

**SOCIAL PROFILE**  
**VERMILION WATERSHED TASK FORCE**  
**NOVEMBER 2005**





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This purpose of this report is to document socioeconomic issues of importance and citizens’ concerns for the Vermilion River watershed in east-central Illinois. The report provides data related to who lives in the watershed, how residents earn their livelihood, how residents use the natural resources in the watershed, how natural resource conditions impact residents, the vision that residents have for their watershed, residents’ opinions about best management practices, and environmental attitudes<sup>1</sup>. 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 Vermilion Watershed Task Force (VWTF) provided input on the creation of this report and collection of data.

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<sup>1</sup> 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<sup>2</sup>, and two mail surveys were conducted<sup>3</sup>. 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 Vermilion River watershed was conducted. Using U.S. Census Bureau data, total population was estimated at 61,946, and a sample of 737 residents was randomly selected from telephone listings. To statistically represent the residents ( $p < .05$ ), 245 responses were needed; 288 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 Streator (102) and Pontiac (70), while multiple residents in Oglesby (39) and Fairbury (29) also responded. The remaining respondents represented numerous smaller towns in the watershed. Seventy percent of respondents reside in an urban area, while 17% classified themselves as "non-farm rural landowners." Others classified themselves as "farm operators" (9%) and "absentee owners of farmland" (5%), 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:

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<sup>2</sup> Demographic data was compiled by Patrick Curry, University of Illinois Extension.

<sup>3</sup> 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<sup>4</sup>;
- 2) own land adjacent to lands managed by the Illinois Department of Natural Resources; Illinois Natural Lands Inventory sites; Land and Water Reserves; Nature Preserves; and/or Biologically Significant Streams; and/or
- 3) own land deemed critical as defined by the VVTF and/or scientists with the Illinois Department of Natural Resources and the USDA Natural Resources Conservation Service.<sup>5</sup>

Once the critical areas in the watershed were identified (140,752 total critical acres), plat maps were used to identify specific properties and create the mailing list.

Ultimately 2,177 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 606 residents, for a response rate of 28%. 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 Ford County (55%) and LaSalle County (22%), while residents in Iroquois County (15%), Livingston County (4%), McLean County (2%), and Woodford County (2%) also responded. One percent of respondents did not indicate where they reside. Fifty percent of respondents identified themselves as "landowners," while 36% identified themselves as "landowner/operator." Others classified themselves as "operator" (4%) or "other" (3%); 7% did not reply to this question.

## RESULTS AND SOCIOECONOMIC DATA

### Who lives in the watershed

The population in the Vermilion River watershed is predominantly white and almost evenly split between males and females. The median age has been increasing with each decade, and this trend is projected to continue. In 1980 the median age was 32; it is predicted to be 40 by 2008. The fact that an aging population may result in a shift in dominant attitudes and opinions is an issue that should be considered in more detail.

Since 1980 the watershed has been losing population. Between 1980 and 2000, population declined 3.1%. The 2005 estimate of 61,946 indicates continued losses of

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<sup>4</sup> 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.

<sup>5</sup> Jeff Boeckler, Illinois Department of Natural Resources Ecosystem Program, conducted personal interviews of staff. The boundaries of areas deemed critical by experts were physically drawn on a base map and transferred via GIS into a digital format.

1.9% since 2000. Short-term population projections to 2010 also indicate continued losses.

Nearly 75% of watershed residents live in one of 22 incorporated places, and 42% live in the two largest cities, Pontiac and Streator. The proportion of the population living in an incorporated place increased slightly (1.5%) between 1990 and 2005. The average population density for incorporated places is 1,650 persons per square mile, compared with 12 in the rural unincorporated areas of the watershed.

With a median age approaching 40, the area is typical of rural Illinois, where out-migration of young adults and the subsequent decline in birth rates are driving average ages up. Young adults are not the only age group migrating away from the area. Between 1990 and 2005, the population of residents ages 65 and older decreased by over 8%. The 35-to-55 age group dominates, with nearly 30% of the population clustered in this age group.

*Table 1. Vermilion River watershed population demographics.*

Total watershed population	61,946
Projected population change from 2005 to 2010	- 0.34%
Total number of households	24,143
Population ages 17 and younger	26%
Population ages 18 to 64	57%
Population ages 65 and older	17%
Median age, 2005	39

## How citizens earn their livelihood

Despite a shrinking population, the labor force is increasing because more people are looking for employment. Between 1990 and 2005, the proportion of all residents 16 years and older who are in the labor force grew from 59% to 62.5%, mostly attributable to more females entering the labor force.

In 2005 an estimated 30,800 persons are in the labor force. Average unemployment rates in the watershed have remained below the Illinois average since 2000. In 2004 the average unemployment rate in the watershed was 5.7%, while it was 6.2% in Illinois. The United States national average was 5.5% in 2004.

Workers are commuting farther to employment. Between 1990 and 2000, the average commuting time increased from 16.8 to 20.2 minutes. The proportion of persons who crossed a county boundary to find employment increased from 20.0% to 24.2%. Nearly 80% of workers drive alone to work.

Some of the largest employers in the watershed are Caterpillar, Pontiac Correctional Center, R.R. Donnelley & Sons, OSF St. James Hospital, Futures Unlimited, Interlake, U.S. Food Service, Vactor, Owens Brockway, Lucking Trucking, and St. Mary's Hospital.<sup>6, 7</sup> In 2005 the health/education/social service sector is the largest

<sup>6</sup> <http://www.streatoril.com>

<sup>7</sup> <http://pontiacil.virtualtownhall.net>

employer in the watershed, with nearly 22% of all jobs. Manufacturing is the second largest employer (20%), followed by retail trade (18%) and government (9%). Six percent of all jobs are in natural resource–related industries, including farming. Of the 1,730 persons employed in the natural-resource sector, nearly 90% work on farms as proprietors or farm labor.

Household and per capita incomes in the watershed both lag the Illinois averages, and the gap has increased in the last five years. In 2005 the median household income is \$44,068, compared with \$53,053 for Illinois. On a per capita basis, the gap is proportionately larger, with Illinois average per capita income 22% greater than that in the watershed. According to the 2000 Census, the poverty rate for households was lower in the watershed (9.1%) than statewide (10.1%).

*Table 2. Vermilion River watershed income demographics.*

Labor Force, 2005	30,800
Unemployment rate, 2004 average	5.7%
Median household income, 2005	\$44,068
Per capita income, 2005	\$45,751

## How citizens use and impact the natural resources in the watershed

According to the U.S. Census, the land area of the Vermilion River watershed is 1,334.11 square miles, or 853,826.87 acres. Agriculture is the dominant land use.

### Agriculture/crop production

According to an assessment published in 2002, there are 744,386 acres (87% of total watershed acres) of row-crop production in the watershed<sup>8</sup>. The Farm Service Agency reports that 11,344.7 acres (~1.3% of total watershed acres) are enrolled in the USDA Conservation Reserve Program (CRP), Conservation Reserve Enhancement Program (CREP), Wetland Reserve Program (WRP), and/or Environmental Quality Incentives Program (EQUIP)<sup>9</sup>. In the landowner survey, 381 respondents (63%) reported a total of 84,856 acres in conservation practices, while 248 (41%) reported a total of 80,181 acres specifically in conservation tillage.

### Grassland

There are 55,075 acres (6.5% of total watershed acres) of grassland in the watershed<sup>10</sup>. In the landowner survey, 174 respondents (29%) reported owning between 5 and 20 acres of grassland. They also reported a variety of management and recreational activities occurring on their grasslands. Recreational activities include hunting (178 responses), wildlife observation (140 responses), and hiking (76 responses). Management activities include grazing and burning.

<sup>8</sup> USDA National Agriculture Statistics Service, Illinois Department of Natural Resources, and Illinois Department of Agriculture. 2002. *Land Cover of Illinois 1999-2000*. Springfield, IL.

<sup>9</sup> Farm Services Agency, Illinois Department of Natural Resources, 2004.

<sup>10</sup> 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 3. Landowner survey: Management activities on grasslands.

