxes.³

The protection of the nation's farms and ranches, often referred to as "working landscapes," is also crucial to many local economies. Even though they also have value as developable land, their highest economic use derives from their long-term productivity as farms and ranches. By demanding less in tax-supported services than they contribute, farms and ranches also help keep taxes lower. In fact, the American Farmland Trust determined that farm and forestland provide a

fiscal surplus for local governments (every dollar in revenue requires \$0.36 in services), whereas residential development results in a fiscal loss (every dollar in revenues requires \$1.15 in services).⁴ That is the case in Hays County, Texas, where farms, ranches, and open lands generate three times more in tax revenues than they receive in public services.⁵

Certainly, some of the quality-of-life benefits of open space can be difficult to measure. And the methods of analyzing fiscal impacts can vary significantly in sophistication and reliability. In their study of the economic value of open space, Charles J. Fausold and Robert J. Lillieholm of the Lincoln Institute of Land Policy caution that fiscal-impact analysis "will not by itself answer the question of whether a particular piece of land should be preserved as open space or developed. However, it can help frame the discussion and lead to more informed decisions by policymakers, conservationists, and the public."⁶

- ◆ **Consider the benefits to the economy.** Owners of small companies rank recreation, parks, and open space as the highest priorities in choosing a new location for their businesses.⁷ Corporate CEOs are not far

behind, listing quality of life for employees as the third most important factor in locating a business, behind access to domestic markets and the availability of skilled labor.⁸ Communities that use land conservation and other smart growth measures to guide growth can realize additional benefits: real estate industry analysts predict that over the next 25 years, property values will rise fastest in the communities that incorporate the characteristics of traditional cities such as a concentration of amenities, an integration of residential and commercial districts, and a “pedestrian-friendly configuration.” The analysis concludes that “... there is no greater risk to land values than unrestrained development.”⁹

The economic benefits of conservation investments are being felt in communities across the country. In Dunedin, Florida, store vacancy rates dropped from 35 percent to zero after the Pinellas Trail was built through town in 1990.¹⁰ The economic revival in the city of Pueblo, Colorado, has been attributed in part to a new system of trails and parks along the banks of the Arkansas River and Fountain Creek. And the RiverWalk, a recreational open space in

**THE NATIONAL ASSOCIATION OF COUNTY
PARK AND RECREATION OFFICIALS
(NACPRO)**

**Organization Provides Support
for Local County Park Professionals**

NACPRO is an independent organization, affiliated with the National Association of Counties, that serves county park administrators and professionals throughout the United States. NACPRO provides technical assistance to park and recreational professionals, information about national trends, policies and funding, news and reports from county park systems, and networking opportunities. Members can also post Request for Information items on the Information Kiosk page of the NACPRO web site. For more information, check the NACPRO web site at www.nacpro.org.

San Antonio, Texas, is now the state's second most important tourist attraction (after the Alamo), generating an estimated \$1.2 billion for area businesses each year.

- ◆ **Consider the benefits to the community.** In an increasing number of communities, people are working together to create and protect neighborhood gardens, playgrounds, suburban parks, rural farmlands, and vast wilderness areas. The conservation process itself unites people and helps them define their heritage, community values, and sense of place. And the protected places come to symbolize the power of citizen participation in strengthening neighborhoods and building community. “Land conservation takes us out of our private lives to accomplish something greater for ourselves and our neighbors” writes TPL Fellow Peter Forbes. “To say ‘this is my home and I care about it enough to protect it’ is the essence of citizenship, and to act on such words moves us from isolation to community.”¹¹

Parks and recreational programs can also help stabilize and revitalize distressed neighborhoods, stimulate commercial growth, and provide adolescents with constructive alternatives to antisocial behavior. As far back as 1967, the National Advisory Commission on Civil Disorders highlighted the link between urban violence and the scarcity of parks and recreational programs. In a 1992 Carnegie Corporation study of youth at risk, urban adolescents listed safe parks and recreation centers and chances to go camping and participate in sports among their top choices for “what they wanted most during their nonschool hours.” And a year later, after the 1992 unrest in Los Angeles, residents of the four areas most affected saw youth services and parks as the most pressing needs of their neighborhood—ahead of banks and new businesses. In a survey by Rebuild L.A., 77 percent of those asked named parks, recreation facilities, and sports programs as “absolutely critical” or “important” needs.¹²

**THE FACTS****Location:**

Pittsford, New York

Type: Rural, suburban**Population:** 27,219**Area:** 24 square miles**Local Official Contact:**William A. Carpenter,
town supervisor**Address:**Pittsford Town Hall
11 South Main Street
Pittsford, NY 14534**Phone:** (585) 248-6220**Fax:** (585) 248-6247**Web Site:**www.townofpittsford.com**Email:** bcarpenter@townofpittsford.com**Consultant:**John J. Behan AICP,
planning consultant,
Behan Planning Associates**Phone:**

(518) 583-4335

Email:jbehan@behanplanning.com**Pittsford, New York, Designs Model Greenprinting Initiative**

Quiet farming community or sprawling suburb? Residents of Pittsford, New York, understood clearly in which direction they were headed. As development pressure from neighboring Rochester transformed the town's agricultural landscapes and natural resources, town leaders and residents came together to change course.

Their efforts began with an intensive community visioning process in which protection of the town's character, including the agricultural and natural landscapes, was one of several identified goals. The town then updated its comprehensive plan to incorporate these goals, calling for the protection of 2,000 acres in the undeveloped portion of the community and identifying primary landuse strategies.

A year later, John Behan, the town's planning consultant, introduced the Greenprint for Pittsford's Future, a detailed proposal to protect threatened lands and steer growth based on the recommendations of the comprehensive plan. The greenprint establishes clearly defined goals and objectives, specifically outlining how much land should be protected, how much it will cost, and what sites are priorities for protection. The tools include a purchase-of-development-rights program, funded with \$10 million in bonds approved by the town board; incentive zoning; and mandatory clustering.

Pittsford leaders understood the value of open space and the costs of development. They also put forth a clear vision, a detailed strategy, and a yardstick by which to measure success—all the results of a public process that included more than 100 community meetings. A key to the community's success was the commissioning of a fiscal model to determine the costs of development versus the costs of land protection. "One noteworthy aspect of the fiscal impact model was its 'dynamic' capacity to predict future tax rates based upon the costs and revenues associated with future landuse patterns," says Behan. "The forecasting capability of the model became very important a few years later as an analytic tool for the comprehensive plan and greenprint."¹³ The town estimated that the greenprint would cost the average taxpayer \$1,400 more in property and school taxes over 20 years, whereas the cost to continue existing policies would be \$5,000. This analysis revealed to local leaders and residents that it would be less expensive to implement the greenprint plan than to allow development in the wrong places. ☺

- ◆ **Consider the health and environmental benefits.** Conserving open space is often the cheapest way to safeguard drinking water, clean the air, and achieve other public health and environmental goals. Protected forestlands help control erosion, rid the air of pollutants, and mitigate global warming by absorbing carbon dioxide and other greenhouse gases. Wetlands serve as wildlife habitat, absorb storm and flood water, and reduce pollutant and sediment loads in watershed runoff. And protected buffers

along rivers, lakes, streams, and reservoirs help preserve clean water that, in turn, generates profits from tourism and fisheries, and filters pollutants and nutrients from agricultural and residential runoff. In its 1991 study of watershed management, the American Water Works Association Research Foundation concluded, "The most effective way to ensure the long-term protection of water supplies is through land ownership by the water supplier and its cooperative jurisdictions."¹⁴

THE PRINCIPLES OF SMART GROWTH

THE FACTS

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Smart growth is development that boosts the economy, protects the environment, and enhances community vitality. Recognizing the need to support smart growth in communities across the country, the U.S. Environmental Protection Agency and members of the nonprofit, professional, historic preservation, development and real estate, and state and local government communities formed the Smart Growth Network in 1996. The network's first step was to develop the following ten smart growth principles—the defining characteristics of healthy, vibrant, and diverse communities:

1. create a range of housing opportunities and choices
2. create walkable neighborhoods
3. encourage community and stakeholder collaboration
4. foster distinctive, attractive areas with a strong sense of place
5. make development decisions predictable, fair, and cost effective
6. mix landuses
7. preserve open spaces, farmland, natural beauty, and critical environmental areas
8. provide a variety of transportation choices
9. strengthen and direct building toward existing communities
10. take advantage of compact building design

Applying Smart Growth Principles to Greenprinting

The Smart Growth Network helps communities put the 10 smart growth principles into practice. In its primer, *Getting to Smart Growth: 100 Policies for Implementation*, the organization outlines policies that range from formal legislative or regulatory efforts to informal plans and programs. The publication presents detailed policies for preserving open space, which can be integrated into the design of a greenprinting vision. The table below links steps in the greenprinting process to related smart growth policies:*

Greenprinting: Visioning Steps	Supporting Smart Growth Policies
Determine the Scope	<ul style="list-style-type: none">◆ Employ regional planning focus◆ Create a network of trails and existing public lands◆ Coordinate state, local, and federal activities and programs
Assess Public Priorities	<ul style="list-style-type: none">◆ Solicit public input◆ Consider community values
Inventory the Land	<ul style="list-style-type: none">◆ Design a process for information gathering and inventory of data◆ Create a GIS program that is flexible and easy to understand
Set Goals	<ul style="list-style-type: none">◆ Expand use of innovative financing tools◆ Adopt a green infrastructure plan◆ Blend innovative zoning with land conservation◆ Partner with private organizations◆ Use purchase-of-development-rights and transfer-of-development-rights to focus on private lands and working landscapes

* Each of these policies is described in more detail in *Getting to Smart Growth: 100 Policies for Implementation*. An electronic version of this document can be found at www.smartgrowth.org/pdf/gettosg.pdf.



Once an abandoned 19th century canal and rail line, New Haven, Connecticut's Farmington Canal Corridor is being converted into greenways and pedestrian pathways.

The link between landuse and the environment is one focus of the U.S. Senate's Smart Growth Task Force. A study by the General Accounting Office at the task force's request found that most states and localities do not assess the impacts of landuse on air and water quality or develop ways to reduce its negative effects. The report advises that the EPA and the Department of Transportation assist with these assessments and provide communities with financial, technical, and other support.¹⁵

- ◆ **Consider infrastructure benefits.** Considerable benefits can be gained by concentrating growth near areas of existing infrastructure while preserving key land and water resources. Many small communities throughout the country must contend with the "prevention or treatment" choice that New York City recently faced on a huge scale. The city is spending \$1.5 billion to protect 80,000 acres of its upstate watershed rather than spend \$8 billion on a water filtration plant that would cost \$300 million a year to operate.

