SOCIAL PROFILE

LA MOINE RIVER ECOSYSTEM PARTNERSHIP

NOVEMBER 2005

ILLINOIS

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

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This purpose of this report is to document socioeconomic issues of importance and citizens' concerns for the La Moine River watershed in west-central Illinois. The report provides data related to who lives in the watershed, how citizens earn their livelihood, how citizens use the natural resources in the watershed, how natural resources impact citizens, the vision that citizens have for their watershed, landowners' opinions about best management practices, and environmental attitudes[1]. This data is intended to assist the watershed planning committee with the development and implementation of a watershed management plan. The Illinois Department of Natural Resources Ecosystems Program and the La Moine River Ecosystem Partnership (LREP) provided input on the creation of this report and collection of data.

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[1] K.K. McDermaid and D.C. Barnstable. 2001. *Step-by-step guide to conducting a social profile for watershed planning*. Urbana: University of Illinois, Department of Natural Resources and Environmental Sciences.

METHODS

Socioeconomic data was collected from fall 2003 through winter 2005. Demographic information was obtained from the U.S. Census Bureau[2], and two mail surveys were conducted[3]. All mean scores are weighted averages that exclude those answering in the *Don't know* category.

Demographic data

The most easily accessed demographic data provided by the U.S. Census Bureau is presented on a county basis. Because watershed boundaries do not correlate with county boundaries, a method of extracting Census Bureau data at a smaller scale that conforms closely to watershed boundaries was developed for this project. The demographic data presented in this report is closely correlated to the watershed boundary and is estimated for the year 2005 based on the 2000 U.S. Census unless otherwise noted.

Mail survey of watershed residents

In the fall of 2003, a mail survey of residents in the La Moine River watershed was conducted. Using U.S. Census Bureau data, total population was estimated at 56,480, and a sample of 717 residents was randomly selected from telephone listings. To statistically represent the residents ($p<.05$), 245 responses were needed; 287 were ultimately received.

Selected residents received a four-page questionnaire in mid-September and received a thank-you postcard 2 weeks later. A second questionnaire was mailed to nonrespondents in mid-October. In the remainder of this report, this survey and results from it will be referred to as the *resident survey*.

The purpose of the resident survey was to identify citizens' perceptions of problems in the watershed, to identify which land uses citizens prefer, to identify how residents use the natural resources in the area, and to give residents an opportunity for public participation.

The largest response was from citizens residing in the cities of Rushville (28) and Carthage (24), while multiple residents in Colchester (18), Mount Sterling (13), and LaHarpe (10) also responded. The majority of respondents represented numerous smaller towns in the watershed. Fifty percent of respondents reside in an urban area, while 22% classified themselves as "non-farm rural landowners." Others classified themselves as "farm operators" (15%) and "absentee owners of farmland" (4%), and 9% did not respond to the question.

Mail survey of watershed landowners

In the spring of 2004, a mail survey of selected landowners in the watershed was conducted. To be included in the survey, a landowner must have satisfied one of the following selection criteria:

[2] Demographic data was compiled by Patrick Curry, University of Illinois Extension.

[3] Surveys were conducted by Karyn McDermaid, University of Illinois, Department of Natural Resources and Environmental Sciences.

1) own land adjacent to 303(d)-listed streams[4];

2) own land adjacent to lands managed by the Illinois Department of Natural Resources; Illinois Natural Lands Inventory sites; Land and Water Reserves; Nature Preserve; and/or Biologically Significant Streams; and/or

3) own land deemed critical as defined by the LREP and/or scientists with the Illinois Department of National Resources and the USDA Natural Resources Conservation Service[5].

Once the critical areas in the watershed were identified (233,051 total critical acres), plat maps were used to identify specific properties and create the mailing list.

Ultimately 1,689 landowners in the watershed were identified to comprise the population group, and all were surveyed. Landowners were mailed a 10-page questionnaire in early March 2004 and a thank-you postcard 2 weeks later. A second questionnaire was mailed to nonrespondents in May. Completed questionnaires were received from 514 residents, for a response rate of 30%. In the remainder of this report, this survey and results from it will be referred to as the *landowner survey*.

The purpose of the landowner survey was to identify landowners' perceptions of problems in the watershed, which land uses landowners prefer, the type and amount of management occurring on rural lands, and landowner willingness to receive technical and financial assistance to employ best management practices.

The largest response was from citizens residing in McDonough (33%), Hancock (26%), and Brown (26%) counties, while residents in Adams (6%), Schuyler (6%), and Fulton (4%) counties also responded. One percent of respondents did not indicate where they reside. Forty-five percent of respondents identified themselves as "landowners," while 43% identified themselves as "landowner/operator." Others classified themselves as "operator" (1%) or "other" (6%); 4% did not reply to this question.

RESULTS AND SOCIOECONOMIC DATA

Who lives in the watershed

In 2005 an estimated 56,480 people lived in the La Moine Watershed, down from 58,433 in 1990 (3.3% loss). The gradual loss of population is typical of many remote rural areas in Illinois. By 2010 the total population is projected to decline another 1%. It is important to note that 12% of those living in the watershed (over 7,000 persons) are housed in group quarters, including nearly 2,000 inmates in the Western Illinois Correctional Center and 4,000 students at Western Illinois University.

[4] Waters that will not attain applicable water-quality standards with technology-based controls alone; and/or waters for which controls on thermal discharges are not stringent enough to assure protection and propagation of a balanced indigenous population of shellfish, fish, and wildlife sufficient to achieve water-quality standards.

[5] Jeff Boeckler, Illinois Department of Natural Resources Ecosystems Program, conducted personal interviews with staff. The boundaries of areas deemed critical were physically drawn on a base map and transferred via GIS into a digital format.

Over one-third of the watershed population resides in Macomb, by far the largest city, with a 2005 population of 19,250. Across the entire watershed about 36,500 people (65% of the total) live in one of the 25 incorporated communities. Macomb is the only community with a population greater than 4,000. The overall population density is 29 persons per square mile. When the municipal population (36,700) and area (30 square miles) are subtracted from the total, the density decreases to 10 persons per square mile, which qualifies as one of the most sparsely settled areas in Illinois.

The age profile for the watershed is strongly influenced by the presence of the correctional center and Western Illinois University. In 2005 an estimated 15.5% of the population was over 65 years of age. When those living in group quarters are excluded, the percentage of seniors increases to 18.8%. Age-specific population losses are occurring in several groups, including school age children (0–19 years), young adults (25–34 years) and seniors (60–80 years).

The total number of households increased less than .5% between 1990 and 2000. The 2005 estimate of 21,379 households is slightly below the 2000 level. Population loss is contributing to relatively high vacancy rates for housing, with a 2005 estimate of 11% vacant. Only 30% of households have children, compared with 36% in Illinois.

Table 1. La Moine Watershed population demographics.

Total watershed population	56,480
Projected population change from 2005 to 2010	– 1.0%
Total number of households	21,379

Population ages 17 and younger	21%
Population ages 18 to 64	63%
Population ages 65 and older	16%
Median age, 2005	36

How citizens earn their livelihood

The labor force—persons 16 years and older employed or unemployed—increased by 9.3% between 1990 and 2000, primarily as a result of the growth in the number of females entering the labor force. This is remarkable given that the adult population contracted by 1.4%. The percent of the population 16 years and older in the labor force (63%) is still below the Illinois average of 66%.

In 2005 an estimated 29,580 persons were in the labor force. The 2004 average unemployment rate of 5.0% was below the U.S. and Illinois rates. The unemployment rate is likely to remain low because the labor force growth is limited by demographic factors, including a shrinking population and a large number of persons near retirement age.

In this remote rural area, the proportion of workers commuting to employment outside their county of residence is increasing. In 1990 only 18.5% commuted outside county boundaries. By 2000 the proportion increased nearly 6% to 24.4%. The

average travel time to work increased 19% between 1990 and 2000, from 15.7 to 18.7 minutes, but remained below the Illinois average of 28 minutes.

The service sector is the largest source of employment in the region, with 36% of all jobs. Within this sector, education (13%) and health care (9%) are the largest employers. The retail sector, dominated by eating and drinking places (7.7%), is the second largest sector, with 20% of all employees. Only two other sectors employed over 1,000 persons, wholesale trade (9.4%) and manufacturing (6.3%). Federal, state, and local government combined contribute 6% of all employment.

All income measures lag Illinois averages, although the growth in income has been slightly better than Illinois average growth. In 2005 the median household income is $36,905, compared to $53,053 for Illinois; per capita income ($19,231) was only 71% of the Illinois average ($27,097). Poverty levels are significantly above the Illinois average, although lower than in 1990. In 2000, 15.4% of households were below the poverty level, compared to 10.1% statewide. These data are influenced by the WIU student population. Nonfamily household poverty levels are twice the Illinois average—10.8% compared to 4.8% for Illinois.

