

Lake Charlevoix Social Indicators Study

Local Officials Survey Report

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Grenetta Thomassey, PhD, Watershed Policy Director
Chris Anderson, Project Coordinator



Survey distribution summary

Survey dates: April – June 2019

Surveys sent: 243

Undeliverable: 2

Deliverable addresses: 241

Responses: 111 (46%)

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Key Findings from the Lake Charlevoix Watershed Local Officials Survey

INTRODUCTION

Tip of the Mitt Watershed Council conducted a series of three surveys in the Lake Charlevoix Watershed during 2019-2020 with watershed residents, shoreline property owners, and local officials. These were done as a follow up to a similar series of surveys among the same three groups, done in 2010-2011, in partnership with Michigan State University Extension (MSUE). The original surveys were reviewed by MSUE, the Watershed Council, and the Lake Charlevoix Watershed Plan Advisory Committee members to see what residents and local officials were worried about, and what topics they needed more information about regarding water quality in the region.

After updating the Watershed Management Plan and implementing a number of projects related to what we heard from the original survey respondents, we administered the latest series. The questions asked were identical to the questions in the earlier surveys; however, some new questions were also added. The results will highlight any measurable changes, and help guide the direction of future project and education efforts to protect the water quality of the Lake Charlevoix Watershed.

METHODOLOGY

Both the original and the most recent survey series used a "five wave design." In this method, a pre-survey letter was mailed first to local officials. One week later, the survey with a cover letter and self-addressed stamped envelope was sent. A reminder postcard was mailed two weeks after the first survey mailing to all non-respondents. A second survey with a cover letter and self-addressed stamped envelope was sent to non-respondents around two weeks after the postcard reminder. A final reminder letter was sent to the local officials who had not responded two weeks after the second survey.

So that respondents were not sent duplicate surveys, a tracking number was placed on the corner of every survey. When the survey was returned, the number was cut off and separated from the survey. This ensured that the tracking number and survey answers could be entered without being able to associate any survey answers to a specific person.

Below are the key findings of the 2019 survey of local officials. *Information shown in italics below will summarize the comparison between the two surveys.*

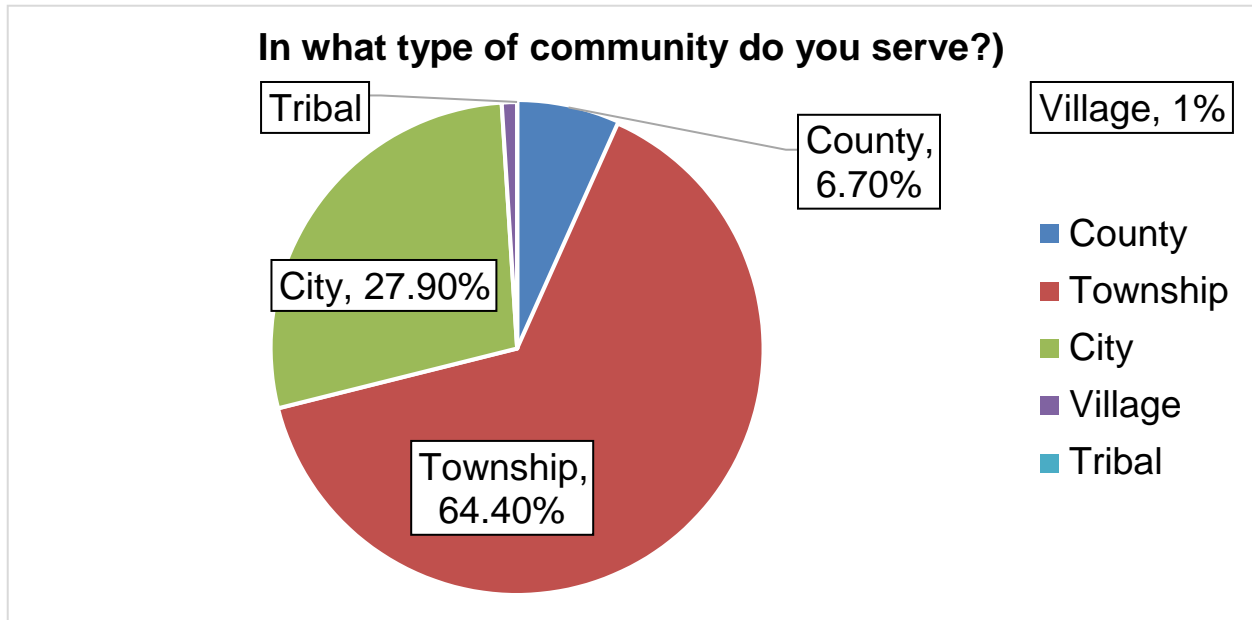
WHO RESPONDED?

Blank surveys were sent in 2011 to 315 local officials with 192 responses, representing a 60% return, which is a very high return rate. 70% were male, 30% female. Several respondents served multiple roles in the community, and we asked them to identify all that applied to them. In response, 49%, were planning commissioners. 43% were elected officials, and 32% served on Zoning Boards of Appeal. The majority of

respondents were township officials at 63%, followed by 24% from cities, 10% were county, and the remaining 3% were from the village and tribe. 51% had a 4-year college degree or graduate degree.