Greenways that include bicycle paths and

walkways also provide benefits by expanding the community's transportation network. Federal transportation grants are now available in unprecedented amounts to encourage alternative transportation approaches, including greenways.

- ◆ **Consider the flood prevention benefits.** Flood-prone communities will tell you that it is easier and cheaper to rehabilitate flood-damaged ballfields, playgrounds, or greenways than it is to rebuild flood-damaged housing or commercial districts. City officials in Lenexa, Kansas, understood this and implemented their innovative Rain-into-Recreation program, a series of natural, parklike detention basins connected by greenway corridors that filter water after heavy rains and provide recreational opportunities when dry.

How to Facilitate the Visioning Process

WHY THIS IS IMPORTANT:

What special places define your community? Where do conservation and growth make sense? What is the public's vision for the community's future? This section outlines the steps for creating a conservation vision, one reflective of public priorities and grounded in sound public policy.

A successful greenprinting program reflects people's vision for their community and defines their place in relationship to the land. Greenprinting also relies on scientific analysis of environmental and natural resource systems to identify a community's most important land and water resources. In this way, the greenprinting vision melds public priorities with sound public policy.

Executed effectively, greenprinting is also part of a strategic planning process that accommodates sensible growth and meets multiple planning challenges. Conservation should be an early and integral part of planning for landuse, transportation, water services, and so on—a long-term process put into motion well ahead of development. Through brownfield redevelopment, conservation can also help revitalize cities and stem the loss of open space beyond municipal borders.

While every community is unique, there are common ingredients in the design of almost any greenprinting vision.

- ◆ To begin, determine the scope of the vision and how it fits into the community's existing landuse, park, and conservation plans.
- ◆ Next, a careful assessment of public priorities is critical to the design of a vision that can secure public and political support.
- ◆ In addition, an inventory and maps of the land help stakeholders determine where conservation and growth make the most sense.
- ◆ Finally, it is important to establish preservation goals and targets that reflect these priorities.

Throughout the process, it is critical to coordinate local efforts with planning and conservation initiatives in other jurisdictions (federal, state, regional, local), the private sector, and the nonprofit conservation community. There are many potential partners and significant resources available to support greenprinting that should be utilized during each step of the process.

DETERMINE THE SCOPE

The pressures of growth and development, the loss of treasured open space, and a deterioration of local character can motivate a community to design a greenprinting vision. The size and scope of the vision depends on a variety of factors, including a community's financial and human resources, and existing landuse, development, and open space plans.

Is recreation, water quality, or the linkage of wildlife corridors a top priority? A community's conservation goals will also determine the types and level of commitment required. And urban, suburban, and rural communities will have unique challenges and perspectives that can shape local greenprinting efforts.

In some communities the greenprinting process leads local government leaders to reevaluate the core principles of their comprehensive plans or other planning documents and to integrate transportation planning, landuse planning, and zoning policies with land conservation. Protecting land then becomes one component in a larger effort to grow wisely and improve the overall quality of life in a community. In some cases such planning is

**THE FACTS****Location:**

Jacksonville/Duval County, Florida

Type:

Urban, suburban, natural areas

Population:

778,879 (2000)

Area: 774 square miles

Local Official Contact:

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Staff Contact:

Mark Middlebrook,
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www.coj.net/preserve/

A Sweeping Approach in Jacksonville, Florida

In January 1999, Mayor John Delaney, chief executive of consolidated Jacksonville/Duval County, Florida, unveiled the Preservation Project, quite possibly the nation's most ambitious land conservation program targeted at guiding growth and preserving access to nature. The goal of the five-year, \$312 million effort is to acquire for public use approximately 10 percent of Jacksonville's remaining developable land, between 10 and 20 square miles, while improving access to the St. John's River and other natural areas. Several dozen city parks will also be upgraded. The plan uses land conservation as a growth-management tool, targeting lands that are important in the effort to limit sprawl and contain growth. Other guiding principles include the preservation of environmentally sensitive lands, the protection of water quality and water resources, and expansion of public access.

The Preservation Project is part of the Better Jacksonville Plan, the mayor's comprehensive approach to growth management, transportation, the environment, and economic development. Delaney calls it the "plan for the century," explaining that a bold approach is needed to keep Jacksonville from falling behind in solving growth and quality-of-life problems. The plan, which was carefully designed over a year, is expected to cost around \$2.2 billion.

To fund the Better Jacksonville Plan, voters approved a half-cent increase in the county sales tax—to 7 cents per dollar, an average of \$6.75 for a family of four. Fifty million dollars of money raised will be directed to the Preservation Project, funds that will be supplemented with a variety of local, state, federal, and private funding sources.

Has Delaney's ambitious conservation program worked? The numbers tell the story: the city has acquired nearly 22,000 acres since the program was launched, doubling its inventory of park and open space in just three years. ☺

required: in 1985, Florida passed landmark growth management legislation that requires extensive comprehensive planning by every local government. Master plans for conservation, recreation, and open space must be completed to receive state preservation funds.

Communities that have successfully integrated their local land conservation visions with local and regional plans and approaches (voluntary and regulatory) are likely to achieve significant results. This inclusive approach to conservation is working across the country: in Portland, Oregon, the regional government is linking its transportation planning and park planning in an effort to acquire parkland around transit stations; in Louisville, Kentucky,

local officials are combining flood control planning with recreational greenways; and in Mecklenburg County, North Carolina, local leaders are acquiring land that protects Mountain Island Lake, the region's source for drinking water.

A regional approach may also be necessary to protect and connect waterways, open space corridors, wildlife habitat, and other natural lands. By looking beyond its borders, a community can create networks of open space that depend on natural ecological and recreational boundaries instead of jurisdictional limits. In an effort to curb sprawl that would increase city traffic and overcrowding, the city of Boulder, Colorado, purchased land in an adjoining

More than half a million people in metropolitan Charlotte, North Carolina, obtain their drinking water from Mountain Island Lake. Public and private partners throughout the region have designed a strategic plan for the protection of the watershed.



KEN SHERMAN

BEST PRACTICES

- ▶ Ensure that the greenprinting plan is integrated with other plans and policies that guide day-to-day actions.
- ▶ Consider whether professional assistance can facilitate the process.
- ▶ Don't start from scratch; build upon existing growth-management and open space plans.
- ▶ Target lands that protect critical natural areas or link existing green spaces.
- ▶ Keep acquisition targets general in public discussions to avoid speculation.

county that was slated for massive development. More frequently, communities work together to create a regional plan for growth and conservation. In the Kansas City metro region, local governments are working with the regional council to develop a vast network of trails and greenways to connect neighborhoods and unite communities on either side of the Missouri River.

With a thoughtful, comprehensive, and inclusive greenprinting process, a community can define a vision that integrates conservation with landuse, development, transportation, and other plans. However, good results have also been achieved by exclusively implementing an open space protection plan. In Hall County, Georgia, for example, community leaders have begun with green space planning and a strategy for protecting 20 percent of the county as open space. For some communities, this is the first step toward the design and integration of a comprehensive growth management plan.

ASSESS PUBLIC PRIORITIES

A careful assessment of community needs is fundamental to a successful plan. By creating an open and inclusive process, communities can help build consensus and reduce potential opposition to growth and conservation. Knowing that conservation of key lands is under way, developers understand their opportunities and

limits, and the public may be more willing to accommodate growth.¹⁶

This type of demands-based approach uses surveys and other community outreach activities to determine the public's recreational and landuse preferences. Professional polls can help inform community leaders about public conservation priorities, particularly in relation to other policy issues. Polls can also reveal how much money voters are willing to spend on conservation (see *Local Greenprinting for Growth Workbook Volume III: How to Secure Conservation Funds*, for more details). In Harris County, Texas, a telephone survey was a major component of a public-needs assessment used to design a parks master plan. Survey responses helped guide decisions about existing and future parks, recreation, open space, and natural lands.

An alternative, often more practical option, is an informal strategy that relies on free-form neighborhood meetings to solicit the community's views and ideas. In the St. Louis metro area, local leaders organized the region's largest community engagement effort to develop its St. Louis 2004 initiative, which includes a major land conservation component. And local leaders in Pittsford, New York, held more than 100 public meetings, workshops, and focus group sessions during the formation of their greenprinting vision (see the case study on page 13 for more details.)



THE FACTS

Location:

Grand Traverse County,
Michigan

Type:

Urban, suburban, rural

Population:

77,654 (2000)

Area:

466 square miles

Local Official Contact:

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County Parks Commission

Staff Contact:

Timothy Schreiner, director,
Parks and Recreation
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Land Information
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Contact:

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Public-Private Partnership Forged

Grand Traverse County, Michigan, is a small community with an ambitious conservation program. Located along the Lake Michigan shore, the county protected several significant properties over an 18-month period, including a 485-acre former dairy farm that provides an important linkage to state parkland and a riverfront parcel that will be home to a nature education center.

With the acquisition of these properties, the county moves closer to realizing its conservation vision—one that includes shoreline and open space protection, lakeshore access, and preservation of its farming heritage. Public participation was fundamental to the design of this vision through the parks and recreation master planning process. Among other techniques, the county relies heavily on public opinion polling to help assess residents' attitudes and opinions about parks, recreation, and conservation. Polling was also used to test support for a dedicated conservation funding source.

On the technical side, the county's conservation efforts were aided by Michigan's non-profit Land Information Access Association (LIAA). Grand Traverse County participated in a two-year project that was designed to help develop digital data about landuse and resource management and foster a greater understanding of the value and applications of GIS.