Table 2. La Moine River watershed income demographics.

Labor Force, 2005	29,580
Unemployment rate, 2004 average	5.0%

Median household income, 2005	$36,905
Per capita income, 2005	$19,231

How citizens use and impact the natural resources in the watershed

The land area of the La Moine River watershed is 2,140 square miles, or 1,369,652 acres. Agriculture is the dominant land use.

Agriculture/crop production

According to an assessment published in 2002, there are 809,579 acres (60% of total watershed acres) of row-crop production in the watershed[6]. The Farm Service Agency reports that 52,067 acres (~4% of total watershed acres) are enrolled in the USDA Conservation Reserve Program (CRP), Conservation Reserve Enhancement Program (CREP), and/or Wetland Reserve Program (WRP)[7]. In the landowner survey, 340 respondents (66%) reported a total of 75,838 acres in conservation practices, while 285 (55%) reported a total of 55,632 acres specifically in conservation tillage.

Grassland

There are 194,515 acres (14% of total watershed acres) of grassland in the watershed[8]. In the landowner survey, 336 respondents (65%) reported owning between 1 and

[6] USDA National Agriculture Statistics Service, Illinois Department of Natural Resources, and Illinois Department of Agriculture. 2002. *Land Cover of Illinois 1999-2000.* Springfield, IL.

[7] Farm Services Agency, Illinois Department of Natural Resources, 2004.

[8] USDA National Agriculture Statistics Service, Illinois Department of Natural Resources, and Illinois Department of Agriculture. 2002. *Land Cover of Illinois 1999-2000.* Springfield, IL.

1,000 acres of grassland. They also reported a variety of management and recreational activities occurring on their grasslands. Recreational activities include hunting (259 responses), wildlife observation (186 responses), and hiking (118 responses). Management activities include grazing and burning.

Table 3. Landowner survey: Management activities on grasslands.

ACTIVITY	**Number of responses**
Cattle grazing year-round	69
Cattle grazing 25% to 75% of the year	86
Cattle grazing once per year or less	5
Horse grazing	17
Sheep grazing	5
Harvest	2
Burning annually	17
Burning every other year	4
Burning every 3 years	4
Burning every 4 to 6 years	3
Burning rarely	15

Woodland

There are 292,742 acres of woodland (2% of total watershed acres) in the watershed[9]. Three hundred and ninety-four landowner respondents (77%) reported that the average acreage of woodland is 105 acres. (The median is 59 acres, and the mode is 100 acres.) Respondents to the landowner survey reported a variety of management and recreational activities occurring on their personal woodlands. Recreational activities include hunting (302 responses), wildlife observation (227 responses), and hiking (155 responses). Management activities include grazing, burning, thinning, pruning, harvesting, planning, and insect control.

Streamside land

Eighty-one percent of landowner respondents (415) reported owning land adjacent to a stream or river.

Outdoor recreation

Respondents to the resident survey indicated that outdoor recreation is important in the watershed. About 74% of resident respondents reported that they visit a park more than once a year. About half participate in hiking and/or fishing. About 35% participate in hunting, camping and/or biking. On average, residents participate in outdoor recreational activities 5 to 12 times per year.

[9] USDA National Agriculture Statistics Service, Illinois Department of Natural Resources, and Illinois Department of Agriculture. 2002. *Land Cover of Illinois 1999-2000.* Springfield, IL.

Table 4. Landowner survey: Management activities on woodlands

ACTIVITY	**Number of responses**
Cattle grazing year-round	58
Cattle grazing spring through fall	30
Cattle grazing summer	18
Cattle grazing fall and/or winter	4
Cattle grazing less than 3 months a year	3
Cattle grazing other	16
Horse grazing	8
Burning annually	10
Burning intermittently	9
Burning rarely	7
Burning other	4
Tree thinning annually	27
Tree thinning intermittently	34
Tree thinning rarely	31
Tree thinning other	13
Pruning year-round	22
Pruning intermittently	41
Harvest annually	1
Harvest every 5 years	8
Harvest every 10 years	16
Harvest every 15 years	11
Harvest every 20 years	13
Harvest every 30 years	10
Harvest every 40-50 years	5
Harvest only once	19
Harvest occasionally	29
Harvest rarely	6
Harvest–waiting for maturity	9
Planting annually	22
Planting occasionally	53
Planting once	43
Insect control	24

How natural resource conditions impact citizens and Perceived natural resource conditions in the watershed

Respondents to the resident survey rated a variety of natural resource or environmental issues as serious problems for the watershed. Serious problems include *economic growth, soil deposits in streams, quality of drinking water,* and *groundwater quality.* Although the mean response describes these problems as severe, responses sometimes ranged from *severe* to *not a problem*, and a significant number of respondents sometimes answered

Table 5. Resident survey: Outdoor recreation in the watershed (N = 256).

TYPE OF RECREATION	Mean	PERCENT RESPONDING/TIMES PER YEAR Once (1)	2-4 (2)	5-12 (3)	+12 (4)	Never
Observe wildlife	3.17	4	21	19	43	13
Hunting	3.15	2	7	9	16	34
Fishing	2.98	4	14	10	21	49
Off-road vehicles	2.97	2	7	4	10	23
Hiking	2.60	9	16	11	13	51
Biking	2.59	6	12	8	9	65
Visit parks	2.54	11	33	25	16	15
Boating	2.46	9	11	9	9	62
Camping	2.34	8	14	9	6	63
Snowmobiling	2.15	2	1	0.4	1	96
Cross-country skiing	1.50	1	1	0	0	98

don't know. This response pattern indicates the lack of a strong majority opinion about these issues and also suggests the need for more public education about these topics.

Respondents to the resident survey were asked to rate their satisfaction level with various outdoor recreation factors. Overall, respondents were somewhat satisfied with conditions related to outdoor recreation. Respondents were least satisfied with public boat access to the La Moine River, the condition of park structures, and the types of recreational activities offered.

Respondents to the landowner survey reported a range of severity for problems associated with rural land uses. *Damage to crops by wildlife* was reported to be the most severe problem for cropland, while *stream bank erosion* and *flooding* were problems for streamside land. Fulton County respondents were more likely to report *very severe* erosion than other respondents, and Schuyler County respondents were more likely to report *severe* flooding ($p<.05$).

In an open-ended format, both surveys asked respondents to list their greatest concerns for the watershed. Thirty-eight respondents to the resident survey provided detailed comments. The responses were coded and sorted into general categories. Respondents expressed concern about streambank erosion, siltation in the streams, the lack of desirable game fish, and the overpopulation of some wildlife species. Some were concerned about the use of chemicals in the watershed. Others expressed a desire for more outdoor recreational opportunities in the watershed. There were several comments expressing dissatisfaction with the management of Argyle State Park. *(See Appendix 1.)*

Respondents to the landowner survey were asked to list their top three concerns for the watershed. Comments related to *soil erosion/soil loss* overwhelmingly outnumbered other concerns of the rural landowners. *Loss of wildlife habitat* was another often-mentioned concern.

Table 6. Resident survey: Severity of watershed problems (N=256).

TYPE OF PROBLEM	Mean	PERCENT RESPONDING Not a problem (1)	Slight/ Moderate problem (2)	Serious problem (3)	Don't know
Economic growth	3.24	8	34	49	9
Soil deposits in streams	3.11	4	49	34	14
Quality of water for drinking	3.08	10	41	42	7
Quality of groundwater	3.02	9	44	38	9
Loss of topsoil	2.92	5	54	23	18
Quality of water for fishing/swimming	2.85	10	56	26	8
Loss of wildlife habitat	2.80	17	41	32	10
Rivers and streams with eroding banks	2.77	9	55	20	16
Loss of natural areas	2.72	15	48	29	9
Solid waste disposal	2.64	15	45	21	19
Degradation of existing natural areas	2.62	11	58	18	12
Exotic or nonnative plants	2.55	17	38	19	27
Pollution from factories	2.33	27	41	18	14
Property damage from wildlife	2.27	22	34	20	13
Visual attractiveness	2.23	26	55	12	7
Seepage from septic tanks	2.17	20	48	8	24

Table 7. Resident survey: Satisfaction with outdoor recreation (N = 256).

OUTDOOR RECREATION FACTORS	Mean	PERCENT RESPONDING Not satisfied (1)	Somewhat satisfied (2)	Satisfied (3)	Don't Know
Distance traveled to recreation areas	2.50	9	28	54	9
Variety/quality of vegetation and trees at parks/natural areas	2.45	8	32	47	13
Number of parks and natural areas	2.30	16	32	43	9
Variety and quality of wildlife at parks/ natural areas	2.29	12	35	35	18
Type of recreational activities offered	2.17	19	29	33	19
Quality of restrooms, parking lots, tables, benches at parks/natural areas	2.11	21	32	30	17
Public boat and canoe access to the LaMoine River	1.82	24	15	14	47

Table 8. Landowner survey: Severity of problems associated with cropland (N = 514).

