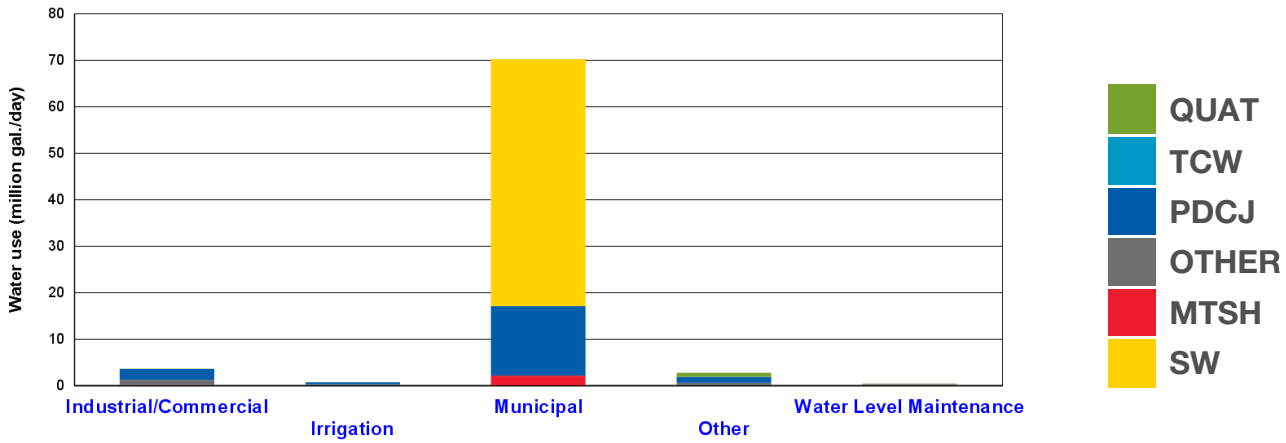
BASSETT CREEK Water Supply Profile

Available approaches to meet current and future demand

1. Conservation
2. Groundwater sources
3. Stormwater reuse
4. Reclaimed wastewater
5. Enhanced recharge
6. Surface water sources

Amount of water used, on average, by water appropriation permit holders in key water use categories



Projected municipal water use

	2020	2030	2040
Population Served	603,612	624,449	655,600
Total Population	605,100	628,300	656,100
Projected Average Daily Water Use (Million Gal./Day), Plus or Minus 20%	15.08	15.60	16.43
Total Per Capita Water Use (Gal./Person/Day)	150	150	150
What per capita water use would be, if population grew without changing total water use:	112	109	103

Water resource plans and permits that address the following issues support more sustainable water supplies

- State and federal requirements, such as Safe Drinking Water Act standards, conditions identified on water appropriation permits issued by the DNR, water quality permits issued by the MPCA and others
- Potential for water use conflicts and well interference
  - Due to the pervasiveness of private wells in the metro area, there exists a potential water use conflict and well interference of all appropriators
- Potential for impacts of groundwater pumping on surface water features and ecosystems

  - Surface waters in this area may be directly connected to regional groundwater system
  - A spring has been mapped nearby
- Significant vulnerability to contamination
  - A sinkhole (karst) has been mapped nearby
  - A vulnerable Drinking Water Supply Management Area has been designated in the area
  - A Special Well and Boring Construction Area has been designated in the area
  - Travel time from land surface to bedrock aquifers is estimated to be less than 50 years
- Significant uncertainty about aquifer productivity and extent
  - Part of the area may not be well-represented by a Minnesota Department of Health aquifer test
  - The county geologic atlas is more than twenty years old
  - Part of the area may not be represented by a Minnesota Department of Natural Resources or community observation well

Note: Local studies may be underway or completed to provide more information about these issues.

The Metropolitan Council's Local Planning Handbook contains interactive maps of all of these issues, and they are also summarized in Chapter 5 of this Master Water Supply Plan.

As appropriate, incorporate the following actions into plans and programs, consistent with your organization's roles and responsibilities

- Acknowledge the issues above and support partnerships to address them in local water supply plans and water appropriation permit applications.
- Explore and support water demand (water conservation) programs such as incentives, ordinances, education and outreach, rates and other approaches. The Metropolitan Council Water Conservation Toolbox can support these efforts.
- Promote the evaluation of water conflict and well interface as part of the water appropriation permit request and review process. Before requesting water appropriations, water users in this areas should evaluate the need to address water conflict and well interference including a) an inventory of all active domestic and public water supply wells near proposed well locations and b) an analysis of existing water level/water withdrawal data to identify where future drawdowns could affect domestic wells.
- Support collaborative efforts to periodically review local water supply risks and potential alternatives to mitigate those risks. Technical advances, regulatory adjustments and sub-regional developments can present new opportunities for local water suppliers to enhance the resiliency, sustainability, and affordability of their water supplies.
- Continue to work with local, state and federal agencies, as required.

Note: The actions listed above may be underway or completed, and information may be available from local public water suppliers, planners, or water resource managers.

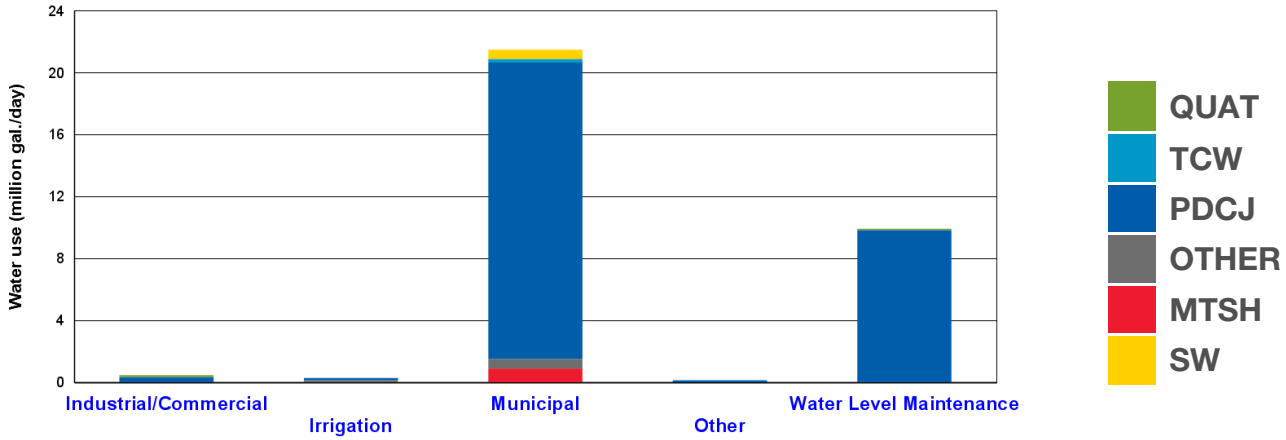
Additional information and guidance is provided in the Local Planning Handbook. Metropolitan Council staff can also provide technical and planning assistance.

BLACK DOG Water Supply Profile

Available approaches to meet current and future demand

1. Conservation
2. Groundwater sources
3. Stormwater reuse
4. Reclaimed wastewater
5. Enhanced recharge
6. Surface water sources

Amount of water used, on average, by water appropriation permit holders in key water use categories



Projected municipal water use

	2020	2030	2040
Population Served	181,417	197,917	213,717
Total Population	183,300	199,800	215,600
Projected Average Daily Water Use (Million Gal./Day), Plus or Minus 20%	7.30	7.96	8.59
Total Per Capita Water Use (Gal./Person/Day)	121	121	121
What per capita water use would be, if population grew without changing total water use:	120	111	103

Water resource plans and permits that address the following issues support more sustainable water supplies

- State and federal requirements, such as Safe Drinking Water Act standards, conditions identified on water appropriation permits issued by the DNR, water quality permits issued by the MPCA and others
- Potential for water use conflicts and well interference
  - Due to the pervasiveness of private wells in the metro area, there exists a potential water use conflict and well interference of all appropriators
- Potential for significant decline in aquifer water levels

  - Regional groundwater modeling indicates significant aquifer decline under pumping rates that meet the projected range of 2040 demand
- Potential for impacts of groundwater pumping on surface water features and ecosystems
  - A state-protected calcareous fen has been mapped nearby
  - A state-designated trout stream has been mapped nearby
  - Surface waters in this area may be directly connected to regional groundwater system
  - A spring has been mapped nearby
- Significant vulnerability to contamination
  - A vulnerable Drinking Water Supply Management Area has been designated in the area
  - Travel time from land surface to bedrock aquifers is estimated to be less than 50 years
- Significant uncertainty about aquifer productivity and extent
  - Part of the area may not be well-represented by a Minnesota Department of Health aquifer test
  - The county geologic atlas is more than twenty years old
  - Part of the area may not be represented by a Minnesota Department of Natural Resources or community observation well

Note: Local studies may be underway or completed to provide more information about these issues.

The Metropolitan Council's Local Planning Handbook contains interactive maps of all of these issues, and they are also summarized in Chapter 5 of this Master Water Supply Plan.

As appropriate, incorporate the following actions into plans and programs, consistent with your organization's roles and responsibilities

- Acknowledge the issues above and support partnerships to address them in local water supply plans and water appropriation permit applications.
- Explore and support water demand (water conservation) programs such as incentives, ordinances, education and outreach, rates and other approaches. The Metropolitan Council Water Conservation Toolbox can support these efforts.
- Promote the evaluation of water conflict and well interface as part of the water appropriation permit request and review process. Before requesting water appropriations, water users in this areas should evaluate the need to address water conflict and well interference including a) an inventory of all active domestic and public water supply wells near proposed well locations and b) an analysis of existing water level/water withdrawal data to identify where future drawdowns could affect domestic wells.
- Support collaborative efforts to periodically review local water supply risks and potential alternatives to mitigate those risks. Technical advances, regulatory adjustments and sub-regional developments can present new opportunities for local water suppliers to enhance the resiliency, sustainability, and affordability of their water supplies.
- Continue to work with local, state and federal agencies, as required.

Note: The actions listed above may be underway or completed, and information may be available from local public water suppliers, planners, or water resource managers.

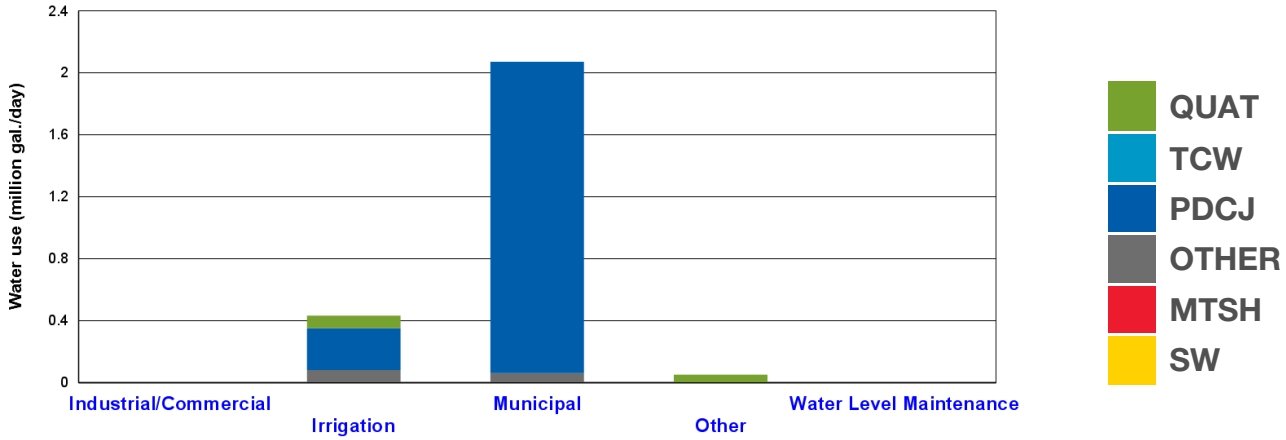
Additional information and guidance is provided in the Local Planning Handbook. Metropolitan Council staff can also provide technical and planning assistance.

BROWNS CREEK Water Supply Profile

Available approaches to meet current and future demand

1. Conservation
2. Groundwater sources
3. Stormwater reuse
4. Reclaimed wastewater
5. Enhanced recharge
6. Surface water sources

Amount of water used, on average, by water appropriation permit holders in key water use categories



Projected municipal water use

	2020	2030	2040
Population Served	20,600	21,800	22,800
Total Population	20,600	21,800	22,800
Projected Average Daily Water Use (Million Gal./Day), Plus or Minus 20%	2.48	2.62	2.74
Total Per Capita Water Use (Gal./Person/Day)	120	120	120
What per capita water use would be, if population grew without changing total water use:	111	105	100

Water resource plans and permits that address the following issues support more sustainable water supplies

- State and federal requirements, such as Safe Drinking Water Act standards, conditions identified on water appropriation permits issued by the DNR, water quality permits issued by the MPCA and others
- Potential for water use conflicts and well interference
  - Due to the pervasiveness of private wells in the metro area, there exists a potential water use conflict and well interference of all appropriators
- Potential for impacts of groundwater pumping on surface water features and ecosystems

  - A state-designated trout stream has been mapped nearby
  - Surface waters in this area may be directly connected to regional groundwater system
  - A spring has been mapped nearby
- Significant vulnerability to contamination
  - A sinkhole (karst) has been mapped nearby
  - A vulnerable Drinking Water Supply Management Area has been designated in the area
  - Travel time from land surface to bedrock aquifers is estimated to be less than 50 years
- Significant uncertainty about aquifer productivity and extent
  - Part of the area may not be well-represented by a Minnesota Department of Health aquifer test
  - The county geologic atlas is more than twenty years old
  - Part of the area may not be represented by a Minnesota Department of Natural Resources or community observation well
- Regulatory considerations
  - A Groundwater Management Area has been designated within the community

Note: Local studies may be underway or completed to provide more information about these issues.

The Metropolitan Council's Local Planning Handbook contains interactive maps of all of these issues, and they are also summarized in Chapter 5 of this Master Water Supply Plan.

As appropriate, incorporate the following actions into plans and programs, consistent with your organization's roles and responsibilities

- Acknowledge the issues above and support partnerships to address them in local water supply plans and water appropriation permit applications.
- Explore and support water demand (water conservation) programs such as incentives, ordinances, education and outreach, rates and other approaches. The Metropolitan Council Water Conservation Toolbox can support these efforts.
- Promote the evaluation of water conflict and well interface as part of the water appropriation permit request and review process. Before requesting water appropriations, water users in this areas should evaluate the need to address water conflict and well interference including a) an inventory of all active domestic and public water supply wells near proposed well locations and b) an analysis of existing water level/water withdrawal data to identify where future drawdowns could affect domestic wells.
- Support collaborative efforts to periodically review local water supply risks and potential alternatives to mitigate those risks. Technical advances, regulatory adjustments and sub-regional developments can present new opportunities for local water suppliers to enhance the resiliency, sustainability, and affordability of their water supplies.
- Continue to work with local, state and federal agencies, as required.

Note: The actions listed above may be underway or completed, and information may be available from local public water suppliers, planners, or water resource managers.

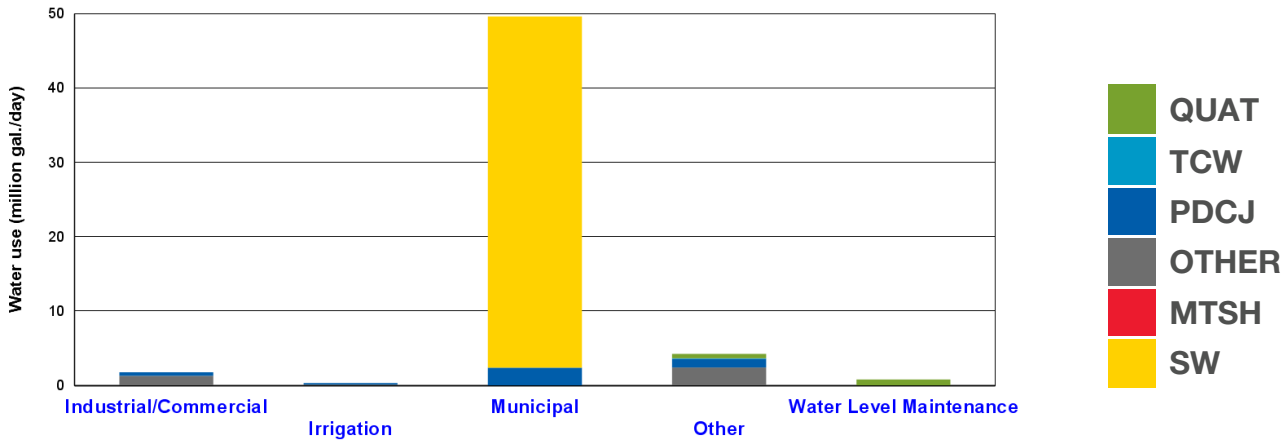
Additional information and guidance is provided in the Local Planning Handbook. Metropolitan Council staff can also provide technical and planning assistance.

CAPITOL REGION Water Supply Profile

Available approaches to meet current and future demand

1. Conservation
2. Groundwater sources
3. Stormwater reuse
4. Reclaimed wastewater
5. Enhanced recharge
6. Surface water sources

Amount of water used, on average, by water appropriation permit holders in key water use categories



Projected municipal water use

	2020	2030	2040
Population Served	440,887	466,560	494,430
Total Population	315,000	329,200	344,100
Projected Average Daily Water Use (Million Gal./Day), Plus or Minus 20%	45.90	45.90	45.90
Total Per Capita Water Use (Gal./Person/Day)	104	98	93
What per capita water use would be, if population grew without changing total water use:	102	97	91

Water resource plans and permits that address the following issues support more sustainable water supplies

- State and federal requirements, such as Safe Drinking Water Act standards, conditions identified on water appropriation permits issued by the DNR, water quality permits issued by the MPCA and others
- Potential for water use conflicts and well interference
  - Due to the pervasiveness of private wells in the metro area, there exists a potential water use conflict and well interference of all appropriators
- Potential for impacts of groundwater pumping on surface water features and ecosystems

  - A state-protected calcareous fen has been mapped nearby
  - Surface waters in this area may be directly connected to regional groundwater system
  - A spring has been mapped nearby
- Significant vulnerability to contamination
  - A vulnerable Drinking Water Supply Management Area has been designated in the area
  - A Special Well and Boring Construction Area has been designated in the area
  - Travel time from land surface to bedrock aquifers is estimated to be less than 50 years
- Significant uncertainty about aquifer productivity and extent
  - Part of the area may not be well-represented by a Minnesota Department of Health aquifer test
  - The county geologic atlas is more than twenty years old
  - Part of the area may not be represented by a Minnesota Department of Natural Resources or community observation well
- Regulatory considerations
  - A Groundwater Management Area has been designated within the community

Note: Local studies may be underway or completed to provide more information about these issues.

The Metropolitan Council's Local Planning Handbook contains interactive maps of all of these issues, and they are also summarized in Chapter 5 of this Master Water Supply Plan.

As appropriate, incorporate the following actions into plans and programs, consistent with your organization's roles and responsibilities

- Acknowledge the issues above and support partnerships to address them in local water supply plans and water appropriation permit applications.
- Explore and support water demand (water conservation) programs such as incentives, ordinances, education and outreach, rates and other approaches. The Metropolitan Council Water Conservation Toolbox can support these efforts.
- Promote the evaluation of water conflict and well interface as part of the water appropriation permit request and review process. Before requesting water appropriations, water users in this areas should evaluate the need to address water conflict and well interference including a) an inventory of all active domestic and public water supply wells near proposed well locations and b) an analysis of existing water level/water withdrawal data to identify where future drawdowns could affect domestic wells.
- Support collaborative efforts to periodically review local water supply risks and potential alternatives to mitigate those risks. Technical advances, regulatory adjustments and sub-regional developments can present new opportunities for local water suppliers to enhance the resiliency, sustainability, and affordability of their water supplies.
- Continue to work with local, state and federal agencies, as required.

Note: The actions listed above may be underway or completed, and information may be available from local public water suppliers, planners, or water resource managers.

