COMMUNITY FLOOD SURVEY REPORT

2014

UPPER SILVER CREEK WATERSHED

MADISON COUNTY, ILLINOIS

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EXECUTIVE SUMMARY

This report summarizes the findings of the Madison County Community Flood Survey, which was distributed to homeowners and business owners in the Upper Silver Creek Watershed to gather information about the location, extent, impacts, and causes of flooding in the watershed.

A total of 477 surveys were completed from within the study area out of 2,000 mailed out, giving a response rate of 24%. Some of these were collected via an online survey.

A watershed is an area that drains to a defined point. Watersheds are defined at a variety of scales for different purposes. For management and analysis purposes, the Upper Silver Creek Watershed is defined by smaller hydrologic units between up-stream and down-stream points. Each unit has a unique 14-digit hydrologic unit code (HUC), and these units are informally called HUC14 subwatersheds. Thirty percent (30%) of survey respondents were within the HUC14 subwatershed that contains Troy, 07140204050603. All HUC14 subwatersheds had at least 2 respondents.

Key Findings

- **PREVALENCE:** Over a quarter of respondents (26%) experienced flooding in the last 10 years.

- **FREQUENCY:** 55% of respondents with flooding experienced flooding at least once per year in the last 10 years. On average, respondents with flooding experience 2.7 floods per year.

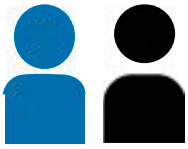
AVERAGE

2.7

FLOODS *PER YEAR*

- **EXTENT OF DAMAGE:** Of those who had been flooded in the last 10 years:
  - 45% said that the flooding had damaged their primary home or business;
  - 43% had damage to fences, auxiliary buildings, and other structures; and
  - 46% had damage to yards and landscaping.

- **NEIGHBORS:** Half of all survey respondents were aware of flooding on one or more of their neighbors' properties. Of the survey respondents who had been flooded, half said that their neighbors had also been flooded.



1/2 of Neighbors Flooded Too

- **TOP FOUR CAUSES OF FLOODING**:
  1. Heavy rainstorms
  2. Water draining from a neighboring property
  3. Flooding from a nearby river, stream, lake, ditch, or pond
  4. Blocked or unmaintained pipe, culvert, or ditch

- **REPORTING:** Over half of respondents who had flooding did not report it to anyone. Those that did report it were most likely to contact their city or village (18%) or their township (13%).

DIDN'T REPORT FLOODING

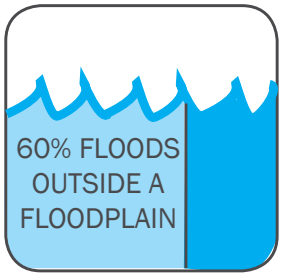
- **EFFECTS FROM FLOODING**: Stress was the most commonly reported impact from flooding. Others included loss of access to property, including loss of access to major entry/exit routes to their homes; lost business income; crop damage; and repair and replacement costs of goods and structures.

- **MONETARY LOSS:** Two-thirds who reported a monetary loss said their monetary loss over 10 years was less than $5,000. Another 24% said that the loss was between $5,000 and $20,000. Two respondents (4% of those who answered) said their losses were between $100,000 and $500,000.

  Respondents reported a total of at least $330,016 in costs due to flooding over the last 10 years. Each respondent who reported a cost paid at least $6,471 over 10 years. The average cost paid was $18,579 over 10 years. It is estimated that about $42,902,080 was lost due to flooding over the last 10 years in the Upper Silver Creek Watershed.

- **RELATIONSHIP TO FLOODPLAINS:** Floodplains designated by the Federal Emergency Management Agency (FEMA) constitute close to 11% of the total acreage in the Upper Silver Creek Watershed within Madison County, and 13% of the survey responses came from parcels wholly or partly within a FEMA-designated floodplain. However, 10% of survey respondents did not know that they lived or owned property in a FEMA-designated floodplain.

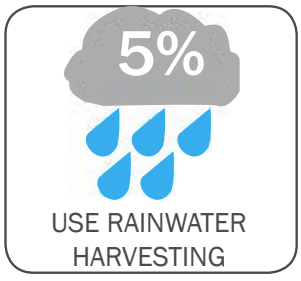
- **FLOODING OUTSIDE OF THE FLOODPLAIN**: Flooding does not always occur in floodplains in the watershed. Respondents reported that approximately 146 events per year occur outside of FEMA-designated floodplains in the watershed. Within floodplains, approximately 88 flood events per year were reported.



- **FLOOD INSURANCE:** Fourteen percent (14%) of respondents have flood insurance.

- **FLOOD INSURANCE CLAIMS:** Eight percent (8%) of people who have flood insurance (5 respondents) have made one or more claims. Of those respondents who have flood insurance, 54 (82%) have it on structures that are not in a floodplain.

- **DOWNSPOUTS:** Ninety percent (90%) of respondents said their downspouts flow out onto their lawn or other ground surface. Five prercent (5%) of respondents said their downspouts were connected to cisterns, rain barrels, or other rainwater harvesting storage, and the remaining 5% said they were connected to storm sewers.



- **ACTIONS TAKEN TO PREVENT FLOODING:** 138 respondents made one or more improvements to try to prevent or reduce flooding on their properties.

- **CROPLAND FLOODING:** Six percent (6%) of all survey respondents own cropland that has flooded. Two-thirds of these respondents said that the cropland had flooded 6-10 times in the last 10 years.

- **VALUING WATER MANAGEMENT:** Respondents to the survey place high value on clean drinking water, prevention of flood damage, water-based recreation, and healthy ecosystems (in that order).

- **FLOODING "HOTSPOTS":** Three (3) HUC14 subwatersheds, 07140204050401, 07140204050304, and 07140204050101, were reported "hotspots" for flooding in the Upper Silver Creek Watershed. These hotspots were determined based on a simple ranking/ prioritization tool that considers percentage of respondents reporting flooding, frequency of flooding, occurrences of neighbors' flooding, and monetary loss due to flooding. However, these HUC14s also had a low number of respondents (6, 17, and 2, respectively).

INTRODUCTION

This section provides a brief overview of the survey and its purpose.

Overview

Several areas in Madison County regularly experience flooding. Some of this flooding occurs in floodplains designated by the Federal Emergency Management Agency (FEMA), which cover almost 15 percent of the county's area (approximately 110 square miles) and contain at least 4,128 structures with a total value of more than $213 million.[1] A great deal of flooding also occurs outside of floodplains. During heavy storms, inadequate drainage or stormwater infrastructure, coupled with large expanses of impervious surfaces, can cause flooding almost anywhere. Although structures in designated floodplains have been identified, and their owners made aware of their flood risk through the National Flood Insurance Program (NFIP), there is no data or notification system for structures outside of floodplains in Madison County.

Madison County promotes flood-safe development practices and the protection of existing development from flood risk. To determine how to best allocate resources and address flood problems, the locations, causes, and extents of flooding need to be identified. Map-based data and other data gathered by government agencies and organizations are useful to identify flood problems. However, a survey of homeowners and businesses is the most direct way to reveal the location, cause, and extent of flood problems they face.

The economic, social, and environmental consequences of flooding can be substantial to people and communities. Chronically wet houses and land result in higher insurance rates and deductibles, and industry experts estimate that wet basements decrease property values by 10-25 percent.[2] Almost 40 percent (40%) of small businesses never reopen their doors following a flooding disaster.[3] In the streams, rivers, lakes, and ponds that collect floodwater, erosion becomes a significant problem and water quality declines as sediment and other pollutants enter the water supply.

The Illinois Department of Natural Resources (IDNR) is currently conducting a survey on urban flooding, as directed by the Urban Flooding Awareness Act. Urban flooding is defined in the Act as "the inundation of property in a built environment, particularly in more densely populated areas, caused by rainfall overwhelming the capacity of drainage systems, such as storm sewers. "Urban flooding" does not include flooding in undeveloped or agricultural areas." Using this definition, the Madison County Community Flood Survey has collected data on urban flooding as well as non-urban flooding. The State of Illinois will use the results of the Urban Flood Survey to develop strategies for minimizing flood damage and increase the availability, affordability, and effectiveness of flood insurance.

Survey Area - Upper Silver Creek Watershed

The Upper Silver Creek watershed is located 20 miles northeast of St. Louis, Missouri in southwestern Illinois. The majority of the watershed is in Madison County, and small portions fall within Macoupin and Montgomery counties. Silver Creek flows south from the project area to join the Kaskaskia River, which ultimately drains into the Mississippi River.

The majority of the watershed's population lives in unincorporated areas. Portions of thirteen (13) municipalities are also in the watershed, including Troy, Mount Olive, Marine, and Livingston.

Silver Creek has been identified as an impaired water by the Illinois Environmental Protection Agency (IEPA) because of pollution from animal feeding operations, municipal point source discharges, urban runoff, and crop production. In addition, the watershed experiences flooding inside and outside of its designated 100-year floodplains, causing damage to property and threatening life safety.

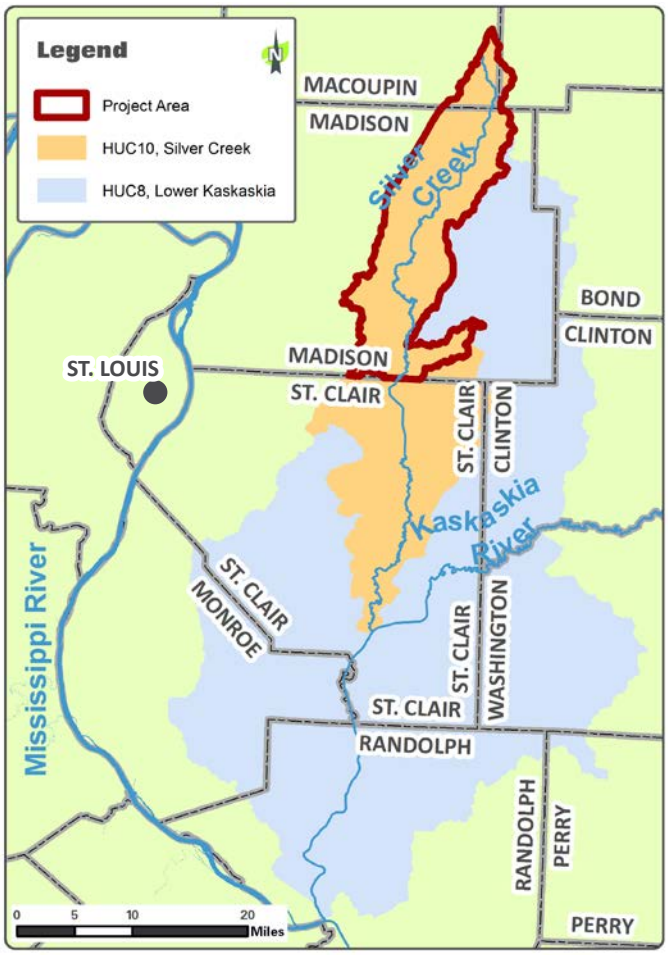


FIGURE 1. UPPER SILVER CREEK PROJECT AREA

The Madison County Community Flood Survey ("the Survey") was conducted in the summer and fall of 2014 to get a better understanding of flooding issues in the Upper Silver Creek project area. The findings of the Survey will be incorporated in the Upper Silver Creek Watershed Plan. When completed, the Plan will provide recommendations for improving water quality and flooding.

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METHODOLOGY

This section discusses survey design, the survey area, how the results were mapped, and limitations of the data.

Survey Area

The survey was mailed to recipients in the Upper Silver Creek watershed, which encompasses 120,091 acres. This watershed extends from Mount Olive in Macoupin County in the north to the Madison-St. Clair County boundary line in the south, and from Troy in the west to Marine in the east. The survey was also available online for community members in the watershed. Some survey respondents provided addresses outside the watershed. These responses were not considered in the results of this report.

Subwatersheds

A watershed is an area that drains to a defined point. Watersheds are defined at a variety of scales for different purposes. For management and analysis purposes, the Upper Silver Creek Watershed is defined by smaller hydrologic units between up-stream and down-stream points. Each unit has a unique 14-digit hydrologic unit code (HUC), and these units are informally called HUC14 subwatersheds or “HUC14s”.

The watershed plan project area and survey distribution area is composed of 20 HUC14 subwatersheds (See map on next page). The HUC14s were delineated using methods employed by United States Geological Survey (USGS) to define watersheds in the Watershed Boundary Dataset (WBD), a component of the National Hydrography Dataset (NHD), a nationwide database of waterways and waterbodies. The HUC14s range from 2,758 to 9,613 acres in size.

Survey Design

The Madison County Community Flood Survey consisted of sixteen (16) questions covering a variety of flooding topics, including frequency of flooding, causes of flooding, the extent and costs of flood damage, flood insurance coverage, and personal values about water quality. A full copy of the survey is available in the Appendix.

Questions were created using best practices to maximize survey response, such as:

- **Powerful purpose:** The survey stated that Madison County is trying to identify and solve flooding problems to make it safer to invest and live in Madison County.
- **Simple to return:** The survey was made as easy to return as possible, with a stamped, self-addressed envelope enclosed. For those wishing to take the survey online, a QR code directed phone users directly to the survey on the website.
- **Privacy assurance:** Survey respondents feel more comfortable providing information when they know how it will be used and that it will be kept private. The first question included a disclaimer that addresses will be kept confidential.

