SAVING OPEN SPACES AND SPECIAL PLACES

Fay M. Hansen

"Be fruitful and multiply, replenish the earth and subdue it; and have dominion over the fish and of the sea, and over the fowl of the air, and over every living thing that moveth upon the earth."

—GENESIS I: 28

"In the end we will conserve only what we love; we will love only what we understand; and we will understand only what we have been taught."

—BABA DIOUM

I jumped at the opportunity to contribute an essay on the theme of "Open Space" when the invitation was extended to me. As the owner of a small farm in White Lake Township—currently the leading edge of westward sprawl in Oakland County—I've been involved in a number of "grassroots" land use issues over the past several years. Open spaces and natural areas that my family and I have taken for granted have become targets for unbridled development. I recall that when I started working at Oakland almost 20 years ago I was able to drive through some beautiful open space much of the way to work, including just before passing through OU's traffic circle on Squirrel road, but no more.

As a result of attending many, many workshops and meetings related to open space and environmental issues, I have amassed a sizeable body of literature pertaining to local and state land use issues. However, to better understand how my resources concerning open space issues in Oakland County and southeast Michigan compare with those in other areas, I conducted an internet search on "open spaces". I wasn't surprised to find that the open space issues are "front and center" on the east and west coast and in Midwestern cities. Nor was I surprised to find that many European countries as well as Japan are actively engaged in comparable discussions—after all, these countries are densely populated and need to preserve agricultural lands as well as scenic areas for tourism. I was very surprised, however, to find that "open space" is an issue in western states, including my home state of Montana, Big Sky Country and self-acclaimed "last best place". I seem to recall seeing a lot of open space last time I was there! Ditto, open space discussions are going on in sparsely populated countries such as Canada and Australia—what's going on?

What is "Open Space"?

The most general definition of "open space" refers to un-built or un-developed lands. Certainly parking lots and football fields are technically "open space" but nobody would include these spaces in the category. In an urban setting, open spaces include community parks and gardens, cemeteries, golf courses, public areas at the riverfront or lakefront, and the like. Historically, many urban parks have their origins in the woods and gardens of early large estates. True natural areas are relatively rare, but when present they are treasured components of urban open spaces. In the suburban areas, educational institutions and technical parks often have cultivated vegetated areas that contribute to open space. Youth camps, privately held woodlands, wetlands, and natural areas, as well as farmland—whether actively farmed or not—contribute sig-

nificant open spaces that are currently at risk of development in rural areas.

In southeast Michigan, municipal and county parks are most often cultivated with lawn and oriented toward a variety of types of recreation, although there is growing emphasis on keeping natural areas. Regional metro parks and numerous state recreation areas both provide natural areas within driving distance for many urban dwellers and are widely used by urban and rural residents alike.

Large areas have been preserved as open space by land trusts and private individuals. Privately held lands, including timber forests, mining operations, and agricultural lands are sometimes referred to as "working open space". Cropland, pastureland, and rangeland combined account for 65% of non-federally owned land in the United States. We could consider golf courses and ski areas in the same category. From an ecological standpoint some of these open spaces come with "baggage" by way of their contributions to chemical pollution, erosion, loss of plant and wildlife habitat, and other negative effects on the environment.

At the state and national level a vast amount of open space is held by the U.S. government. The federal government is the largest landowner in the United States, owning and managing 27% of all the land in the country, 600 million acres. Several governmental agencies are charged with protecting these open spaces for wildlife habitats and recreation, albeit sometimes at cross-purposes. In many federal areas resource extraction, including timber, is permitted. The federal lands are disproportionately distributed, with the U.S. government owning 50% of western states and 65% of Alaska, but an average of 5–6% of the remaining states. Federal lands in Michigan include several National Forests, Isle Royal National Park, and Pictured Rocks and Sleeping Bear Dunes National Lakeshores. In addition, over 100,000 acres of wetlands and upland woodlands provide habitat in Michigan's four National Wildlife Refuges.

Why is "saving open space" worthwhile?

