MUSES: Great Lakes
Modeling and Analyzing the Use, Efficiency, Value, and Governance of Water as a Material

MUSES Utility Survey
Utility Contact Information

Utility Contact Information

1.) Please fill in the fields below with contact information for your utility office. For the first name and last name fields, please insert the name of a relevant office holder.

First Name: _____
Last Name: _____
Title: _____
Utility Company Name: _____
Street Address: _____
Apt/Suite/Office: _____
City: _____
State _____
Postal Code: _____
Email Address: _____
Phone Number: _____
Fax Number: _____
Mobile Phone: _____
URL: _____

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How Many Years of Data

Hello,

We appreciate you taking the time to complete the Muses Utility Survey. Our goal is to create a price demand curve for the Great Lakes region by compiling the information that you and other water purveyors provide for the following questions.

To create the most representative price-demand curve, it is important that we learn specific details about your customers' consumption during the most recent period when your billing rates and rate structure remained unchanged. If possible, we hope that you will provide us with additional information for other periods (up to three) when your billing rates or rate structures remained unchanged.

2.) Before proceeding with the survey, please indicate how many periods you are willing to provide information for.

1	2	3

3.) Please indicate which of the following types of customers your utility served. We understand that some utilities might have different definitions for the customer class names provided. However it is that you define them, you will have the opportunity to define rate information later on.

Residential	
Commercial	
Industrial	
Public Authority	
Other –1	
Other –2	

4.) Please specify the period of time for which the information you will provide is valid. If the exact dates are not known, provide the closest approximation.

Note: All questions that follow, enquire about this specified period.

	Year	**Month**	**Day**
Start Date			
End Date			

5.) How many years does the above specified period span? Round to the nearest whole year.

1	
2	
3	
4	
5	

6.) During this period, was your utility experiencing a surplus or shortage of water that was not anticipated in your management plans?

no	
yes- surplus	
yes- shortage	

7.) Please specify the county/counties where your utility provided water service.

_____

_____

_____

_____

8.) Indicate the units your utility typically used for reporting.

NOTE: FROM NOW ON IT IS IMPLIED THAT ANY VOLUME OF WATER OR WASTEWATER THAT YOU REPORT ARE IN THESE UNITS.

Gallons	
Liters	
Cubic Feet	
Cubic Meters	
Other :_	

9.) If your utility served customers that fell into the Other-1 and Other-2 category above, please name Other-1 and Other-2 at this time.

Other-1: _____

Other-2: _____

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Details for First Period

Please answer the following question for each applicable customer class. The years shown in the first column correspond to the period of time you specified earlier, which may encompass multiple years. If you specified a period with multiple years, answer these chronologically, with "Year 1" being the very first year of the period and so on.

Note: Be sure to choose "Yes" or "No" when answering whether a particular year is part of the period of time you specified earlier.

			Is this year part of the period specified by you?		**Number of accounts served**	**Percentage of Accounts Metered**	**Estimated total volume of water consumed by this customer class (in units specified by you earlier)**
			Yes	**No**			
10.)	Residential Customers	Year 1					
		Year 2					
		Year 3					
		Year 4					
		Year 5					
11.)	Commercial Customers	Year 1					
		Year 2					
		Year 3					
		Year 4					
		Year 5					
12.)	Industrial Customers	Year 1					
		Year 2					
		Year 3					
		Year 4					
		Year 5					
13.)	Public Authority Customers	Year 1					
		Year 2					
		Year 3					
		Year 4					
		Year 5					
14.)	Other 1 Customers	Year 1					
		Year 2					
		Year 3					
		Year 4					
		Year 5					
15.)	Other 2 Customers	Year 1					
		Year 2					
		Year 3					
		Year 4					
		Year 5					

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Please indicate the sources that were used by your utility to provide water for the following customer classes**.**

		Ground Water	Surface Water	Mixed Source (Surface and Ground Water)	Ground Water (Purchased)	Surface Water (Purchased)	Mixed Source (Purchased)	Unknown
16.)	Residential Customers							
17.)	Commercial Customers							
18.)	Industrial Customers							
19.)	Public Authority Customers							
20.)	Other 1 Customers							
21.)	Other 2 Customers							

22.) Please specify the (exact) name of the source(s) that were used by your utility to provide water for all the customer classes you served. Also, please provide estimates of the total quantity (in units specified by you earlier) withdrawn from the source(s) for this period of time.