In 2019, surveys were sent to 241 local officials with 111 responses, representing a 46% return, which is a good rate of return. 73% were male, 27% female. Several respondents served multiple roles in the community, and we asked them to identify all that applied to them. In response, 52%, were planning commissioners. 46% were elected officials, and 37% served on Zoning Boards of Appeal. The majority of respondents were township officials at 64%, followed by 28% from cities, and 7% from the county, and 1% from the village and tribe (Chart 1). 62% held a 4-year college or graduate degree. *In summary, the responses from both survey series were very similar: over 70% male, over half Planning Commissioners, 6 in 10 were township officials, both respondent groups were highly educated.*

Chart 1.



RESULTS

LOCAL OFFICIALS WATER QUALITY RATING

Overwhelmingly, in 2011, local officials rated the quality of our water as “good.” The most important activities to them were scenic beauty, boating, and picnicking or other family activities near the water. *In 2019, local officials also believe the quality of our water is “good” for all activities listed for them in the survey. Their highest rated functions of water quality were for the same categories as in 2011, and other similarities were evident between the two surveys.*

In 2011, local official responses indicated that they value the importance of water quality. Those surveyed also feel responsible for local water quality, expressing strong disagreement with the idea that responsibility for clean water is only up to the state. However, they also believe residents are responsible for local water

quality. *In both surveys, personal and community responsibility were emphasized in the responses. In 2011, local officials agreed that the way residents care for their lawn and garden can influence water quality, and that residents are personally responsible to protect water quality. This is important and would likely be reflected in policy decisions they make, and the similarities between surveys persisted on these points. For 2019, local officials "strongly agree" with the same two statements.*

In 2011, as mentioned above, 57% of local officials disagreed that "Protecting water quality is the state's responsibility, not our local unit of government." *In 2019, 32% "strongly disagree" with that statement, up from 26%, and 53% "disagree." Again, this is important because it demonstrates a high sense of responsibility to address water quality issues, because water is valued in the community.*

In 2011, respondents overall believed that their master plan and zoning ordinance did an excellent job of protecting water quality, although approximately 40% were not sure, neither agreeing nor disagreeing with those statements. Local officials would support changes to their plan and ordinance to improve water quality. *We again see similar attitudes in 2020. Generally, local officials still believe their master plans and zoning ordinances do an excellent job protecting the quality of water resources, but those unsure are a bit higher in the 42-43% range. And support for changes to their plan and ordinance to improve water quality went from 72% to 76%.*

WATER QUALITY IS GOOD ECONOMICS

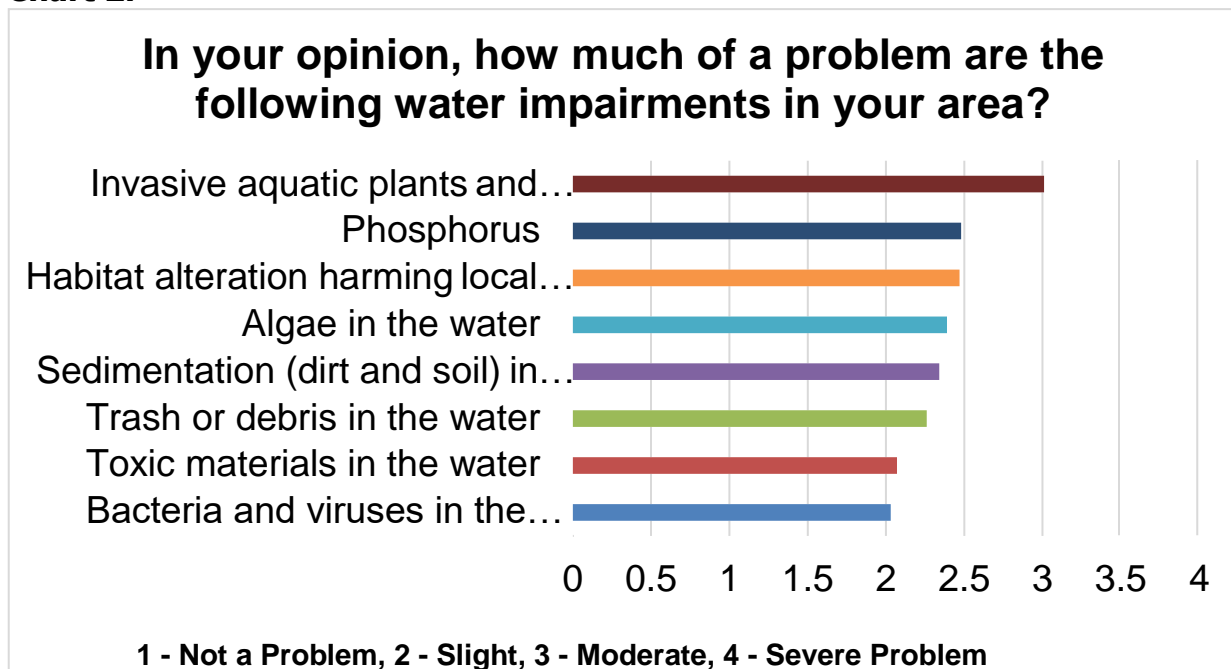
In 2011, 88% agreed that the economic stability of their communities depended upon good water quality, as noted earlier. For the most part, local officials saw no conflict between economic development and water quality. 88% disagreed that it is okay to reduce water quality to promote economic development. 80% agreed with the statement that it is important to protect water quality even if it slows economic development. 66% disagreed that taking action to protect water quality is too expensive. *In 2019, these responses were essentially the same. 89% of local officials still agree that local economic stability remains dependent on good water quality. 89% disagreed that it is okay to reduce water quality to promote economic development. 79% agreed with the statement that it is important to protect water quality even if it slows economic development. 69% disagreed that taking action to protect water quality is too expensive.*