ACTIVITY	Number of responses
Cattle grazing year-round	15
Cattle grazing 25% to 75% of the year	34
Cattle grazing once per year or less	5
Horse grazing	11
Sheep grazing	2
Harvest	1
Burning annually	50
Burning every other year	14
Burning every 3 years	13
Burning every 4 to 6 years	7
Burning rarely	8

## Woodland

There are 17,366 acres of woodland (2% of total watershed acres) in the watershed<sup>11</sup>. Eighty landowner respondents (13%) reported that most woodland occurs in small plots of 5 to 10 acres; however, the average acreage of woodland reported in the survey is 33. Respondents to the landowner survey reported a variety of management and recreational activities occurring on their personal woodlands. Recreational activities include hunting (155 responses), wildlife observation (135 responses), and hiking (93 responses). Management activities include grazing, burning, thinning, pruning, harvesting, planning, and insect control.

## Streamside land

Sixty-eight percent of landowner respondents (412) reported owning land adjacent to a stream or river. Respondents from Livingston County were most likely to own streamside land, while respondents from Ford, McLean, and Woodford Counties were not likely to own streamside land ( $p < .05$ ).

## 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, biking, and/or fishing. About 40% enjoy boating, and 30% participate in hunting. On average, residents participate in outdoor recreational activities 5 to 12 times per year.

<sup>11</sup> 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	13
Cattle grazing spring through fall	14
Cattle grazing summer	11
Cattle grazing less than 3 months a year	3
Horse grazing	8
Burning annually	12
Burning intermittently	11
Burning rarely	6
Tree thinning annually	32
Tree thinning intermittently	28
Tree thinning rarely	5
Pruning year-round	33
Pruning intermittently	18
Harvest annually	18
Harvest every 5 years	1
Harvest every 15 years	1
Harvest every 20 years	3
Harvest every 25 years	1
Harvest every 30 years	3
Harvest every 40 years	2
Planting annually	31
Planting occasionally	27
Planting once	10
Insect control	19

Table 5. Resident survey: Outdoor recreation in the watershed (N = 288).

TYPE OF RECREATION	Mean	PERCENT RESPONDING/TIMES PER YEAR				
		Once (1)	2-4 (2)	5-12 (3)	+12 (4)	Never
Observe wildlife	3.11	4	20	25	36	16
Hunting	3.04	3	5	4	12	77
Fishing	2.92	6	13	10	21	49
Off-road vehicles	2.70	4	5	3	7	81
Biking	2.69	5	17	10	13	55
Visit parks	2.58	10	33	23	18	16
Boating	2.48	9	14	10	10	57
Hiking	2.40	13	19	15	10	43
Camping	2.36	9	13	9	6	63
Snowmobiling	2.29	2	2	1	1	93
Cross-country skiing	2.22	1	1	1	0	97

## 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 *drinking-water quality, groundwater quality, loss of natural lands or wildlife habitat, soil deposits in streams*, and others. Although the mean response describes these problems and others as severe, individual responses sometimes ranged from *severe* to *not a problem*, and a significant number of respondents sometimes answered *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.

Table 6. Resident survey: Severity of watershed problems (N = 288).

TYPE OF PROBLEM	Mean	PERCENT RESPONDING			
		Slight/ Not a problem (1)	Moderate problem (2)	Serious problem (3)	Don't know
Quality of water for drinking	3.19	9	39	47	6
Quality of groundwater	3.08	9	43	38	10
Loss of wildlife habitat	3.05	9	44	37	9
Loss of natural areas	2.99	7	52	35	6
Soil deposits in streams	2.96	6	51	27	16
Quality of water for fishing/swimming	2.95	8	55	31	6
Loss of topsoil	2.83	7	51	24	18
Rivers and streams with eroding banks	2.82	7	57	23	13
Economic growth	2.81	14	46	32	9
Degradation of existing natural areas	2.67	11	61	20	8
Solid waste disposal	2.64	14	50	21	15
Pollution from factories	2.53	16	53	19	12
Exotic or nonnative plants	2.36	18	44	11	27
Visual attractiveness	2.30	26	54	15	5
Frequency of flooding	2.18	23	59	9	10
Property damage from flooding	2.14	23	58	8	11
Seepage from septic tanks	2.13	23	47	7	23
Property damage from wildlife	1.78	42	47	4	8

Different types of respondents to the resident survey held dissimilar opinions on occasion. Farm operators tended to rate *soil deposits in streams* and *opportunities for economic development* as slight problems. They also tended to rate *quality of water for drinking* as not a serious problem ( $p < .01$ ). (Due to the low number of farm operator respondents in the resident survey, these results must be taken with caution.) Streator residents were more likely to rate *opportunities for economic development* as a serious problem ( $p < .01$ ).

Respondents to the resident survey were also asked to rate their satisfaction level with various outdoor recreation factors. Overall, the mean response indicates that

respondents are somewhat satisfied with conditions related to outdoor recreation. However, a high number answered in the not satisfied category.

Respondents to the landowner survey reported a range of severity for problems associated with rural land uses. *Insect damage to crops* was reported to be the most severe problem for crop land, while *stream bank erosion* and *flooding* were problems for streamside land. Fifty percent of respondents from Iroquois County reported severe crop damage from insects ( $p < .05$ ). Respondents from Iroquois County also tended to report flooding as *very severe* ( $p < .05$ ). Flooding was not a problem in Livingston and LaSalle Counties ( $p < .05$ ).

Table 7. Resident survey: Satisfaction with outdoor recreation (N = 288).

OUTDOOR RECREATION FACTORS	Mean	PERCENT RESPONDING			
		Not satisfied (1)	Somewhat satisfied (2)	Satisfied (3)	Don't Know
Variety/quality of vegetation and trees at parks/natural areas	2.47	48	35	13	11
Variety and quality of wildlife at parks/natural areas	2.30	38	30	13	14
Number of parks and natural areas	2.28	43	36	18	8
Quality of restrooms, parking lots, tables, benches at parks/natural areas	2.10	31	4	22	11
Public boat and canoe access to the Vermilion River	2.07	27	23	22	27

Table 8. Landowner survey: Severity of problems associated with cropland (N = 606).

TYPE OF PROBLEM	Mean	PERCENT RESPONDING				
		Very severe (1)	Severe (2)	Somewhat severe (3)	Not a problem (4)	No response/ Don't know
Insect damage	3.12	2	11	44	24	19
Cropland weeds	3.34	1	6	38	37	17
Flooding of cropland	3.44	2	6	29	48	15
Erosion	3.53	1	4	30	51	15
Wildlife damage	3.53	2	3	28	51	17

Table 9. Landowner survey: Severity of problems associated with streamside land (N = 606).

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	3.29	3	7	22	32	36
Flooding	3.30	3	5	26	31	36

In an open-ended format, both surveys asked respondents to list their greatest concerns for the watershed. Fourteen percent of respondents to the resident survey provided detailed comments. The responses were coded and sorted into general categories. Most comments from this group related to the quality of the Vermilion River. Several respondents reported poor fishing and a lack of desirable game fish. A few commented on low water levels in certain spots of the river, and others commented about the amount of garbage dumping that occurs along the river. Several cited frustration with private landowners who prohibit access to the river. There were several comments of concern about the abandoned Smith Douglas fertilizer plant on the Vermilion River in South Streator. Residents in Livingston County cited concern for the Livingston County Landfill in Pontiac. (*See Appendix 1.*)

Respondents to the landowner survey were asked to list their top three concerns for the watershed. While residents' concerns were related to the Vermilion River, landowner concerns tended to relate to agricultural production. Comments related to *soil erosion* and *soil loss* overwhelmingly outnumbered other concerns of the rural landowners.

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 loss* for their own land as they did for the watershed in general. Concerns for their own land also included *agricultural production* and *profitability*.

Table 10. Landowner survey: Self-reported concerns for watershed (comments were received from 467 respondents; some provided multiple comments).