	Source type						Source Name	Quantity Extracted from Source
	Ground Water	Surface Water	Mixed (Ground and Surface)	Ground Water (Purchased)	Surface Water (Purchased)	Mixed (Purchased)		
Source 1								
Source 2								
Source 3								
Source 4								
Source 5								
Source 6								
Source 7								
Source 8								
Source 9								
Source 10								

Please indicate how frequently each customer class was billed.

		Did you bill this customer class?			Frequency (ex: Every: 20 | days)	
		Yes	No	Don't Know	Every: (Number)	(Unit of Time)
23.)	Residential Customers					
24.)	Commercial Customers					
25.)	Industrial Customers					
26.)	Public Authority Customers					
27.)	Other 1 Customers					
28.)	Other 2 Customers					

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Please indicate whether each customer class was billed using a block rate, a flat volumetric rate, or a fixed flat rate structure for water service provision.

Block Rate: A block rate structure typically defines blocks of water consumption where the unit price of water changes (increases or decreases) with each of several preset consumption blocks for each billing period (see this for more information). For example, a utility may define two blocks, 0-10,000 gallons for block-1 and 10,001-20,000 gallons for block-2. Further, the utility may decide to set an increasing block price. Ex. $P1 equals the price for each unit of water consumed within block-1, and $P2 equals the price for each unit in block-2, where $P1 < $P2. Also, note that this rate structure may exist in addition to some fixed flat rate (see below).

Flat Volumetric Rate: A flat volumetric rate structure essentially charges consumers a fixed rate for each unit of water consumed. For example, a utility may define a unit of consumption, say 1,000 gallons, and a price, $P, for each 1,000 gallons consumed. Thus, this utility's flat volumetric rate is $P/1000 gallons.

Fixed Flat Rate: A fixed flat rate structure charges consumers a fixed amount, with no reference to the quantity of water consumed by that customer or a charge that is independent of actual consumption. Often, this depends on the class or type of the consumer (residential, commercial, industrial, public authority or other) and/or the size of the meter affixed to their property. Additionally, this fixed rate may be charged in tandem with a Flat Volumetric Rate or a Block Rate.

		Block Rate	Flat Volumetric Rate (Metered Rates)	Fixed Flat Rate	Other
29.)	**RESIDENTIAL** Billing Structure				
30.)	**COMMERCIAL** Billing Structure				
31.)	**INDUSTRIAL** Billing Structure				
32.)	**PUBLIC AUTHORITY** Billing Structure				
33.)	**OTHER 1** Billing Structure				
34.)	**OTHER 2** Billing Structure				

Some utilities change their billing frequency, structure and/or prices depending on predictable fluctuations in water demand and availability or the "season". Thus, a utility may define seasons (e.g. some utilities define two seasons in a year, say winter and summer, with a sense for how demand for water fluctuates) within a year and change the properties of its billing. In the following questions if there were no seasons defined for the customer class please select "1." If seasons were defined for the customer class please select the number of seasons that were included in your billing structure.

Did the billing structure for the following customer classes have defined "seasons"? If "yes" how many? (If any class does not apply, please leave row blank)

		1	2	3	4	5	No	Don't Know
35.)	Residential Customers							
36.)	Commercial Customers							
37.)	Industrial Customers							
38.)	Public Authority Customers							
39.)	Other 1 Customers							
40.)	Other 2 Customers							

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Questions about INDUSTRIAL *Water Rate Structure and Rates*

NOTE: Please fill out the questions pertaining to your rate structure as specified before. When filling out the online survey, this section will appear slightly different.