In 2011, local officials were quite ambivalent about who pays for water quality improvements, with support for an increase in local taxes or fees getting mixed responses. 39% disagreed; 31% were not sure; and 30% agreed. *In 2019, we see some change and a bit more support for funding water quality improvements, as 27% disagree; 37% are unsure; and 36% agree they would support tax or fee increases, if needed. This is a 12-point move in the "disagree" category, indicating increased appreciation for public water quality protections and a measurable change. Michigan water has been in national news since the last survey, with Flint and PFAS highlighted, and invasive species like the Asian Carp knocking on the door of Lake Michigan. Responses reflect that attitudes are changing about public funding for water quality.*

WATER IMPAIRMENTS

Water pollutants and impairments such as sediments, phosphorus, bacteria and viruses, trash, toxic materials, algae, invasive species, and habitat alteration are potential risks in Michigan waters. These were all presented in the surveys for respondents to rank in terms of threat.

Chart 2.



In 2011, local officials varied widely in their awareness of water impairments. Generally, they indicated that most impairments are only a slight to moderate problem, the most severe being invasive aquatic plants and animals, habitat alteration harming local fish, and phosphorus. However, in most categories, a high percentage of respondents didn't know if a particular pollutant or condition was a problem or not (for instance, 50% for phosphorus or toxics, 41% for bacteria and viruses).

The more recent survey in 2019 showed some different concerns. See Chart 2. Local officials again noted invasive aquatic plants and animals as being a moderate to severe problem. And since invasive species are a significant challenge, this is good to see awareness of them remaining high. But this was followed by concerns over sedimentation (dirt and soil) in the water, and trash or debris in the water, as compared to habitat alteration concerns, and phosphorus in 2011. The "don't know" responses were similar to 2011, however. 51% didn't know if phosphorus is a problem; 44% didn't know about toxic materials in the water; 31% unsure about bacteria and viruses.

SOURCES OF WATER POLLUTION

Local officials in 2011 also told us about their awareness of sources of water pollution, and consequences of poor water quality. Few sources of water pollution were rated

as a significant problem in the Lake Charlevoix Watershed, with none rising to even a moderate problem. The most severe problems were excessive use of lawn fertilizers and/or pesticides; improperly maintained septic system; droppings from geese, ducks and other waterfowl; and removal of riparian vegetation. As with the water impairments noted earlier, a significant percentage of respondents (ranging from 11-26%) didn't know if a pollution source was a problem or not. *In 2019, the most severe problems listed were the same as in 2011, but those responding they don't know about a specific problem dropped slightly to a range of 10-22%.*

Consistent with perceptions about water impairments and pollution sources, in 2011 the list of consequences of poor water quality were viewed as "not a problem" or a "slight problem," the most severe being loss of desirable fish and excessive aquatic plants and algae. There were generally fewer "don't know" responses than in the other questions regarding their awareness of water quality issues. *In 2019, responses were the same, with loss of desirable fish reflecting the most concern, followed by excessive aquatic plants and algae. Additionally, the "don't know" responses were fewer than in the prior two categories related to impairments and sources of pollution.*

LOCAL OFFICIAL PRACTICES TO IMPROVE WATER QUALITY

Respondents in 2011 varied widely in their awareness and use of planning and zoning practices to improve water quality. The survey question was asked in two parts: personal familiarity with a practice, and use of the practice by their community.

In 2011, local officials had the greatest familiarity with minimum setbacks along lakes and streams, minimum open space requirements for new developments, septic system restrictions, and lake and stream vegetative buffer requirements. This remained the same in 2019, as local officials listed the same items as the 4 most familiar on the list of 17. Of note, and reflecting similar increased awareness shown in the shoreline property owner and resident surveys, familiarity with septic system restrictions rose 5 points, from 48% to 53%.

Local officials in 2011 were least familiar with keyhole regulations, municipal wellhead protection, coordinating water quality zoning provisions with neighboring communities, and rain garden requirements. In 2019, of the 17 items listed, local officials responded that they "know how to use it" in increased amounts for all but 4 items, and those stayed in a similar range. Some of these increases were notable.

Coordinating water quality zoning provisions with neighboring communities increased 10 points, with 33% reporting they know how to use it, up from 23% in 2011. This is a win because MSUE, Tip of the Mitt Watershed Council, and LIAA all partnered and coordinated to hold regular meetings with Zoning Administrators to talk about common concerns and new issues. Additionally, under this grant, we continued and improved our Annual Planner's Forum. These meetings were organized and improved as a direct result of feedback given to us on this topic in the first survey series. So, this is another example of measurable change.

Knowledge of vegetated buffers increased from 56% to 65%, a 9-point rise. Since the first survey, the MI Natural Shoreline Partnership was created and disseminated quite a lot of educational materials, in addition to holding training sessions and creating incentive programs for shoreline property owners. Knowledge of rain gardens increased 7 points, from 23% to 30%. This likely reflects the recent stormwater runoff educational and restoration projects in the watershed that reached out to local officials first, to educate them and get support. Measurable change.