The United Sates population is concentrated on less than 2% of its land. That is, suburban and urban areas, leaving 98% technically as open space. So what is the issue and why has it become such a focus? Open space is not just an issue for "grass roots" activists. Indeed, there has been much re-thinking of long accepted practices of development, both urban and rural. In the past decade or so, preservation of open spaces and natural areas has become a mainstream issue for professional community planners and municipal officials, no matter what the size of the community. It is increasingly being recognized that open space has economic value over and above its aesthetic appeal.

Open space discussions are almost invariably linked to the issue of urban sprawl—or, more accurately, poor urban planning that results in seemingly endless strip malls, fast food chains, "big box" stores, traffic congestion, and pollution in the outlying areas. In contrast, there is concern that cities are increasingly becoming "cement jungles" and are in decay. Clearly the preservation of green, natural open space is now seen as an important benefit by many people throughout the country. It is worth taking the time to consider, however, why it is likely that for green space to be preserved the many people will often need to join in a community effort.

Many forget that good things often do not happen by themselves. For example, suppose a lovely green space with a wetland in Oakland County looks to be an attractive area to preserve. Suppose further that the land is also attractive for residential housing. Often the housing interests will win out, even if everyone involved cares about green space. Without a concerted effort by the homeowners and the many other people who value the land as open space, individual lot buyers will find that their best individual interest is to buy up the lots until all are gone. Preservationists can help to coordinate the

individual interests so as to achieve a superior outcome for all concerned.

This is not the only problem that points to the wisdom of concerted action among the citizens. In fact, the most well known one is pollution. The water table and the rivers through the land are affected by the activities of landowners whose good or bad treatment of their own water resources affects others who live downstream. The quality of the wetlands also affects the water table quality and in turn affects the drinking water of everyone, not just those who live nearby.

Lastly, a frequently cited reason for citizens to join in preserving our natural resources is the idea that we are all "temporary" residents of the land, and we wish to pass these natural areas on in good condition for future generations to enjoy. In a sense, this reason for doing the right thing for our natural treasures is just a reminder not to be nearsightedly focused only on our present day.

For these and related reasons more and more Americans have been pitching in to preserve natural areas. The surge in open space protection programs is especially notable in the rapidly urbanizing areas. Between 1991 and 2001 new open space programs or greatly expanded funding for existing open space programs were established in 32 states. In Michigan the Clean Michigan Initiative approved by voters in 1998, has led to $50 million in state bond funds for use in local recreation grants, almost all of which are approved exclusively for protection of open space/natural areas. Since Michigan established the Farmland and Open Space Preservation program in 1975, $12.6 million has been spent to protect approximately over 4000 acres of farmland. Sadly, the program is insufficiently funded and there are far more applicants than funds to protect the land. Surveys show that residents in urbanizing areas are willing to pay to protect open spaces and that they typically rank open space preservation on par with public safety and education. Over 800 ballot issues throughout the country since 1999 have been heavily supported with over 70% passing. From these initiatives $14.7 billion will be raised

specifically toward land conservation, and a total of $26.3 billion toward land-protection overall. In 2002 Michigan voters passed Proposal 2 by 62%. The ballot issue on use of the Michigan Natural Resources Trust fund will provide an additional $750 million for conservation and recreation.

What are the uses and values of open space?

In general, most purposes for setting land aside as "open space" fall into four basic categories:

a. *Conservation of High Value Natural Areas:* "Crown jewels", such as we see in our National Parks or highly valued local areas. At the regional level the concept of preserving important "viewsheds" is being discussed more and more.
b. *Conservation for Human Use*: Protection of existing and new lands for outdoor recreation, both active and passive in nature.
c. *Conservation of Natural Systems*: Ecosystems must be kept intact when possible, for continuity of plant and animal communities as well as for the economic value of their functions within the ecosystems.
d. *Conservation for Production, or "Working Landscapes":* Insures a continued production of economically valuable commodities such as timber, fish, grazing, and crop production.

Perhaps the least measurable but most important reason for maintaining open space is for the quality of life we want to enjoy. Open spaces and natural areas contribute to our "sense of place". Many writers speak of the "innate need" we have for a natural environment that cannot be wholly satisfied by man-made surroundings. Sierra Club founder, John Muir, advocated urban open spaces as the essential "breathing room" that its inhabitants need. Upper class movement to the suburbs and rural areas reflects action on this need, although

ironically satisfying this need by outward movement has led to the focus of our discussion. The northbound traffic in southeast Michigan on most weekends is another graphic indicator of the extent to which urban residents feel a need for open/natural spaces.