TYPE OF PROBLEM	Mean	PERCENT RESPONDING Very severe (1)	Severe (2)	Somewhat severe (3)	Not a problem (4)	No response/ Don't know
Wildlife damage	2.94	10	13	34	28	15
Erosion	3.19	5	6	42	32	14
Cropland weeds	3.29	2	9	36	36	17
Insect damage	3.51	0.2	4	29	44	23
Flooding of cropland	3.66	2	3	17	64	14

Table 9. Landowner survey: Severity of problems associated with streamside land (N = 514).

TYPE OF PROBLEM	Mean	PERCENT RESPONDING Very severe (1)	Severe (2)	Somewhat severe (3)	Not a problem (4)	No response/ Don't know
Stream bank erosion	2.92	10	12	31	25	23
Flooding	3.22	6	7	29	37	21

Table 10. Landowner survey: Self-reported concerns for watershed (comments were received from 386 respondents; some provided multiple comments).

SELF-REPORTED CONCERN	Number of comments (weighted scores)
Soil erosion/soil loss	395
Loss of habitat	283
Water quality/general	91
Government interference/loss of landowner rights	86
Farm chemicals	86
Flooding	78
Drainage/general	72
Wildlife as pests	69
Too much development/urban sprawl	67
Stream bank erosion	56
Not enough government assistance/programs	49
Loss of farm ground	47
Loss of wildlife	42
Maintain agricultural productivity	36
Pollution	35
Sedimentation	32
Weed control	28
Lack of recreation	17
Animal waste	17
Trespassing	8
Taxes	6
Too much recreation and hunting	6

Respondents to the landowner survey were also asked to list their top concerns for the land that they own and/or manage. Many expressed similar concerns about *soil erosion/soil loss* and *wildlife habitat* for their own land, as they did for the watershed in general. Concerns for their own land also included *agricultural production* and *profitability*.

Citizens' vision for the watershed; what should be done in the watershed

Desired land uses

In both the resident and landowner surveys, respondents indicated that they are generally satisfied with the current amounts of grassland, wetlands, natural floodplains,

Table 11. Landowner survey: Self-reported concerns for own land (comments were received from 367 respondents; some provided multiple comments).

CONCERN	**Number of comments (weighted scores)**
Erosion/soil loss	448
Wildlife habitat and wildlife protection	94
Profit	92
Government interference/loss of landowner rights	92
Fertility/productivity	82
Taxes	53
Trespassers/litter	51
Lack of government programs/assistance	50
Stream bank erosion	48
Cost of conservation	47
Weeds	47
Flooding	46
Water quality	37
Wildlife damage	35
Woodland management	34
Maintain land for future generations	31
Drainage/field tiles	30
Urban sprawl and development	25
Neighbor's poor practices	24
Grassland/pasture management	22
Maintaining land values	16
Fertilizer and pesticide drift	15
Pollution	13
Water quantity	13
Tillage	11
High cash rent	11
Sedimentation	5

and agricultural land. However, resident respondents indicated a desire for more wildlife habitat, more outdoor recreational opportunities, and more woodlands. Overall, landowner respondents were satisfied with the current amounts of all land types. However, McDonough County landowners tended to want more wildlife habitat than landowners in other counties ($p<.05$).

When using this data to make decisions, the mean scores must be considered with the percentages of people answering to each response category. The mean score can occur when respondents all answer the same or when responses vary across the response categories. Although the mean scores may indicate general satisfaction with the current amounts of land types, the percentages of respondents answering to each response category indicate that significant numbers of people also desire more natural

Table 12. Resident survey: Desired land types in the watershed (N = 256).

DESIRED LAND USE	Mean	PERCENT RESPONDING Less (1)	Same (2)	More (3)	Don't know
Wildlife habitat	2.58	5	28	58	9
Outdoor recreation	2.48	5	38	49	8
Forests or woodlands	2.45	5	40	45	10
Prairies or grasslands	2.37	4	48	37	11
Restored floodplains	2.28	8	43	30	19
Wetlands	2.14	14	43	26	17
Land in agriculture	1.99	17	57	16	10

Table 13. Landowner survey: Desired land types in the watershed (N=514).

DESIRED LAND USE	Mean	PERCENT RESPONDING Less (1)	Same (2)	More (3)	Don't know
Wildlife habitat	2.41	8	38	45	9
Prairies or grasslands	2.33	5	51	35	9
Forests or woodlands	2.27	5	58	29	8
Outdoor recreation	2.23	11	47	31	11
Restored floodplains	2.09	17	41	25	17
Land in agriculture	2.05	14	59	19	9
Wetlands	1.92	25	44	19	13

land types in the watershed. For example, 37% of resident respondents would like to see more grasslands, while another 48% would prefer the same amount of grasslands. When averaged with the other responses, the mean score indicates satisfaction with the current amounts. Accepting the mean score as the community desire leaves 37% of the population unsatisfied, a sizeable segment.

The landowner survey asked two additional questions about the amount of straightened or channelized rivers or streams and the amount of developed or urban areas in the watershed. Landowner respondents were in favor of less developed areas. However, responses were split over the amount of straightened streams. About 27% would like less straightened streams, another 21% would like more straightened streams, and 34% would like the same amount. Although the mean score reports desire for the same amount, the responses to each category indicate that significant numbers of people disagree with the mean response.

Table 14. Landowner survey: Desired land types (N = 514).

DESIRED LAND USE	Mean	PERCENT RESPONDING Less (1)	Same (2)	More (3)	Don't know
Straightened streams	1.93	27	34	21	17
Urban development	1.34	62	21	4	13

Grasslands/woodlands

Although the mean response from the landowner survey indicates a desire for the same amount of grassland, those already owning grassland indicated that they would like more. Grassland owners reported owning a total of 30,454 acres of grassland, with a mean acreage of 91 acres. They also indicated that the ideal mean acreage would be 107 acres. This would be an increase of 5,376 acres of grassland in the watershed.

Owners of woodland reported owning a total of 41,232 acres of woodland, with a mean acreage of 105 acres. They indicated that the ideal mean acreage would be 109 acres. This would be an increase of 1,576 acres of woodland in the watershed. Resident respondents also expressed a desire for more woodlands in the watershed.

Who's responsible?

Respondents were asked to identify the impact that factories, local businesses, homeowners, family farmers, and corporate farmers are having on the natural environment in their community. Residents appear to believe that all are contributing about equally.

The landowner survey also asked respondents to identify who should be responsible for addressing the watershed concerns that they identified. Responses were varied, but 27% of respondents indicated that individual landowners should be responsible for these problems, while 21% thought that the federal government should be responsible.

Table 15. Landowner survey: Responsibility for self-reported watershed concerns (N = 514).

RESPONSIBLE PARTY	**Percent responding**
Individual landowners	27
Federal government	21
State government	12
County government	5
Other	4
Farm groups	2
Township government	2
Environmental groups	1
Local municipality	0
Industry/business	0
No response/don't know	26

The landowner survey also asked about the effectiveness of individual landowners in protecting natural resources. Seventy-nine percent of respondents replied that landowners are effective or somewhat effective at protecting natural resources with government assistance. Fifty-eight percent of respondents replied that landowners are effective or somewhat effective without government assistance. Respondents from Hancock County were an exception and replied that landowners' ability to protect natural resources with government assistance is not effective ($p<.05$).

Table 16. Landowner survey: Effectiveness of landowners at protecting natural resources (N = 514).

LANDOWNER EFFECTIVENESS	Mean	PERCENT RESPONDING Somewhat effective (1)	Effective (2)	Not effective (3)	No response/ don't know
With government assistance	1.57	45	34	7	14
Without government assistance	2.13	17	41	28	14

Landowner respondents reported that they have personally received assistance from a variety of government offices, and that they are generally satisfied with the assistance that they received. McDonough County respondents were more likely than other respondents to report satisfaction with the availability of technical assistance ($p<.05$).

Table 17. Landowner survey: Landowners who have received assistance from government agencies (N = 785; some respondents reported receiving assistance from more than one agency)

AGENCY	Number responding
SWCD	260
FSA	231
NRCS	174
IDNR	81
Other	39

Table 18. Landowner survey: Satisfaction with government assistance (N = 514).

ATTRIBUTE BEING EVALUATED	Mean	PERCENT RESPONDING Highly satisfied (1)	Satisfied (2)	Dissatisfied (3)	Highly dissatisfied (4)	No response/ don't know
Knowledge of agency staff	1.73	24	41	3	1	31
Availability of technical assistance	1.79	23	40	5	2	31
Quality of technical assistance	1.80	22	40	5	1	32
Availability of financial assistance	2.02	14	41	9	3	33

Landowner suggestions for improvement

In addition to listing their watershed concerns, landowner respondents were asked to make suggestions for addressing their concerns. The responses were coded and sorted into general categories. Landowners suggested a variety of best management practices and uses of natural lands to address the problems that they indicated (212 suggestions). Respondents also suggested that funding for government assistance programs should be increased (113 suggestions). Interestingly, there were 64 suggestions to increase regulations of rural land use, while only 13 comments related to decreasing regulations and government involvement.