On average, in 2011 respondents indicated that issues limited their community's ability to change planning and zoning practices to protect water quality only "a little" or "some." The biggest constraints were resistance to new regulations, concerns about economic impact of new regulations, and approval by community residents.

In 2019, respondents also indicated that issues limited their ability to change planning and zoning practices to protect water quality "a little" or "some." *The biggest constraints were the exact same as the top issues listed in 2011.* Resistance to new regulations was the top, with 44% saying it constrained them "some." Next were concerns about economic impact of new regulations, and the approval by residents in the community, at 36% each.

Septic Systems

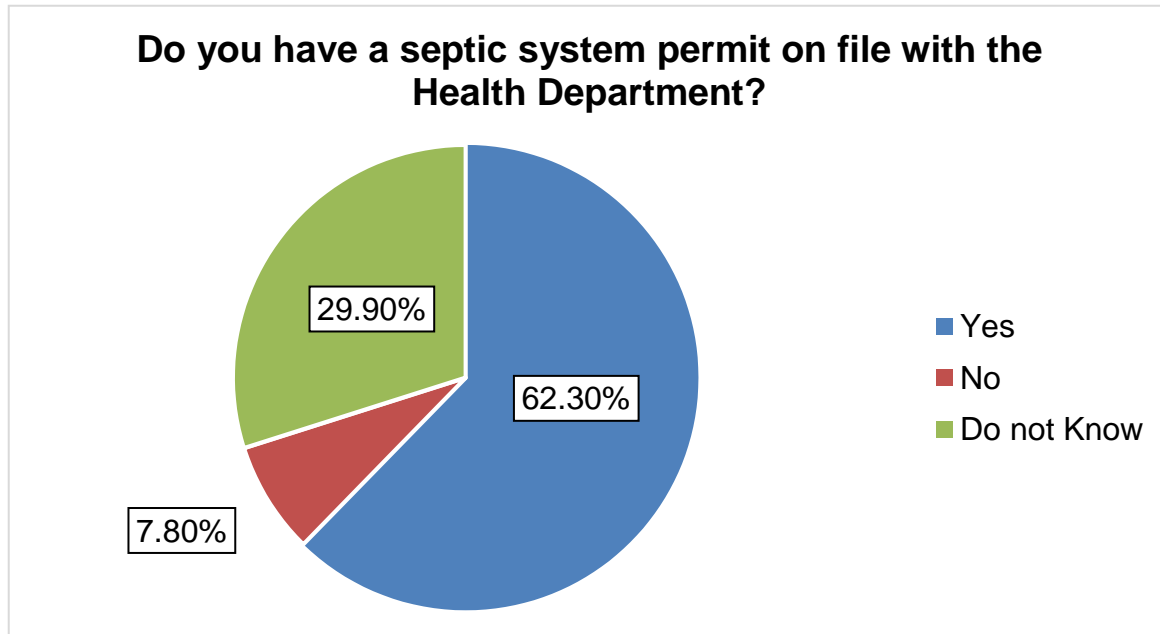
For the survey in 2019, an entire section was added to collect more information on septic systems in the watershed. *The responses from local officials in this section apply only to the 2019 survey series, since these questions were not asked in 2011.*

69% of the local officials surveyed had septic systems on their property. The respondents stated they were installed between 1959 and 2018, a 60-year range, meaning some of them have exceeded expected life spans of 25-30 years old.

The majority of the respondents, 87% said they pump their septic tank regularly. 84% reported no troubles with their septic system. The remaining 16% reported having these issues and some who answered noted more than one problem: slow drains, sewage backup in the house, bad smells near tank or drainfield, sewage on the surface, or a frozen septic.

Unfortunately, the local officials do not see a need for septic system oversight by either the Health Department or local governments. When asked if they wanted a reminder from the Health Department to get septic systems pumped or inspected, 64% said no; 25% said yes; and 10% said they did not know. 92% reported that they know the location of their septic tank and drainfield. *Interestingly, when asked if respondents had a septic system permit on file with the Health Department, 62% said yes; 8% said no; and 30% did not know (Chart 3).*

Chart 3.



WHERE DO YOU SEEK WATER QUALITY INFO?

When asked in both surveys where local officials find information about water quality, the following methods were noted, and several listed more than one.

In 2011, 72% of local officials responding noted that they get information about water quality from newsletters/brochures/fact sheets. 60% said in conversation with others, followed by 53% saying the internet. Newspapers/magazines were noted by 49%. *In 2019, a majority, 73%, of local officials find information about water quality from workshops/demonstrations/meetings – quite a difference as it was not noted in the top 4 responses from 2011. Next came newsletters/brochures/fact sheets at 72%. 61% said the internet, followed by 57% who said they get information from conversations with others. Newspapers/magazines were listed by 43%.*

Respondents in 2011 were fairly trustful of common information sources, with most being “moderately” or “very much” trusted by nearly 60% or more of participants. The most trusted sources in 2011 were Michigan State University Extension, the Lake Charlevoix Watershed Management Plan Project, Tip of the Mitt Watershed Council, the local Conservation District. In 2019, the same groups topped the list, but they were “moderately” or “very much” trusted by nearly 80% or more of participants, a rise of 20 points.

APPENDIX A: RAW DATA RESPONSES

Local Officials

Lake Charlevoix Watershed Social Indicators Study

Rating of Water Quality

Overall, how would you rate the quality of the water in your area?

