2019 - Cost of Clean

2019 WWOA Conference
Overview

- History of the survey
- Cost of Sewer
- Cost of Water
- Other Revenue Sources
- Affordability
- What is the value of water?
- Summary
2016 Survey

- Survey was emailed in January 2019
- Survey Monkey format
- Completed surveys returned by April 2016
- Report is complete and available
2019 Wisconsin Sewer User Charge Survey

Return completed survey by January 31, 2019 in the enclosed self-addressed, postage paid envelope. Or, email your completed survey to ratesurvey@masa-ps.com. The survey is also available to fill out online: https://www.surveymonkey.com/r/2019_Sewer_User_Charge.

Contact Information
Name/Title
Utility Name
City
Phone
Email

I. General Sewer System Information
- Type of Sewer System: City, Sanitary District, Village, Other (please specify)
- Current population (number of people, not number of households) served by wastewater treatment facility:
- Does your community own and operate a wastewater treatment facility?
  Yes [ ] No [X] If so, is it located under a NPDES permit?
- Type of sludge/liquid collected:
  Yes or No [ ] If yes, which type of sludge/liquid is collected?
- Does your community own and operate a sludge processing facility?
  Yes [ ] No [X] If yes, what type of sludge processing facility?
- Do you transport sludge to another facility for processing?
  Yes [ ] No [X]

II. Treatment Facility Information (Check all that apply)
- Lagoon System
  - Aeration Lagoon
  - Stabilization Pond
  - Not applicable
- Activated Sludge System
  - Conventional Activated Sludge
  - Membrane Bioreactor
  - Other (please specify)
- Fixed Film System
  - Trickling Filter/Bio-Tower
  - Contact Clarifier
  - Not applicable
- Tertiary Filtration System
  - Deep Bed Sand Filter
  - Reverse Osmosis
  - Not applicable
  Other (please specify):

III. Biosolids (Sludge) Processing
- Do you process Biosolids (Sludge)?
  Yes [X] No [ ] If No, which type of sludge processing facility?
- Do you transport sludge to another facility for processing?
  Yes [ ] No [X]
- Do you dewater sludge?
  Yes [ ] No [X]
- Do you stabilize sludge?
  Yes [ ] No [X]
- Do you dry sludge?
  Yes [ ] No [X]

IV. Discharge Type
- What is your discharge method?
  Surface water (rivers, lakes, wetlands, etc.)
  Land application (spray irrigation, etc.)
- Design Flow (MGD): Use MGD format.
  0,000 MGD (0,000 cfs)
- Current Average Daily Flow (MGD):
  0,000 MGD (0,000 cfs)

V. Rate Information
- What is your billing frequency?
  Monthly (12 month) [X] Bimonthly (6 month) [ ] Quarterly (4 month) [ ] Annually (1 year) [ ]
- What are your Residential Fixed Fee sewer rates in dollars as of January 1, 2019 per month?
  $ [ ]
- What is the Residential Volume Fee if any?
  $ [ ]
- What are your Residential Volume Charge sewer rates in dollars as of January 1, 2019 per month?
  $ [ ]
- Effective date of last rate increase (mm/dd/yyyy):
  [ ]
- Do you anticipate a rate increase in 2019?
  Yes [ ] No [X] Percentage increase (approximate):
  [ ]
- Which residential sewer connection fee do you charge if any???
  $ [ ]
- Residential Hook-up Fee
  $ [ ]
- Non-Residential Hook-up Fee
  $ [ ]
- Effective date of last rate increase (mm/dd/yyyy):
  [ ]

VI. Hauled Waste
- Do you accept hauled waste?
  Yes [X] No [ ] If No, skip to section VII
- Do you accept holding tank waste?
  Yes [ ] No [X]
- Do you accept waste from septic tanks?
  Yes [ ] No [X]

VII. High Strength Waste Charges
- Do you assess a surcharge for High strength or Industrial wastes?
  Yes [X] No [ ] If Yes, skip to section VIII
- What is the High strength or Industrial wastes surcharge rate per unit of waste?
  $ [ ]
- Which of the following high strength wastes are you surcharging? Check all that apply:
  [ ]
- Does your community own and operate a wastewater treatment facility?
  Yes [X] No [ ]

VIII. Budget Information
- What is your projected sewer utility budget for 2019 (or actual expenditures for 2018)? Include capital maintenance, replacement, and debt:
  $ [ ]
- Are there any General Fund Revenues derived from property taxes allocated to the sewer utility?
  Yes [X] No [ ]
- Dollars: [ ]
- Average daily flow (GPD):
  [ ]
- Effective date of last rate increase (mm/dd/yyyy):
  [ ]

IX. Collection System
- What is the approximate length of your collection system in miles (if known)?
  [ ]
- What is the approximate age in years of your oldest sewer?
  [ ]