If this customer class is charged a **FIXED FLAT RATE** for water provision, what was the basic flat rate charged per billing period (if there was none, leave blank)?

_____

Please indicate and provide details for any of the following that added additional charges to the customer's water bill. For example, a certain dollar sum might be added to the bill based on the size of the customer's property in square feet. Be sure to indicate "No" if this customer class was not charged for the specified item.

	Yes	No	Don't Know	Units used											Amount added to bill per unit of this item
				Km^2	m^2	cm^2	mi^2	yd^2	ft^2	in^2	Hectare	Acre	Number of faucets	Presence of pool	
Did the size of the land parcel affect the water bill?															
Did the size of the covered area of the land parcel affect the water bill?															
Did the presence of a pool on the land parcel affect the water bill?															
Did the number of faucets affect the water bill?															

If some other item was used to determine an amount that was added or subtracted from the fixed flat rate for this customer class, please explain here.

_____

_____

_____

_____

For the following questions that inquire about the **BLOCK RATE STRUCTURE** by season: in the first column please provide the Block Size (start) or the minimum volume of water consumed that placed a consumer in the respective block; in the second column please answer "Yes" or "No" regarding the existence of an upper limit; in the third column please enter the upper limit of the block, if there was one; in the fourth column please provide the price charged per a unit volume consumption within the block, and in the fifth column please provide the unit volume associated with the charge in column four.

Example: suppose your utility defined no seasons, has two blocks (0 - 10,000 gallons and 10,001 to 20,000 gallons), and a unit consumption rate of $2/1,000 gallons in the first block and $5/1,000 gallons in the second block. For this scenario, you would fill in the following:

		Season 1 Block Size (start)	Does this block have a specified upper limit?		Season 1 Block Upper Limit: If "Yes", please specify this limit	Charge applied per unit volume within this block	Per unit volume of water
			Yes	No			
Season 1	First Block	0	X		10000	2.00	1000
	Second Block	10001	X		20000	5.00	1000
	Third Block						
	Fourth Block						
	Fifth Block						

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		Season 1 Block Size (start)	Does this block have a specified upper limit?		Season 1 Block Upper Limit: If "Yes", please specify this limit	Charge applied per unit volume within this block	Per unit volume of water
			Yes	No			
Season 1	First Block						
	Second Block						
	Third Block						
	Fourth Block						
	Fifth Block						
Season 2	First Block						
	Second Block						
	Third Block						
	Fourth Block						
	Fifth Block						
Season 3	First Block						
	Second Block						
	Third Block						
	Fourth Block						
	Fifth Block						
Season 4	First Block						
	Second Block						
	Third Block						
	Fourth Block						
	Fifth Block						
Season 5	First Block						
	Second Block						
	Third Block						
	Fourth Block						
	Fifth Block						

If this customer class was charged a **BLOCK RATE** or a **FLAT VOLUMETRIC RATE** for water provision, please answer the following question as best as you can.

Enter the fixed meter charges for each meter size that were applied to this customer class (i.e. the amount charged during the billing cycle). Please indicate "Yes" for those that applied to this customer class and "No" for those that did not.

	Does this meter size apply?			**Charge for this meter size per billing period**	**Number of metered connections**	**Volume of water consumed by this customer class and meter size during this period (if known)**
	Yes	No	Don't Know			
5/8"						
3/4"						
1"						
1 1/4"						
1 1/2"						
2"						
2 1/2"						
3"						
4"						
6"						
8"						
10"						
12"						

If this customer class was charged a **FLAT VOLUMETRIC RATE** for water provision, please answer the following question regarding this rate structure as best as you can.

Please specify the flat rate charged and the associated unit volume of water for each season. Please specify the associated volume in the units that you chose earlier in the survey and include two decimal places when you enter the amount charged for each unit volume. For example, if your utility charges $2 and 65.5 cents for every thousand gallons, please write "1000" for the Unit Volume and "2.70" for the Charge per Unit Volume.