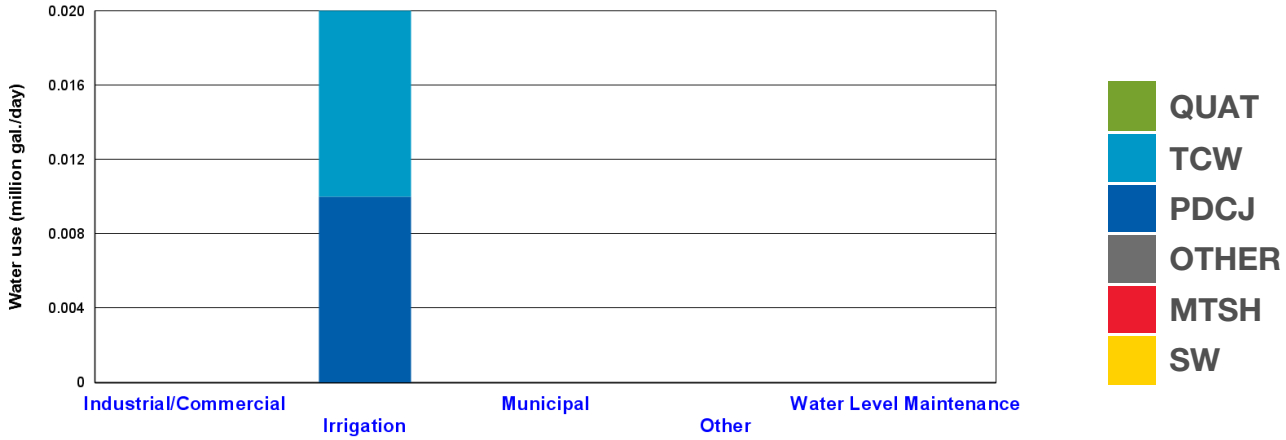
Additional information and guidance is provided in the Local Planning Handbook. Metropolitan Council staff can also provide technical and planning assistance.

CARNELIAN-MARINE-ST. CROIX Water Supply Profile

Available approaches to meet current and future demand

1. Conservation
2. Groundwater sources
3. Stormwater reuse
4. Reclaimed wastewater
5. Enhanced recharge
6. Surface water sources

Amount of water used, on average, by water appropriation permit holders in key water use categories



Projected municipal water use

	2020	2030	2040
Population Served	139	239	339
Total Population	740	840	940
Projected Average Daily Water Use (Million Gal./Day), Plus or Minus 20%	0.01	0.02	0.03
Total Per Capita Water Use (Gal./Person/Day)	96	96	96
What per capita water use would be, if population grew without changing total water use:	83	49	34

Water resource plans and permits that address the following issues support more sustainable water supplies

- State and federal requirements, such as Safe Drinking Water Act standards, conditions identified on water appropriation permits issued by the DNR, water quality permits issued by the MPCA and others
- Potential for water use conflicts and well interference
  - Due to the pervasiveness of private wells in the metro area, there exists a potential water use conflict and well interference of all appropriators
- Potential for significant decline in aquifer water levels

  - A nearby DNR observation well documents a declining trend in aquifer water levels
- Potential for impacts of groundwater pumping on surface water features and ecosystems
  - A state-designated trout stream has been mapped nearby
  - Surface waters in this area may be directly connected to regional groundwater system
  - A spring has been mapped nearby
- Significant vulnerability to contamination
  - A vulnerable Drinking Water Supply Management Area has been designated in the area
  - Travel time from land surface to bedrock aquifers is estimated to be less than 50 years
- Significant uncertainty about aquifer productivity and extent
  - The county geologic atlas is more than twenty years old
  - Part of the area may not be represented by a Minnesota Department of Natural Resources or community observation well
- Regulatory considerations
  - A Groundwater Management Area has been designated within the community

Note: Local studies may be underway or completed to provide more information about these issues.

The Metropolitan Council's Local Planning Handbook contains interactive maps of all of these issues, and they are also summarized in Chapter 5 of this Master Water Supply Plan.

As appropriate, incorporate the following actions into plans and programs, consistent with your organization's roles and responsibilities

- Acknowledge the issues above and support partnerships to address them in local water supply plans and water appropriation permit applications.
- Explore and support water demand (water conservation) programs such as incentives, ordinances, education and outreach, rates and other approaches. The Metropolitan Council Water Conservation Toolbox can support these efforts.
- Promote the evaluation of water conflict and well interface as part of the water appropriation permit request and review process. Before requesting water appropriations, water users in this areas should evaluate the need to address water conflict and well interference including a) an inventory of all active domestic and public water supply wells near proposed well locations and b) an analysis of existing water level/water withdrawal data to identify where future drawdowns could affect domestic wells.
- Support collaborative efforts to periodically review local water supply risks and potential alternatives to mitigate those risks. Technical advances, regulatory adjustments and sub-regional developments can present new opportunities for local water suppliers to enhance the resiliency, sustainability, and affordability of their water supplies.
- Continue to work with local, state and federal agencies, as required.

Note: The actions listed above may be underway or completed, and information may be available from local public water suppliers, planners, or water resource managers.

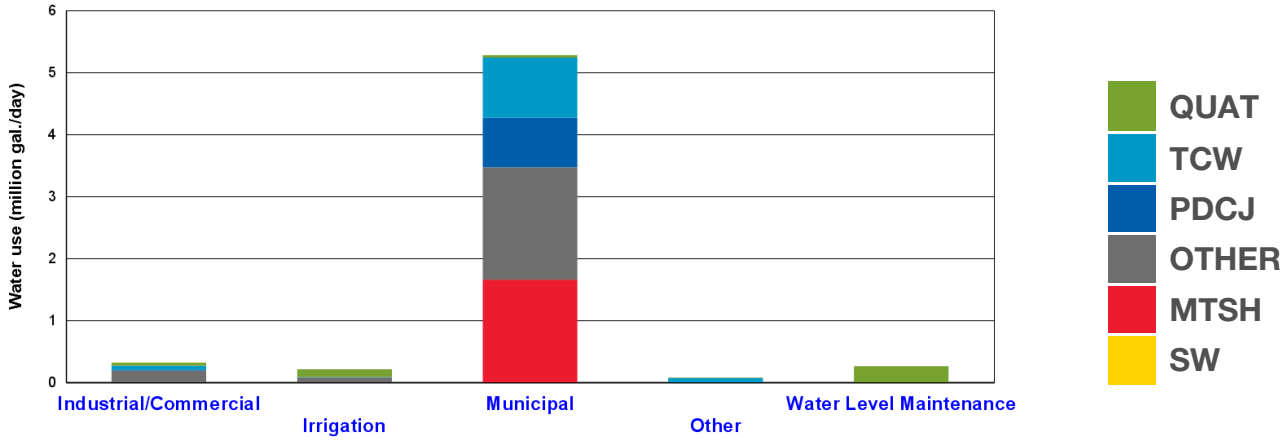
Additional information and guidance is provided in the Local Planning Handbook. Metropolitan Council staff can also provide technical and planning assistance.

CARVER COUNTY Water Supply Profile

Available approaches to meet current and future demand

1. Conservation
2. Groundwater sources
3. Stormwater reuse
4. Reclaimed wastewater
5. Enhanced recharge
6. Surface water sources

Amount of water used, on average, by water appropriation permit holders in key water use categories



Projected municipal water use

	2020	2030	2040
Population Served	60,795	81,495	99,255
Total Population	62,200	82,900	100,660
Projected Average Daily Water Use (Million Gal./Day), Plus or Minus 20%	0.79	1.04	1.26
Total Per Capita Water Use (Gal./Person/Day)	117	115	114
What per capita water use would be, if population grew without changing total water use:	70	53	44

Water resource plans and permits that address the following issues support more sustainable water supplies

- State and federal requirements, such as Safe Drinking Water Act standards, conditions identified on water appropriation permits issued by the DNR, water quality permits issued by the MPCA and others
- Potential for water use conflicts and well interference
  - Due to the pervasiveness of private wells in the metro area, there exists a potential water use conflict and well interference of all appropriators
- Potential for significant decline in aquifer water levels

  - Regional groundwater modeling indicates significant aquifer decline under pumping rates that meet the projected range of 2040 demand
- Potential for impacts of groundwater pumping on surface water features and ecosystems
  - A state-protected calcareous fen has been mapped nearby
  - A state-designated trout stream has been mapped nearby
  - Surface waters in this area may be directly connected to regional groundwater system
  - A spring has been mapped nearby
- Significant vulnerability to contamination
  - Travel time from land surface to bedrock aquifers is estimated to be less than 50 years
- Significant uncertainty about aquifer productivity and extent
  - Part of the area may not be well-represented by a Minnesota Department of Health aquifer test
  - Part of the area may not be represented by a Minnesota Department of Natural Resources or community observation well

Note: Local studies may be underway or completed to provide more information about these issues.

The Metropolitan Council's Local Planning Handbook contains interactive maps of all of these issues, and they are also summarized in Chapter 5 of this Master Water Supply Plan.

As appropriate, incorporate the following actions into plans and programs, consistent with your organization's roles and responsibilities

- Acknowledge the issues above and support partnerships to address them in local water supply plans and water appropriation permit applications.
- Explore and support water demand (water conservation) programs such as incentives, ordinances, education and outreach, rates and other approaches. The Metropolitan Council Water Conservation Toolbox can support these efforts.
- Promote the evaluation of water conflict and well interface as part of the water appropriation permit request and review process. Before requesting water appropriations, water users in this areas should evaluate the need to address water conflict and well interference including a) an inventory of all active domestic and public water supply wells near proposed well locations and b) an analysis of existing water level/water withdrawal data to identify where future drawdowns could affect domestic wells.
- Support collaborative efforts to periodically review local water supply risks and potential alternatives to mitigate those risks. Technical advances, regulatory adjustments and sub-regional developments can present new opportunities for local water suppliers to enhance the resiliency, sustainability, and affordability of their water supplies.
- Continue to work with local, state and federal agencies, as required.

Note: The actions listed above may be underway or completed, and information may be available from local public water suppliers, planners, or water resource managers.

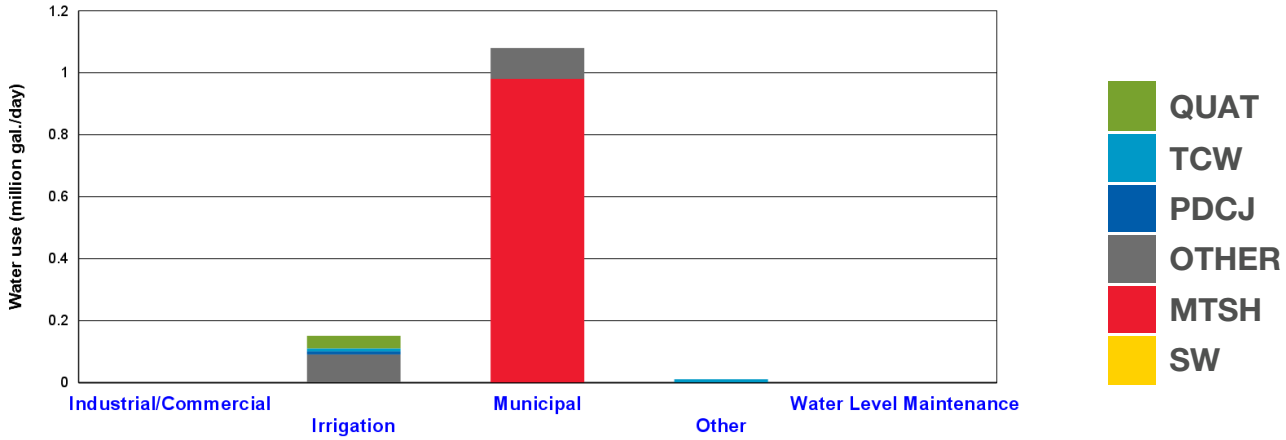
Additional information and guidance is provided in the Local Planning Handbook. Metropolitan Council staff can also provide technical and planning assistance.

COMFORT LAKE FOREST LAKE Water Supply Profile

Available approaches to meet current and future demand

1. Conservation
2. Groundwater sources
3. Stormwater reuse
4. Reclaimed wastewater
5. Enhanced recharge
6. Surface water sources

Amount of water used, on average, by water appropriation permit holders in key water use categories



Projected municipal water use

	2020	2030	2040
Population Served	14,061	17,761	21,461
Total Population	21,500	25,200	28,900
Projected Average Daily Water Use (Million Gal./Day), Plus or Minus 20%	1.57	1.99	2.40
Total Per Capita Water Use (Gal./Person/Day)	112	112	112
What per capita water use would be, if population grew without changing total water use:	92	73	60

Water resource plans and permits that address the following issues support more sustainable water supplies

- State and federal requirements, such as Safe Drinking Water Act standards, conditions identified on water appropriation permits issued by the DNR, water quality permits issued by the MPCA and others
- Potential for water use conflicts and well interference
  - Due to the pervasiveness of private wells in the metro area, there exists a potential water use conflict and well interference of all appropriators
- Potential for significant decline in aquifer water levels

  - A nearby DNR observation well documents a declining trend in aquifer water levels
- Potential for impacts of groundwater pumping on surface water features and ecosystems
  - A state-designated trout stream has been mapped nearby
  - Surface waters in this area may be directly connected to regional groundwater system
  - A spring has been mapped nearby
- Significant vulnerability to contamination
  - A vulnerable Drinking Water Supply Management Area has been designated in the area
  - Travel time from land surface to bedrock aquifers is estimated to be less than 50 years
- Significant uncertainty about aquifer productivity and extent
  - Part of the area may not be well-represented by a Minnesota Department of Health aquifer test
  - The county geologic atlas is more than twenty years old
  - Part of the area may not be represented by a Minnesota Department of Natural Resources or community observation well
- Regulatory considerations
  - A Groundwater Management Area has been designated within the community

Note: Local studies may be underway or completed to provide more information about these issues.

The Metropolitan Council's Local Planning Handbook contains interactive maps of all of these issues, and they are also summarized in Chapter 5 of this Master Water Supply Plan.

As appropriate, incorporate the following actions into plans and programs, consistent with your organization's roles and responsibilities

- Acknowledge the issues above and support partnerships to address them in local water supply plans and water appropriation permit applications.
- Explore and support water demand (water conservation) programs such as incentives, ordinances, education and outreach, rates and other approaches. The Metropolitan Council Water Conservation Toolbox can support these efforts.
- Promote the evaluation of water conflict and well interface as part of the water appropriation permit request and review process. Before requesting water appropriations, water users in this areas should evaluate the need to address water conflict and well interference including a) an inventory of all active domestic and public water supply wells near proposed well locations and b) an analysis of existing water level/water withdrawal data to identify where future drawdowns could affect domestic wells.
- Support collaborative efforts to periodically review local water supply risks and potential alternatives to mitigate those risks. Technical advances, regulatory adjustments and sub-regional developments can present new opportunities for local water suppliers to enhance the resiliency, sustainability, and affordability of their water supplies.
- Continue to work with local, state and federal agencies, as required.

Note: The actions listed above may be underway or completed, and information may be available from local public water suppliers, planners, or water resource managers.

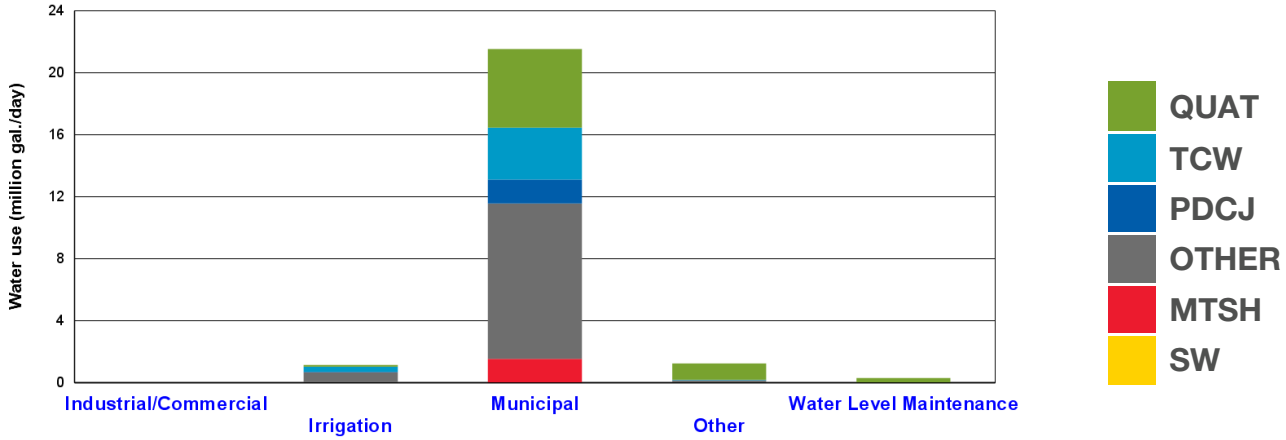
Additional information and guidance is provided in the Local Planning Handbook. Metropolitan Council staff can also provide technical and planning assistance.

COON CREEK Water Supply Profile

Available approaches to meet current and future demand

1. Conservation
2. Groundwater sources
3. Stormwater reuse
4. Reclaimed wastewater
5. Enhanced recharge
6. Surface water sources

Amount of water used, on average, by water appropriation permit holders in key water use categories



Projected municipal water use

	2020	2030	2040
Population Served	180,265	200,145	220,025
Total Population	199,610	219,490	239,370
Projected Average Daily Water Use (Million Gal./Day), Plus or Minus 20%	5.19	5.76	6.34
Total Per Capita Water Use (Gal./Person/Day)	144	144	144
What per capita water use would be, if population grew without changing total water use:	131	119	109

Water resource plans and permits that address the following issues support more sustainable water supplies

- State and federal requirements, such as Safe Drinking Water Act standards, conditions identified on water appropriation permits issued by the DNR, water quality permits issued by the MPCA and others
- Potential for water use conflicts and well interference
  - Due to the pervasiveness of private wells in the metro area, there exists a potential water use conflict and well interference of all appropriators
- Potential for significant decline in aquifer water levels

  - A nearby DNR observation well documents a declining trend in aquifer water levels
- Potential for impacts of groundwater pumping on surface water features and ecosystems
  - Surface waters in this area may be directly connected to regional groundwater system
  - A spring has been mapped nearby
- Significant vulnerability to contamination
  - A vulnerable Drinking Water Supply Management Area has been designated in the area
  - A Special Well and Boring Construction Area has been designated in the area
  - Travel time from land surface to bedrock aquifers is estimated to be less than 50 years
- Significant uncertainty about aquifer productivity and extent
  - Part of the area may not be well-represented by a Minnesota Department of Health aquifer test
  - The county geologic atlas is more than twenty years old
  - Part of the area may not be represented by a Minnesota Department of Natural Resources or community observation well
- Regulatory considerations
  - A Groundwater Management Area has been designated within the community

Note: Local studies may be underway or completed to provide more information about these issues.

The Metropolitan Council's Local Planning Handbook contains interactive maps of all of these issues, and they are also summarized in Chapter 5 of this Master Water Supply Plan.

As appropriate, incorporate the following actions into plans and programs, consistent with your organization's roles and responsibilities

- Acknowledge the issues above and support partnerships to address them in local water supply plans and water appropriation permit applications.
- Explore and support water demand (water conservation) programs such as incentives, ordinances, education and outreach, rates and other approaches. The Metropolitan Council Water Conservation Toolbox can support these efforts.
- Promote the evaluation of water conflict and well interface as part of the water appropriation permit request and review process. Before requesting water appropriations, water users in this areas should evaluate the need to address water conflict and well interference including a) an inventory of all active domestic and public water supply wells near proposed well locations and b) an analysis of existing water level/water withdrawal data to identify where future drawdowns could affect domestic wells.
- Support collaborative efforts to periodically review local water supply risks and potential alternatives to mitigate those risks. Technical advances, regulatory adjustments and sub-regional developments can present new opportunities for local water suppliers to enhance the resiliency, sustainability, and affordability of their water supplies.
- Continue to work with local, state and federal agencies, as required.

Note: The actions listed above may be underway or completed, and information may be available from local public water suppliers, planners, or water resource managers.

