The Center for
Chesapeake
Communities'
Summit Report–

TOWARD A
SUSTAINABLE
CHESAPEAKE

Tools and techniques to
promote smart growth,
protect the environment
and
preserve quality-of-life

1999

**The Summit – Toward a Sustainable Chesapeake,
was held March 21-23, 1999 at the
Renaissance Harborplace Hotel in Baltimore, Maryland**

Chesapeake Bay Program

The Center for Chesapeake Communities' Summit –

Toward a Sustainable Chesapeake

Tools and techniques to
promote smart growth,
protect the environment and
preserve quality-of-life

1999

Printed by the U.S. Environmental Protection Agency for the Chesapeake Bay Program

Summit Summary

prepared by the

Center for Chesapeake Communities

Printed on Recycled Paper

Table of Contents

- Baltimore Gas & Electric Company

- Center for Rural Pennsylvania

- Chesapeake Bay Trust

- Cooperative State Research, Education and Extension Service, USDA

- District of Columbia Government

- Maryland, Delaware, & the District of Columbia Soft Drink Association

- Maryland Department of Natural Resources

- Maryland Department of Transportation

- Maryland Energy Administration

- Maryland Office of Planning

- Office of Sustainable Development and Intergovernmental Affairs, NOAA, US Department of Commerce

- Pennsylvania Department of Environmental Protection

- Pennsylvania Department of Transportation

- U.S. Department of Energy's Rebuild America program

- U.S. Environmental Protection Agency
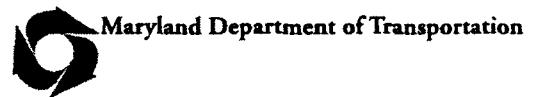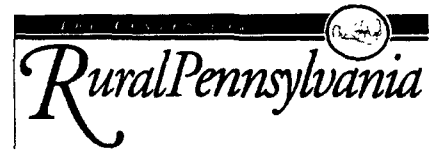
THE CCC WOULD LIKE TO THANK
THE FOLLOWING FOR THEIR SUPPORT

SUMMIT PARTNERS:

Center for Watershed Protection

Chesapeake Bay Program

Environmental Finance Center

1000 Friends of Maryland

10,000 Friends of Pennsylvania

THE FOLLOWING ASSOCIATIONS HAVE
HELPED MAKE THIS EVENT POSSIBLE

Baltimore Metropolitan Council
County Commissioners Association of Pennsylvania
Maryland Municipal League
Metropolitan Washington Council of Governments
Pennsylvania State Association of Boroughs
Pennsylvania State Association of Township Supervisors
Pennsylvania Association of Councils of Governments
Virginia Association of Counties
Virginia Municipal League

Bridging the gap between innovative, sustainable principles and implementation requires the synergistic efforts of local elected officials, the business and financial community, developers, and the public at-large. Each of these stakeholder groups play a critical role in planning for a more sustainable future given opportunity, tools, techniques and resources.

Since its inception, the Center for Chesapeake Communities (CCC) has managed a number of projects including a *Site Planning Demonstration Project* that seeks to provide the region with a living model of sustainable development in the Chesapeake Bay watershed, demonstrating the economic, ecological and quality of life benefits of sustainable site planning. By measuring marketability, social and financial impacts, and environmental impacts to local resources and the Chesapeake Bay, effective tools and techniques are identified. The Project also categorizes the process by which communities define a set of sustainable principles to plan for smart growth, and incorporate these principles into on-the-ground development.

To disseminate these tools and techniques the CCC developed a two-day conference to bring together individuals from throughout the Bay watershed involved in community development and growth, land use and planning. The Summit – Toward a Sustainable Chesapeake was held March 21-23 at the Renaissance Harborplace Hotel in Baltimore, Maryland, and attracted over three hundred people, half of which represented local governments. The Summit brought together, local, state, and federal government leaders as well as members of the business and development communities. The Summit received funding from 15 state, federal, non-profit and corporate organizations, underscoring the need to address development and growth issues in the context of sustainability.

> *One's mind, once stretched by a new idea, never regains its original dimensions."*
> — Oliver Wendell Holmes

As a step in planning for this event, the CCC, in coordination with the Bay Program's Local Government Advisory Committee and others, held several roundtables, one in each of the Chesapeake Bay Program jurisdictions. These sessions offered an opportunity for local government officials, developers, planners and concerned citizens to discuss growth and development in the context of building sustainable communities; to examine some of the impediments to growing in a sustainable manner; and to propose initiatives and solutions to overcome impediments.

While participant input reflected the unique characteristics of each region's policies and issues, there were clear and similar themes that resonated from these discussions. These emerging themes centered around the inherent obstacles local leaders face in planning for the future:
- the absence of public awareness and participation in community planning;
- the lack of coordination between state governments and local communities;
- the difficulty in providing flexible regulations and maintaining control over growth; and
- the lack of collaboration between neighboring municipalities and counties.

Building on the results of these roundtables and the *Site Planning Demonstration Project*, the CCC structured an action agenda for the Summit. Two groups were identified to help build the agenda: the Advisory Board, made up of Bay Program signatories including EPA state representatives; and an Editorial Board, made up of local governments associations and local government representatives. Their involvement was critical in ensuring that the Summit agenda addressed and met key goals of the Chesapeake Bay Program and the needs of local governments.

The Summit was designed as a catalyst to challenge local governments to develop sustainable initiatives in the Bay watershed. To this end, the Summit is designed to meet the needs of local governments at different levels of interest, planning, and implementation. The Summit provided four tracks to address these differentials:

♦ Starting Out Right
♦ Characterizing Your Community
♦ Planning for the Future
♦ Implementing Sustainable Community Initiatives

A significant recommendation that came out of the roundtables and discussions with local government officials was the need for successful models to further their goals. As the summary notes, each workshop offered models, on-the-ground examples and references on where to find more information.

We are encouraged that the Summit met its purpose to inform and initiate plans and actions. We trust this document serves as a reference and guide to Summit participants and others to bridge the gap between ideas and implementation.

A National Town Meeting
Detroit, MI and Points
Across America

The Center for Chesapeake
Communities,
A Proud
NTM Partner

President's Council on Sustainable Development
Vision Statement

"Our vision is of a life-sustaining Earth. We are committed to the achievement of a dignified, peaceful, and equitable existence. A sustainable United States will have a growing economy that provides equitable opportunities for satisfying livelihoods and a safe, healthy, high quality of life for current and future generations. Our nation will protect its environment, its natural resource base, and the functions and viability of natural systems on which all life depends."

Toward a Sustainable Chesapeake

Citizens and environmentalists in Chattanooga and Seattle represent two of the earliest communities bringing the concept of sustainability to the front line. Both have received national attention for their ability to address the diverse needs of their many interest groups, and incorporate them into a reality for their communities.

Many other communities are taking their lead, incorporating new ideas and initiatives into comprehensive plans for their local economic, social and natural environment. For example, Portland residents and local government officials set urban growth boundaries to curtail sprawl, and spawned a host of local advocates that work to *sustain* Portland. Most recently Atlanta, led by the initiative of Georgia's governor, has joined the move to promote *livable communities.*

In the Chesapeake Bay watershed, Maryland works with local governments and the public and private sector through its *Smart Growth* initiative. Union County, Pennsylvania started by identifying *sacred places*, and has developed an ongoing *Sustainable Communities Initiative.* Virginia communities of the Thomas Jefferson Planning District Commission are seeking ways to implement recently established *Sustainability Accords.*

Looking beyond the "sustainability" catch phrase, towns, cities, boroughs, townships, and counties throughout the nation are finding opportunities to talk about, plan for, and effect the long-term viability of their communities. Local governments see their role in harnessing the sustainability movement and tailoring it to their locale. Local officials garner both political and public support for such initiatives, and serve as a constant community advocate. Their inherent, statutory authority to manage land use and infrastructure provide them the key opportunity to incorporate innovative, sustainable strategies. Through their leadership role, local governments provide unique contributions to the protection and restoration of local natural resources and the Chesapeake Bay watershed, and will contribute even more given the tools and resources.

Before looking specifically at the tools, techniques and case studies of model communities presented during the two-day event, the following takes a closer look at three themes as presented by the Summit's plenary speakers: 1) the concept of sustainability; 2) key steps in the process of implementing sustainable initiatives; and 3) roles as responsible, accountable stewards.

SUSTAINABILITY AS A FRAMEWORK

There is no single template of a sustainable, livable community – each has individual economic and environmental features and social needs. By addressing these specific needs and characteristic integrally, sustainable communities create a balance between growth, development and the limits set by ecology.

Michael Kinsley, director of Rocky Mountain Institute's (RMI) Economic Renewal Program states that sustainable development embraces

A definition of sustainable Development

"...to meet the needs of the present without compromising the ability of future generations to meet their own needs."

— **The World Commission on Environment and Development**

a new approach that respects the community and the environment, unlike conventional approaches that cater to sprawl, rapid expansion, and unchecked growth. In *RMI's Economic Renewal Program: An Introduction*, Kinsley states sustainable development:

- "Redefines prosperity, weighing community values, quality of life, and the environment alongside economic considerations;
- "Seeks true development, the sense of getting better, instead of expansion, which is merely getting bigger;
- "Advocates the long-term stewardship of community resources, ensuring that present actions don't erode the basis for future prosperity;
- "Pursues self-reliance and a more democratic approach to decision-making, representing community-wide interests over those of an elite few;
- "Stresses diversity, resilience, and a conviction that many small efforts work better than a single one-size-fits-all solution."

Using sustainability as a framework, communities can facilitate a process – building awareness, making an assessment, planning for the future, and ultimately addressing the needs and interests of the disparate parts of the community. Sustainable development does not ignore reality, while conventional thought does not acknowledge full costs. Sustainable development is a more comprehensive method of carrying out planning, making our society more resilient and responsive to difficulties and disasters.

William McDonough, Dean of the University of Virginia's School of Architecture in Charlottesville, challenged Summit participants to integrate principles of sustainable living into every facet of society, placing our energies into viable alternatives to conventional design and practice. McDonough believes firmly in minimizing human impact on the environment by modeling design on the elegance and effectiveness of natural systems. If human impact on the environment is to be correctly assessed and dealt with responsibly, humans must understand and measure their legacy, versus their accomplishments, for that is what is left for future generations. Communities, industries, businesses, government and the public need to restructure the process by which they function. Rather than working in an "eco-efficient" manner – doing more with less – this generation's legacy must be one that balances the needs for economic intelligence, for ethical intelligence and equity intelligence with ecological intelligence. Only then can society truly sustain itself and promise hope and prosperity for future generations.

STRENGTHENING COMMUNITIES

Certainly there are many impediments and barriers to working toward a more sustainable, livable future. In planning for the Summit the CCC held several workshops to specifically identify those barriers that impede local governments and developers from implementing the strategies and plans they knew offer their communities a more viable future.

Gus Garcia, Council member for the City of Austin, presented his experience as an environmentalist working as a local government official. For any community to re-evaluate its current path, and start to move in a more sustainable direction, it must take a step-by-step process that allows the community to become more aware, builds time for assess-

ICLEI was created to partner with local governments to offer support as they begin the journey toward sustainability. ICLEI is an association of local governments dedicated to the prevention and solution of local, regional, and global environmental problems through local action. Over 300 cities, towns, counties, and their associations from around the world are Members of the Council. ICLEI's mission is to build and support a worldwide movement of local governments to achieve tangible improvements in global environmental conditions through the cumulative impact of local actions.

One of ICLEI's fundamental services to its members is to serve as an information clearinghouse on local environmental initiatives. ICLEI has performed this service through the publication of newsletters, a case study series, and a variety of technical manuals on topics ranging from financing energy efficiency projects to solid waste management to the use of municipal economic instruments to increase environmental performance.

ment, and presents opportunities for action. When Councilman Garcia first arrived in Austin from Mexico, it was a challenge to relate and translate the vision he had as an environmentalist into an urban environment. The community faced many impediments and barriers, including the lack of inclusion of minorities in environmental issues. The first step the community took was to inventory the area's environmental assets. The community identified important features and special places, and discussed how conventional practices for land use planning, waste management and transportation were degrading these special places.

Over time, through education and outreach initiatives, citizens became more aware of how their local economy and social structure related to the environment, and the community assessed itself and defined its vision for the future. The next step was to develop a short list of priority areas on which to concentrate. At this point, new impediments and barriers are prevalent. "Enemies" of sustainability include sprawl, fossil fuel pollution, high energy consumption, and lack of citizen awareness and commitment to action. Such issues can easily overwhelm good intentions and impede the process the community has set.

With the support of the International Council for Local Environmental Initiatives, and other partners, Austin has adopted many smart growth strategies, including: incentives for development in selected priority zones, neighborhood involvement in community investments, and the purchase of parklands, greenways, and open space. Bond financing of green improvements was proposed to increase recreational services for under-served residents and attract new residents to these communities. Austin voters also approved a $19.8 million revenue bond, financed by utility rate increases that will buy more land west of the city where settlement impinges on water quality and threatened species.

Councilman Garcia asserted that communities have the capacity to meet the challenges that negatively effect their local environment, but it takes a strong commitment by all interest groups in a community to engage in a long-term process of awareness and assessment to plan for positive action that will provide a sustainable environment for future generations.

THE CHALLENGE OF ACCOUNTABILITY

An oft quoted conclusion to several of William McDonough's enlightening and thought-provoking talks states, "Ignorance ends today, negligence starts tomorrow." Today's western society cannot claim total ignorance of the environmental and economic degradation that is consuming the world, and our local environments. While the Summit agenda is designed to offer communities the tools and techniques to address such challenges as land use planning , pollution prevention, watershed management, and economic renewal, it is important to remember that all of these practices impact the local as well as the regional environment. Day-to-day policy issues and local planning benefit from the knowledge and understanding of how they effect the larger, global environment.

William M. Eichbaum, vice president of the World Wildlife Fund's (WWF) US Conservation and Global Threats, presented that global perspective and summarized WWF's campaigns to protect and conserve the world's living and natural resources. WWF projects look at global

"Starting today, we can leave a foundation for the next 100 years that centers on the sustainable protection of the world's natural resources."

— William M. Eichbaum

warming, the presence of toxics, the loss of invaluable forests, the practice of over fishing, and the identification and conservation of the world's most precious eco-systems. The WWF identified 200 critical areas worldwide, one of which is the Chesapeake Bay watershed. Twenty-five of those sites have been selected to receive an investment of both research and funding to address ecosystem issues in a more sustainable manner.

In his long tenure as an advocate for the environment, Eichbaum offered several critical lessons.
- If promoting conservation efforts to communities is to be successful, aspirations of the people that live in them must be understood;
- People's efforts need to be managed and directed, and we need to think about managing ourselves;
- The role of the local economy must be taken into consideration. Creating government-citizen-industry partnerships can go far in achieving goals;
- Public policy and investment are needed to guide smart growth. Subsidies to promote sprawl must be redirected to promote smart growth;
- Ethics must play a large role in conservation efforts;
- The characteristics of the local population must be taken into account. For example, in Chattanooga, policies and programs respond to and respect the needs of the environment and the needs of older urban communities;
- There are many opportunities to learn from the last millennium, and we now have an grand opportunity to promote innovative, new ideas and ways of doing things in the next.