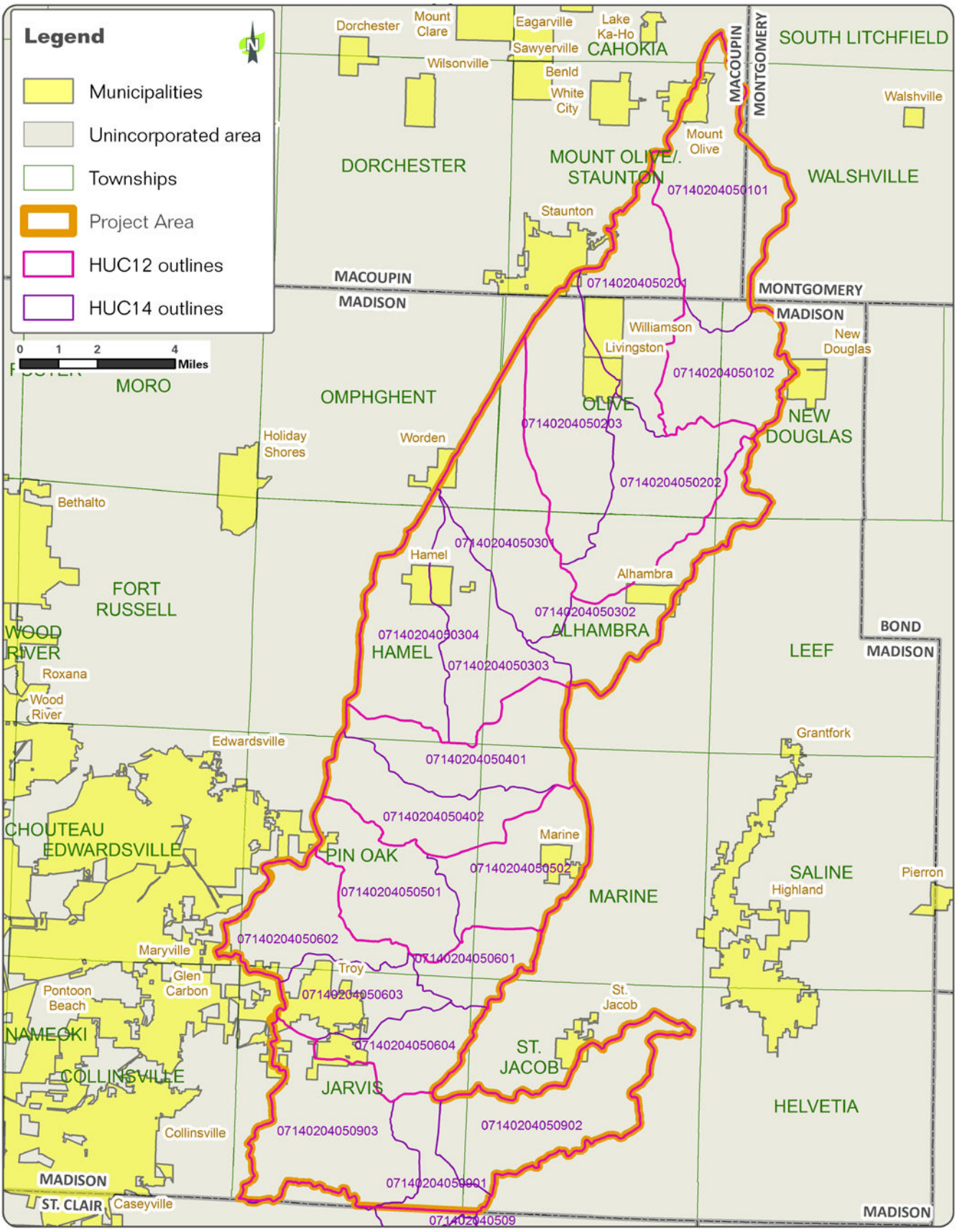

FIGURE 2. UPPER SILVER CREEK WATERSHED PROJECT AREA WITH HUC14 LOCATIONS AND LOCAL JURISDICTIONS.

Survey Distribution and Outreach

Two thousand (2,000) surveys were mailed to randomly selected addresses in the Upper Silver Creek Watershed. Most addresses were in Madison County and a few were in Macoupin County. The randomized list of addresses was created by assigning a number to each parcel in the watershed, and then generating 2,000 random addresses within the range to correspond to the parcels. Duplicate addresses and names were omitted, as were P.O. Box addresses and addresses outside the watershed. These filters resulted in a mailing list of residents, businesses, and property owners currently living or working in the watershed. Madison County printed and mailed the surveys, received the returned responses, and entered the response data.

The survey was also available on the web via SurveyMonkey.com. The mailed survey contained a link to the online survey so recipients could fill it out online instead of by hand. The survey link was also sent to email addresses of interested people and organizations. Some of the recipients of the emailed link may have forwarded it to others.

The survey was publicized at individual and group stakeholder meetings, public open houses, and other meetings for the Upper Silver Creek Watershed Plan. Two weeks after the survey was mailed, reminder postcards were distributed to the same list of mailing addresses to maximize the response rate (and promote the concurrent Open House events for the Watershed Plan). The reminder postcard is available in the Appendix.

Survey Results Mapping

For those respondents who provided an address, the parcel number associated with that address was identified so that the responses could be mapped. Parcel numbers were found using data files from Madison County and the County Assessor's online database.

The response data was grouped and mapped by HUC14 subwatershed. Further geographic breakdown of the response data, such as by Census block, was not possible while maintaining the privacy of respondents' locations.

Data Limitations

It is likely that people who have experienced flooding and received the survey were more likely to reply to the survey than those who have not experienced flooding. Those who received the survey and have never been flooded were more likely not to respond. Of those who did complete the survey, some may not have owned the property for all of the previous 10 years, meaning their estimates are underestimates of frequency and cost. Poor handwriting may also have led to data entry errors. For example, there were at least 35 typos/misinterpretations among responses in the "address" field.

Urban areas were geographically overrepresented in this survey because of the randomized parcel selection process; the ratio of the number of urban to rural parcels is greater than the ratio of the area of urban to rural parcels. This effect is compounded by the fact that a single property owner in a rural area often owns several parcels, and duplicate names were removed in the address selection process causing fewer rural parcels were on the list. Essentially, a geographically representative sample, or one that gave greater weight to answers from rural parcels based on their larger size, would have looked very different.

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SURVEY RESULTS

This section provides the compiled results of the survey. Additional survey response information is available in the Appendix.

Response Rate

A total of 501 unique surveys were completed and returned. Of the total respondents, 477 were properties within the Upper Silver Creek Watershed survey area, and 24 were outside the survey area. The results discussed here are only from the 477 within the study area.

The number of responses exceeded the initial goal of 400 surveys. With this sample size, the survey results are accurate within +/-5% at the 95% confidence level. The response rate of surveys within the watershed is 24%.

Most surveys were returned in hard copy by mail, six (6) were returned at open house events, and other responses were entered online. The online survey gathered responses from 38 people who had not been sent a mailed survey. One hundred thirty-six (136) mailed surveys were returned to the County as a result of invalid addresses.

Survey responses were received from throughout the watershed. Over half of the survey responses came from the Troy area (zip code 62294). At least two (2) responses were received from within each HUC14. A median of 14 responses were received from each HUC14. In HUC14 subwatersheds with only a few respondents, the sample size cannot support strong conclusions. Furthermore, respondents who said they had been flooded in the last 10 years represent an even smaller subset of the population. The number of respondents in each subwatershed replying that they had been flooded ranged between one (1) (four HUC14 subwatersheds) and 34 (HUC 07140204050603).

TABLE 1. ZIP CODE OF SURVEY RESPONDENTS WITHIN WATERSHED PLAN PROJECT AREA

ZIP CODE	RESPONDENTS IN WATERSHED	
Troy (62294)	257	53.9%
Edwardsville (62025)	64	13.4%
St. Jacob (62281)	43	9.0%
Marine (62061)	33	6.9%
Alhambra (62001)	32	6.7%
Hamel (62046)	10	2.1%
Staunton (62088)	10	2.1%
Worden (62097)	10	2.1%
New Douglas (62074)	8	1.7%
Highland (62249)	6	1.3%
Glen Carbon (62034)	4	0.8%
TOTAL	**477**	**100%**

Most of the responses (470) were able to be mapped by identifying parcel information from the address given. All of these mappable responses came from the Madison County portion of the watershed.

HUC 07140204050603 (Troy/NW St. Jacob) had the highest concentration of surveys returned with 151, or 30% of all survey responses. The next highest, with 69 responses and 14% of surveys returned is HUC 07140204050604 (E Troy/W St. Jacob), followed by HUC 07140204050903 (Southern Troy Area) with 59 responses, or 12% of all survey responses.

The total land area of the parcels from which surveys were returned is 2,841 acres (2.4% of the overall Watershed Plan Project Area). Parcel sizes ranged between 0.03 and 174 acres, with an average of six (6) acres.

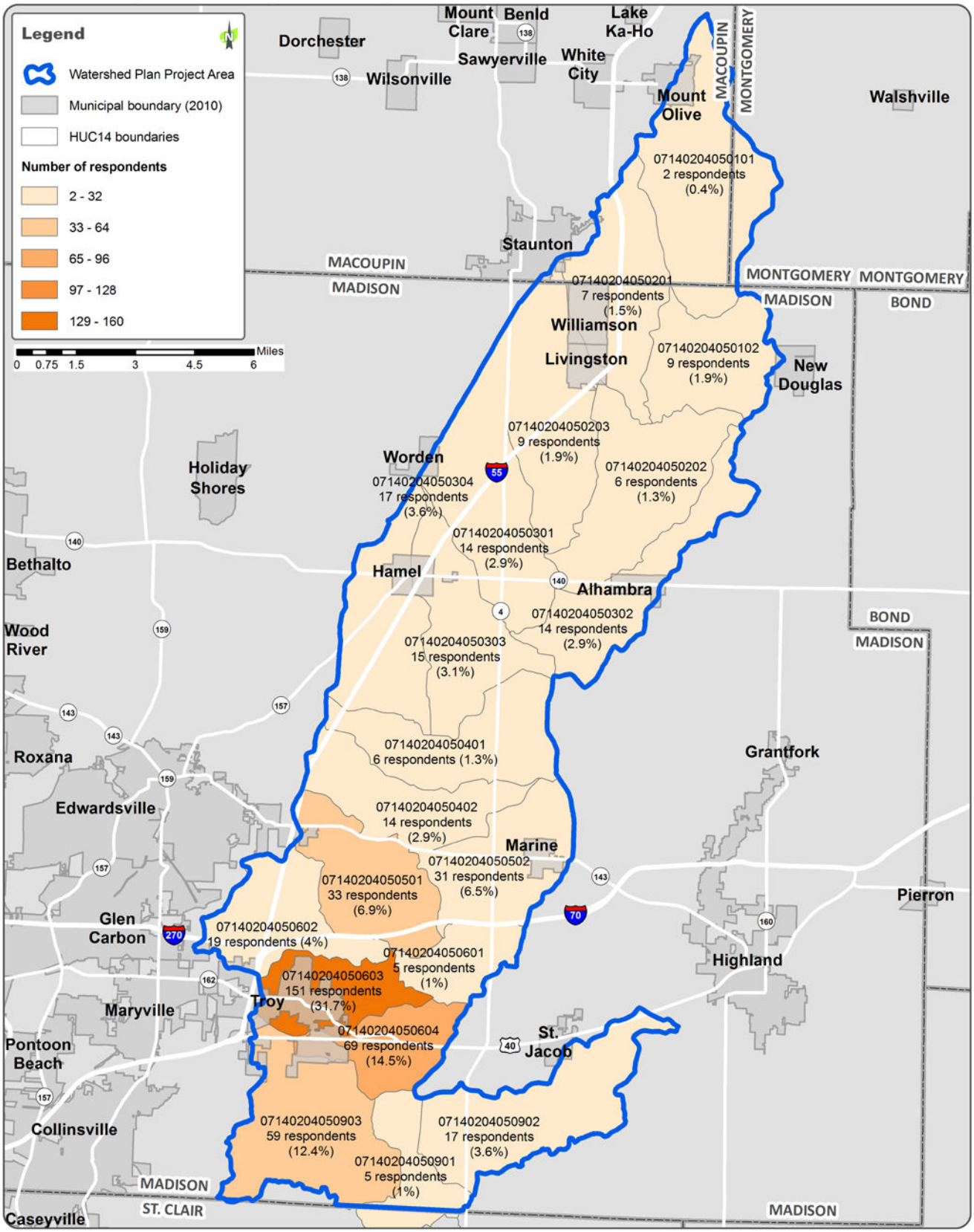


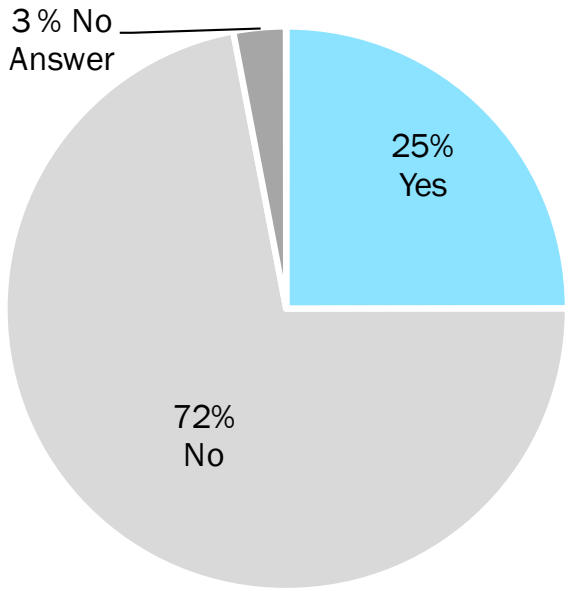
FIGURE 3. SURVEY RESPONSE RATE BY HUC 14

Note: Several respondents' properties were within two HUC14s and were counted in both.

Prevalence

Over a quarter of respondents (26%) replied that they had experienced flooding in the last 10 years.

FIGURE 4. PERCENT OF RESPONDENTS WITH FLOODING IN THE LAST 10 YEARS



HUC 07140204050603 (Troy/NW St. Jacob) had the largest number of respondents with flooding in the last 10 years, with 34 responses. HUCs 07140204050601 (S Marine/NW St. Jacob), 07140204050202 (NE Alhambra/SW New Douglas), and 07140204050101 (Mt. Olive) had the highest percentages of respondents who experienced flooding events in the last 10 years. The lowest percentage of respondents that had been flooded was for the subwatershed containing Williamson (HUC 07140204050201).