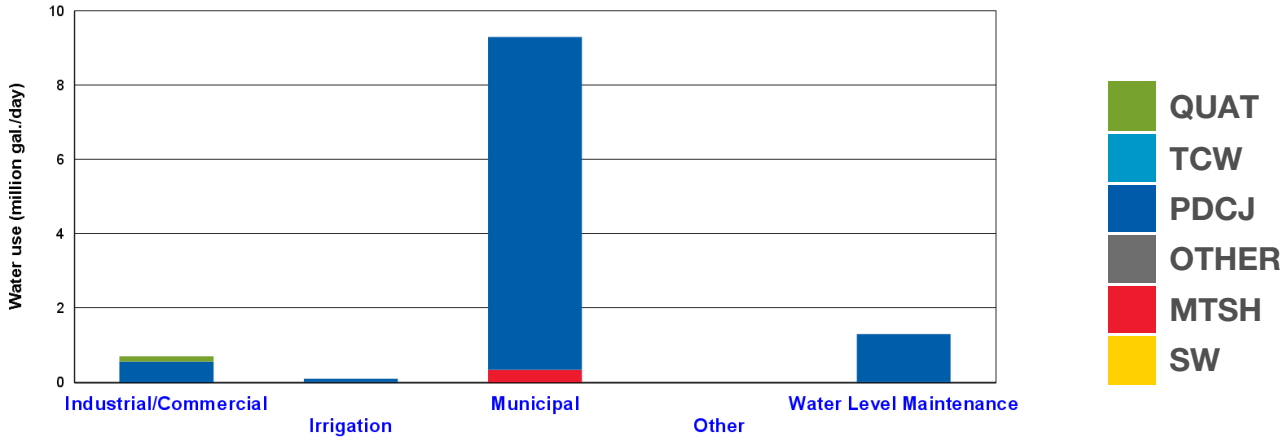
Additional information and guidance is provided in the Local Planning Handbook. Metropolitan Council staff can also provide technical and planning assistance.

EAGAN-INVER GROVE Water Supply Profile

Available approaches to meet current and future demand

1. Conservation
2. Groundwater sources
3. Stormwater reuse
4. Reclaimed wastewater
5. Enhanced recharge
6. Surface water sources

Amount of water used, on average, by water appropriation permit holders in key water use categories



Projected municipal water use

	2020	2030	2040
Population Served	69,670	72,070	74,570
Total Population	67,400	69,800	72,300
Projected Average Daily Water Use (Million Gal./Day), Plus or Minus 20%	9.65	9.98	10.33
Total Per Capita Water Use (Gal./Person/Day)	138	139	138
What per capita water use would be, if population grew without changing total water use:	138	134	129

Water resource plans and permits that address the following issues support more sustainable water supplies

- State and federal requirements, such as Safe Drinking Water Act standards, conditions identified on water appropriation permits issued by the DNR, water quality permits issued by the MPCA and others
- Potential for water use conflicts and well interference
  - Due to the pervasiveness of private wells in the metro area, there exists a potential water use conflict and well interference of all appropriators
- Potential for significant decline in aquifer water levels

  - Regional groundwater modeling indicates significant aquifer decline under pumping rates that meet the projected range of 2040 demand
- Potential for impacts of groundwater pumping on surface water features and ecosystems
  - A state-protected calcareous fen has been mapped nearby
  - A state-designated trout stream has been mapped nearby
  - Surface waters in this area may be directly connected to regional groundwater system
  - A spring has been mapped nearby
- Significant vulnerability to contamination
  - A vulnerable Drinking Water Supply Management Area has been designated in the area
  - Travel time from land surface to bedrock aquifers is estimated to be less than 50 years
- Significant uncertainty about aquifer productivity and extent
  - Part of the area may not be well-represented by a Minnesota Department of Health aquifer test
  - The county geologic atlas is more than twenty years old
  - Part of the area may not be represented by a Minnesota Department of Natural Resources or community observation well

Note: Local studies may be underway or completed to provide more information about these issues.

The Metropolitan Council's Local Planning Handbook contains interactive maps of all of these issues, and they are also summarized in Chapter 5 of this Master Water Supply Plan.

As appropriate, incorporate the following actions into plans and programs, consistent with your organization's roles and responsibilities

- Acknowledge the issues above and support partnerships to address them in local water supply plans and water appropriation permit applications.
- Explore and support water demand (water conservation) programs such as incentives, ordinances, education and outreach, rates and other approaches. The Metropolitan Council Water Conservation Toolbox can support these efforts.
- Promote the evaluation of water conflict and well interface as part of the water appropriation permit request and review process. Before requesting water appropriations, water users in this areas should evaluate the need to address water conflict and well interference including a) an inventory of all active domestic and public water supply wells near proposed well locations and b) an analysis of existing water level/water withdrawal data to identify where future drawdowns could affect domestic wells.
- Support collaborative efforts to periodically review local water supply risks and potential alternatives to mitigate those risks. Technical advances, regulatory adjustments and sub-regional developments can present new opportunities for local water suppliers to enhance the resiliency, sustainability, and affordability of their water supplies.
- Continue to work with local, state and federal agencies, as required.

Note: The actions listed above may be underway or completed, and information may be available from local public water suppliers, planners, or water resource managers.

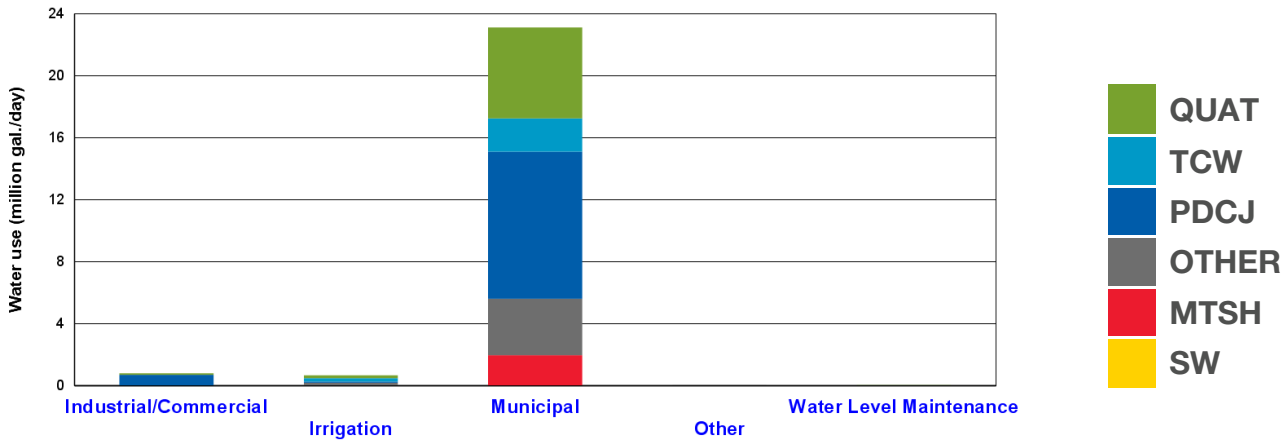
Additional information and guidance is provided in the Local Planning Handbook. Metropolitan Council staff can also provide technical and planning assistance.

ELM CREEK Water Supply Profile

Available approaches to meet current and future demand

1. Conservation
2. Groundwater sources
3. Stormwater reuse
4. Reclaimed wastewater
5. Enhanced recharge
6. Surface water sources

Amount of water used, on average, by water appropriation permit holders in key water use categories



Projected municipal water use

	2020	2030	2040
Population Served	189,067	212,171	246,959
Total Population	195,900	218,500	238,900
Projected Average Daily Water Use (Million Gal./Day), Plus or Minus 20%	4.59	5.17	6.04
Total Per Capita Water Use (Gal./Person/Day)	146	146	147
What per capita water use would be, if population grew without changing total water use:	111	95	82

Water resource plans and permits that address the following issues support more sustainable water supplies

- State and federal requirements, such as Safe Drinking Water Act standards, conditions identified on water appropriation permits issued by the DNR, water quality permits issued by the MPCA and others
- Potential for water use conflicts and well interference
  - Due to the pervasiveness of private wells in the metro area, there exists a potential water use conflict and well interference of all appropriators
- Potential for impacts of groundwater pumping on surface water features and ecosystems

  - Surface waters in this area may be directly connected to regional groundwater system
- Significant vulnerability to contamination
  - A vulnerable Drinking Water Supply Management Area has been designated in the area
  - Travel time from land surface to bedrock aquifers is estimated to be less than 50 years
- Significant uncertainty about aquifer productivity and extent
  - Part of the area may not be well-represented by a Minnesota Department of Health aquifer test
  - The county geologic atlas is more than twenty years old
  - Part of the area may not be represented by a Minnesota Department of Natural Resources or community observation well

Note: Local studies may be underway or completed to provide more information about these issues.

The Metropolitan Council's Local Planning Handbook contains interactive maps of all of these issues, and they are also summarized in Chapter 5 of this Master Water Supply Plan.

As appropriate, incorporate the following actions into plans and programs, consistent with your organization's roles and responsibilities

- Acknowledge the issues above and support partnerships to address them in local water supply plans and water appropriation permit applications.
- Explore and support water demand (water conservation) programs such as incentives, ordinances, education and outreach, rates and other approaches. The Metropolitan Council Water Conservation Toolbox can support these efforts.
- Promote the evaluation of water conflict and well interface as part of the water appropriation permit request and review process. Before requesting water appropriations, water users in this areas should evaluate the need to address water conflict and well interference including a) an inventory of all active domestic and public water supply wells near proposed well locations and b) an analysis of existing water level/water withdrawal data to identify where future drawdowns could affect domestic wells.
- Support collaborative efforts to periodically review local water supply risks and potential alternatives to mitigate those risks. Technical advances, regulatory adjustments and sub-regional developments can present new opportunities for local water suppliers to enhance the resiliency, sustainability, and affordability of their water supplies.
- Continue to work with local, state and federal agencies, as required.

Note: The actions listed above may be underway or completed, and information may be available from local public water suppliers, planners, or water resource managers.

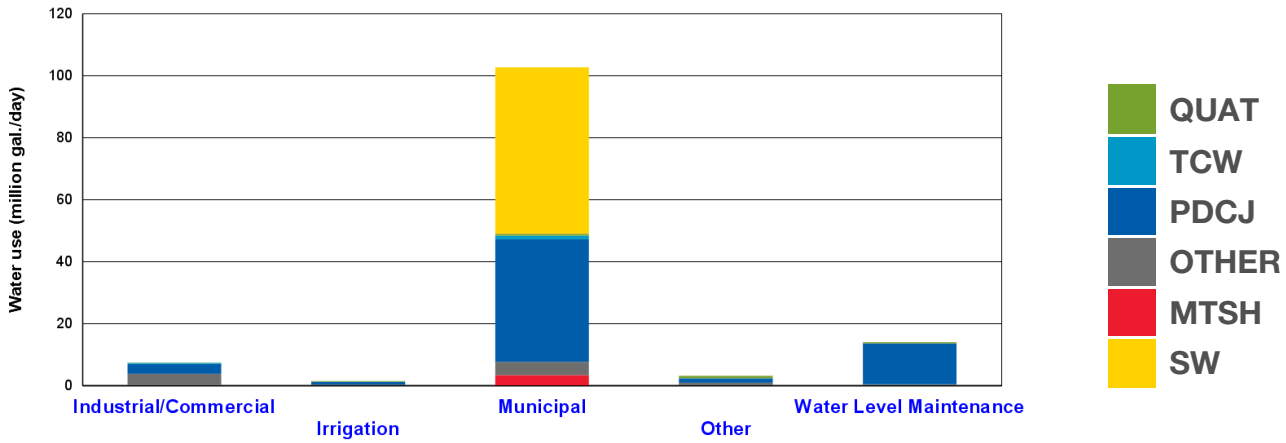
Additional information and guidance is provided in the Local Planning Handbook. Metropolitan Council staff can also provide technical and planning assistance.

LOWER MINNESOTA RIVER Water Supply Profile

Available approaches to meet current and future demand

1. Conservation
2. Groundwater sources
3. Stormwater reuse
4. Reclaimed wastewater
5. Enhanced recharge
6. Surface water sources

Amount of water used, on average, by water appropriation permit holders in key water use categories



Projected municipal water use

	2020	2030	2040
Population Served	841,718	899,818	964,418
Total Population	845,600	903,700	968,300
Projected Average Daily Water Use (Million Gal./Day), Plus or Minus 20%	9.72	10.42	11.19
Total Per Capita Water Use (Gal./Person/Day)	116	116	116
What per capita water use would be, if population grew without changing total water use:	118	104	95

Water resource plans and permits that address the following issues support more sustainable water supplies

- State and federal requirements, such as Safe Drinking Water Act standards, conditions identified on water appropriation permits issued by the DNR, water quality permits issued by the MPCA and others
- Potential for water use conflicts and well interference
  - Due to the pervasiveness of private wells in the metro area, there exists a potential water use conflict and well interference of all appropriators
- Potential for significant decline in aquifer water levels

  - A nearby DNR observation well documents a declining trend in aquifer water levels
  - Regional groundwater modeling indicates significant aquifer decline under pumping rates that meet the projected range of 2040 demand
- Potential for impacts of groundwater pumping on surface water features and ecosystems
  - A state-protected calcareous fen has been mapped nearby
  - A state-designated trout stream has been mapped nearby
  - Surface waters in this area may be directly connected to regional groundwater system
  - A spring has been mapped nearby
- Significant vulnerability to contamination
  - A sinkhole (karst) has been mapped nearby
  - A vulnerable Drinking Water Supply Management Area has been designated in the area
  - A Special Well and Boring Construction Area has been designated in the area
  - Travel time from land surface to bedrock aquifers is estimated to be less than 50 years
- Significant uncertainty about aquifer productivity and extent
  - Part of the area may not be well-represented by a Minnesota Department of Health aquifer test
  - The county geologic atlas is more than twenty years old
  - Part of the area may not be represented by a Minnesota Department of Natural Resources or community observation well

Note: Local studies may be underway or completed to provide more information about these issues.

The Metropolitan Council's Local Planning Handbook contains interactive maps of all of these issues, and they are also summarized in Chapter 5 of this Master Water Supply Plan.

As appropriate, incorporate the following actions into plans and programs, consistent with your organization's roles and responsibilities

- Acknowledge the issues above and support partnerships to address them in local water supply plans and water appropriation permit applications.
- Explore and support water demand (water conservation) programs such as incentives, ordinances, education and outreach, rates and other approaches. The Metropolitan Council Water Conservation Toolbox can support these efforts.
- Promote the evaluation of water conflict and well interface as part of the water appropriation permit request and review process. Before requesting water appropriations, water users in this areas should evaluate the need to address water conflict and well interference including a) an inventory of all active domestic and public water supply wells near proposed well locations and b) an analysis of existing water level/water withdrawal data to identify where future drawdowns could affect domestic wells.
- Support collaborative efforts to periodically review local water supply risks and potential alternatives to mitigate those risks. Technical advances, regulatory adjustments and sub-regional developments can present new opportunities for local water suppliers to enhance the resiliency, sustainability, and affordability of their water supplies.
- Continue to work with local, state and federal agencies, as required.

Note: The actions listed above may be underway or completed, and information may be available from local public water suppliers, planners, or water resource managers.

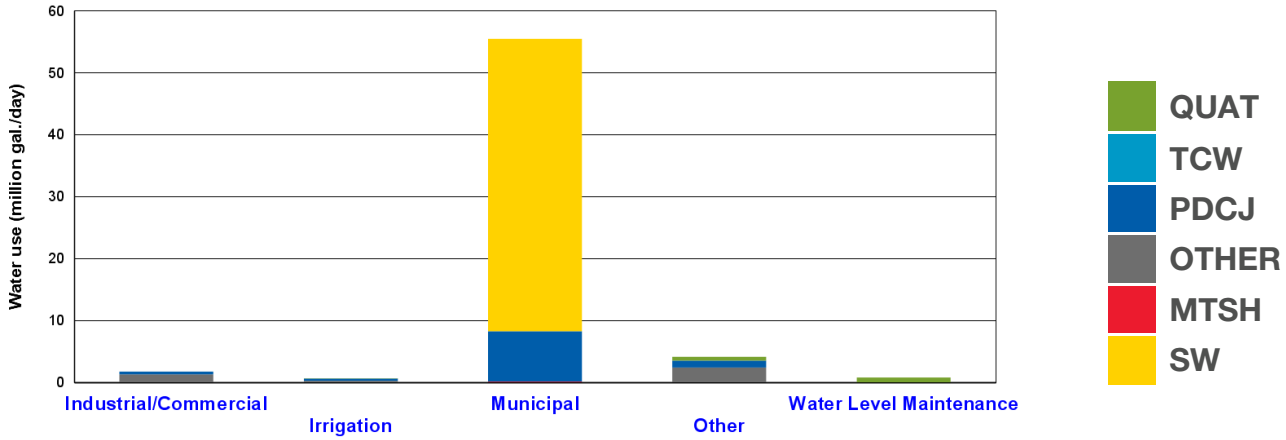
Additional information and guidance is provided in the Local Planning Handbook. Metropolitan Council staff can also provide technical and planning assistance.

LOWER MISSISSIPPI RIVER Water Supply Profile

Available approaches to meet current and future demand

1. Conservation
2. Groundwater sources
3. Stormwater reuse
4. Reclaimed wastewater
5. Enhanced recharge
6. Surface water sources

Amount of water used, on average, by water appropriation permit holders in key water use categories



Projected municipal water use

	2020	2030	2040
Population Served	499,370	530,142	563,812
Total Population	373,800	392,700	412,600
Projected Average Daily Water Use (Million Gal./Day), Plus or Minus 20%	17.51	17.65	17.82
Total Per Capita Water Use (Gal./Person/Day)	105	100	95
What per capita water use would be, if population grew without changing total water use:	97	92	87

Water resource plans and permits that address the following issues support more sustainable water supplies

- State and federal requirements, such as Safe Drinking Water Act standards, conditions identified on water appropriation permits issued by the DNR, water quality permits issued by the MPCA and others
- Potential for water use conflicts and well interference
  - Due to the pervasiveness of private wells in the metro area, there exists a potential water use conflict and well interference of all appropriators
- Potential for significant decline in aquifer water levels

  - Regional groundwater modeling indicates significant aquifer decline under pumping rates that meet the projected range of 2040 demand
- Potential for impacts of groundwater pumping on surface water features and ecosystems
  - A state-protected calcareous fen has been mapped nearby
  - A state-designated trout stream has been mapped nearby
  - Surface waters in this area may be directly connected to regional groundwater system
  - A spring has been mapped nearby
- Significant vulnerability to contamination
  - A vulnerable Drinking Water Supply Management Area has been designated in the area
  - A Special Well and Boring Construction Area has been designated in the area
  - Travel time from land surface to bedrock aquifers is estimated to be less than 50 years
- Significant uncertainty about aquifer productivity and extent
  - Part of the area may not be well-represented by a Minnesota Department of Health aquifer test
  - The county geologic atlas is more than twenty years old
  - Part of the area may not be represented by a Minnesota Department of Natural Resources or community observation well
- Regulatory considerations
  - A Groundwater Management Area has been designated within the community

Note: Local studies may be underway or completed to provide more information about these issues.

The Metropolitan Council's Local Planning Handbook contains interactive maps of all of these issues, and they are also summarized in Chapter 5 of this Master Water Supply Plan.

As appropriate, incorporate the following actions into plans and programs, consistent with your organization's roles and responsibilities

- Acknowledge the issues above and support partnerships to address them in local water supply plans and water appropriation permit applications.
- Explore and support water demand (water conservation) programs such as incentives, ordinances, education and outreach, rates and other approaches. The Metropolitan Council Water Conservation Toolbox can support these efforts.
- Promote the evaluation of water conflict and well interface as part of the water appropriation permit request and review process. Before requesting water appropriations, water users in this areas should evaluate the need to address water conflict and well interference including a) an inventory of all active domestic and public water supply wells near proposed well locations and b) an analysis of existing water level/water withdrawal data to identify where future drawdowns could affect domestic wells.
- Support collaborative efforts to periodically review local water supply risks and potential alternatives to mitigate those risks. Technical advances, regulatory adjustments and sub-regional developments can present new opportunities for local water suppliers to enhance the resiliency, sustainability, and affordability of their water supplies.
- Continue to work with local, state and federal agencies, as required.

Note: The actions listed above may be underway or completed, and information may be available from local public water suppliers, planners, or water resource managers.