	Unit Volume	**Charge per Unit Volume**
Season 1		
Season 2		
Season 3		
Season 4		
Season 5		

If this customer class does not fit the categories provided in this survey, please describe as best you can the rate structure for this customer class.

_____

_____

_____

_____

_____

_____

_____

_____

Additional Questions About INDUSTRIAL CUSTOMERS

This question looks to find out more about your utility's water provision to its industrial clients.

Broad groups of industry type are provided below. Fill this to the best of your knowledge.

You may find classifying some of your industrial customers a bit difficult. If you are familiar with the Standardized Industrial Classification system, the numbers in brackets list the major industrial groups. You can find more information on this classification system at **http://www.osha.gov/pls/imis/sic_manual.html** to help you in identifying your industrial customers better.

	Did your utility supply water to any of the industry types included in this industry group?			**Do you know how much water was consumed by these industrial groups on an average annual basis during this period?**			**If yes, what was the average annual volume consumed by each industrial class (rough estimate is sufficient)?**
	Yes	**No**	**Don't Know**	**Yes**	**No**	**Don't Know**	
Agriculture, Forestry and Fishing (01, 02, 07, 08, 09)							
Mining (10, 12, 13, 14)							
Construction (15, 16, 17)							
Manufacturing (20 - 39)							
Transportation, Communications, Electric, Gas and Sanitary Services (40 - 49)							
Wholesale Trade (50, 51)							
Retail Trade (52 - 59)							
Finance, Insurance and Real Estate (60 - 65, 67)							
Services (70, 72, 73, 75, 76, 78 - 84, 86 - 89)							
Public Administration (91 - 97, 99)							

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Questions about OTHER 1 *Water Rate Structure and Rates*

NOTE: Please fill out the questions pertaining to your rate structure as specified before. When filling out the online survey, this section will appear slightly different.

If this customer class is charged a **FIXED FLAT RATE** for water provision, what was the basic flat rate charged per billing period (if there was none, leave blank)?

_____

Please indicate and provide details for any of the following that added additional charges to the customer's water bill. For example, a certain dollar sum might be added to the bill based on the size of the customer's property in square feet. Be sure to indicate "No" if this customer class was not charged for the specified item.

	Yes	No	Don't Know	Units used											Amount added to bill per unit of this item
				Km^2	m^2	cm^2	mi^2	yd^2	ft^2	in^2	Hectare	Acre	Number of faucets	Presence of pool	
Did the size of the land parcel affect the water bill?															
Did the size of the covered area of the land parcel affect the water bill?															
Did the presence of a pool on the land parcel affect the water bill?															
Did the number of faucets affect the water bill?															

If some other item was used to determine an amount that was added or subtracted from the fixed flat rate for this customer class, please explain here.

_____

_____

_____

_____

For the following questions that inquire about the **BLOCK RATE STRUCTURE** by season: in the first column please provide the Block Size (start) or the minimum volume of water consumed that placed a consumer in the respective block; in the second column please answer "Yes" or "No" regarding the existence of an upper limit; in the third column please enter the upper limit of the block, if there was one; in the fourth column please provide the price charged per a unit volume consumption within the block, and in the fifth column please provide the unit volume associated with the charge in column four.

Example: suppose your utility defined no seasons, has two blocks (0 - 10,000 gallons and 10,001 to 20,000 gallons), and a unit consumption rate of $2/1,000 gallons in the first block and $5/1,000 gallons in the second block. For this scenario, you would fill in the following:

		Season 1 Block Size (start)	Does this block have a specified upper limit?		Season 1 Block Upper Limit: If "Yes", please specify this limit	Charge applied per unit volume within this block	Per unit volume of water
			Yes	No			
Season 1	First Block	0	X		10000	2.00	1000
	Second Block	10001	X		20000	5.00	1000
	Third Block						
	Fourth Block						
	Fifth Block						