Echoing McDonough's remarks Eichbaum states, "Starting today, we can leave a foundation for the next 100 years that centers on the sustainable protection of the world's natural resources."

LESSONS FROM OUR PAST

Looking at the history of the Bay region's growth since settlement by the Europeans, Dr. Kent Mountford, Estuarine Ecologist for the US EPA's Chesapeake Bay Program, stresses the urgency for communities to steadfastly address growth pressures or risk irreversible damage to the region.

The lessons of history are sobering, because, at differing levels of ecosystem, or landscape, organization human activities have reached a kind of "buildout" several times in the last four centuries. The slate was not "clean" when the first Europeans arrived here, because native American populations had occupied and modified the land by hunting, fire and agriculture for thousands of years. They had attained something of a sustainable economy before the Europeans quite quickly divided the land into titled parcels, a concept foreign to native Americans. The land, once fully occupied by ownership and /or tied up by survey, became a limited resource, turning greedy eyes to the Piedmont frontier.

Despite high mortality in the Chesapeake Colonies, the continuing flow of workers and external energy resources sustained exploitation of the region's indigenous resources for profits which -like Walmart and

K-Mart, did not fully benefit the indigenous community. Resource flow outward was the objective. Collapses of the single-product tobacco market reduced inflow of goods into the Colonies, and stimulated a shift to grain crops, and deep plowing. As these expanded onto the Piedmont, plowing fields together with the loss of vast forest acreages caused very large soil erosion losses, filling in streams and weakening crop land fertility.

Despite these massive changes, useful fishery production of the Bay seems to have been sustained late into the 19th century. Over-harvesting of all resources --from forest to fish and shellfish--, sediment and nutrient loads, compounded by urbanization and a basin population of 15,000,000, appear to have already exceeded the Bay's capacity to sustain yields early in the 20th century.

Human consumption of land and resources is couched on the positive terms "Growth and Development," but the scale of disruption has reached very large proportions in the current century, with bridges short-circuiting rivers which were formerly an impediment to rapid travel across the land. In the Chesapeake basin 150 billion vehicle-miles are driven annually, and this increases much faster than population. We may have already exceeded by a factor of two the ability of the land and Bay to sustain themselves against our impacts.

These trends proceed unimpeded. Do we intend to permit this and underwrite continuing decline of the Bay?

REFERENCES:

"RMI's Economic Renewal Program: An Introduction,"
The Economic Renewal Guide, 3rd edition, Rocky Mountain Institute, 1997.

"The NEXT Industrial Revolution," William McDonough and Michael Braungart, *Atlantic Monthly*, October 1998.

International Council for Local Environmental Initiatives (ICLEI);
http://www.iclei.org

TOOLS AND TECHNIQUES

The Summit's plenary speakers offered participants a context in which the workshops and training sessions fit. Working with a broad, pliable definition of sustainability, the 20 sessions offered tools and techniques available to local governments to support them in their efforts to address local needs to promote smart growth, protect the environment, and preserve quality of life.

Throughout the watershed, communities are at very different levels along the journey toward a more sustainable future. Some are seeking ways to define their community and its vision for the future, while others have identified goals and are preparing implementation plans. Whatever level a community finds itself, if there is the political and civic support for initiating a process to address the communities future, there are tools, techniques, partners and supporters who can work with and for the community in their venture.

The Summit agenda is designed to address the needs of communities as very different levels. Summit tracks, featuring four workshops each, mirror those steps local governments can take to move toward sustainability. The following summary of the workshops outlines this four-step process:

▲ *Starting Out Right* explores techniques local governments can use to achieve community involvement and build local consensus;

▲ *Characterizing Your Community* offers tools to analyze and define local resources, interests, and needs;

▲ *Planning for the Future* features techniques to move from a vision to a plan, reflecting the character and vision of the community;

▲ *Implementing Sustainable Community Initiatives* provides "how to" methods for sustainable programs and policies.

Each workshop or training session summary highlights a tool or technique, a definition and description of its use, and is supplemented with case studies of its use in communities throughout the watershed. A selection of resources is also featured for each session, offering further information about the presentation, the presenters or the tool itself. This summary itself is intended to serve as a tool for local governments as they begin their journey toward a more sustainable, livable future.

Building Consensus and Resolving Conflict

Tool: Mediation / Consensus-based public dispute resolution

Dr. Frank Dukes, Associate Director for Institute for Environmental Negotiation (IEN) at the University of Virginia presented the role consensus building processes can play in generating shared interests and goals. Sustainability is both a process and a desired outcome. Communities planning for a long-term, viable future are on a journey to sustainability. This journey takes them from:

1. Management to transformation - communities often find themselves trying to manage a conflict without any shared vision. Management processes also tend to want to "fix" a problem and move on. Transformation is looking beyond the borders of management, identifying long-term goals and ideals;

2. Interests to relativeness - economic, social and environmental interests are not independent interests, but very much interdependent. To successfully address the challenges of one interest, all other interests must be incorporated;

3. Common ground to a higher ground - taking individual interests and relating them to a shared vision.

Sustainability can only be achieved with the participation and support of a variety of interests. This participation makes conflict inevitable, but such conflict need not be destructive. In fact, conflict should be seen as an opportunity to identify problems, create solutions, and improve relations.

> **Conflict need not be destructive. In fact, conflict should be seen as an opportunity to identify problems, create solutions, and improve relations.**

Models:
How can counties protect their heritage and rural character when faced with rapid growth? A relatively new concept, championed by the National Park Service, is for communities to develop long-term action plans to be implemented by community organizations in partnership with local government. These have become known as "heritage plans" or "heritage partnerships" and have been used by communities in Maryland and Pennsylvania to successfully market their areas for heritage tourism, the fastest growing component of the American tourism industry.

Many citizens of Fluvanna County, now the second fastest growing county in Virginia, believe that their local heritage is at stake. Fluvanna's heritage was the focus of a day-long "Community Forum"

facilitated by IEN. Organized by a broad coalition of citizens and non-profit organizations with assistance from IEN, the Community Forum was the first step in bringing citizens together to identify key features of Fluvanna's historic, cultural and natural resources that local residents feel deserve preservation, protection and promotion.

During the Forum participants identified what is important to them, and ways in which these things might be preserved, protected, or promoted. This effort will help the development of the county's new Comprehensive Plan and will also serve as a guide for future community efforts to safeguard its heritage.

Resources:

University of Virginia's Institute for Environmental Negotiations web site: http://www.virginia.edu/~envneg/IEN.html

University of Maryland's Institute for Government Services web site: http://www.inform.umd.edu/IGS/

Team Decision Center, a part of Pennsylvania State University
Contact: K. David Weidner, Instructor/Facilitator
225 Penn State Scanticon, University Park, PA 16802-7002;
phone: (814)863-5145; fax: (814) 863-5190

Presenter:

Dr. Frank Dukes, Associate Director, Institute for Environmental Negotiation, University of Virginia

Cooperating With Our Neighbor Jurisdictions

Tool: Collaboration / Partnerships

Regional collaboration is central to the achievement of smart growth and watershed protection objectives. In addition, cooperative efforts can strengthen a region's prosperity while improving the quality of life of individual communities.

Model:

Cooperation amongst neighboring jurisdictions in the Portland region began in earnest through transportation planning. In the 1970's, the region decided against massive additions to the freeway system, and instead chose to use federal dollars for alternatives such as light rail and other infrastructure projects. The broader result of this decision was to create a transportation planning system that required flexibility, regional planning, and citizen participation.

Rather than being limited to transportation, the principles of flexibility, regional planning and citizen participation are the key to "cooperatively" solving most of our major public policy challenges. The presentation by Michael Harrison, Legislative Assistant for Congressman Blumanauer, focused on how the three principles are being used to successfully restore the Johnson Creek Watershed in Oregon.

Model:

Gary V. Hodge, currently president of a new consulting firm Regional Policy Advisors, discussed Southern Maryland's experience with regional collaboration. Having served 18 years as executive director for the Tri-County Council for Southern Maryland, he has been involved in successful regional initiatives that brought jobs, economic development and more effective relations with the State. His presentation highlighted the Southern Maryland's historic opportunity to bring more than 6,000 high-technology jobs to the region, forging unprecedented partnership with the State to build $200 million in transportation and education infrastructure, and on the strength of these accomplishments, to embark on the creation of a comprehensive regional strategy that would articulate a vision for the future and lay the foundation for a new generation of regional prosperity.

Securing long-term cooperation between the State and the region, the Tri-County Council drafted and successfully pursued enactment by Congress of an amendment to the federal Intermodel Surface Transportation Efficiency Act of 1991, ensuring that the local elected officials of Calvert and Charles counties would continue to have an impor-

"As individuals, organizations, and communities we can work to decrease risks to the most valuable and vulnerable aspects of the quality of life for all our region."
— taken from the 1998 Sustainability Accords of the Thomas Jefferson Sustainability Council

tant role with the State in the selection of highway and transit projects. Since 1987, when the State added $44 million in major highway projects to the construction program, the Tri-County Council has been instrumental in identifying regional transportation priorities and facilitating agreement with the Secretary of MDOT to fund new projects.

Model:

Nancy O'Brien, Executive Director for the Thomas Jefferson Planning District Commission (TJPDC), offered a third example of how disparate parts of a community or region can effectively work together to meet interjurisdictional goals and interests. The Thomas Jefferson Sustainability Council was created in 1994 by the TJPDC. The diverse group of farmers, business people, foresters, environmentalists, developers and elected officials was given the charge to describe a future where economic, human, social, and environmental health are assured. With the participation of the public through several forums, the Council has since developed a set of sustainable principles and goals, objectives, indicators and benchmarks of a sustainable region. These ideals can be used by the region's communities to assess where they are, where they want to go, and how they can get there in the future, meeting their own needs and the needs of the region.

The TJPDC is now taking these principles and objectives to community leaders, and asking them to promote principles of sustainability through their organization and the community.

Resources:

Thomas Jefferson Planning District Commission web site: http://monticello.avenue.gen.va.us/tjpdc/

Hampton Roads Planning District Commission newsletter highlighting two of their regional programs focused on water supply and watershed management: http://www.hrpdc.org/newsletter/news_env2.html

National Association of Regional Councils web site: http://www.narc.org

Presenters:

Michael P. Harrison, Legislative Assistant, Office of Congressman Blumanauer, Portland, Oregon; Gary V. Hodge, President, Regional Policy Advisors; Nancy O'Brien, Executive Director, Thomas Jefferson Planning District Commission.

Moderator:

Paul Farragut, Executive Director, Baltimore Metropolitan Council

---

A Selection of Thomas Jefferson Planning District Commission's *1998 Sustainability Accords*

Encourage and maintain strong ties between the Region's urban and rural areas, fostering healthy economic, environmental, social and political interactions.

Promote the *consideration* of *appropriate scale* in all development and land use decisions.

Ensure that *water quality* and *quantity* in the Region *are sufficient* to support the human population and ecosystems.

Optimize the *use and re-use* of *developed land.*
Promote *clustering* in residential areas and the integration of business, industry, recreation, and open space.

Develop attractive and economical *transportation alternative* to single occupancy vehicle use.

Better Planning Through Visualization Tools

Tool: BLUEPRINTS and the Visual Interactive Code (VIC)

Communities frequently struggle with how to manage change and are often unaware of the positive choices they can make to encourage compatible development while protecting their cultural and natural resources. The two projects featured in this presentation, BLUPRINTS and the Visual Interactive Code (VIC), have an illustrative and engaging multimedia format that makes information accessible and interesting to all, particularly those who have trouble understanding complex community design-related issues. Kelleann Foster, RLA, Associate Professor of Landscape Architecture at Penn State utilizes these computer technologies and photo-realistic image manipulation to communicate alternative design scenarios and policies to local decision makers.

The BLUPRINTS CD-ROM is a unique tool for learning about, or educating others about, responsible land use design practices that result in sustainable development and improved environmental conditions. BLUPRINTS, Best Land Use Principles & Results, Interactively Shown helps to foster quality community design and planning through enhanced understanding of land use options. The CD-ROM dynamically educates through illustrating innovative, sustainable alternatives as compared to the status quo, highlighting the consequences of both. It includes economic impacts as well as social and legal implications. BLUPRINTS includes pictures and descriptions of actual examples highlighting how several communities have successfully implemented the featured techniques.

Inspiration for the CD-ROM came from Foster's work with rural areas in Pennsylvania struggling to control growth that threatens to erode the positive characteristics of their communities. Foster notes that communities have choices they can make about their future, but often are not aware of them. "I knew that there are effective ways to make those choices a reality," she recalls, "but the challenge was to devise a way to illustrate many of them while also suggesting ways to make them happen in any Pennsylvania community.

The Visual Interactive Code (VIC) overcomes the problems associated with the typical code format -- text laden with legalese - which is very difficult to understand and apply, and often inadequately conveys what a community desires for its future. VIC is a new regulatory communication format that allows the integration of a community's wealth of planning data with new multimedia computer technologies. The creation VIC provides significant advantages over the conventional regulatory format. It is more effective in communicating implications, and it al-

Just as blueprints for a building explain what goes where and how it will look, zoning regulations act as a blueprint for a community, telling us what can go where and what it will look like.

Communities need to be able to control their destinies, and BLUPRINTS is a tool that helps them do so.
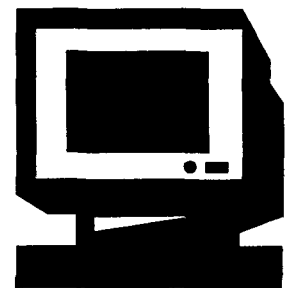
lows a community to be specific about and sensitive to the peculiar local character and natural resources that differentiate each portion of a town.

Other advantages include:
♦ use of color and pictures makes information more relevant for the community
♦ graphically driven structure is easy to use and is engaging for the user
♦ user retrieves information in a manner similar to our thinking processes
♦ organizational structure allows easy access to vast, disparate amounts of data
♦ development process and use encourages community participation.

Resources:
Department of Landscape Architecture, Penn State University web site:
http://www.larch.psu.edu/

Visual Interactive Communications Group web site:
http://www.VICGroup.com

"Officials and the public in Findlay Township found the visual images to be the most helpful part of the code," said Foster. "The visual images are so unintimidating, people actually enjoy using the system. That's certainly not the typical experience in using planning and zoning documents."

Presenter:
Kelleann Foster, Associate Professor of Landscape Architecture,
Penn State University

Moderator:
Eric J. Walberg, Principle Physical Planner, Hampton Roads Planning
District Commission

Smart Growth and Transportation

Tool: TEA-21

Reid Ewing, author of <u>Best Development Practices</u> and <u>Transportation and Land Use Innovations</u>, challenged workshop participants to grasp and understand the necessity of a paradigm shift in how transportation system performance is measured. He states there should be less emphasis on how fast vehicles move and more emphasis on how well people's travel needs are met.

The old Speed Paradigm has been unable to address today's society and its mobility. In brief, the cost of today's transportation mode of choice, the automobile, is extraordinarily expensive because it includes not only out-of-pocket costs to the car owner, but road subsidies, costs of "free" parking, air pollution and uncompensated accident costs.