Table 19. Landowner survey: Landowner suggestions for addressing their watershed concerns (comments were received from 320 respondents; some provided multiple comments).

SUGGESTIONS	**Number of comments**
Land use and farming practices	212
More funding/incentives	113
More regulation	64
Stream management	42
Research and monitoring	40
Education	23
Better cooperation and planning	22
Less regulation	13
Drainage	11
Limit development	8

Table 20. Landowner survey: Self-reported solutions to self-reported watershed concerns (comments were received from 320 respondents; some provided multiple comments).

SOLUTIONS TO WATERSHED CONCERNS	**Number of comments**	**Subtotal number of comments**
Land use and farming practices		**212**
More filter strips/waterways/terraces	35	
More woodlands	31	
More grassland	29	
Reduced tillage	25	
More buffer strips	13	
More ponds/lakes	12	
Less chemical use	11	
Less land in agricultural production	8	
More common sense	6	
Less tree harvesting	5	
Less wetlands	4	
More wetlands	4	
More fencerows	4	
Less government purchase of farmland	3	
More mowing	3	
More natural resource tourism/recreation	3	
More land in state ownership	2	
Less trees	2	
More nutrient management plans	2	
Keep livestock out of streams	2	
Less mowing	2	
More herbicide use on weeds	1	
Encourage organic farming	1	
Clean up garbage	1	
Limit fall plowing	1	
Introduce new grain crops	1	
More windbreaks	1	

Table 20 continued next page

Table 20 (continued)

SOLUTIONS TO WATERSHED CONCERNS	Number of comments	Subtotal number of comments
Incentive programs		**113**
More funding for government incentive programs	78	
More set-aside acres	35	
Change regulation		**64**
Allow more hunting of coyotes and deer	26	
Better enforcement of laws	8	
More restrictions/government regulations	5	
Implement fines for lack of conservation tillage	5	
Tax breaks for conservation practices	5	
Improved/stricter zoning laws	4	
Streamline government red tape for programs	3	
Access to funding less political	2	
Regulate size of mega-farms	2	
Less trespassing	2	
Regulate mining	1	
Lower taxes	1	
Stream management		**42**
More dry dams	10	
Slow streams with dams	8	
Remove debris from streams/remove trees from stream banks	7	
Straighten streams	6	
More road maintenance	3	
More stream bank restoration	2	
More levees	2	
Dredge streams	2	
Decrease barge traffic	1	
Less levees	1	
Research and monitoring		**40**
More technical assistance	33	
Better and more frequent monitoring	6	
More research and science	1	
Education		**23**
Education of rural landowners and urban dwellers	23	
Better cooperation and planning		**22**
More community programs	7	
Better cooperation between landowners, farmers, government	5	
More local control	4	
Less environmental groups	3	
Develop comprehensive land use plan	2	
More hazardous waste collection	1	
Less regulation		**13**
Less government interference	13	

Table 20 (continued)

SOLUTIONS TO WATERSHED CONCERNS	Number of comments	Subtotal number of comments
Drainage		**11**
Maintain field tile	5	
More field tile	5	
Clean/dredge ditches	1	
Limit development		**8**
Limit development in rural areas	8	

Landowners' opinions about best management practices

Questions pertaining to specific land management practices were asked of the landowners. On average, 20% of respondents (103) reported interest in installing a variety of best management practices for cropland, grassland, woodland, and streamside land with technical and financial assistance from agencies. Twenty-four percent (121) expressed a willingness to participate in a stream bank restoration program while another 29% answered *maybe* to this question. Twenty percent of landowner respondents (103) reported an interest in converting acres (30 on average) to treatment wetlands.

Table 21. Landowner survey: Willingness to install best management practices (N = 514).

BEST MANAGEMENT PRACTICES	PERCENT RESPONDING **Willing to install, with both technical and financial assistance**
Cropland	
Habitat improvement	29
Nutrient management	18
Conservation easements	11
Wetland installation	15
Reduced-tillage program	11
Grassland	
Habitat improvement	27
Pest management	18
Native grass planting	18
Nutrient management	20
Conservation easements	12
Burning grassland	13
Woodland	
Habitat improvement	32
Timber stand improvement	29
Tree planting	27
Pest management	21
Conservation easements	19
Timber harvest	14
Burning	13
Streamside	
Plant a buffer with trees and/or shrubs	28
Route field tile drainage to a treatment wetland	24

Table 22. Landowner survey: Willingness to participate in a stream bank restoration program (N = 514).

WILLINGNESS TO PARTICIPATE	**Percent responding**
Yes	24
Maybe	29
No	17
Already participate	4
No response/don't know	26

Table 23. Landowner survey: Interest in letting volunteer groups install practices (N = 514).

	PERCENT RESPONDING			
INTEREST	**Yes**	**Maybe**	**No**	**No response/ don't know**
Let a volunteer group install a grassland/prairie	10	24	44	22
Let a volunteer group install a wetland	9	19	49	23
Let a volunteer group install a riparian buffer	12	23	43	22
Let land be used for research demonstrations	14	35	34	17

Table 24. Landowner survey: Number of acres willing to convert to treatment wetlands.

NUMBER OF ACRES	**Number of responses**
1	6
2	8
3	2
4	4
5	16
6	1
8	1
10	8
15	1
20	2
25	3
30	3
40	4
50	1
60	1
80	2
100	2
150	1
300	1
500	1

Table 25. Landowner survey: Interest in assistance with installing best management practices (N = 514).

INTEREST IN ASSISTANCE WITH BEST MANAGEMENT PRACTICES	PERCENT RESPONDING					
Cropland	**Yes, with technical assistance**	**Yes, with financial assistance**	**Yes, with both technical and financial assistance**	**Already participate**	**No**	**No response/ don't know**
Reduced tillage program	1	4	11	41	19	25
Nutrient management	5	3	18	28	20	27
Habitat improvement	5	5	29	14	25	23
Wetland installation	1	3	15	7	46	27
Conservation easement	2	3	11	12	37	36
Grassland						
Native grass planting	2	3	18	8	32	38
Burning grassland	3	2	13	3	42	39
Pest management	3	3	18	8	28	40
Habitat improvement	3	6	27	7	23	34
Nutrient management	3	3	20	11	23	41
Conservation easements	1	3	12	7	32	44
Woodland						
Timber harvest	8	2	19	8	34	30
Timber stand improvement	5	3	29	7	27	29
Tree planting	3	4	27	10	27	29
Burning	5	1	13	3	46	32
Pest management	4	2	21	3	35	35
Habitat improvement	5	3	32	7	25	28
Conservation easements	1	3	14	8	37	37
Streamside land						
Plant a buffer with trees and/or shrubs	2	3	28	18	18	31
Route field tile drainage to a treatment wetland	1	2	24	6	32	35

Most landowner respondents gave permission for their personal information to be shared with agencies that could assist them. This information was used to create a GIS (geographical information system) layer of "landowner interest" to overlay with GIS layers that indicate levels of landscape condition and quality.[10] Together this data provides direction on the areas most in need of restoration, with the landowners who are most receptive to receiving assistance. The La Moine Ecosystem Partnership may use this information to guide the allocation of financial and technical resources.

In an open-ended format, landowner respondents were asked to describe the obstacles that they face when implementing conservation practices and achieving their conservation goals. The responses were coded and sorted into general categories. The greatest number of responses related to lack of money or costs (170 responses). Many others faced obstacles with government assistance, such as lack of government funding (23 responses), cost-share problems (16), government red tape (13), and government regulations/interference (7). Lack of time also received numerous comments (35).

[10] All GIS work and the following map were created by Jeff Boeckler, Illinois Department of Natural Resources Ecosystem Program.

Diagram 1. Map of critical areas matched with willing landowners.

