

## Water Conservation Report Summaries for Public Water Suppliers

### North and East Metro Groundwater Management Area

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Additional Details at [DNR Water Conservation Reporting System webpage](#)

# Bayport, City Of Summary of Water Conservation Report

2022 Report based on 2021 Water Use

## Water Conservation Goals

Unaccounted Water Loss.....	9.4 percent
Residential gallons per capita per day .....	97
Non-residential: Annual percent Reduction .....	-3.67
Trend in total per capita demand .....	-0.95
Total Peaking Factor .....	2.59

## Water Accounting

Total water to Treatment.....	133,033,000 gallons
Total water to Distribution .....	133,033,000 gallons
Number of Residential connections.....	1,047
Number of Non-Residential connections.....	82
Residential versus Non-Residential Use.....	97.0 million gallons versus 23.6 million gallons
Date of Highest Use .....	6/9/2021

## Water Conservation - Direct

Water Supply System Infrastructure Efficiency (leaks, meters, etc.)

- System leak fixing (before the meter): 100,000 gallons -- \$10,000
- Meter Repair/Replace: 500,000 gallons -- \$5,000
- Hydrant repair: 100,000 gallons -- \$50,000
- Add non-irrigation meters: 30,000 gallons -- \$2,000

Date of last Audit/Percent done: No data reported

Direct Conservation Single Family (SF) and Multi-Family (MF) and Commercial, Industrial, Institutional (CII) Efforts: None listed

Reuse or other Customer conservation projects: None listed

## Water Conservation Indirect

Ordinances

- Critical/Emergency Water Deficiency Ordinance
- Irrigation restrictions regulations
- Soil preparation requirements (Inches of topsoil)
- Allow native plants and low water use turf/plants
- Wellhead protection ordinance and zoning

Education and Outreach

- Billing inserts or tips printed on the actual bill – 4
- Consumer Confidence Reports – 1
- Social media distribution – 1
- Staff training -- 2
- Community newsletters – 4
- Demonstration projects (landscaping or plumbing) – 1
- Website – 1

- Targeted efforts (large volume users, users with large increases) – 100

Collaboration

- Collaborated with watershed group(s)
- Collaborated with MDH on wellhead protection project

Rate structure

- Increasing Block

# Blaine, City of Summary of Water Conservation Report

2022 Report based on 2021 Water Use

## Water Conservation Goals

Unaccounted Water Loss ..... No data reported  
Residential gallons per capita per day ..... No data reported  
Non-residential: Annual percent Reduction ..... No data reported  
Trend in total per capita demand ..... No data reported  
Total Peaking Factor ..... No data reported

## Water Accounting

Total water to Treatment ..... 2,723,781,384 gallons  
Total water to Distribution ..... No data reported  
Number of Residential connections ..... No data reported  
Number of Non-Residential connections ..... No data reported  
Residential vs. Non-Residential Use ..... No data reported  
Date of Highest Use ..... No data reported

## Water Conservation - Direct

Water Supply System Infrastructure Efficiency (leaks, meters, etc.): None listed  
Date of last Audit/Percent done: No data reported  
Direct Conservation Single Family (SF) and Multi-Family (MF) and Commercial, Industrial, Institutional (CII) Efforts: None listed  
Reuse or other Customer conservation projects: None listed

## Water Conservation Indirect

Ordinances: None listed

Education and Outreach: None listed

Collaboration: None listed

Rate structure: None listed

# Centerville, City of Summary of Water Conservation Report

2022 Report based on 2021 Water Use

## Water Conservation Goals

Unaccounted Water Loss.....	0 percent
Residential gallons per capita per day .....	75
Nonresidential: Annual percent Reduction.....	-76.23 percent
Trend in total per capita demand .....	-23.2
Total Peaking Factor .....	2.86

## Water Accounting

Total water to Treatment .....	120,649,000 gallons
Total water to Distribution .....	120,649,000 gallons
Number of Residential connections.....	1,359
Number of Non-Residential connections.....	62
Residential versus Non-Residential Use.....	108.2 million gallons versus 12.4 million gallons
Date of Highest Use .....	6/15/2021

## Water Conservation - Direct

Water Supply System Infrastructure Efficiency (leaks, meters, etc.): None listed  
Date of last Audit/Percent done: No data reported  
Direct Conservation Single Family (SF) and Multi-Family (MF) and Commercial, Industrial, Institutional (CII) Efforts: None listed  
Reuse or other Customer conservation projects: None listed

## Water Conservation Indirect

### Ordinances

- Irrigation restrictions regulations
- Wellhead protection ordinance and zoning

### Education and Outreach

- Consumer Confidence Reports -- 1
- Social media distribution (e.g., emails, Facebook, Twitter) -- 1
- Staff training -- 1
- Community newsletters -- 1
- Water week promotions -- 1
- Website -- 1

### Collaboration

- Collaborated with watershed group(s)
- Collaborated with neighboring communities to manage timing/amount of water withdrawal of shared water resource
- Collaborated with MDH on wellhead protection project
- Collaborated with MDA on improving water quality and agricultural concerns
- Collaborated with DNR on improving on decreasing our permit allotment or enhancing conservation measures

Rate structure

- Increasing Block

# Circle Pines, City of Summary of Water Conservation Report

2022 Report based on 2021 Water Use

## Water Conservation Goals

Unaccounted Water Loss.....	13.6 percent
Residential gallons per capita per day .....	63.8
Non-residential: Annual percent Reduction .....	-46.07
Trend in total per capita demand .....	-10.65
Total Peaking Factor .....	2.58

## Water Accounting

Total water to Treatment .....	159,622,000 gallons
Total water to Distribution .....	159,622,000 gallons
Number of Residential connections.....	No data reported
Number of Non-Residential connections.....	No data reported
Residential versus Non-Residential Use.....	117 million gallons versus 20.9 million gallons
Date of Highest Use .....	6/15/2021

## Water Conservation - Direct

Water Supply System Infrastructure Efficiency (leaks, meters, etc.): None listed  
Date of last Audit/Percent done: No data reported  
Direct Conservation Single Family (SF) and Multi-Family (MF) and Commercial, Industrial, Institutional (CII) Efforts: None listed  
Reuse or other Customer conservation projects: None listed

## Water Conservation Indirect

### Ordinances

- Critical/Emergency Water Deficiency Ordinance
- Irrigation restrictions regulations
- Water consumption regulation
- Allow native plants and low water use turf/plants
- Track enforcement

### Education and Outreach

- Consumer Confidence Reports -- 1
- Community newsletters – 4
- Website – 1
- Targeted efforts (large volume users, users with large increases) – 1

### Collaboration

- Collaborated with watershed group(s)
- Collaborated with lake association(s)
- Collaborated with neighboring communities to manage timing/amount of water withdrawal of shared water resource
- Collaborated with MDH on wellhead protection project



Rate structure

- Flat
- Increasing Block

# Columbus, City Of Summary of Water Conservation Report

2022 Report based on 2021 Water Use

## Water Conservation Goals

Unaccounted Water Loss.....	10.2 percent
Residential gallons per capita per day .....	157
Non-residential: Annual Percent Reduction .....	-39.92
Trend in total per capita demand .....	-25.65
Total Peaking Factor .....	7.92

## Water Accounting

Total water to Treatment .....	19,883,500 gallons
Total water to Distribution .....	19,883,500 gallons
Number of Residential connections.....	33
Number of Non-Residential connections.....	12
Residential versus Non-Residential Use.....	2.6 million gallons versus 15.3 million gallons
Date of Highest Use .....	1/31/2021

## Water Conservation - Direct

Water Supply System Infrastructure Efficiency (leaks, meters, etc.):

- Hydrant repair: 2 gallons; \$17,000
- Add irrigation meters: 23 gallons; \$0
- Add non-irrigation meters: 45 gallons; \$0

Date of last Audit/Percent done: No data reported

Direct Conservation Single Family (SF) and Multi-Family (MF) and Commercial, Industrial, Institutional (CII) Efforts: None listed

Reuse or other Customer conservation projects: None listed

## Water Conservation Indirect

Ordinances: None listed

Education and Outreach: None listed

Collaboration: None listed

Rate structure: None listed

# Cottage Grove, City Of Summary of Water Conservation Report

2022 Report based on 2021 Water Use

## Water Conservation Goals

Unaccounted Water Loss.....	11 percent
Residential gallons per capita per day .....	80
Non-residential: Annual percent reduction .....	-82.2
Trend in total per capita demand .....	-1.54
Total Peaking Factor .....	2.64

## Water Accounting

Total water to Treatment .....	1,602,239,329 gallons
Total water to Distribution .....	1,602,239,329 gallons
Number of Residential connections.....	12,081
Number of Non-Residential connections.....	199
Residential versus Non-Residential Use.....	1,166.7 million gallons versus 258.8 million gallons
Date of Highest Use .....	6/16/2021

## Water Conservation - Direct

Water Supply System Infrastructure Efficiency (leaks, meters, etc.)