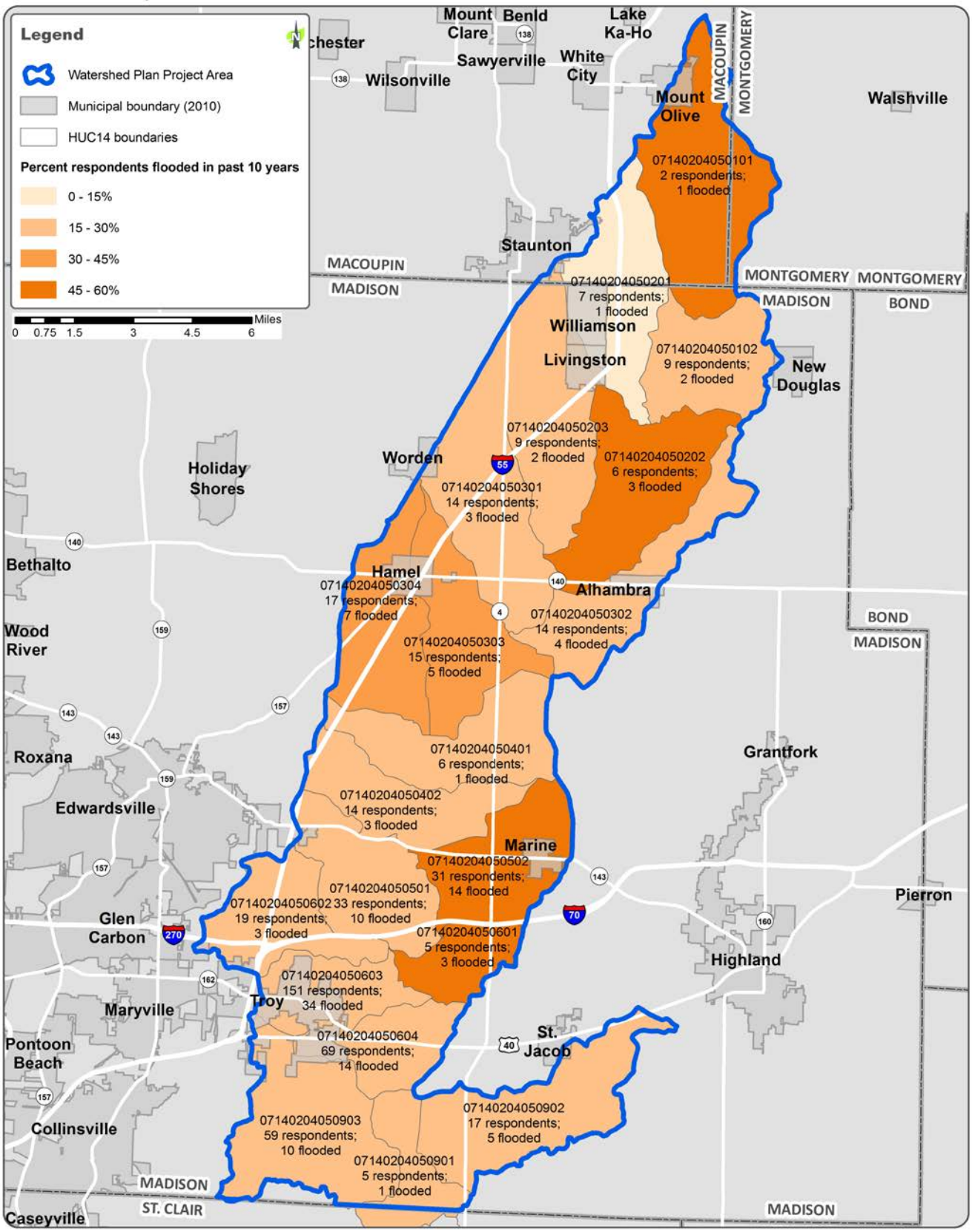


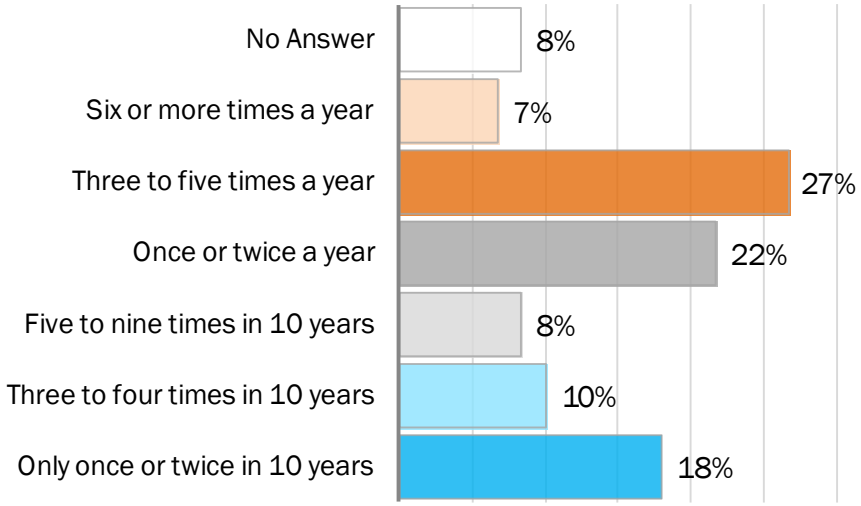
FIGURE 5. PERCENT OF RESPONDENTS FLOODED BY HUC14

Note: Several respondents' properties were within two HUC14s and were counted in both.

Frequency

Of the respondents who had experienced flooding in the last 10 years, 55% experienced flooding at least once per year in the last 10 years. The two most popular responses regarding flooding frequency were three to five times per year (27%), and once or twice per year (22%).

FIGURE 6. FREQUENCY OF RESPONDENTS' FLOODING OVER 10 YEARS



Respondents reported a total of 238 flood events per year in the watershed. When spread over 10 years, it totals around 2,375 flood events. Multiple respondents may have reported the same flood events, and, therefore, they may appear twice or more in the results.

TABLE 2. FREQUENCY OF FLOODING

FLOODING FRQUENCY	RESPONSES		AVG. TIMES PER YEAR	AVG. FREQUENCY x RESPONSES
1-2 Times in 10 Years	22	18%	0.15	3.3
3-4 Times in 10 Years	12	10%	0.35	4.2
5-9 Times in 10 Years	10	8%	0.7	7.0
1-2 Times Per Year	26	22%	1.5	39.0
3-5 Times Per Year	32	27%	4.0	128.0
6 or More Times Per Year	8	7%	7.0	56.0
No Answer	10	8%	–	–
TOTAL	**120**		**2.7 (AVG)**	

Based on a weighted average of responses per HUC14, the areas with the highest reported frequency of flooding are HUC 07140204050401 (South of Alhambra) and HUC14 07140204050901 (south of Troy at the Madison and St. Clair Counties' border), each with an average of seven (7) flood events per year. On average, respondents with flooding experience 2.7 floods per year across the watershed.

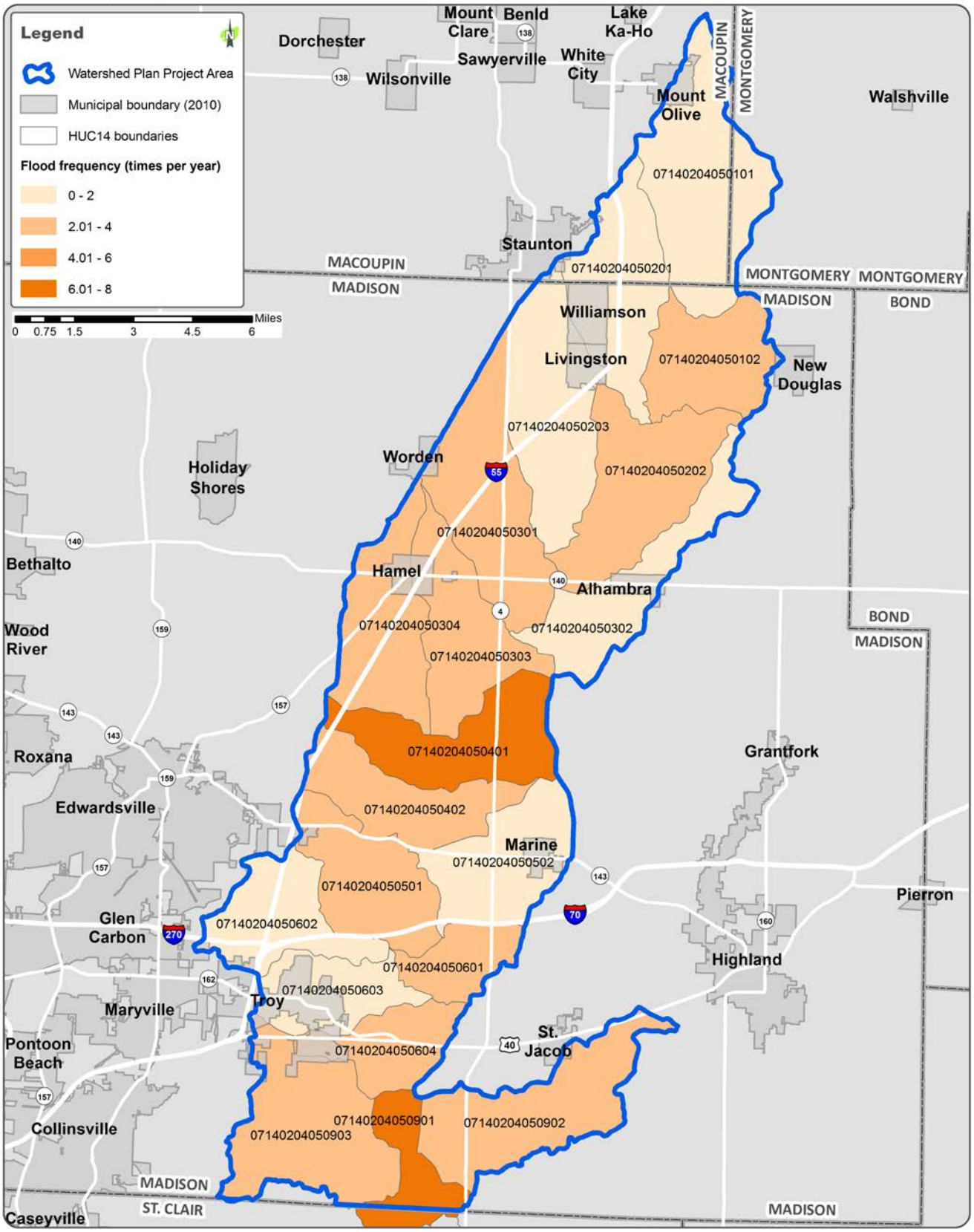


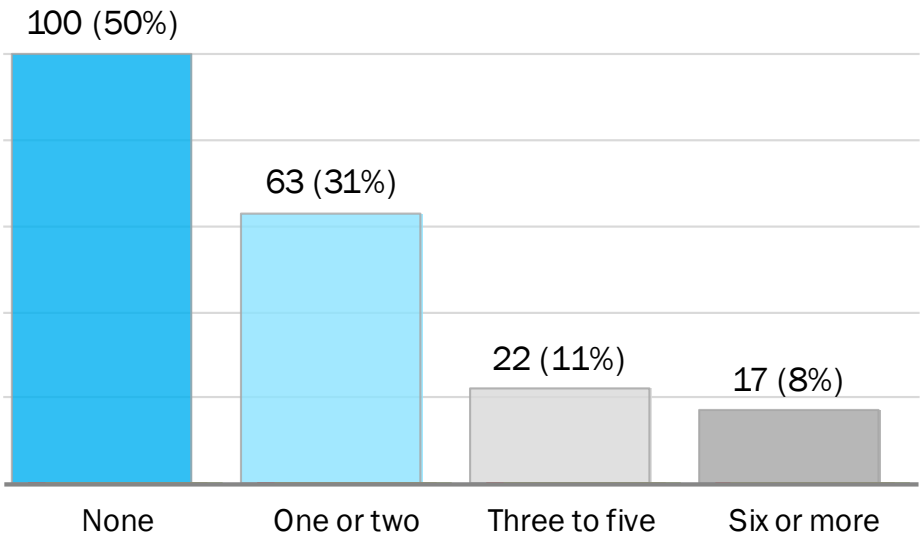
FIGURE 7. FREQUENCY OF FLOODING BY HUC14

Note: Several respondents' properties were within two HUC14s and were counted in both.

Neighbors with Flooding

Half of respondents were not aware of any flooding on neighboring properties. Nearly one-third of respondents were aware of flooding on one to two neighboring properties. Of the respondents who had been flooded, half said that their neighbors had also been flooded.

FIGURE 8. RESPONDENTS' NEIGHBORS THAT ALSO HAD FLOODING IN THE LAST 10 YEARS



Note: Although only 120 respondents reported flooding on their own properties, 205 people responded to this question about their neighbors, which is about 43% of all survey respondents.

On average, 53% of respondents per HUC14 who had flooding in the last 10 years also reported flooding on neighboring properties. This amounts to an average of 1.5 neighboring properties with flooding per respondent with flooding.

All respondents with flooding in HUCs 07140204050401 (center of the watershed) and 07140204050101 (Mt. Olive) also had neighbors with flooding. HUC 07140204050401 also had the highest weighted average of flooded neighboring properties, with an average of seven (7) neighboring properties with flooding per respondent. HUCs 07140204050901 (Madison-St. Clair County border), 07140204050202 (Alhambra/New Douglas), 07140204050203 (Livingston), and 07140204050304 (Hamel/Worden) had an average of two (2) or more neighboring properties with flooding per respondent.