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		Season 1 Block Size (start)	Does this block have a specified upper limit?		Season 1 Block Upper Limit: If "Yes", please specify this limit	Charge applied per unit volume within this block	Per unit volume of water
			Yes	No			
Season 1	First Block						
	Second Block						
	Third Block						
	Fourth Block						
	Fifth Block						
Season 2	First Block						
	Second Block						
	Third Block						
	Fourth Block						
	Fifth Block						
Season 3	First Block						
	Second Block						
	Third Block						
	Fourth Block						
	Fifth Block						
Season 4	First Block						
	Second Block						
	Third Block						
	Fourth Block						
	Fifth Block						
Season 5	First Block						
	Second Block						
	Third Block						
	Fourth Block						
	Fifth Block						

If this customer class was charged a **BLOCK RATE** or a **FLAT VOLUMETRIC RATE** for water provision, please answer the following question as best as you can.

Enter the fixed meter charges for each meter size that were applied to this customer class (i.e. the amount charged during the billing cycle). Please indicate "Yes" for those that applied to this customer class and "No" for those that did not.

	Does this meter size apply?			**Charge for this meter size per billing period**	**Number of metered connections**	**Volume of water consumed by this customer class and meter size during this period (if known)**
	Yes	No	Don't Know			
5/8"						
3/4"						
1"						
1 1/4"						
1 1/2"						
2"						
2 1/2"						
3"						
4"						
6"						
8"						
10"						
12"						

If this customer class was charged a **FLAT VOLUMETRIC RATE** for water provision, please answer the following question regarding this rate structure as best as you can.

Please specify the flat rate charged and the associated unit volume of water for each season. Please specify the associated volume in the units that you chose earlier in the survey and include two decimal places when you enter the amount charged for each unit volume. For example, if your utility charges $2 and 65.5 cents for every thousand gallons, please write "1000" for the Unit Volume and "2.70" for the Charge per Unit Volume.

	Unit Volume	**Charge per Unit Volume**
Season 1		
Season 2		
Season 3		
Season 4		
Season 5		

If this customer class does not fit the categories provided in this survey, please describe as best you can the rate structure for this customer class.

_____

_____

_____

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_____

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Questions about OTHER 2 *Water Rate Structure and Rates*

NOTE: Please fill out the questions pertaining to your rate structure as specified before. When filling out the online survey, this section will appear slightly different.

If this customer class is charged a **FIXED FLAT RATE** for water provision, what was the basic flat rate charged per billing period (if there was none, leave blank)?

_____

Please indicate and provide details for any of the following that added additional charges to the customer's water bill. For example, a certain dollar sum might be added to the bill based on the size of the customer's property in square feet. Be sure to indicate "No" if this customer class was not charged for the specified item.

	Yes	No	Don't Know	Units used											Amount added to bill per unit of this item
				Km^2	m^2	cm^2	mi^2	yd^2	ft^2	in^2	Hectare	Acre	Number of faucets	Presence of pool	
Did the size of the land parcel affect the water bill?															
Did the size of the covered area of the land parcel affect the water bill?															
Did the presence of a pool on the land parcel affect the water bill?															
Did the number of faucets affect the water bill?															

If some other item was used to determine an amount that was added or subtracted from the fixed flat rate for this customer class, please explain here.

_____

_____

_____

_____

For the following questions that inquire about the **BLOCK RATE STRUCTURE** by season: in the first column please provide the Block Size (start) or the minimum volume of water consumed that placed a consumer in the respective block; in the second column please answer "Yes" or "No" regarding the existence of an upper limit; in the third column please enter the upper limit of the block, if there was one; in the fourth column please provide the price charged per a unit volume consumption within the block, and in the fifth column please provide the unit volume associated with the charge in column four.

