

Champaign County Environmental Concerns

**A Report to the Champaign County Board
from the Environmental Advisory Panel**

November 2004



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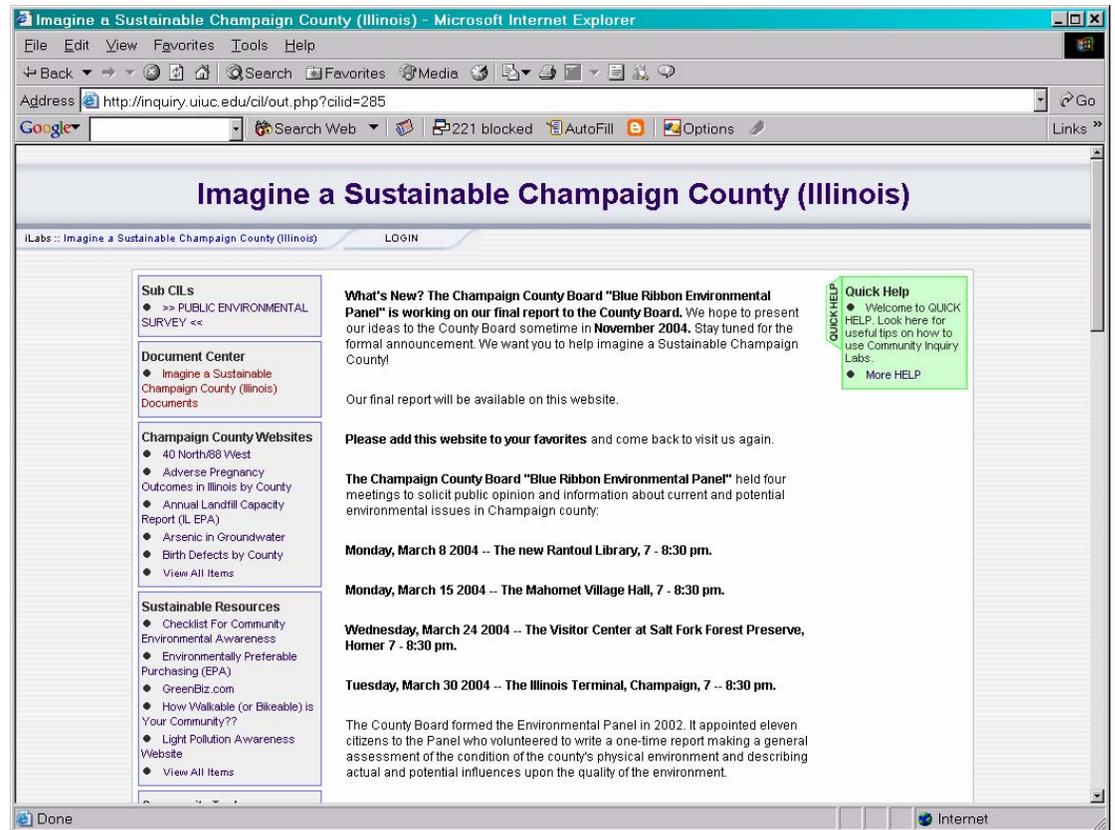
Robert Gray – Executive Director, Champaign County Forest Preserve District, "Planning for
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Dr. Craig Miller - INHS, outdoor resources, open space, recreation. Spoke at a community
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Imagine a Sustainable County Website

Please visit our website at <http://inquiry.uiuc.edu/cil/out.php?cilid=285>.

The website contains links to local environmental information and efforts, case studies, and resources to help Champaign County leaders and residents work together to shape our future. The Document Center contains copies of this report and other useful documents. Please email us if there is a local or regional effort that should be added to the website.



Foreword: Vision for a Sustainable Future

The most commonly accepted definition of “sustainability” says that a community is sustainable if it “meets the needs of the present without compromising the ability of future generations to meet their own needs.” Sustainable communities address economic, environmental and social factors.

Champaign County’s long-term growth is being shaped by many different forces and plans. There are ongoing efforts in Champaign County to develop strategies for economic development, groundwater preservation, public transportation improvements, farmland preservation, historic preservation, improved recycling and enhanced natural resources conservation. Yet these individual plans are not unified by a vision of a sustainable future for Champaign County and the communities within it. We need a process that pulls together these various plans and makes them parts of a whole – or the different forces and plans shaping the County will be tugging us in many different and often conflicting directions.

Around the country, counties and cities are deliberately shaping their futures by gathering stakeholders in a process to develop long-term goals. Communities that work together to articulate their future goals and take the necessary steps to help achieve these goals provide a context that sustains and improves their quality of life and environment. They also help keep and attract residents and businesses.

Now is the time for Champaign County to initiate a long-term planning process to shape our vision for the future, promote teaming among all the local plans and stakeholders (governmental, university, private sector, non-profit, regulator, etc.), and incorporate an environmental ethic for sustainability into all activities.

Background

The County Board appointed the Blue Ribbon Environmental Panel late in 2002 (Appendix A). Beginning January 2003, the Panel met repeatedly both as subcommittees and as a committee of the whole. Our first task was to develop an extensive list of environmental topics of relevance to County government. We then consulted with many resident specialists who have studied and worked with some of the more important local environmental topics (Appendix B). In addition we held a series of “public input sessions” and conducted an informal survey of concerns by local citizens. Subsequently we distilled our findings and prepared the Final Report.

Our report does not address all potential environmental issues. There are two reasons for this. The first is that we prioritized concerns and recommendations to issues that either are amenable to actions by County government or require early attention. Second, some environmental modalities such as air quality already are regulated primarily by Federal and State agencies. However, omission of a given item should not be taken to indicate a lack of concern or importance.

The report is presented in four primary parts. To provide a brief overview, the executive summary lists primary concerns and recommendations. This is followed by a more extensive section which provides background for the concerns and rationale for the recommendations. A set of scenarios provides a fictional narrative of potential outcomes to various courses of action, or inaction, to some of these challenges. Finally the extensive appendix provides documentation for development of the concerns and recommendations, a more detailed description of process, and an extensive list of references relevant to these issues.

Concern 1: Comprehensive Planning

- Current development patterns in Champaign County are not sustainable. They are taking some of the world's most fertile soil out of production, damaging the County's natural environment and compromising its economic viability.

Recommendations

- The County needs to take the lead, along with municipal and community involvement, in instituting a visioning process to develop a County-wide set of goals based on public input. This process should result in the completion of a Champaign County Comprehensive Plan.



Concern 2: The Mahomet Aquifer

- The Mahomet Aquifer is the only source of potable water sufficient for Champaign County's future municipal and industrial needs, but long-term trends show its water levels declining in local wells while use of its water increases across the state. Questions about its capacity and management go unanswered.

Recommendations

- The Champaign County Board should be a more active participant in the Mahomet Aquifer Consortium.
- The Champaign County Board, in concert with other governmental and private interests, should make continual efforts to urge funding by both State and Federal government for studies of the Mahomet Aquifer.
- Champaign County governments should encourage, and local legislators should take a leadership role in, revising current inadequate State of Illinois statutes on ground water in order to address future needs.

Concern 3: Soil Resources

- Champaign County's soils are its most basic and widespread natural resource. Their protection is imperative.

Recommendations

- The County should continue to provide funding to the Champaign County Soil and Water Conservation District (SWCD) at the highest level possible.
- The County should adopt tools which promote compact and contiguous growth while limiting conversion or destruction of farmland, open space, and natural areas through application of relevant policies and ordinances.
- The County should severely limit development on its most productive soils.
- The County should complete an update of the Site Assessment portion of its Land Evaluation and Site Assessment System (LESA) system.
- The County should lobby the State for enabling legislation in those instances where preferred planning techniques and programs are not currently specified by Illinois State Law.

Concern 4: Watersheds

- Water quality in parts of most streams in Champaign County is impaired.

Recommendations

- Develop positive incentives for protection of streams in each of our major watersheds.
- Continue, and possibly increase, grant support for the SWCD to facilitate conservation programs including stream bank and waterway habitat improvement on agricultural lands.
- Encourage and sponsor development by the SWCD of “Management Plans” for each of the major watersheds — at least for those which have headwaters in this County.
- Develop and enforce zoning, construction and health ordinances to provide appropriate setbacks and regulation for construction and prevention of pollution by rural residential sanitary and other point sources.

Concern 5: Lack of Green Space for County Residents and Managed Habitat for Native Biological Systems

- Twenty-first Century Champaign County presents a thoroughly constructed, intensely cultivated landscape that provides too little recreational and natural space for a large and growing human population and too little managed habitat to maintain and restore native biological systems.

Recommendations

- Immediately organize a visioning and planning process to develop a comprehensive plan to provide for adding and maintaining large, well sited acreages of green space and habitat to County parks and preserves.
- Enact zoning ordinances designed to adequately mitigate influences of adjacent development on forest preserves and natural areas.
- Develop and implement a Land/Cash Ordinance that would require rural developers to set aside, or provide the means to purchase, land designated appropriate for parks and preserves by a comprehensive plan and by the Champaign County Forest Preserve District (CCFPD).
- Develop policies that involve professionals in plant and animal ecology in planning projects that might impact on County parks and preserves.
- Develop positive incentives that encourage property owners to create both wild and restored habitat.

Concern 6: Failure to Monitor Champaign County Environmental Conditions

- The County Board and its citizens should be periodically appraised of relevant environmental conditions, trends and emerging issues.

Recommendations

- Appoint a standing Environmental Advisory Panel with responsibilities to monitor the state of the environment.
- Establish intergovernmental agreements with government and non-government organizations to share information and coordinate responses to environmental conditions and trends.

Concern 1: Comprehensive Planning

Champaign County is experiencing steady growth. It is important that this growth be sustainable to maintain the County's economic viability, natural resource base and attractiveness. The County does not have a County-wide vision for the future or a comprehensive plan. If Champaign County fails to plan for its future, other players and factors will shape the future for us. We must make plans for our future.

While several intergovernmental plans and agreements have been adopted, for example, the 150 Corridor Study, the Annexation Agreement between the municipalities of Champaign, Urbana, Savoy and the Sanitary Sewer District, Champaign Urbana Urbanized Area Transportation Study (CUUATS), etc., an overall County-wide comprehensive plan has not been developed or adopted. Current intergovernmental cooperation does not focus on protection of the County's natural resource base but focuses primarily on development. The CUUATS Draft Long Range Transportation Plan 2025 does call for a substantial change in current development patterns to avert projected congestion problems, but the planning area is confined to the Champaign-Urbana-Savoy-Bondville urbanized area.:

<http://www.ccrpc.org/CUUATS/index.html>

Champaign County, like most of the 281 metropolitan areas in the United States, is adding urbanized land at a much faster rate than it is adding population. According to a report by the Brookings Institute, between 1982 and 1997 the C-U-Rantoul Metropolitan Statistical Area had a 3.5% increase in population accompanied by a 34.1% increase in the urbanized area resulting in a density change of -22.8%. (William Fulton, Rolf Pendall, Mai Nguyen, and Alicia Harrison; *WHO SPRAWLS MOST?: HOW GROWTH PATTERNS DIFFER ACROSS THE U.S.*, Center on Urban and Metropolitan Policy, The Brookings Institution Survey Series, July 2001, page 19.)

The Campaign for Sensible Growth issued a report detailing population change and land area change for major Illinois population centers between 1960 and 1990. This report documents a population increase of 48% and an increase in urbanized land of 159% for Champaign-Urbana, which tied for first in the state. (Campaign For Sensible Growth; *SENSIBLE GROWTH IN ILLINOIS, TOOLS FOR LOCAL COMMUNITIES*; December 1999.)

The American Farmland Trust reports that between 1992 and 1997 the United States converted 1.2 million acres of farm and ranch land per year, a rate 51% faster in the 1990s than the 1980s, and amounting to an area the size of

Maryland. Illinois is converting in excess of 42,000 acres per year from farmland to urbanized areas and various sources have estimated the Champaign County conversion rate from over 600 acres to 2000 acres per year. In addition to the loss of farmland and fragmentation of the rural landscape, the costs to municipalities servicing such dispersed and disconnected development, as opposed to compact and contiguous development, is significantly higher. (American Farmland Trust, pamphlet; FARMING ON THE EDGE, SPRAWLING DEVELOPMENT THREATENS AMERICA'S BEST FARMLAND; www.farmland.org/upper_midwest/illinois.htm)

To preserve those assets on which Champaign County has based its economy, new and more effective tools must be reviewed and implemented if we are to maintain a viable agricultural base, natural areas for wildlife preservation and recreation as well as sound and economically viable villages and cities. Such tools could include:

- **Fiscal Impact Analyses:** An analysis of costs and revenues associated with development. Such studies can also be called cost-revenue analysis and be simple or sophisticated based on the level of information desired. (<http://www.nrdc.org/cities/smartgrowth/dd/chap1.asp>)
- **Cost of Community Services Studies:** An inexpensive and reliable case study tool to measure the fiscal contributions of existing land uses based on costs and revenues for each type of use. Particularly relevant for rural counties because of the consideration given to the contributions of working and open lands. (www.farmlandinfo.org/documents/27757/FS_COCS_8-04.pdf)
- **Concurrency Requirements:** Locally adopted ordinance requirements that public services must be built by the completion of a development before the development application is approved. Concurrency requirements can link the approval of development applications to long-term planning and require the provision of public services and facilities. (<http://www.sprawllaction.org/toolkit/10planning.html>)
- **Transfer of Development Rights:** Locally adopted programs used as a planning tool that allows for higher densities on some parcels of land in exchange for lower densities on other parcels. (<http://www.plannersweb.com/tdr.html>)
- **Form-Based Zoning:** Zoning regulations based on the form of a use rather than the land use itself. Form-based codes are highly illustrated with pictures showing what the ordinance calls for and are based on a high level of citizen input. (<http://www.planning.org/conferencecoverage/2004/tuesday/formbased.htm>)
- **Capital Improvement Programs:** An officially adopted schedule of future capital improvement projects to be carried out during a specified time period, typically 5 years. Such programs usually include cost estimates and the expected sources of financing for each project. (<http://www.planning.org/thecommissioner/19952003/spring96-2.htm>)
- **Scenario Planning:** A method for planning the future based on “what-if’s.” The goal is to involve citizens in crafting stories or visions of the future based on current and projected trends, planning policies and other forces. The method can be used to assess how current planning policies will shape the future and to create new planning policies to achieve a

desired future. The method is widely used as a strategic management tool in businesses. (<http://www.well.com/~mb/scenario/#What is Scenario Planning>)

Summary

- While various entities in the county are involved in planning efforts for numerous purposes, these efforts are seldom coordinated and they lack the needed cohesion provided by a comprehensive vision for the future.
- Current development patterns and rates are not sustainable, but it is possible to determine their causes and the long term effects on the county and to devise methods to guide development and to better protect the County's natural resource base, economic viability, and the quality of life.
- Urbanized area is increasing at a rate far greater than population and farmland is being converted to urbanized land at an unsustainable rate.
- The fiscal impact on local governments providing services to dispersed and disconnected development will be significant.

Recommendation 1

The County needs to undertake a visioning process that involves the citizens in developing a set of goals and a comprehensive plan. This process must be done in cooperation with municipal and community support and could be aided by the use of:

- The UI LEAM (University of Illinois Land Use Evolution and Impact Assessment Model; see references for definition.)
- Scenarios that can be used to facilitate the development of a vision for future growth.

