



# EcoCity CLEVELAND

IDEAS AND TOOLS FOR A SUSTAINABLE BIOREGION

\$4

## *Special Issue*

Volume 6, Numbers 1-3 Winter 1998-99

Editor/writer: David Beach

### Inside

☼  
A day in the life  
of the future EcoVillage

☼  
Oberlin's green building

☼  
Principles of ecological design

☼  
EcoVillage resources

### Good words

We must face the fact that what we are seeing  
across the world today is war,  
a war against life itself.

Our present systems of design have created a  
world that grows far beyond the capacity of the  
environment to sustain life into the future.

The industrial idiom of design,  
failing to honor the principles of nature,  
can only violate them,  
producing waste and harm,  
regardless of purported intention.

If we destroy more forests, burn more garbage,  
drift-net more fish, burn more coal, bleach  
more paper, destroy more topsoil, poison more  
insects, build over more habitats,  
dam more rivers,

produce more toxic and radioactive waste,  
we are creating a vast industrial machine,  
not for living in, but for dying in.

It is a war, to be sure, a war that only a few  
more generations can surely survive.

—William McDonough

What is the use of a house  
if you haven't got a tolerable planet  
to put it on?

—Henry David Thoreau

# THE CLEVELAND ECOVILLAGE

Cleveland EcoVillage site: Two stops from downtown on the Rapid Transit line.

**Older cities like Cleveland are now being redeveloped,  
and it is vital that this regeneration take into account  
ecological design and long-term sustainability.**

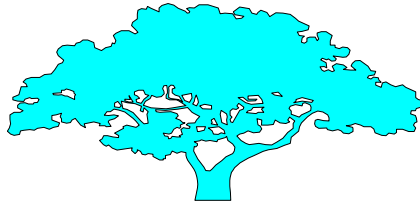
**The Cleveland EcoVillage project  
aims to demonstrate how urban neighborhoods  
can be good for people and good for the earth.**

**An early progress report on pages 3-9,  
with color centerfold of conceptual plan**

# Greening Cleveland

As a native of Greater Cleveland, I am painfully aware that my home town doesn't exactly have a reputation for being on the environmental cutting edge. So I'm extremely pleased to publish this special issue featuring our Cleveland EcoVillage project. This project is still in its infancy, but it shows promise of becoming a national demonstration of the best ideas for regenerating urban neighborhoods. It's already attracted federal funding. And our lead partner in the project, the Detroit Shoreway Community Development Organization, is one of the most capable neighborhood-based development groups in the city.

With such a strong start—and along with the many other positive environmental initiatives happening in Cleveland—it may not be long before the "Forest City" earns a new reputation as the "Green City" or the "Sustainable City." That's a reputation we could live with for a long time.



## EcoCity on the Web

During the past few months, EcoCity Cleveland has been phasing in a new Internet Web site at [www.ecocleveland.org](http://www.ecocleveland.org). Eventually the site will have all the back issues of our journal, interactive mapping capability as part of our Citizens' Bioregional Plan project, a frequently updated Bioregional Calendar, and much more. We hope it will become an essential resource for citizens of the region.

## Thanks

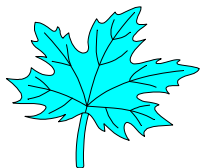
We have many people to thank for assistance during the past few months. A donation from Herbert Crowther is enabling us to send subscriptions to all the county commissioners in the seven-county region. (Giving gift subscriptions to public officials is a great way to support EcoCity Cleveland and spread our influence!)

We also appreciate a grant from the Cyrus Eaton Foundation to support the publication of our Citizens' Bioregional Plan project, as well as grants from the Nelson Talbott Foundation and the Raymond John Wean Foundation. And in the category of "unusual but appreciated gifts," we'd like to thank Trinity Cathedral in Cleveland for a special offering from its Blessing of the Animals service and the Beastie Boys rock group for donating a portion of ticket sales from a concert in Cleveland last summer. (The Beastie Boys, we might add, were recently named "Artists of the Year" by *Rolling Stone* magazine. Our donors are the best!)

One change in our Advisory Board should be noted: George Espy, executive director of the Lorain County environmental group Seventh Generation, has replaced Roberta Wendel, who had represented Friends of the Black River. We thank Roberta for serving.

Finally, it's been awhile since our last issue. We appreciate the patience of our readers.

—David Beach  
Editor



## Mission

EcoCity Cleveland is a nonprofit, tax-exempt, educational organization. Through the publication of the *EcoCity Cleveland Journal* and other programs, it will stimulate ecological thinking about the Northeast Ohio region (Cuyahoga Bioregion), nurture an EcoCity Network among local groups working on urban and environmental issues, and promote sustainable ways to meet basic human needs for food, shelter, productive work and stable communities.

## Board of Trustees

David Beach, *Director, EcoCity Cleveland*  
Stuart Greenberg, *Environmental Health Watch*  
Judy Rawson, *Shaker Heights City Council and First Suburbs Consortium*  
Richard Shatten, *Weatherhead School of Management, CWRU*  
Phil Star, *Center for Neighborhood Development, CSU*  
Chris Trepal, *The Earth Day Coalition*  
Carl Wirtz, *Hausser + Taylor*

## Advisory Board

Molly Bartlett, *Silver Creek Farm*  
Thomas Bier, *CSU Housing Policy Research Program*  
James Bissell, *Cleveland Museum of Natural History*  
Diane Cameron, *Natural Resources Defense Council*  
Anne Chaka, *Union of Concerned Scientists*  
Edith Chase, *Ohio Coastal Resource Mgt. Project*  
Sandie Crawford, *Tri-C Center for Environmental Education and Training*  
Lee DeAngelis, *Consultant*  
John Debo, *Cuyahoga Valley National Recreation Area*  
Lois Epstein, *Environmental Defense Fund*  
George Espy, *Seventh Generation*  
David Goss, *Build Up Greater Cleveland*  
Christine Hann, *Cleveland Food Co-op*  
Soren Hansen, *Pennoni Associates of Ohio, Engineers*  
Rick Hawksley, *Fuller Design Group and Northeast Ohio Land Trust Coalition*  
Kim Hill, *Sierra Club*  
Michael Johnstone, *Minority Environmental Association and Envirospherics Consulting*  
David Knapp, *United Labor Agency*  
Susan Lacy, *WE-CAN!*  
Craig Limpach, *Wildlife biologist*  
Elaine Marsh, *Friends of the Crooked River*  
Mikelann Ward Rensel, *Cleveland Neighborhood Development Corp.*  
Norman Robbins, *CWRU Program for the Environment*  
Kathleen Tark, *City Architecture*  
Carol Thaler, *Cuyahoga County Planning Commission*  
Jerome Walcott, *Commission on Catholic Community Action*

Organizations listed for identification only.

Articles in *EcoCity Cleveland* do not necessarily reflect the views of board members, although there's a good chance they do.

■  
*EcoCity Cleveland Journal*

2841 Scarborough Road, Cleveland Heights, OH 44118

Cuyahoga Bioregion

Telephone 216-932-3007 / Fax 216-932-6069

E-mail address: [ecocleveland@igc.org](mailto:ecocleveland@igc.org)

■  
Published monthly, except for occasional double issues. Unless otherwise noted, all articles and photographs are by David Beach. Submissions from others are welcome, but please call first. We cannot be responsible for unsolicited materials.

Readers are encouraged to use the information in *EcoCity Cleveland*. Just call for permission to reprint articles. After you're finished with your copy of the journal, pass it on to friends or recycle it. If you are a regular reader, please subscribe.

Supported by operating grants from the George Gund and Nord Family foundations, subscriptions and individual donations.

Printed at Orange Blossom Press in Cleveland on 100% post-consumer waste recycled paper using soy-based inks.

ISSN 1084-0885

## What is an ecovillage?

Robert Gilman, in his book, *Ecovillages and Sustainable Communities*, offers this definition and explanation:

An ecovillage is a human-scale full-featured settlement in which human activities are harmlessly integrated into the natural world in a way that is supportive of healthy human development and can be successfully continued into the indefinite future.

Human-scale refers to a size in which people are able to know and be known by the others in the community, and where each member of the community feels he or she is able to influence the community's direction.

In a full-featured settlement, all the major functions of normal living—residence, food provision, manufacture, leisure, social life, and commerce—are plainly present and in balanced proportions.

The idea that human activities be harmlessly integrated into the natural world brings the "eco" into the ecovillage. One of the most important aspects of this principle is the ideal of equality between humans and other forms of life, so that humans do not attempt to dominate nature but rather find their place within it. Another important principle is the cyclic use of material resources, rather than the linear approach (dig it up, use it once, throw it away forever) that has characterized industrial society.

The principle of support for healthy human development recognizes that ecovillages are, after all, human communities, and without genuine human health at the core, these communities are unlikely to be successful. Healthy human development involves a balanced and integrated development of all aspects of human life—physical, emotional, mental, and spiritual. This healthy development needs to be expressed not just in the lives of individuals, but in the life of the community as a whole.

The sustainability principle—that the community can be successfully continued into the indefinite future—forces a kind of honesty on ecovillagers. Without it, it would be easy (or at least easier) in the short-term to create human-scale communities that seem to be harmoniously integrated into nature and to be full-featured, but in fact are in some not-so-visible way living off the capital accumulated in other parts of the society; or dependent on unsustainable activities elsewhere; or not inclusive of a major aspect of life (such as childhood or old age). The sustainability principle brings with it a profound commitment to fairness and nonexploitation—toward other parts of today's world, human and non-human, and toward all future life.

Cities can be good for people and good for the earth.

## Faith in real cities

This special issue is rooted in an unexpected faith in cities—a faith that cities are good for people and good for the earth.

This faith is unexpected because people often have the opposite view—that cities are the home of humanity's darker impulses and most wasteful behaviors. Cities are insatiable consumers of resources and profligate producers of pollution. They exert tremendous ecological pressures on the rest of the planet.

But cities also present opportunities. By concentrating population in compact areas, they can help conserve the land. By developing sophisticated treatment systems, they can minimize the water pollution of millions of people. By promoting compact neighborhoods and public transit, they can reduce housing costs and dependence on the automobile. By facilitating trade and social interaction, they promote the flowering of human culture.

In many ways, then, cities can be the places where the most people can live full lives with the least impact on the earth. Indeed, we have to make this so because the majority of the world's six billion people will soon live in urban areas. We have no choice but to make cities as ecological as possible.

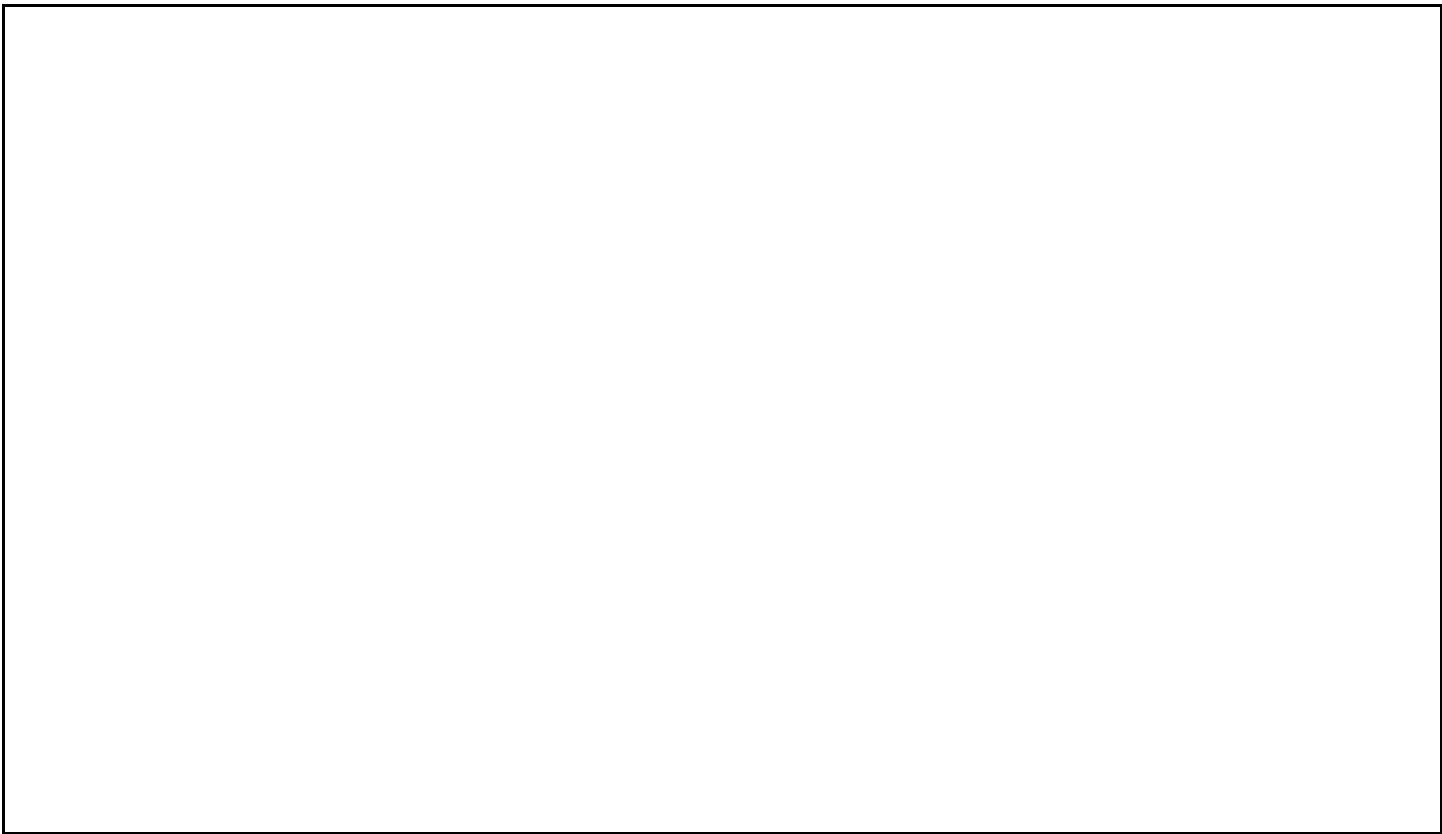
In Northeast Ohio, older industrial cities such as Cleveland have declined, bottomed out, and started to redevelop. In this process of regeneration, we have a chance to adopt different design principles. Instead of industrial-age

design principles based on the domination of nature and the endless consumption of fossil fuels, we can adopt ecological design principles that help us work with natural systems and the renewable cycles of solar energy.