While the aesthetic aspect of open space is difficult to quantify economically, it is well known that home sale prices may be upwards of 20% higher when homes abut or include open/natural spaces. Developers who preserve habitat and vegetation command significantly higher prices for their homes, even if the acreage of the actual yard is small. Golf course and equestrian communities, with their park-like settings, net higher sales, despite studies showing that typically only 20% are participants in the sport. Certainly the apartments overlooking New York's Central Park may rank among the priciest real estate per unit area in the country!

In the past, rural townships and urban municipalities have considered "undeveloped" (that is, open) space as an economically unused asset that would be more valuable to the community if developed. However, numerous studies now show that most forms of development, including residential development, place more demands on the infrastructure (roads, school, police, fire, etc) than tax dollars generated. In contrast, open spaces actually generate tax dollars. This does not even count the economic impacts of the ecological functions that such spaces serve.

One of Governor Granholm's first acts after entering office in 2003 was to establish the Michigan Land Use Leadership Council to 1.) "identify the trends, causes, and consequences of unmanaged growth and development"; and 2). "provide recommendations to the Governor and the legislature designed to minimize the negative economic, environmental, and social impacts of current land use trends . . . and to protect Michigan's natural resources, including farmland and open space . . .". As is evident in the Governor's order, tourism and recreation, as well as agriculture and the timber industries are considered among the more transparent

economic arguments for preservation of open spaces. The impacts of lost open space on ecosystems and air and water quality are not as self-evident because they are rarely considered in the economics of "good and services". An abbreviated list of some of the "services" that open space provides includes:

1. Vegetated ecosystems are important in climate regulation and air purification, and they act as buffers for wind and noise.
2. Woodlands and vegetated open spaces promote groundwater recharging of our natural water resources and help prevent expensive flooding and erosion.
3. Woodlands and wetlands help purify pollutants, whereas impervious surfaces in developed spaces result in pollutants reaching our waterways, ultimately requiring expensive water treatment.

The economic cost of erosion and pollution due to poor development and failure to maintain vegetated open spaces are exemplified in the story of the Rouge River. The multimillion dollar Rouge clean-up effort, which includes a public education component, has become a national model for its concentration on prevention of *future* problems. In urban and suburban areas there is a focus on the preservation and restoration of native prairie and wetland plants in natural areas and in landscaping with native species of vegetation in public areas and even gardens. The extensive root systems that most of our native plants have are important for their prevention of erosion, promotion of groundwater infiltration, and, in wetlands, their purification of water before it reaches the rivers. In addition, they are adapted to our soils and climate and thrive in the absence of fertilizers, herbicides, and pesticides. They add scenic beauty and provide habitat for a variety of fauna, including migrating birds and butterflies, as well as pollinators. As part of the Rouge River cleanup, the Ford Rouge plant has gained international attention after being relandscaped with extensive natural areas (where there were

previously none). The Ford plant's "green roof" is the largest in the world, designed to make up for impervious surfaces covered by the factory.

Despite hard evidence that there are adverse economic impacts of failing to preserve healthy open spaces, there are few hard figures on the impacts of poor environmental preservation on the "large picture". The concept of ecosystems as assets has begun to be analyzed in real situations and in theory. One of the most important studies was conducted by Costanza, et al (Nature 287: 253, 1997). Case studies of habitat destruction or conversion worldwide—ranging from destruction of coral reefs for "expedited" fishing to conversion of tropical forests and draining Canadian marshland for agriculture—were analyzed. The total economic value of the original intact ecosystems ranged from 14% to 75% higher than the converted ecosystems. The investigators concluded "a single year's habitat conversion costs the human enterprise, in net terms, on the order of $250 billion that year and every year into the future".

How Can We Preserve Open Space and Who Should Do It?