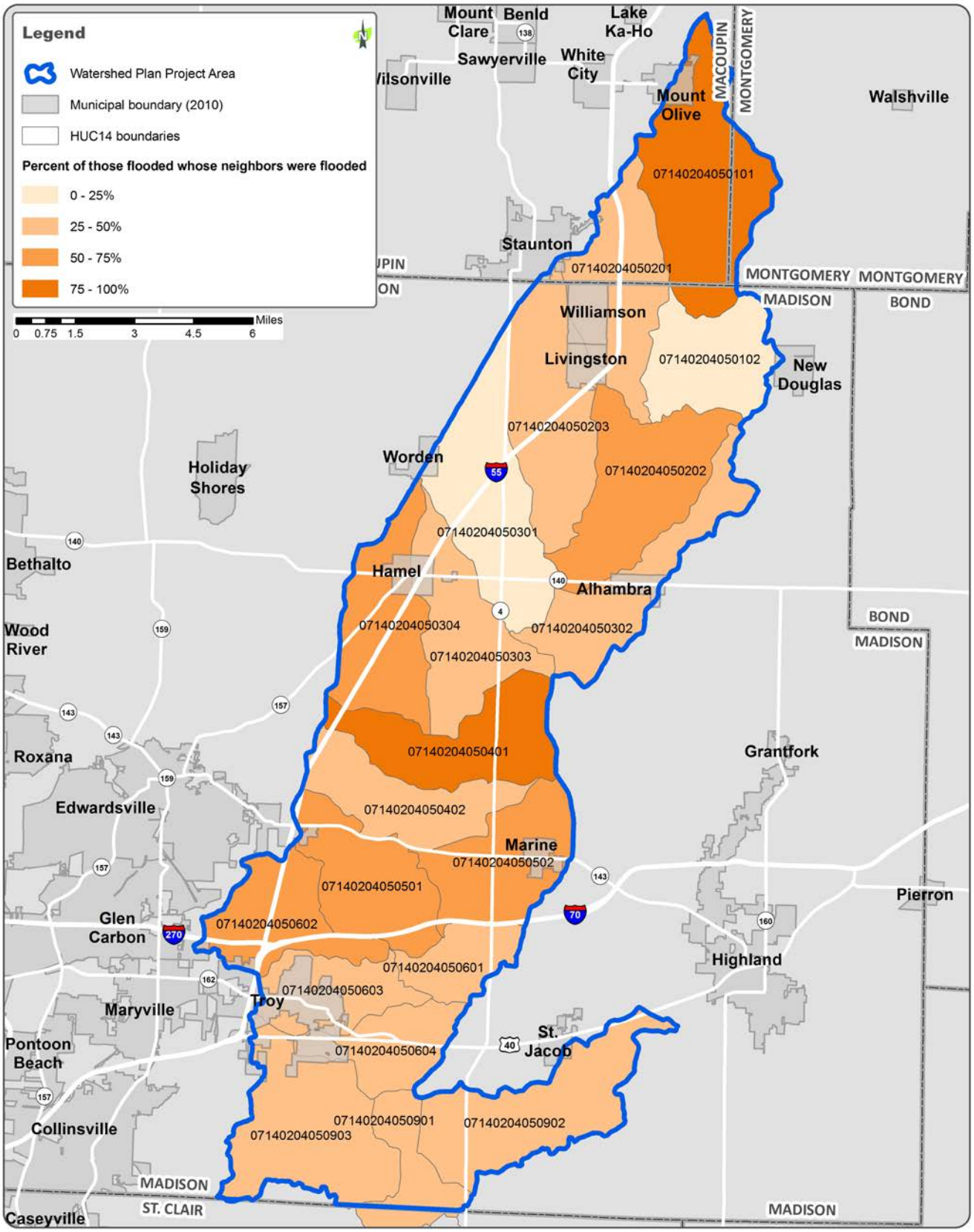


FIGURE 9. RESPONDENTS WITH AT LEAST ONE NEIGHBOR WITH FLOODING BY HUC14

Note: Several respondents' properties were within two HUC14s and were counted in both. Map shows the weighted average of respondents who had been flooded and who said that at least one of their neighbors had been flooded in the last 10 years, as a weighted average, by HUC14

Extent of Flood Damage

Of those who had been flooded in the last 10 years, 45% said that the flooding had damaged their primary home or business; 43% had damage to fences, auxiliary buildings, and other structures; 46% had damage to yards and landscaping; and 70% had little to no yard damage.

Out of the 54 respondents who said their primary home or business had been damaged by floods, 72% said the flooding reached the basement, and 26% said it reached the first floor or habitable space.

FIGURE 10. EXTENT OF FLOODING DAMAGE IN THE LAST 10 YEARS
Note: Respondents could select more than one answer to this question

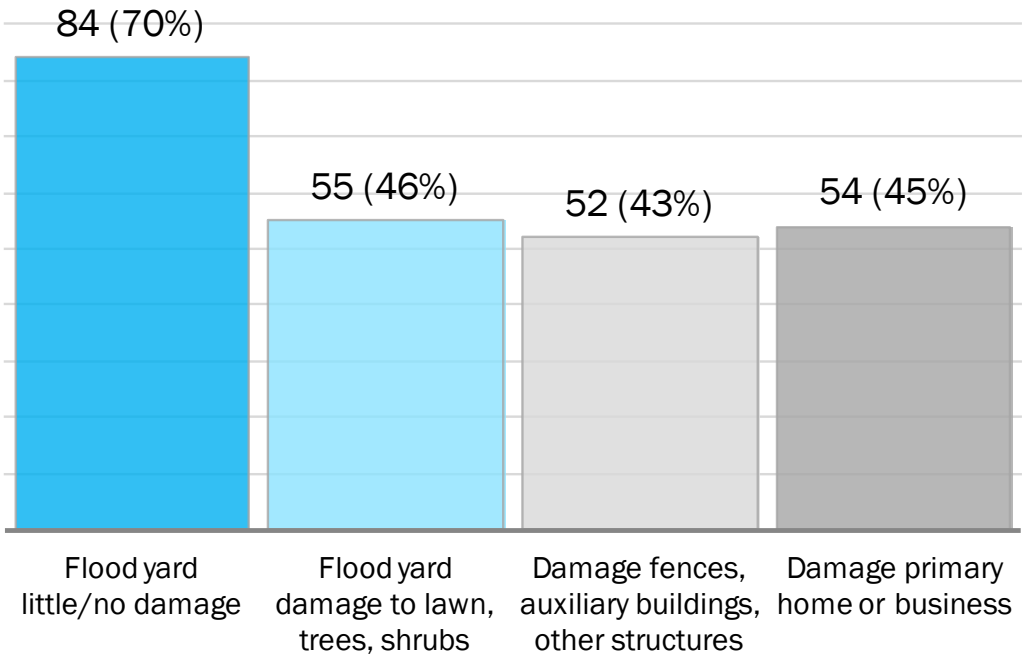
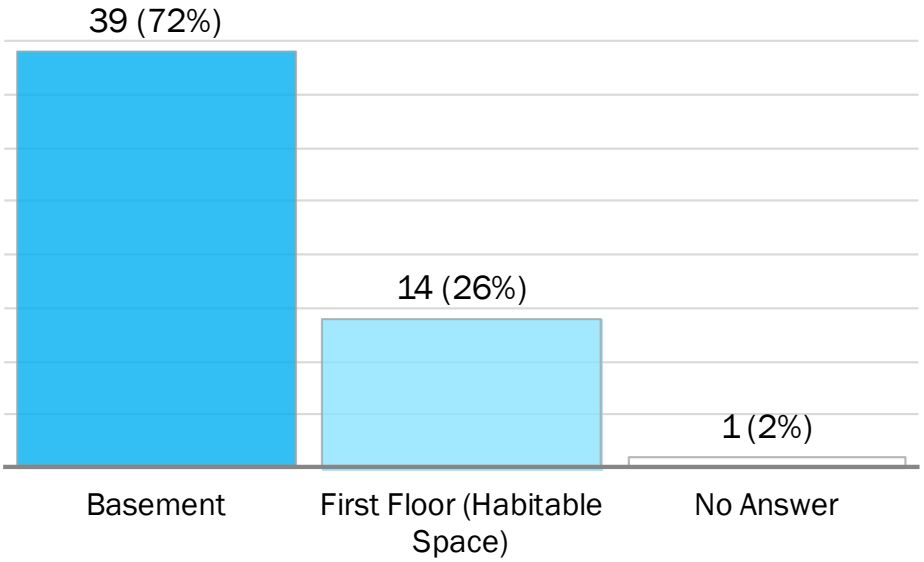


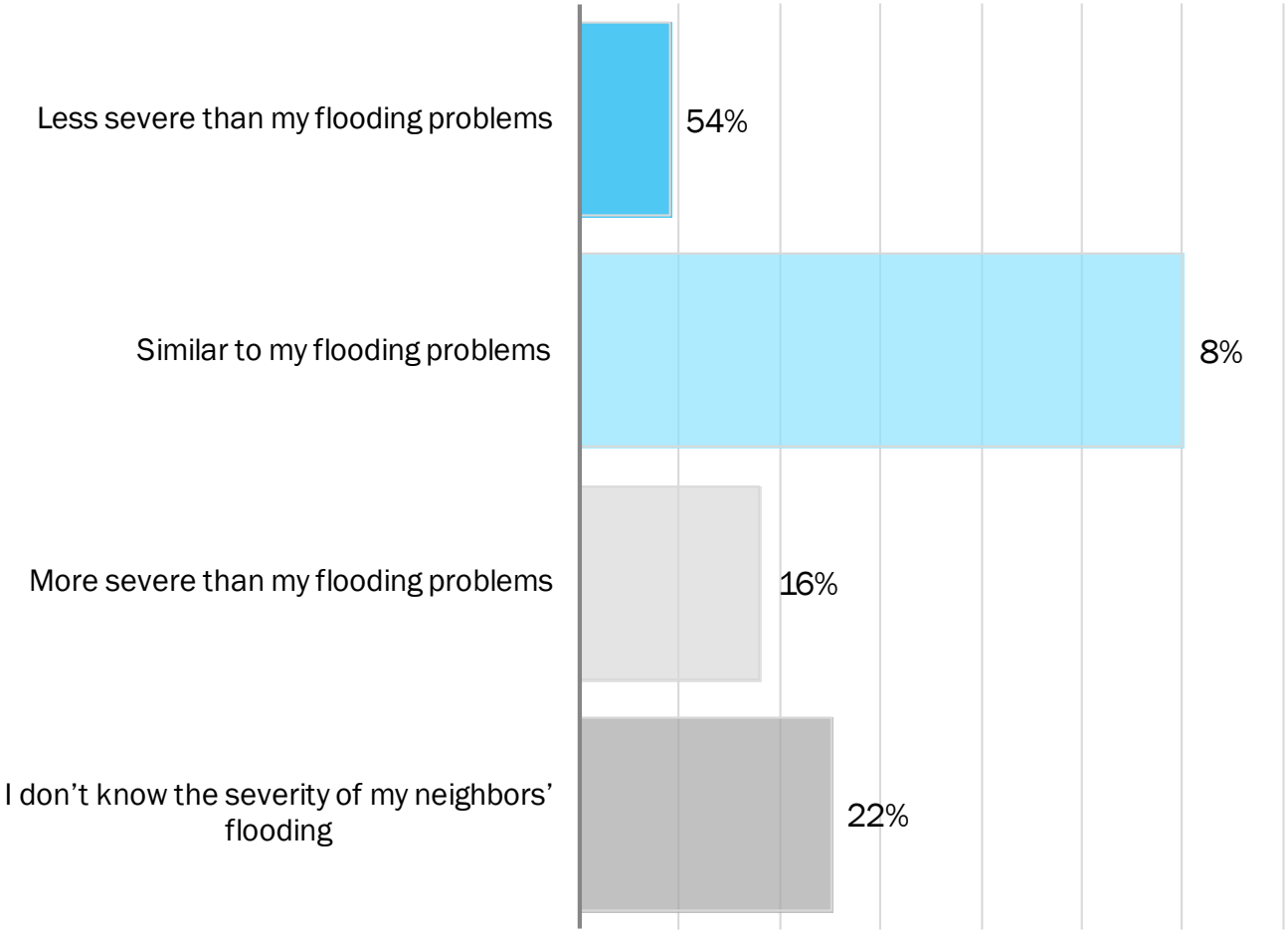
FIGURE 11. LOCATION OF DAMAGE TO PRIMARY HOME OR BUSINESS
Note: Respondents could select more than one answer to this question



Severity of Neighbors' Flood Damage

Half of the respondents who had been flooded said that their neighbors had also been flooded. Of these, 54% said that the extent of their neighbors' flooding was similar to their own. Another 16% said their neighbors' flooding was more severe than their own, while 8% said it was less severe. This indicates that the flood damage reported by respondents about their own property may be representative or an understatement of the wider effects of flooding on their communities.

FIGURE 12. EXTENT OF NEIGHBORS' FLOODING DAMAGE IN THE LAST 10 YEARS



Causes of Flooding

All respondents who had been flooded said that heavy rainstorms were a cause of their flooding. Other causes with responses were water draining from a neighboring property (48%); flooding from a nearby river, stream, lake, ditch, or pond (37%); and a blocked or unmaintained pipe, culvert, or ditch (34%). For this question, respondents could choose more than one answer, so these responses were not mutually exclusive.

TABLE 3. CAUSES OF RESPONDENTS' FLOODING

CAUSE	RESPONSES	
Heavy Rainstorm	120	100%
Water Draining from Neighboring Property	57	48%
Flooding from Nearby River, Stream, Lake, Ditch, or Pond	41	37%
Pipe, Culvert, or Ditch that was Blocked/Needs Maintenance	33	34%
Lack of Drainage Facilities to Drain Water From Property	30	28%
Log-Jam or Other Obstruction in Nearby Watercourse/Waterbody	26	25%
Sewer Backup	7	22%
I Don't Know	4	6%
Other (see Appendix)	44	3%

Forty-four (44) respondents listed other causes of flooding. Some common responses include malfunctioning sump pumps (including no backup power available to run the pump during a power outage), crawl space or basement present in high water table areas, improper drainage/grading design of subdivision, and blocked or improperly sized culverts. The full list is provided in the Appendix.