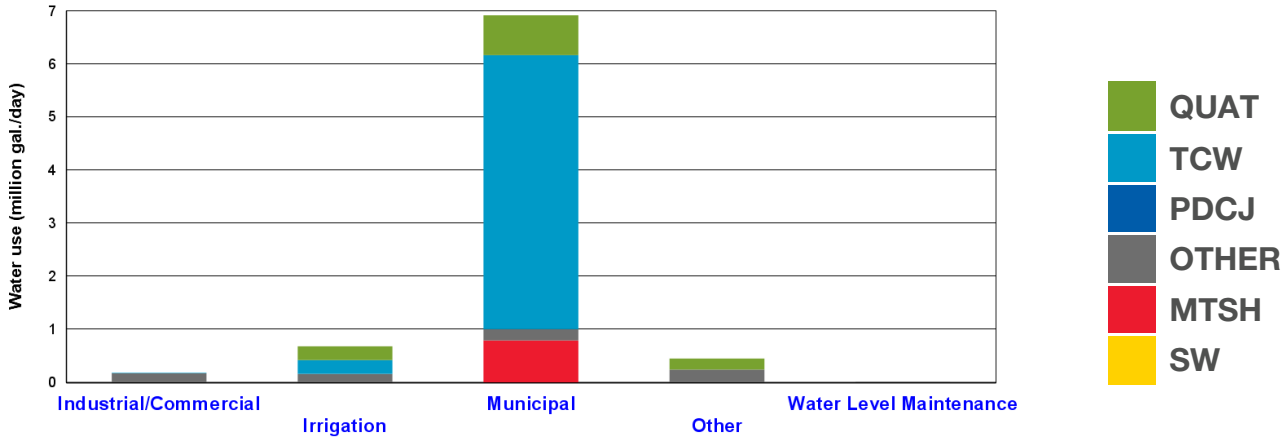
Additional information and guidance is provided in the Local Planning Handbook. Metropolitan Council staff can also provide technical and planning assistance.

LOWER RUM RIVER Water Supply Profile

Available approaches to meet current and future demand

1. Conservation
2. Groundwater sources
3. Stormwater reuse
4. Reclaimed wastewater
5. Enhanced recharge
6. Surface water sources

Amount of water used, on average, by water appropriation permit holders in key water use categories



Projected municipal water use

	2020	2030	2040
Population Served	54,487	64,287	73,187
Total Population	79,100	88,900	97,800
Projected Average Daily Water Use (Million Gal./Day), Plus or Minus 20%	2.80	3.31	3.78
Total Per Capita Water Use (Gal./Person/Day)	154	155	155
What per capita water use would be, if population grew without changing total water use:	134	114	100

Water resource plans and permits that address the following issues support more sustainable water supplies

- State and federal requirements, such as Safe Drinking Water Act standards, conditions identified on water appropriation permits issued by the DNR, water quality permits issued by the MPCA and others
- Potential for water use conflicts and well interference
  - Due to the pervasiveness of private wells in the metro area, there exists a potential water use conflict and well interference of all appropriators
- Potential for impacts of groundwater pumping on surface water features and ecosystems

  - Surface waters in this area may be directly connected to regional groundwater system
- Significant vulnerability to contamination
  - A vulnerable Drinking Water Supply Management Area has been designated in the area
  - Travel time from land surface to bedrock aquifers is estimated to be less than 50 years
- Significant uncertainty about aquifer productivity and extent
  - Part of the area may not be well-represented by a Minnesota Department of Health aquifer test
  - Part of the area may not be represented by a Minnesota Department of Natural Resources or community observation well

Note: Local studies may be underway or completed to provide more information about these issues.

The Metropolitan Council's Local Planning Handbook contains interactive maps of all of these issues, and they are also summarized in Chapter 5 of this Master Water Supply Plan.

As appropriate, incorporate the following actions into plans and programs, consistent with your organization's roles and responsibilities

- Acknowledge the issues above and support partnerships to address them in local water supply plans and water appropriation permit applications.
- Explore and support water demand (water conservation) programs such as incentives, ordinances, education and outreach, rates and other approaches. The Metropolitan Council Water Conservation Toolbox can support these efforts.
- Promote the evaluation of water conflict and well interface as part of the water appropriation permit request and review process. Before requesting water appropriations, water users in this areas should evaluate the need to address water conflict and well interference including a) an inventory of all active domestic and public water supply wells near proposed well locations and b) an analysis of existing water level/water withdrawal data to identify where future drawdowns could affect domestic wells.
- Support collaborative efforts to periodically review local water supply risks and potential alternatives to mitigate those risks. Technical advances, regulatory adjustments and sub-regional developments can present new opportunities for local water suppliers to enhance the resiliency, sustainability, and affordability of their water supplies.
- Continue to work with local, state and federal agencies, as required.

Note: The actions listed above may be underway or completed, and information may be available from local public water suppliers, planners, or water resource managers.

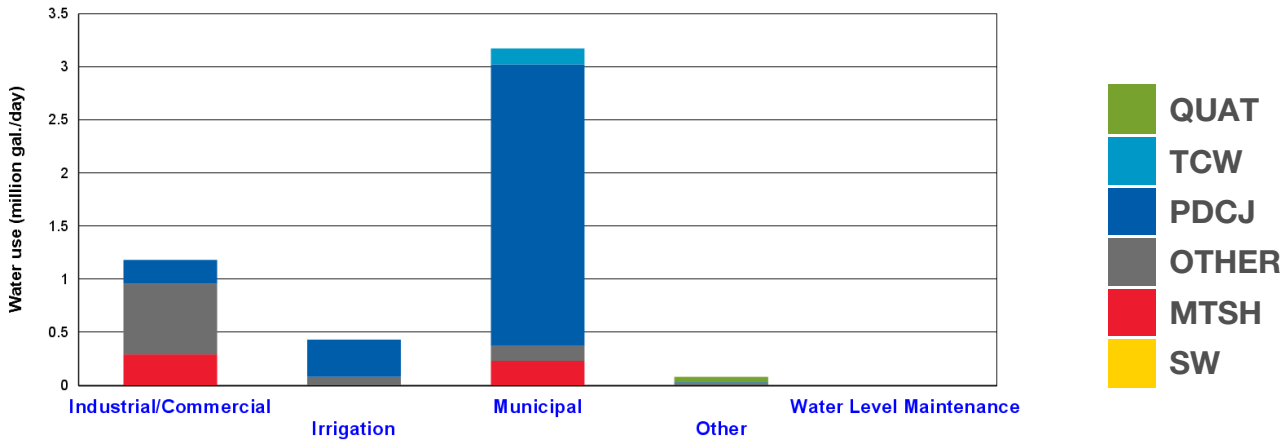
Additional information and guidance is provided in the Local Planning Handbook. Metropolitan Council staff can also provide technical and planning assistance.

MIDDLE ST. CROIX RIVER Water Supply Profile

Available approaches to meet current and future demand

1. Conservation
2. Groundwater sources
3. Stormwater reuse
4. Reclaimed wastewater
5. Enhanced recharge
6. Surface water sources

Amount of water used, on average, by water appropriation permit holders in key water use categories



Projected municipal water use

	2020	2030	2040
Population Served	30,903	32,952	34,740
Total Population	31,190	33,130	34,810
Projected Average Daily Water Use (Million Gal./Day), Plus or Minus 20%	0.94	1.00	1.06
Total Per Capita Water Use (Gal./Person/Day)	122	122	122
What per capita water use would be, if population grew without changing total water use:	106	98	92

Water resource plans and permits that address the following issues support more sustainable water supplies

- State and federal requirements, such as Safe Drinking Water Act standards, conditions identified on water appropriation permits issued by the DNR, water quality permits issued by the MPCA and others
- Potential for water use conflicts and well interference
  - Due to the pervasiveness of private wells in the metro area, there exists a potential water use conflict and well interference of all appropriators
- Potential for impacts of groundwater pumping on surface water features and ecosystems

  - A state-designated trout stream has been mapped nearby
  - Surface waters in this area may be directly connected to regional groundwater system
  - A spring has been mapped nearby
- Significant vulnerability to contamination
  - A sinkhole (karst) has been mapped nearby
  - A vulnerable Drinking Water Supply Management Area has been designated in the area
  - A Special Well and Boring Construction Area has been designated in the area
  - Travel time from land surface to bedrock aquifers is estimated to be less than 50 years
- Significant uncertainty about aquifer productivity and extent
  - Part of the area may not be well-represented by a Minnesota Department of Health aquifer test
  - The county geologic atlas is more than twenty years old
  - Part of the area may not be represented by a Minnesota Department of Natural Resources or community observation well
- Regulatory considerations
  - A Groundwater Management Area has been designated within the community

Note: Local studies may be underway or completed to provide more information about these issues.

The Metropolitan Council's Local Planning Handbook contains interactive maps of all of these issues, and they are also summarized in Chapter 5 of this Master Water Supply Plan.

As appropriate, incorporate the following actions into plans and programs, consistent with your organization's roles and responsibilities

- Acknowledge the issues above and support partnerships to address them in local water supply plans and water appropriation permit applications.
- Explore and support water demand (water conservation) programs such as incentives, ordinances, education and outreach, rates and other approaches. The Metropolitan Council Water Conservation Toolbox can support these efforts.
- Promote the evaluation of water conflict and well interface as part of the water appropriation permit request and review process. Before requesting water appropriations, water users in this areas should evaluate the need to address water conflict and well interference including a) an inventory of all active domestic and public water supply wells near proposed well locations and b) an analysis of existing water level/water withdrawal data to identify where future drawdowns could affect domestic wells.
- Support collaborative efforts to periodically review local water supply risks and potential alternatives to mitigate those risks. Technical advances, regulatory adjustments and sub-regional developments can present new opportunities for local water suppliers to enhance the resiliency, sustainability, and affordability of their water supplies.
- Continue to work with local, state and federal agencies, as required.

Note: The actions listed above may be underway or completed, and information may be available from local public water suppliers, planners, or water resource managers.

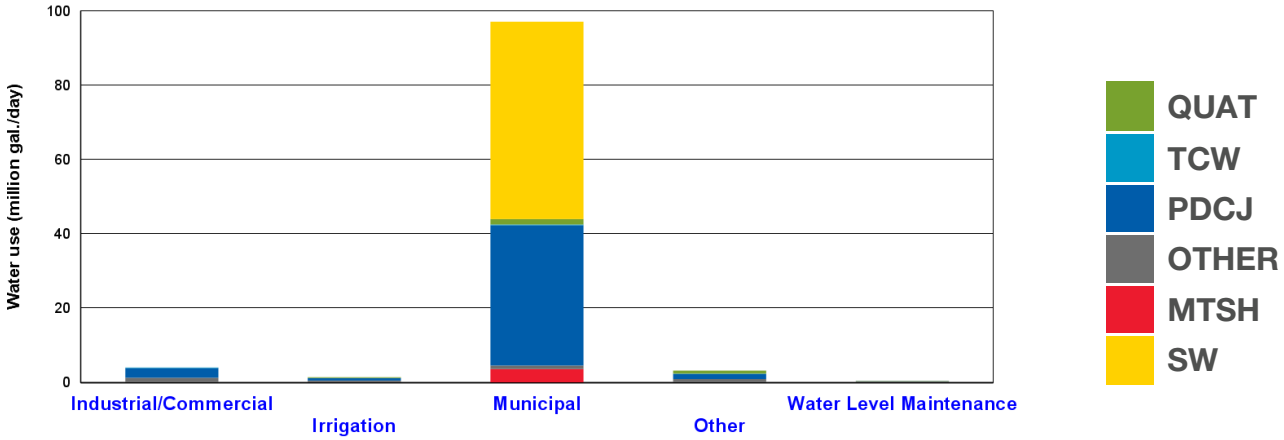
Additional information and guidance is provided in the Local Planning Handbook. Metropolitan Council staff can also provide technical and planning assistance.

MINNEHAHA CREEK Water Supply Profile

Available approaches to meet current and future demand

1. Conservation
2. Groundwater sources
3. Stormwater reuse
4. Reclaimed wastewater
5. Enhanced recharge
6. Surface water sources

Amount of water used, on average, by water appropriation permit holders in key water use categories



Projected municipal water use

	2020	2030	2040
Population Served	772,952	811,563	864,950
Total Population	794,180	835,900	879,070
Projected Average Daily Water Use (Million Gal./Day), Plus or Minus 20%	4.28	4.51	4.83
Total Per Capita Water Use (Gal./Person/Day)	116	117	117
What per capita water use would be, if population grew without changing total water use:	125	115	108

Water resource plans and permits that address the following issues support more sustainable water supplies

- State and federal requirements, such as Safe Drinking Water Act standards, conditions identified on water appropriation permits issued by the DNR, water quality permits issued by the MPCA and others
- Potential for water use conflicts and well interference
  - Due to the pervasiveness of private wells in the metro area, there exists a potential water use conflict and well interference of all appropriators
- Potential for significant decline in aquifer water levels

  - A nearby DNR observation well documents a declining trend in aquifer water levels
- Potential for impacts of groundwater pumping on surface water features and ecosystems
  - A state-protected calcareous fen has been mapped nearby
  - A state-designated trout stream has been mapped nearby
  - Surface waters in this area may be directly connected to regional groundwater system
  - A spring has been mapped nearby
- Significant vulnerability to contamination
  - A sinkhole (karst) has been mapped nearby
  - A vulnerable Drinking Water Supply Management Area has been designated in the area
  - A Special Well and Boring Construction Area has been designated in the area
  - Travel time from land surface to bedrock aquifers is estimated to be less than 50 years
- Significant uncertainty about aquifer productivity and extent
  - Part of the area may not be well-represented by a Minnesota Department of Health aquifer test
  - The county geologic atlas is more than twenty years old
  - Part of the area may not be represented by a Minnesota Department of Natural Resources or community observation well

Note: Local studies may be underway or completed to provide more information about these issues.

The Metropolitan Council's Local Planning Handbook contains interactive maps of all of these issues, and they are also summarized in Chapter 5 of this Master Water Supply Plan.

As appropriate, incorporate the following actions into plans and programs, consistent with your organization's roles and responsibilities

- Acknowledge the issues above and support partnerships to address them in local water supply plans and water appropriation permit applications.
- Explore and support water demand (water conservation) programs such as incentives, ordinances, education and outreach, rates and other approaches. The Metropolitan Council Water Conservation Toolbox can support these efforts.
- Promote the evaluation of water conflict and well interface as part of the water appropriation permit request and review process. Before requesting water appropriations, water users in this areas should evaluate the need to address water conflict and well interference including a) an inventory of all active domestic and public water supply wells near proposed well locations and b) an analysis of existing water level/water withdrawal data to identify where future drawdowns could affect domestic wells.
- Support collaborative efforts to periodically review local water supply risks and potential alternatives to mitigate those risks. Technical advances, regulatory adjustments and sub-regional developments can present new opportunities for local water suppliers to enhance the resiliency, sustainability, and affordability of their water supplies.
- Continue to work with local, state and federal agencies, as required.

Note: The actions listed above may be underway or completed, and information may be available from local public water suppliers, planners, or water resource managers.

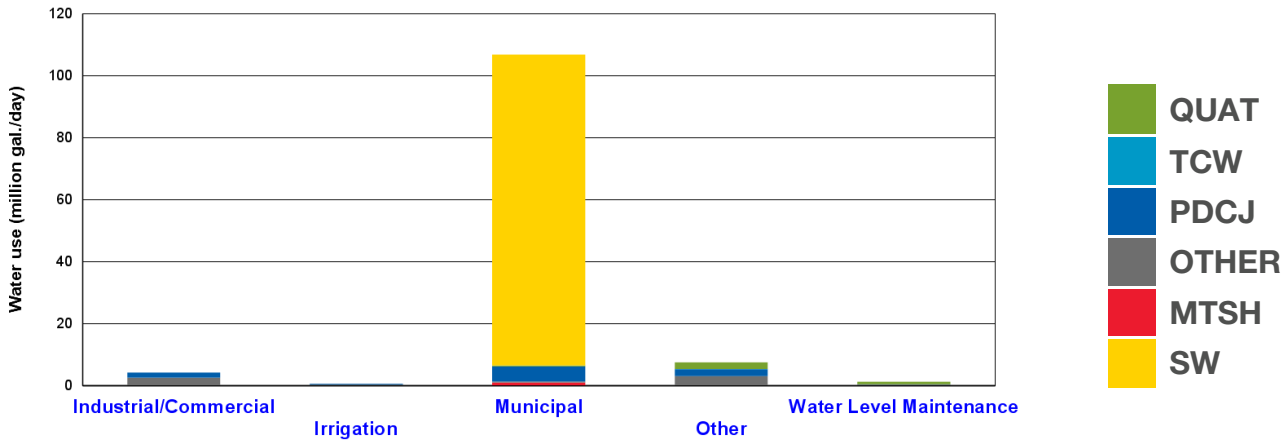
Additional information and guidance is provided in the Local Planning Handbook. Metropolitan Council staff can also provide technical and planning assistance.

MISSISSIPPI Water Supply Profile

Available approaches to meet current and future demand

1. Conservation
2. Groundwater sources
3. Stormwater reuse
4. Reclaimed wastewater
5. Enhanced recharge
6. Surface water sources

Amount of water used, on average, by water appropriation permit holders in key water use categories



Projected municipal water use

	2020	2030	2040
Population Served	921,611	966,484	1,017,804
Total Population	796,050	829,450	867,800
Projected Average Daily Water Use (Million Gal./Day), Plus or Minus 20%	19.01	19.40	19.88
Total Per Capita Water Use (Gal./Person/Day)	103	100	98
What per capita water use would be, if population grew without changing total water use:	103	98	93

Water resource plans and permits that address the following issues support more sustainable water supplies

- State and federal requirements, such as Safe Drinking Water Act standards, conditions identified on water appropriation permits issued by the DNR, water quality permits issued by the MPCA and others
- Potential for water use conflicts and well interference
  - Due to the pervasiveness of private wells in the metro area, there exists a potential water use conflict and well interference of all appropriators
- Potential for impacts of groundwater pumping on surface water features and ecosystems

  - A state-protected calcareous fen has been mapped nearby
  - Surface waters in this area may be directly connected to regional groundwater system
  - A spring has been mapped nearby
- Significant vulnerability to contamination
  - A sinkhole (karst) has been mapped nearby
  - A vulnerable Drinking Water Supply Management Area has been designated in the area
  - A Special Well and Boring Construction Area has been designated in the area
  - Travel time from land surface to bedrock aquifers is estimated to be less than 50 years
- Significant uncertainty about aquifer productivity and extent
  - Part of the area may not be well-represented by a Minnesota Department of Health aquifer test
  - The county geologic atlas is more than twenty years old
  - Part of the area may not be represented by a Minnesota Department of Natural Resources or community observation well
- Regulatory considerations
  - A Groundwater Management Area has been designated within the community

Note: Local studies may be underway or completed to provide more information about these issues.

The Metropolitan Council's Local Planning Handbook contains interactive maps of all of these issues, and they are also summarized in Chapter 5 of this Master Water Supply Plan.

As appropriate, incorporate the following actions into plans and programs, consistent with your organization's roles and responsibilities

- Acknowledge the issues above and support partnerships to address them in local water supply plans and water appropriation permit applications.
- Explore and support water demand (water conservation) programs such as incentives, ordinances, education and outreach, rates and other approaches. The Metropolitan Council Water Conservation Toolbox can support these efforts.
- Promote the evaluation of water conflict and well interface as part of the water appropriation permit request and review process. Before requesting water appropriations, water users in this areas should evaluate the need to address water conflict and well interference including a) an inventory of all active domestic and public water supply wells near proposed well locations and b) an analysis of existing water level/water withdrawal data to identify where future drawdowns could affect domestic wells.
- Support collaborative efforts to periodically review local water supply risks and potential alternatives to mitigate those risks. Technical advances, regulatory adjustments and sub-regional developments can present new opportunities for local water suppliers to enhance the resiliency, sustainability, and affordability of their water supplies.
- Continue to work with local, state and federal agencies, as required.

Note: The actions listed above may be underway or completed, and information may be available from local public water suppliers, planners, or water resource managers.