Protection of open spaces will only be accomplished through a patchwork of approaches, and public education—for landowners, developers, officials, and all stakeholders—is an important start. The Michigan Land Use Council has made numerous recommendations, which include both non-regulatory and incentive-based approaches to preservation of agricultural production areas, protection of scenic resources, natural resources biodiversity. While many of these recommendations will require enabling legislation, there are other means of protection at hand:

Private property owners can make a difference. There are many cases in which private property owners have preserved their land for conservation purposes without any incentives. Often

these landowners later convey their land to a trust or bequeath their land for preservation. Some individuals purchase land for non-commercial conservation purposes of their own. Perhaps Ted Turner owns the largest landmass in the U.S. owned by a single individual. An avid land conservationist, he and his family own over 1.8 million acres of environmentally sensitive land in over ten states. Turner and his family launched the Turner Endangered Species Fund. This private, non-profit charity dedicates itself to conserving biodiversity by ensuring the persistence of imperiled species and their habitats, particularly the carnivores, grasslands, plant-pollinator complexes, and species that historically ranged onto properties owned by Turner.

Public Policy Can Regulate and Promote Land Conservation: I've attended many municipal meetings and public hearings in which huge numbers of residents turn out to protest a proposed change in land use for an existing open space. The most common reaction of a developer is "You want it? You buy it!". Obviously this is not possible in most cases, but there have been instances in which staked out property has been saved by public or private interventions arising from such public meetings. The public usually does not understand the limitations that local Planning Commissioners and Boards of Trustees have in terms of bargaining with developers. In the state of Michigan "conditional zoning"—that is, we'll let you do this if you do that—is not legally permitted. Thus planning officials' hands are tied, despite sometimes-good intentions. State regulations for subdividing property, initially meant to as a "subdivision control" measure, have played havoc with land use planning for conservation purposes. However, one of the newest open-space preservation measures, the "cluster zoning option", has been authorized by the state. In areas zoned for large acre parcels this enables a developer to cluster homes on smaller "footprints" on a site condominium, while leaving a specified area as open space (ranging from 20% to 60% or

more), preferably in a natural state. The developer typically gets a "density bonus" when this is done.

This option is also supposed to reduce the public cost of infrastructure by reducing road maintenance costs, school bus routes, etc. while preserving open space. However, among others, equestrians and 4-H families are concerned that this option will replace individual large acreage property. A certain rural infrastructure is required for hay production, merchants dealing with equipment, etc. As a small farmer and former horse-owner myself, I know that the recreational opportunities and the leadership potential my family and those of others have gained through 4-H and other opportunities can hardly be matched. At least two equestrian-oriented communities, Highland and Metamora, are working on options to preserve this way of life. It is a well kept secret that Oakland County has one of the highest horse populations in the U.S. and that economic benefits come along with it. Open spaces, particularly those considered "agricultural", need to be viewed in terms of recreation as well.

Development practices can protect the environment and open space: The development, building, and landscape industries are slowly buying into the need for ecological considerations of property during development. Novel landscape planning efforts are making "utility" spaces into "working open space" by incorporating native plantings into drainage areas that might otherwise be ugly concrete drains or artificial retention and detention ponds.

Straddling Oakland and Livingston Counties, the planned community surrounding Dunham Lake is seen nationally as a model of a conservation-minded lakefront community. Homes built around Dunham Lake are set behind the lake by a 100–400 foot greenbelt planted with conifers and hardwoods. The natural beauty of this "kettle lake", which supplies the Saginaw River, has been maintained. The water is pristine, blue-green, and has never been chemically treated,

despite the surrounding homes being reliant on septic systems.

What mechanisms exist for protecting open space?

a. Donation of Land: Landowners wishing to preserve all or portions of their land may choose to donate the land to a governmental or non-profit entity. Donors and/or their heirs normally receive tax benefits from land donations. Typically a deed restriction is put on the use of the property at transfer. The State parkland donated for the public's enjoyment by the Dodge brothers is a well-known example.