- System leak fixing (before the meter): 216,000 gallons -- \$6,912

Date of last Audit/Percent done: No data reported

Direct Conservation Single Family (SF) and Multi-Family (MF) and Commercial, Industrial, Institutional (CII) Efforts:

- SF LF Showerheads:
  - Quantity: 100
  - Gallons saved: 206,200
- SF ET Irrigation Controllers:
  - Quantity: 135
  - Gallons saved: 1,215,000

Reuse or other Customer conservation projects: None listed

## Water Conservation Indirect

Ordinances

- Critical/emergency water deficiency ordinance
- Irrigation restrictions regulations
- Allow native plants and low water use turf/plants

Education and Outreach

- Consumer Confidence Reports -- 1
- Social media distribution (e.g., emails, Facebook, Twitter) – 1
- Community newsletters – 1
- Direct mailings (water audit/retrofit kits, showerheads, brochures) – 1
- Website – 1

Collaboration: None listed  
Rate structure: Increasing Block

# Forest Lake, City Of Summary of Water Conservation Report

2022 Report based on 2021 Water Use

## Water Conservation Goals

Unaccounted Water Loss..... No data reported  
Residential gallons per capita per day ..... No data reported  
Non-residential: Annual Percent Reduction ..... No data reported  
Trend in total per capita demand ..... No data reported  
Total Peaking Factor ..... No data reported

## Water Accounting

Total water to Treatment ..... 443,772,000 gallons  
Total water to Distribution ..... 443,772,000 gallons  
Number of Residential connections..... No data reported  
Number of Non-Residential connections..... No data reported  
Residential versus Non-Residential Use..... No data reported  
Date of Highest Use ..... No data reported

## Water Conservation - Direct

Water Supply System Infrastructure Efficiency (leaks, meters, etc.): No data reported  
Date of last Audit/Percent done: No data reported  
Direct Conservation Single Family (SF) and Multi-Family (MF) and Commercial, Industrial, Institutional (CII) Efforts: No data reported  
Reuse or other Customer conservation projects: None listed

## Water Conservation Indirect

Ordinances: None listed  
Education and Outreach: None listed  
Collaboration: None listed  
Rate structure: None listed

# Fridley, City Of Summary of Water Conservation Report

2022 Report based on 2021 Water Use

## Water Conservation Goals

Unaccounted Water Loss.....	3.6 percent
Residential gallons per capita per day .....	69
Non-residential: Annual Percent Reduction .....	-0.97
Trend in total per capita demand .....	-14.6
Total Peaking Factor .....	2.1

## Water Accounting

Total water to Treatment .....	866,713,000 gallons
Total water to Distribution .....	1,276,737,000 gallons
Number of Residential connections.....	No data reported
Number of Non-Residential connections.....	No data reported
Residential versus Non-Residential Use.....	748.8 million gallons versus 482 million gallons
Date of Highest Use .....	6/11/2021

## Water Conservation - Direct

Water Supply System Infrastructure Efficiency (leaks, meters, etc.)

- System leak fixing (before the meter): 10,000,000 gallons -- \$0
- Hydrant repair: 5,000,000 gallons -- \$0

Date of last Audit/Percent done: No data reported

Direct Conservation Single Family (SF) and Multi-Family (MF) and Commercial, Industrial, Institutional (CII) Efforts:

- SF Toilet Retrofits:
  - Quantity: 8
  - Gallons saved: 48,000
- SF Clothes Washer Rebates:
  - Quantity: 27
  - Gallons saved: 135,000
- SF Rain Barrels:
  - Quantity: 4
  - Gallons saved: 5,200
- SF ET Irrigation Controllers:
  - Quantity: 7
  - Gallons saved: 63,000

Reuse or other Customer conservation projects: None listed

## Water Conservation Indirect

Ordinances:

- Critical/Emergency Water Deficiency Ordinance
- Irrigation restrictions regulations
- Tree ratio requirement

- Allow native plants and low water use turf/plants
- Wellhead protection ordinance and zoning
- Ordinances that permit stormwater irrigation or reuse
- Track enforcement

Education and Outreach:

- Consumer Confidence Reports -- 1
- Social media distribution (e.g., emails, Facebook, Twitter) -- 12
- Presentations to community groups – 2
- Facility tour – 1
- Displays and exhibits -- 1
- Marketing rebate programs (e.g., indoor fixtures & appliances and outdoor practices) -- 1
- Community news letters -- 3
- Information kiosk at utility and public buildings -- 1
- Cable TV Programs – 2
- Community events (children’s water festivals, environmental fairs) – 1
- Website -- 3
- Targeted efforts (large volume users, users with large increases) -- 1

Collaboration:

- Collaborated with watershed group(s)
- Collaborated with other high volume water users (commercial, industrial, institutional or agricultural)
- Collaborated with SWCD or NRCS on land/water management practices
- Collaborated with MDH on wellhead protection project

Rate structure: Increasing block

# Hugo, City Of Summary of Water Conservation Report

2022 Report based on 2021 Water Use

## Water Conservation Goals

Unaccounted Water Loss.....	4.4 percent
Residential gallons per capita per day .....	64
Non-residential: Annual Percent Reduction .....	-27.72
Trend in total per capita demand .....	-1.82
Total Peaking Factor .....	3.07

## Water Accounting

Total water to Treatment .....	447,310,000 gallons
Total water to Distribution .....	447,310,000 gallons
Number of Residential connections.....	3,836
Number of Non-Residential connections.....	110
Residential versus Non-Residential Use.....	333 million gallons versus 94.9 million gallons
Date of Highest Use .....	8/20/2021

## Water Conservation - Direct

Water Supply System Infrastructure Efficiency (leaks, meters, etc.): None listed

Date of last Audit/Percent done: No data reported

Direct Conservation Single Family (SF) and Multi-Family (MF) and Commercial, Industrial, Institutional (CII) Efforts:

- SF ET Irrigation Controllers:
  - Quantity: 93
  - Gallons saved: 837,000

Reuse or other Customer conservation projects:

- Adelaide Park and Soccer Fields: 1,186,102 gallons saved; \$550
- Waters Edge Reuse: 6,920,000 gallons saved; \$3,210
- Beaver Ponds Park and Soccer Fields: 266,000 gallons saved; \$850
- Waters Edge Phase 2: 10,367,000 gallons saved; \$4,747
- Oneka Place (Private): 3,729,078 gallons saved; \$0
- Clearwater Cove (Private): 3,566,000 gallons saved; \$0
- Oneka Ridge Golf Course: 1,037,000 gallons saved; \$0
- Adelaide Landing (Private): 22,835,898 gallons saved; \$0

## Water Conservation Indirect

Ordinances

- Irrigation restrictions regulations
- Water consumption regulation for toilets
- Water consumption regulation for showerheads
- Water consumption regulation for urinals
- Water consumption regulation for clothes washers
- Water consumption regulation for dishwashers



- Soil preparation requirements (inches of topsoil)
- Tree ratio requirement
- Wellhead protection ordinance and zoning

#### Education and Outreach

- Billing inserts or tips printed on the actual bill – 2
- Consumer Confidence Reports -- 1
- Social media distribution (e.g., emails, Facebook, Twitter) -- 4
- Presentations to community groups – 3
- Facility tours – 1
- Community newsletters -- 2
- Direct mailings (water audit/retrofit kits, showerheads, brochures) -- 1
- Information kiosk at utility and public buildings -- 1
- Website -- 1
- Targeted efforts (large volume users, users with large increases) -- 1

#### Collaboration

- Collaborated with watershed group(s)
- Collaborated with lake association(s)
- Collaborated with neighboring communities to manage timing/amount of water withdrawal of shared water resource
- Collaborated with other high volume water users (commercial, industrial, institutional or agricultural)
- Collaborated with SWCD or NRCS on land/water management practices
- Collaborated with MDH on wellhead protection project
- Collaborated with MDA on improving water quality and agricultural concerns
- Collaborated with DNR on improving on decreasing our permit allotment or enhancing conservation measures
- Collaborated with community Homeowners' Associations to implement water reuse systems.