Recommendation 2

Implementation of the vision and the comprehensive plan could be aided by the use of the following techniques and planning tools;

- Fiscal impact studies
- Form-based zoning that uses Visual Preference Surveys(tm) (see references for definition)
- Transfer of Development Rights programs
- Concurrency requirements
- Form-based zoning
- Capital improvement programs

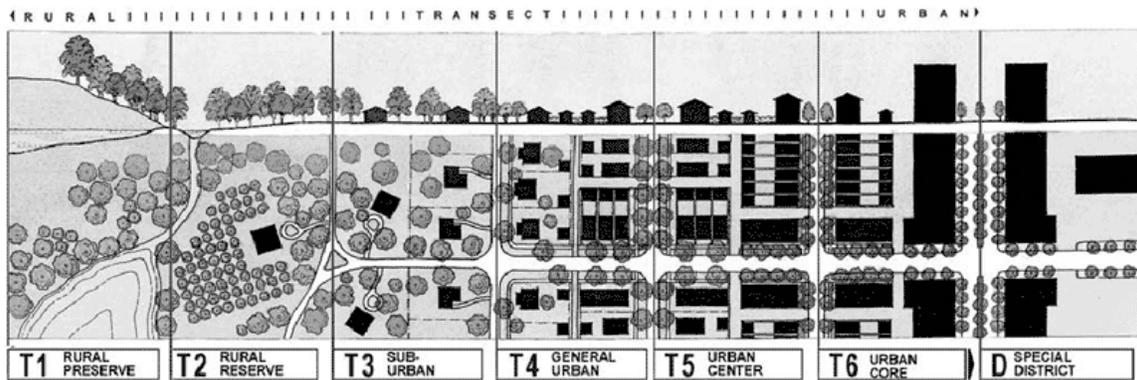
This process would result in the development of a Champaign County Comprehensive Plan. The plan should include all elements of the State of Illinois Local Planning Technical Assistance Act :

www.legis.state.il.us/legislation/ilcs/ilcs3.asp?ActID=260&ChapAct=20%26nbsp%3BILCS%26nbsp%3B662%2F&ChapterID=5&ChapterName=EXECUTIVE+BRANCH&ActName=Local+Planning+Technical+Assistance+Act%2E

and the Local Legacy Act:

www.legis.state.il.us/legislation/BillStatus.asp?DocTypeID=HB&DocNum=231&GAID=3&SessionID=3&LegID=520

In addition to the tools mentioned above, the County should consider undertaking a study of the Transect Model currently being used and codified in an area of planning named New Urbanism. These models offer better techniques for preserving farmland, providing for new development, preserving natural areas and assuring compatibility between adjoining land uses than do older, less flexible tools currently in use.



Definitions

The UI LEAM (University of Illinois Land Use Evolution and Impact Assessment Model): LEAM is a computer-based tool used to visualize, test, and simulate the impact of policy decisions relative to land use change across space and time. (<http://www.learn.uiuc.edu>)

Champaign Urbana Urbanized Area Transportation Study, Champaign County Regional Planning Commission, 2004 (<http://www.ccrpc.org/CUUATS/index.html>).

Visual Preference Surveys(tm) definition: Method of evaluating visual and spatial characteristics of places. The process uses local images along with general images assembled from a national image database to allow citizens to select those images they want for their community. This process illustrates alternative development scenarios that can be used in an Illustrated Development Code (<http://www.nelessen.org.framea.htm>).

Form-based codes: Illustrated codes that involve a significant level of public participation. Such codes advocate a development pattern that focuses on “form” before “function.” In addition to having a direct impact on shaping form, these form-based codes involve a much more extensive public participation process than a conventional code does. The charrette process is

the primary mechanism for community participation and input. (The National Charrette Institute: <http://www.charretteinstitute.org/>)

<http://www.planning.org/conferencecoverage/2004/tuesday/formbased.htm>

Transect Model: Developed by Andres Duany and his firm Duany Plater-Zyberk, the Transect is a system that organizes all elements of the urban environment on a scale from rural to urban (see diagram below). The example Transect has six zones, moving from rural to urban. <http://www.newurbannews.com/transect.html> and <http://www.dpz.com/>

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US Green Building Council, State and Local Government Toolkit, 2002.
http://www.usgbc.org/Resources/local_government.asp



Additional Champaign County well, completed November 2004, 310 feet-deep, tapped into Mahomet Aquifer (Richard Rayburn)

Concern 2: The Mahomet Aquifer

The Mahomet Aquifer is the only source of potable water sufficient for Champaign County's future municipal and industrial needs, but long-term trends show its water levels declining in local wells while its use increases across the State. Questions about its total resource and management go unanswered.

Unlike our neighboring communities, this County has a limited alternative water supply because our stream valleys are not deep enough to lend themselves to construction of significant impoundments.

In the 20th Century, oil progressed from a mineral with little use and low value to become the world's most sought after commodity by the end of the century. Recent water shortages around the world portend that fresh, potable water may become the prized commodity of the 21st Century.

Fifteen Central Illinois counties, spanning an area from the eastern border of Illinois to the banks of the Illinois River, are underlain with a hidden but most valuable water resource. The Mahomet Aquifer is a remnant of the Glacial Age. Formed in an old river valley, it ranges in width from 8 to 18 miles, and is partly filled with sand and gravel layers that are saturated with water from bedrock springs, rain, and snow melt. It dates from 3000 to 10,000 years ago and is one of the world's most pure and most ancient underground reservoirs (MAC publication 2000). Properly protected and used in a sustainable manner, the Mahomet Aquifer will be a great attractant for future business, industry and residents.

One-half of Champaign County appears to be underlain by the most productive part of the Mahomet Aquifer. The aquifer is known to be vast; its broad outline is delineated by recorded well logs. However, questions remain unanswered as to its total capacity, total area of withdrawal, recharge points, recharge rate, and the sustainable amounts that can be used annually (Panno, 2003).

Additional areas and even distant communities, not located over the aquifer, will likely want to tap into this resource in the future. A consortium of individuals, water companies, and governmental entities formed the Mahomet Aquifer Consortium (MAC) in 1998. They have collected, documented and studied some valuable information such as the steady decline in water levels in the wells within the Champaign area. In the 40-year span from 1953 to 1994, the water levels in well casings have declined 40 feet (MAC, 2000).

Through the efforts of MAC and other interested groups, the State passed a bill last year to study the entire aquifer to obtain the information necessary to make judgments and recommendations on current and future sustainable use. The requested amount of funds needed for the aquifer study is \$10 million over 9 years (Pleines). The funding was never authorized.

Considerations

- Questions of the Mahomet aquifer size, capacity, the gallons which are currently being removed annually, recharge points and rates of recharge and then finally, the amounts that can be removed and still sustain the aquifer productivity remain unanswered. These questions will remain unanswered until pressure is brought to bear to obtain funding for a study.
- However, even without the accurate data that the aquifer study will yield, we can assume from the empirical data available that the aquifer water supply is shrinking. Water levels in the existing wells are declining while total usage is increasing yearly. Water use in the Champaign-Urbana area alone, which is served by the Illinois-American Water Company, has increased from 7 million gallons per day (MGD) in the 1950's to 20 MGD in the 1990's. (MAC-2000).
- The peak pumping days for Illinois-American have been 39 MGD with a maximum well capacity of 41 MGD (Brent O'Neill, 2004).
- People drilling and servicing wells in other parts of Champaign County report water levels in operating wells dropping in similar amounts to that cited by MAC. Warren York, Urbana, Illinois, who drills and services wells in Outlying Champaign County relates a common occurrence of being called back to wells after a 20-year period to lengthen the drop pipe by 20 feet or more because the water level had declined (Warren York, 2004).
- Further data from the Illinois State Water Survey in its 2001-2002 Annual report states, "Long-term observations of groundwater levels at Champaign have shown a decline of 50 feet since 1950." (ISWS)

Because the study has not been funded, no one can speak with absolute authority, however, consider the implications of the following facts:

1. Water levels in active wells have already declined more than 40 feet in 40 years
2. Illinois-American, the largest single user, currently pumps an average of three times the quantity of water compared to 40 years ago. In addition they have added new towns to their customer base which have not previously been served from the Mahomet Aquifer supply.
3. Decatur has online 25-MGD capacity to turn on for a backup supply.
4. Danville, Bloomington and Normal with a combined population of 135,000 have expressed an interest in Mahomet Aquifer water. (<http://www.mahometaquiferconsortium.org>)
5. Springfield, with both quantity and quality issues in their water supply, has accumulated farmland for a new impoundment. However, because of the likelihood of siltation in the additional lake, the Corps of Engineers is encouraging the city to install pipelines to Mason County and tap into the Mahomet Aquifer instead (Pleines).

The accumulation of known facts strongly supports funding research on the Mahomet Aquifer.

The question is posed in a paper on the Mahomet Aquifer originally published in the Illinois Steward, “if the original estimates are incorrect, the surplus could vanish with the addition of a few high-demand users.” (Illinois Steward)

The Mahomet Aquifer typically is buried under layers of clayey glacial till that protect it from the rapid infiltration of pollutants from the surface. However, there is concern that, in some places, it underlies sand and gravel beds that may allow more rapid infiltration of pollutants. One such location is in the Sangamon River near Monticello: at that place the river appears to be recharging the aquifer. In northeast Champaign County, the records of a few wells penetrating the aquifer also indicate that sand and gravel layers may be stacked over the aquifer, and if this is the case, neighboring 50-foot-deep gravel pit ponds might act as small, relatively rapid recharge points that could admit pollutants to the aquifer.

Our report will not have a recommendation for Champaign County Board action on protection of the Aquifer, not because it is not a concern and does not need monitoring, but because we believe that programs are already in place to do that job. The Federal and State Environmental Protection Agencies (EPA) are active in the area of surface and buried contamination that would be a concern. The County Health Department and the State of Illinois have programs and standards for sewer installation and new well installations. The Soil Conservation Service (SCS) provides a cost share program for proper well sealing. SCS is also the agency charged with conducting a Natural Resource Report in cooperation with the Champaign County Zoning office for new and rezoned residential property.

Professor Eric Freyfogle in his presentation to the Blue Ribbon Committee defined the current Illinois law relating to groundwater as follows:

The water in the aquifer is owned by those who own the land above it. Illinois law grants the owner of the land absolute water ownership rights and he is governed only by a ‘reasonable use rule’. Interpretation of this provision allows the owner to use any quantity for any purpose as long as it is deemed ‘reasonable’. The law does not, however, permit the owner of the property and the well to use the water any place other than on the property on which the well is located (Freyfogle, 2004).

This last provision of the current law is obviously not being observed. However, “Water Districts” may provide a method to legalize some distant pumping of aquifer water from distant wells (Pleines).

Concern must be expressed when new high volume users propose to use the Mahomet Aquifer, especially when we do not know the Aquifer capacity. A peaker electric generation plant proposed to be built near Sidney might have used 5 to 8 MGD for cooling and then simply dumped it into surface drainage.

Peaker electric generation plants being built today around the country are small compared to the major plants previously erected. They are regional, designed to be used only during peak demand periods and often not located near large natural water sources necessary for cooling.

The proposed Sidney plant was not built; however, a similar peaker has since been placed online near Deland, Illinois. Presumably it is cooled with Mahomet Aquifer water.

The local water company is not the same organization that has been serving the Champaign-Urbana area in prior years. The current operator is the Illinois-American Water Company headquartered near Chicago, which is owned by the American Water Company headquartered in New Jersey, a subsidiary of the Thames Water Company of Great Britain, which is wholly owned by RWE, a German Conglomerate. The American Water company serves 15 million customers across 27 states. Thames Water has 70 million customers worldwide (RWE, 2004). Illinois-American is subject to oversight by the Illinois Commerce Commission and holds franchise agreements with both Champaign and Urbana.

Champaign County has assumed no oversight responsibility for activities of Illinois-American in areas that are outside the Twin Cities but in Champaign County.

Recommendations

1. Champaign County, the cities of Champaign and Urbana and the University of Illinois should be more active participants in the Mahomet Aquifer Consortium (MAC). This County has the most at stake of any County in Central Illinois since we have limited alternative water sources.
2. The Champaign County Board, in concert with other governmental and private interests, should make continual efforts to urge funding of the study of the Mahomet Aquifer by the State and/or Federal Government. This funding can have great long-term implications for Champaign County. MAC is currently applying for tax status that will permit the Consortium to receive donations to support research (Pleines).
3. Champaign County government should encourage, and local legislators should take a leadership role in, revising current water law to address future needs and issues. The State of Illinois needs to consider a new water law to replace the 50-year old law now in effect. Provisions of the current law are not being observed.

Champaign County, without alternative sources of water, is unique for its interest in legal priorities. We should not wait for representatives in other areas to attend to our interests. It is illegal under current state law to use water other than where it is pumped from the ground.

Each additional community connected to the resource will likely have all future access rights assured.

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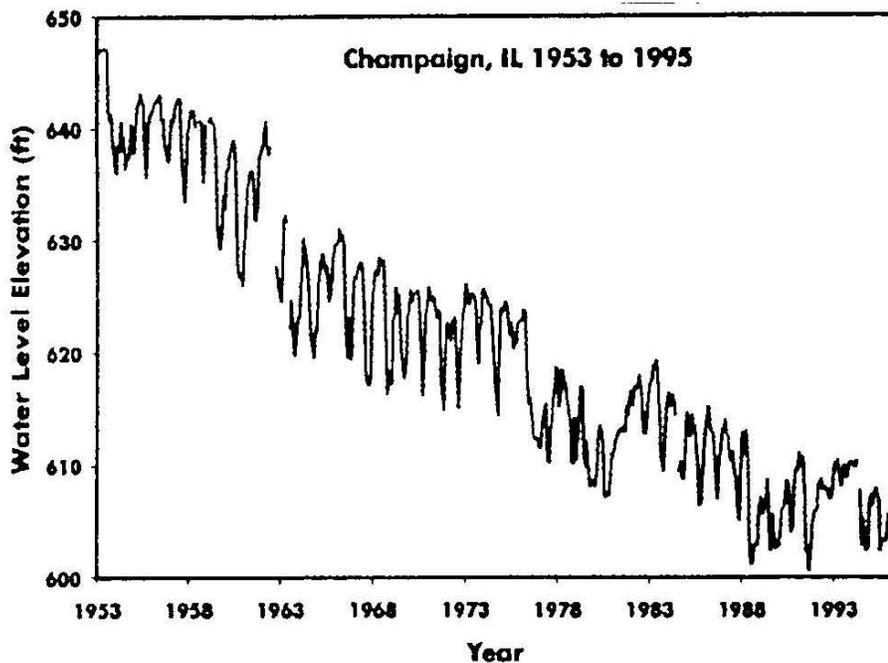
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LONG-TERM TRENDS IN WATER LEVELS THE MAHOMET AQUIFER FOR TWO WELLS IN THE MAHOMET AQUIFER

The decline observed in Champaign is due to pumping increasing from about 7 million gallons per day in the 1950's to more than 20 million gallons per day in the 1990's
GRAPH and TEXT FROM MAHOMET AQUIFER CONSORTIUM PUB. JULY 2000



Concern 3: Soil Resources

Champaign County's soils are its most basic and widespread natural resource. Ranked among the best in the world for agricultural production capacity, their protection is imperative. Their value can be better appreciated after considering their origin, the result of glaciation which occurred between 16,000 and 19,000 years ago, an event beyond human means to duplicate. Their foundation is glacial till and windblown loess which were converted to soil slowly over time. Soils are a living system modified by physical, chemical, and biological processes. Soil formation is a time-intensive process that cannot be accomplished simply by a mixing of ingredients, as if one were baking a cake. They are an intricate combination of minerals, organic compounds, and living organisms continuously interacting in response to natural and human induced stresses. Once destroyed, they cannot be restored.

Over the past 150+ years, most of the County's soils have been altered from their original state by agricultural activity and urban development. The County ranks fourth in the State in cropland acres, 90% of which is classified as Prime Farmland. While we tend to view soil principally as a crop production medium, soil, or land, in the broader sense, provides other environmental benefits relating to biodiversity, water infiltration and runoff reduction, surface water protection, pollutant degradation, wildlife habitat and as a medium for carbon sequestration to mitigate the effects of climate change. The long-term health of the County's soils depends on the control of erosion and sedimentation, the sustainability of agricultural practices, and the degree to which they are protected from conversion to urban uses.

The County Board has extremely limited oversight of agricultural practices. From a governmental perspective, incentive-based programs of the Federal Farm Program are probably best suited to address soil conservation issues. The Champaign County Soil and Water Conservation District (CCSWCD) is the best local agency to offer advice on, and administration of, these programs. CCWSD works with the United States Department of Agriculture (USDA) to set local priorities for conservation programs, enabling local residents to access State and Federal funding for conservation practices. One of these, the Conservation Reserve Program (CRP) initiative on filter strips has been extensively adopted in Champaign County. Currently 73% of the County's stream and ditch banks are protected by trees and grasses or have filter strips installed. These buffers provide a means to trap sediment and pollutants, thus improving water quality and serving as wildlife habitat.