b. Purchase of Land for Preservation: Another common mechanism of land transfer by property owners unwilling or unable to make an outright donation, but who wish to protect property, is to sell land to a land conservancy, usually at below-market prices, with tax benefits. Organizations such as the Nature Conservancy and the Trust for Public Land have been key players in acquiring such land, or even land that is being sold at full market value. The acquired land is usually later transferred to a local entity for stewardship. Michigan's first non-profit land protection group, the Michigan Nature Association, takes pride in the fact that all of its lands were purchased outright, and that no government funding was used. The MNA is dedicated to protecting Michigan's rare native species and unique natural habitats in over 8,000 acres statewide, in 160 different nature sanctuaries.

c. Conservation Easements: Land acquired by governmental units, private individuals or organizations, or non-profits is held at the discretion of the new owners unless other protection is set in place. For conservation purposes, it has become increasingly common for a "conservation easement" to be placed on the land to protect the conservation value of a property. The conservation easement becomes the property of the land conservancy, along with the duty of enforcement of the conditions of the easement. Landowners may continue to

own and live on the land and, usually, carry out activities mutually agreed on in the terms of the easement. Conservation easements are increasingly being placed on municipal parkland to protect them in perpetuity.

d. Purchase of Development Rights (PDR): Development rights are purchased from the landowner, often through funds raised in municipal or state millages.

This option is particularly appealing with regard to preservation of farmland. Peninsula Township, in Grand Travers Bay, was a state leader in using PDRs to protect its orchards from encroaching development. Residents and officials alike realized that the economic value of orchards was interwoven with the tourism of the area and that development would endanger both. A 1.25 mil property tax millage was approved in 1994. Within a year more than 45 farmers applied for the program. Realizing the economic impact and quality of life issues of preserving farmland and open space, the city of Ann Arbor and Ann Arbor Township each approved millages in 2003 to establish a "greenbelt" of open space and agriculture around the area, using PDR's as one mechanism. Macomb and Lapeer Counties have recently pioneered a new approach to PDRs in Michigan. Numerous townships have signed an intergovernmental agreement to protect orchards, dairies, and other farmland.

Non-profit conservation organizations play a key role in protecting and preserving open space.

There are a many success stories of open space preservation by land protection groups. An example of partnerships is seen in Springfield Township, which lies at the highly ecologically sensitive headwaters area of three different watersheds. In 2003 Springfield Township joined the North Oakland Headwaters Land Conservancy in purchasing two ecologically rare properties located along the Shiawassee headwaters northwest of Oakland County. Forming the 600+ acre Long Lake Natural Area, the area contains a large, unspoiled and globally rare

wetlands system called a prairie fen. This fen provides habitat for a variety of rare plants and animals. The Oakland Land Conservancy recently purchased 34 acres nearby in collaboration with the Nature Conservancy. Known as the Golden Preserve, this property also contains a prairie fen, a mature oak-hardwood forest, and diverse native species.

There are times when it seems that urban land cannot be restored or saved, but I'd like to describe three examples of partnerships among numerous conservancies, non-profit groups and municipal units have that saved three ecologically significant urban areas in southeast Michigan in the past three years.

a. The Nature Conservancy partnered with Waterford Township and other groups to protect Elizabeth Lake Woods. In 2003 the last 25 acres of a 400-acre parcel were purchased. This area was one of the last remaining areas of open space in Waterford Township, and one whose development would have impacted the floodplain forests and the Clinton River.
b. The "Rivers of Southfield", just behind Tel-Twelve Mall in Southfield, consists of upland slopes and floodplain forest at the confluence of the Rouge and Franklin Rivers. Acquisition of the remaining land in 2003 now provides a corridor of intact habitat for wildlife and is part of a larger greenway open space plan for the area. This land was acquired through a purchase made possible by the Oakland Land Conservancy, Southeast Michigan Greenways Initiative, the Michigan Natural Features Trust Fund, and the Community Foundation of Southfield and the generosity of the landowners.
c. In 2001 the nation's first International Wildlife Refuge was created at Humbug Marsh along the Detroit River by a consortium of conservancies,

including the Trust for Public Land and the Grosse Isle Nature and Land Conservancies, a broad spectrum of nature advocates, including the Audubon Society, and numerous grassroots organizations. Over 400 acres of key wetlands, which had been slated for development, will be protected. This area of the Detroit River is a significant flyway for migrating birds and is a popular site for bird watching and fishing.