#### Rate structure

- Increasing Block

# Lake Elmo, City Of Summary of Water Conservation Report

2022 Report based on 2021 Water Use

## Water Conservation Goals

Unaccounted Water Loss.....	7.5 percent
Residential gallons per capita per day .....	104
Nonresidential: Annual Percent Reduction.....	-94.75
Trend in total per capita demand .....	-83.55
Total Peaking Factor .....	2.99

## Water Accounting

Total water to Treatment .....	395,261,000 gallons
Total water to Distribution .....	395,261,000 gallons
Number of Residential connections.....	2,870
Number of Non-Residential connections.....	149
Residential versus Non-Residential Use.....	308.6 million gallons versus 57.0 million gallons
Date of Highest Use .....	6/11/2021

## Water Conservation - Direct

Water Supply System Infrastructure Efficiency (leaks, meters, etc.)

- System leak fixing (before the meter): 385,379 gallons -- \$42,000
- Meter Repair/Replace: zero gallons -- \$51,500
- Hydrant repair: 354,240 gallons -- \$12,000
- Add irrigation meters: zero gallons -- \$8,000
- Pressure control: zero gallons -- \$125,180

Date of last Audit/Percent done: No data reported

Direct Conservation Single Family (SF) and Multi-Family (MF) and Commercial, Industrial, Institutional (CII) Efforts:

- SF Toilet Retrofits:
  - Quantity: 17
  - Gallons saved: 102,000
- SF ET Irrigation Controllers:
  - Quantity: 42
  - Gallons saved: 378,000

Reuse or other Customer conservation projects:

- Inwood HOA irrigation: 750,000 gallons -- \$2,752

## Water Conservation Indirect

Ordinances

- Critical/Emergency Water Deficiency Ordinance
- Irrigation restrictions regulations
- Water consumption regulation for toilets
- Water consumption regulation for showerheads
- Water consumption regulation for urinals

- Soil preparation requirements (inches of topsoil)
- Tree ratio requirement
- Allow native plants and low water use turf/plants
- Mandatory “green” building or plumbing codes
- Wellhead protection ordinance and zoning
- Non-Zoning Wetlands Ordinance (beyond state/federal laws)
- Track enforcement

#### Education and Outreach

- Consumer Confidence Reports – 1
- Press releases to traditional local news outlets -- 2
- Social media distribution (e.g., emails, Facebook, Twitter) -- 77
- Staff training -- 8
- Marketing rebate programs (e.g., indoor fixtures & appliances and outdoor practices) -- 2
- Community news letters -- 4
- Direct mailings (water audit/retrofit kits, showerheads, brochures) -- 2
- Information kiosk at utility and public buildings -- 1
- Public service announcements – 2\
- Community events -- 1
- Website – 4
- Targeted efforts -- 2
- Notices of ordinances – 1
- Emergency conservation notices -- 4

#### Collaboration

- Collaborated with watershed group(s)
- Collaborated with MDH on wellhead protection project
- Collaborated with DNR on improving on decreasing our permit allotment or enhancing conservation measures

#### Rate structure

- Base Rate Zero Gallons
- Increasing Block

# Lakeland, City of Summary of Water Conservation Report

2022 Report based on 2021 Water Use

## Water Conservation Goals

Unaccounted Water Loss..... No data reported  
Residential gallons per capita per day ..... No data reported  
Non-residential: Annual percent Reduction ..... No data reported  
Trend in total per capita demand ..... No data reported  
Total Peaking Factor ..... No data reported

## Water Accounting

Total water to Treatment ..... 82,147,000 gallons  
Total water to Distribution ..... 82,147,000 gallons  
Number of Residential connections..... No data reported  
Number of Non-Residential connections..... No data reported  
Residential versus Non-Residential Use..... No data reported  
Date of Highest Use ..... No data reported

## Water Conservation - Direct

Water Supply System Infrastructure Efficiency (leaks, meters, etc.): No data reported  
Date of last Audit/Percent done: No data reported  
Direct Conservation Single Family (SF) and Multi-Family (MF) and Commercial, Industrial, Institutional (CII) Efforts: None listed  
Reuse or other Customer conservation projects: None listed

## Water Conservation Indirect

Ordinances: None listed

Education and Outreach: None listed

Collaboration: None listed

Rate structure: None listed

# Lexington, City Of Summary of Water Conservation Report

2022 Report based on 2021 Water Use

## Water Conservation Goals

Unaccounted Water Loss.....	- 7.7 percent
Residential gallons per capita per day .....	58
Non-residential: Annual percent Reduction .....	-15.16
Trend in total per capita demand .....	-7.92
Total Peaking Factor .....	1.26

## Water Accounting

Total water to Treatment .....	52,307,488 gallons
Total water to Distribution .....	52,307,488 gallons
Number of Residential connections.....	574
Number of Non-Residential connections.....	60
Residential versus Non-Residential Use.....	47.1 million gallons versus 9.2 million gallons
Date of Highest Use .....	8/1/2021

## Water Conservation - Direct

Water Supply System Infrastructure Efficiency (leaks, meters, etc.): None listed  
Date of last Audit/Percent done: No data reported  
Direct Conservation Single Family (SF) and Multi-Family (MF) and Commercial, Industrial, Institutional (CII) Efforts: None listed  
Reuse or other Customer conservation projects: None listed

## Water Conservation Indirect

Ordinances:

- Private well ordinance
- Irrigation restriction regulations
- Wellhead protection ordinance and zoning

Education and Outreach

- Billing inserts or tips printed on the actual bill -- 4
- Consumer Confidence Reports -- 1

Collaboration: None listed

Rate structure

- Increasing Block

# Lino Lakes, City Of Summary of Water Conservation Report

2022 Report based on 2021 Water Use

## Water Conservation Goals

Unaccounted Water Loss.....	3.3 percent
Residential gallons per capita per day .....	91
Non-residential: Annual Percent Reduction .....	28.71
Trend in total per capita demand .....	-31.07
Total Peaking Factor .....	2.17

## Water Accounting

Total water to Treatment .....	659,882,000 gallons
Total water to Distribution .....	659,882,000 gallons
Number of Residential connections.....	5,202
Number of Non-Residential connections.....	122
Residential versus Non-Residential Use.....	562 million gallons versus 76 million gallons
Date of Highest Use .....	6/18/2021

## Water Conservation - Direct

Water Supply System Infrastructure Efficiency (leaks, meters, etc.): None listed

Date of last Audit/Percent done: No data reported

Direct Conservation Single Family (SF) and Multi-Family (MF) and Commercial, Industrial, Institutional (CII) Efforts:

- SF ET Irrigation Controllers:
  - Quantity: 100
  - Gallons saved: 900,000

Reuse or other customer conservation projects: None listed

## Water Conservation Indirect

Ordinances

- Critical/Emergency Water Deficiency Ordinance
- Irrigation restrictions regulations
- Soil preparation requirements (inches of topsoil)
- Tree ratio requirement
- Wellhead protection ordinance and zoning
- Track enforcement

Education and Outreach

- Consumer Confidence Reports – 1
- Press releases to traditional local news outlets (e.g., newspapers, radio and TV) -- 1
- Social media distribution -- 1
- Staff training -- 4
- Community newsletters -- 4
- Information kiosk at utility and public buildings – 1
- Public service announcements -- 1

- Website – 1
- Notices of ordinances - 1

#### Collaboration

- Collaborated with watershed group(s)
- Collaborated with MDH on wellhead protection project