To succeed, we need to regenerate cities from the inside and from the outside. Inside of cities, we must reinvest in great neighborhoods. Out on the edges of metropolitan areas, we must reduce the suburban sprawl that sucks life from the urban core.

The Cleveland EcoVillage project, a partnership of EcoCity Cleveland and the Detroit Shoreway Community Development Organization, is part of the inside strategy. It aims to demonstrate how an urban neighborhood can be redeveloped using the best ecological thinking.

It focuses on an existing neighborhood, a "real" place. In contrast, many of the other ecovillage projects around the world are somewhat utopian. They involve well-off people building their solar dream houses together in a remote and scenic location. Such projects often demonstrate important ideas and technology, but most of the rest of the world can't live like that. The real challenge is to build sustainable communities where most people now live—in places like Cleveland, Ohio. □



Potential in the city: View from the Cleveland EcoVillage site to downtown Cleveland.

# Step by step to a Cleveland EcoVillage

*The organizational process of an ecovillage project is as important as the environmentally-friendly technologies employed. The Cleveland EcoVillage features an interesting partnership between an environmental organization and a neighborhood-based development organization. Here is how the project evolved.*

By David Beach

The original motivation was simple enough. By the mid-1990s Cleveland was starting to experience significant redevelopment, but little of that development was taking the environment into account.

It was mostly conventional development—conventional construction methods, conventional styles of housing and stores. Sure, a few projects incorporated better-than-normal insulation to save energy. Another project featured houses

with front porches set close to the street to create an attractive public space for pedestrians. But no project had taken all the available ideas for environmentally-friendly development and put them together in one place. And that was a missed opportunity to develop in a more thoughtful, sustainable way.

It seemed like the neighborhood development groups—who were doing heroic work to stabilize communities and turn them around—might want to incorporate ecological designs into their projects, but they were constrained by time and resources. Given the city's tremendous needs, the groups were under pressure to crank out the new housing units as fast as possible.

Perhaps, then, environmental groups, who have lots of ideas and information, could become partners with the neighborhood groups, who have nuts-and-bolts development experience. Together,

perhaps they could garner the additional resources to change the nature of development in the city.

If a comprehensive "ecovillage" development could happen in Cleveland, it would be noteworthy indeed. It could help show the world how older, industrial cities could become more sustainable. It could become a model for urban regeneration.

## Getting started

That was the thinking of the staff of a number of Cleveland-area environmental and citizen groups in late 1995. We had been meeting to talk about the Regional Environmental Priorities Project (REPP), an initiative out of Case Western Reserve University to rank the most serious environmental problems facing Northeast Ohio. We looked at the REPP's top priorities—suburban sprawl and outmigration from the urban core—and wondered how we could help address such

issues.

The discussion gravitated toward the idea of promoting an ecological development in the city—an "ecovillage." To reduce sprawl and attract people back into the city, it was essential to create healthy, attractive, urban neighborhoods. And an ecovillage could demonstrate many of the ideas that the environmental groups promoted.

So we began to research the potential for an ecovillage development in Cleveland. With funding from the George Gund Foundation, we hired Dr. Wendy Kellogg from Cleveland State University's College of Urban Affairs to conduct a feasibility study. The study was managed by EcoCity Cleveland, with Environmental Health Watch acting as fiscal agent.

Starting in mid-1996, Kellogg surveyed the literature on urban sustainability and ecovillage projects around the world, identified the potential design features that could be incorporated into a Cleveland EcoVillage (see sidebar on page 7), and compiled lists of technical resources and possible funders.

### Site selection

Kellogg also began working with EcoCity Cleveland and CSU's Center for Neighborhood Development to begin the complex process of site selection. The goal was to find the development site in Cleveland that had the most potential for ecovillage development, both in terms of the physical and demographic characteristics of the site and the level of interest in the surrounding community. At that point, we didn't know exactly how large a site we were looking for. We only knew that it had to be large enough to offer multiple opportunities (i.e., at least several square blocks) and small enough for a project to have impact and have a special identity (i.e., smaller than a neighborhood).

Kellogg and staff from the other organizations spent months interviewing people who knew about development opportunities in Cleveland neighborhoods. We met with staff of nonprofit housing organizations, staff of the city's departments of Community Development and Planning, the funding organizations for neighborhood development, architects, transit advocates and many others. In addition, Kellogg developed statistical profiles of Cleveland neighborhoods. And she helped the Center for Neighborhood Development and the Cleveland Neighborhood Development Corporation create a written survey that was sent out to all the neighborhood-based development groups in the city. The survey invited groups to nominate sites in their neighborhood.

We ended up with a long list of suggested sites and neighborhood partners. To whittle down the possibilities, we evaluated each site according to a number of criteria, including (not in order of importance):

- Proximity to transit (presence of Regional Transit Authority Rapid station or bus lines, or potential for bike/pedestrian facilities).
- Presence of vacant land for development.
- Diversity of population (percent minority, income levels, education levels).
- Neighborhood economic status (moderate income, need for employment, small business/commercial areas).
- Existing community resources (presence of active organizations and churches, health services, recreational programs, funding for programs like the federal Empowerment Zone).

Ideas on paper: Neighborhood design workshop.

## What people want: Ideas from the neighborhood workshop

*This is a unique process to explore different ways to live in an urban environment. With a little forward thinking we can make this a better place.*

—Cleveland Councilman Timothy Melena, Ward 17

All phases of Cleveland EcoVillage development will involve extensive community involvement. As a part of the early conceptual planning, more than 60 neighborhood residents, along with design professionals from throughout Northeast Ohio, participated in a full-day brainstorming workshop on December 6, 1997. Here are the themes that came out of that workshop.

- **Linkages:** The W. 65th Street Rapid Transit station and the surrounding neighborhood need to be connected with walking paths, bikeways, and a community circulator bus route. The Rapid station can be a hub for alternative transportation.
- **Housing:** The density of housing should be increased, especially near the Rapid station.
- **Mixed uses:** New development should mix residential, retail and office uses to create centers of activity, especially along Lorain Avenue. The Rapid station itself should be an activity center.
- **Traffic calming:** The streets of the EcoVillage should be designed as places for people, with traffic slowed for pedestrian safety.
- **Environmental education:** The EcoVillage should be a place of continual learning with partnerships with local schools and programs for recycling, gardening, tree planting, and pollution prevention. Systems for energy and water should be made visible.
- **Green space:** The EcoVillage should be connected to nature through the development of small parks and linear greenways. Habitat should be restored throughout the neighborhood using native plants.
- **Diversity:** The economic and ethnic diversity of the neighborhood should be preserved and enhanced, in part by providing a diversity of housing types (apartments, townhouses, detached single family homes, accessory flats). New development should not displace current residents.
- **Identity:** The EcoVillage needs a name that ties it to the history of the neighborhood, and it needs signage and boundaries to set it off as a distinct place.

## The urgent need for ecocities

The search for a new vision for cities has even more urgency now. In 1900, only 160 million people, one tenth of the world's population, were city dwellers. By shortly after 2000, in contrast, half of the world (3.2 billion people) will live in urban areas—a 20-fold increase in numbers. The challenge for the next century will be to improve the environmental conditions of cities themselves while reducing the demands that they make on the Earth's finite resources.

—from *State of the World 1999* by the Worldwatch Institute

I became interested in cities not because I love cities, but rather because I began to understand them. In particular, I understand two things now that I didn't realize before. First, if we want our children to have the option of a rural lifestyle, we have to remake our cities into eco-cities. Otherwise, our cities will consume the countryside, depriving future generations of the land and resources required to maintain rural lifestyles. "Country people" have at least as much at stake here as "city people."

Secondly, for the first time in history, half the world's population is now living in cities. The ways these urban areas are developed will largely determine our success or failure in overcoming environmental challenges and achieving a sustainable future for our planet. The stakes don't get any higher than this for anyone.

—Mark Roseland  
*Eco-City Dimensions*

- Physical characteristics (condition of housing stock, affordability of housing, presence of brownfields needing environmental remediation).

- Environmental activities (for example, participation in lead-abatement programs, urban gardening, green space planning).

- Community development organization (technical capacity, including quality of past projects and the ability to be a partner in an ecovillage project).

- Interest in an ecovillage among the community development organization, other neighborhood institutions, and residents.

This analysis led us to focus on sites in the Broadway, Cudell, Detroit-Shoreway, Fairfax, and Tremont neighborhoods. After additional interviews and site visits, we made the difficult decision to recommend a site in the Detroit-Shoreway neighborhood—the area around the W. 65th Street Rapid station.

The selection was based on our belief that this site near W. 65th and Lorain Avenue possessed unique potential for transit-oriented development, a vibrant mix of residential and commercial uses, and a combination of new development and rehab of existing buildings. We were also impressed with the diversity of the neighborhood and the potential for partnering with the Detroit Shoreway Community Development Organization, one of the most capable nonprofit development groups in the city.

### Rooting the project in the neighborhood

Of course, just because some environmental groups and consultants thought it would be nice to do an ecovillage at a particular site didn't mean the project could happen. The most important task remained: gaining broad-based neighborhood acceptance for the ecovillage idea.

Over the next few months, we worked with staff of Detroit Shoreway to introduce the project to block clubs, Ward 17 Councilman Timothy Melena, local church leaders, and other neighborhood organizations. We told them about the potential opportunities. We asked them if they thought an ecovillage would be good for the neighborhood. And we solicited their support.

Although the "ecovillage" idea was a novel one, most residents agreed that their neighborhood needed redevelopment help. They could see the benefits of new

housing opportunities, better transit facilities, and programs to help people cut energy bills. And they were willing to pitch in to help improve their community.

Based on the positive response, EcoCity Cleveland and Detroit Shoreway decided to move ahead with the project. The two organizations signed a formal partnership agreement and began to raise funds for more detailed planning. EcoCity obtained a grant from the Katherine and Lee Chilcote Foundation to support the development of a concept plan. Detroit Shoreway obtained a grant from the city's Cityworks program for additional planning assistance and community involvement.

### Conceptual plan

The funds enabled the partners to hire City Architecture, a local architecture/urban planning firm that specializes in sensitive designs for urban neighborhoods. City Architecture staff began turning our ideas into drawings.

Centering on the area within a quarter-mile radius of the Rapid station (a quarter mile being convenient walking distance to a transit stop), they made base maps of the current land uses and parcels available for development. The base maps allowed us to begin thinking about locations for new housing, commercial development, bike and pedestrian linkages to the Rapid station, and opportunities to improve green space.

Most of all, we began to see how the Rapid station (which is now deteriorated, dangerous and a detriment to the neighborhood) could become the focal point for the neighborhood. RTA is planning to rebuild the station in the next couple of years. If a new station can be surrounded by stores and housing, it can become a lively activity center. Transit can be the catalyst for other development.

We realized that before such planning went too far we had to obtain more public input. So in December 1997 we invited neighborhood residents and interested design professionals



RTA's W. 65th Street Rapid Transit stop: Little used today, it could be redeveloped as the center of a transit-oriented village.

## EcoVillage goals

An ecovillage has been defined as a human scale, full featured neighborhood which harmlessly integrates human activities into the natural world, supports healthy human development, and can be successfully continued into the indefinite future.

An ecovillage articulates the concepts and principles of sustainable urban development at the neighborhood scale, expressing these principles as they are appropriate for that particular *life place*. While the precise way an ecovillage will be built and evolve will be determined by its inhabitants in partnership with the broader community, a fully-developed ecovillage would:

- Demonstrate to the broader community how ecological systems (waste, energy, habitat) can be made sustainable at the neighborhood scale.
- Institute closed-loop resource flows, meaning that the resource and energy inputs and outputs of the village would be understood and, to the degree possible, wastes would be recycled into useful products and energy.
- Emphasize both diversity and connection among social groups, peoples, cultures, incomes and races.
- Embody diversity and connections in the built form as well, creating a diversity in housing function (single family, multi-family, collaborative) and style (town house, apartment, detached) mixed with commercial, office and community spaces.
- Seek a balance of public and private spaces. A lack of public spaces makes cities less livable; quality private spaces are a basic human need.
- Pattern streets and buildings at a human scale to increase the conviviality or livability of urban spaces. Attempt to create human interaction and connections through the design of the built form.
- Emphasize and educate the community toward ecological stewardship and restoration. The village would allow inhabitants to enhance urban green space, minimize waste, and restore environmentally degraded urban habitats for people and other species.
- Create a more healthy community, free from pollution and practices that harm human health to the degree possible.
- Improve the ambient environmental quality in the neighborhood, including air and water quality, the amount and status of green space and public space, the conditions of housing and overall aesthetic quality.
- Offer opportunities for inhabitants to fulfill their potential by integrating public education, health care, social services, culture and creativity, meaningful work and community involvement into the project.
- Improve the economic status of ecovillage residents and the surrounding neighborhood through environmentally-oriented businesses, job training and skill building.
- Use local resources and expertise when possible. Use local building materials, locally-inspired architecture, adapt buildings to local climate changes and settings. Draw on the knowledge of local experts and the knowledge of community members to plan, realize and manage the ecovillage.
- Empower neighborhood residents to articulate and participate in decisions that affect their neighborhood.