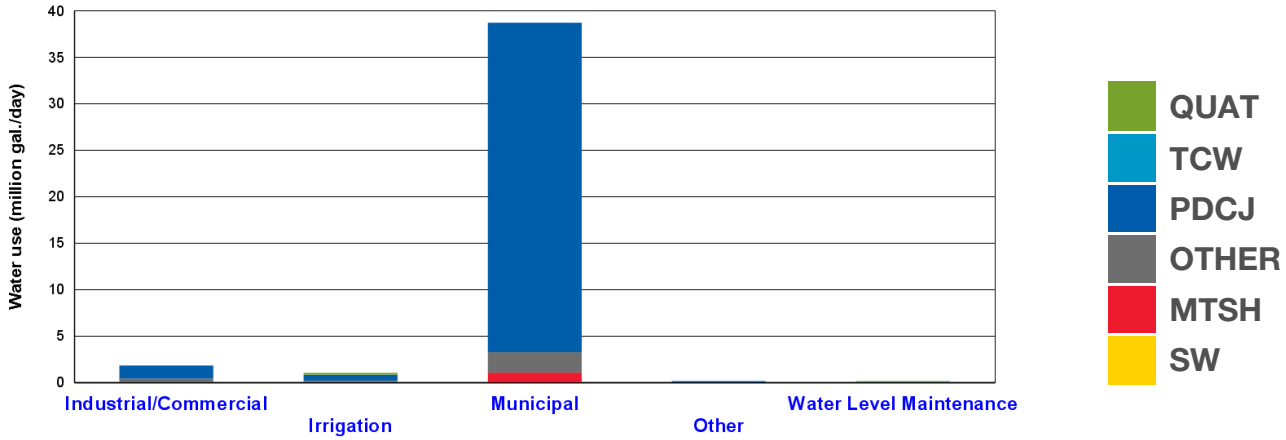
Additional information and guidance is provided in the Local Planning Handbook. Metropolitan Council staff can also provide technical and planning assistance.

NINE MILE CREEK Water Supply Profile

Available approaches to meet current and future demand

1. Conservation
2. Groundwater sources
3. Stormwater reuse
4. Reclaimed wastewater
5. Enhanced recharge
6. Surface water sources

Amount of water used, on average, by water appropriation permit holders in key water use categories



Projected municipal water use

	2020	2030	2040
Population Served	309,285	327,041	349,806
Total Population	311,600	330,100	346,000
Projected Average Daily Water Use (Million Gal./Day), Plus or Minus 20%	7.06	7.49	8.03
Total Per Capita Water Use (Gal./Person/Day)	137	137	138
What per capita water use would be, if population grew without changing total water use:	129	123	116

Water resource plans and permits that address the following issues support more sustainable water supplies

- State and federal requirements, such as Safe Drinking Water Act standards, conditions identified on water appropriation permits issued by the DNR, water quality permits issued by the MPCA and others
- Potential for water use conflicts and well interference
  - Due to the pervasiveness of private wells in the metro area, there exists a potential water use conflict and well interference of all appropriators
- Potential for significant decline in aquifer water levels

  - A nearby DNR observation well documents a declining trend in aquifer water levels
- Potential for impacts of groundwater pumping on surface water features and ecosystems
  - A state-protected calcareous fen has been mapped nearby
  - A state-designated trout stream has been mapped nearby
  - Surface waters in this area may be directly connected to regional groundwater system
  - A spring has been mapped nearby
- Significant vulnerability to contamination
  - A sinkhole (karst) has been mapped nearby
  - A vulnerable Drinking Water Supply Management Area has been designated in the area
  - Travel time from land surface to bedrock aquifers is estimated to be less than 50 years
- Significant uncertainty about aquifer productivity and extent
  - Part of the area may not be well-represented by a Minnesota Department of Health aquifer test
  - The county geologic atlas is more than twenty years old
  - Part of the area may not be represented by a Minnesota Department of Natural Resources or community observation well

Note: Local studies may be underway or completed to provide more information about these issues.

The Metropolitan Council's Local Planning Handbook contains interactive maps of all of these issues, and they are also summarized in Chapter 5 of this Master Water Supply Plan.

As appropriate, incorporate the following actions into plans and programs, consistent with your organization's roles and responsibilities

- Acknowledge the issues above and support partnerships to address them in local water supply plans and water appropriation permit applications.
- Explore and support water demand (water conservation) programs such as incentives, ordinances, education and outreach, rates and other approaches. The Metropolitan Council Water Conservation Toolbox can support these efforts.
- Promote the evaluation of water conflict and well interface as part of the water appropriation permit request and review process. Before requesting water appropriations, water users in this areas should evaluate the need to address water conflict and well interference including a) an inventory of all active domestic and public water supply wells near proposed well locations and b) an analysis of existing water level/water withdrawal data to identify where future drawdowns could affect domestic wells.
- Support collaborative efforts to periodically review local water supply risks and potential alternatives to mitigate those risks. Technical advances, regulatory adjustments and sub-regional developments can present new opportunities for local water suppliers to enhance the resiliency, sustainability, and affordability of their water supplies.
- Continue to work with local, state and federal agencies, as required.

Note: The actions listed above may be underway or completed, and information may be available from local public water suppliers, planners, or water resource managers.

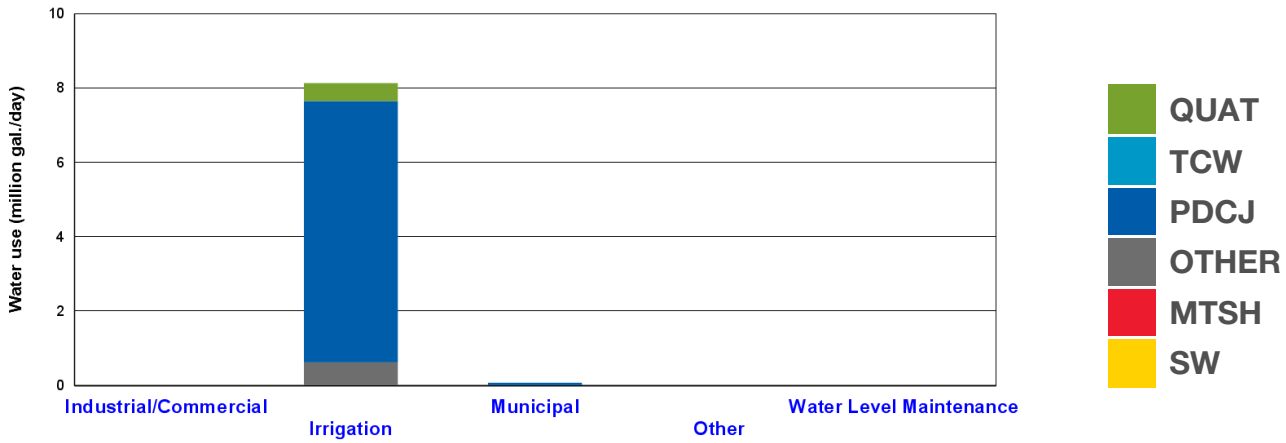
Additional information and guidance is provided in the Local Planning Handbook. Metropolitan Council staff can also provide technical and planning assistance.

NORTH CANNON RIVER Water Supply Profile

Available approaches to meet current and future demand

1. Conservation
2. Groundwater sources
3. Stormwater reuse
4. Reclaimed wastewater
5. Enhanced recharge
6. Surface water sources

Amount of water used, on average, by water appropriation permit holders in key water use categories



Projected municipal water use

	2020	2030	2040
Population Served	570	560	540
Total Population	570	560	540
Projected Average Daily Water Use (Million Gal./Day), Plus or Minus 20%	0.04	0.04	0.03
Total Per Capita Water Use (Gal./Person/Day)	129	130	129
What per capita water use would be, if population grew without changing total water use:	168	168	176

Water resource plans and permits that address the following issues support more sustainable water supplies

- State and federal requirements, such as Safe Drinking Water Act standards, conditions identified on water appropriation permits issued by the DNR, water quality permits issued by the MPCA and others
- Potential for water use conflicts and well interference
  - Due to the pervasiveness of private wells in the metro area, there exists a potential water use conflict and well interference of all appropriators
- Potential for significant decline in aquifer water levels

  - Regional groundwater modeling indicates significant aquifer decline under pumping rates that meet the projected range of 2040 demand
- Potential for impacts of groundwater pumping on surface water features and ecosystems
  - A state-designated trout stream has been mapped nearby
  - Surface waters in this area may be directly connected to regional groundwater system
  - A spring has been mapped nearby
- Significant vulnerability to contamination
  - A sinkhole (karst) has been mapped nearby
  - A vulnerable Drinking Water Supply Management Area has been designated in the area
  - Travel time from land surface to bedrock aquifers is estimated to be less than 50 years
- Significant uncertainty about aquifer productivity and extent
  - Part of the area may not be well-represented by a Minnesota Department of Health aquifer test
  - The county geologic atlas is more than twenty years old
  - Part of the area may not be represented by a Minnesota Department of Natural Resources or community observation well

Note: Local studies may be underway or completed to provide more information about these issues.

The Metropolitan Council's Local Planning Handbook contains interactive maps of all of these issues, and they are also summarized in Chapter 5 of this Master Water Supply Plan.

As appropriate, incorporate the following actions into plans and programs, consistent with your organization's roles and responsibilities

- Acknowledge the issues above and support partnerships to address them in local water supply plans and water appropriation permit applications.
- Explore and support water demand (water conservation) programs such as incentives, ordinances, education and outreach, rates and other approaches. The Metropolitan Council Water Conservation Toolbox can support these efforts.
- Promote the evaluation of water conflict and well interface as part of the water appropriation permit request and review process. Before requesting water appropriations, water users in this areas should evaluate the need to address water conflict and well interference including a) an inventory of all active domestic and public water supply wells near proposed well locations and b) an analysis of existing water level/water withdrawal data to identify where future drawdowns could affect domestic wells.
- Support collaborative efforts to periodically review local water supply risks and potential alternatives to mitigate those risks. Technical advances, regulatory adjustments and sub-regional developments can present new opportunities for local water suppliers to enhance the resiliency, sustainability, and affordability of their water supplies.
- Continue to work with local, state and federal agencies, as required.

Note: The actions listed above may be underway or completed, and information may be available from local public water suppliers, planners, or water resource managers.

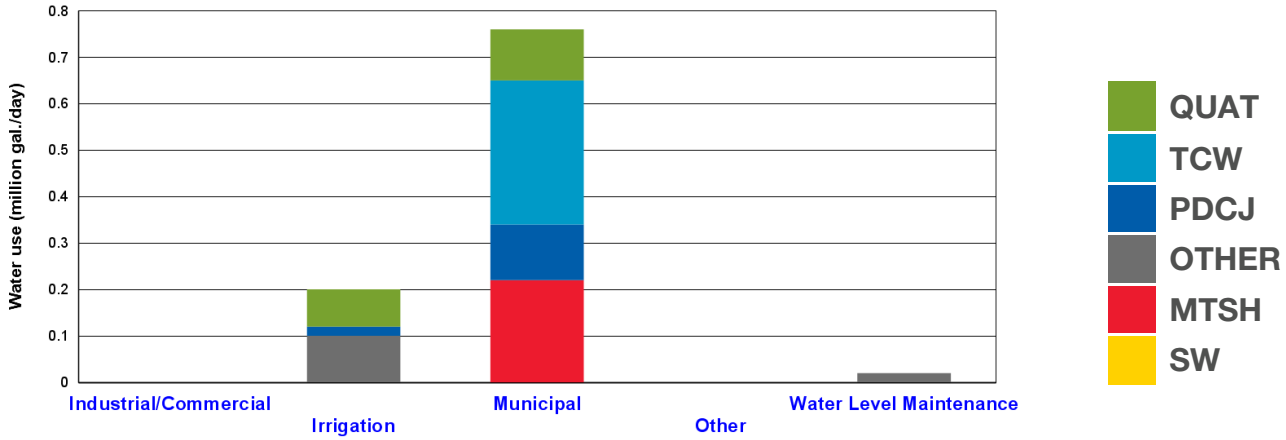
Additional information and guidance is provided in the Local Planning Handbook. Metropolitan Council staff can also provide technical and planning assistance.

PIONEER-SARAH CREEK Water Supply Profile

Available approaches to meet current and future demand

1. Conservation
2. Groundwater sources
3. Stormwater reuse
4. Reclaimed wastewater
5. Enhanced recharge
6. Surface water sources

Amount of water used, on average, by water appropriation permit holders in key water use categories



Projected municipal water use

	2020	2030	2040
Population Served	7,170	8,920	11,000
Total Population	11,850	13,530	15,300
Projected Average Daily Water Use (Million Gal./Day), Plus or Minus 20%	0.26	0.33	0.41
Total Per Capita Water Use (Gal./Person/Day)	145	146	148
What per capita water use would be, if population grew without changing total water use:	101	77	65

Water resource plans and permits that address the following issues support more sustainable water supplies

- State and federal requirements, such as Safe Drinking Water Act standards, conditions identified on water appropriation permits issued by the DNR, water quality permits issued by the MPCA and others
- Potential for water use conflicts and well interference
  - Due to the pervasiveness of private wells in the metro area, there exists a potential water use conflict and well interference of all appropriators
- Potential for impacts of groundwater pumping on surface water features and ecosystems

  - Surface waters in this area may be directly connected to regional groundwater system
- Significant vulnerability to contamination
  - A vulnerable Drinking Water Supply Management Area has been designated in the area
  - Travel time from land surface to bedrock aquifers is estimated to be less than 50 years
- Significant uncertainty about aquifer productivity and extent
  - Part of the area may not be well-represented by a Minnesota Department of Health aquifer test
  - The county geologic atlas is more than twenty years old
  - Part of the area may not be represented by a Minnesota Department of Natural Resources or community observation well

Note: Local studies may be underway or completed to provide more information about these issues.

The Metropolitan Council's Local Planning Handbook contains interactive maps of all of these issues, and they are also summarized in Chapter 5 of this Master Water Supply Plan.

As appropriate, incorporate the following actions into plans and programs, consistent with your organization's roles and responsibilities

- Acknowledge the issues above and support partnerships to address them in local water supply plans and water appropriation permit applications.
- Explore and support water demand (water conservation) programs such as incentives, ordinances, education and outreach, rates and other approaches. The Metropolitan Council Water Conservation Toolbox can support these efforts.
- Promote the evaluation of water conflict and well interface as part of the water appropriation permit request and review process. Before requesting water appropriations, water users in this areas should evaluate the need to address water conflict and well interference including a) an inventory of all active domestic and public water supply wells near proposed well locations and b) an analysis of existing water level/water withdrawal data to identify where future drawdowns could affect domestic wells.
- Support collaborative efforts to periodically review local water supply risks and potential alternatives to mitigate those risks. Technical advances, regulatory adjustments and sub-regional developments can present new opportunities for local water suppliers to enhance the resiliency, sustainability, and affordability of their water supplies.
- Continue to work with local, state and federal agencies, as required.

Note: The actions listed above may be underway or completed, and information may be available from local public water suppliers, planners, or water resource managers.

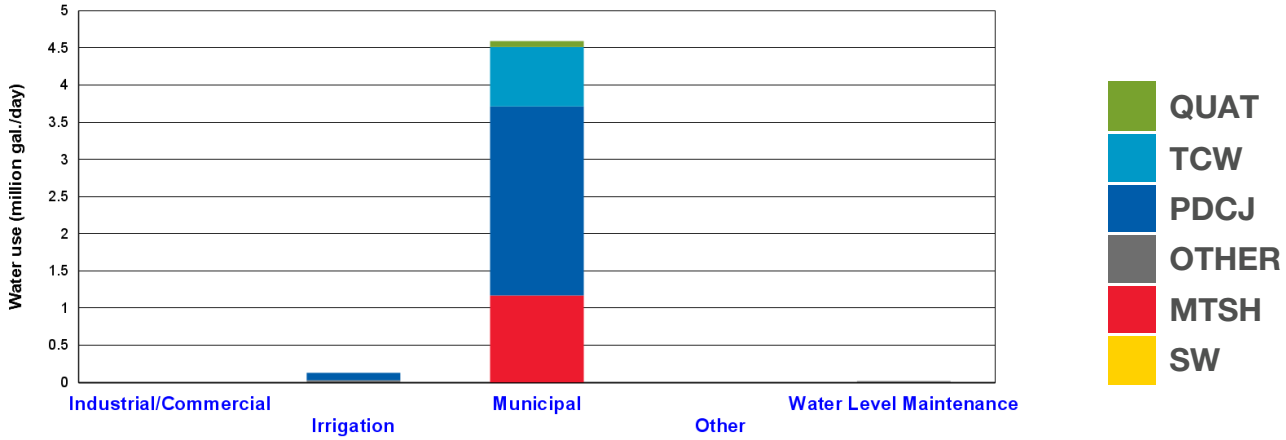
Additional information and guidance is provided in the Local Planning Handbook. Metropolitan Council staff can also provide technical and planning assistance.

PRIOR LAKE-SPRING LAKE Water Supply Profile

Available approaches to meet current and future demand

1. Conservation
2. Groundwater sources
3. Stormwater reuse
4. Reclaimed wastewater
5. Enhanced recharge
6. Surface water sources

Amount of water used, on average, by water appropriation permit holders in key water use categories



Projected municipal water use

	2020	2030	2040
Population Served	59,803	70,203	80,503
Total Population	60,900	71,300	81,600
Projected Average Daily Water Use (Million Gal./Day), Plus or Minus 20%	2.73	3.22	3.72
Total Per Capita Water Use (Gal./Person/Day)	91	92	92
What per capita water use would be, if population grew without changing total water use:	84	71	62

Water resource plans and permits that address the following issues support more sustainable water supplies

- State and federal requirements, such as Safe Drinking Water Act standards, conditions identified on water appropriation permits issued by the DNR, water quality permits issued by the MPCA and others
- Potential for water use conflicts and well interference
  - Due to the pervasiveness of private wells in the metro area, there exists a potential water use conflict and well interference of all appropriators
- Potential for significant decline in aquifer water levels

  - Regional groundwater modeling indicates significant aquifer decline under pumping rates that meet the projected range of 2040 demand
- Potential for impacts of groundwater pumping on surface water features and ecosystems
  - A state-protected calcareous fen has been mapped nearby
  - A state-designated trout stream has been mapped nearby
  - Surface waters in this area may be directly connected to regional groundwater system
  - A spring has been mapped nearby
- Significant vulnerability to contamination
  - A vulnerable Drinking Water Supply Management Area has been designated in the area
  - Travel time from land surface to bedrock aquifers is estimated to be less than 50 years
- Significant uncertainty about aquifer productivity and extent
  - Part of the area may not be well-represented by a Minnesota Department of Health aquifer test
  - Part of the area may not be represented by a Minnesota Department of Natural Resources or community observation well

Note: Local studies may be underway or completed to provide more information about these issues.

The Metropolitan Council's Local Planning Handbook contains interactive maps of all of these issues, and they are also summarized in Chapter 5 of this Master Water Supply Plan.

As appropriate, incorporate the following actions into plans and programs, consistent with your organization's roles and responsibilities

- Acknowledge the issues above and support partnerships to address them in local water supply plans and water appropriation permit applications.
- Explore and support water demand (water conservation) programs such as incentives, ordinances, education and outreach, rates and other approaches. The Metropolitan Council Water Conservation Toolbox can support these efforts.
- Promote the evaluation of water conflict and well interface as part of the water appropriation permit request and review process. Before requesting water appropriations, water users in this areas should evaluate the need to address water conflict and well interference including a) an inventory of all active domestic and public water supply wells near proposed well locations and b) an analysis of existing water level/water withdrawal data to identify where future drawdowns could affect domestic wells.
- Support collaborative efforts to periodically review local water supply risks and potential alternatives to mitigate those risks. Technical advances, regulatory adjustments and sub-regional developments can present new opportunities for local water suppliers to enhance the resiliency, sustainability, and affordability of their water supplies.
- Continue to work with local, state and federal agencies, as required.

Note: The actions listed above may be underway or completed, and information may be available from local public water suppliers, planners, or water resource managers.