Comments
Thank you for filling out the 2019 Sewer User Charge Survey. Share any additional comments you have here:

Return survey by January 31, 2019. Need clarification on a question?
Contact us: ratesurvey@msas-ps.com
WWW.MSA-PS.COM | 800.342.4505
Breakdown of Respondents by Population

- 1-500: 21%
- 501-1,000: 18%
- 1,001-2,000: 20%
- 5,001-10,000: 12%
- 10,001-50,000: 11%
- 50,001+: 1%

326 Respondents
Historical Responses (1996 – 2019)
Distribution of Treatment Type

- [CATEGORY NAME] 22%
- [CATEGORY NAME] 13%
- [CATEGORY NAME] 14%
- [CATEGORY NAME] 9%
- [CATEGORY NAME] 0.8%
- Package Plant 4%
- SBR 2%
- [CATEGORY NAME] 0.3%
- [CATEGORY NAME] 3%
- [CATEGORY NAME] 24%
- [CATEGORY NAME] 4%
- [CATEGORY NAME] 4%
- [CATEGORY NAME] 4%

Annual Cost by Type of Treatment

- Aerated Lagoon
- Stab Lagoon
- CAS
- Ox. Ditch
- Package Plant
- SBR
- MBR
- TF
- RBC
- MBBR
- RSF

### Average Annual Cost

- **Lagoon**
- **A/S**
- **Fixed Film**
Annual Sewer Rates (Actual Water Usage)
Variation of Sewer Charges (Actual)

<table>
<thead>
<tr>
<th>Population Range</th>
<th>Cost in Dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-500</td>
<td>$0</td>
</tr>
<tr>
<td>501-1,000</td>
<td>$200</td>
</tr>
<tr>
<td>1,001-2,000</td>
<td>$400</td>
</tr>
<tr>
<td>2,001-5,000</td>
<td>$600</td>
</tr>
<tr>
<td>5,001-10,000</td>
<td>$800</td>
</tr>
<tr>
<td>10,001-50,000</td>
<td>$1,000</td>
</tr>
<tr>
<td>50,001+</td>
<td>$1,200</td>
</tr>
<tr>
<td></td>
<td>$1,400</td>
</tr>
</tbody>
</table>
Residential Water Use by Population

Usage in Gallons per Year

Population vs. Average Water Use

- Avg Water Use by Population
- Statewide Average
- 55,000 Gallons for Rate Comparison

55,000 Gallons for Rate Comparison
# Historic Sewer Charges (55 kgal/d)

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
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<tbody>
<tr>
<td>1-500 kgal/d</td>
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<td></td>
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<td></td>
<td></td>
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<tr>
<td>501-1,000 kgal/d</td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>1,001-2,000 kgal/d</td>
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<td></td>
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<td></td>
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<td>2,001-5,000 kgal/d</td>
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<td></td>
<td></td>
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<tr>
<td>5,001-10,000 kgal/d</td>
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<tr>
<td>10,001-50,000 kgal/d</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50,001+ kgal/d</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Statewide Average</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>Average Annual Cost</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996</td>
<td></td>
<td>1-500 kgal/d</td>
</tr>
<tr>
<td>1998</td>
<td></td>
<td>501-1,000 kgal/d</td>
</tr>
<tr>
<td>2001</td>
<td></td>
<td>1,001-2,000 kgal/d</td>
</tr>
<tr>
<td>2004</td>
<td></td>
<td>2,001-5,000 kgal/d</td>
</tr>
<tr>
<td>2007</td>
<td></td>
<td>5,001-10,000 kgal/d</td>
</tr>
<tr>
<td>2010</td>
<td></td>
<td>10,001-50,000 kgal/d</td>
</tr>
<tr>
<td>2013</td>
<td></td>
<td>50,001+ kgal/d</td>
</tr>
<tr>
<td>2016</td>
<td></td>
<td>Statewide Average</td>
</tr>
<tr>
<td>2019</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Sewer Cost Increases (Since 1996)

Cost Increase in Dollars

Population

1,500: $0
501-1,000: $50
1,001-2,000: $100
2,001-5,000: $150
5,001-10,000: $200
10,001-50,000: $250
50,001+: $300
Statewide: $350

Cost Increase:
- 1,500: 5.1%
- 501-1,000: 4.8%
- 1,001-2,000: 5.1%
- 2,001-5,000: 5.0%
- 5,001-10,000: 4.1%
- 10,001-50,000: 4.1%
- 50,001+: 5.2%
- Statewide: 4.7%
Historic Water Use by Population
2016 Water and Sewer Rates by Population

