CEDAR LAKE / LAKE OF THE ISLES MASTER PLAN

DRAFT INITIAL PARK CONCEPTS

CAC MEETING #07
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WATER QUALITY DEFINITION

Water quality is typically measured using three different indicators:

- **Total Phosphorus (determines algal growth and oxygen levels)**
- **Chlorophyl-a (determines algal concentrations)**
- **Water Clarity (measures general biological health and swimmability)**

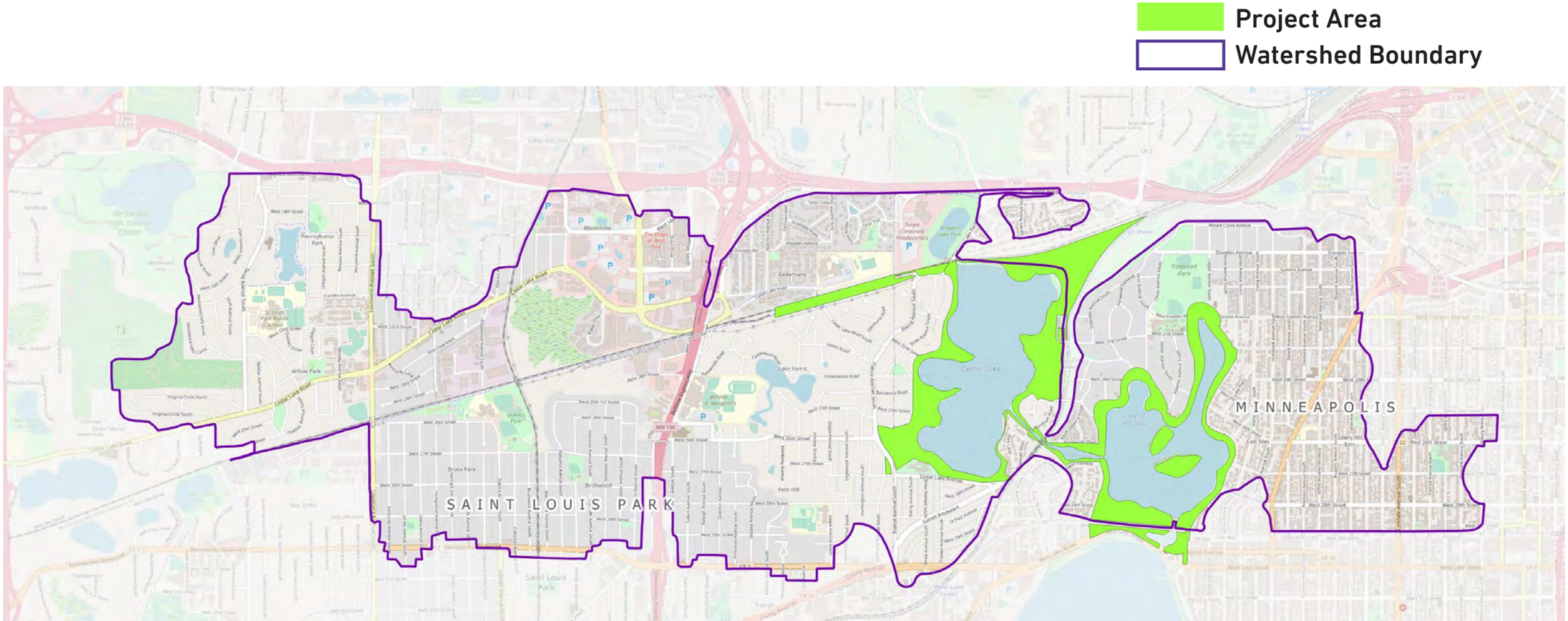
The above indicators are often summarized as a Trophic State Index (TSI) and problems within these categories are often caused by Nutrient Loads.

Another important indicator of water health, in addition to the technical measurements above, is Habitat Diversity - which is has been emphasized in many of the treatment options found in the Draft Initial Concepts.

Some treatment options have the added beneift of Preventing Run-Off and some treatments are only targeting nutrients already in the lake.