Therefore, the new paradigms – land use and transportation — need to address the definition and purpose of transportation – the ability to engage all people in desired activities at moderate cost to themselves and society. The goal of "best development practices" for transportation is slow and steady, not fast which detracts from the sense of community:

- ◆ Mobility – encouraging alternatives to single passenger auto trips;
- ◆ Accessibility – compact and efficient living centers;
- ◆ Livability – where the auto is not the focus of community design and planning;
- ◆ Sustainability – meeting the needs of tomorrow's generation.

There is evidence that a shift from the old to the new paradigms is taking place at the federal, state and local level. President Clinton's Livability Agenda has accelerated a growing trend toward sustainable communities. New opportunities in TEA-21, discussed below, offer further support to this shift in paradigms. At the state level, some regions, including Florida are implementing growth management plans that incorporate this new way of thinking and planning for society's transportation needs. This is also seen at the local level, most clearly in some of the nation's popular urban sites such as Orlando and Portland.

Laura Olsen from the Surface Transportation Policy Project described the opportunities that exist through TEA-21 to make communities more livable. TEA-21 leaves the groundbreaking reforms of ISTEA intact and provides new opportunities for innovation. However, she emphasized that citizens and local officials must take advantage of the new and continuing programs. Over two billion dollars was authorized in TEA-21, an increase, but overall not as much as it might seem, espe-

... traditionally, traffic experts have operated with one objective: to move people into and around cities as rapidly and efficiently as possible...But of course that is no solution...Cities should be an end, not a means.
— Kirkpatrick Sale

...the task of increasing urban mobility may not call for more transportation at all, but may depend more on such non-transportation solutions as the locations, densities, and aesthetics of everything done to accommodate urban man. — Wilfred Owen

New Opportunities in TEA-21

1. *Job Access and Reverse Commute Grants*
   - $750 million over 5 years (begins FY 99)
   - Transit authorities and other service providers may apply for grants to cover costs of developing and implementing services to transport welfare recipients and eligible low-income individual to and from jobs.

2. *Commuter Choice*
   - TEA-21 removes several barriers that have prevented employers from offering a choice of commuting fringe benefits - parking, transit vouchers or van-pool service. Employers can now lower their tax liability by offering such a choice, and employees can choose the most cost-effective form of commuting.
   - Levels the playing field, but participation is entirely voluntary. Employers need to be informed.

3. *Land Use Pilot Project*
   - The Transportation and Community and System Preservation Pilot program (TCSP program) provides $120 million over 6 years in grants to address links between land use, community, quality of life and transportation.
   - On a competitive basis, grants will be made to state, local and regional agencies that can partner with non-profit organizations, private sector interests and others to make transportation and land use connections. Money can be used for design, planning or implementation.

4. *New Rail Starts*
   - Significant increase -- $8.2 billion authorized and $6.1 guaranteed; 191 New Start projects are authorized, including Norfolk/Virginia Beach.

5. *Bikes*
   - Funding for bike facilities has grown from $8 million in 1990 to $265 million in 1997;
   - New policies in TEA-21 create new standards for consideration of bicycle and pedestrian needs when road projects are undertaken. USDOT has will consult with interested parties to develop guidance on various approaches to accommodate bike and pedestrian travel, including rethinking the AASHTO design guidelines.
   - Safety -- TEA-21 modifies Hazard Elimination programs to ensure that projects to protect the safety of bicycling are eligible for safety funds, and makes traffic calming specifically eligible.

cially considering federal funding makes up only 1/4 of total public sector spending on transportation. State Transportation funding increases in the watershed by state include: Virginia with a 61.8% increase, Maryland with a 28.7% increase, and DC with a 12.4% increase.

There are several significant changes in what programs receive support. While TEA-21 provides a 54% decrease in the share of funding dedicated to the construction of new highways, there is a modest increase in the amount dedicated to both maintenance and transit, and just over $8 billion, 5 percent of TEA-21 dedicated to the Congestion Mitigation and Air Quality Program (CMAQ). Enhancements -- arguably the most controversial and attacked program, also grew in size from an average of $450 million/year to $620 million/year. Finally, there was some expansion of eligibility to provide for safety and educational activities for pedestrians and bicyclists.

Resources:
Transportation Action Network web site: http://www.transact.org

TEA-21 web site: http://www.tea21.org

The TEA-21 User's Guide -- a 60 page booklet put out by the Surface Transportation Policy Project providing understandable language about TEA-21 -- Contact STPP: 202-466-2636.

Reid Ewing, et al. Best Development Practices, American Planning Association, 1996. Contact: (312) 786-6344

Presenter:
Reid Ewing, Fehr & Peers Transportation Consultants; Laura Olsen, Campaign Manager, Surface Transportation Policy Project

Moderator:
Yolanda Takesian, Community Planner, Maryland Department of Transportation

Measuring Progress and Success Through Community Indicators

Tool: Sustainable Indicators

How Sustainable is the Mid-Atlantic Region? — One of the greatest threats to the quality of life in the Mid-Atlantic Region in the 21st century is the competing uses of land for human consumption. Sprawl development is consuming our vital resource lands, including our forests, farmland and wetlands. Vehicle miles traveled is increasing exponentially, while people are spending more time and energy commuting in congested traffic.

Theresa Martella, US Environmental Protection Agency (EPA) examined the environmental, social and economic trends threatening the sustainability of the states in Bay watershed.
The data and trends are organized under five themes:

♦ Reducing Sprawl/Encouraging Low-Impact Development
♦ Protecting our Vital Resource Lands
♦ Minimizing Unsustainable Transportation Trends/Improving Infrastructure
♦ Enhancing our Quality of Life by Linking Environmental, Economic, and Community Goals
♦ Realizing a New American Dream

Indicators under these themes, developed by the EPA's Sustainable Development Program, were used to select longer-term, sustainable priorities and these indicators are being requested by state and local organizations, committees and public groups. Sustainable Development is "development that meets the needs of the present without compromising the ability of future generations to meet their own needs." The EPA also manages a grant program to support sustainable development in communities.

Model:
Grady O'Rear, Loudoun County, VA, examined the environmental, social, economic and educational potentials of a planned community in Loudoun County, Virginia known as EcoVillage. Top environmental planners and architects have worked with future residents and community volunteers to create this successful approach toward sustainability by using indicators. EcoVillage is located near Washington, D.C., in one of the nation's fastest growing counties. It will be home to families and individuals who seek a healthy lifestyle built on a foundation of community and commitment to the environment. Construction is anticipated to begin early in 1999.

The vision of EcoVillage includes a neighborhood of diverse individuals who want to be part of a community that encourages collaboration and ensures privacy. The plan combines the cohousing ideal of people living together in community with the ecological ideal of people living in harmony with the Earth. Restoring biodiversity ensures commitment to protecting the wildlife, wetlands, forests, soil, air and water. Landscape planning emphasizes native plants and wildflowers and, for those interested, will create an opportunity for organic gardening and farming. The community will also support home-based occupations, offering advanced telecommunications-high-speed Internet access and other options-to promote a localized, sustainable economy.

Model:

Gregory Bowen, Calvert County, Maryland, presented his county's work as an example of how a community can use indicators to plot its priorities, its goals and its agenda for moving toward sustainability. Calvert County is the fastest growing county in the State, with the majority of that growth occurring outside town centers. The County has developed a statement on sustainability, identified a County vision, outlined the threats to that vision, and specified benchmarks and action highlights. These benchmarks have been incorporated into the County's comprehensive plan.

For example, the following are four of ten vision statements, related to the County's rezoning process:

- Our landscape is dominated by forests and fields.
- Our Town Centers are attractive, convenient, and interesting places to live, work and shop.
- Our wetlands, streams, and forests support thriving plant and animal communities. Our seafood industry is prospering.
- We are building a strong local economy based on renewable resources, high technology, retirement, recreation and tourism.

Based on this vision, the County then set benchmarks, a selection of which is listed below, and structured the comprehensive plan to support these benchmarks:

- 40,000 acres of farm and forest lands are preserved.
- 25% of all new households are located in Town Centers.
- There is a 40% reduction in nutrients entering the Chesapeake Bay and Patuxent River.
- 90% of existing forest cover is retained.
- The commercial real property tax base is expanded from $147 million to $220 million by 2002.
- 2,700 new in-County jobs for residents (by 2002).
- The number of visitors is increased to 250,000 (by 2002).

Resources:

Trends in Sustainability presentation on the internet: http://www.epa.gov/region3/sdwork/trends.htm

Sustainable Development Challenge Grant Program web site: http://www.epa.gov/region3/sdwork/grants.htm
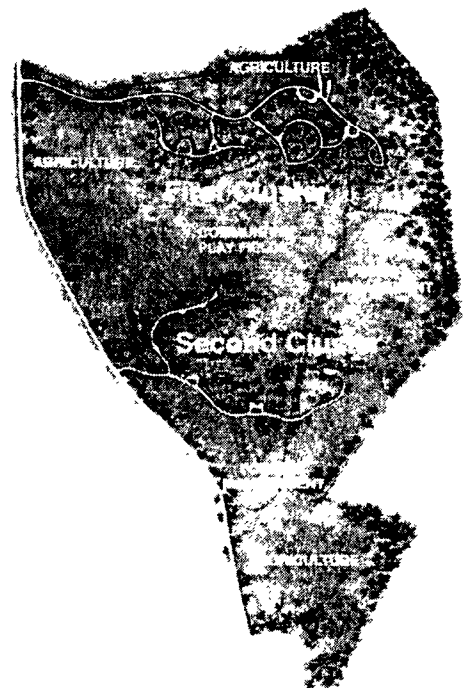
EcoVillage of Loudoun County, Virginia web site: http://www.ecovil.com

Presenter:

Theresa Martella, US Environmental Protection Agency; Grady O'Rear, Loudoun County; Gregory Bowen, Deputy Director, Department of Planning and Zoning, Calvert County, Maryland

EcoVillage of Loudoun County, Virginia

Environmental Evaluations: A Characterization Tool

Tool: Farm-A-Syst / Home-A-Syst

Farm-A-Syst / Home-A-Syst (FAS & HAS) serves as a model program to turn assessment into action -- changing individual actions to protect the environment through voluntary pollution prevention programs. Voluntary assessments and voluntary action are powerful mechanisms, especially if there is support at the government and private sector levels. With partnerships between these two interests, FAS & HAS overcome barriers to voluntary actions such as disconnected programs and policies; inaccessible legal and technical standards.

The program is set up to work with individuals, families, farmers, ranchers, and water quality agencies who are looking for cost-effective tools to prevent pollution. Gary Jackson, Director, National Farm-Syst/Home-a-Syst, Wisconsin Cooperative Extension Service outlined the program's three steps:

1. Assess onsite problems;
2. Identify actions to undertake;
3. Understand where to go for help and support.

To use The FAS & HAS as a model, local leaders need to identify a structure for the program to work under, identify the various components, potential partners and interest groups that need to be involved, and identify the method of communication to bring all the components together.

Model:

New York state has expanded the concept of Farm*A*Syst to become the Agricultural Environmental Management (AEM) program. It is a state-wide voluntary, educational and incentive-based program, which assists farmers in implementing environmental stewardship practices on their farms. Almost all of the agricultural counties in New York are in some stage of implementing AEM.

While retaining Farm*A*Syst's confidentiality and voluntary aspects, AEM has expanded to a five-tier system of assessment. It has also developed several new worksheets covering vineyards, horses, greenhouses and daily spreading practices for manure management, and farm-neighbor relations. Management and delivery of AEM has facilitated a unique partnership between Cornell Extension, Soil and Water Conservation Districts, USDA's Natural Resources Conservation Service and New York's Department of Agriculture and Markets.

Model:

The Environmental Farmstead Evaluation is a standardized "scorecard" that was adapted from the National Farm*A*Syst program to address the environmental concerns of regional dairy farming. The evaluation, developed by the Penn State College of Agricultural Sciences Cooperative Extension, in cooperation with USDA Natural Resources Conservation Service, focuses on the management activities and farmstead conditions that prevent the degradation of ground water and surface water quality.
The objectives of the Environmental Farmstead Evaluation are to recognize farmers who manage their farmsteads in an environmentally sensitive manner; and to identify site conditions that can to be addressed to enhance environmental protection.

The Environmental Farmstead Evaluation addresses six key farmstead areas at which water contamination can occur, including: barnyard management; pesticide storage and handling; stream and drainage management; milk house waste; well condition and construction; and home sewage system.

Each area is scored based on the environmental performance at each category, and the scores combined for an overall ranking of the dairy farmstead. Participating farmers with scores over 80 on the Environmental Farmstead Evaluation qualify to receive a premium on their milk checks. Each farmstead is evaluated annually, or when management changes are made that may affect Environmental Farmstead Evaluation scores. Farmers whose farmsteads score less than 80 have the option to develop a Farmstead Enhancement Plan. This plan then forms the basis for management changes in order to achieve the environmental protection performance threshold.

Model:

The Environmental Quality Initiative (EQI) is the latest program of the Dairy Network Partnership, an organization dedicated to enhancing environmental quality while maintaining economic viability on regional dairy farms. The EQI enables environmentally-minded milk drinkers to support the use of environmentally sound management on dairy farms through their selection of EQI-labeled dairy products.

With every grocery purchase that bears the EQI mark, a portion of the purchase price is deposited in a fund that helps participating farmers to protect shared natural resources. This new program helps educate the public on the issues related to dairy farming and promotes consumer influence to increase program participation.

Resources:

National Farm*A*Syst / Home*A*Syst web site:
http://www.wisc.edu/farmasyst

Environmental Quality Initiative web site: http://eqinitiative.com

Agricultural Environmental Management (AEM) web site:
http://www.cce.cornell.edu/ag/environmental-mgt/aem.html

Presenters:

Gary Jackson, Director, National Farm-Syst/Home-a-Syst, WI Cooperative Extension Service; Deb Granthan, Cornell Cooperative Extension Service; Les E. Lanyon, Pennsylvania Cooperative Extension Service; Jim Curtola, Upper Susquehanna River Coalition, New York State Soil and Water Conservation Committee.

Moderator:

Doug Knox, National Farm-a-Syst/Home-a-Syst, Natural Resource Conservation Service

Farm*A*Syst/ Home*A*Syst

Meeting the challenge of protecting private and public drinking water supplies in ways that other programs do not.

Its effective, voluntary, and confidential risk assessment programs have won the confidence of farmers, homeowners, private businesses and public agencies nationwide.

Better Planning Through Build-Out Analysis

Tool: Build-Out Analysis

A scenario-based approach to regional land planning offers several advantages. Notably, because the process intentionally investigates several futures, different points-of-view about what could or what should happen can be accommodated within the same study. The most important reasons however, to use a scenario-based approach are the potential benefits to local decision making processes.

Model:

Allan Shearer, Harvard University, Graduate School of Design presented alternative Futures for Monroe County, Pennsylvania, exploring how urban, suburban, and rural development might affect this area in the rapidly growing southern Pocono mountains region. Beautiful scenery and year-round recreational opportunities have made this landscape an ideal destination for tourists and honeymooners for over a century. More recently, these same qualities have attracted new residential development. In 1993 when this study was conducted, Monroe County was the second fastest growing region in the Commonwealth, and it was estimated that by 2020 the population would almost double to 190,000 people. Given the development pressures that will accompany this relatively large increase, it is possible that without careful planning the new growth may destroy the very same qualities that attracted residents to the County in the first place.

