2009

Growing Greener in Southwest Michigan

Community Needs Analysis Mail Survey



Prepared for

Southwest Michigan Planning Commission www.swmpc.org/growgreen.asp

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EXECUTIVE SUMMARY

Growing Greener in Southwest Michigan – Community Needs Analysis

Southwest Michigan is extremely rich in inland and coastal water resources and agricultural and natural land resources. However, development pressure has arrived in southwest Michigan, often resulting in the loss and fragmentation of these resources. Two recent studies¹ indicate pristine natural resources and specialty agriculture (fruits, vegetables, vineyards) are particularly at risk in the region. A study conducted by MSU shows increasing development pressure to be expected in southwest Michigan, especially along the 55 miles of SW Michigan's Lake Michigan coast. The good news is that there is still time to change the way land is developed in southwest Michigan so that important water, natural and cultural resources are protected.

Green infrastructure should be a major consideration in land use planning, growth, and economic development decisions because sustained prosperity depends on the natural resource infrastructure. Features that are vital to green infrastructure include lakes, rivers, wetlands, cold water streams, floodplains, dunes, forests, Green Infrastructure is an interconnected network of green and open space that conserves natural ecosystems and functions and provides associated benefits to humans.

endangered/threatened species, greenways, conservation/open space developments, critical farmlands, parklands, privately protected lands, and trails. By identifying and recognizing the region's green infrastructure network, development and conservation efforts can be planned to ensure priority resources are strategically protected and connected. This shared vision provides a framework so that conservation and development efforts of organizations and municipalities can be better coordinated.

Developing a Green Infrastructure Vision

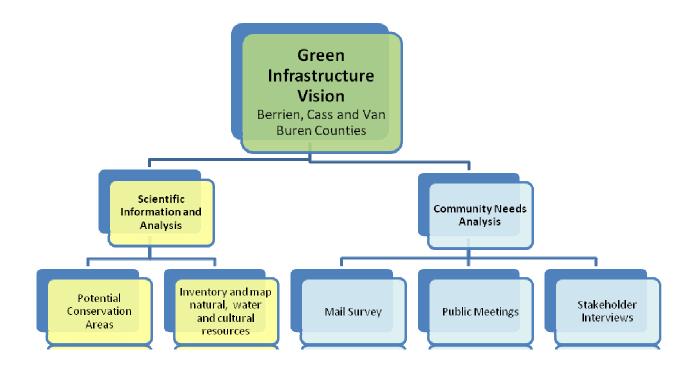
The Southwest Michigan Planning Commission (SWMPC) is leading an effort to develop a vision of green infrastructure in Berrien, Cass and Van Buren Counties. SWMPC contracted with the Michigan Natural Features inventory to conduct a scientific approach to identify and assess potential conservation areas and rank them based on their natural resource values. Potential conservation areas are defined as places on the landscape dominated by native vegetation that have various levels of potential for harboring high quality natural areas and unique natural features. In addition these areas may provide critical ecological services such as maintaining water quality and quantity, soil development and stabilization, pollination of cropland, wildlife travel corridors, stopover sites for migratory birds, sources of genetic diversity, and floodwater retention. The of this modeling be found results MNFI effort can at www.swmpc.org/growgreen.asp.

To develop a common vision, it is also important to understand what natural and cultural resources are valued by the community. The community needs analysis consisted

¹ MSU Land Transformation Model (funded by PAL) and St. Joseph River Watershed Project – landscape analysis model

of a mail survey (results in this report), stakeholder interviews and a series of public meetings.

These scientific and community assessments will be used to identify priority areas, foster public support, and move toward implementation of a green infrastructure vision in Berrien, Cass and Van Buren Counties. Over the past few years, this effort has gained interest from municipalities, non-profits and other stakeholders who are interested in protecting the water and natural resources as the region continues to grow and prosper. A current list of partners can be found at www.swmpc.org/growgreen.asp.



Community Needs Analysis – Mail Survey

The Community Needs Analysis was conducted to:

- 1. Increase awareness of Green Infrastructure and build support for implementation
- 2. Identify gaps from computer analysis and gather on the ground local knowledge
- 3. Recognize human values for prioritization of areas/elements
- 4. Incorporate agencies/organizations and municipal plans into the vision

The primary component of the Community Needs Analysis was a three county household mail survey. The survey was conducted to gain a better understanding of local residents' perspective on conservation of water and land resources and recreation in their counties and communities. Dr. Christine Vogt and her research team at Michigan State University's Department of Community, Agriculture, Recreation and Resources Studies led the mail survey effort in collaboration with the staff of SWMPC and the National Park System Rivers, Trails and Conservation Assistance Program (NPS RTCA).

In June 2008, an eight-page survey was mailed to a random selection of 1,000 households in Berrien, Cass and Van Buren Counties. The households included year-round and seasonal residents from the 2007 winter tax bill list acquired from the County Equalization Departments. An overall response rate of 30% was achieved with 859 completed, usable questionnaires. An additional non-response survey with selected households was also conducted. Since sample sizes were the same across the three counties with different numbers of households, total data has been weighted to strengthen Berrien county's results and weaken Cass and Van Buren counties' results in the regional totals.

Significant Findings

Most respondents held deep roots in the community. Almost nine out of ten were full time residents. Half of the respondents lived in their current home over 35 years. Almost half lived in the area as a child and another 21 percent remember visiting the area as a youth. Only one-third of the respondents had not grown up or visited the area as a youth. Respondents were primarily White, but Blacks, American Indians and Hispanics participated as well.

Almost nine out of ten homeowners could list a public green or open space by their home with most answers truly being a public place. Over three-quarters indicated they visit or use this public place near their home. Respondents also gave high marks (87% agreed) to the availability of green and open spaces and water resources in their community enhancing their quality of life.

Homeowners in the Berrien, Cass and Van Buren region place equal and strong importance on natural resources in urban (highly populated areas) and rural (low populated areas). Specifically, nine out of ten agreed or strongly agreed with the importance of natural resources in the region. Conservation of publicly owned or managed resources garnered greater importance than conservation on privately owned resources.

Water and air quality were rated as the most important benefits of green and open spaces. Other highly rated benefits included providing for healthy living and quality of life (anthropocentric) and providing habitat for a high quality or diversity of plant and animal species (biocentric).

Support for conservation efforts and programs were strongly supported. Locally produced food and farmer's markets for the sale of agricultural products were most highly supported. Recycling was rated 3rd in support. Next, water resources and its associated landscapes such as Lake Michigan, sand dunes, inland lakes, and rivers were supported at high levels.

The public's perception of quality and quantity changes in green and open spaces and water resources were generally positive. For water resources, over half felt the quality and quantity of water resources stayed the same over the past five years. Onequarter of homeowners felt water quality had decreased, but almost twenty percent felt water quality had improved. For green and open spaces, almost half felt the quality and quantity of land-based resources stayed the same. Slightly more than one-third felt the quantity of green and open spaces had decreased in the past five years.

Four out of ten homeowners saw the lost opportunity that conservation and smarter land use planning should have taken place years ago, whereas a similar number said now is a good time to start. Less than ten percent did not see a need for regional land use planning.

Personal or household financial support for greater conservation efforts was at the over \$25 a year level. Less than 20 percent were unwilling to pay anything. Homeowners were most supportive of additional funding from donations to nonprofits and park user fees.

Homeowners preferred that many levels of government (local, county) and interested groups (land conservancies, nonprofits, citizen volunteer groups) should be involved in conservation planning and efforts. Eight of ten respondents agreed all these mentioned groups should be involved in conservation and work together. One-third agreed that current levels of community and public participation in conservation was adequate.

Funding for Growing Greener in Southwest Michigan

The Southwest Michigan Planning Commission (SWMPC) was awarded grant funds from the Michigan State University Land Policy Program, The Conservation Fund's Kodak Greenways Grant and the Heart of Cook Foundation to support the Growing Greener initiative. SWMPC committed substantial resources to this initiative from funds that originate from county annual dues and federal and state transportation funding. SWMPC receives technical assistance from the NPS RTCA Program. The mail survey was funded with a grant from Michigan's Department of Environmental Quality – Coastal Zone Management (CZM) program. Specifically, CZM grant funds were awarded to SWMPC who then contracted with Dr. Christine Vogt, faculty in the Department of Community, Agriculture, Recreation and Resources Studies, Michigan State University.

Prepared by Dr. Christine Vogt, Michigan State University

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INTRODUCTION

Southwest Michigan is extremely rich in inland and coastal water resources and agricultural and natural land resources. Consistent development pressure has arrived in southwest Michigan resulting in the fragmentation of these resources. Two recent studies² indicate pristine natural resources and specialty agriculture (fruits, vegetables, vineyards) are particularly at risk in the region. The MSU Land Transformation model shows increasing development pressure to be expected, especially along the 55 miles of SW Michigan's Lake Michigan coast. Without comprehensive inventorying and ranking of critical resource areas, development and conservation efforts will not provide an interconnected system of green infrastructure. However, with a common vision, priority resources can be strategically protected and connected and the efforts of organizations and municipalities with common goals can be coordinated.

The Southwest Michigan Planning Commission (SWMPC) is currently facilitating a Green Infrastructure initiative in Berrien, Cass and Van Buren Counties called Growing Greener in SW Michigan. This program is in its infancy, but over the past three years support from local, county, state and federal government, non-profits and private industry has been growing quickly with much enthusiasm. Many communities and government jurisdictions have signed resolutions of support for the Growing Greener Program. The resolutions express the communities' desire to incorporate the program's findings into local plans and ordinances. Toward that end, the Growing Greener in Southwest Michigan initiative will strive to have Green Infrastructure be a major consideration in land use planning, growth, and economic development decisions because sustained prosperity in southwest Michigan depends on the natural resource infrastructure.

The overall Growing Greener in Southwest Michigan Goal is to develop a regional green infrastructure program in southwest Michigan which provides a shared, multi-jurisdictional vision and a framework for conservation, land management, and growth and development decisions in SW Michigan. Specifically this project will:

- utilize a "collaborative approach" involving as many citizens and stakeholders as possible.
- educate and build support for a green infrastructure vision for southwest Michigan.
- ensure that a verifiable and defendable public input process is used in the development of a green infrastructure vision for southwest Michigan.
- create a green infrastructure vision that is based on a scientific and community based approach.
- provide a green infrastructure vision (maps and information) that can be used in local, regional and state plans and policies.

Through the public input process (mail survey, stakeholder interviews, public meetings), this project will foster increased awareness of the connection between Green

² MSU Land Transformation Model (funded by PAL) and St. Joseph River Watershed Project – landscape analysis model

Infrastructure and prosperity (recreation, tourism, economic, and health benefits). Finally, this project will result in new and enhanced plans and policies leading to more sound development and conservation decisions by municipalities, land owners, and other partners. Sound development and conservation decisions will revitalize existing cities and ensure improved development patterns in rural areas. Specifically, the Green Infrastructure approach will be used to connect environmental, social, and economic health across urban, suburban, and rural settings. Green Infrastructure planning will serve as a tool to inform land use decisions and build consensus among diverse interests to effectively implement important changes in plans and policies.