—Wendy Kellogg, CSU College of Urban Affairs

### Lorain Avenue near W. 65th: The old commercial arteries of Cleveland can offer an efficient mix of land uses in a walkable environment.

from around the region to an all-day brainstorming workshop. More than 60 people gave up a Saturday to help us imagine what an ecovillage could look like. Drawing with markers on the base plans provided by our architects, they created new visions for the neighborhood (see the summary of design workshop recommendations on page 5).

City Architecture then took all the workshop suggestions and created the conceptual plan drawings that are included as the centerfold of this issue. Included are ideas for more than 250 units of new housing, mixed-use commercial development clustered near the Rapid station, the possibility of building over the Rapid tracks, and places for habitat restoration and community gardens.

It should be understood that these drawings are not a formal neighborhood plan. Rather they are concepts that we hope will stimulate the imagination about what might be possible to do at this site. It also should be emphasized that the drawings only show physical development, not the programs that might be part of an ecovillage. We also have lots of ideas for programs, from environmental education to job creation.

### Next steps

By early 1998, the Cleveland EcoVillage project was primed to take off. We had a promising site, support from the community and city officials, a strong partnership between an environmental group and an experienced neighborhood development organization, and an exciting concept plan.

All of the above work was organized by staff of EcoCity Cleveland and Detroit Shoreway who volunteered their time to the project. In order to carry the work beyond the conceptual planning phase, we realized that we needed to have full-time, paid staff. Therefore, the two organizations collaborated on a grant proposal to the U.S. Environmental Protection Agency for funding to hire an ecovillage project manager. After a competitive, national review process, we were fortunate to be one of 42 groups to receive funding (out of nearly 1,000 applicants).

The grant went to Detroit Shoreway, and in January 1999 the organization hired David Cornicelli as ecovillage project manager. Cornicelli formerly was environmental education director of Seventh Generation, the Lorain County environmental group, and assistant director of the Center for the Environment at Case Western Reserve University. He also served as director of economic development of the City of Oberlin. He has a master's degree in urban studies from the University of Akron.



In the coming months, the project staff will work toward a number of objectives:

- **Development around the Rapid station:** We will work with RTA on the design for a redeveloped W. 65th Street Rapid station and development adjacent to the station. RTA staff have made it a priority to cooperate with the ecovillage project and take a broader view of how a transit stop can be linked to a neighborhood.

Development work could also include street design improvements to create more pedestrian-friendly public spaces, as well as housing developments near the Rapid station.

- **Neighborhood organizing:** We will continue to develop broad-based support for the project and foster public involvement. This will include a community advisory committee, neighborhood meetings, informational displays, newsletters, and information on EcoCity Cleveland's Web site ([www.ecocleveland.org](http://www.ecocleveland.org)).

- **Technical organizing:** We will form a technical advisory committee of leading experts in ecological design and green building, begin researching model building codes, and develop partnerships with local universities, NASA's Lewis Research Center, and other groups. Ultimately, the project will tap the expertise of many groups.

- **Environment programs:** With the help of many partners, we will begin developing programs for urban gardening, habitat restoration, energy conservation and environmental education.

- **Funding:** We will continue fundraising from local and national sources, and we will promote creative financing mechanisms, such as location-efficient mortgages and energy-efficient mortgages (special mortgages that give homebuyers credit for the money they save from reduced transportation or energy costs).

### **A home for new ideas**

We believe that the Cleveland EcoVillage project has tremendous potential. It can become an interdisciplinary place where many new ideas—and many partners—can find a home. It can demonstrate the best thinking about neighborhood redevelopment, ecological design, and sustainable communities.

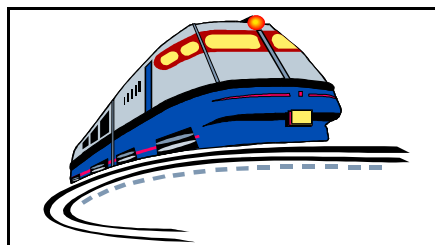
It might even give Cleveland a new reputation as a green city—a city that

takes less from the earth and gives more to people. □

### **For more information:**

- David Cornicelli, Cleveland EcoVillage project manager, Detroit Shoreway Community Development Organization, 6516 Detroit Ave., Cleveland, OH 44102, (216) 961-4242, e-mail: [ecovillage\\_cleve@hotmail.com](mailto:ecovillage_cleve@hotmail.com).

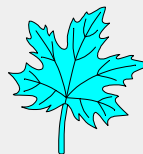
- David Beach, EcoCity Cleveland, 2841 Scarborough Rd., Cleveland Heights, OH 44118, (216) 932-3007, e-mail: [ecocleveland@igc.org](mailto:ecocleveland@igc.org).



### **W. 65th Rapid station design meeting May 6**

The Greater Cleveland RTA and the Cleveland EcoVillage project will host a public meeting on May 6 to solicit input on design options for the reconstruction of the W. 65th Street Rapid station. The meeting will be at 7 p.m. at St. Colman's Church (corner of W. 65th and Madison Avenue). RTA officials and the station design team from MAI Architects will attend, and the meeting will be facilitated by staff of the Project for Public Spaces, an organization that specializes in creating pedestrian-oriented streets and

## **EcoVillage as laboratory**



This Spring semester, undergraduate environmental and urban studies students will contribute their energy and skills to the Cleveland EcoVillage project. Two classes at the Levin College of Urban Affairs at Cleveland State

University, led by Drs. Wendy Kellogg and Roberta Steinbacher, will complete a baseline inventory and history of environmental conditions in the EcoVillage planning area for the Detroit Shoreway Community Development Organization.

The students will gather information on both the ecological (geology, hydrology, topography, vegetation, etc.) and social (cultural, economic, infrastructure, land use) characteristics of the neighborhood in the EcoVillage planning area. They also will document the historic development of the neighborhood during the 19th and 20th centuries, particularly as development changed the area's environmental conditions.

This "environmental history" will help answer a number of questions about the neighborhood:

- What were ecological conditions prior to urbanization?
- What vegetation and habitat existed prior to urbanization?
- What animal species lived in the area?
- Did the EcoVillage area historically have any streams, lakes or wetlands?
- From where did early residents get their drinking water and to where did they dispose their waste?
- How did development of infrastructure—including water and sewer lines and streets and highways—change the topography of the area?
- Do the RTA tracks in the heart of the EcoVillage run through a natural ravine or was it created by people?
- How did land use change in the neighborhood?
- How did early businesses and industry change the air and water quality?
- What is the environmental heritage passed on to the residents today?

The students will also add information about present-day ecological and social conditions, including data on vacant lots, potential sites for gardens and green space, or habitat restoration areas. Thus, they hope to learn from the past, as well as identify the ecological resources and opportunities that could benefit the neighborhood today.

*For more information about the CSU classes, contact Wendy Kellogg at 216-687-5265 or [wendy@wolf.csuohio.edu](mailto:wendy@wolf.csuohio.edu).*





## EcoVillage highlights

### **What is it?**

The Cleveland EcoVillage is a national demonstration project with the goal of developing a model urban village that will realize the potential of urban life in the most ecological way possible. The EcoVillage will unite the latest Green Building ideas (energy efficiency, passive solar design, nontoxic building materials, considerations of life-cycle costs, wastewater treatment with living machines) with the best thinking of the New Urbanism movement (pedestrian-friendly streets, mixed-uses, proximity to transit, urban green space).

### **Why do it?**

Older cities like Cleveland are now being redeveloped, and it is vital that this regeneration take into account ecological design and long-term sustainability. This project can create a model for other neighborhoods in Cleveland and for other cities across the nation. We can start to put Cleveland on the map as a "green city." And by improving the quality of urban life, we will reduce pressures for wasteful urban sprawl.

### **Who are the partners?**

The Cleveland EcoVillage project is a partnership between one of Cleveland's leading neighborhood-based development organizations, the Detroit Shoreway Community Development Organization, and an environmental research and planning organization, EcoCity Cleveland. In addition to these main partners, the project will involve the Greater Cleveland RTA, private developers, the City of Cleveland, other neighborhood development organizations and other environmental organizations.

### **What is the location?**

The EcoVillage planning area centers on the W. 65th Street Rapid Station and surrounding neighborhood on the west side of Cleveland. It is an ethnically diverse community with residents of low to moderate incomes. Development opportunities include the Rapid Station, adjacent commercial strip, nearby church campuses, and vacant lots for infill housing. Existing homes and businesses could be rehabbed.

### **What design concepts are being**

### **considered?**

The EcoVillage can become a transit-centered village, with mixed-use developments centered on the Rapid Station, higher density housing in proximity to transit, and pedestrian/bike links throughout the neighborhood. Innovative housing concepts, such as cohousing, are also being considered.

### **What environmental programs might be included?**

In addition to new development, the EcoVillage could include neighborhood programs for recycling, urban gardening, habitat restoration, environmental education, development of environmental businesses and jobs. It also could promote changes in building codes.

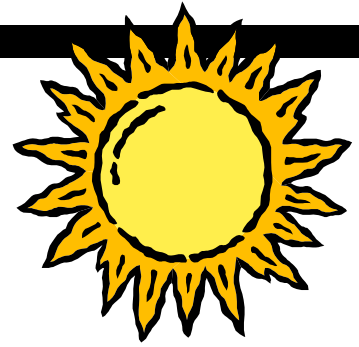
### **What are the funding sources?**

Initial planning for the EcoVillage has been supported by the George Gund Foundation, the Katherine and Lee Chilcote Foundation, and the Cleveland Cityworks program. Funding for a project manager has been provided by U.S. EPA. Future phases will likely be supported by local and national foundations, federal agencies, building materials manufacturers, financing through utilities and location-efficient mortgages, and investments by private developers.

### **What has the project accomplished to date?**

In the past two years the Cleveland EcoVillage project partners have completed a feasibility study and site selection process that evaluated potential sites throughout the City of Cleveland. Once the W. 65th site was selected, the partners spent a great deal of time cultivating support in the neighborhood—meeting with local block clubs, churches, the city councilman, other city officials, and RTA staff members. In December 1997, a design charette was held in the neighborhood to solicit ideas for the project's conceptual plan. The firm of City Architecture was hired to help develop the conceptual plan. Now that much of the essential groundwork has been completed, the partners have hired a full-time project manager.

# A day in the life of the Cleveland EcoVillage, June 1, 2010



Julie woke early with sunlight on her face. She loved waking up in her new bedroom. It was so light and airy that she often felt like she was floating.

It wasn't a large bedroom. In fact, her townhouse would probably be described as "cozy" in a real estate ad. But it felt large and open because of the abundant windows and skylights.

When she had moved into the development, the realtor had bragged about the windows and the building's passive solar design. At the time, she hadn't understood what that meant, but now that she had lived there for a year she had seen how her townhouse respected the sun. Windows and overhangs were precisely oriented to let in sunlight in the mornings and evenings, and also during the winter months when the sun was low in the sky. At noon on a hot summer day, however, her place stayed shady and cool. The whole development of townhouses and apartments had been designed to take advantage of the angles of the sun throughout the year in Northeast Ohio. Unlike most modern buildings, which were the same boxes from Miami to Minneapolis, her building was designed to fit a particular place and work with the sun rather than trying to overpower the local climate with heating and air conditioning. The result was energy-efficient, comfortable, and delightful. The building felt like none other she had ever experienced.

Julie lay in bed and stretched for a few more minutes. Her mornings weren't so hectic now. She used to live in an apartment out in the suburbs, and, as a single parent, it had always been a struggle to get downtown to work on time. First there had been a two-mile drive one way to drop her son, Josh, at school. And then she had to endure a long and stressful commute on I-71. If the weather was good and there were no unusual traffic jams, she could make it in 50 minutes.

Now it took less than 20 minutes and she didn't have to drive at all. Josh's new elementary school was a couple of blocks away in a renovated church building. From there she walked another block to the W. 65th Street Rapid Transit station and took the train two stops to downtown. The law firm where she worked as a paralegal had its offices in the Terminal Tower right above the downtown Rapid station. She couldn't believe how quick and convenient it was to take the train. No matter what the weather, she knew she could get to work on time. And she had come to enjoy the relaxed walk to school with Josh. It was a lot better than piling him into the car and driving like a madwoman every morning.

His school was different, too. It was called the Kirtland Ecology School (named after Jared Potter Kirtland, the 19th-century Cleveland-area

naturalist). It was a charter school within the Cleveland Public Schools and had a customized Montessori curriculum based on environmental stewardship and neighborhood development. The students planted organic gardens, studied math and measurement on construction sites, and learned geography by studying the migration routes of songbirds. In May the fifth-grade students went on a field trip west of Cleveland to witness the spring warbler migration along Lake Erie. Josh was amazed to see 48 different birds, and he proudly checked them off in his field guide. Although Kirtland School was just three years old, it was already gaining a reputation for motivating kids to achieve. Scores on state proficiency tests were as high as scores at many suburban schools.

Many other students were involved in the neighborhood. Indeed, the EcoVillage had become a living laboratory for all kinds of projects and research activities. High school students had developed a recycling and composting program that had cut the neighborhood's waste stream in half. Urban planning students from Cleveland State University had helped plan bikeway and pedestrian routes. NASA scientists were testing hydrogen fuel cells and photovoltaic panels as power supplies for public buildings. Business students were helping to recruit companies to the EcoVillage's eco-industrial park in which the waste by-products from one plant became the valuable feedstocks of another.