For elected officials and public administrators, scenarios can be used to test the resilience of existing plans against assumptions about the stability of current trends.

To examine potential patterns of development and the associated impacts the study team created a set of six alternative future *scenarios* of build-out based on existing plans, trends, and the opinions of area residents. The word scenario is commonly understood to mean an outline of events, usually the plot of a story, play, or film. Similarly for this research project, a scenario is an outline or plot for a future of Monroe County.

Scenarios can be used by:

♦ Property owners or land managers to understand the range of potential impacts to their lands that may be caused by regional change. Said another way, scenarios can help to assess how the multiple actions of neighboring property owners or the policies of local, regional, and national governments could affect one's own land;

♦ Elected officials and public administrators to test the resilience of existing plans against assumptions about the stability of current trends;

- Planners to test current planning ideas in terms of an evolving sense of public perceptions or wants; and

- All members of a community to better understand how the presently unknowable and numerous decisions that will be, and must be, made impact the future.

In these ways, scenario techniques within a build-out analysis enable a community and its leaders to make more informed decisions to achieve a desirable future.

The study was conducted in the fall of 1993 and was funded by Region III of the U.S. Environmental Protection Agency (EPA), the Monroe County Commissioners, the Monroe County Conservation District, the Monroe County Planning Commission, and the Pacific Northwest Research Station of the U.S. Department of Agriculture Forest Service. Vegetation data was provided by the Laboratory for Environmental Applications of Remote Sensing at Cornell University.

Resources:
The final project report can be seen at:

http://www.gsd.harvard.edu/depts/larchdep/research/monroe

Presenter:
Allan Shearer, Research Fellow, Harvard University, Graduate School of Design

Moderator:
Joe Tassone, Principle Planner, Maryland Office of Planning

GIS and Other Tools for Forest Conservation

Tool: GIS-based Analysis

Tools for Creating Greener Cities – Helping communities understand the vast environmental and economic benefits trees provide to cities. Trees' dollar value to storm water management, air quality, and energy use can be mapped and quantified using GIS. With this information in hand, city managers and planners can create policies and land use plans that maximize natural capital and result in greener cities.

Resource Analysis – American Forests is using GIS analysis and satellite data to look at vegetation trends in major metropolitan areas including Chesapeake Bay Regional Ecosystem Analysis (released March '99); Puget sound Regional Ecosystem Analysis (July '98); Atlanta urban ecosystem analysis (1996).

Alice Ewen of American Forests explained how CITYgreen™ software is used to collect field inventory data and generate economic benefits estimates associated with tree canopy collected from sample sites throughout the region. Data has been collected in the DC-Baltimore corridor and Bellevue, Washington.

CITYgreen™ works step by step, analyzing storm water runoff reduction estimates, energy savings, air quality, and carbon sequestration. American Forests has data available to communities throughout the Chesapeake Bay Region, including Fairfax County, VA, and may have subset data of vegetation maps for your area. CITYgreen™ is also available to interested communities through possible software grants for qualified applicants within the Chesapeake Bay Region, or by purchasing the hardware/software.

Model:

Baltimore County, MD has developed an *Integrated Watershed Management Program* that addresses federal non-point source pollution control mandates, State of Maryland initiatives for restoration of the Chesapeake Bay, and local priorities and cooperative water quality projects. Included are programs for growth management and land conservation, resource protection/regulation, environmental restoration, facility maintenance, monitoring, planning and research, and citizen education and participation. In particular, Baltimore County has aggressively enacted stream buffer protection, implemented stream restoration projects, developed forest assessment methods, and established a community reforestation program. Throughout these efforts, the County has focused on the functional role of stream systems and forests for maintenance of watershed ecology.

The ecology of the southeastern portion of the Chesapeake Bay watershed has changed dramatically since 1973. Forests have declined and urban development has expanded.

An analysis of a 1.5 million acre area surrounding the Baltimore-Washington corridor shows similar trends.

Model:

Montgomery County has adopted and is implementing a county-wide open space preservation program. The program has several elements including: a municipal government education program; a model zoning for riparian corridor conservation (already adopted by several municipalities) a guidebook for riparian corridor preservation; and an overall protection strategy.

Montgomery County's $100 million open space acquisition program and the state and county farmland preservation program have permanently preserved over 1400 acres of open space and 2722 acres of farmland so far. To supplement the land acquisition program, the county also sought other means by which to balance the constitutional right of the landowners to develop their property with society's desire for open space. Two basic ground rules were set:

♦ Any approach developed must preserve the economic value of the land;

♦ Open space, not houses, should be the dominant feature after development.

There are economic implications of tree loss for stormwater management and clean air in the Baltimore-Washington corridor.

With these two rules in mind, the county developed Land Preservation Districts (LPD). The LPD requires 75 percent of the land to be permanently preserved as open space, with only 25 percent of the land will be used for roads, driveways, and houses and yards. Site design flexibility is greatly enhanced, and environmental features, such as woodlands, steep slopes, and stream corridors, can be protected. The LPD provides a win-win situation as developers can take advantage of site characteristics to ideally locate homes, property owners gain financially, and the community gets permanently preserved open space.

Maintaining and restoring tree cover is a cost effective way to improve the Environment and achieve a sustainable quality of life

Resources:

American Forests web site: http://www.americanforests.org/

NEMO (Nonpoint Education for Municipal Officials) web site: http://www.canr.uconn.edu/ces/nemo/index.html

Presenters:

Alice Ewen, CITYgreen Director, American Forests; Donald C. Outen, Chief of Policy Planning and Research, Baltimore County Department of Environmental Protection and Resource Management; Eric Jarrell, Senior Environmental Planner, Montgomery County Planning Commission

Moderator:

Caren Glotfelty, Professor of Forestry, Pennsylvania State University

Developing Sustainable Codes and Ordinances

Tool: Codes and Ordinances

Working with many communities throughout the watershed, Dan Slone, an attorney at McGuire, Woods, Battle and Boothe, notes that communities often create their codes and ordinances in a vacuum – without recognizing the unintended consequences. Often communities expect that by adopting new ordinances, development will be stimulated. But absent any initiatives before the ordinances are in place, new codes will not necessarily stimulate action.

To combat these preconceived ideas of the role of codes and ordinances, local governments need to view their regulatory authority as part of a larger picture. Codes and ordinances are part of the whole planning process, connected to everything else. They should be viewed as an incentive mechanism for what the community wants to see in the way of site design rather than a regulatory barrier for what the community does not want to see.

To implement sustainable codes and ordinances, there must be a champion to drive the community, to educate the developer, the realtor, the taxpayers, and the financial community. That champion must be able to speak the language of all these interests.

Model:
Peter Johnston, Principle at Redman/Johnston Associates, highlighted the Town of Chesapeake City's traditional neighborhood development code. For the regulations to serve as an incentive mechanism, the community first needed to define the vision for the Town. Two of the most important issues that define the town and its sense of place are that streets are secondary to residents, and that the historic district defines the community both economically and as a design guideline. This vision is used to create functioning ordinances. The vision became part of the comprehensive plan review, and was then incorporated into the Town's development regulations.

Model:
Tom Kurtz has served as the Manager of Patton Township in Centre County, Pennsylvania since 1984, and has been involved in the Township's open space ordinance. Patton Township is a rapidly growing suburban/rural township just west of State College and the main campus of Penn State University. Current population is approximately 10,500. The Township is a leading member of several Spring Creek initiatives, including the Watershed Community, the Watershed Commission, and

What are some examples of sustainable site design that can be encouraged through regulations?

- *narrow streets*
- *tighter turning radii*
- *innovative waste water treatment*
- *alleys*
- *trees in parking lots*
- *smaller lots*
- *dark sky standards*
- *utilities in the road*
- *encroachments*
- *rear garages*
- *straw bale construction*
- *non-concrete sidewalks*
- *grey water use*
- *apartments over businesses*
- *co-housing*
- *composting*
- *creating affordable housing in infill*

the I-99 Partnership for Sustainable Development. Through its ordinances, the Township can dedicate land adjacent to stream corridors and forests as permanent open space areas. Through the use of the Rural Preservation District regulations greenways can be maintained and vistas can be preserved. This in turn provides protection for the Valley's groundwater and surface water resources.

Resources:
Street Design Guidelines at http://www.ite.org

Guides and model codes and ordinances at web site:
http://www.sustainable.doe.gov/landuse/lucodtoc.htm

Model codes and ordinances at web site:
http://www.epa.gov/Region3/greenkit

Congress for the New Urbanism web site:
http://www.cnu.org/index.html

Presenters:
Dan Slone, McGuire, Woods, Battle and Boothe; Peter Johnston, Principal, Redman/Johnston Associates; Tom Kurtz, Manager, Patton Township

Moderator:
Susan N. Hall, Director of Communications, Center for Chesapeake Communities

Codes and ordinances should be viewed as an incentive mechanism for what the community wants to see in the way of site design rather than a regulatory barrier for what the community does not want to see.

Redevelopment Through A Shift In Tax Policy

Tool: Innovative Tax Policies

Joshua Vincent, Center for the Study of Economics has studied the benefits to the two tier tax, or split rate tax for many years, and works with communities to re-evaluate and change their tax policies to promote smart growth. Communities throughout the watershed have experienced massive suburban growth. Cheap land in the countryside, cheap mortgages for new construction, transportation patterns and ever-increasing tax on sales, income and infill projects only encourage sprawl. A common-sense solution to discourage sprawl and encourage home-owners and businesses to use their sites more productively (thereby providing more jobs and construction) is tax on land values.

Like any program that will bring change to the status quo, involvement at the community level through education and outreach are essential. Grass roots organizations can help promote and educate the public on the facts of split tax rate and how it will affect the community. There are clear, successful examples throughout Pennsylvania where 16 communities have instituted the split tax rate, and everyone can learn from their example. But, Vincent cautions, land tax will not work in a vacuum, and communities should also consider smart growth policies encouraging strong zoning and open space regulations.

There are many faces to sprawl. It inhibits the use of transit by pushing places of work and residence away from mass transit infrastructure. It requires travel by auto and encourages new development to build for the automobile instead of the pedestrian. It pollutes the air, the water, and ultimately, communities' quality of life.

To combat sprawl, local government must look at innovative antidotes that encourage compact, mixed-use development that places homes near jobs, schools, recreation and shopping, promotes, walking and cycling, and enhances the efficiency of travel. To counteract these negatives, local governments can look to the reformation of property taxes – reducing the tax rate applied to building values, while increasing the tax rate applied to land values.

In his article, *Tax Reform Motivates Sustainable Development*, Rick Rybeck states, "Property tax reform can help create economic incentives to develop land adjacent to public infrastructure and amenities while reducing development pressures at sites farther away." He continues, "The higher land tax cannot be avoided or passed on to space users. Thus land owners are motivated to generate income from which to pay the tax. The greatest economic imperative to develop land will

> **To counteract sprawl, the property tax can be reformed by reducing the tax rate applied to building values, while increasing the tax rate applied to land values.**

exist where land values are highest, adjacent to existing infrastructures and amenities. At the same time, a reduction in the tax rate applied to building values makes that development more profitable. Away from infrastructure, where land values are low, taxes will be low and there will be less economic motivation for development."

Model:

Harrisburg City officials have described land value tax crucial to the cities revitalization. Harrisburg was labeled the second most distressed city in the early 1980s. Once plagued by over 4,200 vacant lots, Harrisburg now has fewer than 500. A more vital downtown has led to more jobs available in the inner city, a drop in crime by 22.5 percent since 1981, and a 51 percent drop in fires since 1982. These results are especially noteworthy when one considers the fact that 41 percent of the land and buildings of Harrisburg are owned by state or non-profit bodies and cannot be taxed by the city.

Model:

Municipalities in Maryland have the authority to set differential property tax rates. The Honorable Daniel Hartley, former Mayor of North Beach in Calvert County, MD considered tax reform for his community. North Beach is a small, but clear example of how tax on land values could work, though it has not been adopted as yet. This town of 2,700 people has a large supply of vacant and underused land yet it is on the Chesapeake Bay, where developers are seeking development opportunities. Denied the chance to develop a large, already infrastructured area (largely due to a recalcitrant landowner), the development community has been forced to look to pristine wetlands to build and develop. Research done by the Center for the Study of Economics shows that land value tax can make a difference in North Beach.

Resources:

Center for the Study of Economics web site:
http://www.smart.net/ ~hgeorge

Presenters:

Joshua Vincent, Center for the Study of Economics; The Honorable Daniel Hartley, North Beach; Rick Rybeck, staff attorney for the Honorable Hilda Howland M. Mason

Moderator:

Ann Swanson, Executive Director, Chesapeake Bay Commission

From 1970 to 1990, the density of urban populations in the Unites States decreased by 23%.

From 1970 to 1990, more than 30,000 square miles of once-rural lands in the United States became urban, as classified by the U.S. Census Bureau.
— Associated Press article "Census: Cities Takeover U.S." 12/18/91

Preserving Green Space

Tool: Open Space Bonds / Public Funds

On election day 1998, voters across the country considered a wide array of ballot measures designed to protect or improve parks, open space, farmlands, historic resources, habitat areas and watershed. In a survey conducted by Phyllis Myers, President of State Resource Strategies on the national trend to preserve open space land in the U.S., results concluded that 1) voters approved 72 percent of the 240 measures related to conservation, parklands and smart growth; 2) the approved ballot measures will trigger more than $7.5 billion in additional state and local conservation spending; 3) across the nation conservation ballot measures elicited strong constituency and grassroots engagement.

At the local level, governments are committing to local bonds, local revenue to protect and preserve natural resources, farmland, and recreational lands. Highlighting the importance of local government authority in preserving green space, the survey concluded that of the 240 measures, 226 ballot measures were considered in counties towns, cities and special taxing districts. Of these, 163 measures were approved. While most of the approved measures provide dollars directly through bonds or "pay-as-you-go" authority, the approved measures also include 19 regulatory and 4 advisory measures.

Model:
Debi Osborne, Director of the Chesapeake Field Office, Trust for Public Lands (TPL) works closely with communities to identify innovative finance strategies create urban parks, gardens, greenways, and riverways, build livable communities by setting aside open space in the path of growth, conserve land for watershed protection, scenic beauty, and close-to-home recreation, and safeguard the character of communities by preserving historic landmarks and landscapes.

TPL negotiated the permanent protection of the 515-acre Belt Woods Home Farm that surrounds 109-acre state-owned Natural Environmental Area, located in Prince George's County, just 13 miles from Washington, DC. Now owned by the State of Maryland, the property in recognized internationally as a critical nesting area for neotropical songbirds and mature, state champion trees. The property was acquired with State, County, City of Bowie, private foundation and individual dollars.

Model:
In Baltimore City, TPL is working to create the 14-mile long Gwynns Falls Trail. When complete, this linear park will provide access to urban wildlands and a number of cultural, natural and historic sites for residents from over 20 neighborhoods. To date, TPL has assisted the City of Baltimore in acquiring six properties totaling twenty-two acres, commissioned a multi-disciplinary Master Plan, and secured public funding for construction. This project was one of the first urban greenway projects in the nation to receive funding under the new Federal Intermodel Surface Transportation Efficiency Act (ISTEA) enhancements program.