The County can, and does, have an impact relative to the conversion of the soil resource to urban uses and especially the degree to which this conversion fragments the rural landscape. That impact is

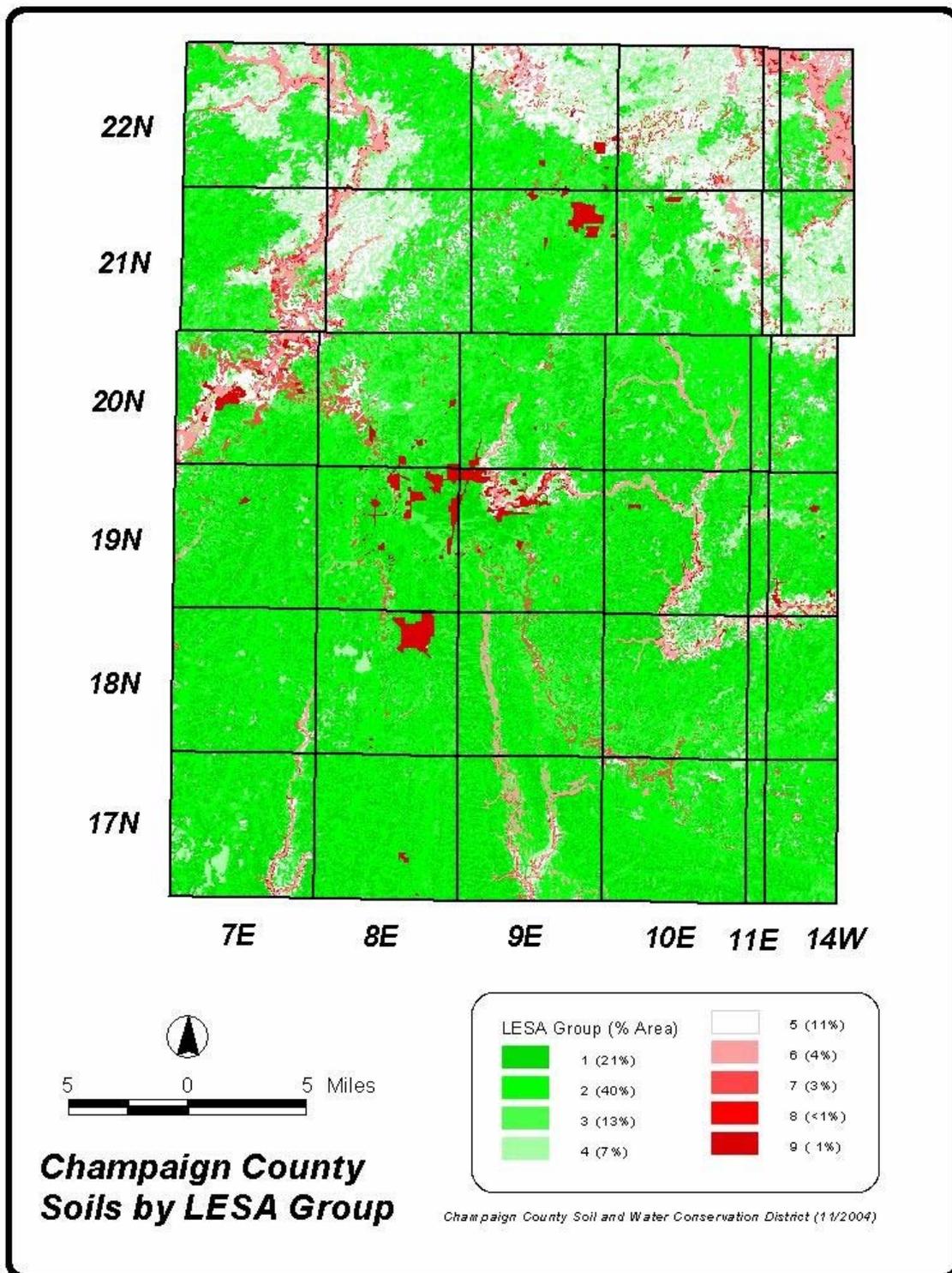


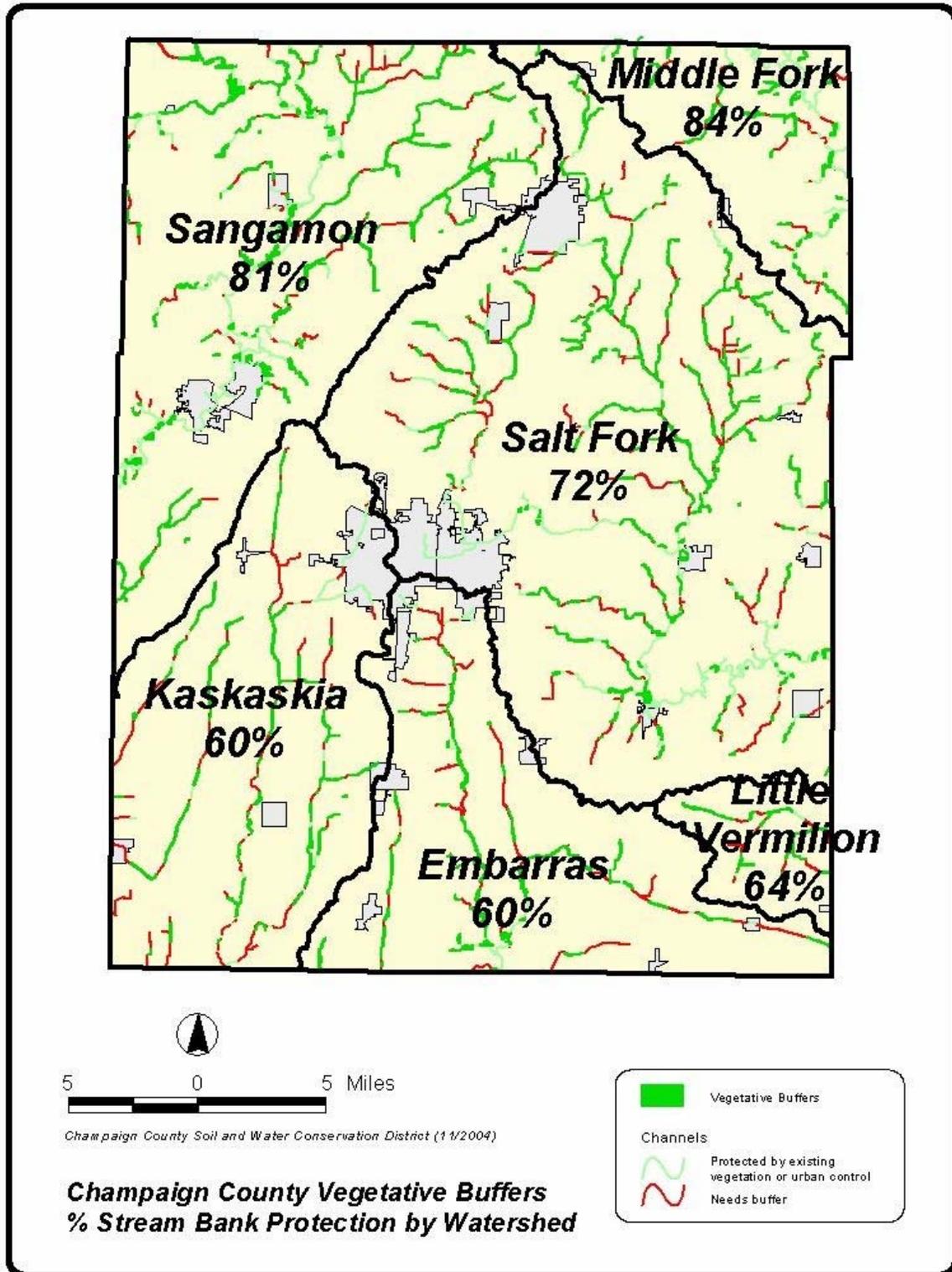
influenced by the County's adopted Land Use Regulatory Policies, the Zoning Ordinance, the Subdivision Ordinance, the Stormwater Management Ordinance as interpreted by the Zoning Board of Appeals (ZBA), the Environment and Land Use Committee (ELUC), and the full County Board. The Land Evaluation and Site Assessment System (LESA) a federal program with local input that was adopted by the County approximately 25 years ago, also serves as an aid in determining if land should be converted from agricultural to urban uses.



Recommendations:

1. The County should continue to provide funding to the CCSWCD at the highest level possible to ensure that Natural Resource reports for proposed building developments, buffer strips, abandoned well sealings, nutrient management education, wetland and prairie restoration projects, environmentally friendly farming practices, and other programs beneficial to the County's soil resource and environment are continued or expanded.
2. In addition to the planning recommendations outlined in the Comprehensive Planning Concern, the County should adopt tools that promote compact and contiguous growth and limit conversion or destruction of farmland, open space, and natural areas through application of relevant policies and ordinances. The Champaign County Farm Bureau, for example, has proposed that the basic development right in the rural districts be limited to 1 lot per 40 acres and that this lot have a maximum size of 2 acres. Additional regulatory tools (e.g. concurrency) which would prohibit major development in areas not served by urban infrastructure, impact fees, urban growth boundaries, or conversion fees should be considered, as well as incentive based tools, for example, payment for development rights (PDR), transfer of development rights (TDR), and tax incentives.
3. The County should severely limit development on its best soils, that is, those in groups 1-4 of the County adopted Land Evaluation and Site Assessment (LESA) system.
4. The County should complete an update of the Site Assessment portion of its LESA system with the goal of more fully integrating it into the Rural Residential Overlay (RRO) or Rural Planned Development (RPD) criteria for approval or denial of rural subdivisions.
5. The County should lobby the State for enabling legislation in those instances where preferred tools are not now available.





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Concern 4: Watersheds

The water quality and environmental state are marginal in parts of the six major watersheds located in Champaign County. The headwaters of four arise within this County: Salt Fork, Kaskaskia, Embarras, and Little Vermillion. The Sangamon originates to the north, but receives significant runoff from this County. The Middle Fork of the Vermillion, which also arises to the north, courses through the northeast portion of the County. It is one of the highest quality streams in the state and is designated a National Scenic River in Vermillion County. The Middle Fork, parts of the Salt Fork, and the Sangamon in Champaign County are designated “Biologically Significant Streams” (Suloway, et al., 1996). However, with the exception of the Middle Fork, waters in parts of the other five also are listed as “impaired” by the Illinois EPA draft section 303(d) list (IEPA, 2002 as cited by CCSWCD, 2003).

Sources of pollution include municipal point sources, industrial, urban runoff, construction, channelization, agriculture and isolated private sewage systems. A recent survey regarding community concerns was conducted among residents and county policy makers in east-central Illinois. Water quality was rated of highest importance from a list of ten community issues by 59% of public respondents (Miller, et al., 2003).

Jurisdiction over waterways and the lands bordering them is decentralized. There are over 70 independent drainage districts in the County, several municipal sewage districts, and numerous private residential sewage systems. Oversight by County, state and federal agencies is not fully coordinated and in some cases wanting.

- Water quality in parts of most streams in Champaign County is impaired.

Recommendations

1. Develop positive incentives for protection of streams in each of our major watersheds.
2. Continue, and possibly increase, grant support for the Soil and Water Conservation District to facilitate conservation programs, including stream bank and waterway habitat improvement on agricultural lands.
3. Encourage and sponsor development by the SWCD of “Management Plans” for each of the representative watersheds - at least for those which have headwaters in this County. (e.g., Upper Embarras River Basin Planning Committee, 1996; Cohn, et al.).
4. Develop and enforce zoning, construction and health ordinances to provide appropriate setbacks and regulation for construction and prevention of pollution by rural residential sanitary systems and other point sources.

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Concern 5: Lack of Green Space for County Residents and Managed Habitat for Native Biological Systems

Twenty-first Century Champaign County presents a thoroughly constructed, intensely cultivated landscape that provides too little open or green space for a large and growing human population and too little managed habitat to maintain and restore native biological systems.

Over the past 50 years, only 3610 acres—about one-half percent of the County’s 640,000 acres—have been dedicated to public parks and nature preserves. This acreage—only amounting to about 20 acres per 1000 County residents represents a deficit identified by both State Senator Stan Weaver and then-Representative Rick Winkel at the 2000 dedication of the Lakes at River Bend Park, Mahomet. Stressing the County’s need for the new park, they noted that the statewide average for such green space (“protected public open space” by Illinois Department of Natural Resources definition) was 49 acres per 1000 residents. By this standard, our County’s 180,000 residents could reasonably expect the provision of about 9000 acres of public open space: 2.5 times the present acreage, not including future growth in population.

The condition of wildlife and habitat in the County is in severe decline. In 1997 the Illinois Natural History Survey published a study of wildlife resources in Champaign County and the shared watersheds of five neighboring counties. This report, the *Headwaters Area Assessment*, drew this conclusion:

In general, habitat loss in the Grand Prairie Natural Division and HAA [Headwaters Assessment Area] appears to exceed rates for the state as a whole. With the possible exception of forest, rates of habitat degradation also exceed statewide trends. (p. 27)

The report further stated that habitat loss of this magnitude is having extreme ill effects on the County’s wildlife:

The extraordinary loss of habitat in the HAA also results in reduction in population sizes for species, particularly those sensitive to habitat degradation. As populations decline in size, they become more likely to undergo local extinction. (p. 28)

It notes that even species favored by public attention and strong support are at risk here:

The Headwaters is a ‘population sink’ for many bird species, meaning that more birds die in the region ... than are born there. The populations are stable overall only because of migration into the Headwaters by birds born elsewhere. (The Summary Report, p. 15.)

It has taken about 150 years to create the present environmental conditions which, taken together, involve changes vital to our human lives and pursuits. In the 1820’s, the Federal land survey recorded that about 90% of the County’s 640,000 acres was prairie. Only about 8% of the County was forested—an area equal to 50,000 acres or 80 square miles, more or less (Hansen, 1963). For the most part, the survey included ponds and persistent wetlands with the grassland and woodland acreage.

Early settlement concentrated in the larger, better drained woodlands, which were subsequently hunted, grazed, cut, and farmed. The prairies were largely open range and

extensively grazed until the railroads arrived in 1854-55 and initiated a boom in land sales to grain farmers. In 1879 enactment of State drainage legislation began a 50-year effort to ditch, tile, and finally drain and cultivate the County's most fertile ground. This work displaced aquatic wildlife to the narrow confines of today's streams, drainage ditches, and artificial ponds and lakes, however, it greatly increased the acreage and reliability of farm production, eliminated malaria, and created a solid footing for our road network and other vital infrastructure.

By about 1930, prairie did not exist in the County except as small weedy remnants in a few old cemeteries and railroad rights-of-way. Since WWII, optimized row crop agriculture and mushrooming residential development have further reconfigured the rural landscapes, overwhelming many of the surviving little tracts harboring native animal and plant communities. In 1982 the *Soil Survey* reported that only "About 7,000 acres in the County is woodland. [1%, down from 8%]... Wildlife generally is scarce because most of the suitable habitat has been destroyed." (p. 3)

Enthusiasm for country living continues to move residential development to the larger stream corridors and brings more destruction and disturbance to already injured woodland and riparian ecosystems. These vital habitats are mainly unprotected because County parks and preserves amount to only about one-half a percent of the County area—3610 acres. Development undermines the integrity of even these sanctuaries because land use policies permit residences and other facilities to be built right up to their boundaries, adversely affecting the esthetic values of the reserves, threatening the viability of their wildlife, and forestalling needed extensions of habitat.