Overflow from a river, stream, ditch, or pond was reported as a cause of flooding by all respondents in HUCs 07140204050101 (Mt. Olive/Walshville) and 07140204050202 (Alhambra/New Douglas), and two-thirds of respondents with flooding in HUC 07140204050601 (Marine/St. Jacob).

Neighboring properties contributed floodwater to all respondents' properties within HUCs 07140204050101 (Mt. Olive), 07140204050201 (Williamson/Staunton), and 07140204050203 (Livingston), and to more than two-thirds of respondents in HUCs 07140204050604 (Troy/St. Jacob), 07140204050202 (Alhambra/New Douglas), and 07140204050402 (between Edwardsville and Marine).

Blocked or unmaintained pipes, culverts, or ditches contributed to flooding in more than one-quarter of respondents with flooding in HUCs 07140204050203 (greater Livingston) and 07140204050601 (Marine/St. Jacob). See Appendix for full breakdown.

Reporting

Over half of respondents who were flooded did not report their flooding to anyone. Respondents that did report it were most likely to contact their city/village (18%) or their township (13%).

TABLE 4. HOW RESPONDENTS REPORTED FLOODING

REPORTED FLOODING TO:	RESPONSES	
I did not report my flooding to anyone	81	53%
My city/village	27	18%
My township	20	13%
My insurance company	13	9%
Madison County	7	5%
Crop insurance company*	1	<1%
Developer*	1	<1%
Former mayor*	1	<1%
Homeowners insurance*	1	<1%
Public hearing on neighbor's development project*	1	<1%

** Written in under "Other"*

Impacts and Effects from Flooding

The most commonly reported impact from flooding was stress. Loss of access to the property was the next most common impact, with respondents commenting under "Other" that floods had restricted access on their own land (e.g., their driveway flooded) or blocked an entrance road to their subdivision. Several responses noted costs associated with repairing flood damage or replacing lost items (a combined 17%). Respondents identified other specific effects including increases in homeowners' insurance rates, the presence of mosquitoes in floodwater, and delays and difficulties with yard maintenance.

TABLE 5. EFFECTS FLOODING HAD ON RESPONDENTS

EFFECT FROM FLOODING	RESPONSES	
It caused stress	60	24%
No significant effect	47	19%
Partial loss of access to property	37	15%
Time off work to clean up	30	12%
Monetary loss due to repair of flood damage	29	11%
Monetary loss due to lost valuables or equipment	15	6%
Lost business income	7	3%
Affected/damaged crops	5	2%
It affected the physical health of someone in your household or business	4	2%
Damaged fencing*	3	1%
Debris cleanup*	2	1%
Washing/cleaning structures/materials*	2	1%
Affected livestock*	1	<1%
Affected farmland*	1	<1%
Concern about power outage knocking out sump pump*	1	<1%
Unknown damage behind walls*	1	<1%
Damaged farmland*	1	<1%
Mosquito infestation*	1	<1%
Danger to children and small animals*	1	<1%
Delayed lawn maintenance*	1	<1%
Increase in homeowners insurance*	1	<1%
Landscaping not done to avoid future flood damage*	1	<1%
Logjams*	1	<1%
Soft ground difficult to mow*	1	<1%
Potential decrease in home value*	1	<1%

** Written in under "Other"*

Costs from Flooding

Of those who said they had been flooded and provided their monetary loss due to flooding (within a range), 67% said that the loss was less than $5,000 over the last 10 years. Another 24% said that the loss was between $5,000 and $20,000. Two respondents (4% of those who answered) said their loss was between $100,000 and $500,000.

FIGURE 13. COSTS ASSOCIATED WITH RESPONDENTS' FLOODING OVER THE LAST 10 YEARS

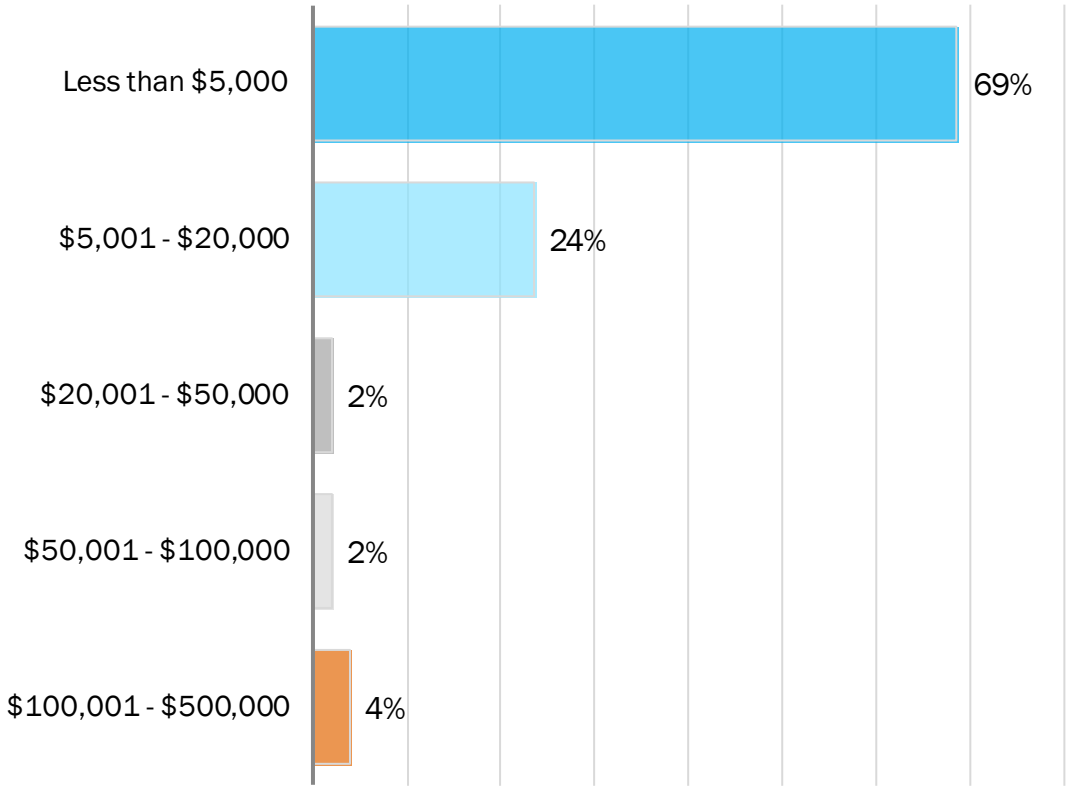


TABLE 6. COSTS ASSOCIATED WITH RESPONDENTS' FLOODING OVER THE LAST 10 YEARS

COST OVER 10 YEARS	RESPONSES*		LOWEST COST IN CATEGORY	LOWEST COST x RESPONSES	AVG. COST IN CATEGORY	AVG. COST x RESPONSES
Less than $5,000	35	69%	$0	$0	$2,500	$87,500
$5,001 - $20,000	12	24%	$5,001	$60,012	12,501	$150,006
$20,001 - $50,000	1	2%	$20,001	$20,001	$35,001	$35,001
$50,001 - $100,000	1	2%	$50,001	$50,001	$75,001	$75,001
$100,001 - $500,000	2	4%	$100,001	$200,002	$300,001	$600,001
I don't know	32	–	–	–	–	–
I prefer not answering	6	–	–	–	–	–
No Answer	388	–	–	–	–	–
TOTAL	477		LOW ESTIMATE:	$330,016	HIGH ESTIMATE:	$947,508

** Percent = percentage of respondents who answered with a cost*

The lowest estimate of the total costs reported by respondents is $330,016 over the last 10 years. Divided by the 51 respondents who reported a cost in this question, each respondent paid an average of $6,471 over 10 years. Using the average of the amounts reported, the total spent by respondents is $947,508, with an average of $18,579 spent by each respondent over the last 10 years.

Using the lower estimate of costs, and extrapolating to the population of 61,994 in the watershed (estimated in the Watershed Resource Inventory of the ongoing Upper Silver Creek Watershed Plan), i.e., multiplied by 130 [61,994/477], an estimated $42,902,080 of monetary loss has occurred due to flooding over the last 10 years in the Upper Silver Creek watershed.

The greatest average monetary damage occurred in the two central HUC14s in the watershed, between Hamel, Edwardsville, and Marine (HUCs 07140204050304 and 07140204050401).

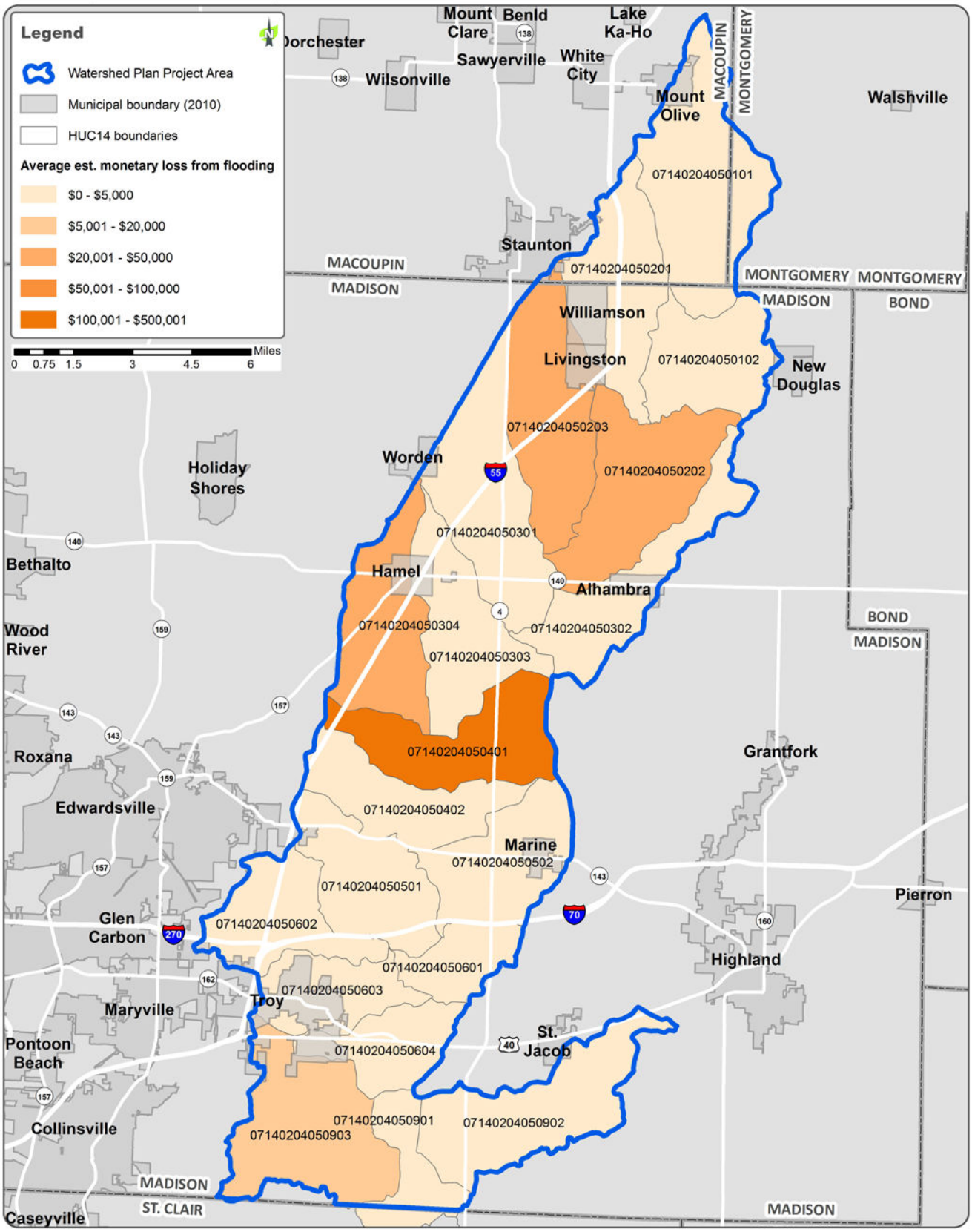


FIGURE 14. MONETARY LOSS FROM FLOODING BY HUC14 (USING LOW ESTIMATE)

Note: Several respondents' properties were within two HUC14s and were counted in both.

Correlation with Floodplains

FEMA-designated floodplains cover close to 11% of the total acreage in the Upper Silver Creek Watershed within Madison County. A similar proportion of surveys, 13%, came from parcels wholly or partly within these floodplains. However, only 3% of survey respondents (13 people) responded that they lived in a FEMA-designated floodplain. Forty (40) respondents, or 10% of those who answered the survey question, unknowingly own property that is wholly or partly in a floodplain.