MAIL SURVEY METHODOLOGY

A mail survey was conducted to better understand the general public's perspectives on conservation and recreation in their communities. The mail survey effort was led by Michigan State University, Department of Community, Agriculture, Recreation and Resources Studies in collaboration with the Southwest Michigan Planning Commission (SWMPC) and the National Parks Service's Rivers, Trail and Conservation Assistance Program (NPS RTCA).

In June 2008, a survey was mailed to 1,000 randomly selected 1,000 households in each of the three counties (Berrien, Cass and Van Buren). The households included year-round and seasonal residents from the 2007 winter tax bill list acquired from the County Equalization Departments. Efforts were made to exclude businesses, apartments (owners and renters), vacant land, land with only hunting sheds, and foreclosed homes, bank owned houses and trusts.

The mail procedure included a first mailing of an eight-page questionnaire (appendix B), a personalized letter (appendix C) and a business reply envelope; a postcard was mailed (appendix D) one week after the first mailing; and a second mailing three weeks after the initial mailing (appendix E). In September 2008, a non-response survey (Appendix F) with selected households was also conducted.

This survey process resulted in an overall response rate of 30% with 859 completed, usable questionnaires. Since sample sizes were the same across the three counties with different numbers of households, total data has been weighted to strengthen Berrien County's results and weaken Cass and Van Buren Counties' results in the regional totals. For more details on the survey methodology, see Appendix A.

MAIL SURVEY FINDINGS

The mail questionnaire was a homeowner assessment of conservation opinions. The eight-page instrument included 36 questions of close-ended and open-ended formats (see appendix B). In total, 3,000 surveys were mailed to households of Berrien, Cass, and Van Buren counties (1,000 per county). A total of 859 completed surveys were returned, yielding a 30% response rate. An additional non-response survey (appendix F) with randomly selected households was also conducted September 2008. From those

individuals, a final, but shortened version of their opinions was received (an 8% response rate). Lack of time, health issues, and disinterest in the survey were the top reasons for not completing the longer version.

County	Sample size	Bad addresses	Refused	Returned	Response rate
Berrien	1,000	32	19	276	28.5%
Cass	1,000	25	13	301	30.9%
Van Buren	1,000	28	6	282	29.0%
Total	3,000	85	38	859	29.5%

Since sample sizes were the same across the three counties which differed in population size, data were weighted (as named "W Total in each table) to reflect the proportion of residents in each county to region. For weighting, the Berrien respondents were "up-weighted" to represent a large proportion of the region's population and the other two counties (Cass and Van Buren) were "down-weighted" (table 2).

County	Returned		Population (hh*)		Weigh	t
Berrien	276	32.1%	63,600	57.2%	57.2/32.1 =	1.78
Cass	301	35.0	19,700	17.7	17.7/35.0 =	0.51
Van Buren	282	32.9	28,000	25.1	25.1/32.9 =	0.76
Total	859	100.0	111,300	100.0		

Table 2: Calculation for weighting data

* hh indicates households (2000 US Census)

The results of the mail questionnaire are presented in two ways in this assessment. For most variables, regional statistics are provided in a graph format and are also found in the right column of the tables. These statistics are both weighted figures. The tables also provide the data for each county. The text accompanying the graphs and tables is primarily focused on the regional perspective, and not how counties are similar or different from each other.

Demographics of Respondents

Tables 3 to 11 provide the demographic profile of the respondents. Respondents were slightly more likely to be female than male (table 3). The greatest number of respondent came from the 45 to 64 age cohort (table 4). A majority of respondents were full-time residents in their county (table 5). Respondent also had long tenures of residency in the area. When asked that how long they had lived in the county in which they currently reside, close to half of the respondents lived in their residence over 35 years (table 6). Respondents were asked if they lived or visited the county as a child. Almost half indicated they lived in the county as a child (table 7).

When asked which industries best represent where members of their households have held jobs or spend their time getting ready for the job market (i.e., student status), four out of ten households worked in manufacturing (table 8). About three out of ten households worked in health/medical. Approximately one-quarter of households were dependent on industries such as retail services and education. About 20% indicated working in agriculture and 14% in government. Only 6% indicated working in tourism and recreation and 2% in forestry. About 27% of respondents did not select industries listed in the survey, but wrote in responses such as banking, artist, retail or commercial services, and construction.

The final demographic questions were education, ethnicity and household income. Over half of the respondents held some college or a college degree (table 9). The respondents were primarily Euro-America/White (table 10). Three percent of respondents were African American/Black and about two percent of the respondents were American Indian and Hispanic/Latino. Less than 1% of the respondents were Asian or Pacific Islander. Households represented in the sample were primarily from either the \$50,000 to \$99,999 household income bracket or \$25,000 to \$49,999. Twenty-three percent of the respondents earned \$100,000 or greater. Slightly more than one in ten households earned less than \$25,000 (table 11).

Demographic variables were matched to Census data and compared to determine how similar our sample of respondents was to the population (appendix G). A limitation to this approach is the seasonal homeowner's demographics are not represented in the census data. Also non-homeowner residents are represented in Census data, but not our data. Comparisons between sample and Census estimates for gender were similar in Berrien County, but slightly more females in Cass County and more males in Van Buren County in the sample compared to the Census. For age, our respondents in all three counties tended to be older than Census population estimate with our sample including fewer young adults (20-24 and 25-34 age segments). For race, Cass and Van Buren respondents were similar to Census population. In Berrien, African Americans represent 16% of the population and our sample was four percent (and included only 16 respondents). For income, our respondents included fewer lower income households (less than \$25,000) and more high income households (\$100,000 or more) than Census population estimates.

Tuble 5. Gender of respondents	Berrien	Cass	Van Buren	W Total
Male	48.0%	43.4%	54.0%	48.7%
Female	52.0%	56.6	46.0	51.3

Table 3: Gender of respondents

	Berrien	Cass	Van Buren	W Total
20 – 24 years old	0.4%	0.3%	0.7%	0.5%
25 – 34 years old	4.9	5.3	7.0	5.5
35 – 44 years old	16.2	12.8	9.6	13.9
45 – 54 years old	25.8	28.2	30.6	27.5
55 – 64 years old	24.1	27.4	21.8	24.1
65 – 74 years old	19.5	16.3	17.0	18.3
75 – 85 years old	6.8	8.0	9.2	7.6
Over 85 years old	2.3	1.7	4.1	2.6

Table 4: Age of respondents

Table 5: Residential status

	Berrien	Cass	Van Buren	W Total
Full-time	86.4%	77.9%	95.3%	87.7%
Part-time	12.5	21.8	3.6	11.9
Vacation	3.3	6.4	2.2	3.6
Retired	7.0	10.3	0.7	6.0
Something else	2.2	5.1	0.7	2.3
None	1.1	0.3	1.1	0.4

Table 6: Length of residency in current home

	Berrien	Cass	Van Buren	W Total
1 – 5 years	8.2%	9.3%	7.7%	8.3%
6 – 15 years	10.8	15.2	17.0	13.1
16 – 35 years	29.5	25.3	32.1	29.4
Over 35 years	51.5	50.2	43.2	49.2

	Berrien	Cass	Van Buren	W Total
Lived	47.4%	48.9%	38.6%	46.5%
Visited	19.8	26.3	22.4	21.2
Neither lived nor visited	32.8	24.8	39.0	32.3

Table 7: Lived or visited the county as a child

Table 8: Employment industry of household members

Multiple responses allowed	Berrien	Cass	Van Buren	W Total
Manufacturing	42.2%	43.7%	40.0%	41.8%
Health/Medical	27.7	28.0	33.6	29.4
Retail Services	27.3	23.8	29.4	27.5
Other (e.g., artist, construction, factory work)	30.0	26.7	21.9	27.3
Education	26.4	28.0	30.0	27.0
Agriculture	15.8	20.0	23.8	18.8
Government	13.5	14.6	14.3	14.0
Tourism/Recreation	5.5	2.7	8.1	5.8
Forestry	1.6	2.7	1.4	1.9
Mining	0.0	0.7	0.5	0.2

Table 9: Level of education

	Berrien	Cass	Van Buren	W Total
Less than high school	3.1%	2.6%	2.8%	2.8%
High school	17.3	22.5	17.5	18.7
Some college	24.0	26.5	26.1	24.8
Technical school degree	5.9	5.3	3.3	4.9
College degree	31.8	27.2	33.2	31.8
Advanced degree	17.9	15.9	17.1	17.0

Multiple responses allowed	Berrien	Cass	Van Buren	W Total
Euro-American/White	92.8%	95.3%	96.1%	94.3%
African American/Black	3.6	3.4	1.4	2.9
American Indian	2.0	5.4	1.4	2.4
Hispanic/Latino(a)	2.5	1.3	1.9	2.2
Asian or Pacific Islander	1.1	1.3	0.0	0.8
Other	0.4	0.7	1.0	0.6

Table 10: Ethnicity/race of respondent

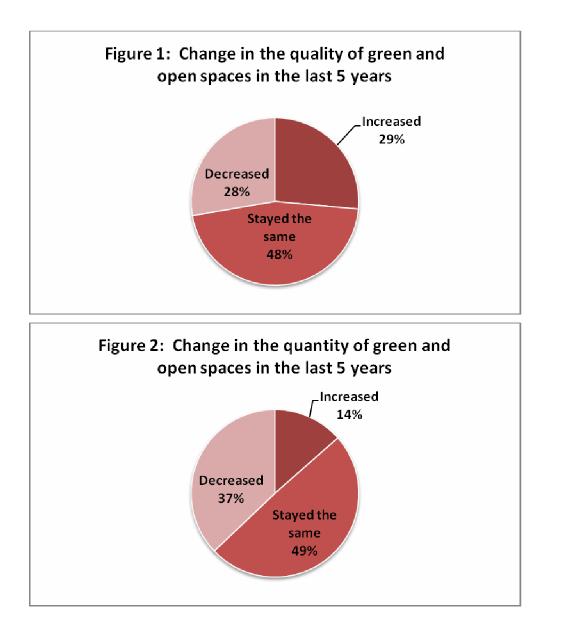
Table 11: Household income in 2007 from all sources and before taxes

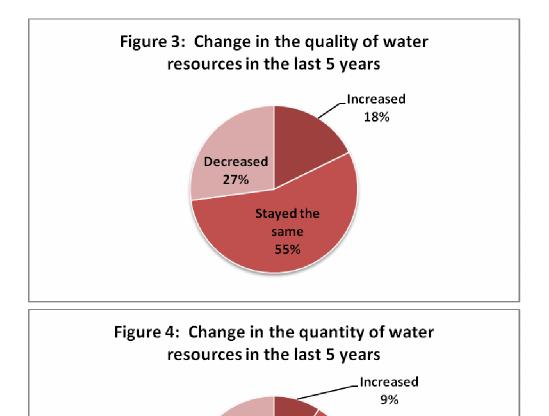
	Berrien	Cass	Van Buren	W Total
Less than \$25,000	9.8%	14.0%	16.2%	12.4%
\$25,000 - \$49,999	28.5	21.7	26.3	26.5
\$50,000 - \$99,999	34.0	40.6	43.9	37.7
\$100,000 – or more	27.7	23.7	13.6	23.4

Conservation and Resource Issues

Homeowners of the Berrien, Cass, and Van Buren region rated the quality of green and open spaces in their community as "increasing, decreasing, or staying the same" in the past five years. Almost half (46%) of the respondents rated the quality of green and open spaces as staying the same (figure 1). For water resources, a majority (55%) of the homeowners viewed quality "staying the same" over the five years, whereas almost two out of ten respondents viewed quality "increasing" (figure 3).