Example: suppose your utility defined no seasons, has two blocks (0 - 10,000 gallons and 10,001 to 20,000 gallons), and a unit consumption rate of $2/1,000 gallons in the first block and $5/1,000 gallons in the second block. For this scenario, you would fill in the following:

		Season 1 Block Size (start)	Does this block have a specified upper limit?		Season 1 Block Upper Limit: If "Yes", please specify this limit	Charge applied per unit volume within this block	Per unit volume of water
			Yes	No			
Season 1	First Block	0	X		10000	2.00	1000
	Second Block	10001	X		20000	5.00	1000
	Third Block						
	Fourth Block						
	Fifth Block						

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		Season 1 Block Size (start)	Does this block have a specified upper limit?		Season 1 Block Upper Limit: If "Yes", please specify this limit	Charge applied per unit volume within this block	Per unit volume of water
			Yes	No			
Season 1	First Block						
	Second Block						
	Third Block						
	Fourth Block						
	Fifth Block						
Season 2	First Block						
	Second Block						
	Third Block						
	Fourth Block						
	Fifth Block						
Season 3	First Block						
	Second Block						
	Third Block						
	Fourth Block						
	Fifth Block						
Season 4	First Block						
	Second Block						
	Third Block						
	Fourth Block						
	Fifth Block						
Season 5	First Block						
	Second Block						
	Third Block						
	Fourth Block						
	Fifth Block						

If this customer class was charged a **BLOCK RATE** or a **FLAT VOLUMETRIC RATE** for water provision, please answer the following question as best as you can.

Enter the fixed meter charges for each meter size that were applied to this customer class (i.e. the amount charged during the billing cycle). Please indicate "Yes" for those that applied to this customer class and "No" for those that did not.

	Does this meter size apply?			**Charge for this meter size per billing period**	**Number of metered connections**	**Volume of water consumed by this customer class and meter size during this period (if known)**
	Yes	No	Don't Know			
5/8"						
3/4"						
1"						
1 1/4"						
1 1/2"						
2"						
2 1/2"						
3"						
4"						
6"						
8"						
10"						
12"						

If this customer class was charged a **FLAT VOLUMETRIC RATE** for water provision, please answer the following question regarding this rate structure as best as you can.

Please specify the flat rate charged and the associated unit volume of water for each season. Please specify the associated volume in the units that you chose earlier in the survey and include two decimal places when you enter the amount charged for each unit volume. For example, if your utility charges $2 and 65.5 cents for every thousand gallons, please write "1000" for the Unit Volume and "2.70" for the Charge per Unit Volume.

	Unit Volume	**Charge per Unit Volume**
Season 1		
Season 2		
Season 3		
Season 4		
Season 5		

If this customer class does not fit the categories provided in this survey, please describe as best you can the rate structure for this customer class.

_____

_____

_____

_____

_____

_____

_____

_____

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Wastewater and Water Demand Management

The next few sections will help us better understand the way your utility deals with wastewater and water conservation (or recommendations to customers for better use management). Please answer these as best as you are able. Please report all volumetric amounts of water in the same units that you specified earlier in the rate information section.

Wastewater Rate Information

This section looks to collect information regarding wastewater service rates. This section is optional; however, please consider answering the next five questions to help us form a more complete picture of the relationship between rate structure water use. If your utility does not provide wastewater service to any of its customer classes and never has, please indicate so in the second question and skip to the next section. If your utility does or did at one time provide wastewater service, but you do not have time to answer the questions in this section scroll to the bottom of the page and hit "next" to go to the next section.

409.) Please specify the period of time for which the information you will provide is valid. We would like information from the most recent period of time when your wastewater rate structure remained unchanged. If the exact dates are not known, provide closest approximation.

Note: All questions that follow, enquire about this specified period.