Through its Building a Sense of Place program, the LIAA also helps communities in Michigan, Minnesota, and Colorado assess growth and conservation priorities by encouraging people to participate directly in the visioning process. The LIAA uses the following five-step assessment process:

- ◆ *public relations*: public participation is encouraged and the goals and objectives of the program are explained to a broad range of community leaders, interest groups, and the public
- ◆ *citizen participation*: a citizens advisory committee is responsible for determining important cultural and natural features that can be mapped and documented
- ◆ *community discovery*: this process elicits public sentiment about the community and its special places using a variety of outreach exercises and public opinion polls
- ◆ *integrating information*: data from GIS maps, databases, photos, video clips, and other sources are integrated into a user-friendly computer application known as a *community information system* (CIS). This program provides the public—even those with no computer experience—with a tool to envision how their community should grow, allowing users to create and understand everything from community maps, master plans, and zoning ordinances to watershed and agricultural protection plans. It also allows users to submit opinions about potential projects. The program is designed both to expand and simplify a GIS, integrating computer data and electronic maps and allowing users to strategically target land according to natural features, types of lands, landowners, and other criteria. Most communities have made their CIS available through touch-screen kiosks, CD-ROMs, and the Internet through a "CIS-Community Center" web site.
- ◆ *technology transfer*: advisory committee members and other community leaders are trained in the CIS technology, including the ability to apply the CIS to landuse decisions.☺

Planners in Jefferson County, Colorado, took both approaches when they updated their Open Space Master Plan in 1998. Advisory committee members and staff from the Open Space Department were on hand at four public workshops to facilitate public review and comment. The meetings attracted more than 200 citizens. Written comments were accepted and a separate county-wide public opinion survey was conducted, yielding an additional 800 comments. This process helped planners and advisory committee members determine the overall level of support and the highest priorities for the program.

To keep residents informed about the conservation process, the Park and Open Space Department in Boulder County, Colorado, regularly produces a tabloid-style newsletter. *Open Space: An Owner's Guide* includes such information as the

history of the program, an analysis of the economic benefits of agriculture, information about land management, and maps of protected land. The publication is distributed as an insert in the county's main daily and weekly newspapers.

INVENTORY NATURAL AND CULTURAL RESOURCES

A sound conservation vision requires an understanding of the land—what exists and what is threatened. Conducting an inventory of natural and cultural resources is essential. In fact, an inventory is a tool used throughout the greenprinting process, helping stakeholders define a conservation vision, target protection areas, identify potential properties for acquisition, and manage land.

Through inventories and evaluations, counties can target land that provides substantial natural or cultural value—a resource-based approach to greenprinting. The types of information gathered for an inventory can vary depending on the needs of the community. For instance, a parks inventory may describe existing parks, average sizes and service areas, and typical uses—everything from the number of basketball courts to the availability of picnic tables. The process of inventorying natural habitats may involve reviewing aerial photographs, topographic maps, soil maps and geological maps, gathering landownership information, and performing ground surveys. An inventory of cultural resources may look at places that provide a sense of history and meaning for people, such as historic or archaeological sites and aesthetic resources. Overall, it is wise to consider such issues as landownership, protected areas, wildlife corridors, existing infrastructure, floodplains, shorelands, wetlands, groundwater-recharge areas, and prime agricultural areas.

An end product of an inventory, maps are a fundamental piece of a greenprinting plan. A geographic information system (GIS) is a computer-based tool for mapping and analyzing land. It can show land areas permanently protected, temporarily protected, or vulnerable to development, and provide overlays that demonstrate the interrelationship among natural resources, open lands, and the community.

HOW TO ASSESS PUBLIC PRIORITIES: COMMON COMMUNICATIONS TOOLS

A variety of tools and techniques can be used to help local leaders solicit public input and gauge public sentiment, inform the community about greenprinting progress, and ultimately reach consensus about conservation among stakeholders and the public.

- ◆ Public opinion polls: costly yet highly effective at gauging public opinion
- ◆ Focus groups: often conducted in conjunction with a poll to understand issues in greater depth
- ◆ Written surveys or comments: can be part of the formal, scientific polling process or a more open-ended, information-gathering exercise
- ◆ Community meetings, public forums, workshops: these provide an opportunity for local leaders to hear directly from residents, can range from informal workshops and community meetings to formal public hearings
- ◆ Interactive web sites or kiosks: allows for ongoing comments and discussions; useful way to convey considerable information about greenprinting, including maps, photos, goals, and so on; personal computer access may not be available to all residents
- ◆ Maps, newsletters, and brochures to residents and in public places: allows for comprehensive distribution of information fairly simply
- ◆ Press coverage: newspaper, radio, and television, including news stories, editorials, op-eds, letters to the editor; objective, timely dissemination of information about greenprinting but less control of the message

COMMONLY PROTECTED LAND AND WATER RESOURCES

In which areas should a community grow and which lands should it protect? Greenprinting is about making smart choices. While every community has unique greenprinting goals and challenges, there are some general guidelines for determining where protection and growth make the most sense.

Type of Land*		Conservation Objective
Natural hazards	Floodplains	<ul style="list-style-type: none"> • Prevent development in areas prone to flooding, landslides, fire, and other natural hazards • Maintain natural storm water runoff and absorption areas • Protect water quality • Provide greenways and other recreational lands
Critical or sensitive lands	Wetlands, water bodies, aquifer-recharge areas	<ul style="list-style-type: none"> • Protect drinking water quality • Preserve wetlands • Preserve surface-water quality with buffers along rivers, streams, and lakes • Provide access to public lakes, streams, rivers, and other usable open space • Manage commercial fisheries
	Wildlife habitat and corridors	<ul style="list-style-type: none"> • Preserve fish and wildlife habitat, including habitat of threatened or endangered species • Manage game species
	Ecologically significant lands	<ul style="list-style-type: none"> • Preserve habitats for threatened or endangered plants and animals
	Riparian buffer zones	<ul style="list-style-type: none"> • Protect drinking water quality
Agricultural, forest, scenic preservation	Prime agricultural and ranching lands	<ul style="list-style-type: none"> • Help a community maintain its agricultural and ranching economy and heritage
	Productive forests	<ul style="list-style-type: none"> • Support sound forestry policies that support the local economy
	Scenic vistas	<ul style="list-style-type: none"> • Preserve scenic vistas and area of visual beauty • Enhance the economy by increasing tourism and investment
Recreation	Trails	<ul style="list-style-type: none"> • Develop a multiuse trail system that links open space and parks • Provide active and passive outdoor recreational opportunities for residents and visitors
	Parks, greenways, waterfronts	<ul style="list-style-type: none"> • Stimulate economic, community, and neighborhood revitalizations through conservation and parks • Provide recreational opportunities
Historic preservation	Historic or archaeological sites	<ul style="list-style-type: none"> • Protect and interpret historically important cultural resources and facilities located on open space • Provide natural-resource educational opportunities
Revitalization	Brownfield sites	<ul style="list-style-type: none"> • Promote the reuse of formerly developed sites through brownfield remediation • Stimulate economic, community, and neighborhood revitalization through conservation
Community design	Land adjacent to permanent open space	<ul style="list-style-type: none"> • Limit sprawl between counties, cities, and towns • Preserve the character of communities and enhance neighborhood, community, and cultural identity

*Source: American Planning Association's Growing Smart program; www.planning.org.

CONSERVATION PRIORITIES RANKED

Public opinion polls over the past several decades have shown consistently high, nonpartisan support for conservation. This support was confirmed in a 1999 national poll conducted by TPL that ranked open space protection even with education. The nationwide survey of 800 registered voters revealed particularly strong support for water protection, both drinking water and the quality of lakes, streams, and rivers.

In 2001, TPL compiled the results from 18 of its public opinion polls from states, counties, and cities across the country. This study also revealed overwhelmingly high support for the protection of water quality. Preservation of wildlife habitat, farmland, and forestlands that improve air quality were also top priorities.

1999 Survey Question: How important is each of the following a reason for local communities to buy land and protect it from development?

Use of Conservation Funds	Very or Somewhat Important
1. To protect our drinking water	94%
2. To preserve our quality of life	91%
3. To improve the water quality in our lakes, streams, and rivers	91%
4. To protect natural areas that provide opportunities for kids to learn about the environment	89%
5. To preserve forests and plant more trees to improve air quality	88%
6. To make sure we leave a legacy of parks, open spaces, and natural lands for our children and grandchildren	88%
7. To make communities more livable	88%
8. To create parks and other places where children can play safely	88%
9. To provide recreational opportunities that keep kids away from gangs and drugs	87%
10. To provide habitats critical to wildlife	86%
11. To protect historic and cultural sites	85%
12. To improve access to parks and natural lands for the disabled	85%
13. To revitalize cities and older suburbs, making them more attractive places to live	84%
14. To create neighborhood parks and recreation areas	84%
15. To uphold our moral responsibility to protect the land and open spaces of this country	83%
16. To improve public access to parks and natural lands	82%
17. To preserve the special land and places that make each of our communities unique	82%
18. To preserve and protect the open spaces that are important to the human spirit and to our sense of community	81%
19. To enhance flood-control efforts	80%
20. To protect farm- and ranchland from being used for commercial and residential development instead of agriculture	80%
21. To provide community trails and greenways	79%
22. To protect the special places that define our communities' character	78%
23. To provide a place to get away that is not too far away	77%
24. To reduce sprawl	73%
25. To help spur urban revival by attracting businesses to our cities and towns	73%
26. To avoid new taxes that are required to pay for building the new roads, schools, and sewers associated with new growth and development outside existing neighborhoods	68%

Specifically, a GIS can map natural features such as topography, vegetation, soils, wildlife and riparian areas, and cultural or man-made characteristics such as landuse, growth patterns, protected areas, or property values.¹⁷ Decision makers can integrate and analyze these maps, design conservation strategies, and prioritize land accordingly. Maps and aerial photographs can also help inform the public about conservation issues and growth patterns. (GIS maps can also be used to monitor and manage protected land. More details on this process are found in *Local Greenprinting for Growth Workbook, Volume IV: How to Acquire and Manage Park and Conservation Lands.*)

There are several components to a GIS: computer hardware and software, data (geographic, demographic, topographic, etc.), a mapping methodology, and the people to manage the process.¹⁸ Costs will vary widely depending on the size and scope of the project. Partnerships with governmental entities, planning agencies, independent GIS consultants, universities, and nonprofit land trusts can help.

In Long Island's Suffolk County, an inventory and an analysis, including a GIS, were essential in developing the county's agricultural protection plan. The analysis compared farmland in 1968 and 1996, with most recent figures gathered from assessor's records, aerial photographs, and field surveys. This information provided planners with data to define goals and measure progress. With 652 acres of farmland lost each year, the county hopes to protect 20,000 of the remaining 31,000 acres. The county now maintains its own in-house cartographic and GIS section, providing mapping assistance to county departments, agencies, towns, and villages.