SELF-REPORTED CONCERN	Number of comments (weighted scores)
Soil erosion/soil loss	376
Loss of habitat	161
Drainage/general	156
Farm chemicals	132
Too much development/urban sprawl	124
Water quality/general	121
Flooding	104
Government interference/loss of landowner rights	102
Stream maintenance/debris in streams	77
Pollution	76
Stream bank erosion	69
Drainage ditch maintenance/blocked	61
Not enough government assistance/programs	57
Lack of filter strips	53
Wildlife as pests	53
Loss of wildlife	49
Loss of grasslands/prairies	36
Maintaining agricultural productivity	35
Lack of windbreaks, shelter belts, fencerows	34
Loss of farm ground	33
Sedimentation	30
Lack of conservation tillage	26
Landfills/garbage dumps	26
Drinking-water quality	21
Water quantity	19
Outdoor recreation	14
Weed control	14
Trespassing	11
Lack of/loss of wetlands	11
Not enough development	3
Not enough organic farming	2

Table 11. Landowner survey: Self-reported concerns for own land (comments were received from 415 respondents; some provided multiple comments).

CONCERN	Number of comments (weighted scores)
Erosion/soil loss	410
Drainage/field tiles	184
Fertility/productivity	110
Taxes	93
Profit	85
Wildlife habitat and wildlife protection	80
Flooding	72
Water quality	53
Fertilizer and pesticide drift	52
Stream bank erosion	48
Grassland and woodland	46
Government interference/loss of landowner rights	76
Maintain land for future generations	38
Expenses	31
Urban sprawl and development	30
Tillage	28
Maintaining land values	28
Water quantity	25
Wildlife damage	22
Windbreaks/buffer strips	20
Renewing CRP and other programs	19
Trespassers/litter	19
Weeds	18
Neighbor's poor practices	17
Lack of government programs	10
Landfill	8
Loss of farmland	3
Loss of wetlands	2

**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, and agricultural land. However, resident respondents indicated a desire for more wildlife habitat, more outdoor recreational opportunities, and more woodlands, while landowners did not.

*Table 12. Resident survey: Desired land types in the watershed (N = 288).*

DESIRED LAND USE	PERCENT RESPONDING				
	Mean	Less (1)	Same (2)	More (3)	Don't know
Wildlife habitat	2.70	2	24	67	7
Outdoor recreation	2.62	4	28	61	7
Forests or woodlands	2.57	2	36	56	6
Prairies or grasslands	2.44	4	43	43	10
Restored floodplains	2.34	5	42	32	21
Wetlands	2.24	9	43	29	19
Land in agriculture	2.00	17	57	16	10

*Table 13. Landowner survey: Desired land types in the watershed (N = 606).*

DESIRED LAND USE	PERCENT RESPONDING				
	Mean	Less (1)	Same (2)	More (3)	Don't know
Wildlife habitat	2.44	5	43	45	8
Prairies or grasslands	2.30	6	53	33	8
Forests or woodlands	2.27	5	56	28	9
Outdoor recreation	2.21	10	51	29	11
Restored floodplains	2.19	10	51	26	14
Land in agriculture	2.00	12	69	12	7
Wetlands	1.96	20	53	16	12

The mean scores of both survey groups indicate that the respondents favor the same amount of wetlands and restored or natural floodplains. However, the landowner respondents’ mean score was significantly lower than the resident respondents’ (p<.05). Fewer landowners indicated a desire for more wetlands and restored floodplains. This suggests that some residents favor more wetlands and restored floodplains.

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 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 land types in the watershed. For example, 43% of resident respondents would like to see more grasslands, while another 43% would prefer the same amount of grasslands. When averaged with the other responses, the mean score indicates satisfaction with the current amount. Accepting the mean score as the community desire leaves 43% 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 20% would like less straightened streams, another 20% would like more straightened streams, and 45% 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 = 606).

DESIRED LAND USE	PERCENT RESPONDING				
	Mean	Less (1)	Same (2)	More (3)	Don't know
Straightened streams	2.04	19	45	23	13
Urban development	1.36	59	27	2	11

### 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 8,677 acres of grassland, with a mean acreage of 31 acres. They also indicated that the ideal mean acreage would be 41 acres. This would be an increase of 1,740 acres of grassland in the watershed.

Owners of woodland reported owning a total of 7,186 acres of woodland, with a mean acreage of 33 acres. They were generally satisfied with this acreage of woodland and did not indicate a general desire for more. However, resident respondents expressed a desire for more woodlands in the watershed.

### Who's responsible?

Watershed residents 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 asked respondents to identify who should be responsible for addressing the watershed concerns that they identified. Responses were varied, but almost 30% of respondents indicated that individual landowners should be responsible for these problems.

Table 15. Landowner survey: Responsibility for self-reported watershed concerns (N = 606).

RESPONSIBLE PARTY	Percent responding
Individual landowners	27
State government	13
Federal government	12
County government	10
Farm groups	6
Township government	3
Other	4
Environmental groups	2
Local municipality	<1
Industry/business	<1
No response/don't know	23

The landowner survey also asked about the effectiveness of individual landowners in protecting natural resources. Seventy-seven percent of respondents replied that landowners are effective or somewhat effective at protecting natural resources with government assistance. Fifty-five percent of respondents replied that landowners are effective or somewhat effective without government assistance. Respondents from Iroquois 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 = 606).

LANDOWNER EFFECTIVENESS	Mean	PERCENT RESPONDING			
		Somewhat effective (1)	Effective (2)	Not effective (3)	No response/don't know
With government assistance	1.60	39	38	6	17
Without government assistance	2.22	12	43	30	16

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. Despite the favorable overall averages of responses, respondents from some counties within the watershed reported dissatisfaction with government agencies. Respondents from Iroquois County reported that they are highly dissatisfied with the quality and availability of technical assistance received from government agencies and with the knowledge level of local staff, and that they don't like to participate in government programs ( $p < .05$ ). A statistically significant number of Woodford County respondents reported that they are also highly unsatisfied with the quality and availability of technical assistance in their county, and that they are highly dissatisfied with the knowledge of local staff ( $p < .05$ ). Responses from Livingston County were quite different. Seventy-two percent replied that they are satisfied with the availability of technical assistance, and 66% reported satisfaction with the quality of technical assistance received ( $p < .05$ ).

Table 17. Landowner survey: Landowners who have received assistance from government agencies (N = 606) (some respondents reported receiving assistance from more than one agency).

AGENCY	Percent responding
SWCD	44
FSA	42
NRCS	22
IDNR	11
Other	9

Table 18. Landowner survey: Satisfaction with government assistance (N = 606).

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	20	36	3	1	40
Quality of technical assistance	1.83	18	37	5	1	39
Availability of technical assistance	1.82	17	40	3	1	38
Availability of financial assistance	2.03	10	39	9	2	40

### 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 (138 suggestions). Respondents also suggested that funding for government assistance programs should be increased (109 suggestions). Interestingly, there were 77 suggestions to increase regulations of rural land use, while only 12 comments related to decreasing regulations and government involvement.

Table 19. Landowner survey: Landowner suggestions for addressing their watershed concerns (comments were received from 359 respondents; some provided multiple comments).

SUGGESTIONS	Number of comments
Land use and farming practices	138
More funding	109
More regulation	77
Stream management	58
Research and monitoring	30
Drainage	24
Limit development	26
Education	25
Better cooperation and planning	19
Less regulation	12

Table 20. Landowner survey: Self-reported solutions to self-reported watershed concerns (comments were received from 359 respondents; some provided multiple comments).