#### Rate structure

- Increasing Block

# Mahtomedi, City of Summary of Water Conservation Report

2022 Report based on 2021 Water Use

## Water Conservation Goals

Unaccounted Water Loss..... No data reported  
Residential gallons per capita per day ..... No data reported  
Non-residential: Annual Percent Reduction ..... No data reported  
Trend in total per capita demand ..... No data reported  
Total Peaking Factor ..... 2.93

## Water Accounting

Total water to Treatment ..... 258,598,000 gallons  
Total water to Distribution ..... 258,598,000 gallons  
Number of Residential connections..... No data reported  
Number of Non-residential connections..... 48  
Residential versus Non-Residential Use..... No data reported  
Date of Highest Use ..... 6/15/2021

## Water Conservation - Direct

Water Supply System Infrastructure Efficiency (leaks, meters, etc.): None listed  
Date of last Audit/Percent done: No data reported  
Direct Conservation Single Family (SF) and Multi-Family (MF) and Commercial, Industrial, Institutional (CII) Efforts: None listed  
Reuse or other Customer conservation projects: None listed

## Water Conservation Indirect

Ordinances: None listed  
Education and Outreach: None listed  
Collaboration: None listed  
Rate structure: None listed



# Marine on St. Croix, City of Summary of Water Conservation Report

2022 Report based on 2021 Water Use

## Water Conservation Goals

Unaccounted Water Loss..... No data reported  
Residential gallons per capita per day ..... No data reported  
Non-residential: Annual percent Reduction ..... No data reported  
Trend in total per capita demand ..... No data reported  
Total Peaking Factor ..... No data reported

## Water Accounting

Total water to Treatment ..... 2,672,000 gallons  
Total water to Distribution ..... 2,672,000 gallons  
Number of Residential connections..... No data reported  
Number of Non-Residential connections..... No data reported  
Residential versus Non-Residential Use..... No data reported  
Date of Highest Use ..... No data reported

## Water Conservation - Direct

Water Supply System Infrastructure Efficiency (leaks, meters, etc.): No data reported  
Date of last Audit/Percent done: No data reported  
Direct Conservation Single Family (SF) and Multi-Family (MF) and Commercial, Industrial, Institutional (CII) Efforts: No data reported  
Reuse or other Customer conservation projects: No data reported

## Water Conservation Indirect

Ordinances: No data reported  
Education and Outreach: None No data reported  
Collaboration: No data reported  
Rate structure: No data reported

# Minneapolis, City Of Summary of Water Conservation Report

2022 Report based on 2021 Water Use

## Water Conservation Goals

Unaccounted Water Loss .....	13.6 percent
Residential gallons per capita per day .....	53
Annual Percent Reduction-Nonresidential .....	-4.44
Trend in total per capita demand .....	-2.94
Total Peaking Factor .....	2.36

## Water Accounting

Total water to Treatment .....	19,660,897,000 gallons
Total water to Distribution .....	13,790,143,378 gallons
Number of Residential connections .....	93,167
Number of Non-Res. connections .....	7,049
Residential versus Non-Residential Use .....	8,458.4 million gallons versus 3,461.3 million gallons
Date of Highest Use .....	6/18/2021

## Water Conservation - Direct

Water Supply System Infrastructure Efficiency (leaks, meters, etc.):

- Meter Repair/Replace: zero gallons -- \$850,446
- Hydrant repair: zero gallons -- \$1,279,973

Date of last Audit/Percent done: 12/31/2015; 87 percent completed

Direct Conservation Single Family (SF) and Multi-Family (MF) and Commercial, Industrial, Institutional (CII) Efforts: None listed

Reuse or other Customer conservation projects: None listed

## Water Conservation Indirect

Ordinances

- Critical/Emergency Water Deficiency Ordinance
- Private well ordinance (private wells in a city must comply with water restrictions)
- Soil preparation requirements (inches of topsoil)
- Allow native plants and low water use turf/plants
- Non-Zoning Wetlands Ordinance (beyond state/federal laws)
- Ordinances that permit stormwater irrigation or reuse

Education and Outreach

- Billing inserts or tips printed on the actual bill -- 12
- Consumer Confidence Reports – 1
- Press releases to traditional local news outlets -- 3
- Social media distribution (e.g., emails, Facebook, Twitter) – 4
- Website – 1
- Emergency conservation notices – 3
- Radio and TV interviews -- 4

Collaboration

- Collaborated with watershed group(s)
- Collaborated with lake association(s)
- Collaborated with neighboring communities to manage timing/amount of water withdrawal of shared water resource
- Communicated with DNR regarding drought actions

Rate structure

- Base Rate Zero Gallons
- Uniform

# Mounds View, City Of Summary of Water Conservation Report

2022 Report based on 2021 Water Use

## Water Conservation Goals

Unaccounted Water Loss.....	18.4 percent
Residential gallons per capita per day .....	64
Annual Percent Reduction-Nonresidential .....	13.43
Trend in total per capita demand .....	-1.8
Total Peaking Factor .....	2.19

## Water Accounting

Total water to Treatment .....	484,332,000 gallons
Total water to Distribution .....	484,322,000 gallons
Number of Residential connections.....	3,149
Number of Non-Res. connections.....	126
Residential versus Non-Residential Use.....	306.4 million gallons versus 88.8 million gallons
Date of Highest Use .....	6/16/2021

## Water Conservation - Direct

Water Supply System Infrastructure Efficiency (leaks, meters, etc.):

- Meter testing: 2 gallons -- \$200

Date of last Audit/Percent done: 9/1/2021; 100% completed

Direct Conservation Single Family (SF) and Multi-Family (MF) and Commercial, Industrial, Institutional (CII) Efforts: None listed

Reuse or other Customer conservation projects: None listed

## Water Conservation Indirect

Ordinances

- Irrigation restrictions regulations

Education and Outreach

- Consumer Confidence Reports -- 1
- Facility tours -- 2
- Displays and exhibits -- 1
- Community newsletters -- 4
- Website -- 1

Collaboration: None listed

Rate structure

- Increasing Block

# New Brighton, City Of Summary of Water Conservation Report

2022 Report based on 2021 Water Use

## Water Conservation Goals

Unaccounted Water Loss .....	0.9 percent
Residential gallons per capita per day .....	73
Non-residential: annual percent reduction.....	-6.24
Trend in total per capita demand .....	-17.36
Total Peaking Factor .....	2.22

## Water Accounting

Total water to Treatment .....	1,211,721,993 gallons
Total water to Distribution .....	780,865,993 gallons
Number of Residential connections.....	5,701
Number of Non-Residential connections.....	224
Residential versus Non-Residential Use.....	627.1 million gallons versus 146.8 million gallons
Date of Highest Use .....	5/7/2021

## Water Conservation - Direct

Water Supply System Infrastructure Efficiency (leaks, meters, etc.)

Date of last Audit/Percent done: not reported

Direct Conservation Single Family (SF) and Multi-Family (MF) and Commercial, Industrial, Institutional (CII) Efforts: None listed

Reuse or other Customer conservation projects: none listed

## Water Conservation Indirect

Ordinances

- Critical/Emergency Water Deficiency Ordinance
- Irrigation restrictions regulations
- Soil preparation requirements (Inches of topsoil)
- Allow native plants and low water use turf/plants
- Wellhead protection ordinance and zoning
- Non-Zoning Wetlands Ordinance (beyond state/federal laws)
- Track enforcement

Education and Outreach

- Consumer Confidence Reports -- 1
- Social media distribution (e.g., emails, Facebook, Twitter) -- 2
- Presentations to community groups -- 1
- Facility tours -- 7

- Displays and exhibits -- 1
- Community newsletters -- 4
- Information kiosk at utility and public buildings -- 1
- Website -- 1

#### Collaboration

- Collaborated with watershed group(s)
- Collaborated with lake association(s)
- Collaborated with MDH on wellhead protection project

#### Rate structure

- Uniform

# Newport, City of Summary of Water Conservation Report

2022 Report based on 2021 Water Use

## Water Conservation Goals

Unaccounted Water Loss.....	7.2 percent
Residential gallons per capita per day .....	60
Non-residential: Annual Percent Reduction .....	-13.9
Trend in total per capita demand .....	-13.87
Total Peaking Factor .....	1.59