FIGURE 15. RESPONDENTS' PROPERTY WITHIN OR OUTSIDE A FLOODPLAIN

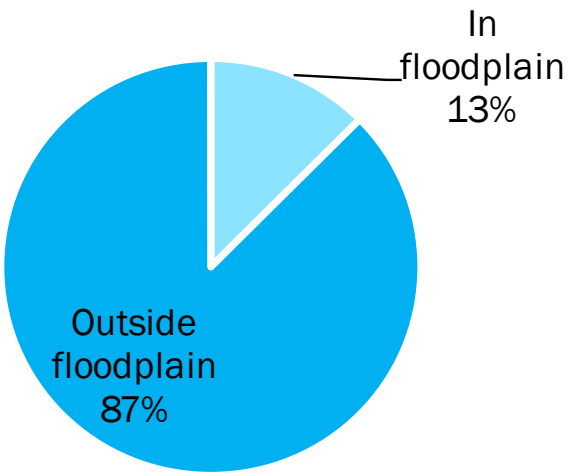
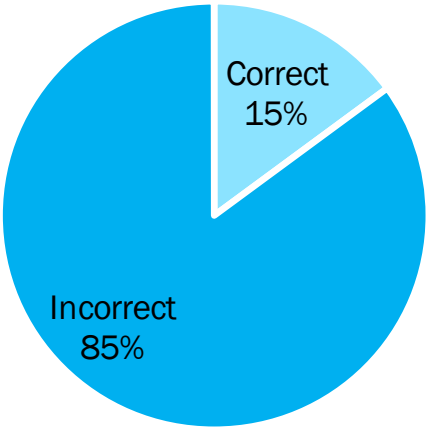


FIGURE 16. RESPONDENTS WHO CORRECTLY KNEW THEIR PROPERTY IS IN A FLOODPLAIN

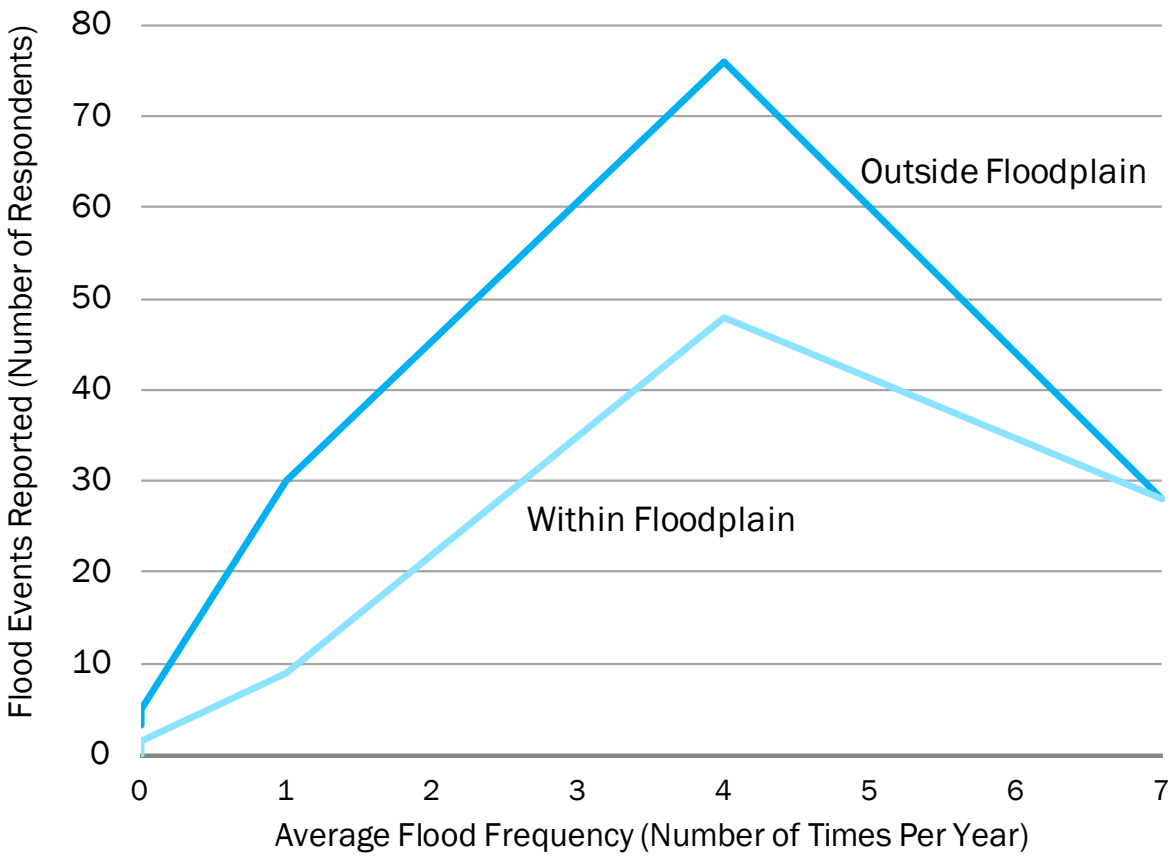


Respondents reported a total of approximately 146 events per year taking place outside of FEMA-designated floodplains over the last 10 years. Within floodplains, approximately 88 parcels per year were flooded.

TABLE 7. FLOOD FREQUENCY BY PROPERTY LOCATION

		PARCELS IN FLOODPLAIN		PARCELS OUTSIDE FLOODPLAIN	
FLOOD FREQUENCY	AVG. TIMES PER YEAR	NUMBER	NUMBER OF TIMES FLOODED PER YEAR	NUMBER	NUMBER OF TIMES FLOODED PER YEAR
1-2 Times in 10 Years	0.15	0	0.0	22	3.3
3-4 Times in 10 Years	0.35	1	0.35	11	3.85
5-9 Times in 10 Years	0.7	2	1.4	7	4.9
1-2 Times Per Year	1.5	6	9.0	20	30
3-5 Times Per Year	4.0	12	48.0	19	76
6 or More Times Per Year	7.0	4	28.0	4	28
TOTAL	2.7	59	86.75	83	146.05

FIGURE 17. FLOOD FREQUENCY BY PROPERTY LOCATION WITHIN OR OUTSIDE OF A FLOODPLAIN



Flood Insurance Coverage

Madison County, Macoupin County, Montgomery County, and five (5) communities in the watershed are enrolled in the National Flood Insurance Program (NFIP), allowing floodplain residents to purchase flood insurance for their properties. The average flood insurance premium paid by Madison County residents is $732 per year.[4] Nationwide, approximately 20% of NFIP claims are for properties located outside floodplains, some of which are from flooding caused by local drainage problems.[5]

Fourteen percent (14%) of respondents (66 people) said that they have flood insurance. Of these respondents, 11% made a claim in the watershed in the last 10 years.

Fifty-four (54), or 82%, of the survey respondents have flood insurance on structures that are not in a floodplain.

Notes on Figures 18 and 19: Those who responded that they did not have flood insurance and then left the claims question blank are assumed not to have made a claim. (4 respondents).

Two (2) respondents said they did not have flood insurance but did make a claim. These respondents may be confused about the claim made; it may have been to their home insurance company instead of a flood insurance company.

FIGURE 18. RESPONDENTS' FLOOD INSURANCE COVERAGE

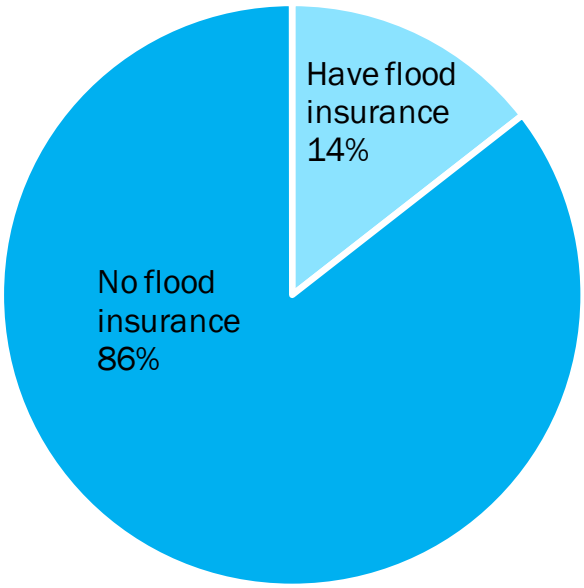
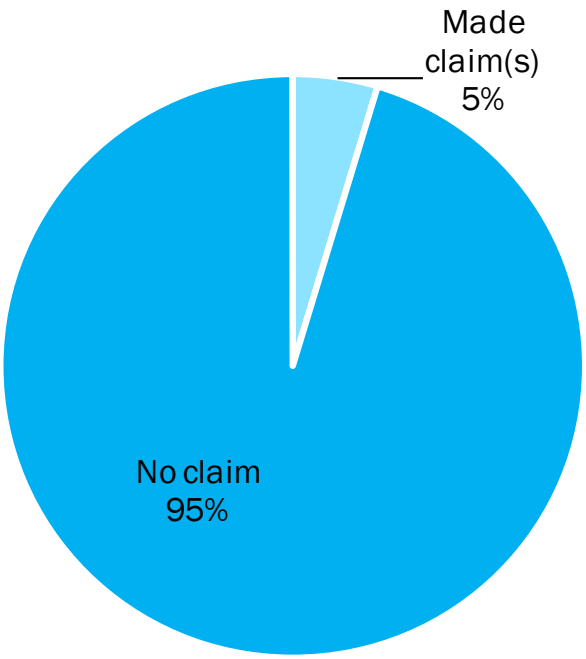


FIGURE 19. RESPONDENTS' FLOOD INSURANCE CLAIMS

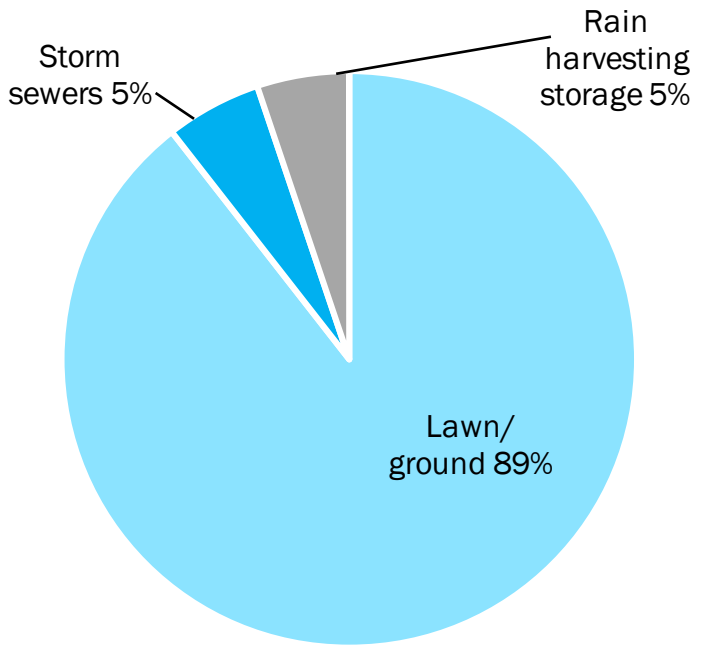


Downspout Connections

When downspouts are connected directly to a sanitary sewer system or private sewer system, heavy rainfall can lead to sewer backups into the building. When downspouts open out onto a lawn or other ground surface, the imperviousness and slope of the surface determines where and how fast the water flows. If there is inadequate infiltration, floodwaters can accumulate quickly around a building. A direct connection between downspouts and a storm sewer system quickly transports the water away from the building and into a detention pond or local waterway. Rainwater harvesting methods such as rain barrels or cisterns collect runoff from the roof, preventing it from contributing to flooding around the building or downstream. This is the optimal downspout connection scenario, as it does not allow stormwater to accumulate by the structure or downstream. Rainwater harvesting also allows for reuse of the water in, for example, gardening.

The majority of respondents (90%) who knew where their downspouts connected/terminated said that they flowed out onto their lawn or other ground surface. Smaller proportions of respondents, just over 5% each, said their downspouts were connected to cisterns, rain barrels, or other rainwater harvesting storage, or to storm sewers. The survey did not ask if downspouts were connected to a sanitary or private sewer system.

FIGURE 20. WHERE RESPONDENTS' DOWNSPOUTS CONNECT



Measures to Prevent Future Flooding

138 respondents, or 29%, said they had made one or more improvements in an attempt to prevent future flooding/flood damage. Several respondents (12%) said they installed or enlarged swales or ditches as a flood mitigation improvement. Eight percent (8%) said they planted native vegetation or buffer strips, or took another conservation measure. Creating or enlarging ponds, detention, or retention basins was the next most popular option, at five percent (5%) of respondents. Respondents were given the option to write in other improvements they had made, and several noted that they had installed sump pumps, extended their downspouts, and installed drain tiles and lines. See Appendix for full list of "Other" responses to improvements.

TABLE 8. TOP ACTIONS TAKEN BY RESPONDENTS TO PREVENT FUTURE FLOODING

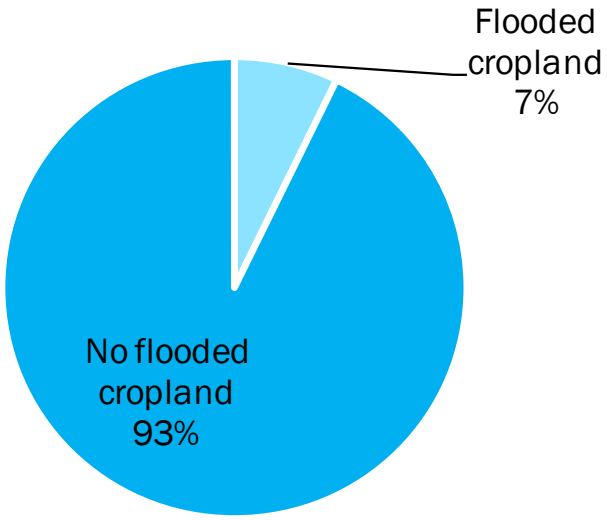
ACTION TAKEN	RESPONSES	
Installed or enlarged swales or ditches	57	12%
Planted native vegetation, buffer strips, or other conservation measures	38	8%
Created or enlarged a pond, detention, or retention basin	23	5%
Installed sump pump*	9	2%
Extended downspouts*	8	2%
Installed drain(s)/drain tile/lines*	8	2%
Installed permeable paving	7	2%
Elevated/graded land*	7	2%
Dug new waterway/ditch*	4	1%
Installed French drain*	4	1%
No flood problem	4	1%
Installed a rain garden	3	<1%
Installed levee/retaining wall*	3	<1%

** Written in under "Other"*

Cropland

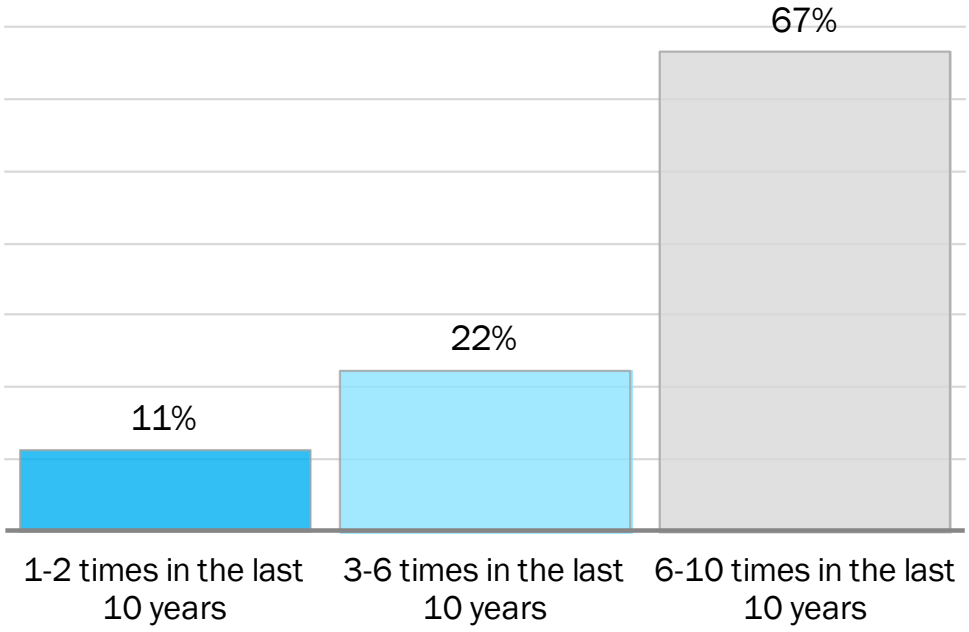
Twenty-seven (27) respondents said they own cropland that has flooded, which is 6% of all survey respondents.