The majority (50% or more) of homeowners viewed the quantity of green and open spaces and water resources "decreasing" (figure 2 and 4). Table 12 provides the figures on change in the quality and quantity of green and open spaces and water resources for each county.





Decreased 23%

> Stayed the same 68%

		Berrien	Cass	Van Buren	W Total
	Increased	24.2%	14.6%	15.5%	27.7%
Quality of green and open spaces	Decreased	25.7	31.3	34.5	29.0
Spaces	Stayed the same	50.1	54.2	50.0	48.0
	Increased	17.6	7.0	9.6	13.5
Quantity of green and open spaces	Decreased	33.4	39.4	43.4	37.1
Spaces	Stayed the same	49.0	53.5	47.0	49.4
	Increased	21.5	15.1	11.4	17.7
Quality of water resources	Decreased	25.7	28.1	31.2	27.1
	Stayed the same	52.7	56.8	57.4	55.1
Quantity of water resources	Increased	10.9	6.4	6.7	9.0
	Decreased	22.3	24.3	26.7	23.2
	Stayed the same	66.8	69.3	66.7	67.8

Table 12: Views about quality and quantity of green and open spaces and water resources

Support for Conservation

Residents were asked, in a variety of ways, to express their level of support for conservation. The first choice for conservation support was directed at geographic focushighly populated or urban areas and low populated or rural areas. As shown in figure 5, and table 13, greater support was expressed for urban natural resources (over rural areas) to be conserved with 58% of respondents selecting "strongly agree." Strong support, however, still exists for natural resource conservation in rural areas (53% "strongly agree"). The second choice for conservation support was directed at sources of financial resources and ownership. Significantly greater support was expressed for conservation areas being public resources and publicly owned over privately owned resources (figure 5 and table 13).

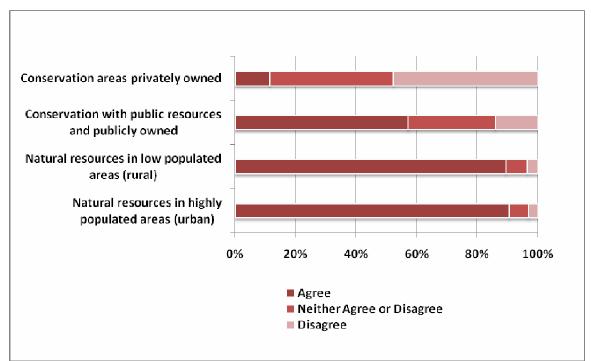


Figure 5: Attitudes toward geographic-focused and public versus private conservation

Table 13: Attitudes toward geographic-focused and public versus private co	onservation
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		Berrien	Cass	Van Buren	W Total
	Strongly disagree	1.2%	1.7%	1.8%	1.4%
Natural resources in highly	Somewhat disagree	1.6	1.4	1.4	1.7
populated areas (urban) are	Neither agree nor disagree	5.1	8.7	8.7	6.5
important to conserve.	Agree	33.7	33.7	32.2	32.9
	Strongly agree	58.4	54.5	55.8	57.5
	Strongly disagree	1.6	1.0	1.4	1.4
Natural resources in low	Somewhat disagree	0.8	0.7	1.1	2.2
populated areas (rural) are	Neither agree nor disagree	7.4	6.6	6.9	7.2
important to conserve.	Agree	36.3	37.4	41.3	37.3
	Strongly agree	53.9	54.3	49.3	53.4
	Strongly disagree	3.9	4.9	5.1	4.7
Conservation areas should be	Somewhat disagree	9.4	11.2	9.1	9.4
public resources or publicly	Neither agree nor disagree	28.0	34.0	26.2	28.7
owned.	Agree	28.7	25.6	29.8	28.4
	Strongly agree	29.9	24.2	29.8	28.8
	Strongly disagree	24.7	19.4	29.7	25.0
C	Somewhat disagree	24.3	20.8	21.6	22.6
Conservation areas should be privately owned.	Neither agree nor disagree	41.0	47.3	35.2	40.9
privatery owned.	Agree	6.4	8.5	11.4	8.3
	Strongly agree	3.6	3.9	2.2	3.2

Support for conservation was also examined by the level of importance of benefits that may be attributed to conservation efforts and the level of support for various types of conservation projects or initiatives. The highest levels of support were for protecting and conserving water and air quality, followed by providing for healthy living and quality of life, providing habitat for a high quality or diversity of plant and animal species, providing places for outdoor recreation, and providing scenic and aesthetic values (figure 6 and table 14). Importantly, all benefits received greater than 60 percent of the respondents rating as "very and extremely important."

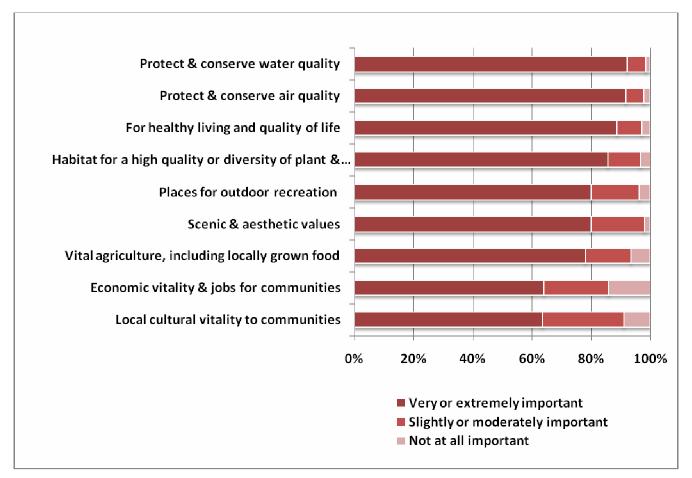


Figure 6: Importance of benefits of green and open spaces

		Berrien	Cass	Van Buren	W Total
	Not important at all	0.8%	1.8%	1.1%	1.4%
	Slightly important	0.8	4.2	4.5	2.3
Provide scenic and aesthetic values	Moderately important	17.8	14.8	19.3	17.2
	Very important	42.1	43.1	40.9	41.7
	Extremely important	38.6	36.0	34.2	37.4
	Not important at all	1.2	3.2	3.2	2.2
	Slightly important	5.4	5.4	9.3	6.8
Provide local cultural vitality	Moderately important	29.6	29.6	22.6	27.5
to communities	Very important	36.2	36.2	33.7	35.6
	Extremely important	27.2	27.6	31.2	27.9
	Not important at all	5.1	6.8	4.8	5.4
	Slightly important	7.0	10.3	10.8	8.8
Provide economic vitality	Moderately important	22.2	23.5	22.3	21.9
and jobs for communities	Very important	32.3	27.8	33.5	31.8
	V 1	33.5	31.7	28.6	32.2
	Extremely important Not important at all				
	I	0.4	0.7	1.9	1.0
Provide habitat for plant and	Slightly important	2.3	1.8	3.3	2.4
animal species	Moderately important	12.7	10.2	7.8	11.0
	Very important	32.0	29.5	31.5	30.9
	Extremely important	52.5	57.9	55.6	54.8
	Not important at all	0.8	1.1	1.8	1.3
Provide for healthy living	Slightly important	1.9	0.4	1.8	1.6
and quality of life	Moderately important	8.6	9.9	7.7	8.4
	Very important	32.3	28.3	31.7	30.8
	Extremely important	56.4	60.4	56.8	57.9
	Not important at all	2.4 3.9	3.1 3.8	2.6 3.3	2.5
Provide areas for agriculture, activity, including locally	Slightly important	16.1	13.3	3.3 14.7	4.1
produced food	Moderately important Very important	27.5	32.9	33.5	29.6
produced rood	Extremely important	50.2	46.9	46.0	48.5
	Not important at all	1.2	1.4	1.1	1.4
	Slightly important	1.2	2.4	2.2	2.3
Provide places for outdoor	Moderately important	1.3	16.7	17.0	16.3
recreation	Very important	41.5	37.5	40.6	39.7
	Extremely important	39.1	42.0	39.1	40.3
	Not important at all	0.8	0.7	1.8	1.0
	Slightly important	0.4	1.0	0.4	0.7
Protect and conserve water	Moderately important	6.6	6.6	5.9	6.3
quality	Very important	26.1	24.7	23.5	24.9
	Extremely important	66.1	67.0	68.4	67.1
	Extremely important	00.1	07.0		07.1

 Table 14:
 Importance of benefits of green and open spaces

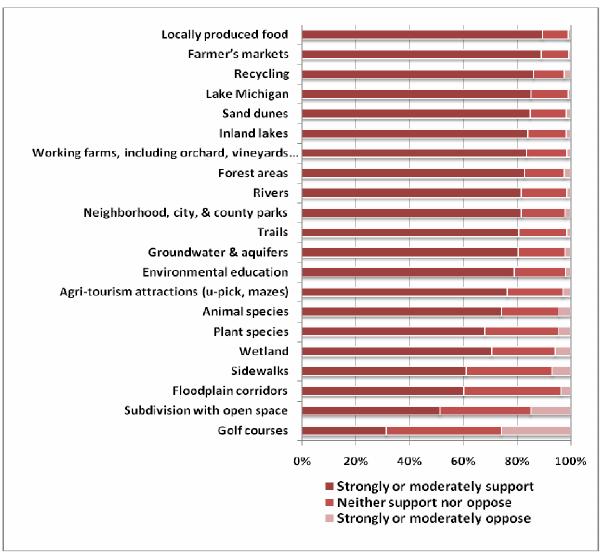
Berrien: Cass: Van Buren Counties | 20

Table 14: Continued

		Berrien	Cass	Van Buren	W Total
Protect and conserve air quality	Not important at all	1.2%	0.7%	0.7%	0.9
	Slightly important	0.8	1.4	1.5	1.3
	Moderately important	6.2	7.0	6.3	6.2
	Very important	28.0	24.7	24.8	26.4
	Extremely important	63.8	66.2	66.7	65.2

Next, respondents were asked to rate their support (or opposition) for programs or efforts that conservation might target. The greatest levels of support were for locally produced food, followed by farmer's markets. Subsequent programs highly supported included recycling, Lake Michigan, sand dunes, inland lakes, working farms, including orchards, vineyards and nurseries, and forest areas (figure 7 and table 15).