	N	Poor (1)	Okay (2)	Good (3)	Don't Know	Mean (SD)
a. For canoeing/kayaking/other boating	101	0	4.8	92.3	2.9	2.95 (0.22)
b. For eating locally caught fish	97	1.9	21.7	67.9	8.5	2.72 (0.49)
c. For swimming	103	1.9	22.1	75	1	2.74 (0.48)
d. For picnicking and family activities	102	0	10.7	88.3	1	2.89 (0.31)
e. For fish habitat	92	1.9	24.8	61	12.4	2.67 (0.52)
f. For scenic beauty	105	0.9	2.8	94.4	1.9	2.95 (0.25)

Your Opinions

Please indicate your level of agreement or disagreement with the statements below.

	N	Strongly Disagree (1)	Disagree (2)	Neither Agree nor Disagree (3)	Agree (4)	Strongly Agree (5)	Mean (SD)
a. The economic stability of my community depends upon good water quality.	108	0.9	3.7	7.4	34.3	53.7	4.36 (0.85)
b. The way that residents of my community care for their lawn and yard can influence water quality in local streams and lakes.	108	0.9	0	9.3	35.2	54.6	4.43 (0.74)
c. Residents are personally responsible to help protect water quality.	107	0	0.9	4.7	47.7	46.7	4.4 (0.63)
d. It is important to protect water quality even if it slows economic development.	107	0.9	3.7	15.9	42.1	37.4	4.11 (0.87)
e. What residents do on their land does not make much difference in overall water quality.	107	39.3	45.8	10.3	3.7	0.9	1.81 (0.84)
f. Our master plan does an excellent job protecting water quality in my community.	105	2.9	8.6	43.8	36.2	8.6	3.39 (0.87)
g. Protecting water quality is the state's responsibility, not our local unit of government.	103	32	52.4	8.7	3.9	2.9	1.93 (0.91)
h. Taking action to improve water quality is too expensive for our community.	105	21	47.6	23.8	6.7	1	2.19 (0.88)
i. It is okay to reduce water quality to promote economic development.	106	46.2	43.4	7.5	0.9	1.9	1.69 (0.81)
j. Our zoning ordinance does an excellent job protecting water quality.	104	2.9	12.5	42.3	37.5	4.8	3.29 (0.86)
k. I would support increasing local taxes or fees to improve water quality.	106	11.3	16	36.8	32.1	3.8	3.01 (1.05)
l. I would support changes to our master plan and zoning ordinance to improve water quality.	106	0.9	0.9	21.7	60.4	16	3.9 (0.7)
m. The quality of life in my community depends on good water quality in local streams, rivers and lakes.	107	1.9	0	8.4	49.5	40.2	4.26 (0.77)

Water Impairments

Below is a list of water pollutants and conditions that are generally present in water bodies to some extent. The pollutants and conditions become a problem when present in excessive amounts. In your opinion, how much of a problem are the following water impairments in your area?

	N	Not a Problem (1)	Slight Problem (2)	Moderate Problem (3)	Severe Problem (4)	Don't Know	Mean (SD)
a. Sedimentation (dirt and soil) in the water	92	20.8	24.5	33	8.5	13.2	2.34 (0.95)
b. Phosphorus	52	5.7	17.9	21.7	3.8	50.9	2.48 (0.8)
c. Bacteria and viruses in the water (such as E. coli / coliform)	73	22.6	25.5	17	3.8	31.1	2.03 (0.9)
d. Trash or debris in the water	103	13.2	49.1	31.1	3.8	2.8	2.26 (0.74)
e. Toxic materials in the water	59	17.9	21.7	10.4	5.7	44.3	2.07 (0.96)
f. Algae in the water	87	10.6	37.5	27.9	7.7	16.3	2.39 (0.83)
g. Invasive aquatic plants and animals	94	2.8	17.9	43.4	24.5	11.3	3.01 (0.78)
h. Habitat alteration harming local fish	75	11.3	25.5	23.6	10.4	29.2	2.47 (0.93)

Sources of Water Pollution

The items listed below are sources of water quality pollution across the country. In your opinion, how much of a problem are the following sources in your area?

	N	Not a Problem (1)	Slight Problem (2)	Moderate Problem (3)	Severe Problem (4)	Don't Know	Mean (SD)
a. Discharges from industry into streams and lakes	84	33	31.1	14.2	0.9	20.8	1.79 (0.78)
b. Discharges from sewage treatment plants	84	43.9	20.6	12.1	1.9	21.5	1.64 (0.83)
c. Soil erosion from construction sites	90	18.5	40.7	21.3	2.8	16.7	2.1 (0.78)
d. Soil erosion from farm fields	86	29.5	34.3	15.2	2.9	18.1	1.9 (0.83)
e. Soil erosion from shorelines and/or streambanks	90	7.6	49.5	23.8	4.8	14.3	2.3 (0.71)
f. Excessive use of lawn fertilizers and/or pesticides	85	5.6	19.6	34.6	19.6	20.6	2.86 (0.87)
g. Improperly maintained septic systems	84	8.5	27.4	27.4	16	20.8	2.64 (0.93)
h. Droppings from geese, ducks and other waterfowl	97	3.7	31.5	38	16.	10.2	2.75 (0.8)
i. Land development or redevelopment	96	13	37	26.9	12	11.1	2.43 (0.9)
j. Urban stormwater runoff	91	11.2	30.8	34.6	8.4	15	2.47 (0.85)
k. Removal of riparian vegetation	83	12.1	32.7	18.7	14	22.4	2.45 (0.97)
l. Drainage/filling of wetlands	83	18.9	22.6	24.5	12.3	21.7	2.39 (1.02)

Consequences of Poor Water Quality

Poor water quality can lead to a variety of consequences for communities. In your opinion, how much of a problem are the following issues in your area?