SOLUTIONS TO WATERSHED CONCERNS	Number of comments	Subtotal number of comments
<b>Land use and farming pract</b>		<b>138</b>
More filter strips	28	
More buffer strips	19	
Reduced tillage	19	
More grassland	15	
Reduced chemical use	14	
More woodlands	12	
Clean up garbage	7	
More windbreaks	7	
Stop mowing on rural roads	3	
Encourage organic farming	3	
More cover crops	3	
More wetlands	3	
Limit fall plowing	2	
Introduce new grain crops	1	
Landowners should better monitor tenants	1	
Introduce more turkey and pheasants	1	
<b>Incentive programs</b>		<b>109</b>
More funding for government incentive programs	93	
More set-aside acres	13	
Dedicate state funds to buy land	3	
<b>Change regulation</b>		<b>77</b>
Allow more hunting of coyotes and deer	11	
Better enforcement of laws	10	
Regulate all waste disposal	7	
Improved zoning laws	7	
More severe penalties	6	
Regulate chemical use	5	
Force farmers to have buffers	5	
Stop government payments to grain farmers	3	
Implement fines for lack of conservation tillage	3	
Implement set-aside requirements on all property lines	3	
Increase roadside right-of-ways	2	
Prohibit junk yards in the floodplain	2	
Regulate size of mega-farms	2	
Legislate farm drainage	2	
Too much land classified as floodplain	2	
Laws to prevent all subsurface drainage—less tile	2	
Common-sense wetland delineations	1	
Lower taxes	1	

Table 20 (continued)

SOLUTIONS TO WATERSHED CONCERNS	Number of comments	Subtotal number of comments
Tax everyone in county to fund incentive programs	1	
School funding reform	1	
Restrict stream bank height	1	
<b>Stream management</b>		<b>58</b>
Remove debris from streams/remove trees from stream banks	14	
Dredge streams	14	
Straighten streams	8	
Protect all stream banks	7	
Slow streams with dams	5	
Less channeling, dredging, and tree cutting along streams	5	
Implement no-wake speeds on the entire river	2	
Trap and relocate beavers	2	
Rebuild road bridges	1	
<b>Research and monitoring</b>		<b>30</b>
More technical help	6	
More research and science	5	
Improved chemicals	3	
Better and more frequent monitoring	16	
<b>Drainage</b>		<b>24</b>
Clean/dredge ditches	9	
Maintain field tile	4	
Restrict tile flow	4	
Maintain local drainage districts	3	
More field tiles	2	
Fix city drainage	2	
<b>Limit development</b>		<b>26</b>
Limit development in rural areas	26	
<b>Education</b>		<b>25</b>
Education of rural landowners and urban dwellers	25	
<b>Better cooperation and planning</b>		<b>19</b>
Better cooperation between landowners, farmers, and government	11	
Develop comprehensive land use plan	4	
Plan for water supply	4	
<b>Less regulation</b>		<b>12</b>
Less government interference	12	
<b>Other</b>		<b>8</b>
Continue what we're doing	8	

## Landowners' opinions about best management practices

Questions pertaining to specific land management practices were asked of the landowners. On average, 12% of respondents (73) 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 percent (121) expressed a willingness to participate in a stream bank restoration program, while another 20% answered maybe to this question. Eleven percent of landowner respondents (68) reported an interest in converting acres (29 on average) to treatment wetlands.

Table 21. Landowner survey: Willingness to install best management practices (N = 606).

BEST MANAGEMENT PRACTICES	PERCENT RESPONDING
	Willing to install, with both technical and financial assistance
<b>Cropland</b>	
Habitat improvement	23
Nutrient management	15
Conservation easements	13
Wetland installation	12
Reduced-tillage program	10
<b>Grassland</b>	
Habitat improvement	17
Pest management	14
Native grass planting	12
Nutrient management	13
Conservation easements	10
Burning grassland	6
<b>Woodland</b>	
Habitat improvement	15
Timber stand improvement	13
Tree planting	13
Pest management	11
Conservation easements	8
Timber harvest	4
Burning	4
<b>Streamside</b>	
Plant a buffer with trees and/or shrubs	19
Route field tile drainage to a treatment wetland	18

Table 22. Landowner survey: Willingness to participate in a stream bank restoration program (N = 606).

WILLINGNESS TO PARTICIPATE	Percent responding
Yes	20
Maybe	20
No	16
Already participate	5
No response/don't know	39

Table 23. Landowner survey: Interest in letting volunteer groups install practices (N = 606).

INTEREST	PERCENT RESPONDING			
	Yes	Maybe	No	No response/ don't know
Let a volunteer group install a grassland/prairie	8	19	52	22
Let a volunteer group install a wetland	5	14	58	23
Let a volunteer group install a riparian buffer	8	19	50	23
Let land be used for research demonstrations	9	28	45	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 = 606).

INTEREST IN ASSISTANCE WITH BEST MANAGEMENT PRACTICES	PERCENT RESPONDING					
	Yes, with technical assistance	Yes, with financial assistance	Yes, with both technical and financial assistance	Already participate	No	No response/ don't know
<b>Cropland</b>						
Reduced tillage program	2	5	10	41	20	24
Nutrient management	5	4	15	32	19	25
Habitat improvement	3	5	23	17	27	25
Wetland installation	1	3	12	5	51	27
Conservation easement	0.08	5	13	8	39	35
<b>Grassland</b>						
Native grass planting	2	3	12	9	26	48
Burning grassland	4	0.8	6	8	31	50
Pest management	5	2	14	6	22	52
Habitat improvement	4	3	17	8	19	49
Nutrient management	4	2	13	11	19	52
Conservation easements	0.8	2	10	5	27	56
<b>Woodland</b>						
Timber harvest	3	0.5	4	2	32	60
Timber stand improvement	3	2	13	2	22	59
Tree planting	2	3	13	4	20	58
Burning	1	0.3	4	3	31	61
Pest management	3	1	11	2	21	63
Habitat improvement	3	2	15	3	18	59
Conservation easements	0.5	0.5	8	2	24	65
<b>Streamside land</b>						
Plant a buffer with trees and/or shrubs	1	2	19	8	27	43
Route field tile drainage to a treatment wetland	0.7	3	18	4	43	32

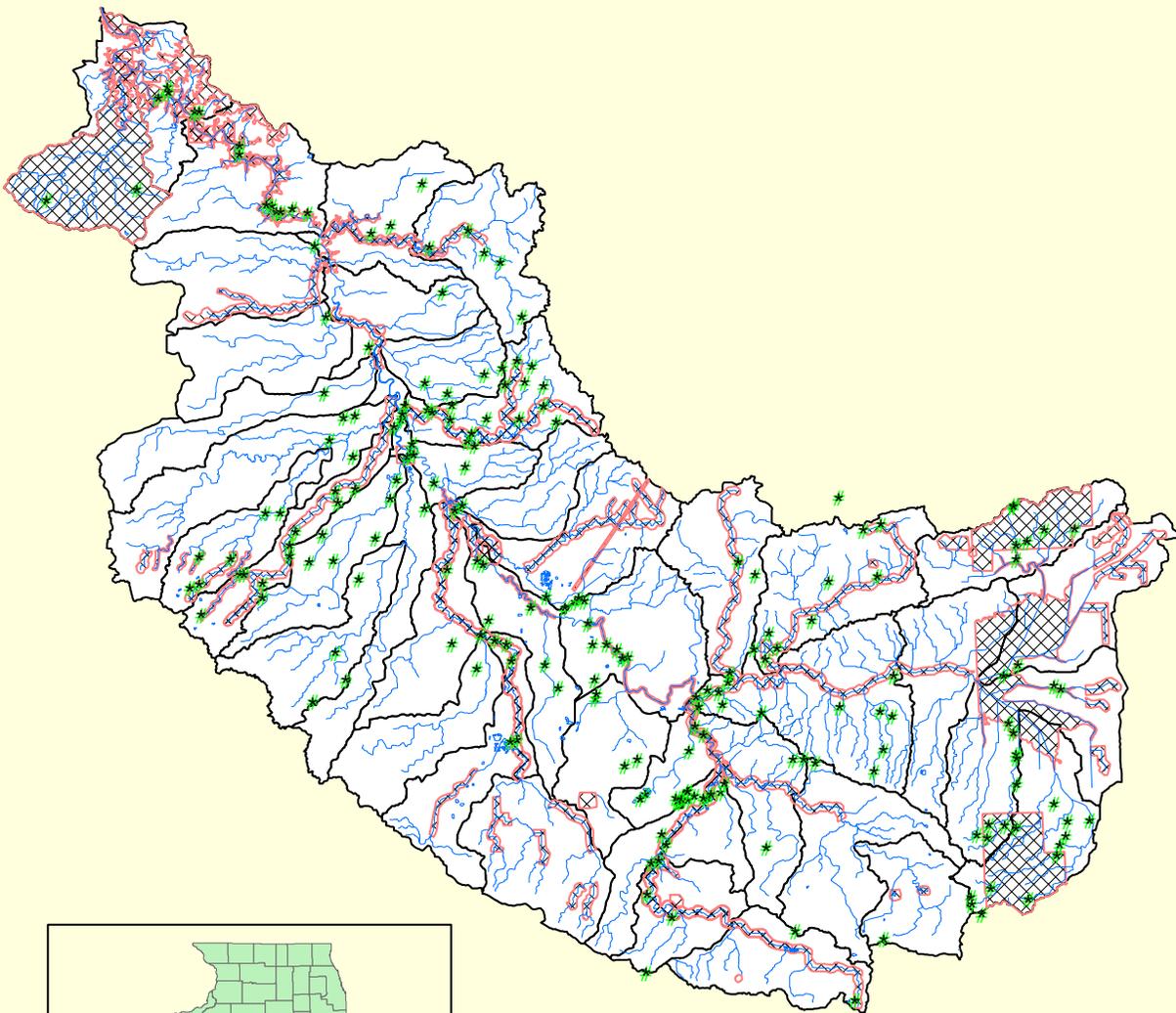
Most landowner respondents gave permission to share their personal information with agencies that could assist them. This information was used to create a GIS (geographical information system) layer of “landowner interest” to overlay with GIS layers that indicate levels of landscape condition and quality.<sup>12</sup> Together this data provides direction on the areas most in need of restoration, with the landowners who are most receptive to receiving assistance. The Vermilion Watershed Task Force 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 (121 responses).