## Water Accounting

Total water to Treatment .....	120,940,000 gallons
Total water to Distribution .....	120,940,000 gallons
Number of Residential connections.....	1,083
Number of Non-Residential connections.....	79
Residential versus Non-Residential Use.....	83.3 million gallons versus 28.4 million gallons
Date of Highest Use .....	6/17/2021

## Water Conservation - Direct

Water Supply System Infrastructure Efficiency (leaks, meters, etc.): None listed  
Date of last Audit/Percent done: 7/3/2017; 100 percent completed  
Direct Conservation Single Family (SF) and Multi-Family (MF) and Commercial, Industrial, Institutional (CII) Efforts: None listed  
Reuse or other Customer conservation projects: None listed

## Water Conservation Indirect

### Ordinances

- Wellhead protection ordinance and zoning

### Education and Outreach

- Billing inserts or tips printed on the actual bill -- 4
- Consumer Confidence Reports – 1
- Social media distribution -- 5
- Community newsletters -- 4

### Collaboration

- Collaborated with watershed group(s)
- Collaborated with SWCD or NRCS on land/water management practices

Rate structure: Increasing Block

# North St. Paul, City of Summary of Water Conservation Report

2022 Report based on 2021 Water Use

## Water Conservation Goals

Unaccounted Water Loss.....	9.2 percent
Residential gallons per capita per day .....	56
Non-residential: Annual Percent Reduction .....	-3.19
Trend in total per capita demand .....	-7.77
Total Peaking Factor .....	2.15

## Water Accounting

Total water to Treatment .....	392,354,000 gallons
Total water to Distribution .....	392,354,000 gallons
Number of Residential connections.....	4,491
Number of Non-Residential connections.....	274
Residential versus Non-Residential Use.....	261.6 million gallons versus 94.8 million gallons
Date of Highest Use .....	6/16/2021

## Water Conservation - Direct

Water Supply System Infrastructure Efficiency (leaks, meters, etc.):

- Meter repair/replace: 24 gallons -- \$3,600
- Hydrant repair: 3 gallons -- \$15,000

Date of last Audit/Percent done: 1 percent

Direct Conservation Single Family (SF) and Multi-Family (MF) and Commercial, Industrial, Institutional (CII) Efforts: None listed

Reuse or other Customer conservation projects: None listed

## Water Conservation Indirect

Ordinances:

- Irrigation restrictions regulations
- Tree ratio requirement
- Wellhead protection ordinance and zoning

Education and Outreach:

- Consumer confidence reports – 4,765
- Social media distribution – 6
- Paid advertisements – 6
- Community newsletters – 10
- Website – 10

Collaboration:

- Collaborated with watershed group(s)
- Collaborated with lake association(s)
- Collaborated with neighboring communities to manage timing/amount of water withdrawal of shared water resource



- Collaborated with MDH on wellhead protection project

Rate structure:

- Base rate zero gallons
- Excess use rate

# Oakdale, City of Summary of Water Conservation Report

2022 Report based on 2021 Water Use

## Water Conservation Goals

Unaccounted Water Loss.....	1 percent
Residential gallons per capita per day .....	63
Non-residential: annual percent reduction.....	-48.84
Trend in total per capita demand .....	-5.52
Total Peaking Factor .....	2.21

## Water Accounting

Total water to Treatment .....	931,960,603 gallons
Total water to Distribution .....	908,764,603 gallons
Number of residential connections .....	8,552
Number of non-residential connections .....	484
Residential versus non-residential Use .....	659.8 million gallons versus 239.9 million gallons
Date of Highest Use .....	6/15/2021

## Water Conservation - Direct

Water Supply System Infrastructure Efficiency (leaks, meters, etc.):

- System leak fixing: 162,000 gallons -- \$150,000
- Meter repair/replace: 20,000 gallons -- \$0
- Hydrant repair: zero gallons -- \$30,000
- Reduce unauthorized water use: 2,000,000 gallons -- \$0
- Meter testing: 50,000 gallons -- \$10,000
- Add irrigation meters: 980,460 gallons -- \$2,058
- Pressure control: zero gallons -- \$10,000

Date of last Audit/Percent done: none listed

Direct Conservation Single Family (SF) and Multi-Family (MF) and Commercial, Industrial, Institutional (CII) Efforts:

- MF/CII ET Irrigation Controllers
  - Quantity: 11
  - Gallons saved: 980,452

Reuse or other Customer conservation projects: None listed

## Water Conservation Indirect

Ordinances

- Critical/Emergency Water Deficiency Ordinance
- Irrigation restrictions regulations
- Water consumption regulation for toilets, showerheads, urinals
- Water waste prohibition
- Tree ratio requirement

- Allow native plants and low water use turf/plants
- Mandatory “green” building or plumbing codes
- Wellhead protection ordinance and zoning
- Non-zoning wetlands ordinance

#### Education and Outreach

- Billing inserts or tips printed on the actual bill – 43,133
- Consumer Confidence Reports – 1
- Social media distribution – 12
- Presentations to community groups – 1
- Displays and exhibits – 1
- Community newsletters – 1
- Information kiosk at utility and public buildings – 2
- Website -- 1

#### Collaboration

- Collaborated with watershed group(s)
- Collaborated with MDH on wellhead protection project

#### Rate structure

- Base rate zero gallons
- Increasing Block

# Oak Park Heights, City Of Summary of Water Conservation Report

2022 Report based on 2021 Water Use

## Water Conservation Goals

Unaccounted Water Loss.....	14.7 percent
Residential gallons per capita per day .....	57
Non-residential: annual percent reduction.....	-14.87
Trend in total per capita demand .....	5.84
Total Peaking Factor .....	1.98

## Water Accounting

Total water to Treatment .....	225,083,000 gallons
Total water to Distribution .....	225,083,000 gallons
Number of residential connections .....	1,236
Number of non-residential connections .....	231
Residential versus non-residential Use .....	102.4 million gallons versus 89.7 million gallons
Date of Highest Use .....	7/19/2021

## Water Conservation - Direct

Water Supply System Infrastructure Efficiency (leaks, meters, etc.): None listed  
Date of last Audit/Percent done: none listed  
Direct Conservation Single Family (SF) and Multi-Family (MF) and Commercial, Industrial, Institutional (CII) Efforts: None listed  
Reuse or other Customer conservation projects: None listed

## Water Conservation Indirect

### Ordinances

- Critical/Emergency Water Deficiency Ordinance
- Irrigation restrictions regulations
- Tree ratio requirement
- Allow native plants and low water use turf/plants
- Wellhead protection ordinance and zoning

### Education and Outreach

- Consumer Confidence Reports – 1
- Staff training – 3
- Community newsletters – 4
- Website -- 1

### Collaboration

- Collaborated with watershed group(s)

### Rate structure

- Increasing Block

# Saint Anthony, City of Summary of Water Conservation Report

2022 Report based on 2021 Water Use

## Water Conservation Goals

Unaccounted Water Loss.....	zero percent
Residential gallons per capita per day .....	62
Non-residential: Annual percent reduction .....	-36.79
Trend in total per capita demand .....	-2.17
Total Peaking Factor .....	1.83

## Water Accounting

Total water to Treatment .....	296,020,988 gallons
Total water to Distribution .....	296,020,988 gallons
Number of Residential connections.....	2,236
Number of Non-Residential connections.....	126
Residential versus Non-Residential Use.....	211.2 million gallons versus 84.8 million gallons
Date of Highest Use .....	6/10/2021

## Water Conservation - Direct

Water Supply System Infrastructure Efficiency (leaks, meters, etc.): None listed

Date of last Audit/Percent done: No data reported

Direct Conservation Single Family (SF) and Multi-Family (MF) and Commercial, Industrial, Institutional (CII) Efforts:

- SF Rain Barrels:
  - Quantity: 15
  - Gallons saved: 19,500

Reuse or other Customer conservation projects: None listed

## Water Conservation Indirect

Ordinances

- Critical/Emergency Water Deficiency Ordinance
- Private well ordinance (private wells in a city must comply with water restrictions)
- Irrigation restrictions regulations
- Water consumption regulation
- Allow native plants and low water use turf/plants
- Wellhead protection ordinance and zoning
- Ordinances that permit stormwater irrigation or reuse

Education and Outreach

- Consumer Confidence Reports -- 1
- Staff training -- 1
- Community newsletters -- 6
- Water week promotions -- 1
- Website -- 2

#### Collaboration

- Collaborated with watershed group(s)
- Collaborated with lake association(s)
- Collaborated with MDH on wellhead protection project

#### Rate structure

- Base Rate Zero Gallons
- Uniform

# St. Paul Park, City of Summary of Water Conservation Report

2022 Report based on 2021 Water Use

## Water Conservation Goals

Unaccounted Water Loss.....	zero percent
Residential gallons per capita per day .....	59
Non-residential: Annual Percent Reduction .....	10.62
Trend in total per capita demand .....	-9.29
Total Peaking Factor .....	3.24

## Water Accounting

Total water to Treatment .....	194,170,000 gallons
Total water to Distribution .....	159,522,000 gallons
Number of Residential connections.....	1,799
Number of Non-Residential connections.....	96
Residential versus Non-Residential Use.....	116.5 million gallons versus 43 million gallons
Date of Highest Use .....	6/7/2021

## Water Conservation - Direct

Water Supply System Infrastructure Efficiency (leaks, meters, etc.)