FIGURE 21. FLOODING STATUS OF RESPONDENTS WHO OWN CROPLAND



Two-thirds of respondents whose cropland had flooded said that the cropland had flooded 6-10 times in the last 10 years.

FIGURE 22. FREQUENCY OF FLOODED CROPLAND

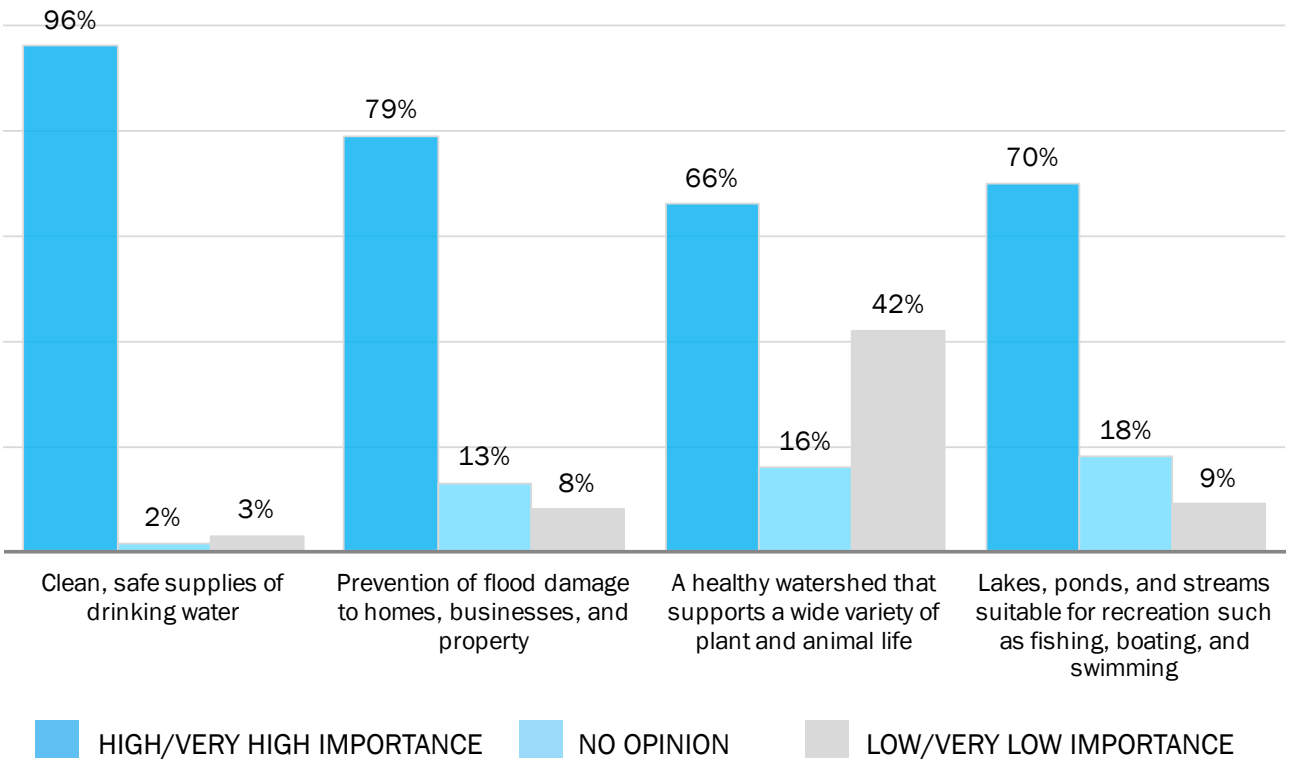


Values of Water Management

Most respondents replied to the question about their values on water-related issues, whether or not they had experienced flooding. The question asked how important four (4) issues were to respondents, and gave an importance scale with five (5) options – very low importance to very high importance.

The highest importance was placed on “clean, safe supplies of drinking water”, followed by “prevention of flood damage to homes, businesses, and property”; then “lakes, ponds and streams suitable for recreation such as fishing, boating, and swimming”; and “a healthy watershed that supports a variety of plant and animal life.”

FIGURE 23. IMPORTANCE OF WATER MANAGEMENT VALUES TO SURVEY RESPONDENTS



Flooding "Hotspots"

HUC14s in the Upper Silver Creek Watershed were ranked as "hotspots" for flooding. The ranking was determined by assessing four (4) attributes: 1) percentage of respondents who said they had been flooded, 2) flood frequency, 3) percentage who said that neighbors had been flooded, and 4) monetary loss as a result of flooding.

The top three (3) flooding hotspots based on the survey results are HUCs 07140204050401, 07140204050304, and 07140204050101. However, these subwatersheds also had a small number of respondents (6, 17, and 2, respectively) and fewer respondents who said they had been flooded (1, 7, and 1, respectively).

TABLE 9. RANKING OF HUC14 FLOODING "HOTSPOTS"

HUC14	RESPONDENTS FLOODED	AVG. TIMES FLOODED PER YEAR	WITH FLOODED NEIGHBORS	ESTIMATED MONETARY LOSS	RANKING
07140204050401	17%	7	100%	$300,001	1
07140204050304	41%	3	60%	$101,667	2
07140204050101	50%	1	100%	–	3
07140204050202	50%	2	67%	$38,750	4
07140204050601	60%	3	50%	$2,500	5
07140204050901	20%	7	50%	–	6
07140204050502	45%	1	64%	$2,500	7
07140204050501	30%	2	64%	$5,000	8
07140204050303	33%	3	50%	$2,500	9
07140204050203	22%	1	50%	$38,750	10
07140204050302	29%	1	50%	$7,500	10
07140204050603	23%	2	50%	$5,834	10
07140204050602	16%	2	67%	$2,500	11
07140204050102	22%	4	25%	$2,500	11
07140204050301	21%	2	25%	$2,500	11
07140204050402	21%	3	33%	$2,500	11
07140204050604	20%	3	46%	$5,000	11
07140204050903	17%	3	35%	$15,625	11
07140204050902	29%	3	38%	–	11
07140204050201	14%	2	33%	–	12

HIGHEST IN CATEGORY SECOND HIGHEST THIRD HIGHEST LOWEST IN CATEGORY

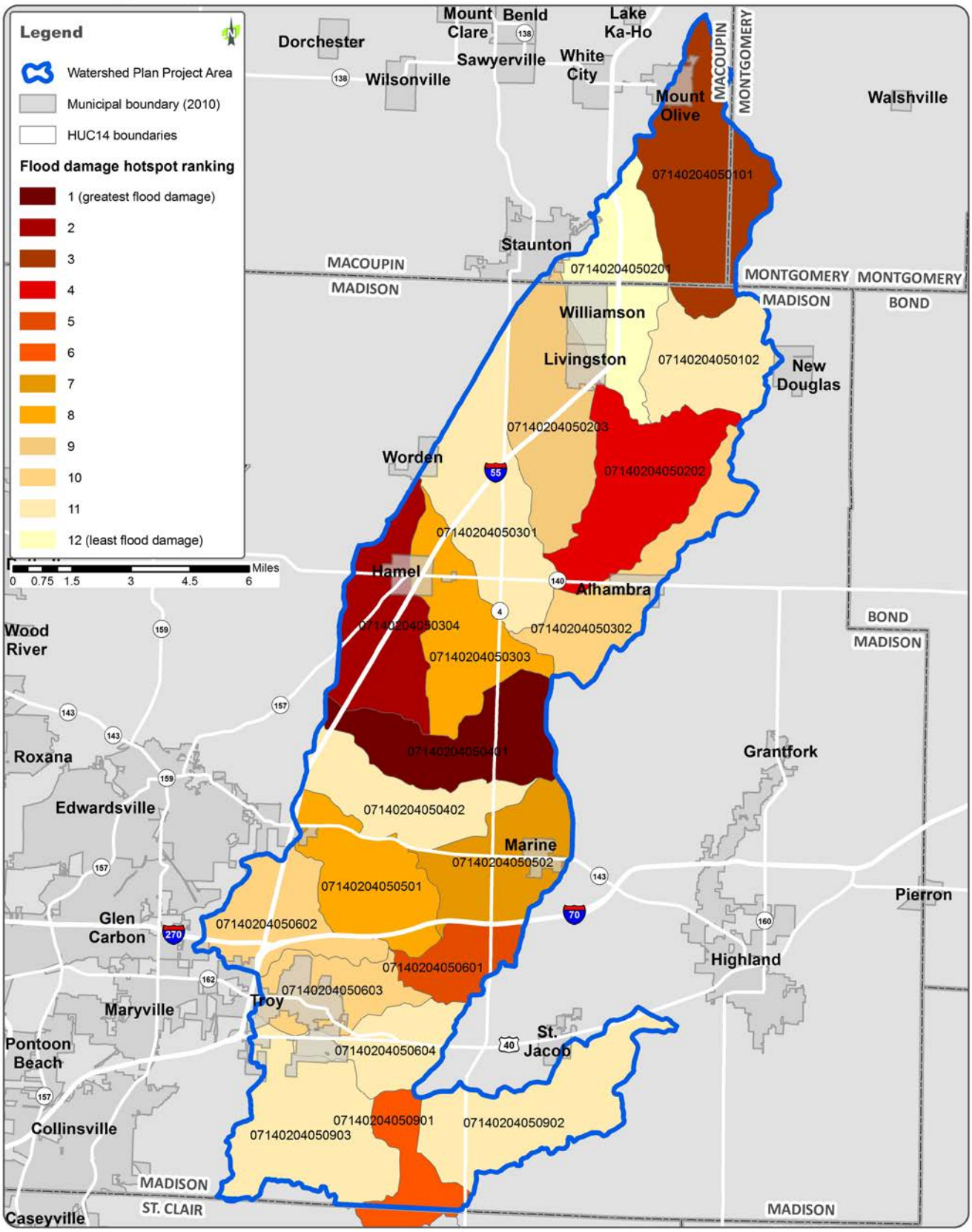


FIGURE 24. FLOODING "HOTSPOTS" BY HUC14

Note: Several respondents' properties were within two HUC14s and were counted in both.

NEXT STEPS

Next Steps

The findings of this survey will be incorporated into the Upper Silver Creek Watershed Plan. Some data about the location and extent of flooding in the watershed has already been gathered from interviews with stakeholders including mayors, township highway road commissioners, property owners, and landowners. The results of this survey will be considered alongside this data as the Technical Committee for the Watershed Plan considers recommendations for mitigating water quality and flooding issues.

More community flood surveys may be undertaken in other watersheds in Madison County and the region as further watershed planning takes place. Having more extensive knowledge about flooding problems in multiple areas will help county and municipal governments prioritize flood mitigation and protection projects across their entire jurisdictions.

Further research into flooding issues and their solutions may include gathering data from private insurers about flood insurance claims. Insurance data would allow for the calculation of the distribution of flood insurance and the costs of flooding through verified policies and claims, rather than best estimates.