<sup>12</sup> 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.

# Vermilion Watershed Taskforce Landowner Willingness



Many others faced obstacles with government assistance such as lack of government funding (23 responses), cost-share problems (14), government regulations/interference (12), and government red tape (3). Maintaining productivity also received numerous comments (37).

Table 26. Landowner survey: Self-reported obstacles to implementing conservation practices (N = 317).

OBSTACLE	Number of comments
Lack of money/costs	124
Maintaining productivity	37
Lack of government funding/incentives	30
Lack of time	17
Problems with cost-share	14
Lack of knowledge	12
Government regulations/interference	12
Lack of technical assistance	12
Lack of equipment	9
Drainage	9
Absentee landowner won't approve	8
Uncooperative neighbors	6
Erosion	6
Lack of labor	4
Flooding	4
Taxes	4
Red tape with government assistance	3
Wildlife damage	2
Tillage	2
Weeds	1
Tenant won't do	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.

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 = 606).

	Mean	PERCENT RESPONDING				
		Great concern (1)	Concern (2)	Somewhat of a concern (3)	Not a concern (4)	No response/ don't know
<b>Treatment wetland concerns</b>						
Even with cost-share, I could not afford it.	2.29	21	19	12	14	33
It would eliminate too much land from agricultural production.	2.40	23	14	14	19	30
It would require too much effort to maintain.	2.47	18	16	14	17	35
It would negatively impact drainage.	2.51	19	13	14	19	36
It would impact farming practices on adjacent land.	2.70	16	13	11	25	35
It would not be effective at reducing soil and nutrient loading into the stream.	3.05	7	9	14	26	44
It would attract undesirable wildlife.	3.12	10	8	11	36	35
I don't like participating in government programs.	3.33	7	6	10	44	32
<b>Buffer concerns</b>						
Even with cost-share, I could not afford it.	2.70	8	16	14	16	46
It would require too much effort to maintain.	2.85	6	13	17	17	48
It would eliminate too much land from agricultural production.	2.98	9	10	12	26	44
It would impact farming practices on adjacent land.	3.25	5	8	9	32	46
It would negatively impact drainage.	3.28	4	6	11	29	50
It would not be effective at reducing soil and nutrient loading into the stream.	3.32	4	5	10	29	53
It would attract undesirable wildlife.	3.35	4	7	8	34	47
I don't like participating in government programs.	3.50	3	4	10	38	45

## 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.

Table 28. Landowner Survey: Environmental Attitudes (N = 606).

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

	<b>SD (1)</b>	<b>D (2)</b>	<b>U (3)</b>	<b>A (4)</b>	<b>SA (5)</b>	<b>Don't Know</b>	<b>Mean</b>
The way my neighbor manages her/his land has no impact on my land	30	28	10	17	8	7	2.41
Land can be managed <u>simultaneously</u> for commodity products, recreational opportunities, water quality, and wildlife habitat	5	9	23	39	16	8	3.56
Floodplain land should act as a natural buffer or sponge to absorb floodwaters	4	6	26	40	15	8	3.60
Laws or regulations are the only way that most landowners will consider water quality and wildlife habitat when they manage their land	15	25	23	25	5	8	2.80
Treatment facilities are the best way to address water quality problems	10	25	41	11	4	9	2.71
Regulations concerning the protection and enhancement of natural resources are too strict	7	21	46	14	4	8	2.87
Local officials and the local water company are able to take care of any problems with drinking water quality in my watershed	9	15	41	24	3	8	2.97
I can do very little to control soil erosion on my land	31	43	9	6	3	8	2.00
A commitment to conservation puts the farmer at an economic disadvantage	11	31	27	19	4	8	2.74
Sometimes it is okay to degrade the environment to promote economic development	31	33	19	8	2	9	2.10
A healthy economy depends on a healthy environment	2	5	16	50	19	8	3.85
When managing public lands, the economic health of my watershed should be given highest priority	2	5	29	40	14	10	3.64

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	40.77
Positive	48	
Neutral	36	
Negative	24	
Strongly negative	12	

The landowner questionnaire provided the respondents with an opportunity to make open-ended comments about the survey and the watershed in general. Sixty-four 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.)

## SUMMARY AND CONCLUSION

### Desired land uses

Resident respondents reported a desire for more wildlife habitat, 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 is needed. Resident respondents also reported a desire for more outdoor recreational opportunities and a higher quality of features at outdoor recreational facilities. Further study on the types of desired outdoor recreation is recommended, although observing wildlife was the activity residents respondents participated in the most.

### Natural resource / environmental problems perceived by watershed residents

Residents perceive several severe natural resource or environmental problems in the watershed. Perceived problems rated as severe include *quality of water for drinking, quality of groundwater, loss of wildlife habitat, loss of natural lands, soil deposits in streams and rivers, quality of water for fishing and swimming, loss of topsoil, rivers and streams with eroding banks, economic growth, degradation of existing natural areas, solid waste disposal, and pollution from factories.*

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 these 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 Vermilion Watershed Task Force.

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 open-ended formats, residents expressed numerous concerns about the condition of the Vermilion River. Concerns include condition of the river for fishing, low water levels in some areas, public access, and the amount of garbage that is dumped along the river. Residents also expressed concern about the abandoned Smith Douglas fertilizer plant in South Streator and the Pontiac landfill.

### Natural resource / environmental problems perceived by watershed landowners

Landowner respondents, who are predominantly farm operators, indicated that soil erosion, loss of wildlife habitat, and drainage issues are the biggest issues facing the Vermilion 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, and crop damage by insects. Landowners also indicated that financial constraints are the greatest obstacles they face with implementing their conservation goals.

### **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 task force might focus its efforts.

Iroquois County respondents were highly dissatisfied with the knowledge of local conservation staff and the quality and availability of technical assistance, and they expressed great concern about participating in government programs. However, they also expressed the most interest in installing a variety of best management practices with technical and financial assistance. Iroquois County respondents reported interest in planting a buffer with trees and/or shrubs, planting trees, harvesting timber, timber stand improvement, and pest management ( $p < .05$ ).

Livingston County respondents expressed interest in installing a buffer with trees and/or shrubs, planting native grasses, planting trees, and improving wildlife habitat ( $p < .05$ ). Ford County respondents were the least receptive to assistance with best management practices, with one exception: they expressed a willingness to route field tile drainage to treatment wetlands with financial assistance from government programs ( $p < .05$ ). The task force should also note that McLean County respondents expressed interest in conservation easements ( $p < .01$ ).

Based on these data, the task force might focus initial efforts on best management practices in Iroquois and Livingston counties. However, the situation with local conservation staff in Iroquois County needs to be explored and addressed. The task force might also create a treatment wetland demonstration site in Ford County and approach rural landowners in McLean County about conservation easements. Respondents from Ford, McLean, and Woodford Counties tended not to own streamside land, while Livingston County respondents tended to own it. Stream bank or buffer initiatives should be targeted first to Livingston County, then LaSalle and Iroquois counties.