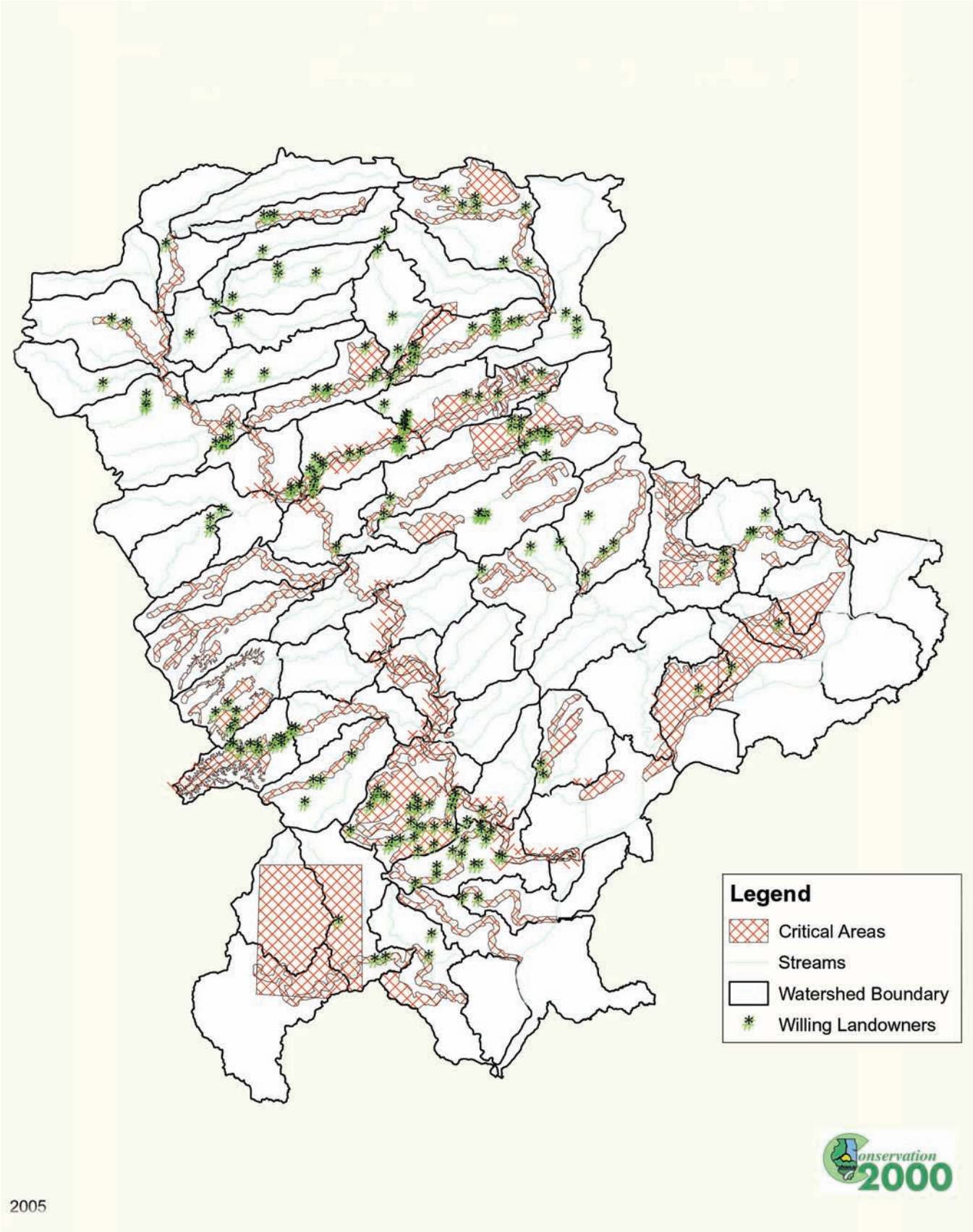

Table 26. Landowner survey: Self-reported obstacles to implementing conservation practices (N = 351).

OBSTACLE	**Number of comments**
Lack of money/costs	170
Lack of government funding/incentives	43
Lack of time	35
Problems with cost-share	16
Lack of knowledge	14
Red tape with government assistance	13
Lack of technical assistance	9
Don't qualify for government programs	8
Government regulations/interference	7
Maintaining productivity/profitability	6
Weeds	6
Age/physical ability	5
Lack of equipment	5
Lack of control	4
Already doing what I can	4
Taxes	4
Tenant won't do	4
Erosion	3
Drainage	3
Wildlife damage	3
Lack of resources	3
Neighbor's practices	3
Road maintenance	2
Weather	2
Wildlife predators	1
Upstream management	1
Flooding	1

Landowners were asked to rank their level of concern with various aspects related to creating treatment wetlands and installing riparian buffers. The concerns voiced were not overwhelming, but the cost not covered by cost-share programs was a common concern. Landowners in Brown County also expressed concern about the amount of land taken out of agricultural production, the negative impact on drainage, and the amount of undesirable wildlife that restored areas might attract ($p<.05$).

Table 27. Landowner survey: Self-reported concerns associated with routing field tile drainage to a treatment wetland and with planting a buffer with trees and/or shrubs (N = 514).

		PERCENT RESPONDING				
	Mean	**Great concern (1)**	**Concern (2)**	**Somewhat of a concern (3)**	**Not a concern (4)**	**No response/ don't know**
Treatment wetland concerns						
Even with cost-share, I could not afford it.	2.00	19	17	13	16	36
It would require too much effort to maintain.	2.66	13	15	15	20	37
It would eliminate too much land from agricultural production.	2.94	11	12	15	29	33
It would impact farming practices on adjacent land.	3.07	8	10	12	30	40
It would negatively impact drainage.	3.19	7	8	12	32	41
It would not be effective at reducing soil and nutrient loading into the stream.	3.26	5	7	11	32	45
It would attract undesirable wildlife.	3.27	8	8	8	40	36
I don't like participating in government programs.	3.30	8	6	9	42	35
Buffer concerns						
Even with cost-share, I could not afford it.	2.61	17	11	17	20	36
It would require too much effort to maintain.	2.88	9	11	17	23	39
It would eliminate too much land from agricultural production.	3.18	7	9	12	36	36
It would impact farming practices on adjacent land.	3.39	5	7	9	41	39
I don't like participating in government programs.	3.46	5	4	10	44	37
It would not be effective at reducing soil and nutrient loading into the stream.	3.46	5	4	10	44	37
It would attract undesirable wildlife.	3.47	5	5	8	45	38
It would negatively impact drainage.	3.56	3	5	8	41	44

Environmental attitudes

A Likert analysis was used to measure environmental attitudes of the landowner respondents. For this analysis, the questions in Table 28 were reworded to reflect a positive environmental statement, and the responses were adjusted accordingly. The adjusted mean scores were summed to produce an overall score of 40.77, indicating that landowners displayed a neutral to slightly positive environmental attitude overall. This response can serve as a baseline measure of environmental attitudes of landowners in the watershed, and these questions could be re-asked over time to monitor changing attitudes.

The landowner questionnaire provided the respondents with an opportunity to make open-ended comments about the survey and the watershed in general. Sixty-five landowners provided comments that were mostly related to the land that they own and manage. These comments provide additional insight into the attitudes, concerns, and needs of landowners in the watershed. (*See Appendix 2.*)

Table 28. Landowner survey: Environmental attitudes (N = 514).

(SCALE: 1 = STRONGLY DISAGREE; 2 = DISAGREE; 3 = UNSURE; 4 = AGREE; 5 = STRONGLY AGREE)

	SD (1)	D (2)	U (3)	A (4)	SA (5)	Don't Know	Mean
The way my neighbor manages her/his land has no impact on my land.	32	25	14	16	7	6	2.38
Land can be managed simultaneously for commodity products, recreational opportunities, water quality, and wildlife habitat.	4	5	18	40	26	7	3.85
Floodplain land should act as a natural buffer or sponge to absorb floodwaters.	4	7	25	40	16	8	3.63
Laws or regulations are the only way that most landowners will consider water quality and wildlife habitat when they manage their land.	20	24	24	20	6	7	2.66
Treatment facilities are the best way to address water quality problems.	13	26	37	14	2	8	2.64
Regulations concerning the protection and enhancement of natural resources are too strict.	7	22	42	17	5	7	2.90
Local officials and the local water company are able to take care of any problems with drinking water quality in my watershed.	9	19	38	21	5	9	2.95
I can do very little to control soil erosion on my land.	37	38	9	6	2	7	1.91
A commitment to conservation puts the farmer at an economic disadvantage.	14	37	22	14	6	7	2.57
Sometimes it is okay to degrade the environment to promote economic development.	30	33	19	8	3	7	2.15
A healthy economy depends on a healthy environment.	4	6	17	42	24	8	3.81
When managing public lands, the economic health of my watershed should be given highest priority.	3	6	35	36	11	9	3.52

Table 29. Environmental attitudes of watershed landowners as measured by a Likert Analysis.

STRENGTH OF ENVIRONMENTAL ATTITUDES	Likert scale	Landowner Likert score
Strongly positive	60	
Positive	48	40.77
Neutral	36	
Negative	24	
Strongly negative	12	

SUMMARY AND CONCLUSION

Desired land uses

Resident respondents reported a desire for more wildlife habitat and outdoor recreation. However, woodlands were the only type of habitat that they desired more of. They reported satisfaction with the current amounts of grasslands, wetlands, and restored riparian areas. This suggests that information and education about wildlife habitat are needed. Further study on the types of desired outdoor recreation is recommended, although observing wildlife was the activity resident respondents participated in the most.