DEFINE GOALS

A greenprinting vision requires a set of clearly defined and realistic land conservation goals that reflect public priorities and target a community's most important natural, cultural, and historic features. These goals can address a variety of interrelated conservation and smart growth issues. For example, a greenprinting plan may aim to protect natural resources such as water sources, fish and wildlife habitats, and

agricultural and forestlands. A plan may be designed to protect open lands for their broader contributions to the community, including recreational benefits, visual beauty, psychological benefits, and historic significance. It also may attempt to educate the public about natural resource protection or historically important cultural resources.

Keep in mind that the goals of a program need not be limited to land conservation or resource protection. In a broader sense, the protection of land and waterways may also serve to revitalize entire neighborhoods and the local economy. In Miami, for instance, TPL worked with local leaders and community development and land conservation specialists to develop a plan for creating the Miami River Greenway. This plan seeks to spur economic development, revitalize and celebrate the multicultural diversity of adjacent neighborhoods, restore water quality throughout the river ecosystem, sustain “working rivers” industries, and foster an ethic of stewardship.

Previously developed land can also be turned into parkland. Brownfields are abandoned properties that may contain contamination from past industrial or commercial use, including former factories, warehouses, industrial complexes, landfills, and transportation facilities. These sites can be safely redeveloped as parks, residential communities, and commercial centers, a process that can help revitalize cities and protect open space in outlying areas. In fact, a George Washington University study concluded that for every acre of brownfield redevelopment, 4.5 acres of open space are preserved. Grants and technical support from the EPA can help local communities through the process.¹⁹

SET TARGETS

Broadly defined goals should be accompanied by specific conservation targets. These define how much and which lands are needed to meet a community’s recreational goals, preserve an ecosystem or aquifer-recharge area, protect threatened species, and so on.

Some communities identify specific properties during the visioning process and name

them in their open space plan. Others establish general protection areas, identifying properties once funding and a plan are secured (see *Local Greenprinting for Growth Workbook, Volume IV: How to Acquire and Manage Park and Conservation Lands* for more information). Whatever the approach, potential lands are typically prioritized according to acquisition criteria. Land acquisition criteria should reflect a community’s unique greenprinting goals. For instance, criteria for a farmland preservation program may include soil classifications or crop yields, farm size and strategic location, easement price, and scenic attributes.²⁰ If the goal is water quality protection, criteria may include the avoidance of non-point source pollution through buffer zones, the protection of stream segments, and the restoration of natural hydrology and wetland linkages.²¹

In addition to these types of specific criteria, some general criteria may be universally important to consider:

- ◆ **Location.** Is the land within a targeted acquisition area? Does the property serve as an extension or linkage to protected open space or farmland?
- ◆ **Financial status.** Is there a financial incentive, such as a cost share, installment purchase, bargain sale, partial donation, conservation easement, and so on?
- ◆ **Development pressure.** Is the land in imminent danger of development? Is the parcel large enough to reasonably expect it to contribute to urban sprawl?
- ◆ **Public support.** Does the acquisition of the parcel have widespread support? Will the property benefit more than one neighborhood or the jurisdiction at large?
- ◆ **Landowner status.** Is the landowner willing to negotiate the sale of his/her property?

In some communities, criteria for the acquisition of land and conservation easements takes the form of detailed ranking factors or a numeric points system. According to conservation expert Eugene Duvernoy, this objective approach may help to secure public acceptance of the results. Yet it may also be difficult to capture



THE FACTS

Location:

New Castle County, Delaware

Type: Urban, suburban

Population: 500,265 (2000)

Area: 426 square miles

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Strategy Blends Conservation and Regulation

“What do we really want New Castle County to become?” That was the question that local leaders in the fast-growing Delaware county posed to the community when they updated their comprehensive development plan. After two years of information gathering and planning, the 2002 update provides a developmental road map that steers a course toward more livable and sensible growth.

Throughout the planning process, the county used a variety of forums to solicit input from residents, community groups, and neighboring jurisdictions. These included “issue-gathering meetings” with state and regional agencies and community and special-interest groups; a series of public meetings; a citizen survey by the Department of Land Use; and the solicitation of comments from adjacent county and municipal governments in Pennsylvania, Maryland, and Delaware. In its survey, the county found that top priorities included the protection of endangered species and biodiversity, and the preservation of farmland and historic resources.

From the comprehensive plan came a conservation strategy. This contains a complete inventory of the county’s natural resources and strategies for their protection. One intent of the conservation strategy is to interpret and clarify natural-resource regulations contained in the county code (many of which have been revised to exceed state regulations), and to expand efforts to protect floodplains, wetlands, riparian buffers, and water-recharge areas. The county has also imposed new conservation design standards within developments to manage storm water more effectively.

While the county takes a strong regulatory approach to resource protection, local leaders also understand that increasingly restrictive regulations will face increasing scrutiny from property owners. As a result, voluntary land protection efforts are being expanded. Specifically, the county is forging new partnerships with state and local land trusts, creating a process by which to prioritize and acquire key properties, and exploring new ways to fund these acquisitions. Financing options include an open space matching fund that accepts contributions in lieu of open space set-asides required during the development process. To increase parklands, the county proposes spending \$22 million for the development and purchase of land for new local and regional parks through 2007. Alternatives to fee-simple acquisition are also being explored, including the purchase of development rights, tax abatement strategies, impact fees, and donations.

Voluntary or regulatory, the county takes a strategic approach to natural resource protection that strives to create an interconnected network of open space, biodiversity corridors, and environmental resources. The county acknowledges that landuse regulation, land acquisition, and open space preservation and easement strategies for the state, private organizations, and the county must be coordinated through a focused effort to identify and protect key links in the existing patchwork of protected resources. ☺

the unique characteristics and subtle differences in the evaluation of properties. Alternatively, more general and subjective selection criteria may produce a more realistic and complete consideration of property than is possible with numeric criteria. This approach, which typically depends on the judgment of a citizens advisory committee, may also be more subject to argument and debate.²²

In Santa Fe County, New Mexico, local leaders established different levels of criteria for their greenprinting plan. For a property to be considered it must first meet threshold criteria (land that is located in the county, provides a public benefit, has a willing seller, and so on). The next level is general criteria, which include financial considerations and community benefits. Finally, the land must be evaluated based on specific criteria such as the protection of natural areas or expansion of trails.

Long Island's Suffolk County has several conservation programs in place, each with its own set of criteria. For instance, potential farmland conservation easements are evaluated by such criteria as soils, developmental pressure, contiguity, and vistas. The open space protection program gives priority ranking to natural and undisturbed areas linked to public land. And highest consideration for protection by the drinking water program is given to lands that contain deep flow recharge areas, lie close to groundwater divide and existing well sites, and serve as the source to the local groundwater aquifer.

Conservation partners can help with the targeting process. If water quality protection is a goal, the Environmental Protection Agency, state environment and natural resource agencies, nongovernmental watershed groups,

water suppliers, and private consulting firms can help target wetlands, aquifer-recharge areas, riparian buffers, and water bodies. These partners, along with TPL and local land trusts, can help with the protection of natural resources. The American Farmland Trust can assist in setting farm- and ranchland preservation targets. And counties, cities, and towns may also work together to identify lands and coordinate land acquisition priorities. (See the table on page 26 for more information about these resources.)

If the goals are park and recreation oriented, the National Recreation and Park Association (NRPA) can help define the land needs. The NRPA's approach has evolved over the years: rather than rely on an absolute standards-based approach (10 acres per 1,000 residents), local needs and goals are considered. The organization has also developed a procedure for calculating an empirically sound level of service standard and provides professional guidance for setting up a diversified and balanced community park, recreation, and open space system.²³

The Park, Recreation, and Open Space master plan in Harris County, Texas, defines a standard of 20 acres per 1,000 population. Based on this figure, planners calculated a land deficit of 1,780 acres by the year 2005. The county then defined acquisition zones and set a priority for each zone depending on development pressure in that area. A five-year, \$60 million capital improvement proposal was designed, 25 percent of which was targeted just for land acquisition. That amount was approved by the voters in November 1999, becoming the largest park bond issue ever for Harris County.

"I've worked on landuse issues in my own county and in counties across the country, and I've seen the value of a comprehensive, public decision-making process. In the end, a community can create a shared vision that balances the pressures of growth with the need for conservation."

*Robert S. Weiner,
councilman, New Castle
County, Delaware*

SETTING TARGETS AND CREATING CRITERIA: WHO CAN HELP

TPL and NACo have formed a partnership to help local communities use land conservation to guide growth and preserve the character of their community. Both organizations are committed to providing technical assistance to local governments. In addition, the organizations presented here can help communities define and reach specific greenprinting goals.

	Historic preservation	Community forestry	Parks & recreation	Habitats & wildlife	Clean water	Open space smart growth	Trails & greenways	Working landscapes	Revitalization & brownfield remediation
National Recreation & Park Association			X				X		X
Environmental Protection Agency					X	X			X
American Farmland Trust						X		X	
Land Trust Alliance				X	X	X	X	X	
U.S. Forest Service		X			X			X	
National Trust Historic Preservation	X					X			X
The Nature Conservancy				X	X	X			
The Conservation Fund				X	X	X	X		
Ducks Unlimited				X	X				
River Network					X		X		

**THE FACTS****Location:**

Dane County, Wisconsin

Type:

Urban, suburban, rural

Population:

426,526 (2000)

Area:

1,202 square miles

Local Official Contact:Brett Hulsey,
county commissioner**Staff Contact:**Ken Lepine,
Parks Department
James Arts,
County Executive Office**Address:**210 Martin Luther King Jr. Blvd.
Madison, WI 53709**Phone:**

(608) 266-5758

Fax: (608) 266-4361**Web Site:**<http://www.co.dane.wi.us/>**Open Space and Farmland Protection in Dane County, Wisconsin**

Picturesque Dane County, Wisconsin, includes rolling hillsides, productive dairy farms, scenic lakes, and thriving Madison—the state capital and home of the main campus of the state university. Yet the county's landscape and natural resources are being threatened by accelerating growth and new development.

As a result, land conservation and smart growth have been at the forefront of local public-policy debate for some time. In 1970, Dane County adopted its first parks and open space plan, providing a guide for acquisition and development of open space and giving the county access to federal and state funding sources. Since then, numerous landuse, water quality, and natural resource protection plans have followed, each building on the last, refining goals, and honing strategies. This process continues as county leaders regularly update their park plan and implement their most ambitious and comprehensive growth-management effort to date: Design Dane!