The quality of green space and the wellbeing of wildlife involve economic, moral, and cultural issues. The premiums paid for real estate near rural parks, preserves, and other woodland and water features are evidence that green space is a major, positive asset in quality-of-life and economic issues here. The reactions of visitors and newcomers to County landscape also exert significant, but more subtle, effects on the local economy: unfavorable impressions discourage recruiting and retaining talents and industries. Seeing the County for the first time, strangers—especially those unfamiliar with wide plains and open grasslands—may feel that beyond city limits, the scenery is a bleak, monotonous array of farm fields, industrial parks, and detached subdivisions. Creating more parks and preserves to be attractive, accessible features in the landscape could help prevent such unfavorable first impressions.

Habitat destruction in Champaign County affects the welfare of neighboring lands, waters, and wildlife. The County is the headwaters area for six streams and pollution here impairs water quality downstream in other counties (CCS&WCD, 2003). The July 11, 2002, discharge of ammonia from the Abbott Power Station killed 115,443 fish along the Saline Branch and 32 miles of the Salt Fork by counts made on July 13 and 17-19 (*C-U News-Gazette*; May 4, 2003). Continuing discharge of insufficiently processed sewage into County streams, whether from private or municipal systems, is similarly noxious, different only in degree and immediate effect. Continued destruction of unprotected wildlife habitat here means that near and distant neighbors are providing more and more of the wildstock that finds precarious harbor and

refuge in local streams, fields and woodlands. Commuting to neighboring counties to enjoy outdoor recreation on their open lands can be said to be filching resources – diverting others' means from their own use – if an equal share is not paid to provide them and if such use degrades their resources.

Finally, as urban and industrial development more and more limit access to outdoor experience, traditional ways of life are lost and forgotten. Coming generations may not know nature and learn the outdoor pleasures and pastimes of rural seasons as in the past. A vast new generic culture and its intruding marketplace are indifferent to local heritage. This global culture does not teach children neighborhood history and folkways and show them native animals and plants as parents and grandparents do. It does not preserve the places where these experiences can be found. To keep for later generations some of the choicest values of home and neighborhood - and the Champaign County community - it is necessary to preserve the local human and natural history so vital to its citizens and their predecessors and give it an ample, permanent setting.

Recommendations

1. As an element of the visioning and planning process described in Recommendation 1 of Concern 1–Comprehensive Planning – address adding and maintaining large, well sited parcels of green space and habitat to County preserves and natural areas. Proactive approaches (including restoration) should be considered in this plan to achieve a more representative habitat balance types not present in well-sited and sufficiently large blocks.
2. Develop regulations and policies to buffer (that is, shield) County parks and preserves from residential developments and other detrimental uses on their boundaries. Land acquisition policies could recommend acquiring buffer areas to protect holdings and provide for their potential extensions by purchase of land, conservation development rights, conservation agreements and other means. For the same general purposes, zoning ordinances could use setbacks, Transfer of Development Rights (TDRs) and other such means.

County tax policies and cooperation with State and Federal programs could provide positive incentives to motivate land owners beside County preserves to voluntarily create buffer areas between their structures and sanitary outlets, and County wildlife habitat and recreation space. Such buffer areas might be cropland, restored prairie or woodland, or existing naturalized areas, but in all cases buffer vegetation should be compatible with the functions of the adjoining area of the preserve. The value of the incentives should increase as the depth and quality of a buffer between County property and the private facilities increase. CCFPD staff would review the design of a potential buffer area and periodically inspect it to determine whether it effectively preserves the viability of the adjacent park/preserve and shields it from harmful effects originating from the developed part of a property. Because buffer lands are private properties, they would not be open to park users.

3. Develop and implement a Land/Cash Donation Ordinance that would require rural residential developers to dedicate land in their prospective developments to the Champaign County Forest Preserve District for the preservation of open space and natural areas. This ordinance should specify that a cash equivalent be donated when land in the development is

not suitable for dedication. It should also detail criteria for acceptance and establish that the Forest Preserve District has final authority to decide whether to accept land, cash, or a combination of the two. The District would establish goals for the dedication of such land and maintain acceptance criteria and comprehensive/master plans to help guide these decisions.

4. Require that a natural areas review be included in permit applications for all proposed rural developments. This review would be in addition to the Soil and Water Conservation District's "Natural Resources Report" 22.02A. It would engage professional Forest Preserve staff and/or other qualified professionals in restoration ecology, natural resource management, or related fields to study and comment on proposed developments. They would then inform County decision makers about environmental assets and deficits local to a development and the impact of a development on wildlife, nearby County preserves, and natural areas.

Dissenting opinion of Richard C. Rayburn for Recommendation #4

I do not believe that it is in the interest of the County to implement a Natural Areas Review process of all proposed rural development. This would create a new level of bureaucracy that would be costly to the governmental bodies and to individuals. In addition, the standards of measurement and the benefits projected would be difficult to define, would become arbitrary and the application would become tedious.

5. Develop positive, long-term incentives that encourage property owners to create and maintain both wild and restored habitat. The Soil and Water Conservation District filter strip program is a model that should be emulated for other kinds of projects. Incentives to establish habitat corridors and greenways and to restore historic woodlands such as Towhead, Lost Grove, Cherry Grove, Linn Grove and others would be worthwhile.

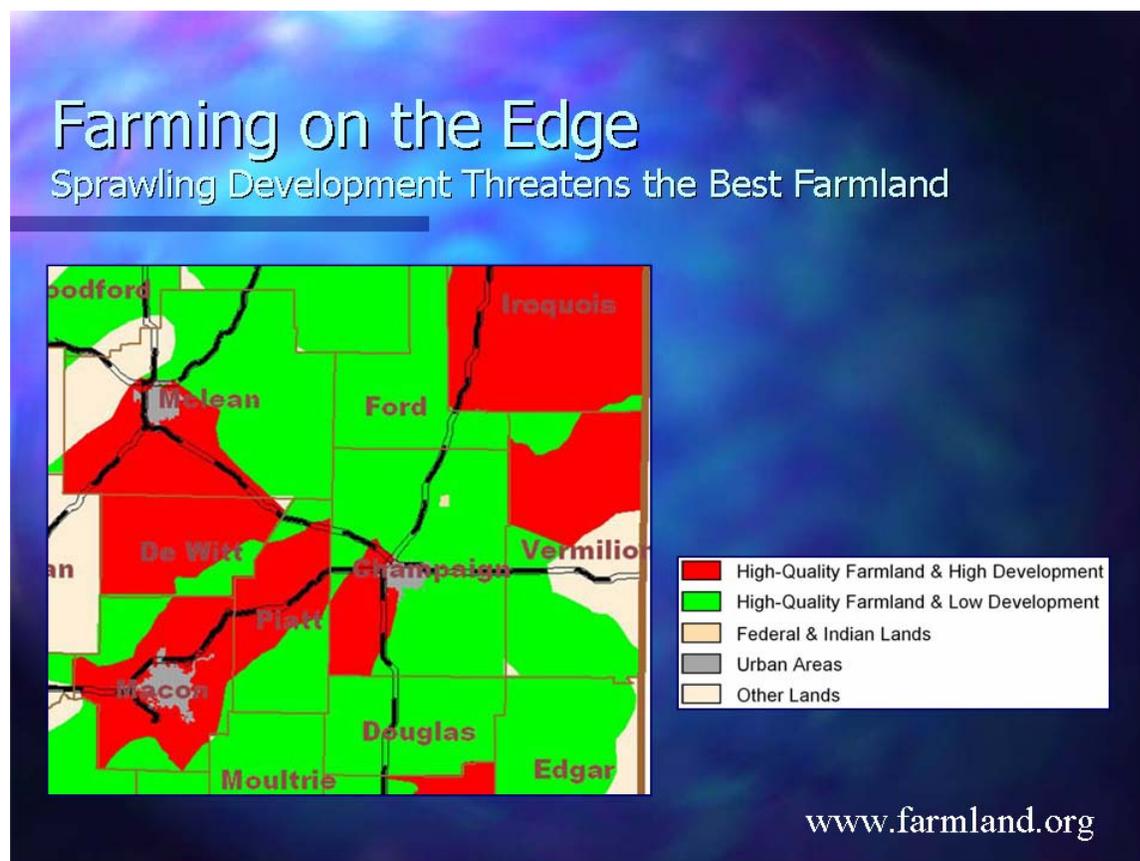
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- Ruesink, William G., *et al.* Headwaters Area Assessment. Volume 3: Living Resources. Illinois Department of Natural Resources: Springfield, IL, 1997.

Concern 6: The Need To Monitor and Respond to Environmental Conditions

Over time, environmental conditions in the County will change. The Champaign County Board should take necessary steps to ensure that there is sufficient information available to the Board and to the citizens of the County on the status and trend of relevant environmental conditions. This information could include the status of streams in County watersheds, water levels in the aquifer, and the condition of our habitat across the County.

In addition, most of the environmental concerns identified in this report involve multiple governing entities so that proactive approaches are needed to facilitate cooperation across the many different local and state government stakeholders with some measure of governance over environmental concerns impacting Champaign County.



Recommendations

1. Appoint a standing citizen's environmental advisory committee, with appropriate balance and expertise in the membership, to monitor the specific issues raised in this report and other environmental issues that emerge, over time, as relevant to the health and welfare of the County's citizens. This panel should be responsible for:

- a. Hearing about issues of concern from County citizens and experts.
 - b. Identifying potential data and trends to track (e.g., indicators) relevant to environmental resources and/or conditions.
 - c. Monitoring status and trend of these indicators.
 - d. Providing regular reports (e.g. quarterly) on the status and trends of these indicators. These reports should be presented to the Board and available to the public.
 - e. Recommending procedures, partnerships, policies and approaches, for consideration by the board, to address specific problems and issues.
2. Establish proactive intergovernmental agreements with relevant government organizations (and non-government organizations) for the purposes of sharing status and trend information about environmental conditions and for coordinated and joint responses to those conditions and trends that warrant actions.

References

Jenicek, Elisabeth, Developing a Set of Sustainability Indicators for Champaign County, Illinois, Report for ARCH/LA 563, 2004. Available on our website at <http://inquiry.uiuc.edu/cil/documents.php?cilid=285&folderid=1787> or look in the Documents Center at <http://inquiry.uiuc.edu/cil/out.php?cilid=285>.

The Natural Step framework seems to be the easiest mental framework to help teams of people understand and apply basic sustainability principles. It has been used successfully by many companies, communities, and organizations. <http://www.naturalstep.org/>

Sarah James and Torbjörn Lahti, 2004, *The Natural Step for Communities: How Cities and Towns can Change to Sustainable Practices*, Gabriola Island, BC: New Society Publishers.

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Panel Organization and Processes

Since the organization of the Panel in January 2003, we have met over 50 times as a whole committee and at least 20 times in four smaller subcommittees designated Land, Air, Water, and Built Environment. Our major individual and group efforts in the beginning were to develop an exhaustive list of environmental topics of actual and potential interest to County government and to consult with resident specialists who have studied and worked with some of the more important local issues. Our initial report described the issues and experts we consulted in the summary reports of the subcommittees. That report is available online at our “Imagine a Sustainable Champaign County” website at:

<http://inquiry.uiuc.edu/cil/out.php?cilid=285>.

Our initial investigations demonstrated both the feasibility and the necessity of the work set before us. In this County we have easy access to an extraordinary number of high-quality technical and scientific sources of information that are immediately relevant to the environmental issues confronting all of us. Time and again, these sources foreshadow serious consequences if certain measured trends in our community’s development are ignored.

Original Membership

Hal Barnhart
Dwain Berggren
Jeff Courson
Bill Goran
Cynthia Hoyle
Gary Jackson
John McMahon
Marc Miller
Richard Rayburn
Annette Stumpf
Ruth Wene

Subcommittees

Water Resources Subcommittee

Marc Miller (Chair)
Richard Rayburn
Gary Jackson

Dwain Berggren

Air Subcommittee

John McMahon (Chair)

Annette Stumpf

Bill Goran

Cynthia Hoyle

Built Environment Subcommittee

Annette Stumpf (Chair)

Hal Barnhart

John McMahon

Ruth Wene

Cynthia Hoyle

Land Subcommittee

Richard Rayburn

Marc Miller

Gary Jackson

Bill Goran

Hal Barnhart

Dwain Berggren

Ruth Wene (Chair)

Speakers

Speakers were invited to address subcommittees as well the panel as a whole. They helped us investigate environmental issues, answer questions and shape the recommendations being made to the County Board. A full list of speakers is available in Appendix B.

Public Input

Public input was gathered in three ways: formal public input sessions, a questionnaire made available at the public sessions and via a website, and by an informal telephone survey conducted as a class project by University of Illinois students.

Public Forums

The Champaign County Board "Blue Ribbon Environmental Panel" held four meetings to solicit public opinion and information about current and potential environmental issues in Champaign County. Each of the Panel's public meetings was conducted as an "open house"

hosted by several panel members who circulated questionnaires to attendees and invited discussion of exhibit material and handouts.

Monday, March 8 2004 -- New Rantoul Library, 7 - 8:30 pm.

Monday, March 15 2004 -- Mahomet Village Hall, 7 - 8:30 pm.

Wednesday, March 24 2004 -- Visitor Center at Salt Fork Forest Preserve, Homer 7 - 8:30 pm.

Tuesday, March 30 2004 -- Illinois Terminal, Champaign, 7 -- 8:30 pm.

These meetings were held to fulfill the Board's intention that the Panel invite public participation as well as solicit expert testimony. The meetings were publicized in the News-Gazette and the County's weekly newspapers. Information about the Panel's project and an opinion survey are being posted on The UIUC Community Inquiry Labs (CIL) web site-- *Imagine a Sustainable Champaign County*.

The draft report and public input questionnaire were made available in the Document Center of the website at <http://www.inquiry.uiuc.edu/cil/documents.php?cilid=285>.

Website

Information about the Panel's project and an opinion survey are posted on The UIUC Community Inquiry Labs (CIL) web site-- "**Imagine a Sustainable Champaign County.**"

This final report will be posted, along with the public input questionnaire and the interim report, in the Document Center of this website at <http://www.inquiry.uiuc.edu/cil/documents.php?cilid=285>.

Surveys

The Blue Ribbon Panel survey was distributed at all four public input meetings, via several listservs, on the website, and to those who requested a copy. An electronic questionnaire was also available on the website, but it appears it was too difficult for most people to complete. Forty-nine surveys were collected and the scores were tallied on a spreadsheet ranked from the most important issue to the least important issue. This is not a representative sample of Champaign County, but it is an indication of the topic of most interest to those who responded to the survey. Several residents mailed written statements explaining their viewpoints in more detail, and all these ideas were considered by panel members during our discussions.

Detailed results of the Blue Ribbon Panel questionnaire and the UI student phone survey are found in Appendix C.

It is interesting to note that respondents to both surveys ranked water quality to be the most important issue.

Scenarios for Champaign County

Purpose: These scenarios are meant to stimulate ideas and discussion about the future of Champaign County (and, in scenario 2, the East Central Illinois region). The scenarios are designed to highlight different community approaches to planning and the pitfalls of insufficient planning. Each scenario features a different approach or issue, but together they are designed to show the value of proactive balanced planning that blends many different voices in our communities to integrate economic, environmental, and social concerns.

Disclaimer: These scenarios are fictional. In some cases, real organizations and locations are identified, but this is done only for context. The scenarios have not been reviewed by or endorsed by these organizations. These scenarios are the product of the Champaign County Environmental Advisory Panel, and the committee members alone are responsible for the content of these scenarios. Suggested outcomes in these scenarios are speculative, and the planning approaches discussed in the scenarios could have very different outcomes.

Temporal Context: Most of these scenarios look back on events from a future date (Scenarios 1, 3 and 4 look back at events from the year 2020). This approach provides the advantage of allowing a fictional reflection on the impacts of different planning and growth alternatives. The View from 1990 (scenario 5) does the reverse – it images how Champaign might be today, had we planned for different outcomes decades earlier. Scenario 2 looks back on events from 2015, presented as an article appearing in the Chicago Tribune.

Use of the Scenarios: These scenarios provide one way for groups to play out the consequences of different alternatives. This is one way to help facilitate community groups envisioning the implications of different planning alternatives. While scenarios are a valuable tool for planning and community visioning, they are most useful when complimented by other planning approaches. An excellent example of using scenarios is included in the Champaign County Long Range Transportation Plan 2025, which includes two scenarios comparing “a day in the life 2004” with “a day in the life 2025” highlighting the potential impact of regional transportation options.