<table>
<thead>
<tr>
<th>Population Range</th>
<th>Water Cost</th>
<th>Sewer Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-500</td>
<td>$350</td>
<td>$400</td>
</tr>
<tr>
<td>501-1,000</td>
<td>$375</td>
<td>$425</td>
</tr>
<tr>
<td>1,001-2,000</td>
<td>$400</td>
<td>$450</td>
</tr>
<tr>
<td>2,001-5,000</td>
<td>$425</td>
<td>$475</td>
</tr>
<tr>
<td>5,001-10,000</td>
<td>$450</td>
<td>$475</td>
</tr>
<tr>
<td>10,001-50,000</td>
<td>$475</td>
<td>$500</td>
</tr>
<tr>
<td>50,001+</td>
<td>$500</td>
<td>$525</td>
</tr>
<tr>
<td>Statewide Average</td>
<td>$475</td>
<td>$500</td>
</tr>
</tbody>
</table>
Annual Charge Compared to Billing Frequency

- Annually: $350
- Quarterly: $250
- Bi-Monthly: $200
- Monthly: $200
OTHER REVENUE SOURCES
Percent of Communities using Property Tax to Generate Sewer Revenue

<table>
<thead>
<tr>
<th>Population Range</th>
<th>2001</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-500</td>
<td>18%</td>
<td>12%</td>
</tr>
<tr>
<td>501-1,000</td>
<td>10%</td>
<td>6%</td>
</tr>
<tr>
<td>1,001-2,000</td>
<td>8%</td>
<td>4%</td>
</tr>
<tr>
<td>2,001-5,000</td>
<td>6%</td>
<td>2%</td>
</tr>
<tr>
<td>5,001-10,000</td>
<td>4%</td>
<td>2%</td>
</tr>
<tr>
<td>10,001-50,000</td>
<td>2%</td>
<td>1%</td>
</tr>
<tr>
<td>50,000+</td>
<td>2%</td>
<td>1%</td>
</tr>
<tr>
<td>Statewide Average</td>
<td>8%</td>
<td>4%</td>
</tr>
</tbody>
</table>
Revenue Source - Impact and Connection Fees

![Bar chart showing the distribution of revenue from impact and connection fees across different population sizes. The chart includes categories for population sizes ranging from 1-500 to 50,001+ and a statewide average. The chart visually represents the percentage of revenue from connection fees and impact fees for each population category.]
## Historic Connection Fee Charges

<table>
<thead>
<tr>
<th>Year</th>
<th>Hook-up Fee</th>
<th>Impact Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>$939</td>
<td>$500</td>
</tr>
<tr>
<td>2004</td>
<td>$941</td>
<td>$1,000</td>
</tr>
<tr>
<td>2007</td>
<td>$1,473</td>
<td>$1,500</td>
</tr>
<tr>
<td>2010</td>
<td>$1,573</td>
<td>$1,500</td>
</tr>
<tr>
<td>2013</td>
<td>$1,722</td>
<td>$2,000</td>
</tr>
<tr>
<td>2016</td>
<td>$1,625</td>
<td>$1,500</td>
</tr>
<tr>
<td>2019</td>
<td>$2,017</td>
<td>$1,518</td>
</tr>
<tr>
<td>2021</td>
<td>$2,091</td>
<td>$1,797</td>
</tr>
<tr>
<td>2022</td>
<td>$2,091</td>
<td>$1,839</td>
</tr>
<tr>
<td>2023</td>
<td>$2,091</td>
<td>$1,758</td>
</tr>
</tbody>
</table>

The graph above shows the cost in dollars for hook-up and impact fees from 2001 to 2023, with different colors representing each year.
Revenue Source - Hauled Wastes

Population

- Holding Tank
- Septage

Statewide Average
Hauled Waste Charges (per 1,000 gallons)

<table>
<thead>
<tr>
<th>Population</th>
<th>Cost in Dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-500</td>
<td>$160</td>
</tr>
<tr>
<td>501-1,000</td>
<td>$140</td>
</tr>
<tr>
<td>1,001-2,000</td>
<td>$120</td>
</tr>
<tr>
<td>2,001-5,000</td>
<td>$100</td>
</tr>
<tr>
<td>5,001-10,000</td>
<td>$80</td>
</tr>
<tr>
<td>10,001-50,000</td>
<td>$60</td>
</tr>
<tr>
<td>50,001+</td>
<td>$40</td>
</tr>
<tr>
<td>Statewide Average</td>
<td>$20</td>
</tr>
</tbody>
</table>

- **Holding Tank**
- **Septage**
Revenue Source - High Strength Surcharges

The chart illustrates the distribution of revenue from high strength surcharges across different population brackets. The percentages are broken down by water quality parameters: BOD, TSS, Nitrogen, and Phosphorus. Each bar represents the average contribution of each parameter to revenue in each population category.
High Strength Surcharges

- BOD
- TSS
- Nitrogen
- Phosphorus

Cost per Pound:
- 1-500: $0.93
- 501-1,000: $0.87
- 1,001-2,000: $0.96
- 2,001-5,000: $0.86
- 5,001-10,000: $0.60
- 10,001-50,000: $0.58
- 50,001+: $0.25
- Statewide Average: $7.76
Phosphorus Surcharges