Design Dane! was proposed by County Executive Kathleen Falk, who developed the plan after a year of public meetings and intergovernmental outreach. The bold plan offers growth-management proposals for a wide range of issues, including community redevelopment and transportation planning. But at the heart of the plan is the preservation of open space. Already, a major component—a \$30 million land conservation funding measure—passed with overwhelming voter support.

The groundwork for these successful initiatives was laid early. Local officials undertook a comprehensive inventory of the land to help them better identify and understand existing natural resources, recreational opportunities, and open space. One result was a book that consolidates existing maps and data into a user-friendly format. The book was designed for landowners, developers, planners, and other local government officials as they make development and conservation decisions; natural features such as floodplains, shorelands, wetlands, environmental corridors, steep slopes, hilltops, groundwater-recharge areas, prime agricultural soils, and woodlands are identified. The county relied on GIS mapping to prepare the book, which was made available to towns in digital and hard-copy formats.

Dane County officials have also developed a three-pronged needs analysis to help assess the demand for various types of land, including parks, recreation, and open space.

- ◆ The demands-based approach uses surveys to determine which recreational activities people participate in and what types they would most like available in the future.
- ◆ The resource-based approach identifies where parks and resource areas would be appropriate based on physical and natural features. Areas are selected because of their unique resource values and their importance to the residents of the county. Planners relied on the inventory to identify existing natural features, which in turn helped them target 9,000 acres for protection.
- ◆ The standards-based approach correlates the quantity of facilities provided to the population served (the traditional method of determining demand used by most park departments across the country). The county acknowledges, however, that the standards are most useful in determining the service area for park facilities and may not always be useful for the county's resource protection areas.®



THE FACTS

Location:

Ocean County, New Jersey

Type:

Town, suburban, natural areas

Population:

510,916 (2000)

Area:

636 square miles

Local Official Contact:

John Bartlett, county freeholder

Staff Contact:

Dave McKeon,
Department of Planning

Address:

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101 Hooper Avenue
Toms River, NJ 08754-2191

Phone:

(732) 244-2121

Fax: (732) 506-1918

Web Site:

<http://www.co.ocean.nj.us/planning>

Email address:

dmkeon@OCPlanning.co.
ocean.nj.us

Preserving Ocean County, New Jersey's Barnegat Bay

With a regional watershed, an abundance of wetlands and wildlife, and a web of streams that winds through picturesque pinelands and bayfront properties, Ocean County's Barnegat Bay holds a special place in the hearts of many New Jerseyans. But the county's natural beauty and resources have been threatened by growth—the fastest in New Jersey for the last several decades. Understandably, this growth has threatened farmland, wildlife habitat, and drinking-water recharge areas. Although direct discharges to the bay were addressed by a regional sewer system, the delicate balance of this 40-mile shallow estuary was still threatened by nonpoint source pollution.

Hoping to hasten the land conservation and watershed protection process, the Trust for Public Land produced the *Century Plan—A Study of One Hundred Conservation Sites in the Barnegat Bay*—in effect a greenprint vision for the region. The 1995 report inventoried natural resources and prioritized parcels for preservation based primarily on watershed, habitat, and recreational values. The document also served to educate the public about the importance of land acquisition and watershed protection and to provide information about private and public funding sources. As a follow-up, in 1997 TPL produced *Beyond the Century Plan—Biological Studies and Land Conservation of the Barnegat Bay Watershed*. This report summarizes more recent scientific studies and helps further prioritize land acquisition efforts for the region's many stakeholders—the county and its municipalities, the state, and conservation organizations.

The well-regarded Century Plan—along with rapid development, regulatory program conflicts, and limited conservation funds—led to the creation of the county's Natural Land Trust Fund Program in 1997, which is funded with a voter-approved property tax increase. The program generates approximately \$5 million annually and can be used for the purchase of natural lands, restoration of impaired areas, and the preservation of farmlands. In addition, local funds give the county the ability to seek important matching funds from the state's Green Acres Program.

The county's legislative body, the Board of Chosen Freeholders, established an advisory committee to help implement the required open space plan, which was subsequently adopted in September 1998. The Natural Lands Advisory Committee developed general guidelines for considering properties for preservation. The goals of the open space plan include the protection of stream corridors, recharge areas, well-head protection areas, natural lands, agricultural lands, and buffer areas. Protected land remains primarily in its natural state—only passive, low-intensity activities are permitted. The Trust for Public Land participated in the acquisition of several of the properties preserved under the program.®

How to Provide Leadership, Facilitate Partnerships, and Encourage Public Participation

Local leadership, public participation, and public-private partnerships are hallmarks of a successful greenprinting program. Elected officials and other community leaders can facilitate the greenprinting process, provide forums for broad community discussion, and demonstrate how conservation can be used as a tool for shaping growth and protecting quality of life. Local leaders can also forge partnerships with stakeholders outside government, particularly private land trusts that can help with everything from visioning to land transactions to land management. It takes a tremendous amount of effort and expertise to design and implement a greenprinting vision, and these partnerships can be invaluable.

PROVIDE LEADERSHIP

Leadership is required to facilitate the visioning process, create opportunities for public participation, inform the public about the benefits of conservation, and secure political and public support. In Jacksonville, Florida, leadership came from Mayor John Delaney, who in 1999 designed and launched one of the nation's most ambitious greenprints—The Preservation Project (see the case study on page 17 for more information). In Santa Fe County, New Mexico, Commissioner Javier Gonzales paved the way for two successful conservation bonds in two years and a conservation vision that encompasses mountains, wildlife, and historic sites.

In other cases, greenprints evolve from the grassroots or through local partnerships, as residents, community groups, nonprofit part-

ners, regional government associations, and other stakeholders work with local government to design a vision and protect the land.

PUBLIC PARTICIPATION

Find successful greenprinting and you'll find a broad group of people who are involved in the land conservation process. Motivated by the changing landscape and character of their communities, these individuals and groups can help create a program, steer its direction, and oversee its implementation.

Public participation can be especially important during the visioning process, helping to ensure that the vision reflects a community's conservation priorities and secures public support. Community outreach efforts can also help inform people about the benefits of conservation and its use as a tool for steering growth and preserving quality of life.

Potential forums for public participation include polling and focus groups, public hearings and workshops, and task forces and advisory committees. An informal, community-led task force can help kick off the greenprinting process, launching goal setting and public outreach efforts. In the Kansas City metro area, a regional government association, the Mid-America Regional Council, is spearheading an effort to create a vast network of trails and greenways, providing coordination and planning services on behalf of local communities. At its side is a task force of community leaders who help guide the planning and outreach effort.

WHY THIS IS IMPORTANT: Why do some plans set the course for a community's growth while others gather dust on the shelves? Leadership, partnerships, and public participation are the keys. With these ingredients, a greenprinting plan can secure the public support and momentum it needs to realize a community's conservation vision.

The land conservation plan in Santa Fe County, New Mexico, calls for the preservation of historic and cultural sites. This protected property lies behind the Santuario de Chimayo, a sacred chapel that is visited by thousands every year.



DON USNER

BEST PRACTICES

- ▶ Look beyond the conservation community to include a broad base of leadership from business, agriculture, and neighborhood groups.
- ▶ Ensure that real “opinion makers” back the new thinking.
- ▶ Design a process that encourages public participation and responds to the concerns of all interested parties—be they environmentalists or developers.
- ▶ Use polling, focus groups, and community outreach to gauge public opinion about land conservation and other local priorities.
- ▶ Incorporate input, provide leadership, and communicate the greenprint vision clearly.

As the process evolves, a formal citizens advisory committee may also be needed. These committees can play a variety of roles, helping oversee the design and implementation of a greenprint while providing important links between local government staff, the legislative body, and the public.

Carefully consider the composition and structure of the task force or advisory committee and the responsibilities of the members. And keep in mind that every advisory committee is unique—what’s important is to structure a committee that can help local government officials and the public define and reach their greenprinting goals.

- ◆ *Composition.* Successful committees reflect a community’s diversity—geographic, economic, ethnic, racial, gender, and special interests—and public and political sentiment. Some committees include elected officials and public agency staff, while others are reserved for civic leaders outside government such as farmers, developers, businesspeople, community advocates, and people involved in historic, farmland, natural-resource, and open space protection. Finding the correct balance—one that represents the diversity of the community and complements the structure of the program—is essential.

Committee appointments are typically made by the local government’s legislative body or chief executive. (Task forces may also be created in a more ad hoc manner.) Written nominations and/or applications can be submitted to the elected body for consideration; sometimes support letters from a city or town are also required.

To ensure geographic and political diversity, some communities appoint representatives from each political district. Appointments can be voted on by the entire elected body, or individual representatives can select members from their own district. In Douglas County, Colorado, the advisory committee is composed of three representatives of municipalities within the county (selected from lists of nominees submitted by the municipalities), three representatives of the county (one from each district), and three members appointed at large. At least one of the at-large members must be a county planning commission member and one a professional land planner.

- ◆ *Structure.* Advisory committees range in size from fewer than 10 to as many as 60 members with a variety of subcommittees. Alternates are often appointed as well. The length of terms and administrative rules that govern



BOB FIRTH

THE FACTS**Location:**

Miami-Dade County,
Florida

Type:

Urban, suburban

Population:

2,253,362 (2000)

Area:

1,945 square miles

Local Official Contact:

Alexander Penelas, mayor

Miami-Dade County, Florida, Recruits Dedicated Local Leaders

In 1996, voters in Miami-Dade County, Florida, approved a \$200 million general obligation bond measure to fund capital improvements at park and recreational facilities and acquire new parkland. To guide the measure and attract public support, a broad-based yet informal citizens advisory committee was formed. This group, established outside the auspices of local government, was composed of about 60 active and influential residents, 25 of whom sat on the executive committee. The committee benefited from the leadership of Hank N. Adorno, a local attorney and community activist. Adorno has the respect of political, neighborhood, and business leaders, and spoke often of how involvement in parks programs changed the course of his life.