Contents: The five scenarios in this set include the following:

1. View from 2020: University Spin-Off Firms Help Stimulate Sustainable Growth
2. 1st National Agricultural Landscape Designated for Central Illinois

3. View from 2020: Rapid Economic Growth Hits Troubled Waters
4. View from 2020: Land Set-Aside Approach Help County Grow Green
5. View from 1990: Impacts of The 1965 Greenway Plan

Scenario 1: View from 2020: University Spin-off Firms Help Stimulate Sustainable Growth

High-Tech Economics: After learning some hard lessons, especially with the memorable but locally unprofitable transition of MOSAIC to the commercial marketplace, the University of Illinois steadily improved its approach to help establish local high-tech spin-off companies. One of the goals with these spin-off companies has been to nurture a growing local high-tech capability. This goal has been paying off in significant economic benefits to the community.

By 2010, there were 35 new companies in Champaign County, employing over 1200 persons, and this grew to 49 new firms employing over 2300 persons by 2015, even though several new firms later relocated. These new jobs and companies, in turn, created many other local economic opportunities. A population goal, articulated for the greater Champaign-Urbana area in 2003 of “over 200,000 residents,” was passed in 2017.

Several of these companies focused on nanotechnology applications, while others pursued computational and communication opportunities. But another market sector, sustainable growth technologies, proved especially beneficial to the local communities as they applied these technologies. Soon after the Sustainable Design Research and Technology Center was established at the UI in 2005 with a grant from the State of Illinois – other spin-off firms exploited niches in sustainable planning, sustainable growth modeling, sustainable building designs and water reuse technologies.



Another crop of new businesses produced or distributed products made with non-toxic, recycled content or rapidly renewable materials such as agricultural waste converted into pressed agri-board products. After new State regulations in 2015 limited the percentage of virgin materials in any new construction, reclaimed materials became so desirable that the Urbana More2Go firm, which specialized in recapturing deconstruction materials, tripled its local workforce. Locally, this approach was particularly important because the County was

without a local landfill and 30-40% of the waste hauled out of the County was construction/demolition debris.

Sustainable Growth Planning: The business growth resulted in population growth. Unemployment in the communities was traditionally low, so new jobs required an influx of new workers into the County, although University graduates provided a source for many of these workers.

Local governments and the local business community planned well for the rapid community growth, partnering with regional financial interests to build a series of appealing, high-tech, high-density condominiums around several new parks in rapidly growing southeast Urbana and northwest Champaign. In fact, Sustainable Urban Designs (SUDs), became one of the fastest growing firms in the area. SUDs specializes in the design of new urban neighborhoods with an appealing mix of green space, sidewalks and trail ways, and energy-efficient buildings, including stores, offices and condominium housing - rather than traditional housing only subdivisions.



Low impact development principles, including green roofs, were used to capture rainwater for reuse and help it soak back into the ground, which also resulted in reduced stormwater infrastructure costs. Community Growth Modeling, another spin-off firm from the University of Illinois Center for Spatio-temporal Analysis and Modeling (CSAM), was created in 2006 and has helped local communities develop comprehensive plans that have structured growth along key corridors, reducing the rate of land use change despite the significant rate of population and economic growth.

Transportation Options: Rapid population growth helped reinvigorate transportation alternatives. After years of struggling, the Illinois Prairie Airport (formerly Willard) was restructured in 2010 as a regional airport offering free parking and flights to 10 destinations from 6 different airlines. By 2015 the new Regional Prairie Transit light rail system, offering services connecting Rantoul, Mahomet, Champaign-Urbana, Mattoon, Charleston, Decatur, Danville, Bloomington and Springfield, began serving the two remaining regional airports (Bloomington and Champaign). In addition, new federal investments in high-speed rail provided, by 2016, one-hour service from Champaign to Chicago, Indianapolis and St. Louis.

Interstate road usage rates remain high, although since 2012 only mixed fuel or no-gas vehicles are allowed on interstates, so air quality improved along these major routes. Traffic rates continued to climb until 2014, but have held steady since the new rail systems became fully

operational. In 2018, for the first time in the area, automobile ownership per person dropped. Another important transportation and recreation option has been bikeways – all the new rail lines were built with companion bikeways that connected local urban centers with parks and other recreation areas across the region. East Central Illinois now boasts “10,000 kilometers” of bikeways and running paths and these assets have provided another economic boom – the annual Flatlanders Bike Race drawing over 8,000 visitors to the area each June.

The Healthier Kids initiative, a partnership between the Parent Teacher Association (PTA), local schools and health care providers, encouraged children to walk and bicycle to school in hopes of reducing childhood obesity, diabetes, pollution, and traffic jams around the schools. Children gained a new appreciation for nature and fitness when members of the Avoid Osteoporosis Walking Club volunteered to lead them in “walking school buses” to alleviate parental concerns about safety.

Agriculture Challenges: Agriculture remains strong in the County, but land conversion continued relatively unchecked until new measures were implemented in 2016, despite the Champaign County Transformation Plan, initiated in 2007. On average, 800 acres per year were converted from agricultural to other uses (both urban and parkland) from 2005 to 2018.

In the County, farmers represent an ever decreasing minority and pressures grew to convert more and more land to recreational uses, such as parks, wildlife preserves and hunting clubs. The bikeways system only increased this pressure. In 2016, the Prairies Forever chapter of The Nature Conservancy, funded by several generous grants from local prairie enthusiasts, purchased 8,000 acres of agricultural lands in the Sadorus area to restore to prairie.

Then, in 2016, the County Board passed the agricultural land preservation initiative based on the State of Illinois Farmland Preservation Act of 2012. This initiative created a special review board that evaluates all real estate actions that impact farm activities and adjusts tax rates to help sustain existing agricultural lands in production. Another important factor for the agricultural industry has been the growth of agri-tourism, stimulated in part by the Agriculture Extension Service. While farmers had traditionally mistrusted the spread of parks and bikeways, the planned corridors connecting these resources have provided excellent opportunities for those farmers who decided to offer glimpses of rural life – including bed and breakfast facilities, a thriving vineyard industry and a growing number of local organic producers.

Water Resources: Water supplies seemed plentiful in this region; however, in 2011, a State aquifer recharge study reported increasing drops in water levels in the Mahomet aquifer. This was in part due to increased withdrawals, as Bloomington (2008) and Decatur (2009) began piping water from the aquifer. Locally, water conservation measures were implemented, but the real impact on water consumption rates came from a suite of water re-use innovations resulting from a partnership between the Water Forever Foundation (a spin-off of the State Water Research Center) and the Illinois American Water company.

The partnership struggled at first because the reuse plan required infrastructure investments that raised water rates for a three-year period from 2012 to 2015. But the rate increase was, as promised, temporary, despite many critics suggesting otherwise. After these changes, Champaign County communities were able to expand total water use while dropping aquifer withdrawal rates. Other communities beyond the County, struggling to stay within recently legislated withdrawal allotments, soon adapted this new approach, and Champaign-Urbana had yet another exportable technology.

Another important measure in sustainable water use was to reduce peak withdrawal rates, as these peak levels threatened to exceed the reuse capacity. Lawn watering was discouraged, then regulated. Seizing another opportunity, Midwest PrairieScapes (another local high-tech firm) partnered with Sustainable Urban Designs to help residents make this transition away from traditional grass lawns drought-tolerant native plants. Local gardeners using low-tech solutions such as rain barrels and cisterns were able to water their gardens during the summer



dry spell. The new condominiums were the first housing units with a dual piping system to reuse grey water from sinks and showers to flush toilets. Even more impressive was the large water use reduction attained by the University after it switched to water-free urinals and low-flow fixtures in all facilities, including the Assembly Hall and major sporting facilities. With capacity crowds of 19,500 fans expected for each of the team's home games, the water savings approached 120,000 gallons.

With population growth for the area projected at 4% per year, it may still

prove difficult to meet growing water demands and an upgrade to the reuse infrastructure is now being discussed. Nonetheless, regional water supplies are much better in Champaign County than in most other parts of the State (and the nation) and this relative position of strength has provided a significant draw to potential incoming firms.

Scenario 2: 1st National Agricultural Landscape Designated in Central Illinois, Chicago Tribune, May 15th, 2015

The first National Agricultural Landscape is soon to be recognized for a region in East Central Illinois. Both the House and Senate have now passed legislation making this region the first official designation under the Agricultural Landscapes Act of 2010. The President confirmed that she would sign the bill when it reaches her desk. The designated area, called the Tall Prairie Heartland, includes parts of nine counties: Champaign, DeWitt, Ford, Iroquois, Livingston, Macon, McLean, Piatt and Vermillion – with a population of about 1 million residents. Champaign/Urbana, Bloomington/Normal, Danville and Decatur are the largest towns within this region.

The region was nominated, based on four criteria established in the Agricultural Landscapes Act:

1. Historic and current significance of the region in terms of agriculture productivity
2. The unique landscape pattern or “footprint” of agricultural practice in the region
3. Regional trends for conversion of significant areas of agricultural lands to other uses
4. The development of a landscape preservation plan that promotes sustainable agricultural and regional economic viability, while preserving and featuring unique elements of historic, current and transforming agricultural landscapes.

Before Congress considered this designation, the proposed plan was submitted as a yes/no referendum to the electorate in the region. The first version of the plan was completed early in 2012, but this version was defeated in a referendum in November 2012. Polls at the time showed that voters feared the plan would limit regional economic growth. Many developers and local government leaders and local media had opposed the plan, fearing that that version of the plan was not flexible enough to allow limited conversion of agricultural lands to other uses. Those who drafted the first plan attempted to protect valuable agricultural resources because, since 1990, over 2500 acres per year of agricultural lands in the region have been converted to other uses, primarily urbanization.

Then, early in 2013, plan supporters met with opponents to create a second version friendlier to land conversion. While conversion of agricultural land will still be constrained under this plan, growth is encouraged through incentives for higher density urbanization and along selected corridors easily serviced by mass transit. This modified plan was endorsed by several regional media outlets and passed by 62% of the electorate in November 2014. Polls now show that most regional residents believe this designation will bring worldwide attention and provide an enduring economic stimulus to the region.

The Agricultural Landscape Act intends to preserve valuable and unique agricultural regions, especially in areas experiencing loss of productive land because of conversion to other uses. In addition, the Act encourages plans to preserve areas of pre-agricultural landscapes and areas of historic agricultural land uses and to promote “sustainable” growth. The provision for

preserving pre-agricultural and historic agricultural landscapes was debated in Congress and in many local areas considering this designation. But the bill's sponsors managed to keep this provision in the final bill.

This designated region originally supported an extensive tall grass prairie, with forested areas fingering into the prairie along river and streams. In geologic terms, the region is very young, having been reshaped by the most recent glacier around 20,000 years ago. The glacier deposited silt and rocks that filled in the valleys. Then, after the glacier withdrew, winds deposited up to a meter of fine soil particles, called loess. On this flat landscape drainage was poor, with water standing in many areas for portions of the year. The prairie grasses flourished, standing taller than the early pioneers, who avoided these prairie areas and settled along the watercourses and woodland groves.



During the last decades of the 19th Century, the prairie was transformed for agriculture thanks to the invention of the steel plow, the coming of rail lines into the area, and the arrival of immigrants skilled in draining wetlands.

Soon, a landscape of square 640-acre sections, surrounded by mile roads and drained by buried lines of ceramic tiles emptying into straightened channels, was producing abundant yields. In the midst of this region, the University of Illinois has played a major role in the transformation of this land, helping to bring continuous productivity improvements to regional farmers. Several staff members from the University's College of Agriculture, Consumer and Environmental Sciences (ACES), have played important roles in the development of this plan.

An environmental advisory committee, commissioned by the Champaign County Board in 2003, conceived the original plan for a special agricultural landscape designation for the East Central Illinois area. Then, the Tall Prairie Heartland Planning Committee was formed in 2008, and this committee received a planning grant from U.S. Department of Agriculture in 2011 under the new Agricultural Landscape Act. In addition, State Senator Mossberg (R) and State Representative Kylerfield (D) introduced Illinois State legislation endorsing this national designation, which was signed by the Governor in 2012. The Illinois Governor, local legislators, the Dean of ACES, the Chair of the Tall Prairie Heartland Planning Committee and the Secretary of Agriculture will join the President at the bill signing ceremony.

Features in the plan include two large prairie restoration areas (one an extension of a site previously established in Ford County), where roads and artificial drainage ways will be removed. These areas will not only illustrate the pre-agricultural landscape, but will also be used for many studies that provide a baseline comparison for nutrient, air and water flow dynamics. In addition to the prairie restoration sites, the plan calls for restoration of selected

streamside woodland corridors and for an extensive system of trails and bike paths across the region.

There will also be a historic farming center, planned now for Piatt County, featuring historic farm practices, equipment and buildings. The historic farm settlement will provide both educational and preservation opportunities, similar to the historic Naper Settlement in northeastern Illinois. The plan includes a grant program for local residents to help preserve selected farmsteads, farm buildings and farm features such as grain elevators, unique barns, and osage orange hedges.

A Tall Prairie Heartland Visitor Center will be built along I-55 south of Bloomington and along I-74 northwest of Champaign, overlooking the massive Anderson's Grain Elevator Complex. Exhibits at the Champaign facility will also feature the Mahomet Aquifer, a primary source of water for the region. Information kiosks explaining features about the landscape will be added to several rest areas along the Interstate highways crossing the region and also will be located at local airports and rail stations.

Communities in several others regions of the nation are developing plans for similar designations, including the Palouse region in eastern Washington State, the California Imperial Valley, the California Wine Country, and orchard areas in Michigan and Georgia. However, this Illinois group developed the first plan approved by local residents, which is a prerequisite to this national designation.

Scenario 3: View from 2020: Rapid Economic Growth Hits Troubled Waters

Economic Growth: After an effective recruiting campaign by the Regional Economic Coalition, the Tall Grain Corporation opened a new processing firm east of Champaign in 2008. Their decision was influenced by three primary factors – 1) perceived availability of plentiful and high quality groundwater resources, 2) developmental partnerships with the University of Illinois College of Agriculture, Consumer and Environmental Sciences, and 3) good highway and rail connections. The firm located along the rail line just west of the Andersons, with good access to all three local interstate highways.

The Tall Grain firm commercialized a new process which reduced the polyunsaturated fat level in corn oil products, making corn oil more competitive with olive oil from a health perspective. This firm provided 200 jobs when it first opened, and by 2012 had expanded to over 340 employees. The “healthy” corn oil market was booming. Also by 2010, a growing market for bottled water in northeastern Illinois and other metro areas helped encourage another local firm to enlarge its well field over the Mahomet Aquifer, drawing even greater quantities of the “Champaign of Bottled Waters” from the aquifer. This product hit the market running, and soon the bottling firm was producing three thousand 20-ounce bottles of aquifer water a day. Together, these firms helped diversify and stimulate the local economy.

However, the Tall Grains operation produced odors, micro-particulates and volatile organics. On most days, Champaign-Urbana was downwind. Besides general complaints from the population, residents experienced increased rates of asthma and other respiratory problems. A Regional Health Consortium study in 2017 shows air quality associated health problems impacting over 3% of the community, ranking Champaign residents just behind Decatur in percent population impacted by air quality problems in Central Illinois.

The incoming President’s new economic package featured the “Made in America” bill, passed in 2009, within 100 days of his inauguration. With the goal of stimulating domestic production of goods, this new bill provided extensive incentives for American manufacturing. As a result, two new manufacturing firms located in the Rantoul area, providing parts for vehicles manufactured in Tennessee, Kentucky and Ohio. However, the Federal subsidies for these firms included a 20% match by





the State and local governments, and the County and Village shares of this match contributed to record budget deficits. The County board raised taxes four times since 2010 and also cut staff almost every year.