	N	Not a Problem (1)	Slight Problem (2)	Moderate Problem (3)	Severe Problem (4)	Don't Know	Mean (N;SD)
a. Beach closures	105	67.3	22.4	6.5	1.9	1.9	1.42 (0.7)
b. Contaminated fish	86	43.9	19.6	9.3	7.5	19.6	1.76 (0.99)
c. Loss of desirable fish species	81	24.5	22.6	18.9	10.4	23.6	2.2 (1.04)
d. Reduced beauty of lakes or streams	97	44.3	32.1	9.4	5.7	8.5	1.74 (0.88)
e. Reduced opportunities for water recreation	99	53.3	24.3	12.1	2.8	7.5	1.62 (0.83)
f. Excessive aquatic plants or algae	95	15	36.4	28	9.3	11.2	2.36 (0.89)

Planning and Zoning Practices to Improve Water Quality

Please indicate which statement most accurately describes your knowledge level of each practice listed below.

	N	Never Heard Of It (1)	Somewhat familiar with it (2)	Know how to use it (3)	Mean (SD)
a. Incorporate water quality protection statements in our master plan.	94	10.6	42.6	46.8	2.36 (0.67)
b. Inventory lakes, streams and wetlands in our master plan.	92	14.1	44.6	41.3	2.27 (0.7)
c. Identify watershed boundaries in our master plan.	95	8.4	48.4	43.2	2.35 (0.63)
d. Minimum open space requirements for new developments.	97	4.1	41.2	54.6	2.51 (0.58)
e. Minimum setbacks along lakes and streams.	97	1	25.8	73.2	2.72 (0.47)
f. Lake and stream vegetative buffer requirements.	93	6.5	29	64.5	2.58 (0.61)
g. Keyhole {"funneling"} regulations	94	41.5	23.4	35.1	1.94 (0.88)
h. Impervious surface maximums	95	14.7	40	45.3	2.31 (0.72)
i. Stormwater regulations	93	6.5	45.2	48.4	2.42 (0.61)
j. Rain garden requirements	95	27.4	42.1	30.5	2.03 (0.76)
k. Permit coordination with state and local agencies	93	10.8	44.1	45.2	2.34 (0.67)
l. Septic system restrictions	97	2.1	44.3	53.6	2.52 (0.54)
m. Urban growth boundaries	93	28	47.3	24.7	1.97 (0.73)
n. Groundwater protection standards in site plan review	96	10.4	46.9	42.7	2.32 (0.66)
o. Development restrictions on steep slopes	94	10.6	40.4	48.9	2.38 (0.67)
p. Municipal wellhead protection	19	26.3	52.6	21.1	1.95 (0.71)
q. Coordinated water quality zoning provisions with neighboring communities.	86	26.7	40.7	32.6	2.06 (0.77)

Please indicate which statement most accurately describes whether or not your community uses that practice.

	N	Currently Use It (1)	Does Not Currently Use it (2)	Do Not Know (3)	Mean (SD)
a. Incorporate water quality protection statements in our master plan.	97	61.9	10.3	27.8	1.66 (0.89)
b. Inventory lakes, streams and wetlands in our master plan.	96	56.2	12.5	31.2	1.75 (0.91)
c. Identify watershed boundaries in our master plan.	94	50	16	34	1.84 (0.91)
d. Minimum open space requirements for new developments.	93	73.1	6.5	20.4	1.47 (0.82)
e. Minimum setbacks along lakes and streams.	97	90.7	2.1	7.2	1.16 (0.53)
f. Lake and stream vegetative buffer requirements.	96	64.6	11.5	24	1.59 (0.85)
g. Keyhole {"funneling"} regulations	96	37.5	5.2	57.3	2.2 (0.96)
h. Impervious surface maximums	97	53.6	9.3	37.1	1.84 (0.94)
i. Stormwater regulations	96	64.6	12.5	22.9	1.58 (0.84)
j. Rain garden requirements	93	17.2	28	54.8	2.38 (0.76)
k. Permit coordination with state and local agencies	93	67.7	6.5	25.8	1.58 (0.88)
l. Septic system restrictions	94	58.5	23.4	18.1	1.6 (0.78)
m. Urban growth boundaries	90	28.9	21.1	50	2.21 (0.87)
n. Groundwater protection standards in site plan review	90	54.4	13.3	32.2	1.78 (0.91)
o. Development restrictions on steep slopes	93	58.1	7.5	34.4	1.76 (0.94)
p. Municipal wellhead protection	20	40	10	50	2.1 (0.97)
q. Coordinated water quality zoning provisions with neighboring communities.	94	21.3	22.3	56.4	2.35 (0.81)

Making Decisions in my Community

In general, how much does each of these issues limit your ability to change your water management practices?