Model:
The Rappahannock River, flanked by Richmond to the south and Washington, DC to the north is a key protection project for TPL. The Rappahannock Valley has experienced tremendous environmental pressure from population growth and development. Citizens representing all facets of the community banded

together to determine preservation measures for parts of the Valley. Local public support opened the way for the Rappahannock River National Wildlife Refuge. The cornerstone of the refuge was laid in 1995 with TPL's protection of a 1,100-acre property on Cat Point Creek, a tidal tributary of the Rappahannock. The land was secured through a partnership between the TPL and the Chesapeake Bay Foundation. TPL first negotiated a purchase with the private landowner and secured the property with a grant from a fund created by the North American Wetlands Conservation Act. After purchasing the property, TPL transferred the land to the Bay Foundation. After the Bay Foundation restored the wetlands, it donated the property to the U.S. Fish and Wildlife Service.

Model:

Responding to the rapid loss of land to development in recent years, the Bucks County Commissioners created the Bucks County Open Space Task Force to develop a practical plan to protect those natural resource areas and farmland deemed essential to preserve the unique character of Bucks County. The Task Force was charged with creating an inventory of specific existing sites; setting site selection criteria; establishing a priority rating system; recommending methods of acquiring land rights; developing a formula for the allocation of funds to municipalities to implement their open space plans; and recommending methods of financing land acquisition. One of a series of recommendations included the use of general obligation security bonds, borrowing $59 million over a 10 year period to fund the open space program. This recommendation led to a successful referendum.

Resources:

Rural Legacy Program (Maryland) web site:
http://www.dnr.state.md.us/rurallegacy.html

The Trust for Public Land web site:
http://www.tpl.org
phone: 1-800-714-LAND

Presenters:

Phyllis Myers, President, State Resource Strategies; Edward Evans, Chair, Bucks County Open Space Task Force; Debi Osborne, Director, Chesapeake Field Office, Trust for Public Lands

Moderator:

Theresa Pierno, Director, Education, Bay Policy and Growth Management Unit, Maryland Department of Natural Resources

Rural Legacy Program

To preserve green space the State of Maryland promotes the Rural Legacy Program. Under this program, between $70 and $140 million will be committed to preserve about 50,000 to 75,000 acres of Maryland's farms, forests and open spaces during the next five years. The Rural Legacy Program is part of a comprehensive package of program's that support Maryland's Smart Growth policy. Rural Legacy's goal, according to Theresa Pierno, Director for Education, Bay Policy and Growth Management Unit, Maryland Department of Natural Resources, is to preserve open space, farmland and natural resources. County governments, as well as groups of local governments can apply for state funds to protect critical open spaces. However, Theresa pointed out that the program was extremely competitive. To be successful in the competitive process, the application must seek to protect a combination of resources, contiguous forest lands, and demonstrate a strong local commitment to preservation. The State committed 29 million dollars to the program in its first two years. This year, the Governor has proposed $25 million in his budget to fund one year of the program.

Process to Achieve Economic and Social Goals Through Pollution Prevention

Tool: Public / Private Sector Partnerships

Local governments in the Bay watershed have repeatedly indicated a need for tools, techniques and models to help them contribute to the Bay restoration and protection effort, while simultaneously achieving local goals. The National Pollution Prevention Roundtable (NPPR) is a national forum promoting the development, implementation, and evaluation of efforts to avoid, eliminate, or reduce waste generated to air, land, and water.

The NPPR serves as a host for information exchange -- advance pollution prevention by maintaining and improving opportunities for exchanging ideas and facilitating coordination of efforts. They hold annual conferences, facilitate communication through all available media, support and improve a national pollution prevention information clearinghouse, and participate in pollution prevention activities of regional roundtables and academic pollution prevention initiatives.

The NPPR also serves as a policy advocate -- advance pollution prevention by influencing the development and implementation of policies, legislation and regulations.

To more effectively address the unique needs of local governments, the NPPR has created a Local Government workgroup. This group's goal is to strengthen the role and effectiveness of local government's contribution to pollution prevention efforts across the country. It was pivotal in publishing a compendium of case studies on innovative local government pollution prevention initiatives as well as coordinating National Pollution Prevention Week promotional activities across the country. The group is also active in conducting local government training workshops that are held in conjunction with Roundtable national meetings.

Model:

Business have led the way in pollution prevention techniques, and many programs they have initiated can be useful to local governments. BGE has long been a partner in Maryland environmental protection and conservation effort. BGE's fleet maintenance is an example of "reduce, reuse, recycle." By changing the maintenance practices, for example, BGE reduced the amount of oil used by more than 10 percent from 1995 to 1997. The goal is to reduce that volume by 5 percent, saving an additional 950 gallons in 1998. BGE is also a full-circle recycler of antifreeze. This means that the antifreeze used is recycled and returned for reuse. Recycled non-hazardous waste, such as scrap metal, generated

What are the Benefits of Promoting P2?

- ♦ Promotes efficiency in the small business community which helps businesses improve their bottom line;
- ♦ Creates an environment in which a positive relationship between government and business can be established;
- ♦ Reduces amount of harmful chemical contaminants that enter the environment via illegal disposal into drains, stormwater systems and streams;
- ♦ Decreases amount of waste entering landfills;
- ♦ Reduces disposal costs for businesses;
- ♦ Reduces potential damage to wastewater treatment plants due to toxic chemical disposal.

substantial revenue for BGE. Since 1993, BGE has recycled 24,240 tons of scrap metal, generating $6.5 million in sales and saving the company $100,000 in annual disposal costs.

Businesses for the Bay recognized BGE Environmental Scientist Steve Farkas as the Mentor of the Year for his work in helping businesses adopt pollution prevention programs. BGE is an active partner in the Chesapeake Bay Program's Toxics Subcommittee and its Pollution Prevention Workgroup. Businesses for the Bay is a program within the Chesapeake Bay Program to encourage voluntary pollution prevention efforts by large, medium and small businesses.

Model:
While local governments can learn from the pollution prevention practices of larger companies, they can also take a leading role in helping smaller businesses, also critical players in protecting the local environment. Montgomery County, in recognition of the growing need to address the hazardous waste management needs of businesses, developed the EcoWise program. The Program provides businesses with an economically viable opportunity to dispose of small quantities of hazardous materials. In addition to hazardous waste collection service, Montgomery County provides free publicity to businesses which participate in the EcoWise program. Such publicity includes a press release announcing a business' participation, signs, posters, and decals to alert customers of the business' environmental concern.

Model:
Businesses for a Cleaner River is an element of the Elizabeth River Project's (ERP) effort to include businesses in pollution prevention activities. The ERP was established in 1992 to improve and protect the water quality of the Elizabeth River, a tidal estuary of the Chesapeake Bay. Businesses played a major role in many of the action items of the 120-member Watershed Action Team as they worked to implement their goals. Thus Businesses for a Cleaner River is an effort to help businesses, large and small, find solutions that save money and reduce pollution. In particular, businesses are provided information on methods of reducing costs for energy, water, and raw materials; reducing costs of waste disposal; improving landscaping of property while reducing landscaping maintenance costs; and improving community image. Businesses for a Cleaner River offers free, confidential research and training on cost-effective alternatives to reduce pollution at the source and minimize costly waste.

Resource:
National Pollution Prevention Roundtable web site: http://www.p2.org

Local Government Pollution Prevention Toolkit: Tools and Models to help local governments implement pollution prevention (P2) and protect the Chesapeake Bay, its rivers and streams, U.S. Environmental Protection Agency for the Chesapeake Bay Program, 1998. Contact: 1-800-YOUR-BAY.
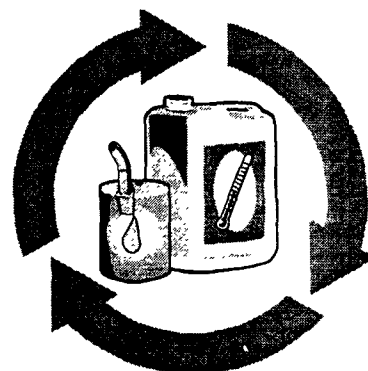
To learn more about *Businesses for the Bay* contact the Chesapeake Bay Program Office at 1-800-YOUR-BAY.

Presenters:
Michele Russo, Local Government Workgroup of the National Pollution Prevention Roundtable; Steve Farkas, BGE

Moderator:
Thomas Griffin, Virginia Department of Environmental Quality

Retrofitting the Suburbs

Tool: Tools for Design Processes for Greenfields: New Urbanism

Revitalizing existing urban centers and creating quality new development that achieves local design and planning objectives is a goal of many communities throughout the Bay watershed. Leonard Bogorad, Senior Vice President of Robert Charles Lesser & Co. has worked on numerous projects around the country that facilitate suburban infill in a sustainable manner. In order to incorporate smart growth strategies into the plan for the communities growth, often the first step is educating the numerous players involved in a suburban retrofit – the developers, realtors, bankers, local governments, and the public – about the differences between smart growth and conventional development:

♦ Smart growth plans the urban character of a community on a human scale, where the pedestrian is served by the car;

♦ In terms of financial growth, smart growth is measured not in years or generations, but as a sustainable, long-term time frame with regular maintenance;

♦ Smart growth incorporated a sense of community, and provides incentives for a societal mix of incomes and housing types.

Certainly barriers exist to new urbanism: such projects are often large and require long-term commitments. This in turn requires both political and public will and the buy-in of the business community. However, smart growth can be made easier by offering opportunities for dialogue between the different parties involved, designating smart growth districts, incorporating smart growth regulatory changes, and minimizing the red tape needed in innovative projects. For examples, in downtown Silver Spring the State of Maryland will commit $178 million, and Montgomery County $109 million over the next 20 years.

Model:

Involving the community and streamlining the regulatory process are two key actions that advance sustainable development objectives at the local level. Susan Hoffman, Community Relations Manager for Montgomery County, Maryland, discussed the County's comprehensive process to engage citizens and other special interests in the redevelopment of Silver Spring's downtown.

The Honorable Doug Duncan, Montgomery County Executive, appointed a diverse Silver Spring Advisory Board to develop a consensus vision for the revitalization effort. The Advisory Board, which was composed of community, business, environmental and other interests, met over a two-year period to determine the future of this older urban community. By involving the citizens and other interests up-front, the County was able to focus the attention of the revitalization effort on the needs of the community, not on the interests of technical experts or County planners. Meetings were often contentious and in some cases divisive, but in the end the process promoted progressive dialogue that moved the Advisory Board forward toward a consensus vision for the revitalization of Silver Spring.

After a number of revitalization proposals were presented to the Silver Spring Advisory Board, it decided to endorse the plan proposed by the Peterson Company. Tom Maskey, of the Peterson Company, described the revitalization plan. Their design was partially a result of the vision set by the Advisory Board and partially created by market forces.

Maskey pointed out that one of the reasons the redevelopment project was so appealing from a devel-

oper's perspective is that the county and the state worked closely with the developer to remove many of the regulatory barriers that usually plague downtown revitalization projects. These "green tape" policies help to make revitalization projects more economically appealing. Also, the work of the Advisory Board limited community opposition to the project. Relatively high density development in existing neighborhoods usually brings a level of opposition from the community. Since the community had such a prominent role in the redevelopment effort, opposition was avoided. For these two reasons, the government's flexibility in its regulations and the substantial and sustained involvement of the community, the redevelopment project has been an early success. The Silver Spring redevelopment project was scheduled for its ground-breaking in April 1999.

Model:

Tom J. D'Alesandro, IV, Vice President of Terrabrook, offered his perspective on the Reston Town Center community as a model. As the first major planned community in the US, Reston set a new standard for planning new urban areas. One significant reason for its success has been the commitment to create a community where people of all social, economic backgrounds can live, find employment, recreate and worship. Reston is a greenfield development that has worked financially while establishing a thriving community in the process.

The vitality of Reston Town Center (RTC) is attributable to the principles that went into its design and construction:
+ RTC has to be concentrated enough to be entirely walkable;
+ It has to be readily accessible by car as well as foot;
+ Must contain a rich enough mix of uses to multiply reasons for being there;
+ The density of the uses had to be high enough to bring sufficient people in; and
+ The spaces had to be attractive so that people would choose to shop there.

Many lessons can be learned from the experiences of the RTC, a greenfield development that demonstrates a sensitive approach to urban growth economically, environmentally, and socially. Reston and the RTC were carefully planned and built with particular attention paid to the quality of design over a 35 year process. It required working with local government to change the status quo and think about development in a new way – similar to what the new urbanism movement is doing. Tremendous long term commitment by several different owners was a prerequisite to its success.

Resources:

The National Trust for Historic Preservation's National Main Street Center: http://mainst.org/

Urban Studies and Planning Program, School of Architecture, University of Maryland: http://www.bsos.umd.edu/ursp/links.htm

Urban Land Institute: http://www.uli.org

Presenters:

Leonard Bogorad, Senior Vice President, Robert Charles Lesser & Co.; Tom Maskey, Peterson Company; Susan Hoffman, Community Relations Manager, Montgomery County, MD; Tom J. D'Alesandro, IV, Vice President, Terrabrook

Moderator:

David O'Neill, Center for Chesapeake Communities

Green Building Techniques

Tool: Energy Efficient, Green Construction and Design

Sustainable design and development is a comprehensive activity that includes: energy efficiency, use of alternative sustainable building materials, and environmentally sensitive site development. To bring green development into the mainstream, it must be market driven, affordable, powerfully address social and community needs, and institutionalized.

Harry Gordon, FAIA Principal, Burt Hill Kosar Rittleman Associates, has been fostering cultural change for the last two decades through his architectural practice, becoming one of the profession's leaders in energy and environmentally responsive design. Cultural change occurs when people recognize that something is not working. Once problems and symptoms are identified, the second step in cultural change occurs when people develop partial responses to some of these symptoms. Gradually, better integrated solutions emerge. Finally these new practices become common practice.

Some change occurs top down. Other times, and perhaps most powerfully in this culture, change is market driven. Fortune 500 companies and others are moving to incorporate green design into their everyday operations. For example, Interface Carpeting Inc. is completely re-organizing themselves based on ideas of a Second Industrial Revolution. A large part of this process is optimizing their use of resources and materials. Carrier, Hermann Miller, Armstrong, and others are all looking at similar ideas as a means of promoting business excellence. Cultural Change will be marked by:

♦ Integrated and comprehensive designs;
♦ Solutions that address environmental, business, and social needs;
♦ People will see Good Design as requiring Green Building Technologies.

Mark Bailey, Rebuild America Program, DOE, next described the Rebuild America Program – designed to assist local governments form local partnerships, in part to promote this cultural change. The program is focused on improving the local economy, creating jobs, protecting the environment, and enhancing the quality of life. Projects range from work in rural Alaska to big cities and small towns. For example, Reno, Nevada conducted a comprehensive review of their public buildings to increase comfort and affordability. Rebuild America offers training, education, and other resources. Central High School in Little Rock, Arkansas began a process with 20 high school students auditing their school

It only takes one quart of oil to contaminate 250,000 gallons of water.