- Meter Repair/Replace: 20 gallons -- \$0

Date of last Audit/Percent done: none listed

Direct Conservation Single Family (SF) and Multi-Family (MF) and Commercial, Industrial, Institutional (CII) Efforts: None listed

Reuse or other Customer conservation projects: None listed

## Water Conservation Indirect

Ordinances

- Critical/Emergency Water Deficiency Ordinance
- Irrigation restrictions ordinance
- Permit required to fill pool or require pool to be covered
- Wellhead protection ordinance and zoning

Education and Outreach

- Consumer Confidence Reports – 1
- Social media distribution (e.g., emails, Facebook, Twitter) -- 25
- Staff training – 12
- Facility tours -- 1
- Community newsletters -- 4
- Information kiosk at utility and public buildings -- 1
- Website -- 12

Collaboration

- Collaborated with watershed group(s)
- Collaborated with neighboring communities to manage timing/amount of water withdrawal of shared water resource
- Collaborated with MDH on wellhead protection project

Rate structure

- Increasing Block



# St. Paul Regional Water Services Summary of Water Conservation Report

2022 Report based on 2021 Water Use

## Water Conservation Goals

Unaccounted Water Loss.....	15.4 percent
Residential gallons per capita per day .....	32
Non-residential: Annual percent reduction .....	-4.1
Trend in total per capita demand .....	-5.69
Total Peaking Factor .....	1.99

## Water Accounting

Total water to Treatment .....	26,571,807,517 gallons
Total water to Distribution .....	12,255,078,344 gallons
Number of Residential connections.....	89,904
Number of Non-Residential connections.....	6,700
Residential versus Non-Residential Use.....	5,362.9 million gallons versus 5,007.1 million gallons
Date of Highest Use .....	6/18/2021

## Water Conservation - Direct

Water Supply System Infrastructure Efficiency (leaks, meters, etc.)

- System leak fixing (before the meter): zero gallons -- \$96,000,000
- Hydrant repair: no gallons reported -- \$1,187,227
- Meter testing: no gallons reported -- \$100,000
- Customer leaks/high users fixed: 166,325,000 gallons -- \$1,663,250

Date of last Audit/Percent done: 12/31/2020; 100% completed

Direct Conservation Single Family (SF) and Multi-Family (MF) and Commercial, Industrial, Institutional (CII) Efforts: None listed

Reuse or other Customer conservation projects: None listed

## Water Conservation Indirect

Ordinances:

- Irrigation restrictions regulations

Education and Outreach

- Billing inserts or tips printed on the actual bill -- 1
- Consumer Confidence Reports -- 1
- Press releases to traditional local news outlets (e.g., newspapers, radio and TV) -- 1
- Social media distribution (e.g., emails, Facebook, Twitter) -- 1
- Paid advertisements (e.g., billboards, print media, TV, radio, web sites, etc.) -- 1
- Presentations to community groups -- 1
- Facility tours -- 10
- Displays and exhibits -- 1
- K-12 education programs (Project Wet, Drinking Water Institute, presentations) -- 10
- Water week promotions -- 1

- Website -- 1
- Targeted efforts (large volume users, users with large increases) -- 1

#### Collaboration

- Collaborated with watershed group(s)
- Collaborated with other high volume water users (commercial, industrial, institutional or agricultural)

#### Rate structure

- Base Rate Zero Gallons
- Seasonal Rate

# Shoreview, City Of Summary of Water Conservation Report

2022 Report based on 2021 Water Use

## Water Conservation Goals

Unaccounted Water Loss.....	1.6 percent
Residential gallons per capita per day .....	62
Non-residential: Annual Percent Reduction .....	7.01
Trend in total per capita demand .....	-12.0178
Total Peaking Factor .....	2.18

## Water Accounting

Total water to Treatment .....	821,905,800 gallons
Total water to Distribution .....	821,905,800 gallons
Number of Residential connections.....	8,489
Number of Non-Residential connections.....	240
Residential versus Non-Residential Use.....	625.9 million gallons versus 182.6 million gallons
Date of Highest Use .....	6/17/2020

## Water Conservation - Direct

Water Supply System Infrastructure Efficiency (leaks, meters, etc.)

- Hydrant repair: zero gallons -- \$971,108
- Meter testing: zero gallons -- \$110,000
- Customer leaks/high users fixed: 96,475,000 gallons -- \$964,750

Date of last Audit/Percent done: 12/31/2021 – 100% audit

Direct Conservation Single Family (SF) and Multi-Family (MF) and Commercial, Industrial, Institutional (CII) Efforts: None listed

Reuse or other Customer conservation projects: None listed

## Water Conservation Indirect

Ordinances

- Irrigation restrictions regulations

Education and Outreach

- Billing inserts or tips printed on the actual bill -- 1
- Consumer Confidence Reports – 1
- Press releases to traditional local news outlets -- 2
- Social media distribution (e.g., emails, Facebook, Twitter) – 2
- Paid advertisements – 2
- Presentations to community groups – 2
- Displays and exhibits – 2
- Demonstration projects – 1
- K-12 education programs – 10
- Water week promotions -- 1
- Website – 1

- Targeted efforts -- 1

#### Collaboration

- Collaborated with watershed group(s)
- Collaborated with other high volume water users
- Collaborated with MDH on wellhead protection project
- Collaborated with MDA on improving water quality and agricultural concerns

#### Rate structure

- Base rate zero gallons
- Seasonal rate

# Spring Lake Park, City Of Summary of Water Conservation Report

2022 Report based on 2021 Water Use

## Water Conservation Goals

Unaccounted Water Loss.....	5 percent
Residential gallons per capita per day .....	70
Non-residential: Annual percent reduction .....	- 16.12
Trend in total per capita demand .....	- 0.55
Total Peaking Factor .....	2.46

## Water Accounting

Total water to Treatment .....	311,844,000 gallons
Total water to Distribution .....	311,844,000 gallons
Number of Residential connections.....	2,037
Number of Non-Residential connections.....	173
Residential versus Non-Residential Use.....	184.9 million gallons versus 111.5 million gallons
Date of Highest Use .....	7/29/2021

## Water Conservation - Direct

Water Supply System Infrastructure Efficiency (leaks, meters, etc.): None listed  
Date of last Audit/Percent done: No date reported; 98 percent completed  
Direct Conservation Single Family (SF) and Multi-Family (MF) and Commercial, Industrial, Institutional (CII) Efforts: None listed  
Reuse or other Customer conservation projects: None listed

## Water Conservation Indirect

### Ordinances

- Critical/Emergency Water Deficiency Ordinance
- Private well ordinance (private wells in a city must comply with water restrictions)
- Irrigation restrictions regulations
- Tree ratio requirement
- Permit required to fill pool or require pool to be covered
- Allow native plants and low water use turf/plants
- Mandatory “green” building or plumbing codes
- Wellhead protection ordinance and zoning
- Track enforcement