And Cleveland Public Power technicians were monitoring energy use. They had an Internet Web site that tracked the neighborhood's electricity consumption hour by hour, along with how many tons of air pollutants that energy efficiency measures were preventing. Currently, EcoVillage residents were using about half of the power per capita of a conventional neighborhood. Additional savings were on the way as more of the older homes in the neighborhood received state-of-the-art energy retrofits financed by the municipal utility. The retrofits included insulation, high-efficiency furnaces, and super-efficient windows. The windows were produced by a local company that employed many city residents, so the neighborhood's energy dollars were being invested in the local economy rather than sent out of state to purchase power.

Julie was reminded of the energy and money savings as she flipped on the bathroom light (a compact fluorescent bulb that used less than a quarter of the power of a regular incandescent bulb) and turned on the shower (a water-conserving showerhead drawing water from a solar hot water heating system on the building's roof). The combination of the townhouse's smart solar design, super insulation, and high-efficiency appliances made her utility bills so low that at first she thought there must be some mistake.



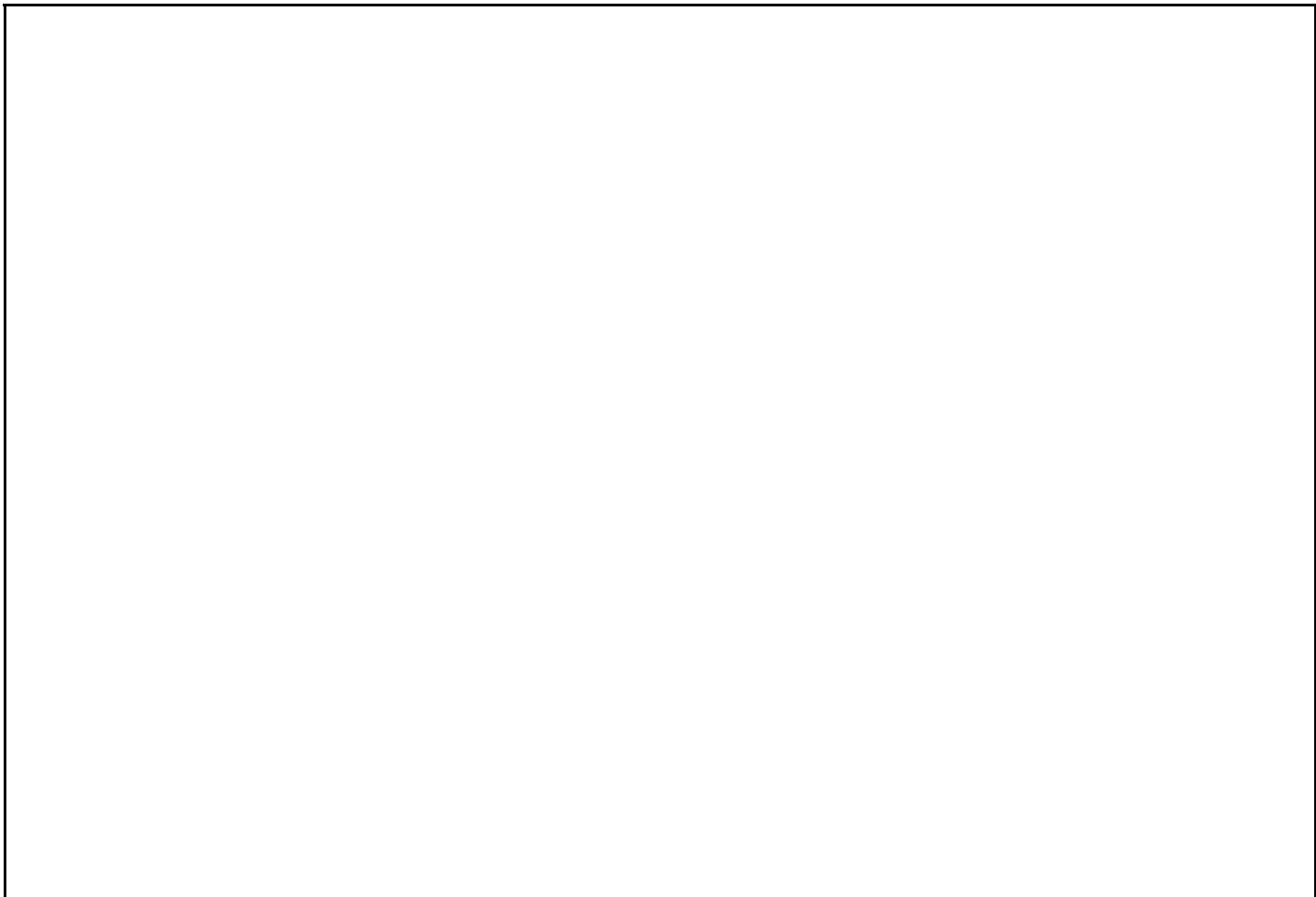


Illustration by Paul Downton, Urban Ecology Australia, for the Halifax EcoCity Project

But now she was enjoying the savings. She kept part of the money in her pocket as extra disposable income. And another part went into her mortgage. In fact, a big reason that she was able to afford a beautiful, new home was the innovative financing package offered in the EcoVillage. Not only did a portion of her home's energy savings help qualify her for a bigger mortgage, but so did a part of her transportation savings. By living in a neighborhood with such good transit service, she didn't need a car. And that put thousands of dollars back into her pocket. As a result, she could afford more house in the EcoVillage than she could anywhere else.

Of course, it had taken her a while to get used to the idea of a car-free lifestyle. But it was amazing how it could work if you lived in a compact neighborhood with stores close by. If she couldn't find what she needed in the shopping court built over the Rapid station, she could hop on a community circulator bus and quickly get to other shopping areas. And the West Side Market was just one stop away on the Rapid.

If she needed to carry a lot of groceries or wanted to go somewhere that was hard to get to by bus, she could always rent a car. There were so many car-free people in the EcoVillage that a co-op rental business had developed. Julia could walk down to the corner and pick up a car for a day or for a couple of hours. Anything from a small

compact to a minivan was available, including electric vehicles that reduced pollution. It was a lot cheaper to rent a car for the few times she really needed one than to own one all the time. And she was glad to give up the worries of car ownership and maintenance.

After dropping Josh off at school, she mailed a letter at the new post office that had been conveniently located next to the Rapid station. Outside the post office was an attractive plaza surrounded by other shops and a day care center. Above the stores were three to five stories of terraced apartments. With the transit, retail, services and housing all mixed together, the plaza was a center of activity all day long. Old-time residents told Julie that the old W. 65th Street Rapid stop had once been a decrepit and dangerous place that people avoided. Now it was a lively, fun place, and it was attracting new ridership to RTA.

As Julia headed for the boarding platform, she ran into Maria, a member of her new "supper club." The organizers of the EcoVillage were very good at linking residents together and creating a sense of community. In addition to lots of meetings to plan new developments and educational programs for the neighborhood, there were computer networks for bartering goods and services and for matching people up to share meals. As a single parent, Julia had grown



wary of rushing home to cook supper every night. So she had joined a cooking group with three other residents on her block. Julie cooked on Monday evening and the others took turns on Tuesday, Wednesday and Thursday.

Tonight it was Maria's turn, and she asked if Julie had ever tried "tostones," a dish of fried green plantains that was popular in Puerto Rico. Julie laughed and said she'd try anything. There were so many different kinds of people in the EcoVillage that she was learning something new every day. The diversity was built on the existing ethnic diversity of that part of Cleveland, and it was protected by the mix of new housing types that were being constructed. For example, many of the new homes had small accessory apartments—"granny flats"—that were very affordable. And the special mortgage programs had helped many people who had been renting older homes in the neighborhood to become homeowners. Residents on fixed incomes also were assisted by a tax break that made it possible for them to fix up their homes without getting hit with higher property taxes for a five-year period.

Some of the most economical, as well as environmentally friendly, housing in the EcoVillage was in the cohousing block. In this development of townhouses residents had private rooms but shared a common kitchen, dining room, courtyard and other facilities. "Why does every household have to have a blender and a lawn mower?" members liked to ask.

Although cohousing wasn't for her, Julie was getting used to the idea that it was often better to share a public amenity than to try to buy everything privately. For instance, she had always dreamed of having a big house and yard. But now she realized it was much nicer to have access to public parks and greenspace than to spend time taking care of a lawn. It was more convenient to walk two blocks to swim at Zone Recreation Center than maintain her own pool. And it was just as good to have a plot in the community garden as it was to have her own land. What she really wanted was access, not ownership.

That evening after work, since she didn't have to cook supper, she was able to go on a bike ride with Josh. They followed the pedestrian and bike paths that wound through the EcoVillage. They crossed busy Lorain Avenue where a "traffic calming" project slowed down the traffic and made the street safe for people. And they continued along the nature trail by Zone Recreation Center and on to the Walworth Run bike trail, which in turn linked the EcoVillage to the Ohio & Erie Canal National Heritage Corridor trail farther to the east. Someday, she told Josh, they were going to ride their bikes all the way to Akron!

It had surprised her at first, but she never felt unsafe while riding around the neighborhood. So many people were out enjoying the streets and trails and front porches that she felt neighbors were always looking out



for her. If she needed a favor, there were a dozen people she could call within a block. In contrast, she had always felt isolated out in the suburbs. Her previous place had been in a big apartment complex and had had a view of parking lots and garages. She had gotten to know many of the cars in the lots but not her neighbors, who had been a transient, rootless bunch.

Julie put Josh to bed and went out on her third floor balcony to enjoy the evening. She watered her plants and looked out over the neighborhood. She could see a dense mix of treetops and rooftops. Farther to the south she could see lines of cars streaming along I-90. She pitied the people with long commutes home.

To the northwest, she could see the sun setting over Lake Erie. She wasn't high enough to see the lake itself, but she knew it was there. She had gotten to know where the sun set and rose. It was the first time in her life that she had paid much attention to such things. Her new home had given her the precious time to notice the world, time to feel connected to a place.

She smiled. It would soon be the summer solstice. A year ago she hadn't had a clue about the longest day of the year. But people in the EcoVillage were talking about it and were planning a big celebration.

The EcoVillage was like that. There were lots of celebrations. Summer solstice. Winter solstice. Ethnic holidays. The groundbreaking for a new energy-efficient house. The completion of a habitat restoration project.

More and more residents were learning about the earth, the natural systems that sustain life, and how to make cities work for people. They were understanding not only that a compact, urban neighborhood can be a wonderful place in which to live, but that it can be the best place for most people to live sustainably and reduce their impact on the earth.

It was hard work. It involved experimentation, new ideas, and imagination. Plans didn't always work out. But it kept moving forward. And it made Julie feel that she and her new home were part of something good and important. □





# Green building

*Ecovillage development will require us to think deeply about the impacts our buildings have on people and on the earth. We will need ecological building methods, as well as new ways to arrange buildings and public spaces to form communities.*

By Jim LaRue

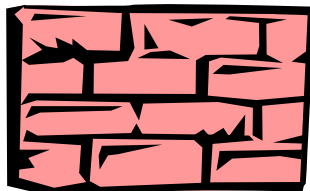
The City of Austin, TX, has introduced the first city-endorsed “green building” program in which anyone building with government funds must demonstrate how they have:

- Made appropriate use of the land.
- Made efficient use of limited natural resources.
- Enhanced human health for builders and homeowners.
- Used non-toxic, local materials to assist the local economy.
- Preserved plants, animals, endangered species and natural habitats.
- Protected agricultural, cultural and archeological resources.
- Reduced total lifetime energy usage.
- Made the structure economical to build and operate.
- Demonstrated recyclability.
- Created a building that has a positive effect on occupants in the working or living space.

A builder in Chicago is now building homes for moderate-income families that have 2,000 square feet of living space, and he guarantees that they will heat for less than \$200 per year or he will pay the difference. He has not paid out a penny yet.

The City of Austin and the Chicago builder are the upside in the move toward “green building.” On the downside, the National Association of Home Builders Research Center (NAHB) has completed a study on waste at building sites and found that the typical builder spends \$511 per house for construction waste disposal, which includes 790 pounds of solid wood scraps, 458 pounds of manufactured wood, 46 pounds of sawdust, 154 pounds of cardboard, 1,788 pounds of drywall scraps, 155 pounds of plastic, 262 pounds of asphalt roofing scraps, 133 pounds of masonry materials and 21 pounds of paper.

These illustrations clearly demonstrate that



homebuilders can take many positive steps to create an environmentally friendly house, but there is still much to be done. It is also very clear that until you, the homeowner, decide that you want a “green building,” it is not likely to be built. On the other hand, it is also clear that once you do demand it, builders have been able to respond and produce a product that is not much more expensive to build and, in almost every case, is far less expensive to operate and maintain.

## Strategies

If you are seriously interested in “green building” techniques—whether for new construction or rehab—there are four basic strategies to keep in mind. You should be searching for practitioners who can provide them in your project.

- **Optimum-value engineering:** While engineering principles have always been used in the design of housing, there has always been a tendency to overbuild and to not effectively use materials in many instances. For example, wood frame walls are built with studs as the vertical members and wooden plates on the top and bottom to hold the structure together. The current practice is to use two or more plates on the top. We now know, however, that if the floor-framing members can rest right where the studs are, it is not necessary to have more than one top plate. This change can save hundreds of feet of lumber and actually helps reduce heat loss through the walls.

Another example: Most wood building materials come in increments of two feet. If your plan calls for a wall that is 39 feet long, you will be wasting one foot of wood. If you make the wall 40 feet, you can use a whole board and add some living space.

Thus, it is possible to design and engineer a solid house, while dramatically reducing the waste products produced.