	N	Not at All (4)	A little (3)	Some (2)	A lot (1)	Don't Know	Mean (SD)
a. Expense to develop new regulations	96	26.5	27.5	28.4	11.8	5.9	2.27 (1.01)
b. Resistance to new regulations	100	10.7	25.2	43.7	17.5	2.9	2.7 (0.89)
c. The need to learn new skills or techniques	94	16.5	22.3	35.9	16.5	8.7	2.57 (0.99)
d. Not having access to the expertise we need	93	33.3	16.7	28.4	12.7	8.8	2.23 (1.09)
e. Lack of available information about a practice	95	30.1	29.1	24.3	8.7	7.8	2.13 (0.98)
f. No communities we know are implementing the practice	67	30.4	15.7	16.7	2.9	34.3	1.88 (0.95)
g. Approval by residents of my community	88	14.7	20.6	36.3	14.7	13.7	2.59 (0.97)
h. Legal restrictions	80	19.4	19.4	33	5.8	22.3	2.33 (0.94)
i. Do not know where to get information and-or assistance about those practices	92	40.6	23.8	19.8	6.9	8.9	1.92 (0.99)
j. Concerns about economic impact of new regulations.	93	13.6	30.1	36.9	9.7	9.7	2.47 (0.88)
k. Lack of need for additional regulations in our community.	83	17.3	22.4	31.6	13.3	15.3	2.48 (0.99)
l. Not being able to see examples of the regulation before we decide.	85	19	32	21	13	15	2.33 (0.99)
m. Other {please specify}	1	33.3	0	0	0	66.7	1 (0)

If Other, please specify? - No responses

About You

1. What is your gender?

N=108
73.1 Male
26.9 Female

2. What is your age? _____

N=104
28 – 86 Range
63.73 Average

3. What is the *highest grade* in school you have completed?

N=102
0.0 Some formal schooling
10.8 High school diploma / GED
12.7 Some college
13.7 2 year college degree
40.2 4 year college degree
22.5 Post-graduate degree

4. How long have you lived in your current community in the watershed?

N=107
1 – 78 Range
25.91 Mean

5. What is your role in the community? (Check all that apply)

N=108
51.9 Planning Commission
37.0 Zoning Board of Appeals
46.3 Elected Officials

6. How many years of service have you completed as your role? (Please include your role with your answer)

N=106
.3 – 49 Range
12.11 Mean

7. In What type of community do you serve?

N=104
6.7 County
64.4 Township
27.9 City
1.0 Village
0.0 Tribal

8. Does your community have a zoning ordinance?

N=108
98.1 Yes
1.9 No

9. What water resources does your community include? (Check all that apply)

N=107
72.9 Lake Charlevoix shoreline
23.4 Boyne River shoreline
16.8 Jordan River shoreline
19.6 None of the Above

10. Where are you likely to seek information about water quality issues? (Check all that apply)?

N=105
72.4 Newsletters
61.0 Internet
13.3 Radio
42.9 Newspapers, Magazines
73.3 Workshops, Demonstrations, Meetings
57.1 Conversations with others
17.1 Other

11. If Other, please specify?

No response

Information Sources

People get information about water quality from a number of different sources. To what extent do you trust those listed below as a source of information about soil and water?

	N	Not at All (1)	Slightly (2)	Moderately (3)	Very much (4)	Am not familiar	Mean (SD)
a. Lake Charlevoix Watershed Management Plan Project	90	0	5.9	20.8	62.4	10.9	3.63 (0.61)
b. Planning publications	100	1	13.6	42.7	39.8	2.9	3.25 (0.73)
c. U.S. Environmental Protection Agency {USEPA}	92	6.1	21.2	36.4	29.3	7.1	2.96 (0.9)
d. Michigan State University Extension	99	1	4.9	37.9	52.4	3.9	3.47 (0.64)
e. Michigan Department of Agriculture	94	5.9	9.9	35.6	41.6	6.9	3.21 (0.88)
f. Michigan Department of Natural Resources	97	3.9	8.8	42.2	40.2	4.9	3.25 (0.79)
g. Michigan Department of Environmental Quality	99	2.9	16.3	34.6	41.3	4.8	3.2 (0.83)
h. Environmental groups	96	11.9	19.8	39.6	23.8	5	2.79 (0.96)
i. Planning officials like me in other communities.	100	3.9	14.7	52.9	26.5	2	3.04 (0.76)
j. County Planning Department	100	6.9	16.7	48	26.5	2	2.96 (0.85)
k. Planning Consultants	100	5.9	18.6	44.1	29.4	2	2.99 (0.86)
l. Statewide organizations	93	5.9	22.8	45.5	17.8	7.9	2.82 (0.82)
m. Municipal Attorneys	93	15.8	39.6	25.7	10.9	7.9	2.34 (0.9)
n. Tribal Government	84	16	20	28	20	16	2.62 (1.05)
o. Tip of the Mitt Watershed Council	101	3.9	7.8	22.5	64.7	1	3.5 (0.81)
p. Conservation Organizations	95	6	17	40	32	5	3.03 (0.88)
q. Local Conservation District	94	4	13	35	42	6	3.22 (0.84)

Septic Systems

1. Do you have a septic system?

N=103

- 31.1 No, I pay a monthly/quarterly fee for sewage services
- 0.0 Don't Know
- 68.9 Yes

2. If you answered 'yes' to the previous question, what year was it installed?

N=62

- 1959 – 2018 Range
- 1992. Average

3. Within the last five years, have you had any of the following problems? (Check all that apply)

N=95

- 10.5 Slow Drains
- 4.2 Sewage backup in house
- 1.1 Bad smells near tank or drain field
- 2.1 Sewage on the surface
- 0.0 Sewage flowing to ditch
- 1.1 Frozen septic
- 0.0 Other
- 84.2 None
- 1.1 Don't know

4. In the future, would you like a reminder from your local health department regarding inspection/maintenance of your septic system?