Figure 7: Support for conservation efforts or programs



		Berrien	Cass	Van Buren	W Total
	Strongly oppose	0.8%	1.8%	1.1%	1.3%
	Moderately oppose	4.4	2.1	1.9	3.3
Plant species	Neither support nor oppose	26.5	27.8	30.1	27.4
_	Moderately support	36.9	34.9	32.3	35.5
	Strongly support	31.3	33.5	34.6	32.6
	Strongly oppose	1.2	1.4	1.5	1.5
	Moderately oppose	3.2	2.8	1.9	2.7
Animal species	Neither support nor oppose	20.9	20.5	21.9	21.4
	Moderately support	36.0	31.1	32.0	34.0
	Strongly support	38.7	44.2	42.8	40.3
	Strongly oppose	0.4	0.4	1.1	0.8
	Moderately oppose	2.0	0.7	1.5	1.6
Forest areas	Neither support nor oppose	14.8	15.4	15.7	14.7
	Moderately support	36.8	33.0	31.0	34.8
	Strongly support	46.0	50.5	50.7	48.1
	Strongly oppose	0.9	2.2	1.0	1.0
	Moderately oppose	0.9	0.0	0.0	0.5
Sand dunes	Neither support nor oppose	13.9	17.8	12.0	13.4
	Moderately support	20.9	25.6	28.0	23.1
	Strongly support	63.5	54.4	59.0	61.9
	Strongly oppose	0.4	0.4	0.7	0.7
	Moderately oppose	0.4	1.8	1.5	0.9
Inland lakes	Neither support nor oppose	16.1	13.1	12.7	14.5
	Moderately support	44.1	31.1	35.1	39.5
	Strongly support	39.0	53.7	50.0	44.4
	Strongly oppose	0.4	0.4	0.7	0.7
	Moderately oppose	0.4	2.1	0.4	0.7
Rivers	Neither support nor oppose	17.8	18.1	14.9	16.9
	Moderately support	38.3	32.4	35.4	36.9
	Strongly support	43.1	47.0	48.5	44.9
	Strongly oppose	1.6	1.5	1.2	1.7
Fleedalain	Moderately oppose	2.0	1.8	1.5	1.8
Floodplain Corridors	Neither support nor oppose	37.3	35.6	35.1	36.4
Corridors	Moderately support	28.7	26.2	30.9	28.9
	Strongly support	30.3	34.9	31.3	31.2
	Strongly oppose	2.0	2.5	1.5	2.1
	Moderately oppose	4.0	2.5	3.8	3.6
	Neither support nor oppose	26.6	19.4	21.1	23.7
Wetland	Moderately support	30.6	33.2	30.2	31.0
	Strongly support	36.9	42.4	43.4	39.6

 Table 15:
 Support for conservation efforts or programs

		Berrien	Cass	Van Buren	W Total
	Strongly oppose	0.0	1.4	1.1	0.7
	Moderately oppose	0.0	1.1	0.8	0.4
Lake Michigan	Neither support nor oppose	14.5	15.2	12.1	13.7
C C	Moderately support	25.5	29.1	22.3	25.1
	Strongly support	60.0	53.2	63.6	60.1
	Strongly oppose	0.8	0.4	1.9	1.2
	Moderately oppose	1.2	0.7	0.4	0.9
Groundwater and aquifers	Neither support nor oppose	19.5	17.1	13.5	17.5
-	Moderately support	30.9	28.1	25.9	29.2
	Strongly support	47.6	53.7	58.3	51.2
	Strongly oppose	1.6	1.4	1.5	1.5
	Moderately oppose	0.4	0.4	1.1	0.6
Environmental	Neither support nor oppose	21.1	16.6	15.3	19.0
Education	Moderately support	35.9	30.0	33.2	34.2
	Strongly support	41.0	51.6	48.9	44.8
	Strongly oppose	0.4	1.1	0.7	0.6
	Moderately oppose	1.6	1.4	2.2	1.7
Recycling	Neither support nor oppose	11.3	11.6	12.3	11.5
	Moderately support	32.4	28.2	26.0	29.9
	Strongly support	54.3	57.7	58.7	56.3
	Strongly oppose	1.2	0.7	0.8	1.0
Naishhadhaad	Moderately oppose	0.4	0.4	2.3	1.1
Neighborhood, city and county parks	Neither support nor oppose	15.1	17.0	19.2	16.3
and county parks	Moderately support	37.1	40.3	39.5	38.1
	Strongly support	46.2	41.7	38.3	43.6
	Strongly oppose	0.8	0.4	1.1	0.8
	Moderately oppose	0.4	1.1	1.1	0.7
Trails	Neither support nor oppose	15.0	19.5	23.0	17.8
	Moderately support	42.3	37.9	41.1	41.0
	Strongly support	41.5	41.1	33.6	39.7
	Strongly oppose	3.2	2.9	0.8	2.4
	Moderately oppose	4.4	2.9	5.7	4.3
Sidewalks	Neither support nor oppose	29.4	35.9	36.2	32.1
	Moderately support	31.7	30.4	30.6	31.0
	Strongly support	31.3	27.9	26.8	30.1
	Strongly oppose	0.8	0.7	0.7	0.7
Working farms,	Moderately oppose	0.8	1.1	0.4	0.7
including orchards,	Neither support nor oppose	15.0	16.3	14.7	15.0
vineyards & nurseries	Moderately support	33.2	29.0	27.8	31.3
	Strongly support	50.2	53.0	56.4	52.2

		Berrien	Cass	Van Buren	W Total
	Strongly oppose	0.8	0.0	1.1	0.7
	Moderately oppose	0.4	0.3	0.0	0.3
Locally produced food	Neither support nor oppose	10.5	10.1	8.1	9.6
	Moderately support	26.2	28.3	25.6	26.7
	Strongly support	62.1	61.2	65.2	62.8
	Strongly oppose	0.4	0.4	0.4	0.4
	Moderately oppose	0.4	0.4	0.0	0.3
Farmer's markets	Neither support nor oppose	11.8	10.2	8.8	10.4
	Moderately support	31.0	31.9	29.0	30.7
	Strongly support	56.5	57.2	61.8	58.2
	Strongly oppose	1.2	1.1	1.5	1.2
Agra-tourism	Moderately oppose	2.0	1.4	1.5	1.7
attractions (u-picks, mazes)	Neither support nor oppose	19.0	22.6	23.2	20.6
attractions (u-pieks, mazes)	Moderately support	38.3	34.6	37.9	37.4
	Strongly support	39.5	40.3	36.0	39.1
	Strongly oppose	5.6	7.8	8.9	6.9
Subdivision with	Moderately oppose	7.6	8.9	8.2	8.0
open space	Neither support nor oppose	31.9	35.8	35.7	33.8
	Moderately support	29.5	27.3	26.0	27.9
	Strongly support	25.5	20.2	21.2	23.5
	Strongly oppose	12.2	10.3	12.6	11.9
	Moderately oppose	12.9	12.4	16.4	14.0
Golf courses	Neither support nor oppose	42.4	45.4	42.0	42.8
	Moderately support	21.6	21.6	18.6	20.5
	Strongly support	11.0	10.3	10.4	10.9

Respondents were asked their opinion on the groups or levels of government agencies that should be primarily involved in conservation. Overall, approximately six of ten respondents expressed agreement that local and county government, land conservancies or other nonprofit organizations, and citizen volunteer groups should be involved (figure 8 and table 16). This finding was further supported by 76% agreeing that "all of these mentioned groups should be primarily involved." Residents were also asked to rate the statement "I feel the public input process for conservation and land use planning is adequate." One-third of the respondents agreed with this statement.

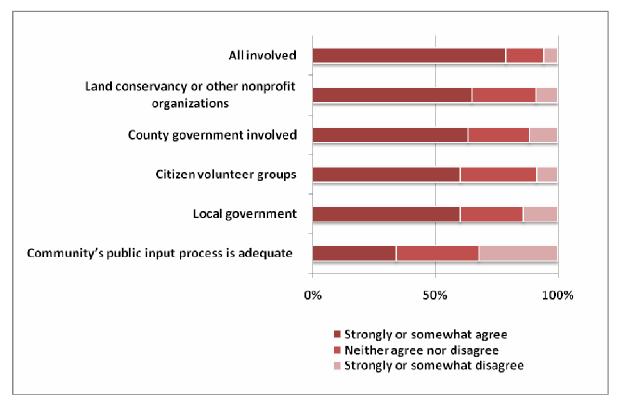


Figure 8: Views on levels of government, conservancies or volunteer group involvement in conservation efforts

in conservation efforts							
	-	Berrien	Cass	Van Buren	W Total		
I feel my community's public input process for conservation and land use	Strongly disagree	8.1%	11.2%	12.7%	9.8%		
	Somewhat disagree	21.8	23.5	22.0	22.3		
	Neither agree nor disagree	32.7	41.9	31.0	33.7		
conservation and fund ase	a 1		10.1				

29.0

8.5

18.1

5.4

28.4

6.0

26.7

7.5

Somewhat agree

Strongly agree

planning is adequate

Table 16. Vie 1 - f

		0.0	<i>e</i>	0.0	1.10
	Strongly disagree	2.8	4.0	4.9	3.7
My local government	Somewhat disagree	8.9	13.0	10.3	10.2
should be primarily involved	Neither agree nor disagree	26.7	29.6	24.0	25.8
in conservation	Somewhat agree	38.1	33.6	40.7	38.5
	Strongly agree	23.5	19.9	20.2	21.8
	Strongly disagree	2.8	3.3	4.9	3.8
My county government	Somewhat disagree	7.7	8.4	8.4	7.8
should be primarily involved	Neither agree nor disagree	26.0	25.5	22.8	24.9
in conservation	Somewhat agree	38.2	38.2	38.8	38.7
	Strongly agree	25.2	24.7	25.1	24.9
	Strongly disagree	3.6	2.2	2.6	3.0
Citizen volunteer groups	Somewhat disagree	4.8	6.1	6.0	5.5
should be primarily involved	Neither agree nor disagree	31.9	32.5	27.9	31.1
in conservation	Somewhat agree	37.9	39.4	41.5	39.0
	Strongly agree	21.8	19.9	21.9	21.4
I and concompany on other	Strongly disagree	2.9	2.2	3.4	2.8
Land conservancy or other nonprofit organizations	Somewhat disagree	5.3	7.6	4.2	6.0
should be primarily involved	Neither agree nor disagree	29.0	25.7	22.1	26.2
in conservation	Somewhat agree	37.6	41.7	43.1	39.6
	Strongly agree	25.3	22.8	27.1	25.4
	Strongly disagree	2.4	1.4	4.5	2.9
All of the above should be	Somewhat disagree	2.4	2.8	4.9	3.2
primarily involved in	Neither agree nor disagree	16.2	17.0	17.7	16.3
conservation	Somewhat agree	31.6	38.3	29.1	32.4
	Strongly agree	47.4	40.4	43.8	45.1

Concern for conservation in the Berrien, Cass, and Van Buren area was raised by respondents when prompted to complete the following statement "The greatest concern that I have about conservation in my community is......" As shown in table 17, sprawl concerns were the most prominent. Examples of sprawl concerns provided by respondents included: overdevelopment of farmlands, subdivision development, overbuilding, pollution, and losing public open space and natural features. The next concern was the quality and quantity of environmental resources and specific examples included: preservation of wildlife, need for water conservation, keeping areas clean and safe for children, and loss of land available.