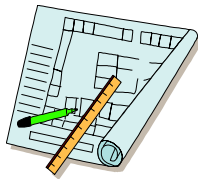
- **Energy-efficient building:** You really can build a house that heats for \$200 a year if you seal the building envelope (the exterior walls, ceilings and floors of the structure), insulate the building envelope so heat loss is reduced to a minimum, install ductwork that is not leaky, and effectively ventilate the structure so there are sufficient air changes for good health (without unnecessary air changes that lose the heat you paid to generate). In such a house you need a far smaller heating system, which requires much less fuel to achieve a desired level of comfort. And such a house is cheaper to cool as well. The technical know-how to produce such housing and retrofit existing housing is available right now.

- **Ecological building materials.** This involves choosing building materials that use the least energy to manufacture or produce, are most likely to be recyclable or are already recycled, and are produced from an easily renewable resource.

Would you believe that the construction of homes using bales of hay to form the sidewalls is becoming a common construction practice? Hundreds of them are beginning to appear all over the country because hay is readily available in every part of the country. Moreover, hay is cheap to produce, the simple act of harvesting is the manufacturing process and there will always be a supply of hay. When covered with a wire mesh and coats of stucco, hay bales produce a house with insulation R-values in the walls as high as 50. The walls are also extremely durable.

These days there are fewer and fewer big trees to provide lumber necessary to create beams, rafters and joists. So a growing amount of this kind of material is being

made from ground-up wood fibers that, when bonded together, create an incredibly strong piece of wood. In addition, plastic bottles can be recycled and mixed with wood fibers to form a composition material that can be used for decks and other outdoor projects. This material will never rot and can be reused or recycled endlessly over time.



■ **Nontoxic materials and systems.** Green building also involves using building materials and systems that do not foul the environment or harm the health of inhabitants. Over the years, the chemical revolution helped us in many ways, but it also has produced chemicals that have been used in pesticides and building materials that have made people sick. The good news is that we have learned what many of these are and have developed safer products to replace them.

We also have begun to reduce the number of unvented heating appliances we have in our homes, which have contributed to personal injury and sometimes death. We are choosing building materials that do not out-gas harmful chemicals when they are hot and/or wet. We are adopting strategies for controlling moisture and reducing mold and mildew growth and the deterioration of building materials due to these organisms. And we are manufacturing products that will not present health hazards in the first place.

### Behind the times

Whether you are building a new home or are thinking of making improvements to your existing home, paying attention to green building concerns will produce a better building, make for a healthier and more effective living space and contribute

to the sustainability of our natural resources.

Where can you start looking in Northeast Ohio for help with green building? Unfortunately, we have a long way to go to reach the level of resources available in a place like

Austin, TX. In other parts of the country, the driving forces behind such efforts have been environmental or climatic concerns, such as water shortages, soil conditions, very cold or very warm or very humid weather. We happen to live in an area with plenty of water, a temperate climate and cheap natural gas. A building scientist visiting this area once remarked, "You guys can get away with a lot here because you are not dealing with any serious extremes; if you wait long enough the problem will go away." A bit overstated perhaps, but it means that anyone wishing to make strides in green building is not going to find much help in official governmental channels or through building industry organizations in this area.... yet. □

*Jim LaRue (aka "The HouseMender") is a local expert on home repair and remodeling. He was formerly the education director of the Housing Resource Center in Cleveland. This article was originally published in EcoCity Cleveland's Greater Cleveland Environment Book.*

## What is green building?

A green building is very practical. The building techniques minimize energy usage and destruction to the environment. A green building ideally would:

- Make appropriate use of land.
- Make efficient use of limited natural resources.
- Enhance human health for builders and homeowners.
- Use nontoxic, local materials to assist the local economy.
- Preserve plants, animals, endangered species, and natural habitats.
- Protect agricultural, cultural and archeological resources.
- Reduce total lifetime energy usage.
- Be economical to build and operate.
- Demonstrate recyclability.
- Have a positive effect and increased productivity on occupants in the working or living space.

—from the brochure for the Green Building Conference '97 in Austin, TX

## Checklists for a sustainable building

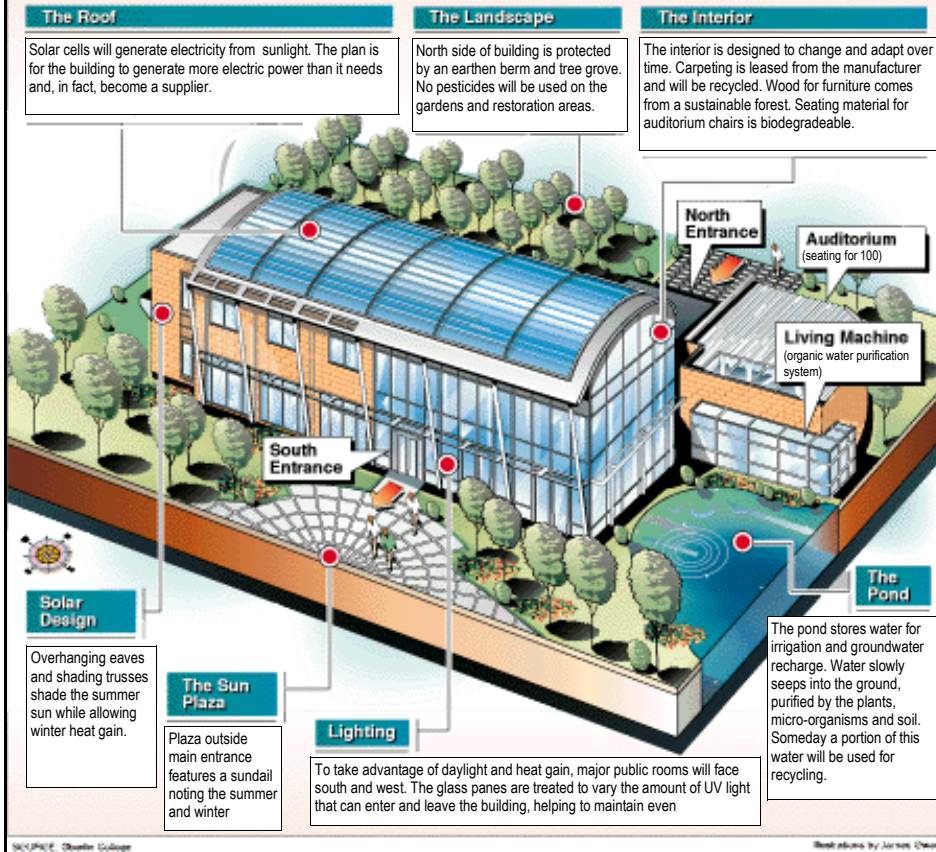
- Make appropriate use of land.
- Use water, energy, lumber, and other resources efficiently.
- Enhance human health.
- Strengthen local economies and communities.
- Conserve plants, animals, endangered species, and natural habitats.
- Protect agricultural, cultural, and archeological resources.
- Be nice to live in.
- Be economical to build and operate.

—from A Primer on Sustainable Building, Rocky Mountain Institute

- **Smaller is better.** Optimize use of interior space through careful design so that the overall building size—and resource use in constructing and operating it—are kept to a minimum.
- **Design an energy-efficient building.** Use high levels of insulation, high-performance windows, and tight construction.
- **Design buildings to use renewable energy.** Passive solar heating, daylighting, and natural cooling can be incorporated cost-effectively into most buildings. Also consider solar water heating and photovoltaics.
- **Optimize material use.** Minimize waste by designing for standard ceiling heights and building dimensions. Simplify building geometry.
- **Design for water-efficient, low-maintenance landscaping.** Conventional lawns have a high impact because of water use, pesticide use, and pollution generated by lawn mowers. Landscape with drought-resistant native plants and perennial ground covers.
- **Make it easy for occupants to recycle waste.** Make provisions for storage and processing of recyclables.
- **Look into the feasibility of using gray water.** Water from sinks, showers, and washing machines can be recycled for irrigation in some areas.
- **Design for durability.** To spread the environmental impacts of building over as long a period as possible, the structure must be durable. Durable aesthetics ("timeless architecture") are also important.
- **Design for future reuse and adaptability.** Make the structure adaptable to other uses, and choose materials and components that can be reused or recycled.

■ **Avoid potential health hazards:** radon, mold, pesticides.  
—Environmental Building News

## ADAM JOSEPH LEWIS CENTER FOR ENVIRONMENTAL STUDIES



# Oberlin College's amazing green building

## A place that teaches

Last September, Oberlin College broke ground for a new environmental studies center—not just any building, but a building that will be a working laboratory for environmental education and one of the most advanced examples of ecological architecture in America.

Named the Adam Joseph Lewis Environmental Studies Center after one of the principal funders, the 14,000 square foot building was designed by William McDonough, dean of the school of architecture at the University of Virginia. McDonough has a worldwide reputation as a visionary green designer (see his "Hannover Principles" for ecological design on page 18.) Also contributing to the design were Amory Lovins and Bill Browning from the Rocky Mountain Institute and other leading experts in the fields of ecological engineering and landscape architecture.

The building will be a place that teaches. Its design concepts will help students learn ecological competence and mindfulness of place, environmental technologies, analytical skills in assessing full costs over the building's lifetime, and how nature's principle that "waste equals food" can be adapted for manufacturing processes and building materials.

We are fortunate to have such a demonstration of ecological design here in Northeast Ohio. Here is a summary of the building's ecological features:

### Projected energy performance

- **Energy use:** 21 percent of the average for new construction.

### Mechanical systems

- **Geothermal wells:** Heating and cooling is derived from closed-loop geothermal wells. Water circulates through closed-loop pipes to water source heat pumps located in each space throughout the building. In addition, two larger heat pumps serve the ventilation needs for the main building and the auditorium. Each heat pump is controlled individually, allowing the unit to either reject or extract heat from the circulating water as needed. This reduces energy use by enabling simultaneous heating and cooling within the building. Atrium heating is provided through radiant coils under the concrete slab.

- **Fresh air:** 100 percent fresh air for ventilation is provided in all occupied spaces. Return air is passed through a heat recovery unit before it is exhausted.

- **Raised floor:** A raised floor is employed at the first floor workspaces and on the entire second floor, providing plenum space for ducted ventilation air delivery and return, and electrical, data, and communication wiring.

### Solar design

- **Photovoltaic panels:** 3,700 Sf photovoltaic (PV) array on the main south-facing curved roof will provide electrical energy for the building. Anticipated advancements in PV efficiencies should meet or exceed the building energy demand (64,000 kwh) within five years. Roof attachment detail allows for upgrades as advancements are made in PV technology.

- **Sun Plaza:** The Sun Plaza maps the solar year; shadows cast by a gnomon are marked in the Sun Plaza form.

- **Building orientation:** Building is elongated along east-west axis to optimize passive solar performance. A vine-covered trellis



provides shading on the south elevation.

■ **Daylighting:**

Daylighting is provided for all interior spaces, reducing lighting loads. Direct solar gain is collected through south-facing glass in the atrium and work spaces.

■ **Thermal mass:**

Thermal mass in concrete floors and exposed interior masonry walls retains and re-radiates heat.

**Energy efficiency**

■ **Natural ventilation:**

Building orientation takes advantage of prevailing breezes. Operable windows in all occupied spaces allows for natural ventilation.

Atrium ventilation introduces air at low levels and exhausts air at clerestory, using natural convective air flows.

■ **Roof insulation:** R-30 to R-40 roof assemblies.

■ **Energy efficient wall design:** R-21 masonry cavity-walls, featuring pressure-equalized rain-screen assemblies, with air barrier construction.

■ **Integrated building controls:** Advanced, central building controls for mechanical, security, fire, and Living Machine systems.

■ **Energy efficient lighting design:** 0.9

watts/sf connected lighting load.

■ **Windows:** Glazing to represent the most advanced in thermal insulation and shading.

**Indoor air quality**

■ **Low-VOC materials,** paints, and adhesives are specified throughout the building.

■ **Exposed ceiling** structure eliminates inaccessible ceiling plenums.

■ **Construction procedures:** Careful review of product submittals, proper ventilation during construction, construction

sequencing to limit exposure of materials to toxins.

■ **Complete HVAC testing,** balancing, and commissioning before occupancy.

■ **Maintenance protocol** to establish cleaning products and practices after building occupancy.

**Material selection**

■ **Durable, low-maintenance materials** are used throughout, including exterior walls (brick), interior walls (unpainted concrete masonry units), and steel structure.

■ **Recycled content:** Steel (framing), aluminum (roof, windows and curtainwall frames), ceramic tiles (restrooms), toilet partitions.

■ **Certified forest products:** All wood is supplied from certified sustainably-managed forests, as determined by standards and specification language endorsed by the Forest Stewardship Council (FSC). The certified status of the forest of origin will be verified, as well as the chain



of custody from the forest through manufacturing and fabrication. This includes the wood roof decking structure, glued-laminated beams, plywood and wood framing members, and veneered wood panels.

■ **Products of service:** The raised floor and carpeting are leased to the college by Interface (the manufacturer). The college gains the services of the floor and carpet, without the liabilities of ownership. Interface retains ownership of the floor and carpet, allowing it to re-use or recycle the components when their service life is complete.

**Landscape**

■ **Indigenous landscape:** A microcosm of the

hardwood forests common to Northern Ohio.

■ **Aquatic landscape:** A pond and wetland retains, processes, and cleanses stormwater and run-off from adjacent areas.

■ **Social landscape:** The Sun Plaza, North Plaza, paths, and walks provide places for gathering, circulation, learning, and leisure.

■ **Food growing landscape:** Orchards and gardens provide a working landscape where students can learn about growing food and fundamental ecological processes.