### Education and Outreach

- Billing inserts or tips printed on the actual bill -- 4
- Consumer Confidence Reports -- 2
- Press releases to traditional local news outlets (e.g., newspapers, radio and TV) -- 2
- Social media distribution (e.g., emails, Facebook, Twitter) -- 1
- Paid advertisements (e.g., billboards, print media, TV, radio, web sites, etc.) -- 1
- Staff training -- 2
- Community newsletters -- 4

- Information kiosk at utility and public buildings -- 4
- Website -- 5
- Targeted efforts (large volume users, users with large increases) -- 4
- Notices of ordinances -- 2

#### Collaboration

- Collaborated with watershed group(s)
- Collaborated with MDH on wellhead protection project

#### Rate structure

- Increasing Block

# Stillwater, City of-Board of Water Commissioners Summary of Water Conservation Report

2022 Report based on 2021 Water Use

## Water Conservation Goals

Unaccounted Water Loss .....	4 percent
Residential gallons per capita per day .....	63
Non-residential: Annual Percent Reduction .....	-89.34
Trend in total per capita demand .....	7.19
Total Peaking Factor .....	2.33

## Water Accounting

Total water to Treatment .....	745,282,000 gallons
Total water to Distribution .....	745,282,000 gallons
Number of Residential connections.....	6,375
Number of Non-Residential connections.....	364
Residential versus Non-Residential Use.....	464.6 million gallons versus 250.6 million gallons
Date of Highest Use .....	7/26/2021

## Water Conservation - Direct

Water Supply System Infrastructure Efficiency (leaks, meters, etc.): None listed

Date of last Audit/Percent done: No data reported

Direct Conservation Single Family (SF) and Multi-Family (MF) and Commercial, Industrial, Institutional (CII) Efforts:

- SF ET Irrigation Controllers:
  - Quantity: 100
  - Gallons saved: 900,000

Reuse or other Customer conservation projects: None listed

## Water Conservation Indirect

Ordinances

- Critical/Emergency Water Deficiency Ordinance
- Irrigation restrictions regulations
- Tree ratio requirement
- Wellhead protection ordinance and zoning

Education and Outreach

- Consumer Confidence Reports -- 1
- Community newsletters -- 3
- Website -- 1

Collaboration

- Collaborated with watershed group(s)

- Collaborated with neighboring communities to manage timing/amount of water withdrawal of shared water resource
- Collaborated with other high volume water users (commercial, industrial, institutional or agricultural)
- Collaborated with MDH on wellhead protection project
- Collaborated with DNR on improving on decreasing our permit allotment or enhancing conservation measures

Rate structure

- Increasing Block



# Vadnais Heights, City of Summary of Water Conservation Report

2022 Report based on 2021 Water Use

## Water Conservation Goals

Unaccounted Water Loss..... No data reported  
Residential gallons per capita per day ..... No data reported  
Non-residential: annual percent reduction..... No data reported  
Trend in total per capita demand ..... No data reported  
Total Peaking Factor ..... No data reported

## Water Accounting

Total water to Treatment ..... 497,125,000 gallons  
Total water to Distribution ..... 497,125,000 gallons  
Number of residential connections ..... No data reported  
Number of non-residential connections ..... No data reported  
Residential versus non-residential Use ..... No data reported  
Date of Highest Use ..... No data reported

## Water Conservation - Direct

Water Supply System Infrastructure Efficiency (leaks, meters, etc.): None listed  
Date of last Audit/Percent done: None listed  
Direct Conservation Single Family (SF) and Multi-Family (MF) and Commercial, Industrial, Institutional (CII) Efforts: None listed  
Reuse or other Customer conservation projects: None listed

## Water Conservation Indirect

Ordinances  
Education and Outreach  
Collaboration  
Rate structure

# White Bear Lake, City of Summary of Water Conservation Report

2022 Report based on 2021 Water Use

## Water Conservation Goals

Unaccounted Water Loss.....	2.2 percent
Residential gallons per capita per day .....	61
Non-residential: Annual Percent Reduction .....	- 12.57
Trend in total per capita demand .....	- 6.45
Total Peaking Factor .....	2.37

## Water Accounting

Total water to Treatment .....	760,002,304 gallons
Total water to Distribution .....	760,002,304 gallons
Number of Residential connections.....	7,687
Number of Non-Residential connections.....	569
Residential versus Non-Residential Use.....	578.3 million gallons versus 164.9 million gallons
Date of Highest Use .....	6/14/2021

## Water Conservation - Direct

Water Supply System Infrastructure Efficiency (leaks, meters, etc.)

- System leak fixing (before the meter): zero gallons -- \$38,995
- Meter Repair/Replace: zero gallons reported -- \$1,900,000

Date of last Audit/Percent done: No data reported

Direct Conservation Single Family (SF) and Multi-Family (MF) and Commercial, Industrial, Institutional (CII) Efforts:

- SF Toilet Retrofits:
  - Quantity: 109
  - Gallons saved: 654,000

Reuse or other Customer conservation projects: None listed

## Water Conservation Indirect

Ordinances

- Irrigation restrictions regulations
- Soil preparation requirements (inches of topsoil)
- Tree ratio requirement
- Allow native plants and low water use turf/plants
- Wellhead protection ordinance and zoning
- Non-zoning wetlands ordinance (beyond state/federal laws)
- Track enforcement

Education and Outreach: none listed

Collaboration: none listed

Rate structure: none listed

# White Bear Township Summary of Water Conservation Report

2022 Report based on 2021 Water Use

## Water Conservation Goals

Unaccounted Water Loss.....	0.2 percent
Residential gallons per capita per day .....	81
Non-residential: Annual Percent Reduction .....	-2.66
Trend in total per capita demand .....	-10.41
Total Peaking Factor .....	2.86

## Water Accounting

Total water to Treatment .....	484,182,800 gallons
Total water to Distribution .....	481,220,800 gallons
Number of Residential connections.....	4,838
Number of Non-Residential connections.....	197
Residential versus Non-Residential Use.....	363 million gallons versus 117.5 million gallons
Date of Highest Use .....	6/13/2021

## Water Conservation - Direct

- Water Supply System Infrastructure Efficiency (leaks, meters, etc.)
- System leak fixing (before the meter): 5,108,000 gallons -- \$32,691
  - Storage Mixing: 1,750,000 gallons -- \$11,200

Date of last Audit/Percent done: 10/12/2021; 100 percent completed

Direct Conservation Single Family (SF) and Multi-Family (MF) and Commercial, Industrial, Institutional (CII) Efforts:

- SF Toilet Retrofits:
  - Quantity: 63
  - Gallons saved: 378,000
- SF Clothes Washer Rebates:
  - Quantity: 27
  - Gallons saved: 135,000
- SF ET Irrigation Controllers:
  - Quantity: 17
  - Gallons saved: 153,000

Reuse or other Customer conservation projects: None listed

## Water Conservation Indirect

Ordinances

- Critical/Emergency Water Deficiency Ordinance
- Irrigation restrictions regulations
- Soil preparation requirements (Inches of topsoil)
- Tree ratio requirement
- Wellhead protection ordinance and zoning

#### Education and Outreach

- Billing inserts or tips printed on the actual bill -- 2
- Consumer Confidence Reports -- 1
- Social media distribution (e.g., emails, Facebook, Twitter) -- 4
- Presentations to community groups – 2
- Marketing rebate programs -- 9
- Community news letters -- 8
- Website – 4
- Notices of ordinances -- 1

#### Collaboration

- Collaborated with watershed group(s)
- Collaborated with DNR on improving on decreasing our permit allotment or enhancing conservation measures

#### Rate structure

- Increasing Block

# Woodbury, City Of Summary of Water Conservation Report

2022 Report based on 2021 Water Use

## Water Conservation Goals

Unaccounted Water Loss.....	1.8 percent
Residential gallons per capita per day .....	87
Non-residential: Annual Percent Reduction .....	-15.46
Trend in total per capita demand .....	-10.61
Total Peaking Factor .....	2.64

## Water Accounting

Total water to Treatment .....	2,943,075,096 gallons
Total water to Distribution .....	2,943,075,096 gallons
Number of Residential connections.....	23,922
Number of Non-Residential connections.....	895
Residential versus Non-Residential Use.....	2,456.7 million gallons versus 434 million gallons
Date of Highest Use .....	7/31/2021

