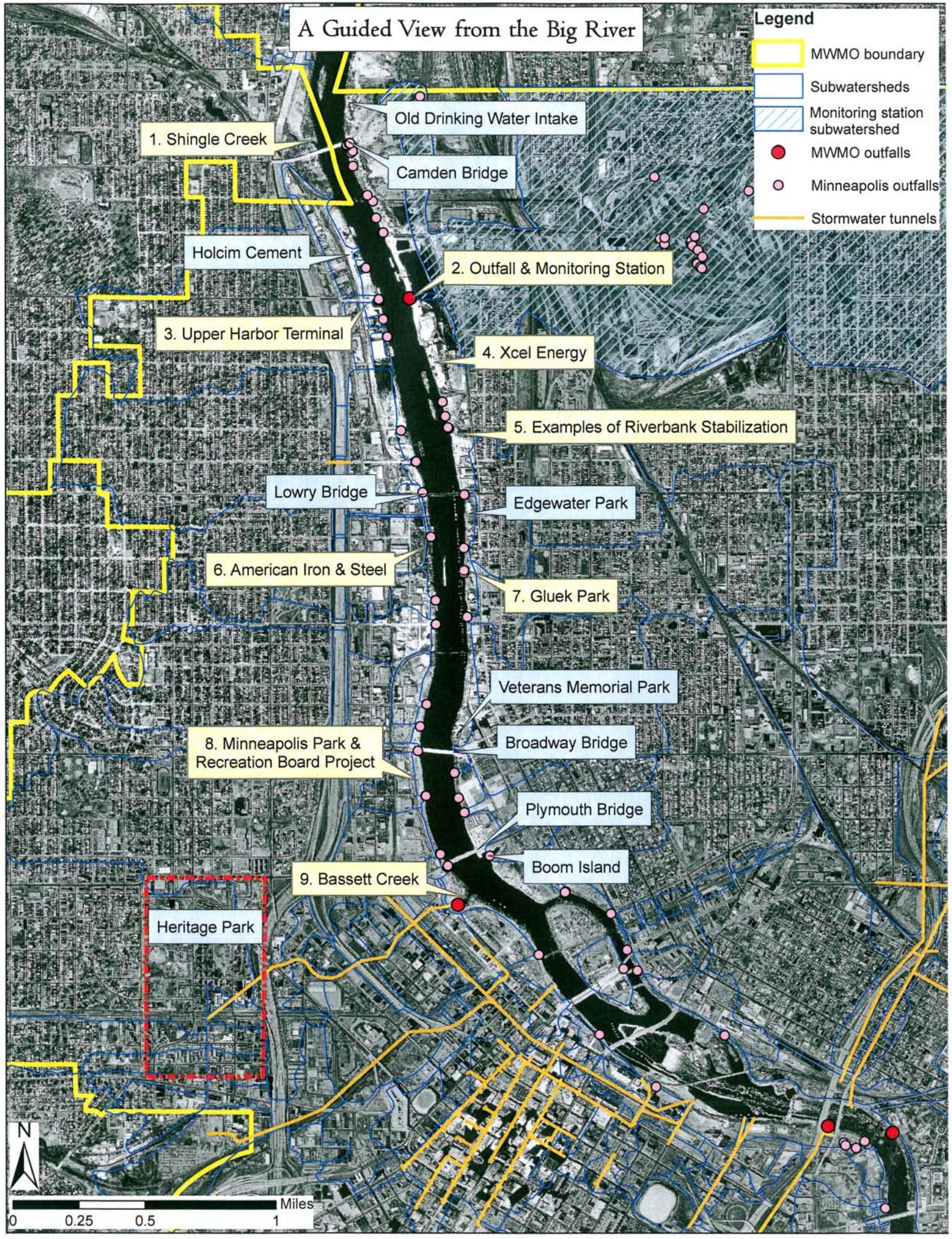


# A Guided View from the Big River

**Legend**

- MWMO boundary
- Subwatersheds
- Monitoring station subwatershed
- MWMO outfalls
- Minneapolis outfalls
- Stormwater tunnels



1. Shingle Creek

Old Drinking Water Intake

Camden Bridge

Holcim Cement

2. Outfall & Monitoring Station

3. Upper Harbor Terminal

4. Xcel Energy

5. Examples of Riverbank Stabilization

Lowry Bridge

Edgewater Park

6. American Iron & Steel

7. Gluek Park

Veterans Memorial Park

8. Minneapolis Park & Recreation Board Project

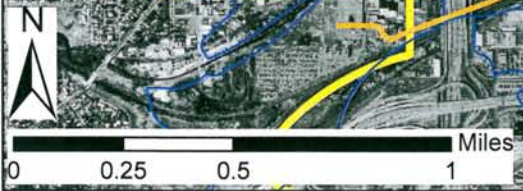
Broadway Bridge

Plymouth Bridge

9. Bassett Creek

Boom Island

Heritage Park



**Station 1: Shingle Creek**

- The water in Shingle Creek is impaired because chloride (salt) levels exceed state water-quality standards (required by the 1972 Clean Water Act).
- Road salt is the major source of chloride in Shingle Creek.
- Impairments and pollutants from tributaries and the Mississippi River upstream flow into the MWMO.
- The MWMO hosts workshops to teach contractors, property managers and city staff how to control snow and ice using less salt. Participants can become certified by the Minnesota Pollution Control Agency in *Snow and Ice Control Best Practices*.
- *What you can do:* Take advantage of training opportunities in stormwater best management practices (BMPs).