After the measure passed, the Board of County Commissioners appointed a 23-member nominating committee charged with finding residents to serve on a permanent and formal citizens advisory committee. The nominating committee, which itself reflected the geographic, ethnic, racial, and gender make-up of the county, sought diverse representation among the city's leadership. Outreach was a key to finding the most qualified candidates; the nominating committee cast a wide net throughout the community. The 13 members appointed to the oversight committee represent each commission district. Committee members are also a cross section of professional areas and interests, including business owners, coaches, public administrators, youth counselors, teachers, and community advocates. Each has a demonstrated interest in recreation, conservation, and landuse.

The committee works with municipal representatives, community groups, and county elected officials to oversee the Safe Neighborhood Parks program. The committee has three primary functions: developing rules that govern the acquisition and park development process, administering the capital improvement program (reviewing and ranking all grant applications), and overseeing the disbursement of funds. Members serve on at least one of the following standing subcommittees: grant application and review, monitoring, auditing, or administrative rules. Staff from the Office of Safe Neighborhood Parks assists advisory committee members with their responsibilities.©

their activities also vary, although three-year staggered terms are common. Whatever the size and scope, it is important to establish a structure for a committee that complements existing governmental bodies and facilitates the greenprinting process.

An advisory or steering committee often guides the design and implementation of the greenprinting plan. When Ocean County, New Jersey, voters approved the property tax-funded Natural Lands Trust Fund, the county's Board of Chosen Freeholders established a nine-member advisory committee and charged it with guiding the preparation of the open space plan, including the land

nomination process (see the case study on page 28 for more details).

A similarly structured body, commonly called an oversight committee, may monitor the expenditure of conservation funds. Public opinion polling conducted by TPL in numerous communities shows that voters are willing to fund open space conservation but often don't trust governments to spend the money wisely. The establishment of independent oversight committees guaranteed in the funding legislation can provide important fiscal safeguards.

- ◆ *Roles & Responsibilities.* A committee can be a catalyst for a greenprint and an executor of

CITIZENS ADVISORY COMMITTEES: COMMON ROLES & RESPONSIBILITIES

An advisory committee can help design and implement a greenprint for growth in many ways. It is important to understand the needs of a given community and define the committee's roles and responsibilities accordingly.

Some common advisory committee tasks include:

- ◆ *Creating the conservation program.* Advisory committee members work with public officials to define a community's conservation vision, develop land conservation policy, and establish a greenprinting program (including the establishment of conservation priorities or ranking factors for land acquisitions/easements). Committees periodically review the status of the greenprinting plan and develop and recommend revisions to other planning documents.
- ◆ *Review zoning rules.* Committees review regulations pertaining to zoning and subdivisions that affect open space and natural resources.
- ◆ *Develop administrative rules/by-laws.* Committees develop the rules consistent for its meetings and discharge responsibilities.
- ◆ *Seek public input.* As the link to the community, committees hold public meetings and seek public input. Citizens may be allowed to request special meetings.
- ◆ *Recommend land transactions.* Committees recommend the protection of parcels to the elected body. Some committees advise or assist the local governing body in land acquisition negotiations.
- ◆ *Oversee the deposit and disbursement of public conservation funds.* Committees monitor sources of conservation revenue, such as bond proceeds or dedicated tax revenues. Committees also review the budget as it relates to open space and submit budgetary recommendations accordingly.

- ◆ *Assist the local governing body with community open space education programs.* Committee members participate in the development and implementation of open space and natural resources protection education programs.

The creation of working groups or special subcommittees may be necessary to carry out the work of the larger committee. These working groups may focus on specific issues, from project acquisition to management to administrative rules, while the larger body oversees any revisions to the overall plan.

The Board of Supervisors in Pima County, Arizona, created the Open Space Acquisition Review Committee (OSARC) after voters approved funding for protection of the Sonoran Desert. OSARC is charged with evaluating and recommending lands within targeted protection areas, helping to educate the community about open space protection, and advising the governing bodies of the county on community concerns relating to open space. Members include conservation leaders, community advocates, technical experts, and county staff. Staff to the committee are drawn from the County Administrator's Office, the Natural Resources, Parks and Recreation Department, and the Real Property Division.

The need for the committee was first identified when it became clear that insufficient funds were available to purchase all of the properties listed in the county's 1997 Open Space Bond Program. The committee needed to make difficult decisions on how to direct the limited funding. Establishing these priorities and facilitating the acquisition of prime properties became the group's principal focus. OSARC is also developing a program for the next open space bond measure, which advocates hope will be passed in coming years.

a vision, its members charged with setting and implementing broad policy. The open space advisory committee in Boulder County, Colorado, for instance, was instrumental in the creation of the county's 33-year-old land conservation program. Members' roles can also be more narrowly defined, reviewing land acquisition nominations, overseeing the disbursement of funds, and providing a forum for public debate.

Two committees implement the Preservation Project in Jacksonville, Florida. The steer-

ing committee is a multidisciplinary group that includes the mayor's chief of staff, the heads of the departments of planning, public works, and the real estate division within public works, an ecologist, and representatives from the Trust for Public Land and The Nature Conservancy. The body is charged with targeting projects and making recommendations to the mayor's oversight commission. The commission for the Preservation Project is a 12-member citizen advisory board that seeks public input and makes final



Streams, springs, and lakes attract visitors to Oklahoma's Chickasaw National Recreation Area.

acquisition recommendations (see the case study on page 17 for more details).

While the responsibilities of committees vary, keep in mind that even powerful committees are *advisory* and approval by the legislative body is required for most actions. Most legislative bodies, for example, must approve any changes to by-laws or articles of organization, disbursement of acquisition funds, or adoption of open space plans.

PARTNERSHIPS

The support and cooperation of a variety of conservation partners will probably be required to implement a local greenprinting vision. Potential partners include other governmental entities, nonprofit land trusts, for-profit contractors, the business community, farmers and ranchers, developers, and volunteers. These partners can provide a variety of conservation and growth-management perspectives and lend local governments much-needed manpower, technical expertise, and financial support.

Early in the greenprinting process, partnerships support program development and help shape public policy. Local land trusts and national conservation organizations can be of particular use, facilitating public participation, helping a community set goals, and providing

technical planning support. (Land transaction and land management partnerships are discussed in *Local Greenprinting for Growth Workbook, Volume IV: How to Acquire and Manage Park and Conservation Lands*.) In addition, many national organizations are members of the Smart Growth Network and can provide specialized assistance.

Through its Conservation Finance Program, TPL helped local leaders in Santa Fe County, New Mexico, identify sources of public funding for conservation and assisted with the campaign to approve a \$12 million general obligation land preservation bond. Once the measure was approved, TPL assisted with the design of a

“Visioning is not about stopping growth, but about growing in a way that protects the tax base and the local quality of life.”

*Supervisor Sharon Bronson
Chair, Board of County
Commissioners
Pima County, Arizona*

SMART GROWTH NETWORK PARTNERS

The Smart Growth Network provides local and state officials, development professionals, and public-interest organizations with the latest information and resources from the world of smart growth. The network offers a forum for sharing ideas and finding partnership opportunities for smart growth with a variety of constituencies. It is a collaborative process that examines community or regional growth issues and sets a course to preserve quality of life. Some member organizations include the National Association of Counties, the Trust for Public Land, the Urban Land Institute, the National Association of Realtors, representatives from fields of housing, community development, and transportation, and many universities. Smart Growth Online also provides a searchable catalogue of reports, web sites, tools, and case studies to assist with local smart growth efforts. The address is www.smartgrowth.org.

PLANNING, MANAGEMENT, AND TECHNICAL SUPPORT FOR LOCAL LAND AND WATER PROTECTION

THE FACTS

Nonpoint Education
for Municipal Officers

Staff Contacts:

Jim Gibbons, landuse
educator/project director
John S. Rozum, AICP coordinator,
National NEMO Network

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Extension Center
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Haddam, CT 06438

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(860) 345-4511

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THE FACTS

Center for Watershed Protection

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Ken Brown, aquatic
ecologist

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Web Site:

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Email address:

center@cwp.org

Better landuse decisions are the key to protecting the natural resources, community character, and long-term economic health of a community. This is the philosophy of Connecticut-based NEMO, the Nonpoint Education for Municipal Officials, a collaborative project of three branches of the University of Connecticut (the Cooperative Extension System, the Natural Resources Management and Engineering Department, and the Connecticut Sea Grant College Program), which has become a national model for local watershed protection.

NEMO was originally conceived in 1991 as a pilot project to assist local officials in Connecticut coastal towns with addressing nonpoint source pollution in order to better protect the water quality of Long Island Sound. Early success led to the project's statewide expansion; NEMO staff help municipal leaders understand the legal, technical, political, and practical ways of protecting a community's land and water resources. By 2002, NEMO was conducting about 150 educational workshops a year for local officials in Connecticut. The Connecticut project is also the coordinating hub of the National NEMO Network, which now has projects in 25 states that promote open space planning as a way to protect natural resources and achieve smart growth.

NEMO helps local leaders integrate watershed protection into their open space and comprehensive planning process. They take a nonadvocacy, nonregulatory, user-friendly educational approach designed to help people with little training in landuse planning and natural resource protection. The emphasis is not on technical support as much as on educating local leaders about the process of natural resource-based landuse planning, which begins with a natural resource inventory as the foundation of a sound open space plan. Using this technique, NEMO is helping to jump-start a seemingly overwhelming process and help communities sift through large amount of maps and materials to uncover the essential elements of a conservation plan. The organization encourages communities to prevent fragmentation of the landscape, which reduces the diversity of wildlife, contributes to the degradation of water resources, and impacts community character. These efforts are part of a large smart growth approach that promotes compact development and revitalization of previously developed urban land.

The Center for Watershed Protection is a nonprofit organization that provides state and local governments, activists, and watershed organizations around the country with technical tools for protecting streams, lakes, and rivers. The center helps communities through the watershed assessment, protection, and restoration process, providing much-needed engineering and technical expertise. Since its inception in 1992, the center has held more than 400 workshops to train planners, engineers, and watershed organizations on how to generate and implement responsible management plans.