### **Recommendations**

Based on the data presented in this report, the Vermilion Watershed Task Force 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 watershed, and target priority areas with funding and assistance.
  4. Further research the types of outdoor recreation that are desired.
  5. Research the situation with conservation staff in Iroquois and Woodford counties.
  6. Make personal contact with landowners who expressed a willingness to install best management practices. The task force 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.
  7. Use public surveys to monitor changing public attitudes as the median age of the watershed increases and as public education campaigns are initiated.
  8. The information contained in this report serves as baseline socio-economic data for the Vermilion River watershed. It is recommended that the following topics be resurveyed over time to monitor and report on changing attitudes, progress of the VWTF, 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 = 39) (responses were edited for spelling, grammar, and clarity).*

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Pheasant population is non-existent in farm country (Livingston County). Don't know if it is the hawks, coyotes, or chemical programs that have changed grass control etc. in grain crops.

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Our landfill will someday ruin this area!

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I am not really interested in this as I don't do too much outside of my own home. I'm elderly and have to have help. I will say though that Chatsworth's water is something else. When you make coffee it leaves a very greasy look in the pot and your cup.

---

I fish the Vermilion from Sandy Forge to Lowell. 99% of the fish are smallmouth, catfish, sheephead (drum) and carp. What happened to the bullheads, bluegills, crappie and rock bass? The old timers tell me there were MANY bullheads and rock bass and a fair share of gills and crappies.

---

The Vermilion River area is an untapped bonanza. I would like to see a greater increase in access and use of this area.

---

Too much area of the Vermilion is bought up by homeowners. It's all private property. Old cement mill on the river, that whole area is a mess. I live in Oglesby and used to go down there all the time but haven't been in years. Oh, well?

---

We need to get the duck and geese population reduced.

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It would be nice to have places for people with ATVs (4 wheelers) and dirt bikes (motorcycles) to go and be able to ride them.

---

I'm a senior citizen and unable to participate in most outdoor recreation activities.

---

We need a lake and park developed between Fairbury and Pontiac to be used for some flood control. We need another dam on the river on the west end of town to increase the water level in town near the Bradford Dam or west of old Rt. 66. We need flood control south of Pontiac with Turtle and Rook Creeks. We need public access to water company storage ponds north of town.

---

At my age, I'm really not interested in a lot of things. I used to enjoy sitting in the park and taking my grandchildren, but I am so allergic to mosquitoes that I can no longer do that. I enjoy nice scenery that is not cluttered with weeds, garbage and trashy looking. I think we need a screened-in environment for adults with problems as myself.

---

I feel like I have just wasted my time here in the Streator area, and the Vermilion River has nothing to offer in boating, fishing, hunting, etc. Fishing in the Vermilion River is a joke. Hunting, well I saw one pheasant two years ago. I used to do all of this stuff, now I do NONE. I could go on but why—nothing will get done anyway. HUH GOOD LUCK!

---

- 1) Farm nitrates pollute wells, streams and rivers.
  - 2) Farm herbicides kill off small game animals.
  - 3) Environmental people—EPA—have introduced coyote into area, killing off all pheasant, rabbit and quail. Eliminate these three things you will have balance in nature.
- 

The old Smith Douglas fertilizer plant in South Streator has polluted the water and land, but no one seems to do what is necessary to clean this mess up.

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Not enough water in Vermilion River below dam for boats or canoes or even fishing.

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Small towns like Cullom, Piper City, etc. have too many septic systems draining into tiles.

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We visit Starved Rock and Matthiessen Parks during all seasons and enjoy the quality of picnic facilities in both places.

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Abandoned factories are a problem.

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Too much of this good ground going to the 15 years (CRP). Can't control the weeds on our farm, because we farm it. Neighbor's weeds are coming to our ground. Government paying them \$185 per acre for 15 years, but they don't have any kids that want to farm but few of us do have kids who want to farm.

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Need public boat access to Vermilion River above the dam at Streator, IL.

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We live on the river and keep a clean pristine area except for trespassers who litter. The river should be cleaned up and the past owners of Smith Douglas should fill the bill. Otherwise, the state should do it, since the state allowed the contamination in the first place. We need to clean up our own location.

---

I think Livingston County needs more water areas. I don't want high speed, loud water craft (including ski doos). I would like Pontiac to build an addition to the dam to raise the water level upstream at least 2 feet. But during high levels, open the gates to allow water levels to drop. I would like more lakes (closer).

---

Solid waste from other communities to Livingston County landfill is a serious problem.

---

I am an avid fisherman. The Vermilion River will be in a serious condition if something isn't done. I've fished it as a child with my father and would like to do the same with my son. The silt and trash in it as well as chemicals from the farmland runoff seem to be the biggest problem. Private landowners with No Trespassing signs are also a big issue. This is not the way we should leave this land for the next generation. As a nature lover myself, I'm glad to see this interest.

---

I worry a little about the purity of the well water I drink, because I rent a house on farm land that has hogs. I wonder if over the years that could contaminate wells.

---

Landfill is having a negative impact on the environment.

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Thanks for selecting me. I am glad to help. I believe we need more wildlife habitat left in place or reestablished. Fence rows help with wind and water erosion and provide excellent habitat as do grasslands. I will BE GLAD to help in ANY WAY I can to help get these types of habitat reestablished.

---

I believe the greatest threat to the environment of the Vermilion Watershed is the landfill at Pontiac. They are not using the land, they are destroying it. It is certain, there will be problems with it, and there is great potential for catastrophic problems. They are now going to expand to the north on the land through which a small creek flows. Wolf Creek is near the southern edge of the landfill. These streams flow to the Vermilion, which flows to the Illinois River.

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Too much farmland being taken out of production due to over-building. Homes too large.

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I believe that artificial stocking of game or fish has only a minimum benefit. Adequate habitat and clean streams are more important. Our pheasant and rabbit populations are declining for lack of habitat. Our deer herd keeps increasing because of available crops like hayfields, corn and soybeans. The Illinois River is now a great fishery since Chicago quit polluting it with sewage.

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More QUALITY management would be very positive.

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I live on the banks for Bailey Creek, which empties into the Vermilion River by Oglesby. It would be great if something could be done for recreation in the old Bailey Falls area which is owned by Lonestar Cement Plant.

---

Dam needs to be replaced. 28 miles north of Streator on the Vermilion River.

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- 1) This town needs education on recycling; many people burn newspapers and cardboard boxes. We've seen carpeting (green smoke) and a mattress burned in our neighborhood. People burn after dark all year long. Ordinances mean nothing—they do as they please. At dark, it's hard to find the source of the smoke in order to notify the fire department. The current ordinance states no burning after dark, and that ONLY landscape waste is allowed to be burned. The ordinance is LARGELY IGNORED.
  - 2) We frequently visit Starved Rock State Park which in recent years has become less enjoyable. As state taxpayers, we do not feel we should be denied access to certain areas of the park that only paying guests may use. There are many cigarette butts and other types of litter which have become prolific over the past 10 years. Maybe there should be a limit on the number of private events held at the park each year. Encountering these crowds at every visit is not a pleasant experience. Smoking, pit bulls and rottweilers should not be allowed in state parks. Ladies restrooms at Starved Rock look clean, but have a stinky odor in lodge by information desk room and also below in new building.
- 

I am very worried about the amount of dumping that goes over the banks of the Vermilion River from the Streator Dam all the way down to Oakley Avenue through private land. I also believe there is still a lot of untreated sewage being put into the river from private sources. If Smith Douglas cleanup is not done, river wildlife will be killed overnight if retaining wall breaks. (IEPA knows about it.) Close friend has Vermilion River boat that will travel in as little as one foot of water, making it possible to navigate from below dam to Sandy Ford at times.

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*Appendix 2. Landowner survey: Open-ended comments about survey and watershed (N = 72)  
(responses were edited for spelling, grammar, and clarity).*

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Where we live our land is flat, but the government is paying others \$170-\$195 and seeding it down for them and the weeds are taking over. They don't do anything to it. Most people around here who are in it don't have anyone to take the land after them and are close to retirement, so they don't take care of the land as they should. South of town where this practice should be because there are hills, they are only getting around \$50, which don't pay. I think you should have to check in on this.

---

We are blessed along the Vermilion watershed with too much water. Usually we need to get rid of excess water to make our farms profitable, (some of this is done naturally). For this reason drainage is very important and should not be hampered.