	Berrien	Cass	Van Buren	Total Mentions
Sprawl	55	47	48	150
Quality/quantity of environmental resources	41	47	35	123
Human behavior	27	24	38	89
Leadership/political process	25	31	17	84
Pollution	15	29	28	72
Cost/expense	11	16	20	47
Other (e.g., wildlife is running rapid; little is done on a consistent basis, not fully appreciated, etc.)	17	15	12	44

Table 17: Open-ended comments on the greatest concern about conservation

Besides the nature of the conservation efforts and those involved, residents were also asked when regional land use planning should take place. Forty-one percent of respondents indicated "planning should have taken place years ago" (figure 9 and table 18). Four out of ten respondents selected now or "this year (40.7%)." Twenty-one percent indicated 3+ years from now. Nine percent of the respondents expressed that they felt there is no need for regional land use planning and about six percent selected planning should start the next year (9.2%).

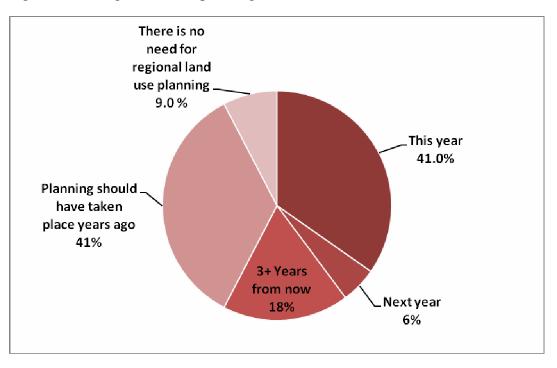


Figure 9: Timing of land use planning

Table 18:Timing of land use planning

	Berrien	Cass	Van Buren	W Total
This year	41.9%	38.5%	38.7%	40.7%
Next year	5.9	8.5	6.0	6.4
3+ years from now	2.1	3.9	2.5	20.5
Planning should have take place years ago	40.9	40.8	42.7	41.2
There is no need for regional land use planning	9.2	8.5	10.1	9.2

The Conservation Needs Assessment also learned about citizen support for green and open spaces and water resources by asking whether there were important places that represent these types of resources. As shown in Table 19, in Berrien County, 78% of respondents indicated having green and open spaces in their community important to them and 90% indicated water resources. In Cass County, 63% of respondents indicated having green and open spaces and 86% indicated water resources. In Van Buren County, 66% of respondents indicated green and open spaces and 83% indicated water resources.

		Berrien	Cass	Van Buren	W Total
Green and open space area	Yes	78.0%	62.5%	66.2%	72.5%
	No	22.0	37.5	33.8	27.5
Water resources	Yes	89.8	86.3	82.7	87.5
water resources	No	10.2	13.7	17.3	12.4

Table 10: Importance of green and open space areas and water resources in the county

When asked about one green and open space and water resource in the community, water resources such as lakes and rivers were most frequently mentioned as being important to residents (tables 20 and 21), followed by park and recreation areas which also included mentions of golf courses and water bodies/beaches. Specific green and open spaces and water resources most frequently mentioned are described in appendix G.

Table 20: Open-ended comments on importance of green and open spaces

Coded Themes:	Berrien	Cass	Van Buren	Total Mentions
Parks & recreation, including golf	90	57	43	190
Water bodies/beaches	66	43	65	174
Own property/home	9	27	21	57
Farmland	9	20	17	46
Trails/greenways	9	10	23	42
Wood landscapes	8	15	12	35
Other	0	1	2	3

Coded Themes:	Berrien	Cass	Van Buren	Total Mentions
Lakes	146	175	166	487
Rivers	95	57	48	200
Beach/launch sites	12	4	4	20
Parks	3	3	1	7
Pool	1	0	0	1

Table 21: Open-ended comments on importance of water resources

As shown tables 22 and 23, overall, "leisure and recreation, natural beauty, and convenience and proximity" were most frequently mentioned reasons why the green and open spaces and water resources are important to residents. Closely following that reason was "important to community, natural habitat, and solitude/spiritual/mental."

Table 22: Open-ended comments on reasons green and open spaces are important

Coded Themes:	Berrien	Cass	Van Buren	Total Mentions
Natural beauty	67	61	57	185
Leisure/recreation	67	56	57	180
Convenience/proximity	19	34	19	109
Solitude/spiritual/mental	31	22	21	74
Other (e.g., I have enjoyed it my whole life, kids or next generation, etc.)	11	12	23	46
Family activities	17	7	13	37
Physical well being/exercise	8	3	1	12

Coded Themes:	Berrien	Cass	Van Buren	Total Mentions
Leisure/recreation	83	98	93	274
Convenience/proximity	42	77	46	165
Natural beauty	46	25	21	92
Important to community	43	15	34	92
Natural habitat	28	26	22	76
Solitude/spiritual/mental	17	8	7	32
Physical well being/exercise	0	0	1	1

Table 23: Open-ended comments on reasons water resources are important

Additionally, when asked about whether the green and open spaces and water resources listed in the previous question currently are being conserved or considered for conservation, about four out of ten respondents indicated "yes" for green and open spaces and three out of ten for water resources. A greater number of residents answered they don't know (table 24). Also, a majority of residents indicated the green and open space and water resources should be conserved (table 25).

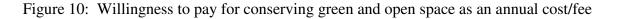
Table 24: Green and open space area and water resources being conserved or considered for conservation

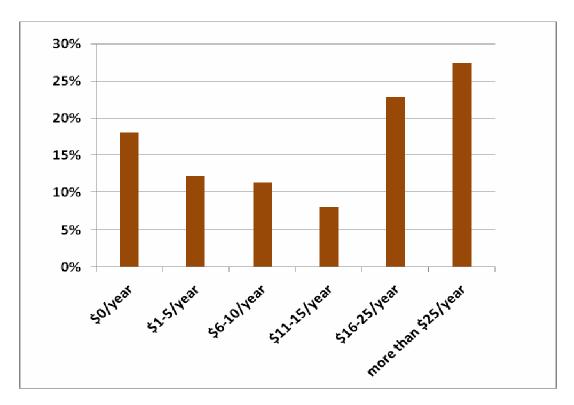
		Berrien	Cass	Van Buren	W Total
	Yes	46.2%	40.0%	40.0%	43.9%
Green and open space area	No	8.3	14.4	13.8	10.7
	Don't know	45.5	45.6	46.2	45.4
	Yes	37.9	23.0	27.7	33.3
Water resources	No	5.8	13.9	12.0	8.8
	Don't know	56.3	63.1	60.2	57.9

		Berrien	Cass	Van Buren	W Total
Green and open space area	Yes	52.9%	96.0%	96.2%	88.1%
Green and open space area	No	47.1	4.0	3.8	11.9
	Yes	86.7	91.7	93.8	92.2
Water resources	No	13.3	8.3	6.2	7.8

Table 25: Green and open space area and water resources should be conserved

A final measure of support is through financial willingness to pay, opinions on how funds should be raised to pay for conserving green and open spaces in the resident's community or county, and interest in joining a conservation group. The most common response in willingness to pay for conservation was the highest value (more than \$25 per year) provided in the questionnaire (figure 10 and table 26). Almost 20% were unwilling to pay for conservation efforts, while 82% were willing to pay some amount for conservation

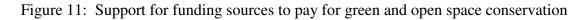


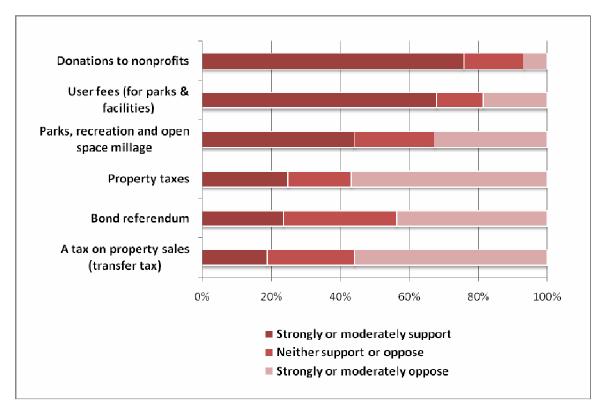


	Berrien	Cass	Van Buren	W Total
\$0/year	18.7%	14.9%	17.6%	18.0
\$1-5/year	10.9	14.2	14.8	12.2
\$6-10/year	11.3	8.6	13.3	11.3
\$11-15/year	8.7	7.1	7.4	8.1
\$16-25/year	26.1	22.4	18.8	22.9
More than \$25/year	24.3	32.8	28.1	27.4

Table 26: Willingness to pay to conserve green and open space in community or county

Residents were most supportive of funding sources generated by user fees or donations to nonprofits (which could also be interpreted as individuals giving to nonprofits to fund conservation) (figure 11 and table 27). There was considerable lower support for any tax-based funding including property taxes, transfer tax, or a bond referendum. Other funding sources which residents supported were fundraisers, out of area/state user fees, luxury tax increase (e.g., alcohol, cigarettes), and parking fees.