You can save a tree with each four foot stack of paper you recycle.

If 100,000 Americans stopped their junk mail, we could save about 150,000 trees every year.

It takes 95 % less energy to produce an aluminum product from recycled aluminum than raw aluminum.

TRACK IV

and presenting their findings. They found that $57,000 in energy savings could easily be realized. Their presentation to City Council is currently being reviewed. Clearly though, success hinges on local champions who are key to community capacity building.

Model:
Tallib Horn, Assistant Director, East Harbor Village Center, Inc, spoke of the South East Baltimore Empowerment Zone. To forge an effective partnership, communities must be effectively organized.

Energy Efficiency was seen as a way to create local prosperity. The local Harbor Initiative was created through a HUD Sustainable Communities Challenge Grant, combined with an Energy Efficiency Grant, and Hope 6 HUD Grant. The community has gone through a strategic Land-Use Plan for the community, and is using it to direct community transformation. Resident energy experts are part of a steering committee that assists with upgrading the energy efficiency of existing and emerging buildings. They are currently conducting an energy assessment of the entire community. An upcoming community charrette will look at creating a generation plant, recycling businesses, and energy efficiency strategies for upgrading the community.

Model:
Bob Rowan, Assistant Vice President of Facilities Management at the University of Maryland, Baltimore presented the green building techniques used on campus. The campus is mainly medical and health based and is focused on education, training, and community service. It is Maryland's oldest public campus and contains 4,337,000 square feet of institutional space, on 25 acres, and uses 10 million dollars each year on energy.

The campus is currently in the midst of an on-going revitalization program that includes a number of energy efficiency efforts using a variety of energy conservation strategies:
♦ Bench-marking is used to track consumption;
♦ Centralized heating services save space and increase efficiencies;
♦ Infra-red roof analysis identifies heat loss and insulation breakdown;
♦ Fluorescent lights are used throughout the University along with motion sensors, and high-power factor engines.

Resources:
U.S. Department of Energy Clearinghouse web sites: http://www.eren.doe.gov

Maryland Department of Energy: 1 (800) 72-ENERGY

Presenters:
Harry T. Gordon, FAIA, Principal, Burt Hill Kosar Rittelmann Associates; Mark Bailey, Rebuild America Program Manager, U.S. Department of Energy; Talib Horn, Assistant Director, East Harbor Village Center, Inc.; Robert M. Rowan, Assistant Vice President, Office of Facilities Management, University of Maryland at Baltimore

Moderator:
Mark Bundy, Maryland Department of Natural Resources

Low Impact Development

Tool: Low Impact Development (LID)

Reducing the environmental impacts of development is a critical goal of communities located in the Chesapeake Bay watershed. LID is a new technology designed to reduce the impacts of growth and development on water quality and natural resources. In addition, low-impact development designs can significantly reduce the cost of development. LID is a storm water micro-scale management technology where controls are designed and integrated into multi-functional site features to restore and closely mimic pre-development watershed hydrologic functions. LID reduces development and maintenance costs and promotes public education / participation in pollution prevention and maintenance of LID practices.

For too long, rainwater has been viewed as a waste product rather than a resource. Roadblocks exist to implementing LID, such as regulations (waivers/exceptions), conventional practices, the inertia of change, and the need for education and training of local government staff, the building community and public. However, the benefits to LID are tremendous. LID is universally applicable, is economically sustainable and is a practical, simple and comprehensive way to achieve multiple purposes in pollution prevention and land use planning. The sidebar features a selection of micro-management techniques.

Tom Cahill, President of Cahill and Associates, looked at what sustainable site design practices, such as LID mean in terms of land and water resources. Sustainable site design minimizes the disturbance to natural hydrology, by:
- working with the natural characteristics of the site and maximizing the use of already built areas;
- maintaining the natural hydrologic cycle by not increasing the volume of storm water runoff and maintaining the recharge of storm water to ground water;
- maintaining water quality by using native plants and existing vegetation to serve as filters, limiting the use of future chemical site maintenance; and
- avoiding excessive earthworks and impervious surfaces that would create erosion and sediment problems.

Model:
For the last 25 years, Mr. Coffman has been instrumental in the development and implementation of Prince George's County's storm water management program which many consider to be one of the more comprehensive and innovative programs in the country. More recently, he pioneered the development of the innovative bioretention or Rain Gar-

LID Techniques
- **Bio-retention / rain gardens**
- **Rooftop retention**
- **Infiltration practices**
- **Permeable surfaces**
- **Parking lot storage**
- **Street storage**
- **Sand filters**
- **Sidewalk storage**
- **Dutch drains**
- **Under ground storage-catch basins**

dens best management practice and the new environmentally sensitive cost effective low impact development (LID) technology for the County.

Prince George's County is host to a number of models using LID practices. For example, in Sommerset, the developer designed shallow landscaped depressions called rain gardens on each lot to control storm water quality and quantity. This resulted in a $4000 cost savings per lot and allowed the developer to recover 6 lots that would have been lost to a storm water pond if conventional storm water management practices had been implemented.

Rain Gardens are a natural solution to reduce stormwater pollution to protect our water resources and the environment. Multifunctional use of the landscape to treat parking lots, urban streetscape and buildings is attractive and environmentally sensitive.

Model:
John Tippett is the Executive Director of the Friends of the Rappahannock, a 1,000+ member river conservation organization, based in Fredericksburg, VA. Among other programs, Mr. Tippett is leading an EPA Sustainable Development Challenge Grant project to market the economic benefits of innovative urban BMP and site planning practices to developers in the watershed. The project also seeks to remove roadblocks to implementation of reduced impact practices within local governments. By offering case studies of communities in the watershed and particularly in Virginia that have implemented green development practices, many of the traditional roadblocks can be eliminated.

Resources:
Several publications are available from Prince George's County, including the *Low Impact Development Design Manual* and a brochure entitled *Rain Gardens: The Natural Solution*, and a reference guide entitled *How Does Your Garden Grow*. Contact: (301) 883-5822.

Wastershed & Lake BMPs: Best Management Practices Appropriate for Established Urban Communities, Lake Barcroft Watershed Improvement District, Contact: 703-820-7700

Growing Greener in Your Rappahannock Watershed: Case Studies on the Economic and Environmental Benefits of "Green Development" Practices; Contact Friends of the Rappahannock, PO Box 7254, Fredericksburg, VA 22404
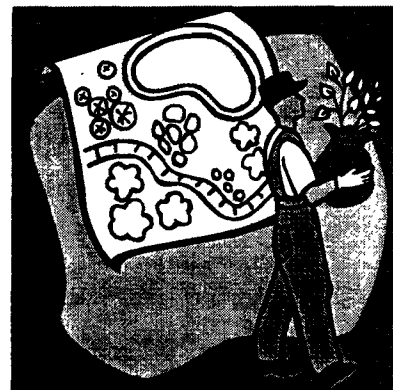
Presenters:
Larry Coffman, Prince George's County, MD, Department of Environmental Resources; John Tippett, Executive Director, Friends of the Rappahannock; Tom Cahill, President, Cahill and Associates

Moderator:
Bob Kaufman, Vice-President, Michael T. Rose Companies

Making Smart Growth Work

Tool: Public / Private Partnerships and Innovative Financing – Historic Tax Credits, and Enterprise Zone Tax Credits

Achieving Smart Growth principles requires the support and participation of all elements of a community. The American Can Factory and Bagby's Furniture brownfield projects are considered examples of how a coordinated public-private partnership can achieve the objectives of the developer, its partners and the community.

Andy Frank, Baltimore Development Corporation was on hand to talk about the feasibility of smart growth projects. They are difficult, and require an innovative developer, an enlightened city and public officials committed to success. But the benefits to such projects are great, and in Baltimore's case, created hundreds of jobs downtown.
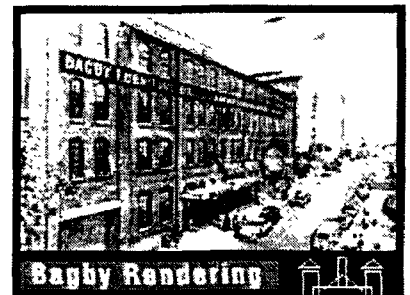
Smart growth opens new doors such as the cities investment in historic tax credits. It also attracts new types of investment such as high tech business support. Knowing there would be benefits to taking on the challenge of these more difficult projects, the city worked closely with the developer and assisted with changes to building code and parking regulations.

— Rendering by Fred Schonbach of Schonbach Graphics. Provided by Struever Bros., Eccles & Rouse, developer/ general contractor for the renovation of the Bagdby Furniture building.

Susan Wilson, Enterprise Social Investment Corporation, helped find the investment for these smart growth projects. They seek investors who want a profit, but also want to do social good, and therefore most of the investors are local or have a local interest. Tax credits ensure that there will be an economic return down the road.

Model:

American Can Company building, designed to manufacture cans for local canneries, was built in 1895 on 9.5 acres. Struever Bros., Eccles & Rouse gained site control in 1997 and found the site a mess with collapsing structures and lead contamination. By working with the neighborhood, starting the day Struever Bros. took over the site, the developer gained a clear perspective of what the community wanted. Community meetings were also helpful in addressing the concerns of local merchants and restaurants worried about the impact of large commercial chains.

While working under the standards of the National Park Service was a challenge, it helped in renovating the building so that it maintained much of its historic character (steel windows with 15,000 panes of glass), but also melded with the character of a waterfront community.

T
R
A
C
K

IV

The building has attracted tenants such as DAP, the nation's largest sealant company which relocated to Baltimore from Ohio, and hired 100 people, as well as a graphics design firm, a specialty restaurant, and book store and wine and spirits shop.

Model:

The Bagby Furniture building is a second brownfield example, renovated by Struever Bros located in Little Italy, downtown Baltimore. Built in 1902-1907 as a factory and warehouse, the 100,000 square foot building has giant masonry walls, and large wooden columns. Struever Bros. needed innovative financing to make this project feasible, and therefore looked to the National Historic Register to receive tax credits. The developer was able to get the building listed not for its architectural design, which was not extraordinary, but for the historic importance the business offered the City and the furniture industry. With the use of the Enterprise Zone Tax Credit Struever Bros. will pay a reduced property tax rate for 10 years – and reduced 80 percent for years 1-5.

While the project faced many challenges, including building community support for the project, and finding options for adequate parking, it is a clear example of what innovative public-private partnerships can do.

— Photo by Harry Connelly. Provided by Struever Bros, Eccles & Rouse, developer/general contractor for the renovation of the American Can Company building.

Resources:

Smart Growth Network web site: http://smartgrowth.org

Maryland's Smart Growth web site:
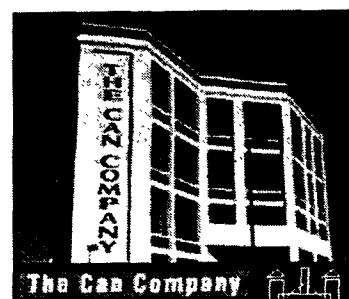http://www.op.state.md.us/smartgrowth

Presenters:

Tim Pula, Development Director, Struever Bros., Eccles & Rouse;
Katie Hearn, Development Director, Struever Bros., Eccles and Rouse;
Andy Frank, Baltimore Development Corporation; and Susan Wilson,
Enterprise Social Investment Corporation

Moderator:

Tom Bass, Manager, Communications and Legislative Affairs, Maryland
Office of Planning

Training Session

Community Capacity Building

How do local leaders involve their citizens? How do communities come together to build a vision? First, our definition of the "community" needs to expand and change as the community grows. The community can play a very powerful role in implementing change, but for the community to be effective, all the appropriate stakeholders must be identified and brought to the table. Outreach and communication are critical to informing the public. But for community capacity building to serve as a tool, training is key. Training allows communities to take what they have learned and put it into action. The following three tools and two case studies were offered as aids in the community capacity building process.

Tool: Green Communities

The Green Communities program was developed by the U.S. Environmental Protection Agency, Region III to assist local communities in taking responsibility for protecting their environment resources. A Green Community values its shared vision for a healthy future, and works together toward long-lasting solutions for improvement. Through partnering and an online Assistance Kit, EPA's Green Communities empowers citizens and community officials to solve problems, and make decisions in ways that integrate the unique environmental, social and economic issues found in their own communities.

Resource:

Susan McDowell, US EPA phone: 215-814-2739; web site:
http://www.epa.gov/Region3/greenkit; email: mcdowell.susan@epamail.epa.gov

Tool: Community Environmental Review (CER)

The CER is designed to provide local governments in the Chesapeake Bay watershed with direct technical assistance from regional experts in the fields of natural resource protection, land use management, and sustainable economic development. In a two-day event, local leaders and the public explore innovative strategies with the team of experts, specifically related to their community to achieve local goals and contribute to the health of the Bay.

Resource:

Center for Chesapeake Communities phone: 410-267-8595; web site:
http://www.chesapeakecommunities.org/support.html; email: shall@chesapeakecommunities.org

Tool: Countryside Exchange

The Countryside Exchange brings together international teams of volunteer professionals who work with communities on issues such as farmland preservation, growth management, intergovernmental cooperation, quality of life, tourism development, and watershed planning. A team of six to eight professionals from Canada, England, Scotland, the United States and Wales spends one week of intensive study in the community to examine issues identified in advance by the host community. The team meets with local residents, officials, and organizations, and tours important sites. At the week's end, the team presents their recommendations at a public meeting and in a written report.

The first Exchange in the Chesapeake Bay region was held in 1994 in Cumberland County, Pennsylvania, the Chester River Watershed in Maryland, and the Eastern Shore of Virginia. In 1996, Bay region participants included the Spring Creek Watershed of central Pennsylvania, and the Wicomico River Watershed in southern Maryland.

Resource:
The Alliance for the Chesapeake Bay Maryland Office: 410-3776270; Pennsylvania Office: 717-236-8825; Virginia Office: 804-775-0951; http://www.acb-online.org

Model: Union County, Pennsylvania

The Sustainable Community Program for the Buffalo Valley is an innovative initiative created by the Alliance for Sustainable Communities and the Union County Planning Commission to train local citizens on how they can guide long range planning and sustainable growth in a community. The program was dependent upon the quality of input and support from local citizens interested in the economic and ecological health of their community. The location selected for this program was the Buffalo Valley area of Union County, an area which historically has resisted planning and land use regulation.

More than 100 citizens participated in a two day workshop, in Mifflinburg, Pa., in March of 1997. Attendees included engineers, architects, builders, farmers, business owners, educators and high school students. One of the major results of the workshop was the identification of "Sacred Places" within the Buffalo Valley and the mapping of those locations. At the conclusion of the workshop the participants themselves decided to undertake a grass roots planning process, beginning with community education, to carry forward the ideas which they learned during the workshop. A steering committee has met monthly since March of 1997 and has adopted a work plan, established a speaker's bureau and has developed a presentation to use when speaking to various community groups.