---

On my farm the town's septic tanks drain into the stream that runs through the farm. Some of the tanks are not functioning properly and are contaminating the water. I had hoped at some time I could install a pond on the property using the stream but I feel it would be too polluted for any activities the pond would supply. I'm not sure who to contact to look into this concern.

---

We cash rent.

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Drainage district should clean out stream systems.

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Some of my land goes to Vermilion River through drainage ditches and some to Iroquois River. So it is on the dividing line. I pay a drainage tax on water going to Vermilion River and more to Iroquois. Drainage isn't different. All farm land is rented out.

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Two Main Points: 1) Spoil bans in some areas of this watershed have become so high so as to effectively move floodplain areas. One area is southwest of Cullom to Piper City. 2) The building of wetlands or other natural barriers, filters, or habitats are conceptually good ideas that may have impact on water quality improvement. BUT in the past these ideas when built have become legally permanent with substantial penalties for the landowner if they altered or managed differently than someone's rule book. Everyone's rule book is not the same, thus some chosen people are allowed certain favors and others are not. If it can be Iron Clad that these ideas when built are totally the landowner's with knowledgeable assistance (of FSA or other) but no rule book, then you would get substantial participation.

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Just leave me alone!

---

We have an acute problem with deer destroying crops. If it isn't rectified it is going to put farmers out of business. It is common to see 50 deer eating in a bare field. Reduce the population. When we call the conservation officers they just ignore us.

---

All my land is managed through farm management. All decisions on these issues are theirs.

---

We were left 80 acres—my brother in California has 40, my sister in Normal has 20 and I have 20. We each rent, so I know nothing about any of this. The tenant takes care of everything and we just collect a check.

---

Federal farm payments for grain production, which end up in the hands of multimillionaire landowners, eliminate tenant farmers or squeeze them into no- or low-profit situations. If the 12 billion dollars were channeled into conservation instead of subsidizing maximum grain production it would do wonders in aiding conservation. Congress is definitely misdirecting farm payments. I've been farming a long time and this is obvious to me.

---

I don't live in the area and don't know the concerns. Don't operate land. I want to keep it in good shape to get productive crop. I'm active in conservation practices. I assure conservation.

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I would be very interested in wetland establishments. Keep me informed of river clean-ups.

---

I am disenchanted with USDA/NRCS because of broken promises and negligence. The unfortunate impression is that the USDA/ILDA are corrupt. I have converted my farm from corn/soybeans to grassland at my expense and have received no help.

---

I am all for protecting the God-given resources on the land that I am the custodian for. I am against Government getting more involved, because it always means more cost to taxpayers and more waste. I also oppose any efforts to confiscate land along the Vermilion for public use. We who have lived along this river for many years have seen other supposed environmentalists attempt to make our land available for special-interest groups. This is wrong and we will oppose it.

---

The 80 acres will be in trust at the 1st National Bank until my death when they will be inherited by our son. The fate of the farm rests in his hands.

---

I am retired. Other members of my family make decisions discussed in this survey.

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I own about 30 acres in Deer Park, LaSalle County. My son-in-law farms the ground for me.

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We only own 5 acres—not much of it is creek.

---

My brother and cash renters actually farm my land. I am an absentee owner, but I did grow up on the farm and I am interested in environmental protection.

---

I'm sorry, I only own 2-1/2 acres. My answers do not reflect the depth of seriousness of your inquiry. However, I do wish you the best results on your survey.

---

I tried to save a 300-year-old oak here when they built our bridge, but said they could not get a large crane in. All they would have had to do was build from the other side of creek. Sorry I was not able to be of more help, but we just have a home on a few acres here and are rather restricted compared to what could be done if we had more land. Also sorry for the delay in getting back to you but I was in Florida for several weeks. Someone has to do the dirty work you know!

---

We were unsure if we were sent this questionnaire. We own a home on the Vermilion, but as farmers our farm land is not on the river. Had it been we might have answered differently. We do believe in providing places of wildlife and taking care of the river.

---

Not familiar enough with some of the programs to make proper decisions. Too much inside control is not needed and government wants control over money. Some of the people involved in the programs are not familiar enough with the landowners.

---

I have about 2-1/2 acres of wetland that I might consider changing to a pond/small lake (wetland bordered by high ground with oak trees). Also have a 1/2-acre pond fed by the above-mentioned wetland. We are considering expanding this pond and leaving the wetland as is. We would appreciate any financial and/or technical assistance in this regard. My goal has been and will remain to provide as much wildlife habitat as I can, to attract as much wildlife as my land will support.

---

My land is flat, but I have a little flood out along the Vermilion River. It comes from a neighboring creek that overflows to the road from my farm. Water comes from the Kelly Creek from the northeast, and from the Lahouge and Piper City area from several ditches. All Chatsworth water, which probably has a 40-foot fall in 4 to 5 miles, several ditches merging southeast of Charlotte. All of these ditches and creeks come together in the northeast Sec. 12 of Charlotte. I would really like to see a map of where all of this waste comes from. If all those surrounding areas get a 3- to 4-inch rain at the same time or several days of large rains, we get hit. I think everybody alive should pay a drainage tax to help maintain all these large rivers and large creeks. Drainage districts don't go far enough out for review. We were in a farm drainage business for 20 yrs. as a sideline with farming.

---

After our forefathers spent years clearing brush and trees from ditches and tile lines which were obstructed, I find it ironic that it is suggested we return to relearn that lesson. Nutrient management sounds fine at the outset, but I'm concerned my farm's economic viability may be put at risk without sound research. A question: 'Why are phosphorous and potassium levels dropping (survey of national testing labs) yet nutrient load of water is increasing?'

---

All my land is woods and as I stated, it is the natural runoff for Rocks Creek so it stays wet. I would like ideas to stop flooding and protect water quality and ground water from chemicals and quarry damage. My wife and I love the land, the wildlife, and the joy of the woods, so any help would be appreciated. We have in these woods 110 different birds, 6 different types of Oak trees, Basswood, Walnut, Wild Pecan, Buckeye and Paw Paw trees. Deer, raccoon, two families of great horned owls, red tailed hawks and many more make this their home.

---

I have lived in this area my whole life and I am not happy with things I see happen. I was raised a farm kid in the sixties and seventies, a very bad time for wildlife and habitat [when farmers were in] search of 1 more row of corn or beans—not good. I just hope we can turn this around. We need to be concerned about quality of life; the problem is being in the pursuit of the almighty dollar. Take time to smell the roses before it's too late. Signed, need more habitat, windbreaks through fields, and water quality. Thank you.

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I am 50 years old and have fished or hunted along the Vermilion River from Streator to Pontiac for 40 years. The changes I have seen include more soil and bank erosion, more silt in the river; at one time there was an abundance of softshell turtles, frogs, snakes—all those are almost never seen now. The aquatic vegetation along both banks would grow out from the bank 15ft from each side, and around 1975 the vegetation was all gone and little has come back. (What was the cause?) I believe our watersheds are dying. Much of the wildlife and vegetation are a fraction of their heyday. The quality of all life works hand in hand with each other. I thank you for your concern!

---

I have been gone, just got home. Sorry this is late.

---

When you are billing landowners for maintaining the river, you need to go back a lot farther to other landowners. Water comes from a lot of land away from the river but they don't have to pay anything. That isn't fair to the people who own land close to the river. We have to take all of their water above us, plus pay the bills. Why not look into that?

---

I don't have but 2+ acres, but we are surrounded by hundreds of acres of farm and unfortunately we get all their stuff: chemical runoff, debris, soil, and flooding. We would be grateful for a pond to catch runoff to keep it out of my yard and septic. When we moved here nearly 20 years ago, we never had the problems we are having now. We used to see a great number of pheasants and herds of deer. Now, we are lucky to see one pheasant at a time and a few deer.

---

We just have a lot and a house in the Webolt subdivision along the Vermilion River. We are interested in these issues because of property use along the Illinois River and land east of Cornell, which has a creek.

---

Retired

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I only own 20 acres and bought it only for recreation purposes and wildlife habitat. I do not farm any of it. It had 10 acres in the CRP [Conservation Reserve Program] system; 5 acres was rejected last year so only 5 remain. I will still not farm the rest but I don't understand why the program was cut. Thanks.

---

We do not want trees or shrubs—some day at the end of our contract we may begin farming the CRP again.