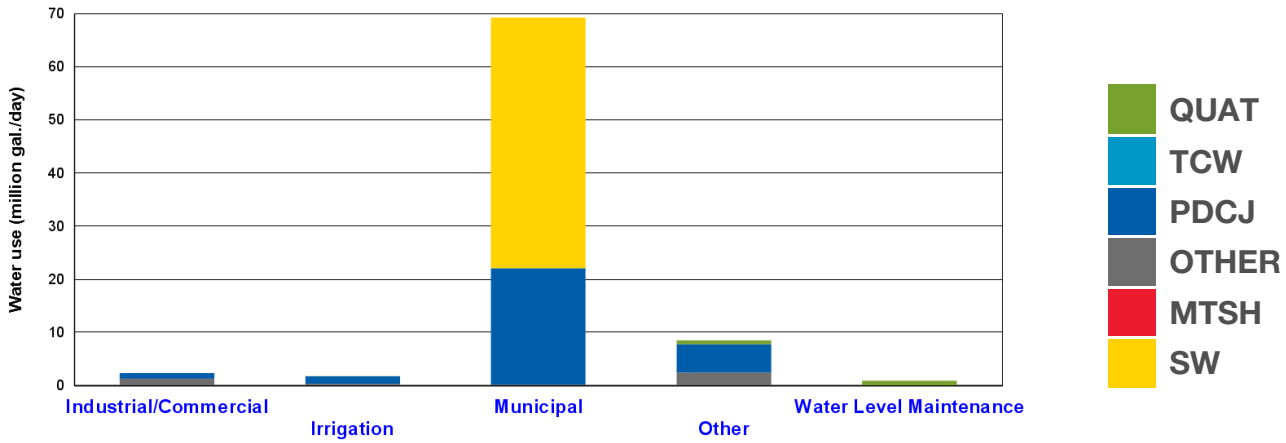
Additional information and guidance is provided in the Local Planning Handbook. Metropolitan Council staff can also provide technical and planning assistance.

RAMSEY-WASHINGTON METRO Water Supply Profile

Available approaches to meet current and future demand

1. Conservation
2. Groundwater sources
3. Stormwater reuse
4. Reclaimed wastewater
5. Enhanced recharge
6. Surface water sources

Amount of water used, on average, by water appropriation permit holders in key water use categories



Projected municipal water use

	2020	2030	2040
Population Served	615,053	650,755	687,866
Total Population	490,670	514,900	539,040
Projected Average Daily Water Use (Million Gal./Day), Plus or Minus 20%	9.46	9.63	9.79
Total Per Capita Water Use (Gal./Person/Day)	108	104	100
What per capita water use would be, if population grew without changing total water use:	106	102	99

Water resource plans and permits that address the following issues support more sustainable water supplies

- State and federal requirements, such as Safe Drinking Water Act standards, conditions identified on water appropriation permits issued by the DNR, water quality permits issued by the MPCA and others
- Potential for water use conflicts and well interference
  - Due to the pervasiveness of private wells in the metro area, there exists a potential water use conflict and well interference of all appropriators
- Potential for significant decline in aquifer water levels

  - A nearby DNR observation well documents a declining trend in aquifer water levels
  - Regional groundwater modeling indicates significant aquifer decline under pumping rates that meet the projected range of 2040 demand
- Potential for impacts of groundwater pumping on surface water features and ecosystems
  - A state-protected calcareous fen has been mapped nearby
  - A state-designated trout stream has been mapped nearby
  - Surface waters in this area may be directly connected to regional groundwater system
  - A spring has been mapped nearby
- Significant vulnerability to contamination
  - A sinkhole (karst) has been mapped nearby
  - A vulnerable Drinking Water Supply Management Area has been designated in the area
  - A Special Well and Boring Construction Area has been designated in the area
  - Travel time from land surface to bedrock aquifers is estimated to be less than 50 years
- Significant uncertainty about aquifer productivity and extent
  - Part of the area may not be well-represented by a Minnesota Department of Health aquifer test
  - The county geologic atlas is more than twenty years old
  - Part of the area may not be represented by a Minnesota Department of Natural Resources or community observation well
- Regulatory considerations
  - A Groundwater Management Area has been designated within the community

Note: Local studies may be underway or completed to provide more information about these issues.

The Metropolitan Council's Local Planning Handbook contains interactive maps of all of these issues, and they are also summarized in Chapter 5 of this Master Water Supply Plan.

As appropriate, incorporate the following actions into plans and programs, consistent with your organization's roles and responsibilities

- Acknowledge the issues above and support partnerships to address them in local water supply plans and water appropriation permit applications.
- Explore and support water demand (water conservation) programs such as incentives, ordinances, education and outreach, rates and other approaches. The Metropolitan Council Water Conservation Toolbox can support these efforts.
- Promote the evaluation of water conflict and well interface as part of the water appropriation permit request and review process. Before requesting water appropriations, water users in this areas should evaluate the need to address water conflict and well interference including a) an inventory of all active domestic and public water supply wells near proposed well locations and b) an analysis of existing water level/water withdrawal data to identify where future drawdowns could affect domestic wells.
- Support collaborative efforts to periodically review local water supply risks and potential alternatives to mitigate those risks. Technical advances, regulatory adjustments and sub-regional developments can present new opportunities for local water suppliers to enhance the resiliency, sustainability, and affordability of their water supplies.
- Continue to work with local, state and federal agencies, as required.

Note: The actions listed above may be underway or completed, and information may be available from local public water suppliers, planners, or water resource managers.

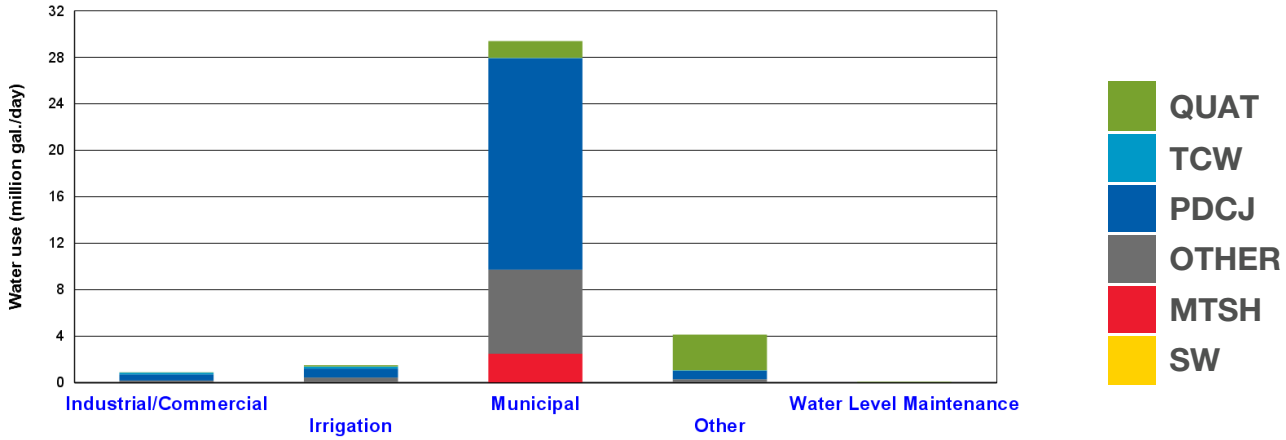
Additional information and guidance is provided in the Local Planning Handbook. Metropolitan Council staff can also provide technical and planning assistance.

RICE CREEK Water Supply Profile

Available approaches to meet current and future demand

1. Conservation
2. Groundwater sources
3. Stormwater reuse
4. Reclaimed wastewater
5. Enhanced recharge
6. Surface water sources

Amount of water used, on average, by water appropriation permit holders in key water use categories



Projected municipal water use

	2020	2030	2040
Population Served	267,886	299,319	331,543
Total Population	289,290	318,590	348,800
Projected Average Daily Water Use (Million Gal./Day), Plus or Minus 20%	2.01	2.25	2.51
Total Per Capita Water Use (Gal./Person/Day)	120	120	121
What per capita water use would be, if population grew without changing total water use:	105	98	92

Water resource plans and permits that address the following issues support more sustainable water supplies

- State and federal requirements, such as Safe Drinking Water Act standards, conditions identified on water appropriation permits issued by the DNR, water quality permits issued by the MPCA and others
- Potential for water use conflicts and well interference
  - Due to the pervasiveness of private wells in the metro area, there exists a potential water use conflict and well interference of all appropriators
- Potential for significant decline in aquifer water levels

  - A nearby DNR observation well documents a declining trend in aquifer water levels
  - Regional groundwater modeling indicates significant aquifer decline under pumping rates that meet the projected range of 2040 demand
- Potential for impacts of groundwater pumping on surface water features and ecosystems
  - A state-designated trout stream has been mapped nearby
  - Surface waters in this area may be directly connected to regional groundwater system
  - A spring has been mapped nearby
- Significant vulnerability to contamination
  - A sinkhole (karst) has been mapped nearby
  - A vulnerable Drinking Water Supply Management Area has been designated in the area
  - A Special Well and Boring Construction Area has been designated in the area
  - Travel time from land surface to bedrock aquifers is estimated to be less than 50 years
- Significant uncertainty about aquifer productivity and extent
  - Part of the area may not be well-represented by a Minnesota Department of Health aquifer test
  - The county geologic atlas is more than twenty years old
  - Part of the area may not be represented by a Minnesota Department of Natural Resources or community observation well
- Regulatory considerations
  - A Groundwater Management Area has been designated within the community

Note: Local studies may be underway or completed to provide more information about these issues.

The Metropolitan Council's Local Planning Handbook contains interactive maps of all of these issues, and they are also summarized in Chapter 5 of this Master Water Supply Plan.

As appropriate, incorporate the following actions into plans and programs, consistent with your organization's roles and responsibilities

- Acknowledge the issues above and support partnerships to address them in local water supply plans and water appropriation permit applications.
- Explore and support water demand (water conservation) programs such as incentives, ordinances, education and outreach, rates and other approaches. The Metropolitan Council Water Conservation Toolbox can support these efforts.
- Promote the evaluation of water conflict and well interface as part of the water appropriation permit request and review process. Before requesting water appropriations, water users in this areas should evaluate the need to address water conflict and well interference including a) an inventory of all active domestic and public water supply wells near proposed well locations and b) an analysis of existing water level/water withdrawal data to identify where future drawdowns could affect domestic wells.
- Support collaborative efforts to periodically review local water supply risks and potential alternatives to mitigate those risks. Technical advances, regulatory adjustments and sub-regional developments can present new opportunities for local water suppliers to enhance the resiliency, sustainability, and affordability of their water supplies.
- Continue to work with local, state and federal agencies, as required.

Note: The actions listed above may be underway or completed, and information may be available from local public water suppliers, planners, or water resource managers.

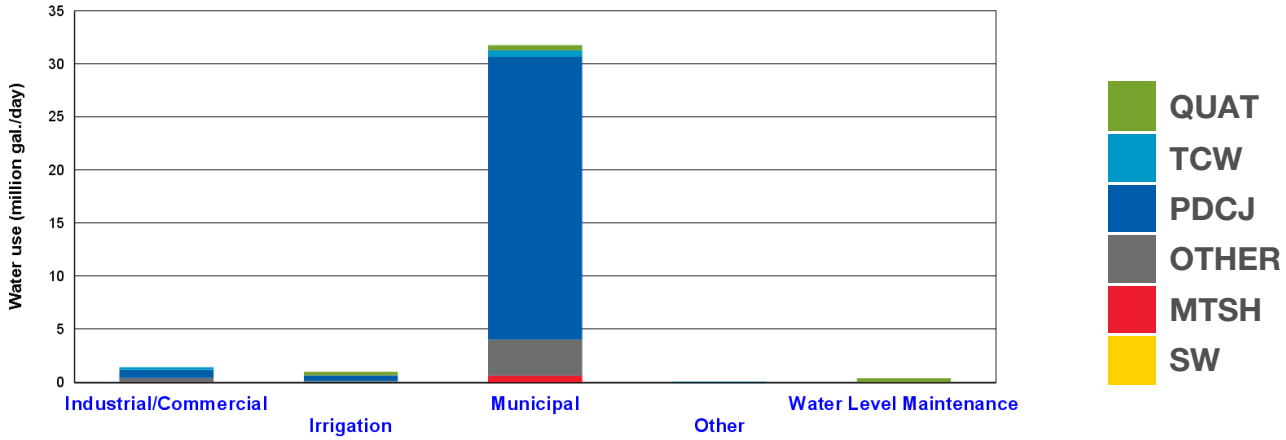
Additional information and guidance is provided in the Local Planning Handbook. Metropolitan Council staff can also provide technical and planning assistance.

RILEY-PURGATORY-BLUFF CREEK Water Supply Profile

Available approaches to meet current and future demand

1. Conservation
2. Groundwater sources
3. Stormwater reuse
4. Reclaimed wastewater
5. Enhanced recharge
6. Surface water sources

Amount of water used, on average, by water appropriation permit holders in key water use categories



Projected municipal water use

	2020	2030	2040
Population Served	259,902	284,557	316,123
Total Population	268,400	293,800	318,500
Projected Average Daily Water Use (Million Gal./Day), Plus or Minus 20%	6.15	6.74	7.49
Total Per Capita Water Use (Gal./Person/Day)	142	142	142
What per capita water use would be, if population grew without changing total water use:	137	124	112

Water resource plans and permits that address the following issues support more sustainable water supplies

- State and federal requirements, such as Safe Drinking Water Act standards, conditions identified on water appropriation permits issued by the DNR, water quality permits issued by the MPCA and others
- Potential for water use conflicts and well interference
  - Due to the pervasiveness of private wells in the metro area, there exists a potential water use conflict and well interference of all appropriators
- Potential for significant decline in aquifer water levels

  - A nearby DNR observation well documents a declining trend in aquifer water levels
  - Regional groundwater modeling indicates significant aquifer decline under pumping rates that meet the projected range of 2040 demand
- Potential for impacts of groundwater pumping on surface water features and ecosystems
  - A state-protected calcareous fen has been mapped nearby
  - A state-designated trout stream has been mapped nearby
  - Surface waters in this area may be directly connected to regional groundwater system
  - A spring has been mapped nearby
- Significant vulnerability to contamination
  - A vulnerable Drinking Water Supply Management Area has been designated in the area
  - Travel time from land surface to bedrock aquifers is estimated to be less than 50 years
- Significant uncertainty about aquifer productivity and extent
  - Part of the area may not be well-represented by a Minnesota Department of Health aquifer test
  - The county geologic atlas is more than twenty years old
  - Part of the area may not be represented by a Minnesota Department of Natural Resources or community observation well

Note: Local studies may be underway or completed to provide more information about these issues.

The Metropolitan Council's Local Planning Handbook contains interactive maps of all of these issues, and they are also summarized in Chapter 5 of this Master Water Supply Plan.

As appropriate, incorporate the following actions into plans and programs, consistent with your organization's roles and responsibilities

- Acknowledge the issues above and support partnerships to address them in local water supply plans and water appropriation permit applications.
- Explore and support water demand (water conservation) programs such as incentives, ordinances, education and outreach, rates and other approaches. The Metropolitan Council Water Conservation Toolbox can support these efforts.
- Promote the evaluation of water conflict and well interface as part of the water appropriation permit request and review process. Before requesting water appropriations, water users in this areas should evaluate the need to address water conflict and well interference including a) an inventory of all active domestic and public water supply wells near proposed well locations and b) an analysis of existing water level/water withdrawal data to identify where future drawdowns could affect domestic wells.
- Support collaborative efforts to periodically review local water supply risks and potential alternatives to mitigate those risks. Technical advances, regulatory adjustments and sub-regional developments can present new opportunities for local water suppliers to enhance the resiliency, sustainability, and affordability of their water supplies.
- Continue to work with local, state and federal agencies, as required.

Note: The actions listed above may be underway or completed, and information may be available from local public water suppliers, planners, or water resource managers.

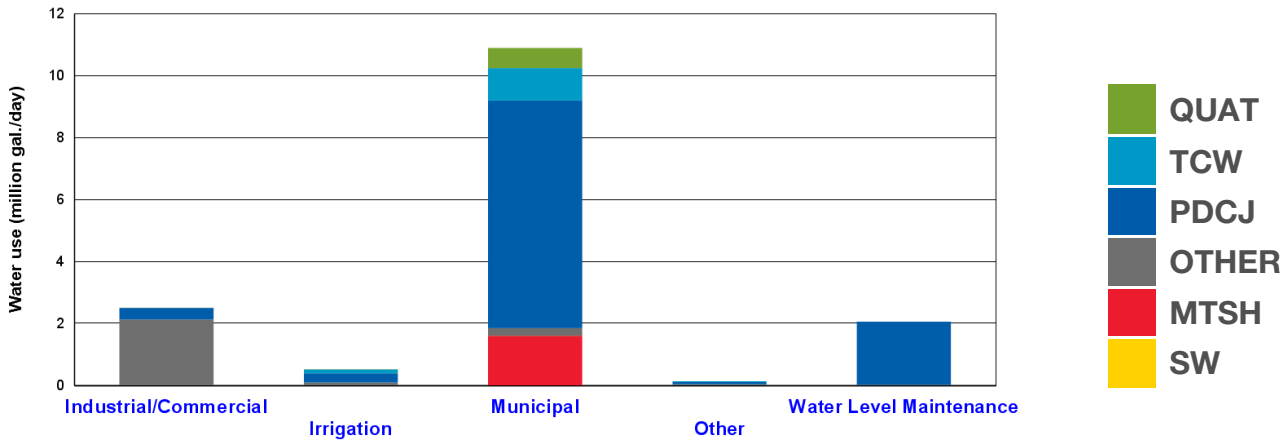
Additional information and guidance is provided in the Local Planning Handbook. Metropolitan Council staff can also provide technical and planning assistance.

SCOTT Water Supply Profile

Available approaches to meet current and future demand

1. Conservation
2. Groundwater sources
3. Stormwater reuse
4. Reclaimed wastewater
5. Enhanced recharge
6. Surface water sources

Amount of water used, on average, by water appropriation permit holders in key water use categories



Projected municipal water use

	2020	2030	2040
Population Served	121,503	147,003	174,203
Total Population	125,600	151,100	178,300
Projected Average Daily Water Use (Million Gal./Day), Plus or Minus 20%	2.09	2.53	3.01
Total Per Capita Water Use (Gal./Person/Day)	103	103	104
What per capita water use would be, if population grew without changing total water use:	87	71	59

Water resource plans and permits that address the following issues support more sustainable water supplies

- State and federal requirements, such as Safe Drinking Water Act standards, conditions identified on water appropriation permits issued by the DNR, water quality permits issued by the MPCA and others
- Potential for water use conflicts and well interference
  - Due to the pervasiveness of private wells in the metro area, there exists a potential water use conflict and well interference of all appropriators
- Potential for significant decline in aquifer water levels

  - Regional groundwater modeling indicates significant aquifer decline under pumping rates that meet the projected range of 2040 demand
- Potential for impacts of groundwater pumping on surface water features and ecosystems
  - A state-protected calcareous fen has been mapped nearby
  - A state-designated trout stream has been mapped nearby
  - Surface waters in this area may be directly connected to regional groundwater system
  - A spring has been mapped nearby
- Significant vulnerability to contamination
  - A vulnerable Drinking Water Supply Management Area has been designated in the area
  - Travel time from land surface to bedrock aquifers is estimated to be less than 50 years
- Significant uncertainty about aquifer productivity and extent
  - Part of the area may not be well-represented by a Minnesota Department of Health aquifer test
  - Part of the area may not be represented by a Minnesota Department of Natural Resources or community observation well

Note: Local studies may be underway or completed to provide more information about these issues.

The Metropolitan Council's Local Planning Handbook contains interactive maps of all of these issues, and they are also summarized in Chapter 5 of this Master Water Supply Plan.

As appropriate, incorporate the following actions into plans and programs, consistent with your organization's roles and responsibilities

- Acknowledge the issues above and support partnerships to address them in local water supply plans and water appropriation permit applications.
- Explore and support water demand (water conservation) programs such as incentives, ordinances, education and outreach, rates and other approaches. The Metropolitan Council Water Conservation Toolbox can support these efforts.
- Promote the evaluation of water conflict and well interface as part of the water appropriation permit request and review process. Before requesting water appropriations, water users in this areas should evaluate the need to address water conflict and well interference including a) an inventory of all active domestic and public water supply wells near proposed well locations and b) an analysis of existing water level/water withdrawal data to identify where future drawdowns could affect domestic wells.
- Support collaborative efforts to periodically review local water supply risks and potential alternatives to mitigate those risks. Technical advances, regulatory adjustments and sub-regional developments can present new opportunities for local water suppliers to enhance the resiliency, sustainability, and affordability of their water supplies.
- Continue to work with local, state and federal agencies, as required.

Note: The actions listed above may be underway or completed, and information may be available from local public water suppliers, planners, or water resource managers.