Natural resource / environmental problems perceived by watershed residents

Residents perceive several serious natural resource or environmental problems in the watershed. Perceived serious problems include *economic growth, soil deposits in streams, quality of water for drinking, quality of groundwater, loss of topsoil, quality of water for fishing/swimming, loss of wildlife habitat, rivers and streams with eroding banks, loss of natural areas, solid waste disposal, degradation of existing natural areas,* and *exotic or nonnative plants.*

These results need to be considered carefully. Responses were sometimes split between various response categories, and there were many answers in the *don't know* category. These response patterns suggest that respondents may not have possessed the knowledge or experience to accurately answer the questions. When responses are split, it also indicates an opinion by only a weak majority. In these cases, there are often about 20% of residents with differing views. Without a strong majority, a significant number of residents may eventually be dissatisfied with any action or lack of action taken by the La Moine River Ecosystem Partnership.

These issues illustrate the critical need for sound scientific data and the need for comprehensive public education about natural resource and environmental issues in the watershed. Specifically, the responses indicate the need for information about the actual severity of erosion, water quality, and habitat loss in the watershed.

In an open-ended format, residents expressed numerous concerns about the condition of the La Moine River. Comments ranged from concerns about radium and herbicides in the streams to erosion and siltation. Some commented on eroding riverbanks, and others commented on the decline in desirable fish species. Several comments expressed dissatisfaction with the lack of development and management of the La Moine River for recreation. Some commented on the potential for increasing tourism related to camping, fishing, hunting, horse-riding, and boating. Many comments about Argyle State Park were made noting dissatisfaction that the park is not fully open at times and concern about mismanagement or lack of care.

Natural resource / environmental problems perceived by watershed landowners

Landowner respondents, who are predominantly farm operators, indicated that soil erosion/loss of soil and loss of wildlife habitat are the biggest issues facing the La Moine

River watershed. Rural landowners most often suggested best management practices and changes in land use as ways to address watershed problems. They also indicated a general willingness to work with government agencies to solve these problems. For their own property, landowners expressed most concern about soil loss, soil erosion, crop damage by wildlife, and productivity/profitability. Landowners also indicated that financial constraints are the greatest obstacles they face with implementing their conservation goals.

Open-ended comments from the landowner respondents related to government involvement and programs. Several expressed the strong desire for less government involvement with land management issues. Others mentioned specific problems they were experiencing on their land and asked for assistance. Several also commented that the unfunded portion of government programs is prohibitive to installing conservation practices on their land.

Landowner willingness and natural resource management by counties

Responses from individual counties provide an indication of where in the watershed best management practices might be more acceptable and where the partnership might focus its efforts. The statistical analysis of the data reveals the following ($p<.05$):

1. Adams County landowners are interested in conservation easements and reduced tillage programs.
2. Fulton County landowners are interested in conservation easements.
3. McDonough County landowners are interested in planting buffers with trees and/or shrubs.
4. Schuyler County landowners are interested in pest management, habitat improvements, and tree planting.
5. Brown County landowners are interested in nutrient management programs but not habitat improvements.

Recommendations

Based on the data presented in this report, the La Moine River Ecosystem Partnership might consider the following courses of action:

1. Incorporate residents' and landowners' desired land types and perceived problems into the goals and objectives of the watershed management plan.
2. Create a public education campaign that addresses citizens' perceptions of watershed problems compared to actual researched and documented watershed problems, especially related to soil loss, soil deposition in streams, water quality, and types of land cover as related to wildlife habitat.
3. Use GIS maps that overlay landowner willingness with ecologically critical areas to identify priority areas in the taskforce; target priority areas with funding and assistance.

4. Further research the types of outdoor recreation that are desired.
5. Make personal contacts with landowners who expressed a willingness to install best management practices. The partnership might utilize staff from University of Illinois Extension, the USDA Farm Service Agency, USDA Natural Resources Conservation, and the Illinois Department of Natural Resources to make these contacts.
6. Use public surveys to monitor changing public attitudes as public education campaigns are implemented.
7. The information contained in this report serves as baseline socio-economic data for the watershed. It is recommended that the following topics be resurveyed over time to monitor and report on changing attitudes, progress of the LREP, and impacts of implementing the watershed management plan.
    a. Severity of watershed problems;
    b. Outdoor recreation factors;
    c. Severity of problems associated with cropland and streamside land;
    d. Self-reported concern for watershed and own land;
    e. Desired land types;
    f. Suggestions for addressing watershed concerns;
    g. Self-reported obstacles to implementing conservation practices;
    h. Willingness to implement best management practices; and
    i. Environmental attitudes.

Appendix 1. Resident survey: Self-reported concerns for watershed (N = 37; responses were edited for spelling, grammar, and clarity).

Are the natural areas designated or just relatively undisturbed? Road construction is often a major cause of soil erosion and water pollution. I feel that most local businesses and homeowners are part of the mass-consumption, wasteful culture that stresses our environment. Buy more than you need, tear it up, throw it away, and do it now. Keep driving the gas guzzler until the oil is gone, etc. Let someone else (the government?) take care of our environment. Most of our few factories and family farmers do a decent job of resource protection.

Argyle Lake State Park seems to have been mismanaged in the past several years—i.e., the park managed mainly for the benefit of the superintendent.

Deer population could be reduced. Too many auto/deer accidents occur. I notice many deer on or near highways.

Horseback riding more than 12 times a year. We trail-ride our horses in all the parks in Illinois whenever possible—the ones that let us, that is. The close ones are Sandridge State Forest, Site M, and Wienburg-King. Illinois does not understand the large amount of money that horse people spend wherever they go. We are better appreciated in Missouri.

I appreciate the outdoors, but I am really an indoor person. I think we should take care of the environment but should put the interest of people ahead of exotic species.

I do not know of any public areas for the La Moine River.

I feel that the local farmers use too much pesticides and herbicides. I think that there are organic alternatives available.

I feel the state budget could be better used on present facilities and parks instead of purchasing new land. The federal parks and refuges are fine. Ducks Unlimited and some other similar organizations are more for rich duck clubs.

I hope it will help. I am a nature observer and note most people have very little knowledge of same.

I think it is a disgrace and shameful of our state to close off part of Argyle Lake. Lots of people (some from out-of-state) use the camping facilities there. It is nice for the local people too. Our children are grown up, married, and gone, but we all enjoyed the nice time we have had at Argyle Lake. We camped, picnicked, hiked, and snowmobiled. That $50,000,000 McDonough County wasted on postage to mail out notices of their mistake on the tax bills would have been nice to pay on a caretaker. Computers save money? Ha! They are no smarter than the people running them. Am I upset? Yes, I am!

I think Lake Argyle is beautiful and should be more utilized. The other areas are nice and we are slowly losing our wildlife areas to development and pollution.

I would like to have a bike path system that is separated from vehicle traffic that could be used daily from the Macomb city location (for rollerblading, too).

I would like to see our local state parks (Argyle Lake) adequately maintained. Without proper funding the park suffers with less people using it, leading to negative economic impact on the community.

IDOT is planning a highway bypass west of Macomb which affects both Spring Creek and the La Moine River ecosystems. I feel this should be opposed. The IDOT first choice was south of Macomb in flat farmland rather than destroying forest land and ruining large rivers and creeks. If you are concerned, please let IDOT know.

It is important for the state parks to be kept up and well maintained. They serve a diverse group of people and are an important social aspect of local communities. The outdoor education program needs to be emphasized more in our schools, so that children will have a better understanding of the environment and the impact that we have on our environment. Local schools should take advantage of site naturalists and the programs they provide.

Keep the parks mowed.

La Moine River in the Macomb area is clogged with log jams, making it hard to canoe. The river is much too muddy in spring and summer months. Erosion and siltation are real concerns.

Many invasive species, such as honeysuckle and autumn olive. Are prairies, forests, floodplains, and wetlands different from wildlife habitat?

Many trees locally. Birds and small wildlife are plentiful.

My son and I are members of a very active Boy Scout Troop. We use the natural resources in our area a great deal. Please continue your good work. Keep the public informed. Thanks!

Need more wheelchair areas. We go to Silome Springs State Park. It is the closest. Don't know where La Moine is.

One concern is closing the factories and grocery stores in this area. I feel it is a mistake permitting Wal-Mart to build such a big store selling garden plants, trees, groceries, and gas and now wanting to sell liquor.

Partake in most outdoor recreational activities in other states, because we are unable to here in Hancock County.

Sediment and runoff water containing herbicides are the major problems that need to be addressed. If this isn't solved in the next several years, there will be no La Moine or Spoon River. Another major problem is the Sangamon River. Diversion of the Sangamon north of Beardstown has critically slowed the flow of current and it is now filling with sand and sediment. Take a canoe trip on the Sangamon from Petersburg to Chandlerville in midsummer and you will carry the canoe more than you ride.