Resource:
Union County Planning web site:
http://www.geocities.com/RainForest/Andes/1193/SusComm.htm

The Sustainable Communities Network web site: http://www.sustainable.org

Model: Falls Church, Virginia

The City of Falls Church, VA, with a residential recycling rate of 67 percent (i.e. two-thirds of all waste is recycled), is a national leader in recycling. Community involvement in program development and education have been key to the program's success. Hundreds of adult and youth volunteers are involved in partnership with local government program on a continuing basis. The cornerstone of citizen efforts are the Recycling and Litter Prevention Council, composed of an executive committee, and communication; the Recycling Block Captains, who distribute recycling information in their neighborhood; and "Operation Earthwatch," a program that encourages elementary-age youth to reduce waste and perform other environmental activities. Creating organizational structures for people to work together, providing opportunities for idea-sharing and "ownership," and personal communication and acknowledgment have been important elements of the strategy for building community capacity.

Resource:
Virginia's Department of Environmental Quality web site:
http://www.deq.state.va.us/programs/

Trainers:

Fran Flanigan, Executive Director, Alliance for the Chesapeake Bay; Susan McDowell, US Environmental Protection Agency, Region III; Annette Mills, Recycling Coordinator, City of Falls Church, Virginia; Tony Redman, President, Redman/Johnston Associates; Fred Wilder, Planning Director, Union County Planning Department, Pennsylvania

Training Session

Nurturing Sustainable Economic Growth

Communities throughout the Chesapeake region are learning that economic "growth" does not always mean an enhanced quality of life. Local governments know all too well the vicious cycle of needing to support the local economy by promoting development. But this increased development requires increased services, and often a decrease in the quality of life and sense of place for the community.

Michael Kinsley, director of the Rocky Mountain Institute's (RMI) Economic Renewal Program, and author of *The Economic Renewal Guide*, discussed the opportunities communities have to evaluate their local, individual strengths, consider alternative, innovative strategies, and begin to outline practical steps for sustainable economic renewal.

Tool: Economic Assessment

The first step to initiating economic renewal, Kinsley stated, is to consider four principles and relates them locally to identify community goals:

A.   Plug the Leaks – "Before trying to pour more money into a leaky economic bucket, a town should simply plug the leaks." By considering what products and services traditionally provided outside the community can be provided locally, the community can begin to put money back into the local economy. Consider where many residents buy food, water, energy, health care, and housing.

B.   Support Existing Businesses – According to a 1991 report by the National Conference of Sate Legislators, small businesses are the largest source of new stable and consistent creators of new jobs. Look for opportunities to support this sector by promoting small business development, often federally funded, and community development corporations.

C.   Encourage New Local Enterprise – New enterprise can often come out of established small businesses that seek growth alternatives. Such innovation often requires creative financing of which there are many practical, successful models.

D.   Recruit Compatible New Businesses – Businesses look for communities with local enterprises and a high quality of life. New business can meet need unfulfilled by existing businesses. Consider what the local community has to offer the prospective business, but also what the business can do for the local community.

"*RMI's Economic Renewal Program: An Introduction*" offers models of communities that have applied these four principles, and then used several tools to support their economic development effort. The Program also takes a community through a process by which to achieve practical results, and considers different options of timing and goals to expect.

Resources:

Rocky Mountain Institute's web site: http://www.rmi.org

Funding Resources:

Funding for Water Quality in Virginia:
http://www.mdsg.umd.edu/MDSG/EFC/Info/vawq.html

Funding for Water Quality in Maryland:
http://www.mdsg.umd.edu/MDSG/EFC/Info/mdwq.html

Funding for Water Quality in Pennsylvania:
http://www.mdsg.umd.edu/MDSG/EFC/Info/pawq.html

Trainers:

Elizabeth Hickey, Coordinator, Environmental Finance Center; Michael Kinsley, Director, Rocky Mountain Institute; Denise Harris, Associate Planner in Fauquier County; Dan Nees, Environmental Finance Center.

Training Session

Promoting Innovative Site Planning

This hands on training session incorporated many of the strategies and tools presented throughout the Summit. Presentations by Randall Arendt, Vice-President, Natural Lands Trust, and Mark Gutshall, Senior Environmental Manager, LandStudies, Inc., served to help local officials bridge the gap between ideas and implementation.

Mr. Arendt presents a practical, easy-to-use technique that enables developers and local officials to work together to accomplish their different objectives, namely the construction of full-density residential subdivisions (developers' goal) in such a way that helps to build a community-wide network of permanent conservation land (public officials' goal).

Tool: Conservation Subdivision Design

The presentation was extensively illustrated with numerous financially successful examples of "conservation subdivision designs", together with a straight-forward four-step methodology of laying out residential developments around the central organization principle of open space conservation. Development of this nature are "twice green", simultaneously achieving both economic and environmental goals.

The four step process was internalized by allowing the participants to apply the design process to a real parcel of land: selecting house sites in relation to the pre-identified conservation areas, aligning street and trails, and finally drawing in the lot lines.

Model:

There are examples of communities that have been able to preserve hundreds· (sometimes thousands) of acres of open space within a five-year period without spending a dollar of public money, all involving situations where developers have achieved their full density objectives at lower production cost, and where the original equity of landowners has not been disturbed.

The planning approach advocated in *Growing Greener* has conserved more than 500 acres prime farmland in a single township (Lower Makefiled, Bucks county, PA) in just five years, and that figure continues to increase as new conservation subdivisions are proposed and approved. At an average land value of $7,000 per acre, this represents approximately $3.5 million worth of conservation, achieved without spending public funds, without controversial down-zoning, and without complicated density transfers (TDRs). A similar per-acre saving has also occurred in Hamburg Township, Livingston County, Michigan, where 650 acres of land has been protected through conservation subdivision design over the last six years. And 2000 acres have also been saved through this same technique in Calvert county, Maryland during the first two years of the new land-use techniques being adopted. The combined value of those lands is in the neighborhood of $15 million, which makes this technique probably one of the most cost-effective planning tools available to growing communities.

Model:

The Center for Chesapeake Communities, LandStudies, Inc., and Spring Township, Pennsylvania have worked together on a *Site Planning Demonstration Project*, a program that seeks to provide a living model of sustainable development in the Bay watershed. Funded through the US EPA's Sustainable Development Challenge Grants Program and the Chesapeake Bay Program, the project selected a parcel of land in Spring Township, PA on which three site planning scenarios were developed and analyzed to determine

which development design and pattern was most sustainable.

To direct the team of local officials, architects, planners and developers in the site designs, the group prepared a list of principles of sustainable site design. These principles were organized on four different scales – regional, neighborhood, site and building – providing an overall context in which the benefits of sustainable site planning and development are maximized.

The site scenarios played to important roles. First, it showed how conventional, by-right development design works against the principles of sustainable site planning, instead basing its design on concepts such as vehicle orientation, disregard for the site's hydrology, lack of connections with a development, absence of linkages with the surrounding community and limited open space preservation. Spring Township is taking pro-active steps to address these regulatory impediments to innovative site design.

In addition to these important design elements, the draft site planning scenarios promote a process that helps ensure that the core design principles are implemented. The draft site plan scenarios' design framework promote flexibility – the central element of this process. It is intended that whomever acquires the land takes advantage of the flexibility offered by the Township's revised regulations and ordinances and builds a model community.

Resources:

Growing Greener, by Randall G. Arendt; a new community planning initiative which is designed to help communities use the development regulation process to their advantage to protect interconnected networks of greenways and permanent open space. contact (610)353-5587.

Conservation Design for Subdivisions: A Practical Guide to Creating Open Space Networks, by Randall G. Arendt; 60 pages. Figures, site plans, index. Published 1996 Island Press; contact (610)353-5587.

Natural Lands Trust web site: http://natlands.org

Alex Wilson, Jenifer L. Uncapher, Lisa McManigal, L. Hunter Lovins, Maureen Cureton, William D. Browning, Green Development: Integrating Ecology and Real Estate, John Wiley & Sons; New York, 1998.

Trainers:

Randall Arendt, Vice-President, Natural Lands Trust; Mark Gutshall, Senior Environmental Manager, LandStudies, Inc.

Training Session

Preparing Watershed Management

The presentation by Richard A. Claytor, Jr. P.E., Principle Engineer, and Edward W. Brown, Water Resources Engineer at the Center for Watershed Protection, outlined the following eight tools of watershed protection representative of the measures that should be taken to achieve watershed planning goals. The practice of watershed protection is about making choices about what tools apply, and in what combination. The eight watershed protection tools roughly correspond to the stages of the development cycle from the initial land use planning, site design, and construction through home ownership. As a result, watershed managers will need to apply some form of all eight tools in every watershed to provide comprehensive watershed protection. A brief description of each tool is provided below.

Tool: Land use planning/zoning

One of the goals of watershed planning is to shift development toward subwatersheds that can support a particular type of land use and/ or density. The basic goal of the watershed plan is to apply land use planning techniques to redirect development, preserve sensitive areas, and maintain or reduce the impervious cover within a given subwatershed.

A wide variety of techniques can be used to manage land use and impervious cover in subwatersheds. Some of these include: watershed-based zoning, overlay zoning, impervious overlay zoning, floating zoning, incentive zoning, performance zoning, urban growth boundaries, large lot zoning, transfer of development rights and limiting infrastructure extensions. All of these techniques are described in greater detail in the Center for Watershed Protection's publications listed below.

Tool: Land conservation

A watershed manager must choose which of these natural and cultural areas should be conserved in a subwatershed in order to sustain the integrity of its aquatic and terrestrial ecosystems, and to maintain desired human uses from its waters. Examples of land areas that may want to be conserved in a subwatershed include:
+ Critical habitats for plant and animal communities;
+ Aquatic corridors along streams and shorelines; and
+ Hydrologic reserve areas that sustain a stream's hydrologic regime and offer flood protection.

Tool: Aquatic buffers

A buffer has many uses and benefits. Its primary use is to physically protect and separate a stream, lake or wetland channel from future disturbance or encroachment. For streams, a network of buffers acts as a right-of-way during floods and sustains the integrity of stream ecosystems and habitats. Technically, a buffer is one type of land conservation area, but it has added importance in a storm water management sense in its ability to provide water quality benefits.

Tool: Better site design

This watershed protection tool emphasizes the key storm water management link between the site and watershed levels.

Tool: Erosion and sediment control

Perhaps the most destructive stage of the development cycle is the relatively short period when vegetation is cleared and a site is graded to create a buildable landscape. The potential impacts to receiving waters are particularly severe at this stage. A combination of clearing restrictions, ero-

sion prevention and sediment controls, coupled with a diligent plan review and strict construction enforcement are needed to help mitigate these impacts. Many communities rely primarily on sediment control as the primary strategy for sediment loss, though increasingly, the value of non-structural practices for erosion prevention are being recognized.

Tool: Storm water BMPs

A watershed plan needs to ensure that storm water BMPs are being properly designed, constructed, and maintained in the subwatershed. Watershed plans can help to determine what the primary storm water objectives for a subwatershed are or should be and subsequently, provide guidance on the selection, design and location of BMPs at individual development sites. While the specific design objectives for storm water BMPs can often be unique to each subwatershed, the general goals for storm water are usually the same:

♦ maintain groundwater recharge and quality;
♦ reduce storm water pollutant loads;
♦ protect stream channels;
♦ prevent increased overbank flooding; and,
♦ safely convey extreme floods.

Tool: Non-storm water discharges

In some watersheds, non-storm water discharges can contribute significant pollutant loads to receiving waters. Key program elements consist of inspections of private septic systems, repair or replacement of failing systems, utilizing more advanced on-site septic controls, identifying and eliminating illicit connections from municipal storm water systems, and spill prevention.

Tool: Watershed stewardship programs

The goal of watershed stewardship is to increase public understanding and awareness about watersheds, promote better stewardship of private lands, and develop funding to sustain watershed management efforts. There are six basic programs that watershed managers should consider to promote a greater watershed stewardship:

1. Watershed Advocacy
2. Watershed Education
3. Pollution Prevention
4. Watershed Maintenance
5. Indicator Monitoring
6. Restoration

A manager will generally need to apply some form of all eight tools in every watershed to provide comprehensive watershed protection.

Resources: Rapid Watershed Planning Handbook, 1998, and other sources are available through the Center for Watershed Protection web site: http://www.pipeline.com/ ~mrrunoff/

Trainers:
Richard A. Claytor, Jr. P.E., Principle Engineer, Center for Watershed Protection, Edward W. Brown, Water Resources Engineer, Center for Watershed Protection; Deborah S. Caraco, Environmental Engineer, Center for Watershed Protection; Jennifer Zielinski, Watershed Engineer, Center for Watershed Protection

Moving Toward A
Sustainable Chesapeake

The final plenary session, closing out the two day event, brought together a broad range of views to discuss next steps in moving toward a more sustainable future. Gary Gardner, Senior Researcher for the Worldwatch Institute, looked at the global perspective. At Worldwatch Institute he has observed some disturbing trends, but likewise sees opportunities in the positive trends. For example, the ozone shield in heavily populated areas is thinning twice as fast as scientists predicted, worldwide forests are vanishing at 17 million hectares per year, an area about the size of Mexico, water tables are falling – in India at a rate of 3 feet per year, global warming has caused the melting of glaciers, the decline of coral reefs, and an increase in disease, while flooding has displaced over one million people, and scientists have found an increased level of unnatural chemicals in humans in northern Canada.

There is good news, however. Wind and solar power is replacing traditional energy sources, cars in Europe and America are very efficient, emitting a fraction of the pollutants emitted just a decade ago, eco industrial parks are working to seriously reduce the amount of material use, population growth is down to 80 million people per year from 90 million, and there is increased recognition of the value of environmental practices such as replacing trees cut for production. The question society must answer is "are the positive trends having enough of an impact on the environment to rectify the negatives?"

Anne Landfield, Project Manager for Ecobalance, Inc., represented the business perspective. For industries to truly become more sustainable, they need to review the impact the entire manufacturing process has on the environment. More and more companies are interested in analyzing the manufactured product from cradle to grave – making a life cycle assessment. By discerning energy and materials used and the wastes and matter distributed, companies can assess what part of the process most effects the environment, and where best to impact the system. As more companies implement the life cycle assessment in their work, business and consumers can better understand and address their impact on the environment.

Roan Conrad, Director for the Office of Sustainable Development and Intergovernmental Affairs, National Oceanic and Atmospheric Administration, outlined the role of the federal governments in promoting the livable communities movement. In the last decade, the impetus for sustainability has come from three groups of people:
>   1. the visionaries – planners, architects and designers;
>   2. local activists – politicians and local leaders;
>   3. environmentalists.

What has been missing is the involvement of the federal government and the business community. However, that is changing. Vice President Al Gore's *Livable Communities Initiatives*, started two and one half years ago, has produced an extensive report on making US cities more livable, and has placed the issue before Congress, who have in turn should tremendous interest in this initiative by creating caucuses to broaden discussion of sustainable development and smart growth.

Six federal agencies now have offices devoted to sustainable development. It is more of a challenge to the federal government to synthesize its efforts, reduce the barriers of complexity within itself, and implement a system that promotes strong decision-making at the local level, giving communities the support needed

to direct change. Also key to this process is a better assessment of the role of economics in a sustainable society, so that models can be developed.