N=85

- 25.0 Yes
- 64.3 No
- 10.7 Don't know

5. Do you think a local government agency should handle inspection and maintenance of septic systems?

N=96

- 38.5 Yes
- 41.7 No
- 19.8 Don't Know

6. Do you know the location of your septic tank and drainfield?

N=78

- 92.3 Yes
- 3.8 No
- 3.8 Don't Know

7. Do you have a septic system permit on file with the Health Department?

N=77

- 62.3 Yes
- 7.8 No
- 29.9 Don't Know

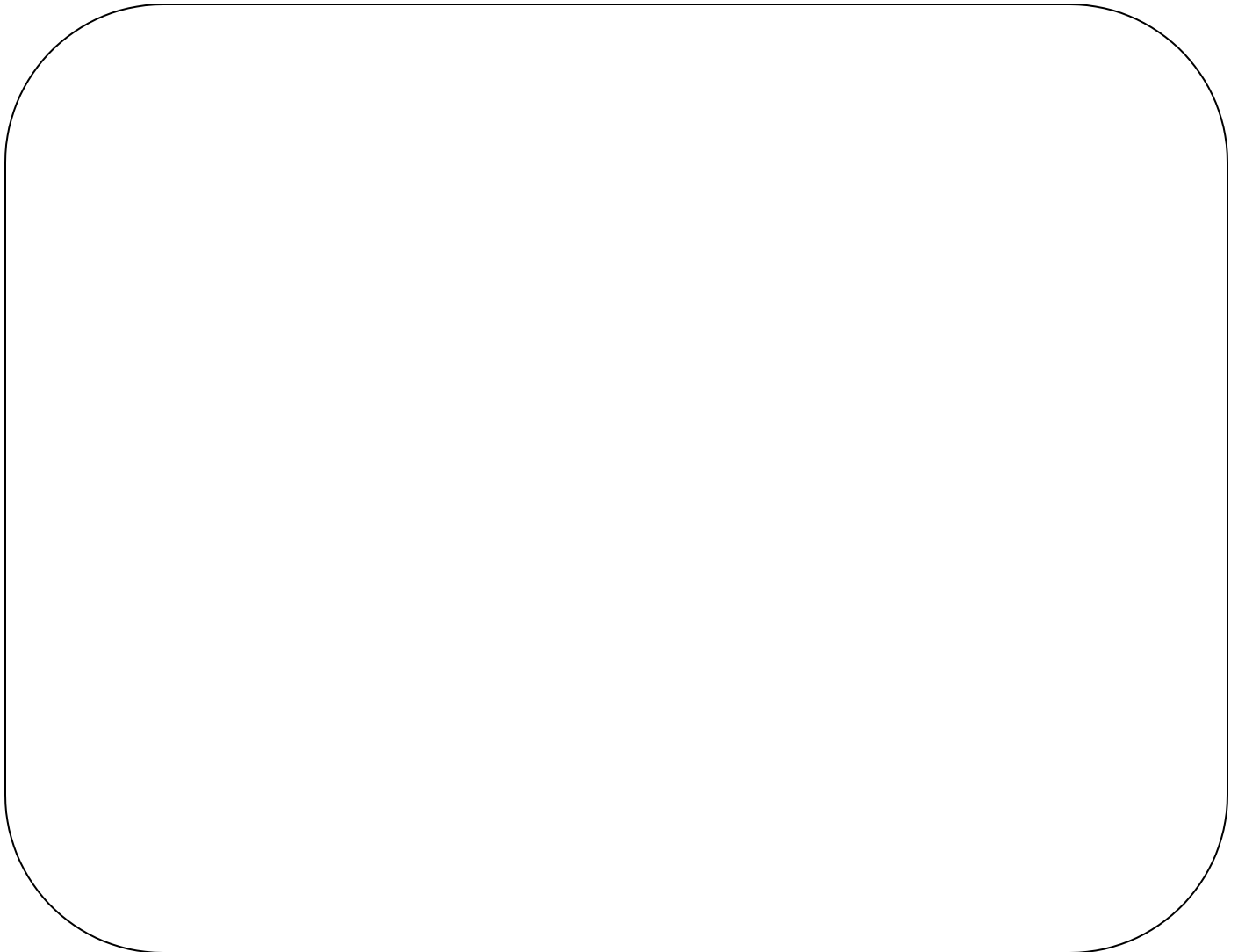
8. Do you pump out your system regularly?

N=78

- 87.2 Yes
- 10.3 No
- 2.6 Don't Know

Thank you for your time and assistance!

Please return your completed survey in the postage-paid envelope provided. Please use the space below for any additional comments about this survey or water resource issues in your community.



Project Coordinator:
Grenetta Thomassey
Tip of the Mitt Watershed Council
Phone: (231) 347-1181
Email: grenetta@watershedcouncil.org