		Berrien	Cass	Van Buren	W Total
User fees (for parks and facilities)	Strongly oppose	9.3%	11.6%	8.6%	9.3%
	Moderately oppose	8.1	8.7	11.7	9.3
	Neither support nor oppose	12.5	13.8	14.7	13.4
	Moderately support	45.6	45.1	41.0	44.0
	Strongly support	24.6	20.7	24.1	24.0
Parks, recreation and open space millage	Strongly oppose	19.1	19.8	17.0	18.4
	Moderately oppose	14.6	15.4	12.7	14.1
	Neither support nor oppose	24.0	21.6	22.4	23.4
	Moderately support	31.7	33.7	37.1	33.4
	Strongly support	10.6	9.5	10.8	10.6
	Strongly oppose	33.6	41.4	36.0	34.9
Property taxes	Moderately oppose	25.8	21.2	13.6	21.9
	Neither support nor oppose	18.0	13.3	20.5	18.2
	Moderately support	16.4	19.1	21.2	18.3
	Strongly support	6.1	5.0	8.7	6.7
	Strongly oppose	24.4	27.7	24.1	24.7
	Moderately oppose	23.1	16.5	13.4	18.9
Bond referendum	Neither support nor oppose	30.7	32.6	35.6	32.8
	Moderately support	19.3	18.4	20.2	19.7
	Strongly support	2.5	4.9	6.7	3.9
	Strongly oppose	32.5	40.6	33.5	33.8
	Moderately oppose	23.6	18.5	21.7	22.0
A tax on property sales (transfer tax)	Neither support nor oppose	26.4	21.4	24.7	25.3
(transfer tax)	Moderately support	12.6	14.9	14.1	13.7
	Strongly support	4.9	4.7	6.1	5.2
Donations to nonprofits	Strongly oppose	2.8	4.4	5.3	3.9
	Moderately oppose	2.8	3.0	1.1	2.8
	Neither support nor oppose	17.0	15.6	19.2	17.3
	Moderately support	39.7	36.7	33.2	37.4
	Strongly support	37.7	40.4	41.1	37.7
Other	Strongly oppose	0.0	9.1	12.3	8.7
	Moderately oppose	0.0	0.0	0.0	0.0
	Neither support nor oppose	11.1	54.5	56.1	47.5
	Moderately support	0.0	7.3	7.0	5.6
	Strongly support	88.9	29.1	24.6	38.3

Table 27: Support for funding sources to pay for green and open space conservation

Recreation and Physical Activity Levels

A final topic related to the conservation of green and open spaces and water resources is recreation interests and behaviors. Toward that end, respondents were asked about the outdoor recreation activities they or others in their household participate in near their community. The most popular recreation activities enjoyed by residents included scenic drive, beach walking, natural study and observation (table 28), swimming, fishing, power boat (table 29), walking/hiking, and biking (table 30).

Multiple responses allowed.	Berrien	Cass	Van Buren	W Total
Scenic drive	80.5%	73.5%	73.3%	77.3%
Beach walking	79.4	56.3	66.2	71.7
Nature study/observation	63.0	54.3	53.8	59.1
Playground	57.3	40.0	46.7	51.4
Picnic	53.4	49.3	47.8	50.8
Mushroom/berry pick	42.4	53.6	54.8	47.0
Outdoor photography	48.8	42.7	45.7	46.6
Visit historical sites	41.2	32.7	33.9	37.6
Camp	37.0	36.4	34.8	36.5
Golf	37.0	35.3	35.7	35.7
Bird watching	27.9	28.5	29.5	28.3
Softball/baseball	29.8	21.2	24.8	27.5
Hunt	23.3	31.3	28.1	25.9
Soccer	22.5	14.6	15.7	19.2

 Table 28:
 General outdoor activities participated in nearby community

Multiple responses allowed.	Berrien	Cass	Van Buren	W Total
Swim – Lake Michigan	61.5%	42.4%	55.5%	56.5%
Fish – Inland Lake	39.0	60.0	49.5	45.4
Swim – Pool	47.8	40.4	41.4	44.7
Swim – Inland Lake, pond, river	26.3	67.3	48.6	38.8
Power boat	31.7	43.3	34.8	34.8
Canoe or kayak	30.9	35.1	25.7	30.4
Fish - river	28.3	25.2	20.0	25.8
Fish – Lake Michigan	26.0	18	20.0	22.8
Ice fish	14.6	26.7	21.0	18.1
Jet ski	14.8	12.7	9.5	12.8
Water ski	11.1	17.2	11.9	12.3
Sail boat	9.6	7.3	10.5	9.4

Table 29: Water activities participated in near by community

Multiple responses allowed.	Berrien	Cass	Van Buren	W Total
Walk/hike	67.9%	62.7%	64.6%	65.9%
Bicycle	45.1	38.7	41.0	43.0
Run/jog	24.5	22.0	20.0	22.9
Off road vehicle use	15.7	17.3	14.4	15.5
Mountain bike	15.2	10.6	15.2	14.4
Cross country ski	12.6	11.9	15.2	13.2
Snowmobile	11.4	17.9	11.5	12.3
Horse ride	10.3	15.3	11.4	11.6
In-line skate	8.8	4.6	9.0	7.9
Skateboard	9.9	4.6	5.2	7.5

Table 30: Trail activities participated in near by community

Respondents were also asked about the nearest "public" green and open space to their home. The most frequently mentioned was parks and recreation including golf courses, followed by water bodies/beaches and trails/greenways. As an open-ended question was given, some respondents provided the nearest "private" green or open spaces to their home (i.e., farmland, own property/home) (table 31). Additionally, this public place was most likely to be less than ½ mile or 1 to 4 miles from respondents' home (table 32) and 75% of residents used or visited this public place (table 33). The most frequently mentioned reasons for their use or visit were close to home and beautiful scenery, whereas a reason for not using this place was too far from home.

	Berrien	Cass	Van Buren	Total Mentions
Parks & recreation including golf	183	164	134	481
Water bodies/beaches	52	45	61	158
Trails/greenways	7	11	45	63
Farmland	10	27	25	62
Own property/home	8	18	19	45
Wood landscapes	5	8	6	19
Other	0	0	1	1

Table 31: Nearest public green or open space to home

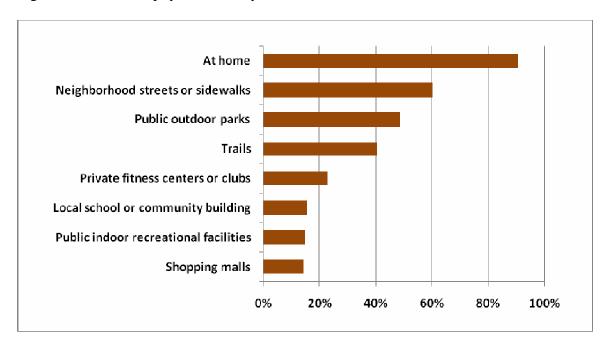
 Table 32: Distance of public green or open space from home

	Berrien	Cass	Van Buren	W Total
Less than ¹ / ₂ mile	34.2%	34.1%	34.9%	34.5%
¹ / ₂ mile to less than 1 mile	22.4	7.4	12.7	17.3
1-4 miles	34.5	31.1	31.2	33.2
Over 4 miles	8.9	27.4	21.2	15.0

Table 33: Use or visit of public green or open space near home

	Berrien	Cass	Van Buren	W Total
Yes	76.1%	68.7%	74.3%	74.6%
No	23.9	31.3	25.7	25.4

Respondents were asked where you participate in physical activity, 91% of respondents indicated "at home," followed by neighborhood streets or sidewalks, public outdoor parks and trails (figure 12 and table 34).



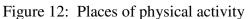


Table 34: Places of physical activity

Multiple responses allowed.	Berrien	Cass	Van Buren	W Total
At home	89.0%	96.0%	91.3%	90.6%
Neighborhood streets or sidewalks	67.8	54.7	48.5	60.2
Public outdoor parks	52.2	45.0	42.0	48.7
Trails	40.7	41.6	41.1	40.4
Private fitness centers or clubs	25.1	17.4	22.7	22.9
Local school or community building	13.0	18.0	19.4	15.5
Public indoor recreational facilities	15.0	14.7	14.0	14.9
Other (e.g., campground, golf, lack, river, etc.)	12.6	16.8	17.5	14.5
Shopping malls	13.4	12.7	16.4	14.1

Next, respondents were asked why they do not participate in outdoor physical activities. Fifty-seven percent of respondents indicated "no barriers keep me from outdoor physical activity." Top barriers included lack of sidewalks or trails near their home (21%) and lack of time (29%). Other barriers were no one to exercise with, health problems prohibit, and not convenient (figure 13 and table 35).

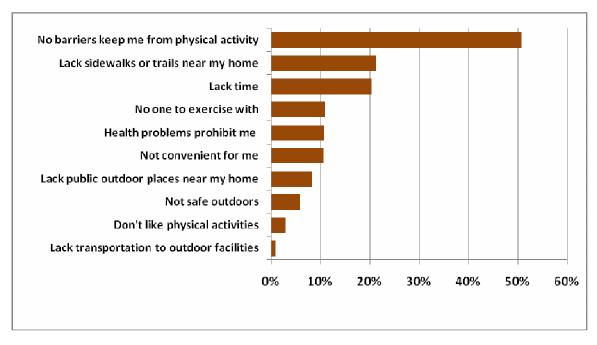


Figure 13: Barriers to outdoor physical activity

Multiple responses allowed.	Berrien	Cass	Van Buren	W Total
No barriers keep me from participating in outdoor physical activity	60.6%	52.9%	50.5%	56.9%
I have no sidewalks or trails near my home	18.6	28.6	22.2	21.3
I don't have time	20.7	24.8	18.1	20.4
I have no one to exercise with	10.7	13.6	10.1	11.0
Health problems prohibit me from outdoor activity	9.6	11.4	13.1	10.9
It is not convenient for me	9.1	14.3	12.6	10.7
There are no public outdoor places near my home	6.3	12.9	11.1	8.4
I don't feel safe outdoors	4.9	7.9	7.0	5.9
Outdoor physical activity isn't something I like	3.7	2.1	2.5	3.0
I lack transportation to outdoor facilities	0.9	1.4	1.0	1.0

 Table 35: Barriers to outdoor physical activity

Attitudes Toward Physical Activities

Next, a series of attitude questions about physical activities were presented to respondents. Related to the earlier response that most respondents selected their home as the place for physical activity, the statement "gardening, yard work, and chopping wood are physical activities" received the highest agreement level (figure 14 and table 36). The next most agreed upon statements were "I desire to be more physically active," followed by "I enjoy walking to get to places such as the store," "obesity is a personal issue, not a community problem," and a connected trail and side walk system would make it easier for me to be active.