Green corridors

Many of the national and local land conservation groups are working together with groups such as the Rails-to-Trails Conservancy and the Trust for Public Lands to link open spaces. "Linear open space" in the form of natural corridors (that is, riverfronts, ridgelines, canals, scenic roads, and converted rail tracks are being converted and integrated into trail ways that can be used for recreational and practical purposes. This allows linkages between parks and nature reserves, as well as cultural or historic features in the urban and suburban areas. Establishing "Greenways" is one of the most difficult tasks, due to the need for a large number of cooperating units from the municipal to the regional level, considerations of private property owners, and other complexities of funding and route considerations. Nevertheless, in southeast Michigan the "trail movement" is growing, announcements of new trail segments are being regularly heard. The White House has designated this trail system a Millennium Legacy Trail. "Non-motorized" trails are popular for recreation and users include walkers, hikers, bikers, and equestrians.

How Can the OU Community and its "Extended Family" Contribute to Open Space Preservation?

Most of our faculty, staff and students live in areas where sprawl and loss of open space impact them in one way or another—most notably in the drive to and from campus. Academic communities have traditionally been environmentally conscious. OU's environmental consciousness about saving natural areas came into sharp focus a few years back when the controversy over conversion of natural areas to a second golf course. Concerns, whether rumor or not, are still commonly heard about the possibility that more natural areas of our campus may be lost to development, including possible sale or lease of lands for a technical park or another commercial use. Dialogue between faculty, staff, and students and the OU administration is important with regard to placing value on our natural resources/open space and the key role OU plays in its' stewardship. Once the natural areas are gone—*they are gone*. Before making future land use decisions I hope that our administrators, including the Board of Trustees, will take a guided field trip with our students and faculty who regularly use the natural areas and learn about the significance of these sites. Most likely this would be a popular outing for many of our faculty and staff as well during the various seasons.

Within and beyond our campus, the OU Community can do more to be involved in preservation of natural areas and open space. Certainly in our educational mission there are areas in which teaching and outreach can be valuable—not just in the Biology and Chemistry Departments, which have existing ecological programs, but in the various health sciences (think obesity, exercise, healthy air), political science, the Schools of Education, Business, and in a host of other programs and interdisciplinary efforts. There are a number of exchange programs available for students to spend a semester elsewhere learning

about ecosystems, and summer jobs in state and national parks give exposure to our natural resources.

Student and family memberships are available from the land conservancy organizations. As individuals we as faculty, staff, and students, can be involved in land preservation through financial and "sweat equity" contributions to conservation-minded organizations. Student groups looking for volunteer activities, as well as families interested in involving their children should be encouraged to participate in the "work days" such as monitoring water quality or removing invasive species. Field trips offered by local conservancy and watershed protection groups are great learning and social events. I myself have been involved in many of these activities and find them educational as well as fun. One can really appreciate the effects of urban development when comparing water samples from urban and rural areas. Often these activities lead to more involvement of school or workplace groups wanting to make a difference. "Hands-on" experience with preservation efforts leads to increased knowledge and greater respect for our natural areas, as well as long-term commitments to their preservation.

In summary, I would paraphrase the conservation line, "think globally, act locally": "think globally, learn and protect locally". It's about you *and* future generations!

Conservancies and Land Use Organizations

National Land Trusts:

American Farmland Trust. www.farmland.org
Land Trust Alliance. www.lta.org
Nature Conservancy: www.nature.org
Trust for Public Land: www.tpl.org

Michigan Conservancies and Land Use Planning:

Michigan Farmland and Community Alliance: www.mfcaonline.com

Michigan Land Use Institute: www.mlui.org
Michigan Nature Association: www.michigannature.org
Michigan Society of Planning. www.planningmi.org

Land Conservancies in Southeast Michigan:

North Oakland Headwaters Land Conservancy.
www.nohlc.org
Oakland Land Conservancy:
www.oaklandlandconservancy.org
Southeast Michigan Land Conservancy.
www.landconservancy.com
Greenways Foundation for Southeast Michigan:
www. Greenways.csfem.org

Note: For resources and supporting materials used in this paper contact the author at *hansensm@oakland.edu*.