Cost per Pound

- 2007
- 2010
- 2013
- 2016
- 2019

1-500  501-1,000  1,001-2,000  2,001-5,000  5,001-10,000  10,001-50,000  50,001+  Statewide Average
AFFORDABILITY
Sewer Cost as a Percent of MHI

![Bar chart showing sewer cost as a percent of MHI across different population ranges and years.]
Range of Sewer Cost Percent of MHI

![Graph showing the range of sewer cost as a percent of MHI across different population sizes. The x-axis represents population sizes ranging from 1-500 to 5001+. The y-axis represents the percent of MHI, ranging from 0% to 2.5%. The graph includes a median line and data points for each population size.]
FUNDING AVAILABILITY
Available Funding – USDA RD

Grant Dollars, Millions

Year
Available Funding – WDNR CWF

*Prior to 2010 Principle Forgiveness Grants were not available
HOW MUCH DO WE VALUE CLEAN WATER?
Do We Value Water?

VOTERS VALUE WATER MORE THAN ANY OTHER SERVICE; BUSINESSES* RANK IT SECOND

<table>
<thead>
<tr>
<th>Service</th>
<th>Voters</th>
<th>Businesses*</th>
</tr>
</thead>
<tbody>
<tr>
<td>WATER</td>
<td>95%</td>
<td>93%</td>
</tr>
<tr>
<td>ELECTRICITY</td>
<td>66%</td>
<td>52%</td>
</tr>
<tr>
<td>HEAT</td>
<td>52%</td>
<td>47%</td>
</tr>
<tr>
<td>INTERNET</td>
<td>34%</td>
<td>50%</td>
</tr>
<tr>
<td>CELL PHONE</td>
<td>33%</td>
<td></td>
</tr>
<tr>
<td>LAND LINE TELEPHONE</td>
<td>29%</td>
<td></td>
</tr>
<tr>
<td>CABLE TELEVISION</td>
<td>13%</td>
<td></td>
</tr>
<tr>
<td>COOLING SYSTEMS</td>
<td>N/A</td>
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</tr>
</tbody>
</table>

*INDUSTRIAL AND AGRICULTURAL BUSINESSES ONLY
Clean Water is a Bargain

Cost in Dollars

<table>
<thead>
<tr>
<th>Service</th>
<th>Cost in Dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobile Telephone</td>
<td>$119</td>
</tr>
<tr>
<td>Gasoline</td>
<td>$109</td>
</tr>
<tr>
<td>Electric Power</td>
<td>$91</td>
</tr>
<tr>
<td>Satellite TV</td>
<td>$75</td>
</tr>
<tr>
<td>Natural Gas</td>
<td>$68</td>
</tr>
<tr>
<td>Landline Phone</td>
<td>$50</td>
</tr>
<tr>
<td>Internet</td>
<td>$48</td>
</tr>
<tr>
<td>Cable TV</td>
<td>$44</td>
</tr>
<tr>
<td>Sewer</td>
<td>$35</td>
</tr>
<tr>
<td>Water</td>
<td>$20</td>
</tr>
</tbody>
</table>
Building Public Support

• **How much would you pay:**
  • To have safe, clean water delivered to your house in virtually unlimited quantities?
    • *Average User says only $0.66 per day*
  • To have all of the waste produced by your family whisked away for safe treatment and disposal?
    • *Average User says only $1.16 per day*

• **Total of $1.82 per day. That is a deal!**
Why So Cheap?

- We are used to it
- Water is plentiful in Upper Midwest
- Most current infrastructure was installed with significant grant funding
- Secondary treatment requirements relatively new

Why shouldn’t it remain cheap?
Age of Treatment Plants

![Bar chart showing age distribution by population and year.](chart.png)
Age of Collection Systems

Nominal Life = 50 Years
SUMMARY
Summary

• We are not charging the true cost of water

• Public education and outreach will provide the basis for a sustainable utility

• Use this information to inform your residents and other municipal officials

• Start Planning Rate Increases Now! Don’t wait for a big project to come along
Uses of Information

- Inform public
- Inform Boards & Councils
- Compare to neighbors
- Compare to other utilities – phone, internet, etc.
- Implement regular, scheduled rate increases
Where to get the 2019 Survey Report

• Survey Respondents – Free Download

• If you did not respond, PDF can be purchased for $25

• Hardcopies available for $50
Thank You!

- Survey Respondents
- Allie LoBue
- WDNR Environmental Loans Division
- Wisconsin Public Service Commission
- USDA Rural Development
- Wisconsin Community Development Block Grant Program
Questions

Tom Fitzwilliams
tfitzwilliams@msa-ps.com
608-355-8864

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