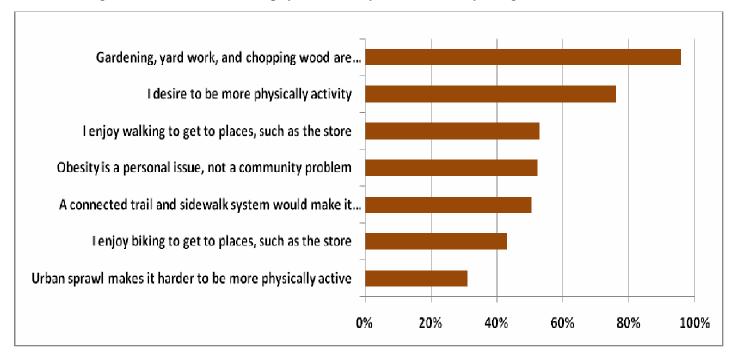
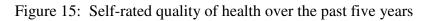


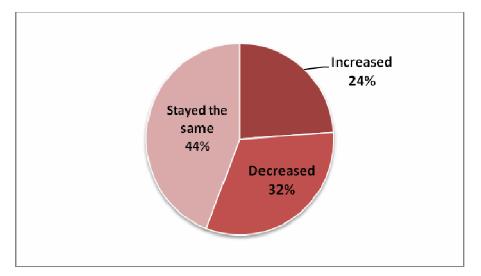
Figure 14: Attitudes toward physical activity and community design

		Berrien	Cass	Van Buren	W Total
	Strongly disagree	6.3%	9.1%	8.8%	7.2%
	Somewhat disagree	29.0	21.3	19.5	25.2
Obesity is a personal issue, not a community problem	Neither agree nor disagree	12.9	17.8	19.1	15.2
not a community problem	Somewhat agree	27.1	28.2	25.7	26.9
	Strongly agree	24.7	23.7	26.8	25.5
	Strongly disagree	1.6	2.1	1.8	1.7
Gardening, yard work, and	Somewhat disagree	1.2	1.0	0.7	1.0
chopping wood are	Neither agree nor disagree	1.2	1.4	2.6	1.5
considered physical activity	Somewhat agree	36.7	26.4	35.5	34.7
	Strongly agree	59.4	69.2	59.3	61.1
	Strongly disagree	1.2	3.8	4.0	2.4
I desire to be more	Somewhat disagree	3.6	2.4	1.5	2.8
physically activity	Neither agree nor disagree	18.7	21.3	19.8	19.0
physically activity	Somewhat agree	46.0	37.4	43.6	43.7
	Strongly agree	30.6	35.0	31.1	32.3
	Strongly disagree	12.7	12.7	11.5	12.5
Urban sprawl makes it	Somewhat disagree	18.3	134.	18.2	17.2
harder to be more physically	Neither agree nor disagree	37.8	41.3	39.8	39.3
active	Somewhat agree	18.7	20.8	19.3	19.2
	Strongly agree	12.4	11.7	11.2	11.8
A connected trail and	Strongly disagree	6.7	12.7	10.8	9.0
sidewalk system would	Somewhat disagree	8.7	8.8	7.8	8.5
make it easier for me to be	Neither agree nor disagree	32.5	28.3	33.5	32.0
active	Somewhat agree	29.0	29.3	27.5	29.0
	Strongly agree	23.0	21.2	20.4	21.5
	Strongly disagree	4.0	9.2	8.2	5.9
	Somewhat disagree	9.6	9.9	11.5	9.9
I enjoy walking to get to places, such as the store	Neither agree nor disagree	30.8	34.4	29.7	31.2
places, such as the stole	Somewhat agree	38.0	38.4	29.0	34.3
	Strongly agree	17.6	17.0	21.6	18.7
	Strongly disagree	8.8	12.0	14.4	11.0
I enjoy biking to get to	Somewhat disagree	14.1	9.9	11.4	12.3
places, such as the store	Neither agree nor disagree	36.1	40.3	33.3	36.6
	Somewhat agree	27.7	20.1	22.7	24.8
	Strongly agree	13.3	17.7	18.2	15.4

Table 36: Attitudes toward physical activity and community design

A measure of physical activity was the respondents self-rating of their quality of health and the quantity of physical activity in their lives. Four out of ten viewed their health quality as stayed the same in the past five years and three out of ten decreasing (figure 15 and table 37). The smallest group or two of ten individuals viewed their health quality as increasing or getting better. On quantity of physical activity, the most common response for residents of the region was stayed the same in physical activity over the past five years (figure 16 and table 38). The most frequently mentioned attribute that influences residents' change in health quality or physical activities level was "getting old (older age)" along with health issues (e.g., bad knee or back, high blood pressure, heart disease), lack of time due to children and busy work, and air pollution.





	Berrien	Cass	Van Buren	W Total
Increased	25.6%	25.2%	19.9%	23.9%
Decreased	28.8	36.1	37.4	32.0
Stayed the same	45.6	38.8	42.7	44.1

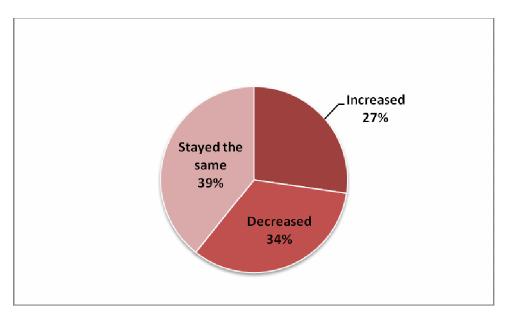


Figure 16: Self-rated quantity of physical activity over the past five years

Table 38:	Self-rated	quantity	of physical	activity levels

	Berrien	Cass	Van Buren	W Total
Increased	29.4%	30.1%	21.8%	27.3%
Decreased	30.3	36.3	38.4	33.4
Stayed the same	40.3	33.6	39.8	39.3

Another measure related to physical activity was the frequency of residents' participation in outdoor recreation activities. Two out of ten residents participated in recreation activities everyday (table 39). A greater number of residents participated in outdoor recreation activities in the county a couple times a week. Three-seven percent of residents participated in a few times a month or a year. Two percent of residents never participated in outdoor recreation activities. Six percent of residents visited to Lake Michigan everyday and five out of ten residents visited to Lake Michigan a few times years (table 40).

	Berrien	Cass	Van Buren	W Total
Everyday	22.4%	22.8%	24.7%	23.3%
A couple times a week	38.6	34.5	36.7	37.7
A few times a month	24.4	20.3	17.6	21.6
A few times a year	12.2	20.7	19.1	15.3
Never	2.4	1.7	1.9	2.1

Table 40: Frequency of visits to Lake Michigan

	Berrien	Cass	Van Buren	W Total
Everyday	8.2%	1.0%	3.0%	5.6%
A couple times a week	20.6	3.4	9.3	14.9
A few times a month	28.8	10.3	21.9	23.3
A few times a year	38.5	68.6	59.3	49.5
Never	3.9	16.6	6.7	6.7

Residents were also asked how they feel about the level of public access to outdoor recreation areas. Over half of residents indicated "adequate" public access to Lake Michigan, inland lakes, rivers, and beaches, whereas four out of ten residents felt "some more" or "much more" access to public outdoor recreation areas are needed (table 41). Few residents viewed the public areas had too much access.

When asked how residents feel about the amount of resources/assets in their community, a majority of residents felt the amount of the resources/assets in their community is "adequate" (table 42). Six out of ten residents indicated "more needed" for biking trails, open and green spaces, hiking trails, and protected natural areas. Four out of ten residents felt "more needed" for historical/cultural attractions, mountain biking trails, cross country ski trail, horse(equestrian) trails, agricultural lands, public parks, piers for fishing, playgrounds, Lake Michigan beaches, and canoe/kayak launches. Nineteen percent of residents viewed the amount of "golf courses" is too much, along with snowmobile trails (13%) and hunting land (10%) (table 42).

		Berrien	Cass	Van Buren	W Total
	Too much	1.1%	3.5%	1.0%	1.5%
Lake Michigan	Adequate	61.5	61.3	56.9	59.9
Lake Michigan	Some more needed	23.0	25.4	26.8	24.9
	Much more needed	14.4	9.9	15.3	13.7
	Too much	0.4	8.3	3.8	2.6
Inland lakes	Adequate	52.6	49.3	53.6	52.0
Infand lakes	Some more needed	32.7	26.4	30.1	31.3
	Much more needed	14.3	16.0	12.4	14.1
	Too much	0.4	2.8	1.0	1.0
Rivers	Adequate	60.0	62.2	54.5	58.5
KIVCIS	Some more needed	29.9	24.5	31.4	29.9
	Much more needed	9.6	10.5	13.2	10.5
	Too much	0.4	3.5	1.0	1.0
Beaches	Adequate	59.0	55.6	53.6	56.8
Deaches	Some more needed	24.1	26.1	29.7	26.4
	Much more needed	16.4	14.8	15.8	15.9

Table 41: Level of public access

		Berrien	Cass	Van Buren	W Total
	Too much	1.1%	3.5%	1.0%	1.5%
	Adequate	63.7	65.2	67.8	64.7
Campgrounds	Some more need	30.4	24.1	24.4	28.3
	Much more needed	4.8	7.1	6.8	5.5
	Too much	0.0	0.7	1.0	0.3
Historical/cultural	Adequate	51.6	50.7	52.0	51.7
attractions	Some more need	38.3	40.7	38.0	38.4
	Much more needed	10.1	7.9	9.0	9.6
	Too much	0.9	0.7	1.5	0.9
	Adequate	31.1	30.0	48.5	35.3
Biking trails	Some more need	48.1	45.0	37.5	44.4
	Much more needed	19.9	24.3	12.5	19.4
	Too much	1.7	1.5	3.2	2.0
	Adequate	47.3	49.2	59.5	50.4
Mountain biking trails	Some more need	38.2	34.8	29.7	35.6
	Much more needed	12.8	14.4	7.6	11.9
	Too much	0.0	0.0	1.0	0.3
	Adequate	36.4	40.7	49.2	40.6
Hiking trails	Some more need	47.8	40.7	38.2	43.9
	Much more needed	15.7	18.6	11.6	15.2
	Too much	1.0	1.4	2.7	1.3
	Adequate	61.6	54.3	56.4	59.0
Horse (equestrian) trails	Some more need	29.8	34.1	34.0	31.7
	Much more needed	7.6	10.1	6.9	8.0
	Too much	0.5	1.5	1.5	0.9
	Adequate	59.1	54.7	54.1	56.8
Cross country ski trails	Some more need	34.1	35.0	33.5	34.4
	Much more needed	6.3	8.8	10.8	8.0
	Too much	11.1	11.4	14.9	12.6
	Adequate	65.0	65.7	64.4	64.4
Snowmobile trails	Some more need	19.0	15.0	17.3	17.9
	Much more needed	4.9	7.9	3.5	5.1
	Too much	16.0	16.1	21.0	17.7
	Adequate	56.1	54.7	56.9	55.7
Off road vehicle trails	Some more need	21.6	19.0	16.4	19.7
	Much more needed	6.3	10.2	5.6	6.9
	Too much	11.5	9.4	6.6	9.9
TT / 1 1	Adequate	56.4	56.1	61.9	57.6
Hunting land	Some more need	21.5	18.7	20.8	20.6
	Much more needed	10.6	15.8	10.7	11.9
	Too much	0.4	0.7	2.0	0.8
0 1	Adequate	36.1	36.4	38.7	36.6
Open and green spaces	Some more need	41.6	38.6	43.1	41.8
	Much more needed	21.8	24.3	16.2	20.7