	Year	Month	Day
Start Date			
End Date			

		Residential	Commercial	Industrial	Public Authority	Other 1	Other 2
410.) Please specify which customer classes your utility provided wastewater service to during this period.	**Yes**						
	No						
	Don't Know						
412.) Were customers charged a volumetric wastewater rate that was assessed upon their water consumption for the previous winter	**Yes**						
	No						
	Don't Know						
	Charge						
	Unit volume of water consumed by the customer class to apply this charge.						
411.) Were customers charged for wastewater per their volumetric water consumption? If you charged a rate that was both dependent on water consumption and metered wastewater, metered wastewater questions will follow shortly.	**Yes**						
	No						
	Don't Know						
	Charge						
	Unit volume of water consumed by the customer class to apply this charge.						
413.) Were customers charged a flat rate for wastewater service based on their customer class (that does not vary within the customer class)?	**Yes**						
	No						
	Don't Know						
	What was the fixed charge for this customer class?						

Meter Dependent Waste Water Service

Do any or all of your customer classes have meter dependent waste water billing? This section is optional.

Yes	
No	
I don't know	

***If *No* or *I don't know*, please ignore the next two pages

		Was a customer's wastewater rate based on the size of the water meter?			If yes, specify how much was charged for each particular meter size (fixed charge per billing period)?	Was customer wastewater metered and charged per unit of waste water discharge (units as specified			If yes, please specify per unit rate.	Was there a per unit of water consumption charge applied (volumetric rate)?			If yes, please specify this volumetric rate (per unit volume in units specified earlier)?
		Yes	No	Don't Know		Yes	No	Don't Know		Yes	No	Don't Know	
Residential	5/8"												
	3/4"												
	1"												
	1 ¼"												
	1 ½"												
	2"												
	2 ½"												
	3"												
	4"												
	6"												
	8"												
	10"												
	12"												
Commercial	5/8"												
	3/4"												
	1"												
	1 ¼"												
	1 ½"												
	2"												
	2 ½"												
	3"												
	4"												
	6"												
	8"												
	10"												
	12"												
Industrial	5/8"												
	3/4"												
	1"												
	1 ¼"												
	1 ½"												
	2"												
	2 ½"												
	3"												
	4"												
	6"												
	8"												
	10"												
	12"												

		Was a customer's wastewater rate based on the size of the water meter?			If yes, specify how much was charged for each particular meter size (fixed charge per billing period)?	Was customer wastewater metered and charged per unit of waste water discharge (units as specified			If yes, please specify per unit rate.	Was there a per unit of water consumption charge applied (volumetric rate)?			If yes, please specify this volumetric rate (per unit volume in units specified earlier)?
		Yes	No	Don't Know		Yes	No	Don't Know		Yes	No	Don't Know	
Public Authority	5/8"												
	3/4"												
	1"												
	1 ¼"												
	1 ½"												
	2"												
	2 ½"												
	3"												
	4"												
	6"												
	8"												
	10"												
	12"												
Other 1	5/8"												
	3/4"												
	1"												
	1 ¼"												
	1 ½"												
	2"												
	2 ½"												
	3"												
	4"												
	6"												
	8"												
	10"												
	12"												
Other 2	5/8"												
	3/4"												
	1"												
	1 ¼"												
	1 ½"												
	2"												
	2 ½"												
	3"												
	4"												
	6"												
	8"												
	10"												
	12"												

Wastewater Service

421.) If the above questions were not satisfactory in letting you provide information on your utility's wastewater service, please specify the nature of wastewater charges below as best you can.

_____

_____

_____

_____

_____

_____

_____

_____

Water Demand Management

This section will look to gain some insight into your utility's water demand management efforts (if any). The questions pertain to the most recent period you defined earlier and the catchment your utility is in. This section is optional.

422.) During what months does your area experience increased amounts of precipitation and/or runoff that may raise groundwater levels and increase surface water flows? Check all that apply.

Jan	
Feb	
Mar	
Apr	
May	
June	
July	
Aug	
Sep	
Oct	
Nov	
Dec	

423.) During what months does your area experience decreased or no precipitation and/or runoff that may lower groundwater levels and decrease surface water flows? Check all that apply.