Stop the closing of Argyle State Park. The ranger there has done his damnedest to limit/hurt the quantity and quality of public participation in the park activities and the utilization of the park for recreation/camping.

Survey is good. Student rentals are a mess. Loud, noisy parties, low morals. Need better policing. Also tavern control of underage drinking. Lacks control and cooperation from Western Illinois University. Some parties last all night.

The reason for not being satisfied with the number of parks is Macomb city owns and maintains too much park land. Macomb Park District sponsors too many nonattended or underattended activities.

The stream banks along the Kiljordan are eroding very badly, especially since IDOT channeled storm drains into the channel. Also, it appears to me—I may be off, but I don't think so—that cattle are wallowing around where the Kiljordan starts. Couldn't they be kept out?

There is a lot more opportunity for attracting visitors to our area if the La Moine River would be developed properly for camping, fishing, hunting, boating, etc.

There should be a study of how badly the use of chemicals is polluting the water in this region. Steps should be taken to improve things. This year Argyle Park was not fully open. This was a great inconvenience for the people of this area and the many tourists that pass through each year. In Colchester we learned that Colchester contains an unacceptable amount of radium. This is not only an inconvenience but it is criminal. There should be a criminal investigation of the events that led to this situation since it has been known that there is radium in the water since the new well was dug.

This is a small town and has lost most of its industry. There are groups that work well together. WIU does a great job. It's hard to judge the answers. We do plant trees!

Turkey and deer populations are too high.

We live on the river, so we have no problem with getting to any natural areas. Our problems are not the same as bigger cities, so we should not have the same laws.

We were fishing in the Mississippi River last Thursday at Keokuk, Iowa. They were dumping raw, smelly sewage into the Mississippi River. I can't believe the EPA would allow this. I was so mad to see them dumping this into the river.

We're having property damage from wildlife because we are destroying their habitat. Country homeowners are having a negative impact on the natural environment.

Wildlife—more deer and coyotes removed from circulation. The rivers are silting in and getting shallow. Pollution in rivers was bad 2 years ago and required somewhat of a fish consumption limit. Farmer take more land, clear timber, and cannot replace this in one lifetime, especially hardwoods—timber people have room temperature I.Q. Farmers fertilize, weed control, and put more tile to drain it off and it then goes into streams and rivers. They wonder why animals are roaming towns, etc. They lost their habitat—about like Indians lost to white men. Thank you for asking; we have the dead zone at the end of the Mississippi for proof.

Years back the streams feeding the La Moine River had lots of fish and frogs. Now none. This should be corrected. Not a living thing in the stream system.

Appendix 2. Landowner survey: Responses to open-ended comment section (N = 65; responses were edited for spelling, grammar, and clarity).

I read your questionnaire about the La Moine River Partnership. I am a retired farmer, 88 years old, so I do not intend to make any changes on this farm. In the not-too-distant future, this farm will go into an estate, so the new owner can decide if any changes need to be made.

I think owners and operators of farms and ranches that leave the land and water in better condition than when they were bought or inherited should also get better tax breaks. Our future generations of children are the ones to feed our nation.

I rent. I have a private farm, no watershed.

My farm is at the edge of watershed and not affected much.

Dear Sirs: I am enclosing this letter along with your completed survey. This is the first year that I have been in control of my farm. It was left to me as an inheritance from my father. I have been in the process of trying to make money on the land as well as putting up a new home. I have two distinct parcels of ground in Missouri Township that share the qualities your survey points out. I am afraid that not much in the way of conservation practices has been done here for the past 40 years. I cash-rent the cropland and until this year had 120 acres on the south side. I am also looking for ways to better develop the remaining 160 acres on the north end. It has the potential for some grassland development, the installation of a riparian buffer, and creation of a small wetland that would support wildlife development and with ease of access could be a perfect training area. I am in the process of having both sides of the farm logged to thin back some of the older trees and allow the younger stand to develop properly. If you are interested in looking at the ground for possible training purposes, please let me know.

Filter strips and buffer strips would probably be used more if you were able to graze with cattle after wildlife nesting or other environmental factors have passed in the fall. We like to let the cattle out to clean up grain, waterways, or fencerows at the end of the harvest. I do not think that is allowed if you have these strips along creeks.

We are a church camp and as such manage our land for recreation, wildlife, and crop production. At this time we are doing timber stand improvement. We are in the process of converting our Conservation Reserve Program land into hay production and pasture due to economic pressures. We would gladly accept financial help to avoid doing this.

The property owner should have and keep control over practices used in his or her operation! Research has proven almost everything including multi-flora rose cannot spread. If what you are doing will not harm someone else, then let's leave you alone. We have too much regulation and God knows if they pass one more law to protect us. I would NEVER sign a conservation easement.

Maybe each landowner should be responsible for X percent of the water runoff from his land through dry dams, ponds, etc. It could be good wetland development also. For the La Moine River watershed, large lakes and ponds should be developed to retain runoff water as sediment basins for soils and nitrates. As much as I have observed in money/resource use and government involvement, none expended since 1930s on conservation measures; the La Moine River should be running relatively clear. As most conservationists point out, you control water at the beginning of flow. In my opinion, the Conservation Reserve Enhancement Program was a money flow for flood landowners, the effective way to control water systems. With our knowledge and resources I am embarrassed to see continual flooding by the La Moine River and its tributaries.

My tenant takes care of everything as I live in another country.

I am in the process of putting in dry dams on my own. There has been no help from any one. Thank you.

It's my belief that I do not live in the La Moine River watershed but rather Otter Creek, which flows east to the Illinois River.

Finally after 5 or 6 years of requesting financial assistance, it seems like some help is coming from FSA/SWCD, CRP. I only hope and wish that CREP would be approved by the State of Illinois so that more can be done for both conservation and habitat.

I know so little about all this. Things done involve the tenants. I am an avid recycler, no ditch dumping of my junk. I live in McDonough County some distance from La Moine River.

Do not own property in La Moine River area.

I own only 28+ acres of land—about 20 acres flood. The bridge and road buildings dam up floodwater and force water across with more force. I haven't farmed the ground for several years. It has been seeded to mixed grass and mowed and baled for hay. Checked into tree planting program but they said I had to farm it for 2 years first to qualify. There is no problem with water from my place into creek. Have trees along bank. The only problem is floodwaters because the creek is not able to carry the excess in wet times.

I'm in the process of selling the majority of my land.

This came at a time when I am having problems with the NRCS, especially [name deleted], who has no credibility. As for being honest, I have told the NRCS that [name deleted] is not to come on property that I own. The NRCS has in the last two years dug ponds and put holes within 1/2 mile of our house, which is a health hazard due to mosquitoes. We are concerned and there is nothing I can do about it, besides pissing away a large amount of taxpayer money for nothing.

On my farm I have 9 ponds and 19 dry dams. My creek or stream is crooked and banks keep cutting bigger, and they won't let me straighten it.

I only have 40 acres (21 tillable) but I'm very interested in CRP and would like to plant food plot for wildlife. Hope CRP can take more this year other than the big boys. Thanks.

I live 30 miles east of the Mississippi River. I have used soil conservation methods for some 50 years.

My husband has devoted his life to improving the acres we farm. He was conserving the soil before most people had even heard about soil conservation. When we assumed ownership of the 78 acres addressed in this survey, more than half was overgrown with multi-flora rose (one of USDA's brilliant ideas to improve the environment). We worked like dogs to get rid of it. It was our dream to own the acres we farmed. After a lifetime of labor, we finally owned that modest number of acres debt free. Today the future of this small farm is subject to the whims of nonelected bureaucrats who arbitrarily impose a hodgepodge of regulations ostensibly designed to protect the environment but which are inexorably transferring control of the land to the federal government. We love these acres and know how to take care of them better than anyone else.

I'm a 79-year-old female environmentalist interested in organic (pure) food and water.

The time I spent filling out the questionnaire I could have been out improving my farms. The time spent by government employees reading this they could be out looking for a real job, so they would no longer be a burden on the taxpayers.

Treatment wetlands and tile outlets into wetland are intriguing.

Troublesome Creek has been polluted at least twice in the last 8 years. We used to enjoy catching a large assortment of fish, but now there are no fish. We turned in a water sample that showed it to be highly polluted with nitrates and received no response. As far as government programs go, I feel they are impractical. The programs such as The Tree Program, or Timber Management go to select ones and those that apply first, not where maybe help is most needed.

I would like to change my pasture to native grasslands possibly. I have been thinking about it. I'm not sure how to best utilize my pasture land the best.