The use of a variety of watershed protection tools is encouraged, including land conservation, better site design, storm water management, and erosion and sediment control. The center outlines five different types of land that may need to be conserved in a subwatershed:

- ◆ critical habitats, which are essential spaces for plants and animal communities or populations
- ◆ aquatic corridors, the areas where land and water meet, including floodplains, stream channels, springs and seeps, and shorelines
- ◆ hydrologic reserve areas, which are undeveloped areas responsible for maintaining the pre-development hydrologic response of a watershed
- ◆ water pollution hazards, which include any landuse activity expected to create a relatively high risk of potential water pollution
- ◆ cultural areas, which provide a sense of place in the landscape and are important habitats for people

The center stresses that each subwatershed should have its own land conservation strategy based on its management category, inventory of conservation areas, and land-ownership patterns.®

COALITION CREATES COLORADO GREENPRINTING INITIATIVE

Leadership from Government, the Private Sector, and Nonprofit Organizations

In southwestern Colorado, TPL is working with a coalition of stakeholders to protect 6,000 acres in the High Elk Conservation Corridor. The broad-based team includes the Aspen Valley Land Trust, the Crested Butte Land Trust, the Wilderness Land Trust, the Crested Butte Mountain Resort, Pitkin County, Gunnison County, the Town of Crested Butte, the Town of Mt. Crested Butte, the Rocky Mountain Biological Laboratory, and the High Country Citizens Alliance. The group received a grant from the state's Great Outdoors Colorado program for step one of the greenprinting process—creating a conservation vision that protects important lands and allows for responsible growth and development.

The collaborative planning process involved extensive research, inventories, and mapping. The result was a

case statement targeting nearly 2,000 high-priority acres. The document is now being used to raise public and private funds for the implementation phase.²⁴

According to Gunnison County Commissioner Jim Starr, communities are coming together in this public-private partnership to address the region's increasing growth pressures. Despite the diversity of partners, the coalition was able to work toward a common greenprinting goal. County officials played key roles facilitating this process. Recognizing that landuse regulations could do only so much, local officials in Gunnison County, for instance, strongly supported the cooperative, voluntary greenprinting approach that involved landowners and conservation groups alike.©

greenprinting vision and began to acquire land for the county. The county also worked with a professional facilitator who helped guide the visioning process and establish long-term strategies for open land and trail conservation.

TPL also assisted local officials and community leaders in Miami-Dade County, Florida, during the design and implementation of their Safe Neighborhood Parks Bond, a \$200 million general obligation bond approved by voters in 1996 to fund park and recreation improvements and acquisitions. In the early stages, TPL helped structure an advisory committee, design the ballot measure, and coordinate campaign activities. Once the measure was approved, TPL continued to assist the county with implementation and acquisition efforts.

General program-development partnerships can also be forged with other governmental entities—states, counties, cities, towns, and their various agencies—sometimes culminating in the joint management of land. In the St. Louis metro region, cooperation among various governmental entities and the private sector resulted in the creation of a regional conservation program that spans two states, four counties, and the city of St. Louis. By approving Proposition C, the Clean Water, Safe Parks and Community Trails Act, in November 2000, voters approved the funding

and the framework to build a regional, 40-mile network of hiking and biking trails. The effort was led by U.S. Senator John D. Danforth and St. Louis 2004, a group of civic leaders, business leaders, and park professionals.

While it is not the first special district in St. Louis, Proposition C broke new ground, requiring an unprecedented level of regional cooperation. According to E. Terrence Jones, professor of political science at the University of Missouri at St. Louis, Proposition C also has implications far beyond other special districts: "It has the potential to build regional identity, to make more citizens think of their bonds with the entire area and not just their ties to individual neighborhoods or subdivisions. Its most likely signature project, the Confluence Greenway, will draw attention and activity back to the waterways that bind us all, the historic reason for our location and the common geographic thread among us."²⁵

Many local governments also rely on nonprofits and other governmental agencies to provide technical support such as landuse planning, inventories and mapping, and targeting. For instance, the National Park Service, the nonprofit Rails-to-Trails Conservancy, and the private firm Greenways, Inc., can help communities design trail networks. Partnerships with the EPA, water suppliers, and private consulting

BEST PRACTICES

- Learn from others. Study greenprinting in other communities and consult experts at the national and local levels.
- Work in partnerships with other local governments, public agencies, nonprofit organizations, and professionals in the private sector.

firms can help with water quality protection efforts. These organizations can provide communities with resources and support on such issues as source-water planning, nonpoint-source pollution, and storm water management. Additionally, the American Farmland Trust can provide technical assistance with farm- and ranchland preservation.

Federal and state agencies can provide valuable assistance to local governments, helping to collect and analyze information on natural communities and processes. The American Planning Association notes that local governments benefit by “obtaining technical information necessary to write a strong plan, while the state and federal governments benefit by enhancing the protection of natural resources through partnerships with local governments and nonprofits.”²⁶

Local land trusts also help provide important technical support. The Land Conservancy of San Luis Obispo County, California, leverages its planning expertise to assist the county with land conservation, including mapping, policy analysis, resource studies, rural-development surveys, and greenbelt and restoration planning.

Finally, many local governments benefit from academic landuse expertise. States have

designated land-grant and sea-grant colleges that receive federal funds for research and cooperative extension services. These programs have helped facilitate partnerships among education, nonprofits, industry, and government.

The Illinois-Indiana Sea Grant College Program is one of 29 programs in the National Sea Grant network. Sponsored by Purdue University, West Lafayette, and the University of Illinois at Urbana-Champaign, the program serves 104 miles of heavily urbanized and industrialized shoreline along the Great Lakes where land conversion is impacting the area’s watersheds and water quality (ten million people receive their drinking water from southern Lake Michigan).

Through research, education, and outreach, program staff work to inform local leaders and the public about the economic benefits of these resources and the short- and long-term costs of local landuse decisions. The program provides cost-benefit assessments of local policy changes and their impact on water quality, and estimates the value of coastal recreation resources and their contribution to local economies.

STATE PARTNERSHIPS SUPPORT LOCAL GREENPRINTING

States can play a significant role in local greenprinting initiatives, providing communities with direct funding, incentives, and the authority to raise funds. They can also provide planning support for developing local programs, and technical assistance, such as GIS mapping, landuse analysis, and the creation of growth scenarios that help educate communities about the importance of conservation.

New Hampshire's Department of Environmental Services partners with the nonprofit Society for the Protection of New Hampshire Forests (also called the Forest Society). Together they help municipalities and nonprofit water suppliers voluntarily acquire land and conservation easements that protect threatened public water sources. The state supplies matching funds and maps of local recharge areas and water supplies, including individual municipal wells, while the Forest Society helps towns facilitate local partnerships, plan protection strategies, and target protection areas.

The town of Barrington used the program to protect nearly 1,400 acres of water-supply land, forging partnerships with four surrounding towns and the University of New Hampshire. Taking a uniquely regional approach, the towns worked together to target headwaters for two rivers and a reservoir. The state provided \$740,000 toward the \$3.4 million bargain sale. Similar, albeit smaller efforts are under way throughout the state.

In the Chicago metropolitan area, the state is working with local governments, a regional planning agency, and the nonprofit Openlands Project to develop public policy that protects open space, promotes smart growth strategies, and creates a more livable urban environment. A comprehensive land preservation program, Local Legacy, will provide incentives for county-municipal partners to inventory their ecological, agricultural, and cultural resources and develop a multifaceted resource-protection plan.

States can also support local efforts by providing leadership and defining a broad-based conservation vision. New Jersey has developed model land conservation programs spanning four decades that have enjoyed unprecedented public support. (The Green Acres program is financed by an unbroken record of nine bond approvals totaling more than \$1.4 billion.) Critical to its success have been the continuing leadership of governors, the establishment of statewide goals, and funding and incentives to local governments. Through the Bureau of Planning and Information Management, the Green Acres program also provides technical assistance for open space planning, open space acquisition, and recreation-development efforts to counties, municipalities, and nonprofit organizations.☺



THE FACTS

Location:

Pima County, Arizona

Type:

Urban, suburban

Population:

843,746 (2000)

Area:

9,186 square miles

Local Official Contact:

Sharon Bronson, chair, Pima County Board of Supervisors

Staff Contact:

Maeveen Behan, Office of the County Administrator

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Pima County, Arizona, Launches Sonoran Desert Protection Plan

The numbers are staggering: 30,000 new residents each year and 17 acres of desert open space lost to development every day. For the past five decades, the unrelenting population growth in Tucson and Pima County, Arizona, has taken a toll on the biological and cultural resources of the Sonoran Desert, most notably the nearly extinct cactus ferruginous pygmy owl.

Local leaders responded to this enormous conservation challenge with a sweeping plan that has become a national model for balancing nature and growth. Adopted preliminarily in 1999, the Sonoran Desert Conservation Plan (SDCP) signaled a turning point for regional conservation and environmental planning, interests that have traditionally taken a backseat to development. "The SDCP has taken conservation planning to the next level by integrating ecosystems, economic growth, cultural resources, and development," noted the American Planning Association's (APA) Bruce Knight.²⁷ In early 2002, the SDCP received the APA's national Outstanding Planning Award.

The SDCP is designed to protect an interconnected system of conservation lands that provide long-term protection for more than 50 sensitive plant and wildlife species. The plan was developed under the leadership of County Administrator Chuck Huckleberry and the county board of supervisors with the participation of hundreds of residents, planners, scientists, and resource experts from all levels of government, the University of Arizona, and The Nature Conservancy. A 250-member regional public landuse panel and an 84-member citizens steering committee, which held more than 400 public meetings, also played instrumental roles.

The county's environmental consulting firm, RECON, worked with a technical advisory team and county staff to conduct a federally funded biological study, including detailed analysis and GIS mapping of priority-species habitat distribution.²⁸ Through the exhaustive planning and visioning process, stakeholders were able to identify specific categories of land to protect to reach their conservation goals. Categories include ranchlands, cultural and historic sites, mountain parks, riparian areas, and the connection of biologically important land. These lands support wildlife migration, protect limited desert waterways, and protect the county's abundance of archaeological resources. ☺



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Growing Greener: Conservation by Design is a collaborative program that draws upon the strengths of the Pennsylvania Department of Conservation and Natural Resources (DCNR); the Governor's Center for Local Government Services; Natural Lands Trust, Inc., a regional land conservancy in Media, Pennsylvania; and an advisory committee. Developed by the noted author and planner Randall G. Arendt and staff at Natural Lands Trust, the program is designed to help communities across the state address conservation in their landuse codes. These tools enable communities to rearrange development patterns to create an interconnected network of open space and natural areas through relatively straightforward amendments to local comprehensive plans, zoning ordinances, and subdivision ordinances.