Table 42: Amount of resources/assets in the county

		Berrien	Cass	Van Buren	W Total
	Too much	2.0%	2.1%	1.0%	1.7%
Agricultural lands	Adequate	56.6	59.4	58.5	57.5
	Some more need	24.6	22.4	28.5	24.9
	Much more needed	16.8	16.1	12.0	15.9
	Too much	0.4	0.7	2.5	0.8
	Adequate	53.2	49.7	47.3	51.0
Public parks	Some more need	34.5	38.6	39.9	36.4
	Much more needed	11.8	11.0	10.3	11.7
	Too much	0.4	2.1	1.5	0.9
	Adequate	44.0	37.1	37.4	41.5
Protected natural areas	Some more need	34.9	37.1	41.4	36.9
	Much more needed	20.7	23.6	19.7	20.6
	Too much	0.9	0.7	2.0	1.0
	Adequate	62.3	48.2	57.7	59.0
Piers for fishing	Some more need	28.7	36.9	31.1	30.7
	Much more needed	8.1	14.2	9.2	9.3
	Too much	0.9	1.4	1.0	0.9
	Adequate	62.0	53.5	62.4	60.7
Playgrounds	Some more need	28.0	37.3	30.2	30.3
	Much more needed	9.1	7.7	6.4	8.1
	Too much	0.4	1.4	1.0	0.7
· · · · · · · · ·	Adequate	60.7	61.4	55.2	59.0
Lake Michigan beaches	Some more need	27.5	27.1	29.6	28.3
	Much more needed	11.4	10.0	14.3	12.0
	Too much	2.5	2.1	2.5	2.3
Ball fields (soccer, baseball,	Adequate	73.9	71.3	72.1	73.0
etc.)	Some more need	18.9	20.3	21.4	19.9
, ,	Much more needed	4.7	6.3	4.0	4.8
	Too much	18.3	16.9	19.6	18.5
	Adequate	72.9	73.9	72.1	72.8
Golf courses	Some more need	7.6	7.7	7.8	7.5
	Much more needed	1.1	1.4	0.5	1.2
	Too much	1.1	1.4	1.5	1.2
Canoe/kayak launches	Adequate	57.0	59.6	54.1	56.9
	Some more need	35.7	30.5	36.2	35.0
	Much more needed	6.1	8.5	8.2	6.9
	Too much	8.1	9.5	8.3	8.4
	Adequate	69.7	64.2	68.2	68.8
Skateboarding parks	Some more need	19.1	21.9	18.8	19.2
	Much more needed	3.1	4.4	4.7	3.7

Availability of green and open space and water resources in the county that enhance residents' quality of life was also measured. Eight out of ten residents indicated availability of green and open space and water resources in the county enhance their quality of life (table 43). The most important resource to enhancing respondents' life was lakes, followed by parks and rivers (table 44). Activity and recreation and health/spiritual/mental were most frequently mentioned as aspects of enhancing residents' life (table 44).

	Berrien	Cass	Van Buren	W Total
Yes	84.0%	80.6%	81.9%	82.6%
No	16.0	19.4	18.1	17.4

Table 43: The availability of green and open space and water resources in the county to enhance quality of life

Table 44: Open-ended comments on the question: what is the one land or water area in the county that is most important to enhancing your quality of life

	Berrien	Cass	Van Buren	Total Mentions
Lake	108	113	119	340
Parks & recreation including golf	19	18	10	47
River	22	12	8	42
Own property/home	6	14	11	31
Beach	21	1	5	27
Other (e.g., Waterway, Local care to walk, wildlife, etc.)	2	13	9	24
Trails/greenways	5	4	12	21
Outdoor landscapes	5	3	7	15
Farmland	3	6	5	14

	Berrien	Cass	Van Buren	Total Mentions
Activities/recreation	67	74	76	217
Health/spiritual/mental	68	64	59	191
Aesthetics	21	21	21	63
Other (e.g., quiet neighborhood, unique Lakes providing economic stability, etc.)	14	17	19	50
Access to nature	16	14	15	45
Environmental quality	14	10	7	31

Table 45: Open-ended comments on the question: what aspects of your life are enhanced by the presence of the land or water resource?

Additionally, respondents were asked why they choose to own a home in the county. Family ties, natural landscapes and views, and proximity to Lack Michigan are more likely to be "extremely important" for choosing to own a home in the county." The other important reasons included "friends close by, family legacy, presence of wildlife, outdoor recreation, employment, and education opportunities" (table 46).

		Berrien	Cass	Van Buren	W Total
	Not important at all	20.7%	19.8%	25.0%	21.3%
	Slightly important	6.1	4.0	8.2	6.6
Family ties	Moderately important	8.9	11.4	10.9	9.6
	Very important	22.8	20.1	23.4	21.9
	Extremely important	41.5	44.7	32.4	40.6
	Not important at all	17.3	15.3	24.2	18.8
	Slightly important	11.9	13.4	12.9	12.1
Friends close by	Moderately important	19.8	21.8	21.4	20.6
	Very important	23.9	24.5	22.2	23.1
	Extremely important	27.2	24.9	19.4	25.3
	Not important at all	34.7	37.5	44.2	37.0
	Slightly important	7.9	7.7	6.0	7.7
Family legacy	Moderately important	17.2	11.6	14.1	15.2
	Very important	15.5	14.7	15.7	15.2
	Extremely important	24.7	28.6	20.1	24.9
	Not important at all	7.0	6.7	8.7	7.6
	Slightly important	5.3	7.5	7.1	6.0
Natural landscapes/views	Moderately important	22.6	23.2	24.1	22.7
	Very important	35.4	33.7	35.6	34.2
	Extremely important	29.6	28.8	24.5	29.5
	Not important at all	8.0	29.5	18.9	14.7
	Slightly important	9.6	23.4	10.2	12.0
Proximity to Lake Michigan	Moderately important	22.7	23.0	29.9	24.1
	Very important	23.1	13.0	21.3	20.3
	Extremely important	36.7	11.1	19.7	28.8
	Not important at all	19.1	29.3	31.7	24.2
	Slightly important	21.2	24.3	21.7	21.3
Local culture/traditions	Moderately important	25.4	23.2	26.9	25.9
	Very important	20.8	13.5	12.0	16.8
	Extremely important	13.6	9.7	7.6	11.8
	Not important at all	11.2	7.9	9.4	10.3
	Slightly important	9.5	10.6	11.8	10.2
Presence of wildlife	Moderately important	27.7	19.2	28.7	25.7
	Very important	27.3	31.7	25.2	27.9
	Extremely important	24.4	30.6	24.8	25.8

Table 46: Importance of factors to choosing to own a home in the county

		Berrien	Cass	Van Buren	W Total
	Not important at all	18.9	22.1	23.1	20.7
	Slightly important	17.6	22.5	23.9	19.8
Community involvement	Moderately important	33.6	30.6	27.9	31.4
	Very important	19.3	16.7	17.1	18.3
	Extremely important	10.5	8.1	8.0	9.6
	Not important at all	10.7	7.4	8.7	9.8
	Slightly important	7.4	6.3	8.7	7.3
Outdoor recreation	Moderately important	25.0	23.0	29.4	25.3
	Very important	32.0	31.6	34.1	32.5
	Extremely important	25.0	31.6	19.0	25.2
	Not important at all	19.0	30.0	25.0	21.9
	Slightly important	8.7	7.4	11.7	9.7
Employment opportunities	Moderately important	15.3	19.3	18.8	16.9
	Very important	28.9	23.7	22.3	26.3
	Extremely important	28.1	19.6	22.3	25.3
	Not important at all	21.6	28.4	24.3	23.12
	Slightly important	11.6	9.5	14.3	12.1
Education opportunities	Moderately important	23.2	24.6	26.7	24.4
	Very important	26.1	21.6	21.1	24.1
	Extremely important	17.4	15.9	13.5	16.4

CONCLUSION AND RECOMMENDATIONS

The mail survey was conducted to gain a better understanding of local residents' perspective on conservation of water and land resources and recreation in the Berrien, Cass, and Van Buren area. The mail questionnaire was effective at gathering a broad view of conservation held by households in Berrien, Cass, and Van Buren counties. All questionnaires of a large size are subject to non-response bias. While 30% responded o the survey, 70% did not, which may suggest that the topic of conservation does not have complete broad appeal in the region.

As a final summary to the mail survey, the following key findings are noted:

- Residents have appreciation and attachment to many natural areas, open spaces, parks, and rural landscapes in the Berrien, Cass, and Van Buren area. These places and landscapes have long been part of the area's rich agriculture and natural resource history. Residents expressed deep concern for the loss of these legacies brought on by residential and commercial development, and sale of farmland and declining quality of air, water, and resources for animals, birds, fish and other resource dependent wildlife.
- Most residents indicated that both the quality and quantity of green and open spaces and water resources in the region had "stayed the same" over the past five years rather than decreasing. About one-quarter of respondents saw an increase in the quality of green and open spaces and 13% saw an increase in quantity. Less than 10% saw water resources improving in quantity and 18% saw improvement in quality. Four out of ten residents saw "the quantity of green and open spaces" decreasing over the past five years.
- Support exists for increased conservation efforts in the near future. Most residents indicated that conservation planning at a regional level should have occurred in the past or it should start now. A great number of respondents were willing to pay some amount to fund conservation. The largest group of respondents supported the highest level suggested (over \$25 per year) or \$16-\$25 per year. Donations to nonprofits or use fees (for parks & facilities) that would be invested in conservation efforts were supported over park, recreation and open space millage and various types of taxes. Residents also expressed that many levels of governments and interest groups/organizations should be involved in conservation. Seven out of ten respondents felt that collaborations and partnerships between government, citizen volunteer groups and land conservation efforts.

Finally, based on study results, the following recommendations for action are made:

- Consider the community needs analysis on a regular basis and maintain continuous review to identify changes in attitudes and approaches, particularly toward identified sites of conservation and recreation importance.
- Identify short and long-term goals and priorities for municipal and nonprofit conservation and recreation organizations based on the responses provided in this study.
- Ensure the incorporation of conservation and recreation issues into municipal planning processes and public outreach efforts.
- Enhance marketing and communication of conservation and recreation issues by municipal and nonprofit conservation and recreation organizations.
- Use public and private resources and partnerships to craft a broad, unifying conservation and recreation vision for the Berrien, Cass, and Van Buren region that concerned citizens will value and that diverse communities and organizations can buy into.
- Brand agricultural conservation and local food production and distribution, so residents and visitors are aware of the significance of this industry.
- Move toward more recycling and energy efficient programs that reduce the human impact on green and open spaces (littering), water (fuel discharge), and air (carbon emission).
- Market non-motorized transportation using trails and bike pathways. Continue to add trails and make connections to places where people live, work, and play.