**Living machine**

■ **Natural wastewater treatment system,** powered by sunlight; serves as research and teaching tool. Designed to handle 2,000 gallons per day, the Living Machine is a resilient system due to its mechanical simplicity and biological complexity. Replicates and accelerates the natural purification processes of ponds and marshes. Diverse communities of bacteria, algae, microorganisms, plants, trees, snails, fish interact as whole ecologies in tanks and living bio-filters. Recycles water for non-potable "graywater" use throughout the building. □

*For more information on the Oberlin building, see the college's Web site at [www.oberlin.edu](http://www.oberlin.edu).*

## Reweaving human presence in the world

Three years ago we began the effort to design a building for the Environmental Studies Program. We intended to create not just a place for classes but rather a building that would help to redefine the relationship between humankind and the environment—one that would expand our sense of ecological possibilities.

We began by asking:

■ Is it possible—even in Ohio—to power buildings by current sunlight?

■ Is it possible to create buildings that purify their own wastewater?

■ Is it possible to build without compromising human and environmental health somewhere else or at some later time?

In other words, is it possible to design buildings so well and so carefully that they do not cast a long ecological shadow over the future that our students will inherit? We now know that such things are possible—that buildings can be designed to give more than they take.

But we intend the Adam Joseph Lewis Center to be more than just a demonstration. It is a means to the larger end of improving how creatively we think. In the century ahead all of those who will be educated here must learn how to:

■ Power society by sunlight and stabilize climate.

■ Disinvent the concept of waste and build prosperity within the limits of natural systems—in ways that can be sustained over the long term.

■ Preserve biological diversity and restore damaged ecosystems.

■ And do these things while advancing the causes of justice and nonviolence.

To these ends the Adam Joseph Lewis Center will serve as a part of the larger education of the Oberlin community aimed to promote the practical skills and analytic abilities necessary to reweave the human presence in the world.

*—David Orr, professor and director of Oberlin's Environmental Studies Program (excerpted from remarks made at the groundbreaking ceremony for the college's Environmental Studies Center in September 1998)*

## The Big Sur Declaration



At a conference in 1994, members of the international Ecological Design Society issued the following declaration.

Ecological design re-integrates the needs of human society within the dynamic balance of nature. It calls for an ecological revolution as fundamental as the industrial revolution.

Conventional forms of agriculture, architecture, engineering, and technology have not proven themselves sufficient to maintain either human health or the integrity of ecosystems.

We, the international Ecological Design Society, call for a regenerative ecological design science and craft which honors the following principles:

- **Trace the ecological footprint:**

Set up the books for a full ecological accounting. Evaluate designs by their environmental impacts over their complete life-cycle.

- **Live off solar income:** Increase the renewability of energy production and the efficiency of energy use until we can provide for our needs out of annual solar income.

- **Maintain biodiversity and the locally adapted cultures and economies that support it:** We take the preservation of species, representative ecosystems, and ecologically viable landscapes as a self-evident necessity. This can only be accomplished with a diversity of cultures and economies predicated on the uniqueness of place.

- **Waste equals food:** Create restorative materials cycles in which all waste from one process becomes food for the next.

- **Work with whole systems:** Design in keeping with the greatest possible degree of internal integrity and coherence.

- **Design must follow, not oppose, the flows of life:** Replace energy and materials with the self-designing capabilities of ecosystems. Allow living systems to unfold in a full expression of their creative capacities. Ecological design occurs in planetary time.

# Declarations for ecological communities

*Ultimately, an ecovillage is an attempt to balance the needs of human society with the functioning of the earth's natural systems. In recent years, design professionals, philosophers and citizen activists have advanced strategies to achieve such a balance. On pages 17-20 we reprint a selection of their statements. They challenge us to envision a fundamentally different world.*

Ecological design can be defined as "any form of design that minimizes environmentally destructive impacts by integrating itself with living processes." This integration implies that the design respects species diversity, minimizes resource depletion, preserves nutrient and water cycles, maintains habitat quality, and attends to all the other preconditions of human and ecosystem health....

In many ways, the environmental crisis is a design crisis. It is a consequence of how things are made, buildings are constructed, and landscapes are used... We have used design cleverly in the service of narrowly defined human interests but have neglected its relationship with our fellow creatures. Such myopic design cannot fail to degrade the living world, and, by extension, our own health.

—from *Ecological Design* by Sim Van Der Ryn and Stuart Cowan

Sustainable design is not a new building *style*. Instead, it represents a revolution in how we think about, design, construct, and operate buildings. The primary goal of sustainable design is to lessen the harm poorly designed buildings cause by using the best of ancient building approaches in logical combination with the best of new technological advances. Its ultimate goal is to make possible offices, homes, even entire subdivisions, that are net *producers* of energy, food, clean water and air, beauty, and healthy human and biological communities.

—from *A Primer on Sustainable Building*, Rocky Mountain Institute

The ecocity is the next step in the evolution of our urban environments: built to fit its place, in cooperation with nature rather than in conflict; designed for people to live whilst keeping the cycles of atmosphere, water, nutrients and biology in healthy balance; empowering the powerless, getting food to the hungry and shelter to the homeless; creating a place for everyone, in every land, for all time.

—Paul Downton, Urban Ecology of Australia



# The Hannover Principles

*As host of the world exposition in the year 2000, the City of Hannover, Germany, commissioned the following design principles to insure that the design and construction related to the fair will represent a sustainable development for the city, region, and world. It is hoped that the Hannover Principles will inspire an approach to design which may meet the needs and aspirations of the present without compromising the ability of the planet to sustain an equally supportive future.*

- **Insist on the rights of humanity and nature to co-exist** in a healthy, supportive, diverse and sustainable condition.

- **Recognize interdependence.** The elements of human design interact with and depend upon the natural world, with broad and diverse implications at every scale. Expand design considerations to recognizing even distant effects.

- **Respect relationships between spirit and matter.** Consider all aspects of human settlement including community, dwelling, industry and trade in terms of existing and evolving connections between spiritual and material consciousness.

- **Accept responsibility for the consequences of design** decisions upon human well-being, the viability of natural systems, and their right to co-exist.

- **Create safe objects of long-term value.** Do not burden future generations with requirements for maintenance or vigilant administration of potential danger due to the careless creation of products, processes, or standards.

- **Eliminate the concept of waste.** Evaluate and optimize the full life-cycle of products and processes, to approach the state of natural systems, in which there is no waste.

- **Rely on natural energy flows.** Human designs should, like the living world, derive their creative forces from perpetual solar income. Incorporate this energy efficiently and safely for responsible use.

- **Understand the limitations of design.** No human creation lasts forever, and design does not solve all problems. Those who create and plan should practice humility in the face of nature. Treat nature as a model and mentor, not an inconvenience to be evaded or controlled.

- **Seek constant improvement by the sharing of knowledge.** Encourage direct and open communication between colleagues, patrons, manufacturers, and users to link long-term sustainable

considerations with ethical responsibility, and re-establish the integral relationship between natural processes and human activity.

■  
*These principles force a rethinking of building and construction practices. For example, here are some implications for materials and water.*

## Materials

- Buildings should be designed to be flexible enough to accommodate many human purposes, including living, working, or craft, thereby allowing the materials to remain in place while serving different needs.

- Materials should be considered in light of their sustainability; their process of extraction, manufacture, transformation, and degradation through proper resource management; and biodiversity on a global and local scale. All materials should be considered in terms of their embodied energy and characteristics of toxicity, potential off-gassing, finish and maintenance requirements.

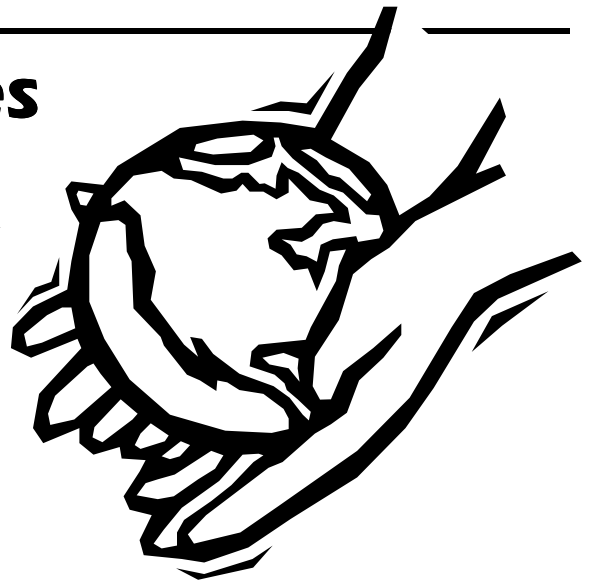
- Products should not be tested on animals.

- Recyclability and recycling of materials is essential. But recycled materials should not be encouraged if they are the result of a product designed for disposability. Provision should be made for the disassembly and re-use of all products by the manufacturer if necessary. The recyclability of entire structures must be considered in the event that building fails to be adaptable to future human needs.

- Materials should be chosen to minimize hazardous chemicals.

- Solid waste left after maximal avoidance must be dealt with in a nontoxic manner. In nature, waste equals food. The aim is to eliminate any waste that cannot be shown to be part of a naturally sustainable cycle.

- Life-cycle analysis of all materials and processes is important. Life-cycle assessment is a process in which the energy use and environmental impact of the entire life cycle of the product, process, or activity is catalogued and analyzed, encompassing extraction and processing of raw materials, manufacturing, transportation and maintenance, recycling, and return to the environment.



## Water

- Water use must be carefully accounted for throughout the entire design process.

- Water sources must be protected from contamination and careful consideration given to efficiency techniques at every step.

- Potable water consumption should only be used for life-sustaining functions.

- Water from aquifers, rain water, surface run-off water, gray water, and any water use for sewage transport or processing systems should all be considered within a cyclical concept.

- Waste water must be returned to the earth in a beneficial manner. Organic treatment systems should be considered.

- No ground water contamination should result from any use of water resources related to the construction operation of any of the project's facilities.

- Design shall consider rainwater and surface run-off water as a possible resource for inhabitants and in building systems.

- Design should minimize impermeable ground cover.

- Gray water can be treated and applied to practical or natural purposes suitable to its characteristics.

- Water use in any process-related activity shall be put into recirculation, and toxic chemicals or heavy metals should be minimized. All discharges of process-related water shall meet drinking water standards. □

—Excerpted from *The Hannover Principles: Design for Sustainability*  
by William McDonough Architects

# Charter of the New Urbanism

The Congress for the New Urbanism views disinvestment in central cities, the spread of placeless sprawl, increasing separation by race and income, environmental deterioration, loss of agricultural lands and wilderness, and the erosion of society's built heritage as one interrelated community-building challenge.

We stand 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.

We recognize that physical solutions by themselves will not solve social and economic problems, but neither can economic vitality, community stability, and environmental health be sustained without a coherent and supportive physical framework.

We advocate the restructuring of public policy and development practices to support the following principles: neighborhoods should be diverse in use and population; communities should be designed for the pedestrian and transit as well as the car; cities and towns should be shaped by physically defined and universally accessible public spaces and community institutions; urban places should be framed by architecture and landscape design that celebrate local history, climate, ecology, and building practice.

We represent a broad-based citizenry, composed of public and private sector leaders, community activists, and multidisciplinary professionals. We are committed to reestablishing the relationship between the art of building and the making of community, through citizen-based participatory planning and design.

We dedicate ourselves to reclaiming our homes, blocks, streets, parks, neighborhoods, districts, towns, cities, regions, and environment.

We assert the following principles to guide public policy, development practice, urban planning, and design:

## The region: Metropolis, city, and town

1. Metropolitan regions are finite places with geographic boundaries derived from topography, watersheds, coastlines, farmlands, regional parks, and river basins. The metropolis is made of multiple centers that are cities, towns, and villages, each with its own identifiable center and edges.

2. The metropolitan region is a fundamental economic unit of the contemporary world. Governmental cooperation, public policy, physical planning, and economic strategies must reflect this new reality.

3. The metropolis has a necessary and fragile relationship to its agrarian hinterland and natural landscapes. The relationship is environmental, economic, and cultural. Farmland and nature are as important to the metropolis as the garden is to the house.

4. Development patterns should not blur or eradicate the edges of the metropolis. Infill development within existing urban areas conserves environmental resources, economic investment, and social fabric, while reclaiming marginal and abandoned areas. Metropolitan regions should develop strategies to encourage such infill development over peripheral expansion.

5. Where appropriate, new development contiguous to urban boundaries should be organized as neighborhoods and districts, and be integrated with the existing urban pattern. Noncontiguous development should be organized as towns and villages with their own urban edges, and planned for a jobs/housing balance, not as bedroom suburbs.

6. The development and redevelopment of towns and cities should respect historical patterns, precedents, and boundaries.

7. Cities and towns should bring into proximity a broad spectrum of public and private uses to support a regional economy that benefits people of all incomes. Affordable housing should be distributed

throughout the region to match job opportunities and to avoid concentrations of poverty.

8. The physical organization of the region should be supported by a framework of transportation alternatives. Transit, pedestrian, and bicycle systems should maximize access and mobility throughout the region while reducing dependence upon the automobile.

9. Revenues and resources can be shared more cooperatively among the municipalities and centers within regions to avoid destructive competition for tax base and to promote rational coordination of transportation, recreation, public services, housing, and community institutions.



## The neighborhood, the district, and the corridor

1. The neighborhood, the district, and the corridor are the essential elements of development and redevelopment in the metropolis. They form identifiable areas that encourage citizens to take responsibility for their maintenance and evolution.

2. Neighborhoods should be compact, pedestrian-friendly, and mixed-use. Districts generally emphasize a special single use, and should follow the principles of neighborhood design when possible. Corridors are regional connectors of neighborhoods and districts; they range from boulevards and rail lines to rivers and parkways.

3. Many activities of daily living should occur within walking distance, allowing independence to those who do not drive, especially the elderly and the young. Interconnected networks of streets should be designed to encourage walking, reduce the number and length of automobile trips, and conserve energy.