## Water Conservation - Direct

Water Supply System Infrastructure Efficiency (leaks, meters, etc.):

- System leak fixing: zero gallons -- \$86,070
- Meter repair/replace: zero gallons -- \$601,470
- Hydrant repair: zero gallons -- \$5,467

Date of last Audit/Percent done: No data reported

Direct Conservation Single Family (SF) and Multi-Family (MF) and Commercial, Industrial, Institutional (CII) Efforts:

- SF ET Irrigation Controllers
  - Quantity: 556
  - Gallons saved: 5,004,000
- MF/CII Large Landscape Projects
  - Quantity: 7
  - Gallons saved: 2,800,000

Reuse or other Customer conservation projects: None listed

## Water Conservation Indirect

Ordinances

- Critical/Emergency Water Deficiency Ordinance
- Private well ordinance (private wells in a city must comply with water restrictions)
- Irrigation restrictions regulations
- Water consumption regulation
- Tree ratio requirement
- Allow native plants and low water use turf/plants

- Mandatory “green” building or plumbing codes
- Wellhead protection ordinance and zoning
- Non-zoning wetlands ordinance (beyond state/federal laws)
- Track enforcement
- Regulation for sensor and smart irrigation controllers (new installs)

#### Education and Outreach

- Billing inserts or tips printed on the actual bill -- 1
- Consumer Confidence Reports – 1
- Press releases to traditional local news outlets -- 4
- Social media distribution (e.g., emails, Facebook, Twitter) -- 22
- Paid advertisements -- 2
- Marketing rebate programs (e.g., indoor fixtures & appliances and outdoor practices) -- 12
- Community newsletters -- 8
- Direct mailings (water audit/retrofit kits, showerheads, brochures) -- 1
- Information kiosk at utility and public buildings -- 2
- Water week promotions -- 1
- Website -- 6
- Notices of ordinances – 4
- Emergency conservation notices -- 6

#### Collaboration

- Collaborated with watershed group(s)
- Collaborated with neighboring communities to manage timing/amount of water withdrawal of shared water resource
- Collaborated with other high volume water users (commercial, industrial, institutional or agricultural)
- Collaborated with MDH on wellhead protection project

#### Rate structure

- Increasing Block

## General Comments and Recommendations for additional conservation efforts:

1. Water Conservation Goals: Compare your water supply system results to the statewide water conservation goals that are set in the Water Supply Plans:
  - a. Unaccounted for Water Loss <10%
  - b. Residential Gallons per Capita Demand (GPCD) Daily <75
  - c. Annual % Reduction in Nonresidential Use >1.5%
  - d. Trend in Total per Capita Demand >=1.0
  - e. Total peaking factor <2.6

Each water supplier should try to achieve the statewide water conservation goals by the time their next Water Supply Plan is due (2026-2028).

2. Water Loss: For most water suppliers, working on reducing water loss should be your top conservation objective. Cities should first make their own water supply system as efficient as possible. In addition to leaks, water can be “lost” through unauthorized consumption (theft), administrative errors, data handling errors, and metering inaccuracies or failure.
3. Leak Repair: Budgeting for and keeping on top of aging pipes and infrastructure will be important in the coming years to reduce water loss. Also check fire hydrants frequently, many cities are finding these to be part of their water loss problem.
4. Meters: A water meter program should include selection, installation, testing and maintenance. Over time meters lose accuracy and inaccurate meters contribute to loss of revenue. Accurate meters are also key to getting a handle on water loss. Focus first on large meter installations.
5. Audit: Water audits are the first step for controlling water loss. AWWA offers free [Water Audit Software](#). The second step is intervention and implementing solutions, and the third step is evaluation and further improvements if needed. Metering and better water accounting are key to improving the city’s water loss percentage.
6. Peak Water Day: Generally this number indicates if the city has high summer water use. Conservation education should focus on improving landscape irrigation efficiency on public and private property. The [UMN Turfgrass Science](#) website has excellent irrigation resources. If your peak water day was for hydrant flushing, you might evaluate if this amount could be reduced without sacrificing best practices. Some cities are significantly cutting back with hydrant flushing and not impacting water quality.
7. Residential & Non-Residential: Compare the volume of Residential and non-residential water user. Is one significantly more than the other or are they quite close in water use? Focusing on your big water use accounts with education programs or conservation partnerships may make sense.
8. Non-residential education and outreach ideas:
  - a. Non-residential use is always an opportunity for water conservation – economically Commercial, Industrial and Institutional users *want* to be as efficient as possible. The city should look at the 2-3 largest non-residential water users and meet with them to see if there are things they can do to conserve water.
  - b. Cities often work with the CII categories that are easiest to implement: government/municipal buildings and facilities; large landscape areas; schools and/or

colleges; office buildings; restaurants. Research shows that the degree of success for water conservation are: 1. Schools/colleges, 2. Commercial and apartments, 3. Large landscape areas, 4. Lodging, 5. Public pools/water parks. Target your efforts here for optimal success.

- c. If any of the CII facilities have outdoor lawn irrigation this is an easy and quick way to reduce water use by installing smart meters, doing an irrigation audit to look for leaks and broken heads, or simply turning off the irrigation controllers and only turning them on when there has been a lack of rainfall.
9. Residential education and outreach ideas:
    - a. The city may want to offer free toilet leak detection tablets to customers since this is the most common leak and easy to fix. Contact the MN DNR Information Center for a free supply of toilet leak detection info cards and dye tablets.
    - b. You may want to try promoting this home water conservation app that only takes a few minutes and is fun and informative <http://nrwa.aqkwa.com> (try it yourself!). In addition to adults, you can work with the schools, kids may influence their parents to conserve water.
    - c. Other new water campaigns the city may want to participate in include: the US EPA WaterSense Program. Membership is free and allows you access to great resources. Also *Value of Water*- US Water Alliance has a Value of Water Campaign <http://uswateralliance.org/initiatives/value-of-water> with a toolkit that has PDFs of ads, billboards, bill stuffers, bus shelter ads, banners, and social media. The focus is positive, emphasizing that water is essential.
  10. Ordinances: City Councils may want to strengthen their water conservation ordinances. League of MN Cities is a great source for sample ordinances.
  11. Rate Structure: Cities should regularly evaluate the water rate structure. MN Rural Water Association provides this service (free for a quick review; small fee for a full bookkeeping audit).
  12. Future Weather: Northern cities are already experiencing changing seasons and weather patterns. Some of these will impact water supply and demand. Climate science tells us three key trends will likely continue through mid-century:
    1. Extreme rainfall is happening more often.
    2. Minnesota's climate is becoming warmer and wetter.
    3. Winter is warming 13 times faster than summer and there are fewer days of extreme cold.

These changes will likely impact public water supplies in several ways:

- a. Rivers & Streams: Rivers will see altered high and low flows and an increase in contamination due to flooding. Whatever the historic flood level has been in the past, anticipate it to be higher. Are water treatment facilities, water towers, and pumps flood proof/resilient? Are there industries upstream that may contaminate drinking water supplies during a flood? Are communications in place to notify the city of possible contamination and emergency flood preparations in place? If the city is not a member of MnWARN they may want to consider this voluntary option. Warmer winters may mean more ice, which often requires more salt treatment. Chloride contamination is becoming a concern in many areas of the state and may require additional water treatment.



- b. Lakes: Longer thermal stratification on lakes means that seasonal mixing may be eliminated in shallow water, resulting in fish kills. This may not affect the city directly. Thin ice may pose safety hazards to citizens and staff.
- c. Possible City Infrastructure Impact: direct damage from heavy rain, increased mold/moisture damage, safety and accessibility on ice or trails, damage to culverts and bridges.
- d. Invasive species have new advantages. Are zebra mussels a threat at your water or wastewater treatment facilities? If not, they may be in the future. Forest insect pests may migrate further north killing vast forested areas and increasing fire hazards.
- e. Warmer winter temperatures: The good news is this may mean fewer frozen water lines.
- f. Forests: Boreal species will face increasing hydrothermal stress. The heat stress is more than trees can tolerate and forest communities will change across the landscape and higher temperatures means more drying of vegetation. If geographically appropriate, is the water system prepared for a possible increase in forest fires?