Finally, the panel looked at the local perspective, outlined by Al Eisenberg, Deputy Assistant Secretary for Transportation Policy, US Department of Transportation and former Board of Supervisor, County of Arlington, Virginia. There is great disparity and disjointedness in what communities are doing to build and protect their futures. Arlington is a national model for its transit oriented development that has consolidated growth. Nearby, however, Fauquier county will lose 86,000 acres over the next 20 years.

The solution, states Eisenberg, is to involve all the community's stakeholders, from the federal government to the local business community to the local activists, for each has some type of authority and can make choices about the community's future. The federal government must play a role in clean air transportation. Local leaders need to collaborate with and define how they want their cities and towns to look. Local players also must serve a very important role as translators – the many different interests that make up a community all speak different languages. To work together and build consensus effectively, these disparate interests must be interpreted.

In conclusion, there is much work to do, and many people that need to become more involved in moving communities in the Bay watershed toward a more sustainable future. Communities have a goal – to make a more livable, sustainable environment that fosters economic, social and ecological growth and prosperity. It is now the task of local leaders, and in particular local governments, to build partnerships at all levels , both locally and regionally, build awareness among stakeholders, and take the initiative to promote change using the tools, techniques and strategies available.

The Center for Chesapeake Communities will continue to serve as a clearinghouse of these tools and techniques, and will work to build and strengthen natural partnerships – aligning the strengths of the federal, state and local governments with the business and environmental communities to enable local governments to work to build a sustainable future.

Resource:
Center for Chesapeake Communities web site:
http://www.chesapeakecommunities.org

APPENDIX I

Resource Guide for a Sustainable Chesapeake

Starting Out Right

The Institute for Environmental Negotiations, phone: 804-924-1970, seeks to make mediation and consensus building services available to governments, citizen organizations and businesses dealing with conflicts and complex policy choices related to land use and the natural and built environments.
http://www.virginia.edu/~envneg/IEN.html

The University of Maryland's Institute for Governmental Services (IGS) is able to offer affordable consultation and technical support in many different specialized areas to local governments, state agencies, civic associations, and nonprofit organizations; e-mail: jb128@umail.umd.edu
http://www.inform.umd.edu/IGS/

Pennsylvania State University's Team Decision Center combines the latest advances in group systems technology with professional group facilitation to offer proven solutions to all-too-common communications barriers. Contact: K. David Weidner, Instructor/Facilitator; 225 Penn State Scanticon, University Park, PA 16802-7002; phone: (814) 863-5145; fax: (814) 863-5190

Thomas Jefferson Planning District Commission provides a forum for regional solutions to regional problems, and hosts a Sustainability Council that is directed to build an agreement among citizens, businesses, organizations, and governments in the region to build a future where the vitality of the economy and environment are forever ensured. http://monticello.avenue.gen.va.us/tjpdc/

Hampton Roads Planning District Commission hosts a newsletter highlighting two of their regional programs focused on water supply and watershed management:
http://www.hrpdc.org/newsletter/news_env2.html

National Association of Regional Councils is a nonprofit, membership organization serving the interests of regional councils nationwide. Their web site offers information on regional economic, metropolitan and transportation efforts nationally, and suggests further references. 1700 K Street, Suite 1300 Washington D.C.; phone: (202) 457-0710; http://www.narc.org

To order a copy of PA BLUPRINTS CD-ROM, send a check for $14 made out to Penn State to the Department of Landscape Architecture, The Pennsylvania State University, 210 Unit "D", University Park, PA 16802-1429. The cost covers the disk plus postage and handling. This version of PA BLUPRINTS is tailored to Pennsylvania's municipal code but can be of use to communities in other states as well. The CD-ROM runs on both Mac and Windows platforms. http://www.larch.psu.edu/

To learn more about the Visual Interactive Code, contact the Visual Interactive Communications Group at P.O. Box 254, State College, PA 16804-0254; phone: (814) 234-0354; fax: (814) 234-1945
http://www.VICGroup.com

Transportation Action Network — TransAct is an Internet service for disseminating information about transportation, the environment and communities. http://www.transact.org

TEA-21 (Transportation Equity Act for the 21st Century) in its entirety can be found at this web site along with further information about Techniques for Innovative Financing and Joint Development of Transit Projects and Planning and Environmental Provisions. http://www.tea21.org

The TEA-21 User's Guide -- a 60 page booklet put out by the Surface Transportation Policy Project providing understandable language about TEA-21 -- Contact STPP: 202-466-2636.

Reid Ewing, et al. *Best Development Practices: Doing the Right Thing and Making Money at the Same Time*, American Planning Association, 1996. Contact: (312) 786-6344.

Reid Ewing, *Transportation and Land Use Innovations*, American Planning Association, 1997. Contact (312) 786-6344.

Characterizing Your Community

Trends in Sustainability presentation, created by the U.S. EPA, examines the environmental, social and economic trends threatening the sustainability of the states in Region III: Pennsylvania, Maryland, Delaware, Virginia, West Virginia, and the District of Columbia.
http://www.epa.gov/region3/sdwork/trends.htm

Sustainable Development Challenge Grant Program, offered by the U.S. EPA, is intended to encourage community, business, and government to work cooperatively to develop flexible, locally-oriented approaches that link place-based environmental management with sustainable development, and revitalization. http://www.epa.gov/region3/sdwork/grants.htm

EcoVillage of Loudoun County, Virginia, is a new community demonstrating the value of creating a vital, healthy nurturing community in harmony with the environment. http://www.ecovil.com

National Farm*A*Syst / Home*A*Syst is a national program supported by the USDA and the U.S. EPA that works to prevent nonpoint source pollution through farm and home pollution risk assessments and planning activities that result in voluntary action. http://www.wisc.edu/farmasyst

Environmental Quality Initiative (EQI) is an innovative new project of the Dairy Network Partnership (DNP), a collaboration of educational and environmental organizations. The EQI is a new market-based strategy that links environmentally-minded consumers directly with dairy farmers who share their concerns for our natural resources through a private, non-regulatory approach to environmental quality protection. http://eqinitiative.com

Agricultural Environmental Management (AEM) is a voluntary, locally-led and implemented initiative developed in New York State to help farmers implement environmentally-sound farming practices. http://www.cce.cornell.edu/ag/environmental-mgt/aem.html

The study of Alternative Futures for Monroe County, Pennsylvania, is the product of student work in a graduate level studio at the Harvard University Graduate School of Design. The full report is available at: http://www.gsd.harvard.edu/depts/larchdep/research/monroe

American Forests is the nation's oldest nonprofit citizen conservation organization, founded in 1875. It has made available an analysis of the Chesapeake Bay EcoSystem: http://www.americanforests.org/

NEMO (Nonpoint Education for Municipal Officials) is a University of Connecticut Cooperative Extension System project using innovative techniques to teach local officials about the sources and impacts of nonpoint source (NPS) pollution, how different land uses affect water quality, and what towns can do to protect water quality. The unique educational approach of the project is to use geographic information system (GIS) technology to simplify and explain the complex relationship between land use to water quality. http://www.canr.uconn.edu/ces/nemo/index.html

Planning for the Future

Street Design Guidelines are available through the Institute of Transportation Engineers. The Institute has initiated programs to collect information on important transportation issues and to make it readily available to the transportation community through this ITE web site: http://www.ite.org

Guides and model codes and ordinances are available through the U.S. Department of Energy's web site for the Center of Excellence for Sustainable Development, a very comprehensive site that offers a toolkit, success stories and a database of references: http://www.sustainable.doe.gov/landuse/lucodtoc.htm

Model codes and ordinances are also available through the U.S. EPA's Green Communities web site. The *Green Communities Assistance Kit* is packaged as a step-by-step guide for planning and implementing sustainable actions. It poses four basic questions, each resulting in a specific outcome. http://www.epa.gov/Region3/greenkit

Congress for the New Urbanism offers tools and techniques for the restoration of existing urban centers and towns within coherent metropolitan regions, the reconfiguration of sprawling suburbs into communities of real neighborhoods and diverse districts, the conservation of natural environments, and the preservation of our built legacy. http://www.cnu.org/index.html

The Center for the Study of Economics has conducted a number of studies of the feasibility of implementing the two tier tax rate in communities throughout the watershed. Mr. Joshua Vincent has worked pro bono and as a paid consultant to over 40 municipalities, counties, NGOs and national governments. Phone: 410-740-1177.

Rural Legacy Program – For more information contact the Department of Natural Resources at 410-260-8403, e-mail at gdehart@dnr.state.md.us or the Agricultural Land Preservation Foundation at (410) 841-5860, or e-mail at frantzil@mda.state.md.us.

The Trust for Public Land pioneers new ways to finance parks and open space, promotes the importance of public land, and helps communities establish land-protection goals. Phone: 1-800-714-LAND; http://www.tpl.org

National Pollution Prevention Roundtable (NPPR) provides a global forum for promoting the development, implementation, and evaluation of efforts to avoid, eliminate or reduce pollution at the source. http://www.p2.org

Local Government Pollution Prevention Toolkit: Tools and Models to help local governments implement pollution prevention (P2) and protect the Chesapeake Bay, its rivers and streams, U.S. Environmental Protection Agency for the Chesapeake Bay Program, 1998. Contact: 1-800-YOUR-BAY.

Businesses for the Bay is a voluntary team of forward-thinking industries, commercial establishments and small businesses within the Chesapeake Bay watershed, committed to implementing pollution prevention in daily operations and reducing chemical releases to the Bay. To join this team contact the Chesapeake Bay Program Office at 1-800-YOUR-BAY.

Implementing Sustainable Community Initiatives

The National Trust for Historic Preservation's National Main Street Center works with communities across the nation to revitalize their historic or traditional commercial areas. Based in historic preservation, the Main Street approach was developed to save historic commercial architecture and the fabric of American communities' built environment, but has become a powerful economic development tool as well. http://mainst.org/

Urban Studies and Planning Program, School of Architecture, University of Maryland offers a page of links of planning-related resources: http://www.bsos.umd.edu/ursp/links.htm

Urban Land Institute is a member organization offering tools and techniques for the development and real estate community encouraging higher standards of land use planning and real estate development. http://www.uli.org

U.S. Department of Energy Clearinghouse offers a comprehensive resource for energy efficiency and renewable energy information. http://www.eren.doe.gov

Several publications are available from Prince George's County, including the *Low Impact Development Design Manual* and a brochure entitled *Rain Gardens: The Natural Solution*, and a reference guide entitled *How Does Your Garden Grow*. Contact: (301) 883-5822.

Watershed & Lake BMPs: Best Management Practices Appropriate for Established Urban Communities, is a report designed for use in urban or urbanizing watersheds. The Lake Barcroft Watershed Improvement District in Fairfax, VA has identified and demonstrated management practices that help control problems resulting from storm water. To order, contact Lake Barcroft Watershed Improvement District, 3428 Mansfield Rd., Falls Church, VA 22041; phone: (703) 820-7700

Growing Greener in Your Rappahannock Watershed: Case Studies on the Economic and Environmental Benefits of "Green Development" Practices; Contact Friends of the Rappahannock, PO Box 7254, Fredericksburg, VA 22404.

Smart Growth Network helps create national, regional, and local coalitions to encourage metropolitan development that is environmentally smart, fiscally smart, economically and socially smart. The web site includes a comprehensive database of references, tools, techniques and case studies related to making communities grow smarter. http://smartgrowth.org

Maryland's Smart Growth and Neighborhood Conservation initiative is recognized nationally for its efforts to reverse the inefficient and often costly pattern of development that has been the standard in this country for the past half century. The site features what state agencies and local governments are doing to plan for a more sustainable future. http://www.op.state.md.us/smartgrowth

Community Capacity Building

The Green Communities Tool Kit is available to all communities via the internet. For further information contact Susan McDowell, US EPA, phone: (215) 814-2739; email: mcdowell.susan@epamail.epa.gov; http://www.epa.gov/Region3/greenkit

Information about the Community Environmental Review Process (CER) and full reports from CERs completed in Hampstead, MD and Warrenton, VA are available through the Center for Chesapeake Communities; Phone: (410) 267-8595; http://www.chesapeakecommunities.org/support.html

Details on the Countryside Stewardship Exchange are available through the Alliance for the Chesapeake Bay; Maryland Office: 410-3776270; Pennsylvania Office: 717-236-8825; Virginia Office: 804-775-0951; http://www.acb-online.org

Union County Planning has a web site available for those interested in learning more about the process by which the County developed its visioning and planning strategy. http://www.geocities.com/RainForest/Andes/1193/SusComm.htm

The Sustainable Communities Network links citizens to resources and one another to create healthy, vital, sustainable communities: http://www.sustainable.org

Nurturing Sustainable Economic Growth

Funding sources for water quality initiatives are available through the Environment Finance Center (EFC), part of the University System of Maryland. The EFC has identified over thirty-five Federal, state and local funding programs which could be used by public as well as private landowners interested in preserving water quality. They can be viewed at the following web site, or ordered by mail for $1 each; contact: Environmental Finance Center, The University System of Maryland, 0112 Skinner Hall
College Park, MD 20742-7640; phone: (301) 405-6383, fax: (301) 314-9581;
e-mail: efc@mdsg.umd.edu
Funding for Water Quality in Virginia: http://www.mdsg.umd.edu/MDSG/EFC/Info/vawq.html

Funding for Water Quality in Maryland: http://www.mdsg.umd.edu/MDSG/EFC/Info/mdwq.html

Funding for Water Quality in Pennsylvania: http://www.mdsg.umd.edu/MDSG/EFC/Info/pawq.html

Promoting Innovative Site Planning

Growing Greener, by Randall G. Arendt; a new community planning initiative which is designed to help communities use the development regulation process to their advantage to protect interconnected networks of greenways and permanent open space. contact (610)353-5587.

Conservation Design for Subdivisions: A Practical Guide to Creating Open Space Networks, by Randall G. Arendt; 60 pages. Figures, site plans, index. Published 1996 Island Press; contact (610)353-5587.

Natural Lands Trust is a non-profit, regional lands trust that over the past several decades has helped conserve more than 64,000 acres of natural areas. Today the Trust owns and manages a system of 48 preserves which includes some of the most ecologically significant land in the area. The Trust web site offers tools and techniques for conserving land through financial options and development and design options.
http://natlands.org

Alex Wilson, Jenifer L. Uncapher, Lisa McManigal, L. Hunter Lovins, Maureen Cureton, William D. Browning, Green Development: Integrating Ecology and Real Estate, John Wiley & Sons; New York, 1998.

Preparing Watershed Management

The Center for Watershed Protection was founded in 1992. The Center works with local, state, and federal governmental agencies, environmental consulting firms, watershed organizations, and the general public to provide objective and scientifically sound information on effective techniques to protect and restore urban watersheds. The Center also acts as a technical resource for local and state governments around the country to develop more effective urban stormwater and watershed protection programs. Rapid Watershed Planning Handbook, 1998, and other sources are available through the Center for Watershed Protection – phone: (410) 461-8323.
http://www.pipeline.com/~mrrunoff/

Chesapeake Bay Program

The Chesapeake Bay Program is the cooperative partnership among the states of Maryland, Pennsylvania, Virginia, the District of Columbia; the Chesapeake Bay Commission, a tri-state legislative body; the U.S. Environmental Protection Agency, representing the federal government; and participating advisory groups.

www.chesapeakebay.net/bayprogram