Jan	
Feb	
Mar	
Apr	
May	
June	
July	
Aug	
Sep	
Oct	
Nov	
Dec	

424.) For approximately what planning horizon is your utility expected to have adequate drinking water supplies, given current sources?

Less than 10 Years	
10 years	
20 Years	
30 Years	
40 Years	
50 Years	
More than 50 Years	
We don't plan for this	
Don't Know	

425.) Please indicate which, if any, public information campaigns your utility was involved with during any of the time periods earlier specified.

	Water shortage or drought (climatic conditions, expense of potential new supplies)	**Indoor conservation methods (graywater, appliance efficiency, retrofitting)**	**Outdoor conservation methods (irrigation equipment, xeriscaping)**
Television advertising			
Conservation-related World Wide Web site			
Utility bill inserts or postcard/brochure announcements			
Utility bill compares monthly use to that of previous year, month or city average			
Billing envelope is printed with message urging water conservation			
Radio spots			
Local billboards			
Newspaper advertising or press releases			
Bumper stickers			
Speaking engagements by local water conservation officials			
Public school presentations, or materials made available to teachers			
Utility conservation telephone hotline			
Other			

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426.) Please indicate as many of the following plumbing and appliance retrofitting measures that your utility has engaged in over the last year and how much has been spent on those activities.

	Activity undertaken?			Amount spent on activity in last year?
	Yes	No	Don't Know	
Low-flow toilet rebate programs or connection fee discounts				
Low-flow toilet (free) distribution programs				
Water-efficient appliance (dishwasher, clotheswasher, etc.) rebate programs or connection fee discounts				
Plumbing retrofit kit distribution programs (low-flow showerheads, faucet aerators, toilet tank displacement devices, dye tablets for leak detection)				
Outdoor conservation kit distribution programs (moisture sensors, hose shutoff nozzles)				
Other				

427.) Please indicate which, if any, of the following ordinances have been in force for any part of the period you defined earlier.

Outdoor watering restricted to specific days of the week	
Outdoor watering restricted to specific times of the day	
Outdoor watering restricted to specific types of equipment	
Prohibitions or restrictions on sidewalk-washing, car-washing, pool-filling	
Building codes requiring installation of low-flow toilets, showerheads	
Landscape ordinances requiring drought-tolerant planting, mulching, automatic irrigation	
Ordinances forbidding use of water resulting in excessive runoff	
Ordinances forbidding use of water for decorative fountains, ponds, lakes	
Ordinances requiring leak repair	
Ordinances requiring pools to be covered when not in use	
None	
Don't Know	

428.) Please indicate which, if any, of the following methods were utilized for enforcement of water related ordinances for any part of the period you defined earlier.

No monitoring or enforcement	
"Water police" or utility staff monitoring	
Households monitor and report their neighbors (voluntary)	
Install flow restrictors on meters of households in violation	
Publish names of violators in newspapers	
None	
Don't Know	

429.) Please check if any of the following activities have been undertaken for any part of the period you defined earlier.

Free or subsidized household water-audits	
Free or subsidized leak detection and repair	
Public school conservation education programs	
Rebates or connection fee discounts for xeriscaping	
None	
Don't Know	

430.) Please use this space to describe any other conservation measures that your utility may have been involved with that our questions have not covered.

_____

_____

_____

_____

_____

431.) What was the approximate total budget devoted to water conservation by your utility in the last fiscal year? This figure should include all expenses related to the non-price utility conservation programs listed above, as well as program staff salaries and fringe benefits.

_____

432.) Please describe the staff time the utility devoted to water conservation programs in the last fiscal year? If one or both employee types were not working on conservation measures, please fill in a zero in both columns.

	Number working on conservation efforts	Typical number of hours dedicated to conservation efforts
Full-time employees		
Part-time employees		

Thank you!

Thank you for taking out the time to fill this survey: your effort is greatly appreciated. For updates and more information on the "MUSES: Great Lakes" project see www.yale-mtu-greatlakes.net