Rapid economic growth in the County continued until 2016, when a new groundwater monitoring report indicated that the Mahomet aquifer levels were dropping over 4 feet/year. For years, local scientists and concerned citizens argued for funding aquifer studies, hoping

to catch withdrawal excesses as soon as possible and to devise appropriate conservation and water reuse measures. The County has minimal surface water options, but has enjoyed abundant and high-quality groundwater. However, these aquifer study requests went unheeded, the study approved by the State legislature in 2003-4 wasn't funded until 2011, and delays hindered completion of the study until 2016. By then, the news was disastrous.

In the year following this aquifer study, the Champaign Water Bottling Company moved its primary operations to Canada, and Tall Grains shifted its primary corn oil production to a plant in Argentina. Unemployment, traditionally below 3% in the County, jumped to over 7% in 2017, and has stayed near that level since. Local governments have been stretched dealing with this rapid turnaround in the economy and the resulting increases in community service needs.

Population Growth: Altogether, the population rose from about 180,000 in the 2000 census to over 215,000 in the 2010 census, representing remarkable growth, especially during the years from 2005 to 2010. The Census Bureau estimate for the County at 2015 was over 230,000, but then water supply problems, job losses and a low rating for "quality of life" factors influenced many to move out of the area. Population at 2020 is now estimated at to have fallen back to levels close to those in 2010.

Land Use Change: The aggressive economic growth in the County translated to even more aggressive land conversion. In 2000, urbanization rates were reported around 600 acres/year, but by 2010 that rate had grown to over 1,200 acres/year and environmental, farming and business groups were all campaigning for a smart growth plan. But realtors and developers argued strongly against too much government control, especially such notions as use fees to cover infrastructure costs. Only when the housing market dropped after 2017 did the rate of land conversion finally slow. Meanwhile, local community members were pressing city and County governments to take over maintenance of their neglected stormwater detention basins

which were built during development of their neighborhoods. This hotly contested topic further stretched limited city and County resources.

Planning Initiatives: In the 2005-2007 timeframe, several planning and environmental advocacy groups attempted to initiate visioning or collaborative community sessions to develop regional plans. These groups did stir interest, especially during times when controversial developments disturbed neighborhoods or when local taxes were raised. But there was never a sufficiently broad consensus among the population or the local governments to accomplish the creation of a comprehensive plan. Instead, the Regional Economic Coalition kept a constant focus on growing the local economies and paid marginal attention to issues such as resource constraints, park and forest preserve areas, transportation options and preservation of farmland. As a result, economic progress was strong for several years, but communities suffered over time from rising costs to local government, decreasing services for growing populations (e.g., crowded schools, traffic problems), and limited open space for recreation. These factors eventually worked against sustained economic growth. Tensions also grew between urban and rural residents over several watershed management issues (such as clearing vegetation from and dredging local stream channels).

However, while the local County neglected comprehensive plans, several other Midwest states successfully developed comprehensive watershed improvement plans for each of their major watersheds. While each of these plans stirred local controversy, these neighboring states, such as Wisconsin and Iowa, are now attracting many tourists and new residents to the watersheds with designated restoration corridors, enhanced game bird flyways for hunters, and bikeways and canoe routes for recreation.

Transportation: Rapid population growth resulted in scattered developments near almost every on- and off-ramp along I-57, I-72 and I-74 within 75 miles of Champaign-Urbana. Unfortunately, many of these new neighborhoods were in unincorporated areas, far from water and sewer service and fire protection. These scattered developments contributed to traffic congestion on the interstates and frustrated local attempts to plan growth and provide transportation alternatives. Since commuters spent more time in the car, they had less time to spend with their families, volunteering, or exercising, and obesity rates climbed. Despite strong economic growth through 2016, Willard Airport closed in 2009 because so many still chose to drive to other locations for their flights and other transportation options, such as light rail, improved. The Central Illinois Bloomington Airport gladly took up the slack. After 2012, only mixed-fuel vehicles were allowed on interstates and this helped reduce local air quality problems, offsetting the ozone increases associated with 2 degrees rise in average temperatures during the period from 2000 to 2015.

Scenario 4: View from 2020: Land Set-Aside Approach Helps County Grow Green

New Development and Cost: During the first decade of the new millennium, the County population continued to grow, but housing demand and land use change far outstripped the growth in population. While some became alarmed at the loss of prime farmland, even greater concern arose as various local governments were unable to generate sufficient revenues from these new generally low-density housing developments to offset the increased demands for services such as water and sewer, parks, schools and fire protection. Growth was putting too many demands for services and amenities on local government budgets. These unmet costs created budget shortfalls, yet voters rejected tax increases for schools (2009) and parks (2011) in Champaign and similar rejections occurred for schools (2008) and parks (2010) in Urbana and schools (2010) in Mahomet. These budget shortfalls, in turn, reduced buyer interest in some of the new developments as they reacted with concerns about crowded schools, inadequate parks and slow fire response times.

During the 2012 election for the County board, several candidates campaigned on a platform of “development covering real costs.”

The incumbent board favored rapid growth and resisted any approaches that might discourage developers. Many voices across the community argued that taxing developers would simply drive developers to other communities, but by then many other communities across the state already had passed similar legislation. The concept of development cost recovery struck a responsive cord with the voters. This was, after all, not an increased tax on current property owners, but an approach for new developments to “pay their real costs.”



Those who campaigned for real costs recovery for development in this 2012 election were successful and, once in office they quickly formed a coalition with incumbent members and carried through with their campaign promises. Similar stories occurred during elections for the Champaign City council in 2013 and the Mahomet village board in 2015.

New County legislation required that all developments include a contribution for schools, parks and fire stations as part of the development. These contributions could be either land donations or cash in lieu of land donations. In addition, developers had to pay a cost recovery fee based on the type of development. The cost recovery fee soon resulted in higher density developments – with a tendency for mixed-use and multiple occupancy units. Some residents

suggested that this new legislation discouraged one of the chain superstores from locating in the rapidly developing corridor between Champaign and Mahomet - but several national studies showed that the economic impacts of these superstores were neutral or negative on the local tax base and that job losses at closing stores offset the job gains they offer.

Parks and Recreation: These new land and cash contributions inspired a strong response from the County Forest Preserve District, which had previously focused primarily on maintaining existing properties. The County population growth over the last few decades had created pent-up demands for more and varied recreational opportunities, such as stream corridors for canoeing and fishing, new and longer trails for biking and hiking, and an increase in natural areas for both hunting and wildlife preservation.

By 2014, the Forest Preserve District had developed, with broad community input, a priority acquisition plan. New commercial and residential developments in the County were making stream corridor acquisitions possible through the land and cash donations. Bike trails along selected stream corridors provided a rural outlet for the fast growing community of biking enthusiasts, and by 2018 the County was known for an impressive bikeway network that connected across urban areas to the surrounding countryside.

In the future, the parks acquisition plan calls for restoration of over 200 miles of stream corridors, which will provide improved habitat for aquatic and terrestrial species, improved hunting and fishing in the region, and more extensive trails for hikers. Plans also call for prairie restoration in selected areas, extensive wetland renewals in urban corridors and even rural view sheds along selected moraines.

Schools: Equity in education was a growing theme during the 2000-2010 decade, and new suburban developments drawing disproportionate school resource investments resulted in growing inequities between old and new neighborhoods. While Champaign and Urbana schools struggled to provide quality education with a changing school population, Mahomet, Tolono and St. Joseph struggled to keep up with demands for new facilities. And new challenges with increasing numbers of non-English speaking immigrants raised costs in County school systems. During this timeframe (2012-2016) the State's Education Options initiative helped to address the differing education needs of students, providing supplemental teachers to help with language barriers. At this same time, the infusion of new resources from the County and city cost recovery legislation brought renewed energy and educational success to school districts across the County. Wisely, local school districts spread their infusion of "development" resources across their school system, so quality improved in all schools, not just those aligned with newly developed areas. In 2019, two Champaign County schools won national awards for excellence, and the number of graduates from County schools receiving national recognitions steadily climbed.

Population Growth and Employment: Altogether, the population rose from about 180,000 in the 2000 census to just fewer than 195,000 in the 2010 census. In addition to high-value jobs from University of Illinois spin-off firms, strong economic growth in 2005-08 job offerings, even for unskilled jobs, greatly exceeded job applicants. This unusual situation drew national

attention, and a large influx of job seekers, many Hispanic. By 2015, the generally low unemployment rate had increased, and there were more job seekers than unfilled jobs. But by then, new ecological restoration and extensive growth in recreation facilities helped create jobs to complement those in the service, manufacturing, retail and health care sectors.

Planning Initiatives: In the first decade of 2000, the County communities continued to welcome most development, whether it was an extension of urbanized area or isolated developments in rural areas. Some planning crises did occur with retail – which wastefully built and abandoned large facilities and parking lots at a very high rate and tended to stimulate surrounding development in areas that quickly shifted from desirable to less desirable. In such cases, the communities seldom saw sufficient tax recovery from real estate and sales tax to justify the increases in services to these areas.

Isolated developments in rural areas increased in areas near forest preserves, along interstate exits, and sometimes wherever a farmer was willing to convert a piece of land. But these developments presented numerous problems such as fire protection services, pressures on farmers to convert lands, and tensions between farming and non-farm neighbors. Also, in some cases, septic systems failed. So, in 2010, Champaign County passed an ordinance requiring approval for land conversions under 40 acres.



After the cost recovery legislation in 2013, the entire nature of development shifted. Far fewer developments involved low-density housing on winding roads ending in cul-de-sacs, because these represented very high-cost recovery approaches to development. Instead, developers favored multi-unit structures. For those developers who considered rebuilding within already urbanized but declining areas, development fees were waived and incentive packages offered. Low impact development principles were applied County-wide to protect and incorporate natural systems as design elements and decentralize stormwater management because it saved developers money by reducing impervious surfaces.

Agriculture: After the 2012 land set-aside legislation, a new breed of planner/realtors became active in the County, and they worked closely with farmers to ensure that the best land, most efficient land location and access arrangements stayed in

agricultural use. By then, land conversion from sprawl and scattered developments had greatly declined, and conservation easements were being created to avoid problems with scattered development around parks.

Productivity has remained high for grain production, except with the failure of the 2009 corn crop due to double attacks of the South American green beetle and the Asian red fungus. Despite significant acreages being converted to parks, grain production rates have stayed high. Initially, many farmers complained about unwelcome visitors and predicted drainage problems with the new stream corridor parks, but most farmers learned that drainage remained good as long as they maintained their tile systems. So far, there have been few reports of crop damage from wildlife or human visitors.

Scenario 5: View from 1990: Impacts of the 1965 Greenway Plan

The Planning Debate: For years after World War II, many voices in the community argued against any sort of consolidated effort or plan for the County and the cities of Champaign and Urbana. For the first half of the 20th Century, growth had been moderate, both in terms of population numbers and extent of land impacted by urbanization. The local business community thought growth was important – and favored planning if it might stimulate growth and reduce flooding damage. However, other voices in the business community thought that planning would impose rules that limit growth.



Most businesses were still located in the downtown areas, although there were early signs of business decline in central districts and automobiles had clearly become the dominant form of transportation, driving expansion and development. The interstate system was still under construction, but a stretch of I-74 passed east-west across the County.

Agriculture was undergoing significant transformation, with farms growing larger, yields and inputs increasing,

and the number of farm families shrinking. But the farming community distrusted County-wide planning, fearing that urban-based planners, out of touch with challenges faced on the farm, would constrain their options.

So, why did the communities elect to pursue consolidated planning? Initially, a small group of planners, some from the University, and some concerned citizens from across the region developed compelling visions for the region, and successfully shared these visions through the local media, through government hearings, and eventually through a series of planning meetings that led up to the acceptance of a consolidated plan. But the “swing” from opposition to support was often traced back to a fishing trip in 1963, which included two of these planners and several prominent businessmen in the community. After that, many opposition voices changed to support, suggesting that a strong vision was exactly what the community needed to grow.

The plan originally was accepted by the Urbana City Council in 1964, but rejected by the Champaign Council and the County Board. Local media was split on the issue – some papers

thought the plan would have high costs with little or no long-term benefit, while others argued that a strong vision would shape the communities and draw national recognition and attention to the area. The plan continued to evolve after the Champaign city and County defeats and then passed, by small margins, in 1965.

The Plan: One key element of the plan was linked greenways, and, when referenced in later years, the plan was often called the 1965 Greenway Plan. In Champaign and Urbana, the Boneyard creek frequently flooded homes and businesses located within the floodplain. With the plan, older, declining structures in the floodplain were to be purchased and removed in a staged approach, and a broad greenway park created, with the creek widened and deepened in some locations based on recommendations from a hydrologic study.

The plan was expensive because of the need to acquire properties already developed and convert them to undeveloped parkland. But this greenway vision, communicated effectively through a series of drawings which were widely circulated through local (and regional) media, was compelling and drew many voices of support. With this plan, flooding would be eliminated, and the communities would share sinuous parks with biking and hiking trails that stretched through both towns and into the countryside. The greenway park, which would be well lit and patrolled, was designed to become a major attraction – featuring restaurants with open areas facing the greenway as it passed through commercial areas and frequent greenway events, such as community walks and races. A key compromise in the plan during the 1964 debates limited the greenway costs by reducing the number of buildings to be converted - but most of these buildings preserved in the plan were torn down in later years after the value of the plan became more apparent.

Other features of this proposed plan included a strong focus on the role of Willard Airport, with expanded and free parking, an effort to recruit additional airlines, and the development of a boulevard style “gateway” into Champaign. This aspect of the plan has helped Willard experience strong growth as the dominant airport in the region. Runways are now being expanded to accommodate larger planes.

A national study of parks and recreation areas revealed that the County was underserved in terms of recreation area per resident, so the plan also included the expansion of existing parks and the addition of several new parks. Lake of the Woods was extended north along the Sangamon, and the property associated with Homer Lake was extended east along the Salt Fork, while the University of Illinois’ Brownfield and Trelease Woods became anchors to the new Big Groove Woodland Restoration Area, and Tall Prairie parkland sites are still planned for east of Rantoul and north of Sadorus.

Finally, the plan created a “growth zone” around the cities of Champaign and Urbana, and the villages of Rantoul and Mahomet, and an innovative Community Land Cooperative. Specific zones were designated for urban growth, but the increase in land values within these zones was allocated to shareholders in the Community Land Cooperative and taxes were limited to pre-zone designation levels. Landowners within these zones also received 10 shares per acre in the Cooperative.

The corporation was designed for two primary purposes: (1) to raise funds for the greenway development, funneling some of the land appreciation resources into greenway enhancements, and (2) to provide a community-wide means to directly benefit from planned growth.

Some farmers outside the zone, but near urban areas, protested that this approach was unfair to them, although most did buy shares in the Cooperative. Other landowners inside the designated zone protested that this approach “diluted” their profits and an economic assessment, performed by the University of Illinois Agricultural Economics Department, recommended that free shares for landowners in the zones be increased to 17.4 shares per acre.

Development could still occur in non-designated areas but, when this happened, developers were required to pay significant recovery fees related to infrastructure, fire, school and other service demands.

Impacts of the Plan: The cities and the County dug deep into financing options to fulfill the initial plan. In the first years after the plan was enacted, some County board members and city council members argued that it would be best to declare success and abandon the expensive greenway effort. Four years passed before the cumulative greenway improvements reduced flooding, and another ten years passed before the greenways were sufficiently completed for local firms and restaurants to realign their designs and feature greenway dining access and views. But once the changes occurred, these businesses all experienced increased demand.

It also took about 10 years for development pressures to build sufficiently for the Community Development Cooperative to yield shareholder dividends, but these dividends have kept steadily rising in the years since 1977. Many of these dividends were reinvested in new community projects – such as the new greenway along Saline Branch in southwest Champaign. As a result of the unusual mix of business owners, academics and environmental activists, all shareholders and board members of the Cooperative, there continues to be an outpouring of innovative development concepts, some of which have been funded by the Cooperative.

Developments did occur, as planned, in the growth zones, and a study on the “costs per unit” of housing in Champaign County, versus 10 other counties across Illinois, showed the wisdom of the growth zone approach. However, pressure is now growing to update the plan because most of the growth opportunities in the original plan have been realized.