REFERENCES

[1] Madison County Planning and Development Department and Madison County Emergency Management Department, Madison County Hazard Mitigation Plan, June 2006, http://www.state.il.us/iema/planning/Documents/Plan_MadisonCounty.pdf

[2] Center for Neighborhood Technology, The Prevalence and Cost of Urban Flooding, May 14, 2013, http://www.cnt.org/resources/the-prevalence-and-cost-of-urban-flooding/

[3] FEMA, as cited in Center for Neighborhood Technology, The Prevalence and Cost of Urban Flooding, May 14, 2013, http://www.cnt.org/resources/the-prevalence-and-cost-of-urban-flooding/

[4] FEMA, Policy Statistics by state as of 9/30/2013, http://bsa.nfipstat.fema.gov/reports/1011.htm

[5] FEMA, National Flood Insurance Program Community Rating System Coordinator's Manual, FIA-15/2013, OMB No. 1660-0022, expires: September 30, 2013, http://www.fema.gov/media-library-data/20130726-1557-20490-9922/crs_manual_508_ok_5_10_13_bookmarked.pdf

Photo Credit: Village of Marine

APPENDIX

The Appendix includes:

- Causes of flooding written in by respondents under “Other”
- Improvements Made to Prevent Future Flooding written in by respondents under “Other”
- Detailed table outlining the Top 3 Causes of Flooding by HUC14
- A copy of the Madison County Community Flood Survey, as mailed
- Postcard survey reminder sent to area residents, businesses, and property owners

Other Causes of Flooding

Causes written in by respondents under “Other”, by response keyword (corresponds to Table 3 on Page 22):

TABLE 10. OTHER CAUSES OF FLOODING

OTHER CAUSE	RESPONSES
Inadequate drainage infrastructure	4
Poor drainage design/grading	4
Sump pump failure	4
Neighboring property	3
Heavy rain	2
Removal of vegetation	2
Dam built downstream	1
Drainage tile on farm fields	1
Ephemeral/historic waterways filling up	1
Power failure at pumping station	1
Rising water table, rising creek	1
Lack of drainage infrastructure maintenance	1
Levees built downstream	1
Logjams	1
Damage to drainage pipes	1
Drainage tile on farm fields	1
New subdivision	1
Bad window well drainage	1
High water table	1
Power outage causing sump pump failure	1

Other Actions Taken to Prevent Flooding

Improvements written in by respondents under “Other”, by response keyword (corresponds to Table 6 on page 32):

TABLE 11. OTHER ACTIONS TAKEN TO PREVENT FLOODING

OTHER ACTIONS	RESPONSES	
Installed sump pump	9	2%
Extended downspouts	8	2%
Installed drain(s)/drain tile/lines	8	2%
Elevated/graded land	7	2%
Dug waterway/ditch	4	1%
Installed French drain	4	1%
No flood problem	4	1%
Installed levee/retaining wall	3	1%
Built dam(s)	2	<1%
Connected downspout(s) to storm sewer	2	<1%
Planted tree(s)	2	<1%
Cleared obstruction(s)	1	<1%
Drain tiled basement	1	<1%
Dug deeper into stream	1	<1%
Seeded waterway/ditch	1	<1%
Installed deck/porch	1	<1%
Installed gutters and downspouts	1	<1%
Installed rain barrel	1	<1%
Installed small cofferdams	1	<1%
Laid sandbags, logs, and plywood as barriers	1	<1%
Laid straw bales	1	<1%
Maintain ditches	1	<1%
Rerouted drainage to drain	1	<1%

Top 3 Flooding Causes in the Watershed by HUC14

All respondents with flooding said heavy rainfall was one of the causes. The next most popular responses – from a neighboring property, a watercourse or waterbody, and a pipe, culvert, or ditch issue – are assessed by subwatershed.

TABLE 12. TOP 3 CAUSES OF FLOODING IN THE WATERSHED (EXCEPT HEAVY RAIN) BY HUC 14

HUC14	NEIGHBORING PROPERTY	WATERCOURSE OR WATERBODY	PIPE, CULVERT, OR DITCH PROBLEMS
07140204050603	53%	5%	6%
07140204050604	71%	5%	8%
07140204050903	30%	7%	5%
07140204050501	40%	10%	7%
07140204050502	43%	19%	24%
07140204050602	33%	–	–
07140204050304	29%	13%	13%
07140204050902	60%	21%	13%
07140204050303	20%	25%	–
07140204050302	50%	17%	–
07140204050301	33%	17%	17%
07140204050402	67%	17%	17%
07140204050102	50%	13%	–
07140204050203	100%	13%	29%
07140204050201	100%	–	–
07140204050202	67%	100%	20%
07140204050401	–	–	–
07140204050601	33%	67%	25%
07140204050901	–	25%	–
07140204050101	100%	100%	–

Madison County Community Flood Survey- Cover

Madison County Community Flooding Survey

Homes, Businesses, and Property Owners

Thank you in advance for taking the time to fill out this survey regarding the impact of floods on homes, businesses, and property in Madison County. This voluntary survey is an important part of the Upper Silver Creek Watershed Plan. Your response is greatly appreciated and will help in determining strategies and recommendations for addressing flooding problems in the Silver Creek Watershed. Flooding has tremendous costs including damage to homes, businesses, and infrastructure.

This survey is part of a larger planning effort for the Upper Silver Creek Watershed. The watershed plan is an opportunity to identify strategies to improve water quality and reduce the impacts of flooding in the watershed. The Upper Silver Creek watershed is one of ten watersheds in Madison County and the watershed plan is an important component of Madison County's Stormwater Plan. By documenting existing conditions and developing recommendations and strategies for best practices to improve water quality and reduce flooding, the plan will be a roadmap for communities, agencies, and landowners for future improvements. Strategies for mitigating flooding will help reduce costs for homeowners, businesses, and taxpayers. Multiple partners are involved with this effort including Madison County, HeartLands Conservancy, Madison County Soil and Water Conservation District, and the Great Rivers Research and Education Center.

Please complete and return this survey by

September 12, 2014.

Your time and input is greatly appreciated!
If you have questions about the survey or the Upper Silver Creek Watershed Plan visit:

www.HeartLandsConservancy.org/UpperSilverCreek

or contact:
Janet Buchanan at HeartLands Conservancy,
(618) 566-4451 ext. 25
janet.buchanan@heartlandsconservancy.org

You can complete this survey in three ways:

1. Fill out and return the survey via the enclosed return envelope.
2. Fill out and return at one of two open houses for the Upper Silver Creek Watershed Plan:
   Tuesday, August 19th at Troy City Hall, 6pm - 9pm
   Wednesday, August 20th at Hamel Community Center, 6pm - 9pm
3. Fill out the survey on-line at:
   www.surveymonkey.com/s/UpperSilverCreek

MADISON COUNTY PLANNING & DEVELOPMENT
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HEARTLANDS CONSERVANCY

Turn Page to Start Survey

Madison County Community Flood Survey- Page 1

Start Survey

1. Please provide your address: (Note: Addresses will be kept confidential, unless you request follow-up information below. By giving your address, it allows the planning team to identify areas of flooding.)

Address: _____ City: _____ Zip: _____

☐ Check here if you would like to be put on our mailing list to receive updates and more information. Provide your name, phone, and e-mail below:

Name: _____ Phone: _____

E-mail: _____

2. Has your home, business, or property at this address been flooded in the last 10 years?

☐ Yes
☐ No *(If you or your neighbors have not experienced flooding, skip to Question #10)*

If yes, how often has your home, business, or property been flooded over the last 10 years? *(Choose one)*

☐ Only once or twice in 10 years.
☐ Three to four times in 10 years.
☐ Five to nine times in 10 years.
☐ Once or twice a year.
☐ Three to five times a year.
☐ Six or more times a year.

3. If flooding does occur at your home, business, or property, does it: *(Select all that apply)*

A. Flood your yard, with little or no damage? ☐ Yes ☐ No
B. Flood your yard, with damage to lawn, trees, and shrubs? ☐ Yes ☐ No
C. Damage fences, auxiliary buildings (sheds, etc) or other structures? ☐ Yes ☐ No
D. Damage the primary home or business? ☐ Yes ☐ No

If flooding damages your primary home or business, how far does the floodwater penetrate into your home or business?

i. Basement ☐ Yes ☐ No
ii. First floor (habitable space) ☐ Yes ☐ No

4. What was the cause of the flooding that affected your home, business, or property? *(Select all that apply)*

☐ Heavy rainstorm.
☐ Water draining from neighboring property.
☐ Flooding from nearby river, stream, lake, ditch, or pond.
☐ Log-jam or other obstruction in nearby river, stream, lake, ditch, or pond.
☐ Pipe, culvert, or ditch that was blocked or needs maintenance.
☐ Lack of drainage facilities (swales, ditches, storm sewers, etc.) to drain water from your property.
☐ Sewer backup.
☐ I don't know.
☐ Other (please explain): _____

Madison County Community Flood Survey- Page 2

5. Have any of your nearby neighbors experienced flooding at their home, business, or property in the last 10 years. *(Choose one)*

- ☐ Yes. One or two neighboring properties.
- ☐ Yes. Three to five neighbors neighboring properties.
- ☐ Yes. Six or more neighbors neighboring properties.
- ☐ No. I don't know of any neighbors who have experienced flooding on their home or property.

6. If you answered yes above that your nearby neighbors experienced flooding at their home, business, or property; what was the severity of their flooding? *(Choose one)*

- ☐ Less severe than my flooding problems.
- ☐ Similar to my flooding problems.
- ☐ More severe than my flooding problems.
- ☐ I don't know the severity of my neighbors' flooding.

7. Did you report your flooding to anyone? *(Select all that apply)*

- ☐ My city/village.
- ☐ My township.
- ☐ The Madison County Stormwater Hotline (618-296-7788).
- ☐ My insurance company.
- ☐ I did not report my flooding to anyone.
- ☐ Other (please explain): _____

_____

_____

8. If you have had flooding in the past at your home, business, or property, how have you been affected? *(Select all that apply)*

- ☐ Monetary loss due to repair of flood damage.
- ☐ Monetary loss due to lost valuables or equipment.
- ☐ It caused stress.
- ☐ Time off work to clean up.
- ☐ Partial loss of access to property.
- ☐ It affected the physical health of someone in your household or business.
- ☐ Lost business income.
- ☐ No significant affect.
- ☐ Other (please explain): _____

_____

_____

9. If you suffered a monetary loss due to flooding over the last 10 years (such as damage to structures or buildings, lost valuables or equipment, lost wages or income, etc.) what was the estimate of your cumulative dollar expenses over the last 10 years due to flooding?

- ☐ Less than $5,000
- ☐ $5,001 - $20,000
- ☐ $20,001 - $50,000
- ☐ $50,001 - $100,000
- ☐ $100,001 - $500,000
- ☐ Over $500,000
- ☐ I don't know.
- ☐ I prefer not answering.

Madison County Community Flood Survey- Page 3

10. Is your home, business, or property covered by a flood insurance policy?
(Note: Flood insurance is typically not included in a standard home insurance policy).

☐ Yes ☐ No

11. Have you ever made a flood insurance claim?

☐ Yes ☐ No

12. Is your home, business, or property in a FEMA-designated floodplain?

☐ Yes ☐ No

13. Where do your roof downspouts connect to? *(Choose one)*

☐ They connect to the storm sewers.
☐ They flow out onto my lawn or other ground surface.
☐ They are connected to cisterns, rain barrels, or other rain harvesting storage.
☐ I don't know.

14. Have you made any improvements to your property to help reduce stormwater or flood impacts?
(Select all that apply)

☐ Installed a rain garden.
☐ Created or enlarged a pond, detention or retention basin.
☐ Installed or enlarged swales and ditches.
☐ Installed permeable paving.
☐ Planted native vegetation, buffer strips, or other conservation measures.
☐ Other (please explain): _____

_____

_____

15. Do you own cropland that has flooded? (If you have multiple fields that flood, answer based on the field with the most frequent flooding) If **yes**, How many times out of the last 10 years has it flooded?

☐ 1-2 times.
☐ 3-6 times.
☐ 6-10 times.
☐ I don't have cropland that has flooded.

16. How important are the following water issues to you?

	Very Low Importance	*Low Importance*	*No Opinion*	*High Importance*	*Very High Importance*
A. Clean, safe supplies of drinking water:	☐	☐	☐	☐	☐
B. Prevention of flood damage to homes, businesses, and property:	☐	☐	☐	☐	☐
C. Lakes, ponds, and streams suitable for recreation such as fishing, boating, and swimming:	☐	☐	☐	☐	☐
D. A healthy watershed that supports a wide variety of plant and animal life:	☐	☐	☐	☐	☐

Please complete and return this survey by: September 12, 2014.

Thank you for completing this survey!
Your time and input is greatly appreciated. Survey responses will be used to help shape the recommendations for the Upper Silver Creek Watershed Plan.

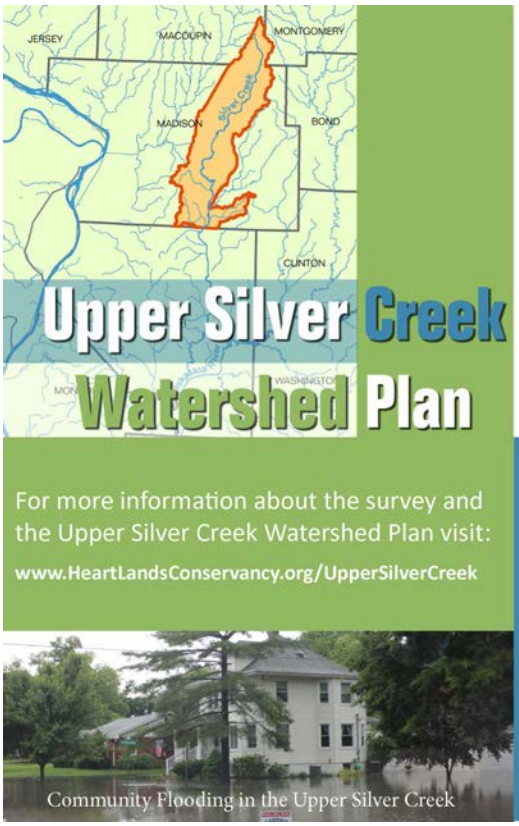
Return this survey via the enclosed envelope or mail to:

Upper Silver Creek Survey - Madison County Planning and Development
157 North Main Street, Suite 254

For updates and progress on the Upper Silver Creek Watershed Plan, please visit:

www.HeartLandsConservancy.org/UpperSilverCreek

Madison County Community Flood Survey Postcard



Reminder to Take the Madison County Community Flooding Survey

Please take a moment to fill out the survey regarding flooding impacts to homes, businesses, and property in Madison County. This voluntary survey is an important part of the Upper Silver Creek Watershed Plan. Your response is greatly appreciated.

The survey will be open until:
September 12, 2014

You can complete the survey on-line!

To complete the survey on-line, go to:
www.surveymonkey.com/UpperSilverCreek

Madison County Planning and Development
157 North Main Street, Suite 254
Edwardsville, IL 62025

Madison County Community Flooding Survey

Homes, Businesses, and Property Owners

Take the Community Flooding Survey on-line at:

www.surveymonkey.com/UpperSilverCreek

by September 12, 2014

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