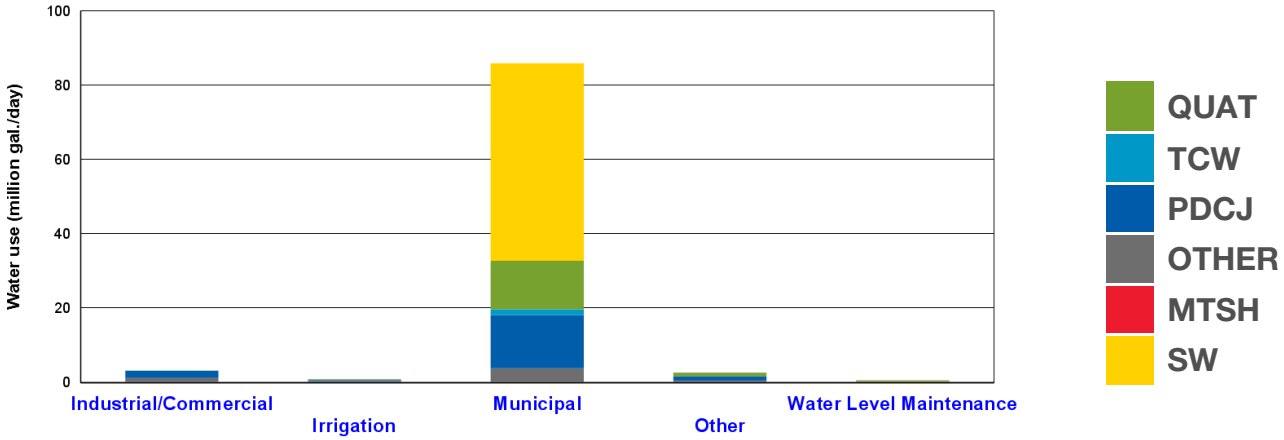
Additional information and guidance is provided in the Local Planning Handbook. Metropolitan Council staff can also provide technical and planning assistance.

SHINGLE CREEK Water Supply Profile

Available approaches to meet current and future demand

1. Conservation
2. Groundwater sources
3. Stormwater reuse
4. Reclaimed wastewater
5. Enhanced recharge
6. Surface water sources

Amount of water used, on average, by water appropriation permit holders in key water use categories



Projected municipal water use

	2020	2030	2040
Population Served	744,278	783,582	841,470
Total Population	745,700	784,500	828,000
Projected Average Daily Water Use (Million Gal./Day), Plus or Minus 20%	13.30	14.10	15.32
Total Per Capita Water Use (Gal./Person/Day)	143	144	146
What per capita water use would be, if population grew without changing total water use:	112	105	96

Water resource plans and permits that address the following issues support more sustainable water supplies

- State and federal requirements, such as Safe Drinking Water Act standards, conditions identified on water appropriation permits issued by the DNR, water quality permits issued by the MPCA and others
- Potential for water use conflicts and well interference
  - Due to the pervasiveness of private wells in the metro area, there exists a potential water use conflict and well interference of all appropriators
- Potential for impacts of groundwater pumping on surface water features and ecosystems

  - Surface waters in this area may be directly connected to regional groundwater system
  - A spring has been mapped nearby
- Significant vulnerability to contamination
  - A sinkhole (karst) has been mapped nearby
  - A vulnerable Drinking Water Supply Management Area has been designated in the area
  - A Special Well and Boring Construction Area has been designated in the area
  - Travel time from land surface to bedrock aquifers is estimated to be less than 50 years
- Significant uncertainty about aquifer productivity and extent
  - Part of the area may not be well-represented by a Minnesota Department of Health aquifer test
  - The county geologic atlas is more than twenty years old
  - Part of the area may not be represented by a Minnesota Department of Natural Resources or community observation well

Note: Local studies may be underway or completed to provide more information about these issues.

The Metropolitan Council's Local Planning Handbook contains interactive maps of all of these issues, and they are also summarized in Chapter 5 of this Master Water Supply Plan.

As appropriate, incorporate the following actions into plans and programs, consistent with your organization's roles and responsibilities

- Acknowledge the issues above and support partnerships to address them in local water supply plans and water appropriation permit applications.
- Explore and support water demand (water conservation) programs such as incentives, ordinances, education and outreach, rates and other approaches. The Metropolitan Council Water Conservation Toolbox can support these efforts.
- Promote the evaluation of water conflict and well interface as part of the water appropriation permit request and review process. Before requesting water appropriations, water users in this areas should evaluate the need to address water conflict and well interference including a) an inventory of all active domestic and public water supply wells near proposed well locations and b) an analysis of existing water level/water withdrawal data to identify where future drawdowns could affect domestic wells.
- Support collaborative efforts to periodically review local water supply risks and potential alternatives to mitigate those risks. Technical advances, regulatory adjustments and sub-regional developments can present new opportunities for local water suppliers to enhance the resiliency, sustainability, and affordability of their water supplies.
- Continue to work with local, state and federal agencies, as required.

Note: The actions listed above may be underway or completed, and information may be available from local public water suppliers, planners, or water resource managers.

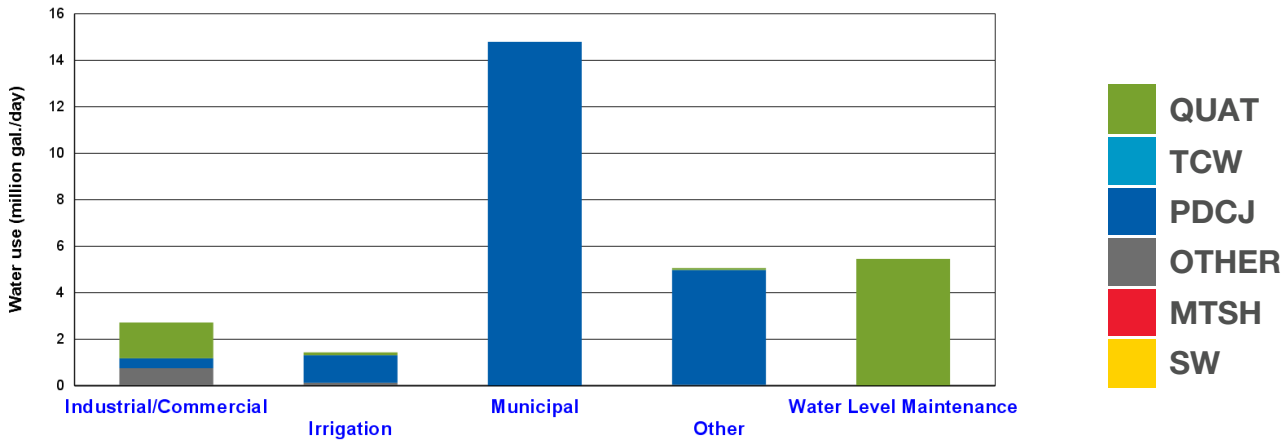
Additional information and guidance is provided in the Local Planning Handbook. Metropolitan Council staff can also provide technical and planning assistance.

SOUTH WASHINGTON Water Supply Profile

Available approaches to meet current and future demand

1. Conservation
2. Groundwater sources
3. Stormwater reuse
4. Reclaimed wastewater
5. Enhanced recharge
6. Surface water sources

Amount of water used, on average, by water appropriation permit holders in key water use categories



Projected municipal water use

	2020	2030	2040
Population Served	144,096	158,346	172,446
Total Population	149,000	163,250	177,350
Projected Average Daily Water Use (Million Gal./Day), Plus or Minus 20%	3.31	3.65	3.97
Total Per Capita Water Use (Gal./Person/Day)	115	115	115
What per capita water use would be, if population grew without changing total water use:	102	92	85

Water resource plans and permits that address the following issues support more sustainable water supplies

- State and federal requirements, such as Safe Drinking Water Act standards, conditions identified on water appropriation permits issued by the DNR, water quality permits issued by the MPCA and others
- Potential for water use conflicts and well interference
  - Due to the pervasiveness of private wells in the metro area, there exists a potential water use conflict and well interference of all appropriators
- Potential for significant decline in aquifer water levels

  - A nearby DNR observation well documents a declining trend in aquifer water levels
  - Regional groundwater modeling indicates significant aquifer decline under pumping rates that meet the projected range of 2040 demand
- Potential for impacts of groundwater pumping on surface water features and ecosystems
  - A state-designated trout stream has been mapped nearby
  - Surface waters in this area may be directly connected to regional groundwater system
  - A spring has been mapped nearby
- Significant vulnerability to contamination
  - A sinkhole (karst) has been mapped nearby
  - A vulnerable Drinking Water Supply Management Area has been designated in the area
  - A Special Well and Boring Construction Area has been designated in the area
  - Travel time from land surface to bedrock aquifers is estimated to be less than 50 years
- Significant uncertainty about aquifer productivity and extent
  - Part of the area may not be well-represented by a Minnesota Department of Health aquifer test
  - The county geologic atlas is more than twenty years old
  - Part of the area may not be represented by a Minnesota Department of Natural Resources or community observation well
- Regulatory considerations
  - A Groundwater Management Area has been designated within the community

Note: Local studies may be underway or completed to provide more information about these issues.

The Metropolitan Council's Local Planning Handbook contains interactive maps of all of these issues, and they are also summarized in Chapter 5 of this Master Water Supply Plan.

As appropriate, incorporate the following actions into plans and programs, consistent with your organization's roles and responsibilities

- Acknowledge the issues above and support partnerships to address them in local water supply plans and water appropriation permit applications.
- Explore and support water demand (water conservation) programs such as incentives, ordinances, education and outreach, rates and other approaches. The Metropolitan Council Water Conservation Toolbox can support these efforts.
- Promote the evaluation of water conflict and well interface as part of the water appropriation permit request and review process. Before requesting water appropriations, water users in this areas should evaluate the need to address water conflict and well interference including a) an inventory of all active domestic and public water supply wells near proposed well locations and b) an analysis of existing water level/water withdrawal data to identify where future drawdowns could affect domestic wells.
- Support collaborative efforts to periodically review local water supply risks and potential alternatives to mitigate those risks. Technical advances, regulatory adjustments and sub-regional developments can present new opportunities for local water suppliers to enhance the resiliency, sustainability, and affordability of their water supplies.
- Continue to work with local, state and federal agencies, as required.

Note: The actions listed above may be underway or completed, and information may be available from local public water suppliers, planners, or water resource managers.

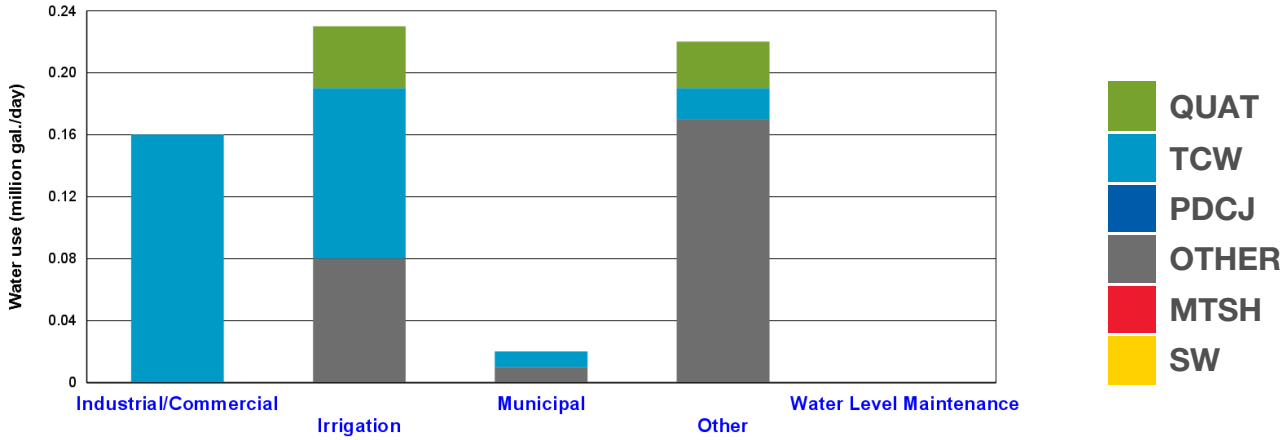
Additional information and guidance is provided in the Local Planning Handbook. Metropolitan Council staff can also provide technical and planning assistance.

SUNRISE RIVER Water Supply Profile

Available approaches to meet current and future demand

1. Conservation
2. Groundwater sources
3. Stormwater reuse
4. Reclaimed wastewater
5. Enhanced recharge
6. Surface water sources

Amount of water used, on average, by water appropriation permit holders in key water use categories



Projected municipal water use

	2020	2030	2040
Population Served	1,161	4,161	7,161
Total Population	16,620	20,350	23,900
Projected Average Daily Water Use (Million Gal./Day), Plus or Minus 20%	0.25	0.59	0.92
Total Per Capita Water Use (Gal./Person/Day)	214	141	129

What per capita water use would be, if population grew without changing total water use:

Water resource plans and permits that address the following issues support more sustainable water supplies

- State and federal requirements, such as Safe Drinking Water Act standards, conditions identified on water appropriation permits issued by the DNR, water quality permits issued by the MPCA and others
- Potential for water use conflicts and well interference
  - Due to the pervasiveness of private wells in the metro area, there exists a potential water use conflict and well interference of all appropriators
- Potential for significant decline in aquifer water levels

  - A nearby DNR observation well documents a declining trend in aquifer water levels
- Potential for impacts of groundwater pumping on surface water features and ecosystems
  - Surface waters in this area may be directly connected to regional groundwater system
- Significant vulnerability to contamination
  - A Special Well and Boring Construction Area has been designated in the area
  - Travel time from land surface to bedrock aquifers is estimated to be less than 50 years
- Significant uncertainty about aquifer productivity and extent
  - Part of the area may not be well-represented by a Minnesota Department of Health aquifer test
  - Part of the area may not be represented by a Minnesota Department of Natural Resources or community observation well
- Regulatory considerations
  - A Groundwater Management Area has been designated within the community

Note: Local studies may be underway or completed to provide more information about these issues.

The Metropolitan Council's Local Planning Handbook contains interactive maps of all of these issues, and they are also summarized in Chapter 5 of this Master Water Supply Plan.

As appropriate, incorporate the following actions into plans and programs, consistent with your organization's roles and responsibilities

- Acknowledge the issues above and support partnerships to address them in local water supply plans and water appropriation permit applications.
- Explore and support water demand (water conservation) programs such as incentives, ordinances, education and outreach, rates and other approaches. The Metropolitan Council Water Conservation Toolbox can support these efforts.
- Promote the evaluation of water conflict and well interface as part of the water appropriation permit request and review process. Before requesting water appropriations, water users in this areas should evaluate the need to address water conflict and well interference including a) an inventory of all active domestic and public water supply wells near proposed well locations and b) an analysis of existing water level/water withdrawal data to identify where future drawdowns could affect domestic wells.
- Support collaborative efforts to periodically review local water supply risks and potential alternatives to mitigate those risks. Technical advances, regulatory adjustments and sub-regional developments can present new opportunities for local water suppliers to enhance the resiliency, sustainability, and affordability of their water supplies.
- Continue to work with local, state and federal agencies, as required.

Note: The actions listed above may be underway or completed, and information may be available from local public water suppliers, planners, or water resource managers.

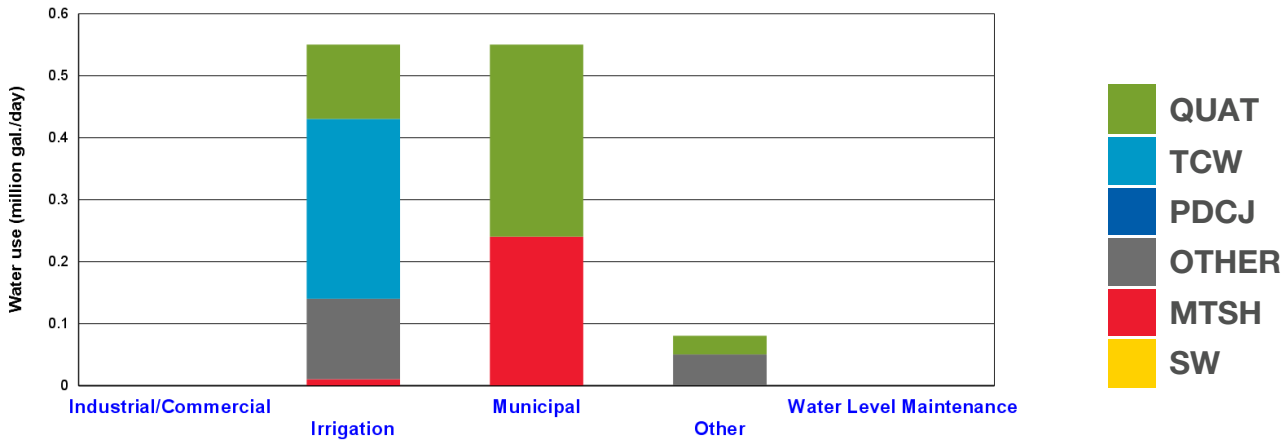
Additional information and guidance is provided in the Local Planning Handbook. Metropolitan Council staff can also provide technical and planning assistance.

UPPER RUM RIVER Water Supply Profile

Available approaches to meet current and future demand

1. Conservation
2. Groundwater sources
3. Stormwater reuse
4. Reclaimed wastewater
5. Enhanced recharge
6. Surface water sources

Amount of water used, on average, by water appropriation permit holders in key water use categories



Projected municipal water use

	2020	2030	2040
Population Served	6,844	11,475	17,805
Total Population	29,200	35,300	41,400
Projected Average Daily Water Use (Million Gal./Day), Plus or Minus 20%	0.30	0.49	0.75
Total Per Capita Water Use (Gal./Person/Day)	131	128	127
What per capita water use would be, if population grew without changing total water use:	60	46	32

Water resource plans and permits that address the following issues support more sustainable water supplies

- State and federal requirements, such as Safe Drinking Water Act standards, conditions identified on water appropriation permits issued by the DNR, water quality permits issued by the MPCA and others
- Potential for water use conflicts and well interference
  - Due to the pervasiveness of private wells in the metro area, there exists a potential water use conflict and well interference of all appropriators
- Potential for impacts of groundwater pumping on surface water features and ecosystems

  - Surface waters in this area may be directly connected to regional groundwater system
- Significant vulnerability to contamination
  - A vulnerable Drinking Water Supply Management Area has been designated in the area
  - A Special Well and Boring Construction Area has been designated in the area
  - Travel time from land surface to bedrock aquifers is estimated to be less than 50 years
- Significant uncertainty about aquifer productivity and extent
  - Part of the area may not be well-represented by a Minnesota Department of Health aquifer test
  - Part of the area may not be represented by a Minnesota Department of Natural Resources or community observation well

Note: Local studies may be underway or completed to provide more information about these issues.

The Metropolitan Council's Local Planning Handbook contains interactive maps of all of these issues, and they are also summarized in Chapter 5 of this Master Water Supply Plan.

As appropriate, incorporate the following actions into plans and programs, consistent with your organization's roles and responsibilities

- Acknowledge the issues above and support partnerships to address them in local water supply plans and water appropriation permit applications.
- Explore and support water demand (water conservation) programs such as incentives, ordinances, education and outreach, rates and other approaches. The Metropolitan Council Water Conservation Toolbox can support these efforts.
- Promote the evaluation of water conflict and well interface as part of the water appropriation permit request and review process. Before requesting water appropriations, water users in this areas should evaluate the need to address water conflict and well interference including a) an inventory of all active domestic and public water supply wells near proposed well locations and b) an analysis of existing water level/water withdrawal data to identify where future drawdowns could affect domestic wells.
- Support collaborative efforts to periodically review local water supply risks and potential alternatives to mitigate those risks. Technical advances, regulatory adjustments and sub-regional developments can present new opportunities for local water suppliers to enhance the resiliency, sustainability, and affordability of their water supplies.
- Continue to work with local, state and federal agencies, as required.

Note: The actions listed above may be underway or completed, and information may be available from local public water suppliers, planners, or water resource managers.