While it was tough to “stay the course” with this plan, over the years it has clearly yielded benefits to the County. Tax rates have increased, but at rates comparable to surrounding communities, and the bonds to finance the initial greenway improvements have been retired. And thanks to the Community Development Cooperative, the new greenway improvements have not required bonds. Farmland loss has been reduced over comparable surrounding counties and the quality of life for residents has improved. In 1987, Champaign/Urbana was rated among the top 15 communities in the nation for quality of life, despite the absence of waterfront and topographic relief.

Appendix A: Resolution Creating the Blue Ribbon Panel

MEMORANDUM

TO: Policy, Procedures, & Appointments Committee members

FROM: Tony Fabri *T. Fabri*

DATE: March 6, 2002

RE: Environmental assessment of Champaign County

The Champaign County Board is often asked to take action to help preserve our local environment. One recent example was the non-binding vote we took in opposition to a proposed mega-dairy in McLean County. However, when it comes to environmental concerns, the Board too often finds itself reacting to existing problems, rather than pro-actively steering clear of future problems. I believe this is not because of a lack of will, but because of a lack of information. How can we plan for the future if we don't have information about the present?

Accordingly, I would like to propose the creation of a "blue ribbon" panel, charged with the task of making a comprehensive assessment of the state of our local economy. This assessment can be used by County staff and Board members to make decisions today that will have a positive impact on our environment tomorrow (and beyond).

Here's how it could work:

Goals:

- Make a comprehensive assessment of the state of the environment.
- Identify important environmental trends.
- Define issues the County should address.
- Allow for policy to be developed "pro-actively" rather than merely in response to outside initiatives.

Why:

- No one has done this here before. Studies have been done on individual properties and watersheds, but as policy makers have few tools to help us get a comprehensive sense of the state of the local environment.
- We need to know what is going right, as well as what is going wrong, in Champaign County environmentally. Which programs and activities are improving the quality of life in our community and which ones are detracting from it?

Who:

- Five to seven locally eminent persons
- The panel should have an overall balance in terms of "partisan" makeup, (eg. Farm Bureau, Chamber of Commerce, Environmentalists, etc.). At least 3 members should possess technical or scientific credentials.
- Appointments to the panel will be made by the County Board Chair.

How:

- Rely on readily available information, (eg. Critical Trends Assessment Project, local planning efforts, State and local agency data, etc.).
- Hearings would be conducted, inviting input from the public, as well as from witnesses with expert knowledge in the field.
- Operate with minimal staff support, much like the Clock & Bell Tower Committee (unless it can be staffed some other way, using student interns or volunteers).
- Crystallize findings in final report.

I would like to see this proposal adopted by Policy and by the Board as a framework, so Chair Avery can begin contacting potential panelists as soon as possible. If you have any questions or comments, please let me know. I would appreciate both your input on – and your support of – this proposal.

RESOLUTION NO. 4559**RESOLUTION CREATING A CITIZEN PANEL TO
EVALUATE AND REPORT ON THE
STATE OF THE ENVIRONMENT IN CHAMPAIGN COUNTY**

WHEREAS, the quality of life of the residents of Champaign County is directly affected by the quality of the Environment in which we live; and

WHEREAS, the Champaign County Board regularly makes decisions that impact our Environment, ranging from questions of zoning and development to conservation funding and appointments to responsible boards and commissions; and

WHEREAS, the County Board currently receives no overall assessment of the State of the Environment for all of Champaign County; and

WHEREAS, such information would help County Board members make the best possible decisions to ensure good stewardship of our Environment.

NOW, THEREFORE, BE IT RESOLVED by the Champaign County Board, Champaign County, Illinois, as follows:

1. That an advisory panel be created, with the charge of producing a one-time report to the County Board on the State of the Champaign County Environment. Policy recommendations may be included in the report, if panel members identify areas where specific County Board action would be beneficial.
2. That the County Board Chair nominate seven (7) members to this panel, to be appointed with County Board advice and consent. The panelists shall represent a diversity of talents and areas of expertise; at least three (3) panelists having some professional experience or academic credentials in relevant fields.

PRESENTED, ADOPTED, APPROVED AND RECORDED this 21st. day of May, A.D. 2002.

SIGNED: Patricia A. Avery
Patricia A. Avery, Chair
Champaign County Board
Champaign County, Illinois

ATTEST: Mark Shelden
Mark Shelden, County Clerk &
Ex-Officio Clerk of the County Board

County Board of Champaign County, Illinois

Brookens Administrative Center
 1776 East Washington Street
 Urbana, Illinois 61802
 Phone (217)384-3772
 FAX (217)384-3896



Patricia A. Avery, Chair
 Michael Frerichs, Vice Chair

COUNTY CO-ADMINISTRATORS
 Debra Busey & Denny Inman

October 3, 2002

Call Richard Rayburn
 586-4888

Board Members

District 1

K. George Collings
 Mike Graham
 Lyle E. Shields

District 2

Patty Busboom
 Michael W. Frerichs
 Harold Hoveln

District 3

Joan Dykstra
 Steven P. Mitchell
 Scott Tapley

District 4

Gregg Knott
 W. Stephen Moser
 S. "Steve" O'Connor

District 5

Lloyd Carter, Jr.
 Lorraine Cowart
 LaShunda Hambrick

District 6

Patricia A. Avery
 Tony Fabri
 Deborah L. Feinen

District 7

Janet Anderson
 Paul Faraci
 Dave Johnson

District 8

Thomas Betz
 Ralph Langenheim
 Jennifer Putman

District 9

Steve Beckett
 Teresa L. Miles
 Barbara L. Wysocki

Committee Chairs

Budget & Finance

Barb Wysocki

County Facilities

Steve Beckett

Environment & Land Use

Ralph Langenheim

Highway & Transportation

Lorraine Cowart

Human Services

Teresa Miles

Justice & Public Safety

LaShunda Hambrick

Personnel & Public Officials

Jennifer Putman

Policy, Procedures & Appts.

Tom Betz

Dear Champaign County Resident,

From the zoning rules that regulate rural development, to the individuals appointed to oversee our forest preserves, decisions of the Champaign County Board often impact our natural environment. County Board members receive regular updates on the status of our budget, on the well-being of our youth, on the quality of County roads, etc. Amazingly, we receive no such report on the State of the Environment in Champaign County. The decisions we make that affect our environment are made in a virtual vacuum.

To correct this situation, the County Board authorized the creation of a "blue-ribbon" panel to study and report on the State of the Environment in Champaign County. I am writing to invite you to apply to serve as a member of this historic citizens' panel.

As this is a new creation for Champaign County, we have left panelists with a good deal of latitude in defining the role and methods of the panel itself. We expect the panel to produce a report advising the County Board on the current state of our county's natural environment, to identify trends Board members should be aware of, and to make any policy recommendations panelists believe appropriate. The panelists' individual and collective expertise should guide the panel in determining the best methods for achieving these general goals. With the right mix of panelists, this presents an exciting and unprecedented opportunity to advise local policy makers on a range of important issues affecting our environment.

Enclosed, please find further information regarding the citizens' panel, along with an appointment request form. Seven panelists will be selected to serve, and we are particularly looking for those with relevant professional or academic experience. In completing your application, please feel free to attach additional pages, either to expand on your answers, or to demonstrate relevant experience. **Applications should be returned no later than Wednesday, October 16, 2002** to the following office:

County Board Chair Patricia Avery
 1776 E. Washington
 Urbana, IL 61802

If you have any questions, please feel free to call me at home at 355-1693. I want to thank you for your past service to our community, and I encourage you to consider this unique opportunity to serve in a new and meaningful way.

All the best,

Tony Fabri

Tony Fabri
 Champaign County Board
 District Six

Champaign County Environmental Advisory Panel

Minutes of the meeting of January 15, 2003

7 p.m. in Meeting Room 1, Brookens Administrative Center

Members in Attendance: Hal Barnhart, Dwain Berggren, Jeff Courson, William Goran, Cynthia Hoyle, Gary Jackson, John McMahon, Marc Miller, Richard Rayburn, Ruth Wene

Others in Attendance: Patricia Avery, Tom Betz, Tony Fabri, Michael Frerichs

Call to Order at 7 p.m. by Tom Betz, acting facilitator.

Welcome and introduction of each panelist, followed by an opportunity for public participation. No members of the public were present.

Panelists discussed the **goals and expectations** of the newly formed panel with County Board members Avery, Fabri, and Betz. It is hoped that the panel can complete its work within a year's time, with a preliminary report in June.

Officers were selected to assist the panel in its work. Jeff Courson was nominated by Goran, with a second from Miller, to serve as Chair. Courson was elected Chair by unanimous ballot, and he took over the role of facilitator from Betz. Cynthia Hoyle was nominated to serve as Vice-Chair by Jackson, with a second from Miller. Hoyle was elected Vice-Chair by unanimous ballot. Panelists did not select any additional officers, reserving the right to do so at a later date, if the need arises. Berggren agreed to take minutes of the next panel meeting.

Panelists discussed **how best to organize the Panel's work**. Most expressed support for breaking into smaller committees or working groups. Miller suggested that each panelist create a list of available resources. It was agreed that such a list would help guide the panel in deciding how to divide the workload. Hoyle asked if she could receive a copy of the County's Comprehensive Plan and Zoning Ordinance, and Avery said those would be made available.

Next meeting will be on Monday, January 27.

Meeting adjourned at 8:15.

Respectfully submitted,

Tony Fabri

Appendix B: Resources (Speakers & Publications)

Water

Michael Hirschi, et. al. 50 Ways Farmers Can Protect Their Groundwater. University of Illinois Cooperative Extension Service: 1993

Michael Hirschi, et. al. 60 Ways Farmers Can Protect Their Surface Water. University of Illinois Cooperative Extension Service: 1997.

Illinois EPA Bureau of Water. "Illinois 2002 Draft Section 303d List" June, 2002.

Illinois EPA Bureau of Water. "Illinois Water Quality Report 2002: Clean Water Act, Section 305b Report." July, 2002.

Holly Korab. "Dredging Up the Past." University of Illinois LAS News. Spring 2003.

Irene Miles, et. al. Septic Systems: A Homeowner's Guide. University of Illinois Cooperative Extension Service: 2001.

Dr. Sam Panno. "Environmental Issues Related to Groundwater and Surface Water in Champaign County." April, 2003.

Leslie Zucker, et. al. Agricultural Drainage: Water Quality Impact and Subsurface Drainage Studies in the Midwest. Ohio State University Extension: 1998.

Soils/Agriculture:

Illinois Agricultural Statistics 2002 Annual Summary

Illinois Farm Bureau Farm and Food Facts, 2000, 2002, 2003

Champaign County Soil Survey

Leon Wendte PowerPoint slides

Illinois Urban Manual NPDES Phase II NRCS

Champaign Co. 60th Annual Report, 1-31-03

Farm Bill 2002 Conservation Practices and Program for Your Farm, by the Wildlife Management Institute

Champaign Co. Buffer Strip Map

Illinois Ag Statistics---2002

Farm and Food Facts---2003, 2002, 2000, Illinois Farm Bureau

1997 Census of Agriculture

Champaign County SWCD

www.farmlandinfo.org II Land Use Clearinghouse-Champaign County

Planning

Zoning Ordinances, McLean, McHenry, DeKalb, Sangamon Counties
Kane Co. Illinois Comprehensive Plan
Clyde Forrest notes from presentation on planning and zoning to Champaign Co. Farm Bureau Land Use Committee, Nov. 2001
CZR materials, Planning & Zoning Dept.
Champaign Co. landowner maps, various years
Newcomers to Old Towns: Suburbanization of the Heartland, by Sonya Salamon
Illinois Growth Task Force Final Report
CCRPC ETJ Study
Under the Blade: the Conversion of Agricultural Landscapes, ed. by Richard Olson and Thomas Lyson, Westview Press, 1999

Living Resources

Headwaters Area Assessment, vol. 3
Holding Our Ground: Protecting America's Farms and Farmland, Tom Daniels and Deborah Bowers, Island Press 1997
Development at the Fringe & Beyond: Impacts on Agricultural and Rural Land, USDA Ag. Econ Report #803
Saving American Farmland: What Works, American Farmland Trust, 1997
www.farmlandinfo.org –Champaign Co.
www.farmland.org –American Farmland Trust
www.aces.uiuc.edu –agroecology/sustainable agriculture program
Critical Trends in Illinois Ecosystems IDNR 2001
Headwaters Area Assessment, IDNR, 5 vols.

All Speakers by Topic

Speakers were invited to address subcommittees as well the panel as a whole. The following list is arranged by topic that the speaker addressed:

Water

Dr. Richard Cooke – U of I Agricultural Engineering "Subsurface Drainage."
Prof. Eric Freyfogle - UIUC College of Law, "Illinois and National Water Law."
Mr. Brent O'Neill – Engineering Manager, Illinois-American Water Company, "Local Use of Water from the Mahomet Aquifer."

Dr. Sam Panno – ISGS, "Groundwater and Surface Water Issues."

Dr. Michael Hirschi – U of I Agricultural Engineering, Extension, "Agriculture, Septic Tanks, Water Quality Issues."

Dr. Sharyl Walker – SWCD, "State of the Waters of Champaign County," observed at USGS presentation.

Air Quality

Robert Stortzum and Darwin Fields, Illinois EPA (telephone conversation), "Air Quality".

Land Use and Comprehensive Planning

Dr. Brian Deal - Research Assistant Professor, Director of LEAM Modeling Laboratory, UIUC, "LEAM."

Frank DiNovo, Planning and Zoning Director, Champaign County Regional Planning Commission (RPC), "Regional Planning in Champaign County"

Prof. Clyde Forrest - UIUC Dept of Urban and Regional Planning, retired, "Land Use, Planning and Zoning"

Elisabeth Jenicek - U.S Army Corps of Engineers Construction Engineering Research Laboratory, "Sustainability Indicators" and "SIRRA (Sustainable Installations Regional Resource Assessment)".

Rob Olshansky - Dept. of Urban and Regional Planning, "Comprehensive Planning".

Jan Woodhouse - PhD Candidate at Northern Illinois University, Department of Adult and Higher Education, "Adult Education in Local Environmental Initiatives for Cultural and Ecological Sustainability."

Soil Resources Issues

Leon Wendte - District Conservationist, USDA NRCS, "Local Soil Conservation Activities".

Michelle Wander - UIUC College of ACES, "Soil Health and Climate Change."

Open Space/Habitat

Robert Gray – Executive Director, Champaign County Forest Preserve District, "Planning for Parks and Open Space."

Dr. Craig Miller - INHS, outdoor resources, open space, recreation. Spoke at a community forum sponsored by Rep. Naomi Jakobsson at Anita Purves Nature Center.

Green Building

US Green Building Council, State and Local Government Toolkit, 2002.

http://www.usgbc.org/Resources/local_government.asp

Natural Step

The Natural Step framework seems to be the easiest mental framework to help teams of people understand and apply the basic sustainability principles. <http://www.naturalstep.org/>

Sarah James and Torbjörn Lahti, 2004, *The Natural Step for Communities: How Cities and Towns can Change to Sustainable Practices*, Gabriola Island, BC: New Society Publishers. www.newsociety.com

Robèrt, Karl-Henrik. 2002. *The Natural Step Story: Seeding a Quiet Revolution*. Gabriola Island, BC: New Society Publishers. www.newsociety.com.

Nattrass, Brian and Mary Altomare. 2002. *Dancing with the Tiger: Learning Sustainability Step by Natural Step*. Gabriola Island, BC: New Society Publishers. www.newsociety.com.

Nattrass, Brian and Mary Altomare. 1999. *The Natural Step for Business: Wealth, Ecology and the Evolutionary Corporation*. Gabriola Island, BC: New Society Publishers. www.newsociety.com.

Indicators

The panel discussed which “indicators” we could use to track important Champaign County environmental trends, and decided this was beyond the scope of what we could accomplish. An indicator is a tool that helps show how far the project is from achieving your goals and whether it is headed in the right direction. Choosing the right indicator is essential for effectively evaluating progress. The right indicator should:

1. Be relevant to the project.
2. Be easily understandable to everyone interested in your project.
3. Be easily measured.
4. Provide reliable information

Indicator References

Jenicek, Elisabeth, *Developing a Set of Sustainability Indicators for Champaign County, Illinois*, Report for ARCH/LA 563, 2004. Available on our website at <http://inquiry.uiuc.edu/cil/documents.php?cilid=285&folderid=1787> or look in the Documents Center at <http://inquiry.uiuc.edu/cil/out.php?cilid=285>.