When a government agency admits to an error they should correct the situation, rather than ignore it. If it was the other way around, you can bet your life I would be held responsible and required to correct any errors. What's fair for Adam and Eve should be fair for all! Why does the government agency have so much power and can misuse it and then laugh it off? Is this what we pay taxes etc. for, to provide an agent a super-good retirement without anyone checking on them and never be challenged?

I would like to see any land set-aside for wildlife habitat be tax free. Example—to plant trees. No revenue, no taxes. I think creek bank erosion is the most important concern on my farms.

Yes in Alaska! Drill for oil! People who are against drilling and cutting some trees shouldn't drive cars or build. Animals in Alaska aren't hurt at all and less than 1/10th of one percent of populations will ever see the Arctic Circle. Spending $45,000 for an environmental study to build a bridge across the Mississippi River is stupid, you're going to build it anyway.

How do you define conservation practices? Do you mean land in CRP? Or do you mean land that is in production using minimum-till or no-till agriculture practices? How do you define grassland or prairie? Do you mean pasture ground? How do define woodland? I have enough ground with wood that I would not necessarily call woodland—nor does it contain enough timber to be suitable for harvest.

Monitoring ways should be in place for treatment facilities after they are installed.

Interested in how you formed committees, how you are funded.

This doesn't apply to this farm.

The land I own is very flat—as indicated earlier, surface water drainage can be a problem. Tiling would be a solution, but as you are probably aware, it is very expensive. Profits on the land in the past have not been sufficient to carry out goals.

I have no partner when it comes to paying bills or taxes on my land.

A factory farm would have gross impact on almost every question asked in this survey. When dialogue gravitated to factory farms at a partnership meeting, a government advisor said not to go there. Why? I thought discussion was healthy. My wife and I are dedicated conservationists. We have planted 171 acres of trees on 2 different farms, stone toe stream bank protection, 2 large riffle site constructions, diversions, all just a short distance from Logan Creek and the La Moine River. Believe us when we say that we are interested in what goes on environmentally in the immediate area. Please consider the factory farm impact on the environment of the La Moine River ecosystem in the immediate and distant future.

Our farm is unique in that it is a centennial Illinois farm and is in a trust to remain in the family as long as the law allows. We purchased it in 1972 to keep it in the family. We are not farmers, have not farmed that land. A relative adjacent to the land has farmed the land. Due to our ages and his health, we decided to put the tillable acres in trees and this way we are preparing the land as per instructions according to the 15-year USDA Natural Resources Forest Land Enhancement program.

Filter strips were planted on my farm in June of 1998. 20.9 acres of switch grass was sewn along the banks of the Little Missouri and McKee Creeks, in 100-foot-wide strips. In the spring of 2003, hardwood trees were planted in the flood-prone areas along the Little Missouri and McKee Creeks, against the pre-existing filter strips. A scattered mix of burr oak, pine oak, walnut, and ash, totaling 19,000 trees, covered 39 acres in 10-foot grids. There are two strong bank erosion problems along the Missouri Creek. In 2001, I had these looked at and was given suggestions on solving these problems. I could not afford to have the problems taken care of, even with financial assistance.

I have loads of info re: misuse of lands in my area, also lots of pictures, etc. However, I'm too tired to write it all down now. If you want more info, call me for an appointment and come see me.

I am tired of persons who have no financial or personal connection to the land being involved in the process of deciding the future of such a resource. I am also tired of the tax burden imposed on landowners. Regulations and programs should be developed by the people most directly affected by such. But, of course, you will be unable to do anything about taxes or unreasonable regulations, so quit wasting my valuable time.

We are involved in filter strips buffer which took 20.9 acres on the Missouri and McKee creeks. Also in the spring of 2003, we planted 19,000 hardwood trees through the CREP program which involved planting another 39 acres. We had stream bank erosion looked at but it was too costly.

Farmers as landowners need to be good stewards of the land. Owners need to take pride in the property. Take care of the land for the next generation to come. God gave a person the opportunity to live on the land, so we need to take care of it.

I do not trust federal, state, county, and local government. I spent 20 years of my life as a police officer in the Chicago area and soon learned that the winds of political change will adversely affect you. You can agree in writing (contract) with the government and then they change the rules (terms of contract) and you will be adversely affected. I own a backhoe purchased to do conservation work. I have installed dry dams, terraces, and tile, all at my own expense. We tried applying and it was very helpful, but a year later we are told there is not enough money to go around. One more year away from O.T. Do it yourself and get it done now. (The good old American way!)

I'm too busy.

STOP! We do not need 5 or 6 organizations to control needed repairs on our land. This makes it impossible to make necessary changes on our land. We do need some local control only to help the owners to make changes to correct many problems—streams and farmland, roads, etc.

Our 91 acres were inherited from her mother, I bought out her sister. I live in Arkansas, I usually visit the farm once a year. All farming decisions I leave up to my farmer, but we have discussions with him before planting and harvest time. Our farm is fully tiled and bad sections were recently retiled.

In my area, wildlife (turkey and deer) abound. There should be a relaxing of regulations governing their harvest, especially in regards to permits issued to landowners. I allow hunting by others on my property. However, I would not open it up to anyone. Additional permits should be issued to landowners as I feel they know best what numbers are adequate for a healthy population. No true hunter wants to kill every animal. When I am disappointed to see only 20 deer in a day and/or 50-plus turkeys are not an uncommon site, their numbers are too great. The air pollution associated with large hog confinements and the potential for runoff in the future also concern me. I have a large confinement neighboring some of my property. Let me tell you, it stinks. Many days you can't even enjoy being near it anywhere on the 100 acres I have next to it. It's really a shame that someone can affect an adjacent property in such a way without being held accountable.

Absentee landowners are a definite problem, as are tenants, which are poorly chosen. All you have to do it ask Carthage SWCD. As always money and resources are a major problem. For example: in transition let's look at the urban environment. . . . Downtown areas are in severe decline and are being abandoned in the so-called white flight to the ever-increasing urban sprawl, destroying many, many acres of highly producing agricultural land. Far more money can be made on developing new communities, suburbs, than redeveloping the older rundown downtown. How about setting up some grassland and/or wildlife habitats (I have things in mind other than the local gangs) in those areas? Urban sprawl is an issue we will someday have to address.

Sorry for the delay, but this was a lengthy survey. In looking at my answers, it seems a little greedy that farmers would like financial assistance, but there is such a small margin of profit that it helps on extra projects.

In Hancock County soil and water conservation, it has been a concern to me and many farmers in the area. [Name deleted] is in charge of the program, and it may be a conflict of interest as [name deleted]'s spouse also has a [deleted] business. [Name deleted]'s customers receive top priority. It would be interesting to know the percentage of farmers who get assistance that are not customers of [name deleted]. It is difficult for many farmers to have a technician look at a problem or project.

I have 135 acres just north of Deck Miller in the large horseshoe of the river. 50 acres are in tree CRP while the balance is trees.

North Prairie Farms is committed to conservation without government intervention. The government usually makes a mess out of anything they get involved with.

Leave bottom land to farm.

The stream on my land is small and impacts only a small part of the total land. We have been pleased with the government assistance in creating a riparian buffer on each side of the stream.

We have been no-tilling all crop land. Several acres in grass and low pasture, the land that floods is in grass and trees.

I would like to have managed financial assistance for wildlife that pays with little regulations. Also, the time frame to sign up and implement these programs is too long.

While my land is near the La Moine River, it does not border it. We have less than 6 acres of land, mostly uphill from the La Moine. The only contributions we can actually make are to see that we do not contribute to the problem. I would be willing to help with your concerns in any way.

Cattle should be allowed to run on the land and maintain grass, brush, etc. Cattle aren't going to hurt anything. They should be left alone and let nature and wildlife work together.

My biggest concern is that these programs become rigid and lose all flexibility to work with people on an individual basis. That turns people off to doing these sorts of things. Just like re-enrolling in CRP. Why does the payment go down, and why not have re-enrollment as a priority. If the ground was bad enough to need it in the first place, then let's make it a goal to keep it in the program. Don't do a 15-year contract on these

types of things, do 15 by 5 year options on top of 5 years and so on, so people stay in and the real goals can be achieved.

A lot of this doesn't really apply to my acreage.

My land is located on the Illinois River bluff and has the potential to filter a huge amount of water. Unfortunately it would be too expensive for me to handle on my own, and I know of no one willing to help me. I'm already doing what I can afford, and would welcome help as long as I'm not criticized for my primitive attempts to conserve soil and water.

Required education programs for the young needed.

The major part of my land is flat and black with minimum erosion problem. On the rolling borderline I have made maximum use of conservation practices and conservation reserve areas. The primary factor that affected many of my answers is I am 80 years old and in a withdrawal and retirement mode. If I were 40 years old and active, my answers would have reflected a more aggressive approach toward conservation. I don't feel you should give too much weight to my answers.

I feel very strongly that we in some way need to conserve the soil in this area plus slow down the loss of water.

Natural Resources and Environmental Sciences

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