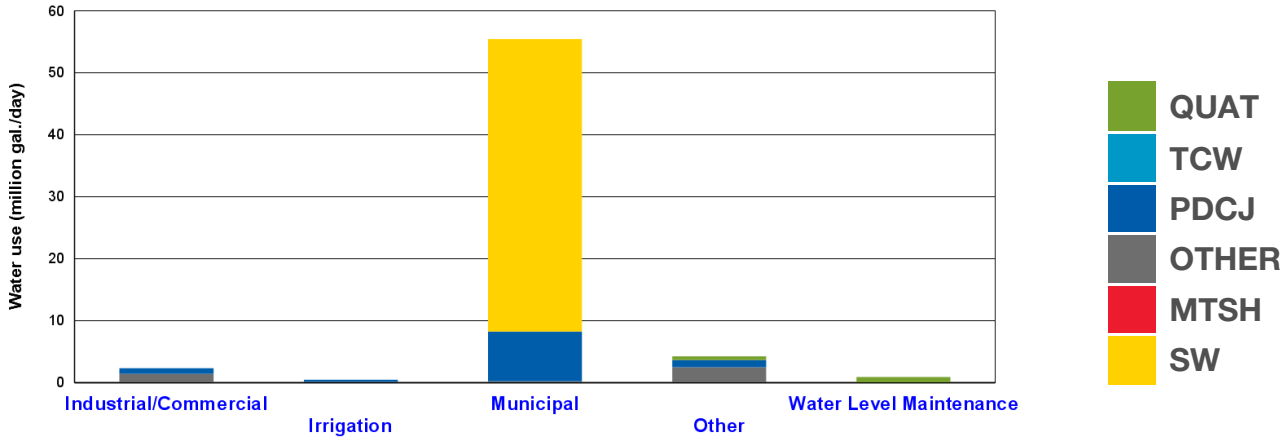
Additional information and guidance is provided in the Local Planning Handbook. Metropolitan Council staff can also provide technical and planning assistance.

VADNAIS LAKE AREA Water Supply Profile

Available approaches to meet current and future demand

1. Conservation
2. Groundwater sources
3. Stormwater reuse
4. Reclaimed wastewater
5. Enhanced recharge
6. Surface water sources

Amount of water used, on average, by water appropriation permit holders in key water use categories



Projected municipal water use

	2020	2030	2040
Population Served	490,665	517,568	546,578
Total Population	363,470	378,900	394,940
Projected Average Daily Water Use (Million Gal./Day), Plus or Minus 20%	12.92	12.96	12.99
Total Per Capita Water Use (Gal./Person/Day)	105	100	95
What per capita water use would be, if population grew without changing total water use:	112	108	105

Water resource plans and permits that address the following issues support more sustainable water supplies

- State and federal requirements, such as Safe Drinking Water Act standards, conditions identified on water appropriation permits issued by the DNR, water quality permits issued by the MPCA and others
- Potential for water use conflicts and well interference
  - Due to the pervasiveness of private wells in the metro area, there exists a potential water use conflict and well interference of all appropriators
- Potential for significant decline in aquifer water levels

  - A nearby DNR observation well documents a declining trend in aquifer water levels
- Potential for impacts of groundwater pumping on surface water features and ecosystems
  - A state-protected calcareous fen has been mapped nearby
  - Surface waters in this area may be directly connected to regional groundwater system
  - A spring has been mapped nearby
- Significant vulnerability to contamination
  - A sinkhole (karst) has been mapped nearby
  - A vulnerable Drinking Water Supply Management Area has been designated in the area
  - A Special Well and Boring Construction Area has been designated in the area
  - Travel time from land surface to bedrock aquifers is estimated to be less than 50 years
- Significant uncertainty about aquifer productivity and extent
  - Part of the area may not be well-represented by a Minnesota Department of Health aquifer test
  - The county geologic atlas is more than twenty years old
  - Part of the area may not be represented by a Minnesota Department of Natural Resources or community observation well
- Regulatory considerations
  - A Groundwater Management Area has been designated within the community

Note: Local studies may be underway or completed to provide more information about these issues.

The Metropolitan Council's Local Planning Handbook contains interactive maps of all of these issues, and they are also summarized in Chapter 5 of this Master Water Supply Plan.

As appropriate, incorporate the following actions into plans and programs, consistent with your organization's roles and responsibilities

- Acknowledge the issues above and support partnerships to address them in local water supply plans and water appropriation permit applications.
- Explore and support water demand (water conservation) programs such as incentives, ordinances, education and outreach, rates and other approaches. The Metropolitan Council Water Conservation Toolbox can support these efforts.
- Promote the evaluation of water conflict and well interface as part of the water appropriation permit request and review process. Before requesting water appropriations, water users in this areas should evaluate the need to address water conflict and well interference including a) an inventory of all active domestic and public water supply wells near proposed well locations and b) an analysis of existing water level/water withdrawal data to identify where future drawdowns could affect domestic wells.
- Support collaborative efforts to periodically review local water supply risks and potential alternatives to mitigate those risks. Technical advances, regulatory adjustments and sub-regional developments can present new opportunities for local water suppliers to enhance the resiliency, sustainability, and affordability of their water supplies.
- Continue to work with local, state and federal agencies, as required.

Note: The actions listed above may be underway or completed, and information may be available from local public water suppliers, planners, or water resource managers.

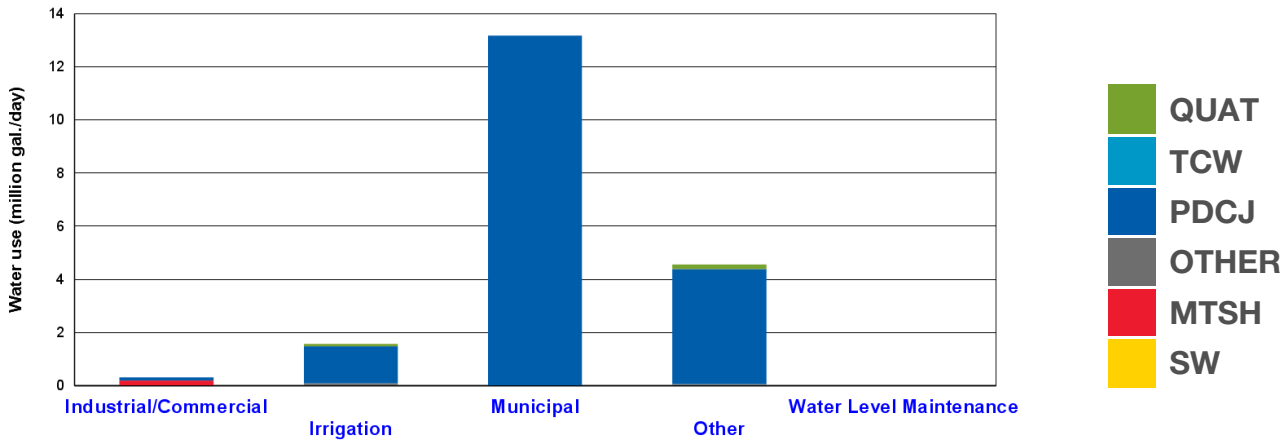
Additional information and guidance is provided in the Local Planning Handbook. Metropolitan Council staff can also provide technical and planning assistance.

VALLEY BRANCH Water Supply Profile

Available approaches to meet current and future demand

1. Conservation
2. Groundwater sources
3. Stormwater reuse
4. Reclaimed wastewater
5. Enhanced recharge
6. Surface water sources

Amount of water used, on average, by water appropriation permit holders in key water use categories



Projected municipal water use

	2020	2030	2040
Population Served	127,394	140,214	152,814
Total Population	136,180	149,000	161,600
Projected Average Daily Water Use (Million Gal./Day), Plus or Minus 20%	2.47	2.73	2.98
Total Per Capita Water Use (Gal./Person/Day)	116	117	117
What per capita water use would be, if population grew without changing total water use:	109	98	91

Water resource plans and permits that address the following issues support more sustainable water supplies

- State and federal requirements, such as Safe Drinking Water Act standards, conditions identified on water appropriation permits issued by the DNR, water quality permits issued by the MPCA and others
- Potential for water use conflicts and well interference
  - Due to the pervasiveness of private wells in the metro area, there exists a potential water use conflict and well interference of all appropriators
- Potential for significant decline in aquifer water levels

  - A nearby DNR observation well documents a declining trend in aquifer water levels
  - Regional groundwater modeling indicates significant aquifer decline under pumping rates that meet the projected range of 2040 demand
- Potential for impacts of groundwater pumping on surface water features and ecosystems
  - A state-designated trout stream has been mapped nearby
  - Surface waters in this area may be directly connected to regional groundwater system
  - A spring has been mapped nearby
- Significant vulnerability to contamination
  - A sinkhole (karst) has been mapped nearby
  - A vulnerable Drinking Water Supply Management Area has been designated in the area
  - A Special Well and Boring Construction Area has been designated in the area
  - Travel time from land surface to bedrock aquifers is estimated to be less than 50 years
- Significant uncertainty about aquifer productivity and extent
  - Part of the area may not be well-represented by a Minnesota Department of Health aquifer test
  - The county geologic atlas is more than twenty years old
  - Part of the area may not be represented by a Minnesota Department of Natural Resources or community observation well
- Regulatory considerations
  - A Groundwater Management Area has been designated within the community

Note: Local studies may be underway or completed to provide more information about these issues.

The Metropolitan Council's Local Planning Handbook contains interactive maps of all of these issues, and they are also summarized in Chapter 5 of this Master Water Supply Plan.

As appropriate, incorporate the following actions into plans and programs, consistent with your organization's roles and responsibilities

- Acknowledge the issues above and support partnerships to address them in local water supply plans and water appropriation permit applications.
- Explore and support water demand (water conservation) programs such as incentives, ordinances, education and outreach, rates and other approaches. The Metropolitan Council Water Conservation Toolbox can support these efforts.
- Promote the evaluation of water conflict and well interface as part of the water appropriation permit request and review process. Before requesting water appropriations, water users in this areas should evaluate the need to address water conflict and well interference including a) an inventory of all active domestic and public water supply wells near proposed well locations and b) an analysis of existing water level/water withdrawal data to identify where future drawdowns could affect domestic wells.
- Support collaborative efforts to periodically review local water supply risks and potential alternatives to mitigate those risks. Technical advances, regulatory adjustments and sub-regional developments can present new opportunities for local water suppliers to enhance the resiliency, sustainability, and affordability of their water supplies.
- Continue to work with local, state and federal agencies, as required.

Note: The actions listed above may be underway or completed, and information may be available from local public water suppliers, planners, or water resource managers.

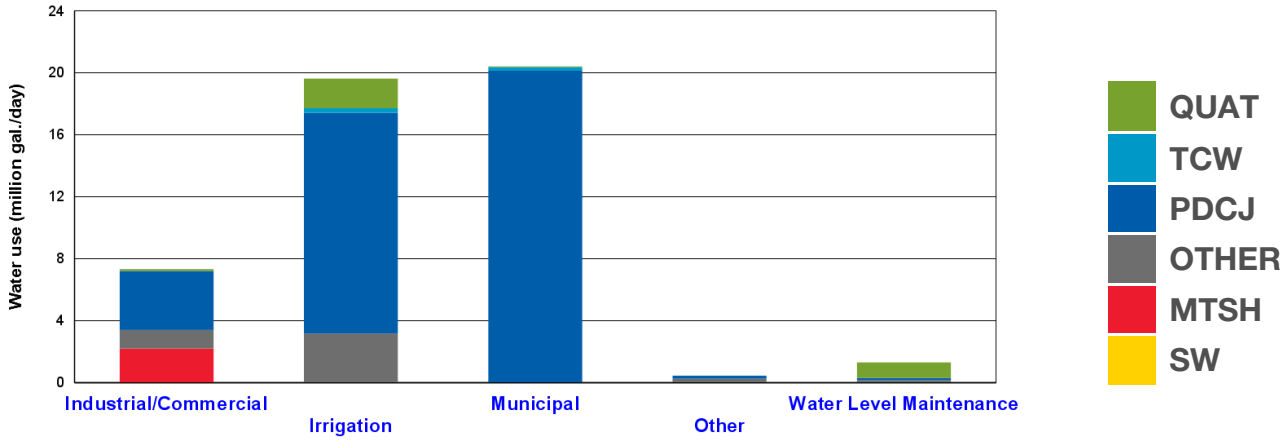
Additional information and guidance is provided in the Local Planning Handbook. Metropolitan Council staff can also provide technical and planning assistance.

VERMILLION RIVER Water Supply Profile

Available approaches to meet current and future demand

1. Conservation
2. Groundwater sources
3. Stormwater reuse
4. Reclaimed wastewater
5. Enhanced recharge
6. Surface water sources

Amount of water used, on average, by water appropriation permit holders in key water use categories



Projected municipal water use

	2020	2030	2040
Population Served	199,522	229,632	260,652
Total Population	203,680	233,520	264,290
Projected Average Daily Water Use (Million Gal./Day), Plus or Minus 20%	2.57	2.94	3.32
Total Per Capita Water Use (Gal./Person/Day)	116	115	115
What per capita water use would be, if population grew without changing total water use:	96	82	73

Water resource plans and permits that address the following issues support more sustainable water supplies

- State and federal requirements, such as Safe Drinking Water Act standards, conditions identified on water appropriation permits issued by the DNR, water quality permits issued by the MPCA and others
- Potential for water use conflicts and well interference
  - Due to the pervasiveness of private wells in the metro area, there exists a potential water use conflict and well interference of all appropriators
- Potential for significant decline in aquifer water levels

  - A nearby DNR observation well documents a declining trend in aquifer water levels
  - Regional groundwater modeling indicates significant aquifer decline under pumping rates that meet the projected range of 2040 demand
- Potential for impacts of groundwater pumping on surface water features and ecosystems
  - A state-protected calcareous fen has been mapped nearby
  - A state-designated trout stream has been mapped nearby
  - Surface waters in this area may be directly connected to regional groundwater system
  - A spring has been mapped nearby
- Significant vulnerability to contamination
  - A sinkhole (karst) has been mapped nearby
  - A vulnerable Drinking Water Supply Management Area has been designated in the area
  - Travel time from land surface to bedrock aquifers is estimated to be less than 50 years
- Significant uncertainty about aquifer productivity and extent
  - Part of the area may not be well-represented by a Minnesota Department of Health aquifer test
  - The county geologic atlas is more than twenty years old
  - Part of the area may not be represented by a Minnesota Department of Natural Resources or community observation well
- Regulatory considerations
  - A Groundwater Management Area has been designated within the community

Note: Local studies may be underway or completed to provide more information about these issues.

The Metropolitan Council's Local Planning Handbook contains interactive maps of all of these issues, and they are also summarized in Chapter 5 of this Master Water Supply Plan.

As appropriate, incorporate the following actions into plans and programs, consistent with your organization's roles and responsibilities

- Acknowledge the issues above and support partnerships to address them in local water supply plans and water appropriation permit applications.
- Explore and support water demand (water conservation) programs such as incentives, ordinances, education and outreach, rates and other approaches. The Metropolitan Council Water Conservation Toolbox can support these efforts.
- Promote the evaluation of water conflict and well interface as part of the water appropriation permit request and review process. Before requesting water appropriations, water users in this areas should evaluate the need to address water conflict and well interference including a) an inventory of all active domestic and public water supply wells near proposed well locations and b) an analysis of existing water level/water withdrawal data to identify where future drawdowns could affect domestic wells.
- Support collaborative efforts to periodically review local water supply risks and potential alternatives to mitigate those risks. Technical advances, regulatory adjustments and sub-regional developments can present new opportunities for local water suppliers to enhance the resiliency, sustainability, and affordability of their water supplies.
- Continue to work with local, state and federal agencies, as required.

Note: The actions listed above may be underway or completed, and information may be available from local public water suppliers, planners, or water resource managers.

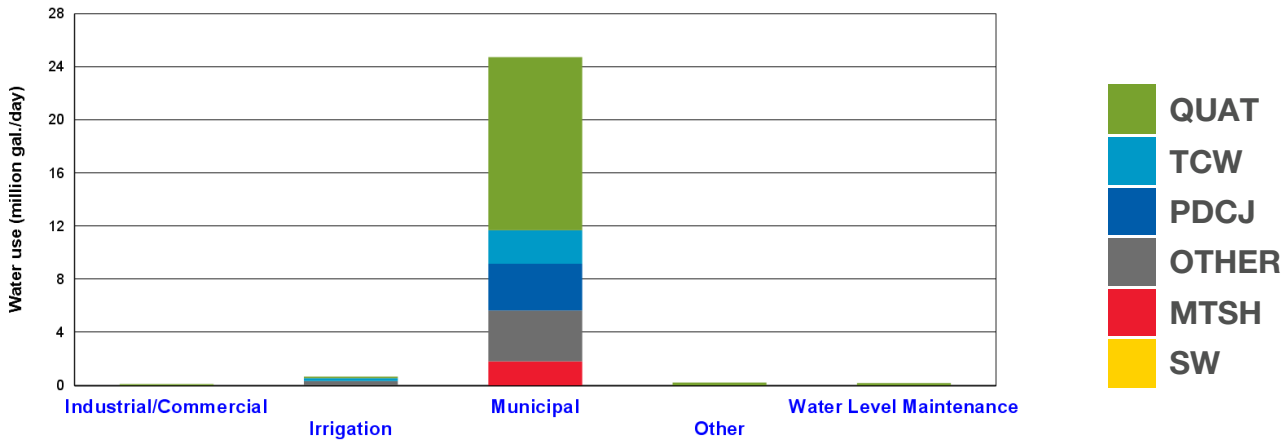
Additional information and guidance is provided in the Local Planning Handbook. Metropolitan Council staff can also provide technical and planning assistance.

WEST MISSISSIPPI Water Supply Profile

Available approaches to meet current and future demand

1. Conservation
2. Groundwater sources
3. Stormwater reuse
4. Reclaimed wastewater
5. Enhanced recharge
6. Surface water sources

Amount of water used, on average, by water appropriation permit holders in key water use categories



Projected municipal water use

	2020	2030	2040
Population Served	212,266	232,433	260,970
Total Population	212,200	229,500	247,000
Projected Average Daily Water Use (Million Gal./Day), Plus or Minus 20%	7.24	7.98	9.06
Total Per Capita Water Use (Gal./Person/Day)	136	137	139
What per capita water use would be, if population grew without changing total water use:	118	108	99

Water resource plans and permits that address the following issues support more sustainable water supplies

- State and federal requirements, such as Safe Drinking Water Act standards, conditions identified on water appropriation permits issued by the DNR, water quality permits issued by the MPCA and others
- Potential for water use conflicts and well interference
  - Due to the pervasiveness of private wells in the metro area, there exists a potential water use conflict and well interference of all appropriators
- Potential for impacts of groundwater pumping on surface water features and ecosystems

  - Surface waters in this area may be directly connected to regional groundwater system
  - A spring has been mapped nearby
- Significant vulnerability to contamination
  - A vulnerable Drinking Water Supply Management Area has been designated in the area
  - Travel time from land surface to bedrock aquifers is estimated to be less than 50 years
- Significant uncertainty about aquifer productivity and extent
  - Part of the area may not be well-represented by a Minnesota Department of Health aquifer test
  - The county geologic atlas is more than twenty years old
  - Part of the area may not be represented by a Minnesota Department of Natural Resources or community observation well

Note: Local studies may be underway or completed to provide more information about these issues.

The Metropolitan Council's Local Planning Handbook contains interactive maps of all of these issues, and they are also summarized in Chapter 5 of this Master Water Supply Plan.

As appropriate, incorporate the following actions into plans and programs, consistent with your organization's roles and responsibilities

- Acknowledge the issues above and support partnerships to address them in local water supply plans and water appropriation permit applications.
- Explore and support water demand (water conservation) programs such as incentives, ordinances, education and outreach, rates and other approaches. The Metropolitan Council Water Conservation Toolbox can support these efforts.
- Promote the evaluation of water conflict and well interface as part of the water appropriation permit request and review process. Before requesting water appropriations, water users in this areas should evaluate the need to address water conflict and well interference including a) an inventory of all active domestic and public water supply wells near proposed well locations and b) an analysis of existing water level/water withdrawal data to identify where future drawdowns could affect domestic wells.
- Support collaborative efforts to periodically review local water supply risks and potential alternatives to mitigate those risks. Technical advances, regulatory adjustments and sub-regional developments can present new opportunities for local water suppliers to enhance the resiliency, sustainability, and affordability of their water supplies.
- Continue to work with local, state and federal agencies, as required.

Note: The actions listed above may be underway or completed, and information may be available from local public water suppliers, planners, or water resource managers.

Additional information and guidance is provided in the Local Planning Handbook. Metropolitan Council staff can also provide technical and planning assistance.