The process begins with a community assessment that helps local officials and residents understand the ultimate result of current landuse regulations and adjust accordingly. Communities then establish reasonable goals for conservation and development—goals that reflect their special resources, existing landuse patterns, and anticipated growth. Part of this planning process may involve the creation of a map of potential conservation lands. Two kinds of resources are identified: primary conservation areas are lands in which development is severely constrained under current codes and laws (wetlands, steep slopes, and floodplains), and secondary conservation areas, which include all other significant lands (wildlife habitat, prime farmland, trails and greenways, and so on) that are normally lost during the conventional development process. The map of potential conservation lands guides decisions about which lands to protect in order to create a community network of open space.

The next step involves changing the landuse regulations to encourage subdivisions to set aside at least 50 percent of the land as permanently protected open space and to incorporate substantial density disincentives for developers who do not conserve tracts of significant open space. Equally important, the standards, available as model ordinances, require identifying open space *first* during the development process. This reverses the usual dynamic of designating "left over" land as open space and allows communities to increase the amount of interconnected open space each time development occurs.

A December 2001 survey of five Chester County townships that adopted the model ordinances revealed that they had collectively approved development applications totaling 710 acres. Of this, 470 acres were preserved as open space using the Growing Greener: Conservation by Design techniques. Monroe County has incorporated Growing Greener into its \$25 million open space program that offers acquisition, planning, and technical assistance to municipalities in the county, including payments to those who adopt Growing Greener standards in their ordinances.

Communities adopting Growing Greener should consider a regional approach that links considerable quantities of open space across jurisdictions. And keep in mind that this is only one tool in an open space protection toolbox that includes regulation and voluntary, incentive-based conservation.

Readers are encouraged to learn more about this technique and the model ordinances. The following publications are available from Island Press at 1-800-828-1302 or www.islandpress.org.

Randall Arendt, *Growing Greener: Putting Conservation into Local Plans and Ordinances* (Washington, D.C.: Island Press, 1999).

Randall Arendt, et al., *Growing Greener Ordinance Language: Visually Enhanced Zoning and Subdivision Models* (Washington, D.C.: Island Press, 2001).

Community gardens, children's gardening programs, and community parks and playgrounds are helping revitalize many New York City neighborhoods.



KEN SHERMAN

Conclusion

Since the early 1990s, there has been a wholesale shift in the way land is protected. Once reactive and piecemeal, local conservation has become comprehensive and strategic. Greenprinting is emerging as an important tool for smart growth and the protection of open space.

TPL and NACo are promoting greenprinting as a way to use land conservation to ensure quality of life, clean air and water, recreation, and economic health. The greenprinting methodology is threefold: defining a conservation vision, securing funds, and acquiring and managing park and conservation lands.

The process begins with a vision—a community plans for growth and conservation that preserves quality of life and protects significant lands. This visioning requires an understanding of community values and public priorities; community outreach and polling are the tools

for gathering this information. An inventory of natural and cultural resources is also fundamental, giving communities an understanding of the land, natural resources, and development patterns.

The size and scope of the conservation plan must be determined and integrated with other local, state, and regional plans. Comprehensive greenprinting goals are then defined that consider the specific needs of a community and broad issues such as air and water quality. These goals should be accompanied by specific criteria for protecting types of land.

How can a community reach its greenprinting goals? Leadership, public participation, and public-private partnerships are the key elements. With these, a community can define a conservation vision that reflects public priorities and implements smart growth strategies.

Appendix

Resources: National Publications

Building Green Infrastructure: Land Conservation as Water Protection Strategy. This report presents the cases of four watersheds in which land conservation is helping preserve water quality. For a copy, contact TPL at (415) 495-4014 or www.tpl.org.

Solving Sprawl: Models of Smart Growth in Communities Across America. This book from the National Resources Defense Council illustrates how people in cities, suburbs, and rural areas have found profitable, community-oriented alternatives to sprawl. To order a copy, contact the NRDC at www.nrdc.org.

The Economic Benefits of Parks and Open Space: How Land Conservation Helps Communities Grow Smart and Protect the Bottom Line. This report offers ample evidence that open space protection is a wise investment that produces important economic benefits, attracting investment, revitalizing cities, boosting tourism, protecting farms and ranches, preventing flood damage, and safeguarding the environment. Written by Steve Lerner and William Poole and published by the Trust for Public Land. For a copy, contact TPL by phone at (415) 495-4014 or electronically at www.tpl.org.

Local Parks, Local Financing, Volume I: Increasing Public Investment in Parks & Open Space. This handbook outlines the options available to local governments to raise conservation funds. Written by Kim Hopper and published by the Trust for Public Land. For a copy, contact TPL by phone at (415) 495-4014 or electronically at www.tpl.org.

Local Parks, Local Financing: Volume II: Paying for Urban Parks Without Raising Taxes. This report provides information about the non-tax funding of urban park and recreational programs. Written by Peter Harnik and published by the Trust for Public Land. For a copy, contact TPL by phone at (415) 495-4014 or electronically at www.tpl.org.

The Conservation Easement Handbook: Managing Land Conservation and Historic Preservation Easement Programs. An indispensable guide for land trusts, historic preservation organizations, public agencies, landowners, landscape architects, attorneys—anyone interested in conservation easements. Written by Janet Diehl and Thomas S. Barrett and published by the Trust for Public Land and the Land Trust Alliance with the Public Resource Foundation. For a copy of the book, contact the Land Trust Alliance, www.lta.org/publications/.

Doing Deals: A Guide to Buying Land for Conservation. Written by the Trust for Public Land and published by TPL and the Land Trust Alliance; 1995. For a copy of the book, visit the Land Trust Alliance web site at www.lta.org/publications/.

The Impact of Park and Open Space and Property Values and the Property Tax Base. This report examines the economic contributions of parks and open space through their impact on property values. Written by John L. Crompton, Ph.D., professor of

Recreation, Park and Tourism Sciences at Texas A&M University. To order, visit the Texas A&M web site at www.rpts.tamu.edu.

Financing, Managing and Marketing Recreation and Park Resources. This book presents a wide range of alternative funding methods being used to bridge the gap and pay for new park and recreation facilities and programs. Written by John L. Crompton, Ph.D., professor of Recreation, Park and Tourism Sciences at Texas A&M University. To order, visit the Texas A&M web site at www.rpts.tamu.edu.

Saving American Farmland: What Works. This comprehensive guidebook presents American Farmland Trust's latest research on farmland protection. Specifically designed for policymakers, planners, community organizations, and concerned citizens who are working to save farmland at the local level, *Saving American Farmland* discusses the challenges of farming on the edge of development and illustrates the value of farmland to our nation, states, and communities. It reviews techniques that state and local governments are using to protect farmland, as well as federal farmland-protection policies. The book includes case studies of innovative and successful farmland-protection programs in California, Maryland, and Washington. The final section of the book offers lessons that other communities can learn from these farmland-protection pioneers and outlines the steps involved in creating a farmland-protection program. 1997; 334 pages; \$34.95. To order, contact AFT by phone at (413) 586-9330 or electronically at www.farmland.org.

Getting to Smart Growth: 100 Policies for Implementation. This is the fourth in a series of primers designed to introduce communities to the benefits and techniques of smart growth. The report aims to support communities that have recognized the value and importance of smart growth and now seek to implement it. It does so by highlighting and describing techniques to help policymakers put smart growth principles into practice. The report is available on the web at www.smartgrowth.org.

Green Infrastructure: Smart Conservation for the 21st Century. This report introduces green infrastructure as a strategic approach to land conservation that is critical to the success of smart growth initiatives. Written by Mark A. Benedict, Ph.D., and Edward T. McMahan, J.D., and published by the Conservation Fund. This report is available on the web at www.conservationfund.org.

Smart Links: Turning Conservation Dollars into Smart Growth Opportunities. This report discusses how public funding is used as an incentive to assure that development is compatible with smart growth rather than sprawl, as well as to assure the long-term vitality of the conservation investment. Published by the Environmental Law Institute. For a copy, visit the web at www.eli.org.

Planning for Smart Growth: 2002 State of the States. The American Planning Association conducted a comprehensive survey of planning reform and smart growth activity in the states between 1999 and 2001. This report outlines the findings. For a copy, visit the web at www.planning.org.

Operational Guidelines for Grounds Management. This book is designed to help park managers and other grounds management stakeholders build operational and staffing plans. Published by the Association of Higher Education Facilities Officers, the National Recreation and Park Association and the Professional Grounds Management Society. This report is available on the National Recreation and Park Association web site at www.nrpa.org.

Management of Park and Recreation Agencies. This park management reference book contains background on organizational structure and development, interagency management, information technology, public relations and marketing, human resource

management and employment, financial management and budgeting, risk management/law enforcement/security, and evaluation. Published by the National Recreation and Park Association. Copies are available on the web at www.nrpa.org.

Rails-With-Trails. This reports provides design, management, and operating characteristics of 61 trails along active rail lines. Published by the Trail-to-Trails Conservancy. Available electronically at www.trailsandgreenways.org.

Rail-Trails and Liability. A primer on trail-related liability issues and risk management techniques. Published by the Trail-to-Trails Conservancy. Available electronically at www.trailsandgreenways.org.

Rail-Trail Maintenance, Preparing for the Future of Your Trail. Written by Susan Thagard, this report is designed to answer questions about trail maintenance programs and organization. Available electronically at www.trailsandgreenways.org.

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National Resources for Open Space Protection

American Farmland Trust
(202) 331-7300
www.farmland.org

The Conservation Fund
(703) 525-6300
www.conservationfund.org

Ducks Unlimited
(202) 347-1530
www.ducks.org

Environmental Protection Agency
(202) 260-2750
www.epa.gov/smartgrowth

International Rivers Network
(510) 848-1150
www.irn.org

Land Trust Alliance
(202) 628-4725
www.lta.org

National Park Service Rivers, Trails, and Conservation Assistance Program
(202) 354-6900
www.nps.gov/rtca

National Recreation and Park Association
(703) 858-0784
www.nrpa.org

National Trust for Historic Preservation
(202) 588-6000
www.nthp.org

The Nature Conservancy
(800) 628-6860
www.nature.org

Rails-to-Trails Conservancy
(202) 331-9696
www.trailsandgreenways.org

The Trust for Public Land
(415) 495-4014
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www.tpl.org

U.S. Forest Service
(202) 205-8333
www.fs.fed.us/

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