4. Within neighborhoods, a broad range of housing types and price levels can bring people of diverse ages, races, and incomes into daily interaction, strengthening the personal and civic bonds essential to an authentic community.

5. Transit corridors, when properly planned and coordinated, can help organize metropolitan structure and revitalize urban centers. In contrast, highway corridors should not displace investment from existing centers.

6. Appropriate building densities and land uses should be within walking distance of transit stops, permitting public transit to become a viable alternative to the automobile.

7. Concentrations of civic, institutional, and commercial activity should be embedded in neighborhoods and districts, not isolated in remote, single-use complexes. Schools should be sized and located to enable children to walk or bicycle to them.

8. The economic health and harmonious evolution of neighborhoods, districts, and corridors can be improved through graphic urban design codes that serve as predictable guides for change.

9. A range of parks, from tot-lots and village greens to ballfields and community gardens, should be distributed within neighborhoods. Conservation areas and open lands should be used to define and connect different neighborhoods and districts.

*Continued on the next page*

## The block, the street, and the building

1. A primary task of all urban architecture and landscape design is the physical definition of streets and public spaces as places of shared use.

2. Individual architectural projects should be seamlessly linked to their surroundings. This issue transcends style.

3. The revitalization of urban places depends on safety and security. The design of streets and buildings should reinforce safe environments, but not at the expense of accessibility and openness.

4. In the contemporary metropolis, development must adequately accommodate automobiles. It should do so in ways that respect the pedestrian and the form of public space.

5. Streets and squares should be safe, comfortable, and interesting to the pedestrian. Properly configured, they encourage walking and enable neighbors to know each other and protect their communities.

6. Architecture and landscape design should grow from local climate, topography, history, and building practice.

7. Civic buildings and public gathering places require important sites to reinforce community identity and the culture of democracy. They deserve distinctive form, because their role is different from that of other buildings and places that constitute the fabric of the city.

8. All buildings should provide their inhabitants with a clear sense of location, weather and time. Natural methods of heating and cooling can be more resource-efficient than mechanical systems.

9. Preservation and renewal of historic buildings, districts, and landscapes affirm the continuity and evolution of urban society. □

## Sustainable development

Sustainable development has been described as the integration of the three e's — environment, economy, and equity. In addition, a variety of themes have become closely associated with the concept of sustainable development. For development to be sustainable, it must satisfy five criteria. Decisions must consider and account for:

- **Long-term impacts and consequences.** Sustainable development requires the use of a long-term horizon for decisionmaking in which society pursues long-term aspirations rather than simply making short-term, reactive responses to problems. By keeping an eye out for the long-term, sustainable development ensures that options for future generations are maintained if not improved.

- **Interdependence.** Sustainable development recognizes the interdependence of economic, environmental, and social well-being. It promotes actions that expand economic opportunity, improve environmental quality, and increase social well-being at the same time, never sacrificing one for another.

- **Participation and transparency.** Sustainable development depends on decisionmaking that is inclusive, participatory, and transparent. It recognizes the importance of process and decisionmaking that includes the input of the stakeholders who will be affected by decisions.

- **Equity.** Sustainable development promotes equity between generations and among different groups in society. It recognizes the necessity of equality and fairness, and it reduces disparities in risks and access to benefits.

- **Proactive prevention.** Sustainable development is anticipatory. It promotes efforts to prevent problems as the first course of action.

Sustainable development is one of those rare ideas that could dramatically change the way we look at "what is" and "what could be." It is about doing things in ways that work for the long run because they are better from every point of view—better economically, environmentally, and socially...Sustainable development challenges us to envision a society superior to today's society, and to make it a reality for our children and grandchildren.

—President's Council on Sustainable Development

## Additional reading

- Blueprint for a Sustainable Bay Area* by Urban Ecology, 1996.
- Community Energy Workbook* by Alice Hubbard and Clay Fong, Rocky Mountain Institute, 1995.
- The Death and Life of Great American Cities* by Jane Jacobs, Vintage Press, 1961.
- Eco-City Dimensions: Healthy Communities, Healthy Planet* edited by Mark Roseland, New Society Publishers, 1997.
- Ecocity Berkeley* by Richard Register, North Atlantic Books, 1987.
- Ecological Design* by Sim Van Der Ryn and Stuart Cowan, Island Press, 1996.
- Eco-Villages and Sustainable Communities* edited by Diane Gilman and Richard Gilman, Context Institute, 1991.
- Environmental Building News* monthly newsletter, 28 Birge St., Brattleboro, VT 05301 (802-257-7300 or [www.ebuild.com](http://www.ebuild.com)). EBN also offers the *E Build Library* on searchable CD-ROM, which includes comprehensive lists of green building products and resources, as well as back issues of the *Environmental Building News* newsletter.
- Futures by Design: The Practice of Ecological Planning* edited by Doug Aberley, New Society Publishers, 1996.
- The Granite Garden: Urban Nature and Human Design* by Anne Whiston Spirn, Basic Books, 1984.
- The Greater Cleveland Environment Book: Caring for Home and Bioregion* by David Beach, EcoCity Cleveland, 1998.
- A Green City Program for San Francisco Bay Area Cities and Towns* by Peter Berg, et al, Planet Drum Books, 1989.
- Green Development: Integrating Ecology and Real Estate* by the Rocky Mountain Institute, John Wiley & Sons, 1998.
- Greening Cities: Building Just and Sustainable Communities* by Joan Roelofs, The Bootstrap Press, 1996.
- The Neighborhood Works* newsletter by the Center for Neighborhood Technology, 2115 W. North Ave., Chicago, IL 60647, (773) 278-4800.
- The New Urbanism* by Peter Katz, McGraw-Hill, 1994.
- Our Ecological Footprint: Reducing Human Impact on the Earth* by Mathis Wackernagel and William Rees, New Society Publishers, 1996.
- Primer on Sustainable Building* by Rocky Mountain Institute, 1995.
- Rebuilding Community in America: Housing for Ecological Living, Personal Empowerment and the New Extended Family* by Ken Norwood and Kathleen Smith, Shared Living Resource Center, 1997.
- Reclaiming Our Cities and Towns: Better Living with Less Traffic* by David Engwicht, New Society Publishers, 1993.
- Regenerative Design for Sustainable Development* by John Lyle, John Wiley & Sons, 1994.
- Toward Sustainable Communities: A Resource Book for Municipal and Local Governments* by Mark Roseland, New Society Publishers, 1977.
- Urban Ecologist* newsletter by Urban Ecology, 405 14th St., Suite 900, Oakland, CA 94612, (510) 251-6330.
- Village Wisdom: Future Cities* edited by Richard Register and Brady Peeks, Ecocity Builders, 1997.
- The Wealth of Cities: Revitalizing the Centers of American Life* by John Norquist, Addison-Wesley, 1998.



*The following groups can provide more information on ecovillage thought and practice.*

**Local organizations**

- Center for Neighborhood Development, Cleveland State University College of Urban Affairs, Cleveland, OH 44115, (216) 687-2241.
- City Architecture, 3311 Perkins Ave., Cleveland, OH 44114, (216) 881-2444.
- Cleveland Neighborhood Development Corporation, 540 E. 105th St., Cleveland, OH 44108, (216) 268-3130.
- Detroit Shoreway Community Development Organization, 6516 Detroit Ave., Cleveland, OH 44102, (216) 961-4242.
- Earth Day Coalition, 3606 Bridge Ave., Cleveland, OH 44102, (216) 281-6468.
- EcoCity Cleveland, 2841 Scarborough Rd., Cleveland Heights, OH 44118, (216) 932-3007, [www.ecocleveland.org](http://www.ecocleveland.org).
- Environmental Health Watch, 4115 Bridge Ave., Cleveland, OH 44113 (216) 961-4646.
- The HouseMender, Inc., PO Box 1135, Cleveland, OH 44120, (216) 991-1088.
- Oberlin College Environmental Studies Program, Rice Hall 33, Oberlin College, Oberlin, OH 44074, (440) 775-8409.
- SEED Ohio (Sustainable Energy for Economic Development), 2140 Lee Rd., Suite 207, Cleveland Heights, OH 44118, (216) 321-4325.

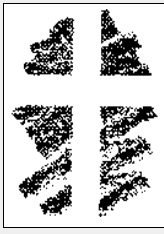
**Organizations beyond Northeast Ohio**

- Austin Green Building Program, [www.ci.austin.tx.us/greenbuilder](http://www.ci.austin.tx.us/greenbuilder).
- Center for Livable Communities of the Local Government Commission, 1414 K St., Suite 250, Sacramento, CA 95814, (916) 448-1198, [www.lgc.org](http://www.lgc.org)
- Center for Maximum Potential Building Systems, [www2.cmpbs.org](http://www2.cmpbs.org).
- Center for Neighborhood Technology, 2125 W. North Ave., Chicago, IL 60647, (773) 278-4800, [www.cnt.org](http://www.cnt.org)
- Center for Renewable Energy and Sustainable Technology (CREST), [www.solstice.crest.org](http://www.solstice.crest.org)
- Center For Resourceful Building Technology, PO Box 3413, Missoula, MT 59806, (406) 549-7678, [www.montana.com](http://www.montana.com).
- Cohousing Network, [www.cohousing.org](http://www.cohousing.org).
- Congress for the New Urbanism, 5 Third St., Suite 500A, San Francisco, CA 94103, (415) 495-2255, [www.cnu.org](http://www.cnu.org).

- Context Institute, [www.context.org](http://www.context.org).
- Development Center for Appropriate Technology, PO Box 27513, Tucson, AZ 85726 (520-624-6628 or [www.azstarnet.com/~dcat](http://www.azstarnet.com/~dcat)). Group helping to devise sustainable building codes.
- Earth Connection, 370 Neeb Rd., Cincinnati, OH 45233, (513) 451-3932.
- Ecocity Builders, 1678 Shattuck Ave., #66, Berkeley, CA 94709.
- EcoDesign Resource Society, PO Box 3981-MPO, Vancouver, BC, Canada V6B 3Z4, (604) 689-7622, or [www.ecodesign.bc.ca](http://www.ecodesign.bc.ca).
- EcoHome Network, [www.ecohome.org](http://www.ecohome.org).
- EcoVillage at Ithaca, [www.cfe.cornell.edu/ecovillage](http://www.cfe.cornell.edu/ecovillage).
- Ecovillage Network of the Americas (a regional office of the Global Ecovillage Network), 560 Farm Road, PO Box 90, Summertown, TN 38483, (931) 964-3992, [www.thefarm.org](http://www.thefarm.org).
- Educating Architects for a Sustainable Environment Project, Ball State University, [www.ease.bsu.edu](http://www.ease.bsu.edu).
- Energy Efficient Building Association, [www.eeba.org](http://www.eeba.org).
- Global Eco-Village Network, [www.gaia.org](http://www.gaia.org).
- Green Design Network, [www.greendesign.net](http://www.greendesign.net).
- IMAGO, 553 Enright Ave., Cincinnati, OH 45205, (513) 921-5124.
- Institute for Local Self-Reliance, 2425 18th St., NW, Washington, DC 20009, (202) 232-4108, [www.ilsr.org](http://www.ilsr.org).
- Intentional Communitites, [www.ic.org](http://www.ic.org).
- International Council for Local Environmental Initiatives (ICLEI), [www.iclei.org](http://www.iclei.org).
- Joint Center for Sustainable Communities (National Association of Counties and the United States Conference of Mayors), [www.naco.org/members/sustain](http://www.naco.org/members/sustain).
- Local Sustainability, the European Good Practice Information Service, <http://cities21.com/europractice/index.htm>.
- Los Angeles Eco-Village, <http://alumni.caltech.edu/~mignon/laev.html>.
- Materials for the Future, Presidio Building 1016, Suite 222, San Francisco, CA 94129, (415) 561-6530, [www.materials4future.org](http://www.materials4future.org).
- Ohio Office of Energy Efficiency, Department of Development, 77 S. High St., Columbus, OH 43216, (800) 848-1300.
- Planet Drum Foundation

- Green City Program, PO Box 31251, San Francisco, Shasta Bioregion, CA 94131, (415) 285-6556.
- Rocky Mountain Institute, 1739 Snowmass Creek Rd., Snowmass, CO 81654, (970) 927-3851, [www.rmi.org](http://www.rmi.org).
- Shared Living Resource Center, 2337 Parker St., #9, Berkeley, CA 94704, (510) 548-6608.
- Slippery Rock University, Slippery Rock, PA 16057, (412) 738-2596. Offers Master of Science degree program in sustainable systems.
- Smart Growth Network, [www.smartgrowth.org](http://www.smartgrowth.org).
- Surface Transportation Policy Project, [www.transact.org](http://www.transact.org).
- Sustainable Communities Network, c/o CONCERN, 1749 Columbia Rd., NW, Washington, DC 20009, (202) 328-8160, [www.sustainable.org](http://www.sustainable.org).
- Sustainable Sources Environmental Web site, [www.greenbuilder.com](http://www.greenbuilder.com).
- Transportation for Livable Communities Network, [www.tlcnetwork.org](http://www.tlcnetwork.org).
- Trust for Sustainable Development, 749 Yates St., Victoria, BC Canada V8W 1L6, (604) 389-1888.
- United Nations Centre for Human Settlements, [www.unhabitat.org](http://www.unhabitat.org).
- U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, [www.eren.doe.gov](http://www.eren.doe.gov), and Center of Excellence for Sustainable Development, [www.sustainable.doe.gov](http://www.sustainable.doe.gov).
- U.S. Environmental Protection Agency, Office of Sustainable Ecosystems and Communities, [www.epa.gov/ecocommunity](http://www.epa.gov/ecocommunity).
- U.S. Green Building Council, [www.usgbc.org](http://www.usgbc.org).
- Urban Ecology, 405 14th St., Suite 900, Oakland, CA 94612, (510) 251-6330, [www.urbanecology.org](http://www.urbanecology.org).
- Urban Ecology Australia, 84 Halifax St., Adelaide SA 5000, Australia.