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This is my father's survey (he is 85). I have received and filled out 2 of these. I will not fill out his because it will just like my other 2. Good luck to your committee.

---

I own the land where the South Fork and North Fork of the Vermilion meet so I get a lot of water at times.

---

I don't have any farmland. I have a field on three sides of my property. I have 8 acres of wooded pasture. I have no livestock so I maintain all of it. There are two ravines on the property; both lead to Mud Creek, approximately 300 yards away. One ravine has a field tile running into it, and the other has a lot of runoff from the surrounding field. I would like to put a pond on the one side to catch the runoff from the field. If there is any way to get assistance for construction, I would appreciate your help.

---

Our land is on each side of the North Fork of the Vermilion. We need a clear channel for unrestricted water flow. We pay high taxes on this property and we need to keep flooding to a minimum.

---

Our Vermilion River needs an open channel so the flow of water is not restricted.

---

Dear Sir: I am applying modest amounts of nitrogen side dressing with a cultivator, which is near to time of crop usage. When I see many large farmers applying higher amounts of NH<sub>3</sub> in the fall, I don't get very excited in being asked to install treatment wetlands on my farm. Twenty-five years ago I installed PTO terraces on a rolling farm and am careful to maintain and care for my land so am committed to conservation practices.

---

I don't feel qualified to help in the partnership. I have completed this survey as best I could. I am not actually farming myself but with my son, who has additional land which he operates. We use strip-till on our corn land, no-till on acreages for the most part. We have filter strips along dredge ditches, land next to creek where possible. I have some land planted to trees. I have neighbors who have signed up for tree planting in my area. I think in order to get projects started, the government needs to be involved.

---

This past year I just traded off some ground I owned with my family that had a mile of creek ground that I had enrolled in the filter strip program. Even though we had talked about planting more grass along the creek we never got around to it, until the CRP program became available. It was the push we needed to do it. It has been a good thing.

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Define "healthy environment" (question 35).

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Already have buffer without trees.

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My biggest concern living on the Vermilion River is the introduction of motorized personal watercraft and ski boats. What I have heard is that motorized personal watercraft are the worst pollutants on the water. The town and I dislike the water. I've heard there are chemicals in gasoline that can't be detected when refined or filtered. That is why they are outlawed in most lakes in California, and I think some in Illinois. This is a small river that used to be full of ducks, fishermen, and canoes. Ducks are few, canoes are rare, and fishing has suffered significantly the past 10 years. I wish I had a Camcorder 10 years ago when I would see hundreds of wood ducks in the fall and spring. It is sure different now. Thank you.

---

This place has been continuously farmed since 1948. Waterways and some grass on court. No gullies, very high ground that is not highly erodible land. It is proof that constant farming works. Land has been in family since 1872.

---

I am an absentee landowner. I am not able to offer any information for this survey. My tenant has completed his survey.

---

As desirable as many practices are from an environmental standpoint, farmers are reluctant to support projects that they believe negatively impact their profits or take land out of production.

---

We have filter strips along all the streams that go through our property. I feel that they are a great idea. They are good for the environment and wildlife.

---

The obstacles to flow of water from rains are tremendous. Field residue becomes barriers. Country road bridges are another barrier to the natural flow. Counties and townships within the state should be made aware of these problems.

---

I am concerned that increasing wildlife habitat in the area where we own land will lead to an explosion in the whitetail deer population. In the area of Ohio where we live they are an extreme nuisance and do much economic damage.

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I like what you are doing. I am cooperating.

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The Vermilion River would be a tremendous fishery if dams were placed at key locations to insure year-round pools or impoundments of water. Every summer the river almost runs dry, which reduces all fishing and boating (canoeing/kayaking) opportunities. The Vermilion River is regarded as a clean river compared to a somewhat polluted Illinois River. Why not make a good resource better and more marketable to outdoor enthusiasts? Illinois citizens are flocking to out-of-state water recreation and fishing because of a lack of such resources.

---

I am 85 years old.

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Page 13, Question 14: Most of my acres in production are minimum-till and some are strip-till. The bottom ground is mostly converted except no plowing for last 10-12 years. Chisel and [unreadable] only. Page 1 -Question 2: I have a real problem with the way the Vermilion River outlet drainage district carries out their maintenance work. You want riparian buffers, and they want a soil bank from top to bottom at a much steeper grade than should be aroused on this river. The soil runs back in the river. The next time we have high water, they just end up moving the same dirt over and over. We are NOT happy with this type of operation. The district may have a right-of-way, but we still own the banks and bottom.

---

I lived along the Vermilion River for 65 years. I was 15 when it was dredged the first time. At that time there was nothing done to stop erosion out of the side channels, and that has created a disaster. One landlord wants to do something about it, but couldn't afford the \$30,000 the [agency] said it would cost. As we heard then and have heard many times since from the people upstream, "My water gets away so it's not my problem." This is why I think we need a different funding method. As for creating wetlands and buffer strips and planting trees, you will have to consider the effect of roots on drainage which in many cases go back for long distances from the river and will run through them. I firmly believe in soil conservation and water quality, but in the past it was the low-ground owners that had to pay for it themselves, or if they were going to get help they basically had to give up control of their property.

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Any assistance would be appreciated. I have been working with DNR [Illinois Department of Natural Resources] from Gibson City.

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I am developing on 82 acres for wildlife management for both my immediate enjoyment and for a legacy—a tradeoff to be sure. I started 10 years ago, with zero knowledge and equipment and with limited resources. I have come a long way since then in all categories (riparian borders, CRP). Would like to do more, but need labor, equipment and resource assistance.

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I am 89.5 years old and retired.

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Just stop the hidden poisons from labs.

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As Farmers we are protectors of the soil and water. Why else would such a small percentage of the population be able to feed the world? We do not need someone with only book learning and no practical experience trying to run our lives. I had a distant relative who read in a book how to swim. And guess what, he almost lost his life. We have dams which prevent flooding one place, but the water has to go somewhere and it floods somewhere else. Is that fair? I don't think so. Too many of the so-called saving measures do more harm than good. All they do is bloat the government, create undue paperwork for the farmer, and in turn mess up the environment. Let things alone. We have too much government in every aspect of our life. I believe that is what our forefathers came to this country for and fought and won the Revolutionary War for. Back off.

---

Work with Mother Nature having a say in what is done—even supposedly great environmental programs have gone astray because natural solutions were not considered. It is especially true of streambank restoration. Nature has our riverbanks restored—leave it alone. Erosion is there, but nothing over the last 100 years that nature hasn't been able to handle. Don't mess with Mother Nature even in the guise of environmental programs. If we were rich we would turn the river ground over to nature and then you would see real conservation. Until then, we will let her have as much as we can.

---

Regulations are too expensive to create natural resource stewardship. Compliance to regulations only comes with enforcement that creates very expensive and negative participation by farmers and landowners. Incentives of technical support and economic support are the only practical methods to improve natural resource quality. Any program promoted by regulations and/or incentives should be applied to large areas of agricultural lands, with priorities placed on the more fragile lands. Retirement of marginal lands from A9 Production must be done to preserve our natural resources. Only the lands best suited for production should be used. All other marginal lands should be converted to uses that enhance the environment. High-priced commodities are the biggest single detriment to conservation project participation. Economic assistance in the form of conservation subsidies should relate to commodity prices.

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This was very well covered for such a changing issue. My farming and land interest continues since 1940, even prior to 1940; family always owned farms.

---

I am a landowner of 1000+ acres, on which drainage and water control are so very needed and important. Tile and waterways are an advantage with conservation practices. We did miles of tiling to conserve and preserve the ground. Waterways must also be maintained. Good Luck.

---

I cannot understand why a person who owns only 12 acres receives 4 of these surveys. And a person such as my son-in-law, who owns and farms 2000 acres, didn't receive a survey.

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The state of Delaware offers permanent easements if farm ground will be retained and no homes built. We would be interested if this were offered in our area. Long-term grasslands and woodlands are very desirable if economically feasible.

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Every time we try to get assistance from the FSA [Farm Service Agency] waterways, they are either too busy or they lay it out wrong and we get washes. They are a complete waste of our dollars. They do not need that agency.

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 Natural Resources and  
Environmental Sciences

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