Tool Kit for State and Local Government, U.S. Green Building Council

LEAM – Landscape Evolution & Impact Assessment Model

Green Community Assistance Kit (EPA): <http://www.epa.gov/greenkit/> and Indicators: <http://www.epa.gov/greenkit/indicator.htm>

Green Illinois (EPA) <http://www.epa.state.il.us/green-illinois/>

Excellent example of a report: Orange County NC

<http://www.co.orange.nc.us/shaping/sustrept.pdf> For an initial report, look on the main webpage at <http://www.co.orange.nc.us> Go to Volunteer Opportunities, and scroll down to “Commission for the Environment” then select “1st Annual State of the Environment Report”

Local Government Guide to the Internet: Community Indicator Projects:

http://www.rural.org/lgg/Ch15_CommIndic.html

Other Alternative Indicators Projects

Sustainable Seattle <http://www.sustainableseattle.org/>

Hennepin County Minnesota:

<http://www.co.hennepin.mn.us/opd/reports/categories.htm#indicatorsforesight>

Oregon Progress Board :

<http://www.econ.state.or.us/opb/>

and

<http://www.econ.state.or.us/opb/links/sustain.htm>

(Master’s Thesis Developing a Set of Sustainability Indices for the State of Oregon, August 2002)

Fraser Basin Council, Vancouver BC http://www.fraserbasin.bc.ca/nf_default.html

Willapa Alliance, Oregon <http://www.tidepool.org/wiscweb/willapa.indicators.%2798.html>

Redefining Progress' list of community indicators projects

<http://www.rprogress.org/projects/indicators/>

International Institute for Sustainable Development: Measurement and indicators:

<http://www.iisd.org/measure/default.htm>

See discussion of Measurement and Indicators at:

<http://www.iisd.org/measure/faqs.htm>

and

<http://www.iisd.org/measure/faqcriteria.htm>

(Integrated Environmental Assessment and Reporting manual at:

http://www.iisd.org/pdf/geo_manual_2.pdf)

Champaign County Board Environmental Advisory Panel Questionnaire

Background

In the Autumn of 2002, the Champaign County Board requested volunteers from interested county citizens to examine environmental issues for the county and advise the Board on emerging concerns and potential courses of action. Several of us responded to this invitation and were selected by the Board. This citizen panel has been meeting regularly since January 2003, has heard from numerous local experts, and provided an interim report to the County Board in July 2003. Now, before the committee provides a final report to the Board, we are seeking input from residents throughout the County.

We are seeking this input through two different means. First, we are holding a series of citizen input sessions in locations across the county during the winter/spring of 2004. Second, we are asking anyone interested, whether or not they are able to attend any of these scheduled sessions, to respond to a questionnaire. This questionnaire, designed to identify the most important environmental issues for county citizens, will only take a few minutes to complete.

Panel Members

Hal Barnhart	Gary Jackson
Dwain Berggren	Marc Miller
Jeff Courson	Richard Rayburn
Bill Goran	Annette Stumpf
Cynthia Hoyle	Ruth Wene

Questionnaire

Please consider each of the following issues, then, for each, rate each issue as very important (VI), important (I), or not important (NI). We also welcome additional narrative responses for any of the issues we've identified on this list, or for any issue that we might have omitted. You can make comments in the comment section of this table, or submit additional comments in any form.

Thank you for taking the time to respond to this questionnaire.

Please mail this questionnaire to:

Berggren/Environmental Panel
108 W. Holmes, Urbana IL 61801

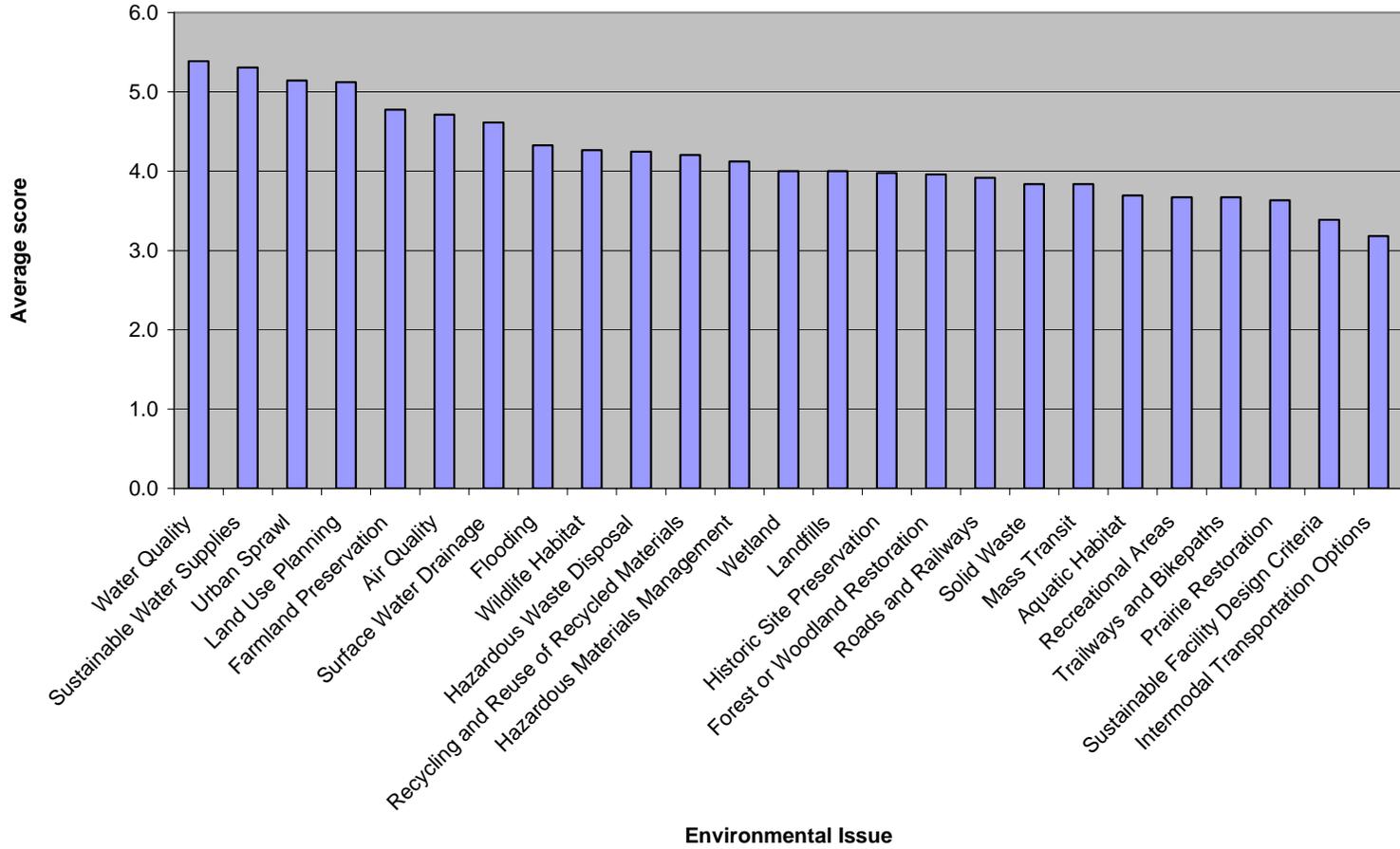
Please visit our website at: <http://www.inquiry.uiuc.edu/cil2.SCC.cil>

Champaign County Board Environmental Advisory Panel Questionnaire

#	Issues	VI	I	NI	Comments
1	Sustainable water supplies (including groundwater)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2	Water quality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3	Surface water drainage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4	Flooding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5	Aquatic Habitat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6	Farmland preservation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
7	Wildlife habitat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
8	Recreational areas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
9	Prairie restoration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
10	Wetlands	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
11	Forest or woodland restoration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
12	Urban Sprawl	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
13	Land Use Planning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
14	Air quality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
15	Hazardous waste disposal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
16	Hazardous materials management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
17	Recycling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
18	Solid Waste	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
19	Landfills	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
20	Mass Transit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
21	Trailways and bikepaths	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22	Roads and railways	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
23	Intermodal Transportation Options	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
24	Sustainable facility design criteria	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
25	Historic site preservation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Panel Survey Results

Champaign County Environmental Issues Sorted By Importance



Blue Ribbon Panel Survey

The Blue Ribbon Panel survey was distributed at all four public input meetings, via several listservs, on the website, and to those who requested a copy. An electronic questionnaire was also available on the website, but it appears it was too difficult for most people to complete. Forty-nine surveys were collected and the scores were tallied on a spreadsheet ranked from the most important issue to the least important issue. This is not a representative sample of Champaign County, but it is an indication of the topic of most interest to those who responded to the survey. Several residents mailed written statements explaining their viewpoints in more detail, and all these ideas were considered by panel members during our discussions.

Detailed results of the Blue Ribbon Panel questionnaire and the UI student phone survey are found in Appendix C.

It is interesting to note that respondents to both surveys ranked water quality to be the most important issue.

University of Illinois Student Telephone Survey Report

on Environmental Issues

Spring 2004

For:

The Champaign County Blue Ribbon Environmental Panel

By:

Pam Leiter, Jane Li, Natasha Silich

**As a class project for NRES 440, Public Participation in
Resource Management**

Introduction

Statement of Purpose

To aid the Champaign County Blue Ribbon Environmental Panel in its effort to collect public opinion about current and potential environmental issues in Champaign County.

Literature Review

Methods for designing and conducting phone surveys vary widely - a review of methods used by 83 leading marketing research firms in over 10 counties “shows enormous differences in the ways they design and conduct telephone interviews” (Taylor, 1997). However, the question of when to use a phone survey is easier to answer. Bourque & Fielder (2003) suggest that the best time to use phone interviews is when the target population has access to phones (some populations do not own phones), the questions are amenable to a phone interview, and the desired data can not be gathered by other methods.

Phone surveys have many advantages and disadvantages. The advantages are (1) lists of numbers already exist, (2) a large geographic area can be covered, (3) most (97.25%) of households have telephones, (4) response rates are higher than for mail surveys, (5) respondents do not have to be particularly literate, (6) the researcher can control who responds (i.e. the researcher can ask whether the respondent is over 18 years old) (Bourque & Fielder, 2003), and (7) they are a relatively fast way to get data (Frey, 1989). The disadvantages are (1) phone surveys are twice as expensive as mail surveys (if using paid interviewers), (2) greater numbers of staff are needed, (3) highly trained staff are needed, (4) some numbers are not listed, (5) some households have more than one phone number, and (6) certain populations have no phone (Bourque & Fielder, 2003; Van Houten, 1987).

When designing and conducting the survey, it is important to keep several things in mind. First, the introduction should be as short as possible, and it is important to establish the credibility of the interviewer as soon as possible (Lavrakas, 1987). This is because refusals to participate usually occur within the first 30-60 seconds of contact, and getting someone’s full cooperation is easier once he or she begins the questionnaire (Lavrakas, 1987). Second, 20-30 minute interviews are usually not a problem (Van Houten, 1987), though this number may be decreasing as people get more busy. Third, interviewers are key to increasing the motivation of respondents to participate (Bourque & Fielder, 2003). Enthusiasm and professionalism on the part of the interviewer can go a long way in getting people to participate. Finally, evenings and weekend afternoons are the best times to reach most potential respondents (Lavrakas, 1987).

University of Illinois Telephone Survey

Hello! I am a student at the University of Illinois conducting a survey of Champaign County residents. This is a part of a class project that I am involved in. Would you be willing to seven questions about issues in Champaign County?

(If they say yes): Thank you! Please pick only one answer for the following questions. If you need me to clarify any of the choices, please ask *(clarifications are in italics)*.

(If they say no): Thank you for your time.

Which of these four water-related issues do you feel is most important for Champaign County to address?

1. Sustainable water supplies *(like Mahomet aquifer)*
2. Water quality *(like sealing wells, controlling water pollution, etc)*
3. Drainage *(flooding issues, adequate drainage for farmers)*
4. Quality habitat for aquatic animals *(making sure streams and lakes have good habitat for fish, frogs etc.)*

Which of these four land-use related issues do you feel is most important for Champaign County to address?

1. Development and maintenance of wildlife habitat *(restoring and preserving prairie, forests, wetlands)*
2. Development and maintenance of recreational areas *(any type of outdoor recreation)*
3. Controlling urban sprawl
4. Preserving farmland *(controlling erosion, limiting conversion of farmland to other uses)*

Which of these four waste management related issues do you feel is most important for Champaign County to address?

1. Encouraging recycling programs
2. Managing hazardous waste
3. Managing solid waste *(landfill)*
4. Controlling illegal dumping

Would you like to see more opportunities for alternate transportation in Champaign County (like bike paths and public transportation)?

1. Yes
2. No

Are there any other issues that I haven't mentioned that you feel are important for the county to address?

How long have you lived in Champaign county?

What is your occupation?

Thank you for taking our survey.

Methods

The Survey

The Panel's existing survey was reformatted and shortened in order to make it conducive to a phone interview format (See Appendix A). The revised survey used a 7-point scale (Not Important to Extremely Important), and some of the issues were reworded to provide clarity.

To collect phone numbers, the Champaign County phone book was used. For each letter in the alphabet, four names were randomly picked, giving an initial total of 100 numbers in the sample. After all 100 numbers had been called, it was determined that, in order to get a sufficient number of respondents, more numbers needed to be called. The Champaign/Savoy/Urbana/St. Joseph phone book was used for this second sampling. Thirty numbers were randomly chosen from this phone book, and an attempt was made to get equal representation from each city.

Results and Discussion

Twenty-five percent of those we called participated in the survey, 31% refused to participate, and 44% did not answer their phone (Figure 1). The respondents who volunteered reasons for refusing to participate gave answers such as "they were busy," "had someone waiting," or "were entertaining guests." Only one person stopped participating once they started the survey.

The top five priorities for residents of Champaign County were identified as: (1) water quality, (2) managing hazardous waste, (3) sustainable water supplies, (4) managing solid waste, and (5) preserving farmland. People were least concerned about (1) quality aquatic habitats, (2) environmentally-friendly building designs, and (3) urban sprawl (Figure 2).

Because this was designed to be a mini-survey, meant to serve as a complement to the written surveys collected by the Panel, these results should be interpreted with care. The small sample size makes it difficult to statistically analyze the data, so it is not clear whether the differences between the mean response rates are statistically significant. Therefore, it is uncertain whether the results may have been slightly different if a greater number of phone surveys had been conducted. The small sample size may also mean that the data may not be representative of the entire population of County residents. These limitations in mind, it is hoped that, in conjunction with the written surveys collected by the Panel, these results will be able to inform the decisions of the Champaign County Board.

Future Survey Recommendations

Several recommendations may make future survey efforts by the Panel more successful. First, it is our recommendation that the Panel make the internet-based survey more user-friendly and easier to navigate to from the main website. A user-friendly survey might have all the

responses to questions on one page, rather than separate pages. Second, the Panel could network with University professors to see if they can work with future groups of students on similar projects.

References

- Bourque, L.B., Fielder, E.P. (2003). *How to Conduct Telephone Surveys* (2nd ed.). Newbury Park, CA: SAGE Publications, Inc.
- Frey, J.H. (1989). *Survey Research by Telephone* (2nd ed.). Newbury Park, CA: SAGE Publications, Inc.
- Lavrakas, P.J. (1987). Telephone Survey Methods: Sampling, Selection, and Supervision. In L. Bickman (Series Ed.), *Applied Social Research Methods Series: Vol. 7*. Newbury Park, CA: SAGE Publications, Inc.
- Taylor, H. (1997). The Very Different Methods Used to Conduct Telephone Surveys of the Public. *Journal of the Market Research Society*, 39 (3), 421-432.
- Van Houten, T. (1987). How to Conduct a Citizen Survey. *American Planning Association: Planning Advisory Service*, vol. 478.