*Contact Jenny Winkelman for more information about Workshops, Training and Education.*

**Station 2: Outfall & Monitoring Station**

- This 8 ft diameter outfall drains over 1400 acres in northeast Minneapolis.
- Approximately 2.5 tons of sediment enter the Mississippi River each year from this outfall following a 2/3 inch rainfall.
- More than 80 outfalls flow directly into the Mississippi River from Minneapolis alone.
- The MWMO and the City of Minneapolis monitor water quality at the outfalls and in the river. Monitoring data is used to create a baseline of information, identify pollutants and help meet regulatory requirements.
- *What you can do:* Use accurate information to guide your decisions. If you don't have it, ask for it.

*Contact Kari Oquist for more information about Water Quality Monitoring and Total Maximum Daily Loads (TMDLs).*

**Station 3: Upper Harbor Terminal**

- This is the beginning of the nationally maintained 9 ft deep navigation channel.
- Commercial land use issues along the river are complex because many national, state, regional and local authorities have jurisdiction.
- Special obligations and standards are associated with working close to and on the river, such as having an emergency response plan and stormwater pollution prevention plan (SWPPP).
- The MWMO reviews plans and procedures and acts as a resource in the event of an emergency or catastrophic event.
- *What you can do:* Know your SWPPP (you all have one!).

*Contact Doug Snyder or Kari Oquist for more information about Pollution Prevention and Emergency Response.*

#### **Station 4: Lowry Bridge**

Old infrastructure was designed before the Clean Water Act (1972) when stormwater management focused on removing water volume quickly away from a site.

- Old bridges drain directly into the Mississippi River or onto adjacent banks often causing erosion.
- Rebuilding infrastructure creates opportunities for improved design that manage both stormwater volume AND quality.
- The MWMO reviews designs and may assist with funding capitol projects that manage stormwater above and beyond permitting requirements (in ways that exceed required regulatory performance).
- *What you can do:* Insist on designs for new infrastructure that meets your long term needs, including protecting water quality.

*Contact Doug Snyder for more information about Capitol Improvement Projects and design review.*

#### **Station 5: American Iron and Steel**

- Industrial properties often have large areas of impervious surfaces that do not allow water to infiltrate. Rooftops, parking lots, streets and in some cases turf grass, are examples of impervious surfaces.
- Residential properties in urban areas are also highly impervious.
- Rainfall and snowmelt washes pollutants on impervious surfaces into stormdrains that flow directly, without treatment, into the Mississippi River.
- The MWMO's Stewardship Fund Program supports community initiatives that improve water quality, including demonstrations of pervious asphalt and concrete.
- *What you can do:* Prevent pollution by 1) limiting impervious surfaces and 2) choosing best management practices (BMPs) that treat runoff from these surfaces.

*Contact Nancy Dilts for more information about Stewardship Fund grants and projects.*

#### **Station 6: Minneapolis Park and Recreation Board**

- Eroding riverbanks impact water quality, compromise land uses, eliminates habitat and diminishes aesthetics.
- Many approaches are used to stabilize riverbanks with varying levels of success.
- Multiple benefits can be achieved by restoring and stabilizing riverbanks.
- This section of the river (for roughly 1000 ft on either side) is part of a 72-mile long designated Critical Area. The City of Minneapolis has developed a plan to protect the natural, cultural, historic, commercial, and recreational values of the river corridor, which is part of its policies and ordinances.
- Native plants, including trees, enhance bank stabilization with deep roots, provide quality habitat, absorb and filter runoff, and add beauty.

- The MWMO has developed a **Riverbank Restoration Guide** of science-based practices that integrate multiple objectives including stabilizing shorelines, improving water quality and increasing wildlife habitat.
- *What you can do:* During the design phase Prevent pollution by 1) limiting impervious surfaces and 2) choosing best management practices (BMPs) that treat runoff from these surfaces.

*Contact Dan Kalmon for more information about **the MWMO's Riverbank Restoration Guide.** (Check for title and reference)*

### **Station 7: Bassett Creek**

- Most of Bassett Creek has been diverted into a tunnel that flows into the Mississippi River below Saint Anthony Falls. Only a small part of the creek, including Heritage Park, now joins the river at the original location.
- Once water enters stormwater tunnels and pipes it becomes difficult and expensive to treat.
- Heritage Park combines many types of stormwater management practices in a “treatment train” and reduces sediment and phosphorus coming from hundreds of acres of the surrounding landscape. (See attached brochure.)
- MWMO funded the stormwater treatment train at Heritage Park.
- *What you can do:* Incorporate multiple stormwater best management practices (BMPs) into land use planning decisions.

*Contact?(more about CIP projects, already mentioned in Lowry Bridge)*

**Glossary:**

Best Management Practices (BMPs) Impaired Waters

Clean Water Act of 1972

Critical Area

Impervious

Nonpoint Source Pollution

Pervious

Point Source Pollution

Total Maximum Daily Load (TMDL)

**Additional Resources**