## Church in the City forums

The Cleveland Catholic Diocese continues its Church in the City Regional Forum

Series with the following programs:

- March 25—Environmental implications of urban sprawl, 7 p.m. at Lakeland Community College. Speakers include Daniel Esty of the Yale University School of Forestry and Environmental Studies and Rev. Charles Lee of the United Church of Christ.
- April 8—Cultural implications of Church in the City, 7 p.m. at Oberlin College. Speaker will be M. Shawn Copeland of Marquette University.
- April 16—Health and human services and the Church in the City, 8:30 a.m. at Ursuline College. Speakers include Mary Jo Bane of Harvard's Kennedy School of Government and LaDorris Payne-Bell of WomanSpirit Inc.
- April 28—Nonprofit organizations and the Church in the City, 4 p.m. at Case Western Reserve University's Mandel Center for Nonprofit Organizations. Speaker will be John Kretzman of Northwestern University's Asset-Based Community Development Institute.
- May 6—Rural life and the Church in the City, 6:30 p.m. at Wooster College. Speakers include Robert Wagner of the American Farmland Trust and Sr. Christine Pratt of the National Catholic Rural Life Assoc.
- May 27—Philanthropy and the Church in the City, 4 p.m. at the Fatima Family Center. Speaker will be John McNight of Northwestern University.

For more information, call 216-696-6525 or 800-869-6525 ext. 2640.

## City Club forums on sprawl/environment

The City Club of Cleveland, 850 Euclid Ave., will present the following speakers at upcoming noon programs:

- March 30—Will Rogers, president of The Trust for Public Land, on the victory to acquire the Coliseum and the battle against sprawl.
- April 23—Denis Hayes, president of the Bullitt Foundation and coordinator of the first Earth Day in 1970 and Earth Day in 1990.
- May 21—William Hudnut, former mayor of Indianapolis and fellow at the Urban Land Institute, on revitalizing cities in America.

For luncheon reservations, call the City Club at 216-621-0082.

### March 28

**Bird walk** to see early spring migrants, 9 a.m. at the Cleveland Metroparks North Chagrin Reservation Rogers Road parking lot.

### March 29

EcoCity's Brad Flamm will speak on the **Citizens' Bioregional Plan** project at a meeting of the Headwaters Landtrust, 7:30 p.m. at Hiram College Kennedy Center.

### March 29

**Farmland protection** conference at Mohican State Park Resort sponsored by American Farmland Trust and the Ohio Farm Bureau Federation. Call 413-586-9330 for more information.

### March 30

Monthly meeting of the **First Suburbs Consortium**, 9 a.m. at Cleveland Heights City Hall, 40 Severance Circle. For more information, call 216-291-2854.

### March 30

**Richfield Coliseum** wrecking ball party sponsored by the Trust for Public Land, 4:30 p.m. at the Coliseum. Call 216-371-8234 to RSVP.

### April 1

Cleveland Landmarks Commission meeting to discuss the **Hulett ore unloaders**, 1 p.m. at Cleveland City Hall. For information, call 216-664-2531.

### April 1

**Wildflower identification** workshop, 7:30 p.m. at the Cleveland Metroparks Rocky River Nature Center. Call 440-734-6660 to register.

### April 3

Hike to explore diverse **landscapes of the Cuyahoga Valley**, 8 a.m. at the Happy Days Visitor Center of the Cuyahoga Valley National Recreation Area.

### April 3

Hike along ponds and marshes of Lorain County's **Caley National Wildlife Woods**, 2 p.m., off West Road in Pittsfield Twp.

### April 6

Environmental brown bag lunch talk on the **Doan Brook watershed study** being conducted by the Northeast Ohio Regional Sewer District, noon at the Nature Center at Shaker Lakes, 2600 South Park Blvd. in Shaker Heights. Call 216-321-5935 for more information.

### April 7-9

"Developing **New Urbanist** Communities," a conference on town planning sponsored by the Urban Land Institute and the Congress for the New Urbanism in Chicago. For registration information, call 800-321-5011.

### April 8-10

**National Green Building Conference** in Denver. Call 800-638-8556 for registration

## EarthFest '99

Join thousands of Greater Clevelanders at this year's EarthFest celebration, 9 a.m. to 5 p.m., April 24, at the Cleveland Metroparks Zoo. Sponsored by the Earth Day Coalition, the EarthFest is the largest environmental education event in Ohio and features activities and entertainment for the entire family.

And don't forget the Walk/Bike to the EarthFest. Hundreds of walkers and cyclists will be leaving Cleveland Public Square at 9 a.m. to travel to the Zoo and raise funds for the Earth Day Coalition. Registered participants receive free admission to the Zoo, refreshments and a free RTA ride back to Public Square (with bikes).

For more information, call 216-281-6468 or check the Web at [www.earthdaycoalition.org](http://www.earthdaycoalition.org).



information (Web site at [www.nahbrc.org](http://www.nahbrc.org)).

### April 9

**Nature writers workshop** at the Cuyahoga Valley National Recreation Area conducted by writer Jill Sell, 7:30 p.m. Call 330-467-3533 to register.

### April 9-11

**Lake Erie Wing Watch Weekend**, with birding events throughout the western Lake Erie region.

### April 10

"A New Road Map to **Saner and Simpler Living**," a conference at Lakeland Community College in Kirtland. Call the Men's Resource Center, 440-975-4747, for registration information.

### April 10

The Ohio Division of Natural Areas and Preserves is sponsoring a workshop at the Happy Days Visitor Center of the Cuyahoga National Recreation Area on the threats of **non-native plants** in Ohio. Call 614-265-6468 for details.

### April 14

"The Tortured History of Zoning," a lecture by University of Chicago law professor Richard Epstein, one of the nation's leading **property rights** advocates, 4:30 p.m. at Case Western Reserve University's Hatch Auditorium, 10950 Euclid Ave. Free and open to the public.

### April 14

Monthly meeting of the **Bicycle Advisory Subcommittee** of the Northeast Ohio Areawide Coordinating Agency, 6:15 p.m. in the NOACA offices, 1299 Superior Ave. in downtown Cleveland. Call 241-2414, ext. 273



for more information.

**April 14-18**

Workshop in Portland, OR, on the theory and practice of sustainability sponsored by **The Natural Step**. Call 415-561-3344 for registration information.

**April 15**

Annual dinner meeting of the Lorain County environmental group **Seventh Generation**, 6:30 p.m. at the New Russia Twp. Hall. For reservations, call 440-322-4187.

**April 17**

**Earth Day celebration** and free family activities, 9:30 a.m. to 4 p.m. at the Nature Center at Shaker Lakes, 2600 South Park Blvd. in Shaker Heights. Call 216-321-5935 for more information.

**April 18**

Historical presentation of the life and work of **Rachel Carson**, author of *Silent Spring*, 2 p.m. at the Geauga Park District's Meyer Center, 9160 Robinson Rd. Call 440-834-1856 ext. 5420 for more information.

**April 21**

**Doan Brook** study committee at 5:15 p.m. Call 216-875-8802 for location and more information.

**April 24**

**March for Parks** pledge walk to support programs in the Cuyahoga Valley National Recreation Area, 9 a.m. at the Richie Ledges area. For more information, call 330-657-2909.

**April 24**

Earth Day cleanup at the Lorain County Metro Parks **Black River Reservation**, 10 a.m. to 2

p.m., at the Day's Dam entrance, E. 31st Street and Norfolk Avenue.

**April 24**

Hike to explore the woodlands and wildflowers of **Grand River Terraces**, a nature preserve of the Cleveland Museum of Natural History, 10 a.m. to noon. Call 216-231-4600 for registration information and fees.

**April 25**

**Wildflower identification** workshop, 2 p.m. at the Cuyahoga Valley National Recreation Area Boston Store.

**April 27**

Monthly meeting of the **Urban Sprawl** Committee of the Northeast Ohio Sierra Club, 7:30 p.m. at Lakewood Public Library, 15425 Detroit Ave. For more information, call 216-521-2434.

**April 28**

Monthly public program of the **Northeast Ohio Sierra Club**, 7:30 p.m. at the Nature Center at Shaker Lakes, 2600 South Park Blvd. EcoCity Cleveland's Brad Flamm will speak about the Citizen's Bioregional Plan project.

**April 30**

**Amphibian hike** in search of salamanders and frogs, 6 p.m. at Lorain County Metro Parks Sandy Ridge Reservation.

**April 30**

Northeast Ohio **Sierra Club reading group** and potluck, 7 p.m., featuring a discussion of *The Dream of the Earth* by Thomas Berry. Call 216-731-7964 for details.

**April 30-May 1**

National **Dandelion Cook-off** in Dover, OH. For entry forms, send \$1 and a self-addressed stamped envelope to Goosefoot Acres Center for Resourceful Living, PO Box 18016, Cleveland, OH 44118.

**May 1**

**Spring bird walk** and pancake breakfast, 7:30 to 11:30 a.m. at the Nature Center at Shaker Lakes, 2600 South Park Blvd. in Shaker Heights. Call 216-321-5935 for more information.

**May 2-5**

**National Town Meeting for a Sustainable America** in Detroit, a huge conference to showcase practices that help build a strong economy without sacrificing environmental quality. Sponsored by the President's Council on Sustainable Development and the Global Environment & Technology Foundation. For information, call 888-333-6878 or visit the Web site [www.sustainableamerica.org](http://www.sustainableamerica.org).

**May 7**

Conference on **regional economic development** strategies at the Federal Reserve

**Bioregional Plan public meetings**



What could Northeast Ohio look like if we stopped sprawl, redeveloped our cities, and protected our open space and farmland? EcoCity Cleveland's Citizens'

Bioregional Plan project is trying to answer such questions with a new vision for sustainable development patterns in the region.

A draft of the plan is now complete, and citizens are invited to attend the following meetings to review the plan and provide comments. For all meetings, the doors open at 6:30 p.m. for viewing of poster boards and handouts, the presentation starts at 7 p.m., and comments start at 7:20 p.m.

- April 6—Cleveland State University College of Urban Affairs, Dively Conference Room, 1737 Euclid Ave. in Cleveland.

- April 7—Summit County Metroparks Seiberling Naturealm, 1828 Smith Rd. in Akron.

- April 13—Holden Arboretum, 9500 Sperry Rd. in Kirtland.

- April 14—Lorain County Community College Spitzer Conference Center, 1005 N. Abbe Rd. in Elyria.

The draft plan is also available for viewing on our Web site, [www.ecocleveland.org](http://www.ecocleveland.org). Or call 216-932-3007 for more information.

*The final plan will be presented and ratified at a Citizen' Bioregional Congress on May 15. Save the date!*

Bank of Cleveland. For registration information, call the National Association for Business Economics at 202-463-6223.

**May 8**

**International Migratory Bird Day and RiverDay '99** on the Cuyahoga River.

**Spring bird walks**

Bird walks to view the annual spring migration are a 65-year-old tradition in Northeast Ohio. This year's series of free walks starts April 11 and goes to May 16. The Sunday morning walks start at 7:30 a.m. at parks and nature preserves throughout the region. They are led by experienced birders and are a great introduction to bird watching.

For more information on locations:

- Audubon Society of Greater Cleveland, 216-861-5093.
- Cleveland Museum of Natural History, 216-231-4600.
- Cleveland Metroparks, 216-351-6300.
- Lake Metroparks, 440-256-1404.
- Geauga Park District, 440-286-9504.
- Nature Center at Shaker Lakes, 216-321-5935.

# The owner's manual for the bioregion!

For nearly 20 years, EcoCity Cleveland's David Beach has been writing about urban and environmental issues in Northeast Ohio. Now, with the help of other local experts, he brings his years of experience together in one comprehensive resource.

## The Greater Cleveland Environment Book...

- An introduction for the environmental novice.
- A reference for serious activists.
- A personal invitation to discover the bioregion.
- An inspirational guide for everyone who cares about the future of Northeast Ohio.

Available at bookstores or directly from EcoCity Cleveland.

\$14.95 cover price (\$19 with sales tax and shipping)  
340 pages, trade paperback, illustrated  
ISBN 0-9663999-0-0

### Contents

#### Discovering the bioregion

Thinking bioregionally  
The changing landscape  
Geology of the region  
Biological diversity of the region  
Our great lake

Watersheds  
Exploring the bioregion

#### Environmental issues

Land  
Air  
Water  
Energy

Transportation  
Home  
Food  
Environmental education  
Spirit  
Agenda for a sustainable bioregion  
**Includes complete resource lists**

**"Indispensable reading for those who want to know what's really going on in the region or what the headlines may be a decade from now."**

—David Orr, Oberlin College Environmental Studies Program

Subscribe now! Each month, *EcoCity Cleveland* will bring you the ideas and information you need to create a more sustainable bioregion.

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_

ZIP \_\_\_\_\_

BIOREGION (BE CREATIVE) \_\_\_\_\_

EcoCity Cleveland  
2841 Scarborough Road  
Cleveland Heights, OH 44118  
Cuyahoga Bioregion  
(216) 932-3007

NON-PROFIT ORG.  
U.S. POSTAGE  
PAID  
CLEVELAND, OHIO  
PERMIT NO. 592

**FORWARDING AND RETURN  
POSTAGE GUARANTEED  
ADDRESS CORRECTION REQUESTED**

**DATED MATERIAL -- DO NOT DELAY**

♻️ 100% Post-consumer waste

Time to renew your subscription?