WATERSHED CONTEXT

- Cedar Lake and Lake of the Isles are in a highly-urbanized watershed.
- Real water quality improvements will only be gained by addressing pollution on a watershed scale.



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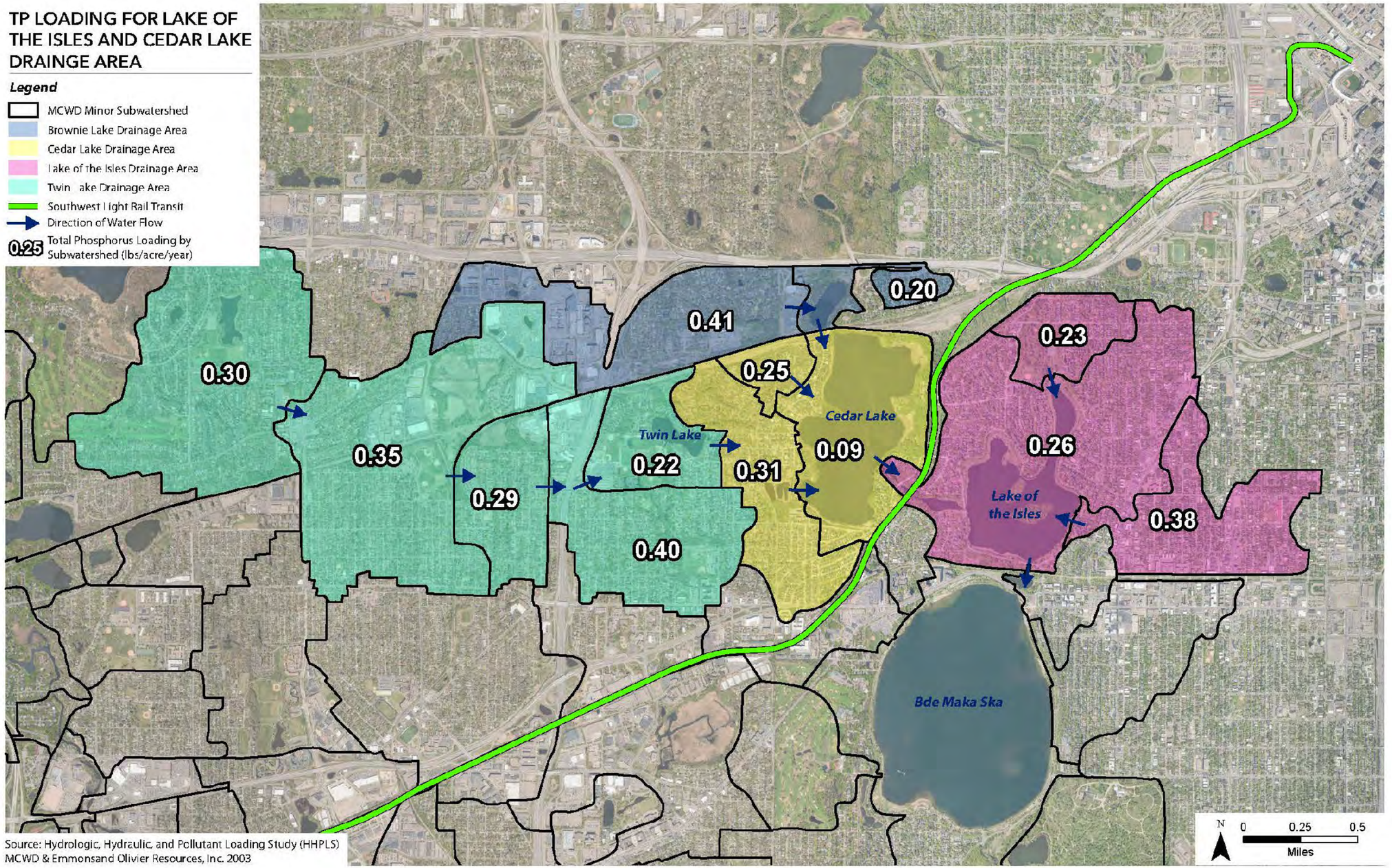
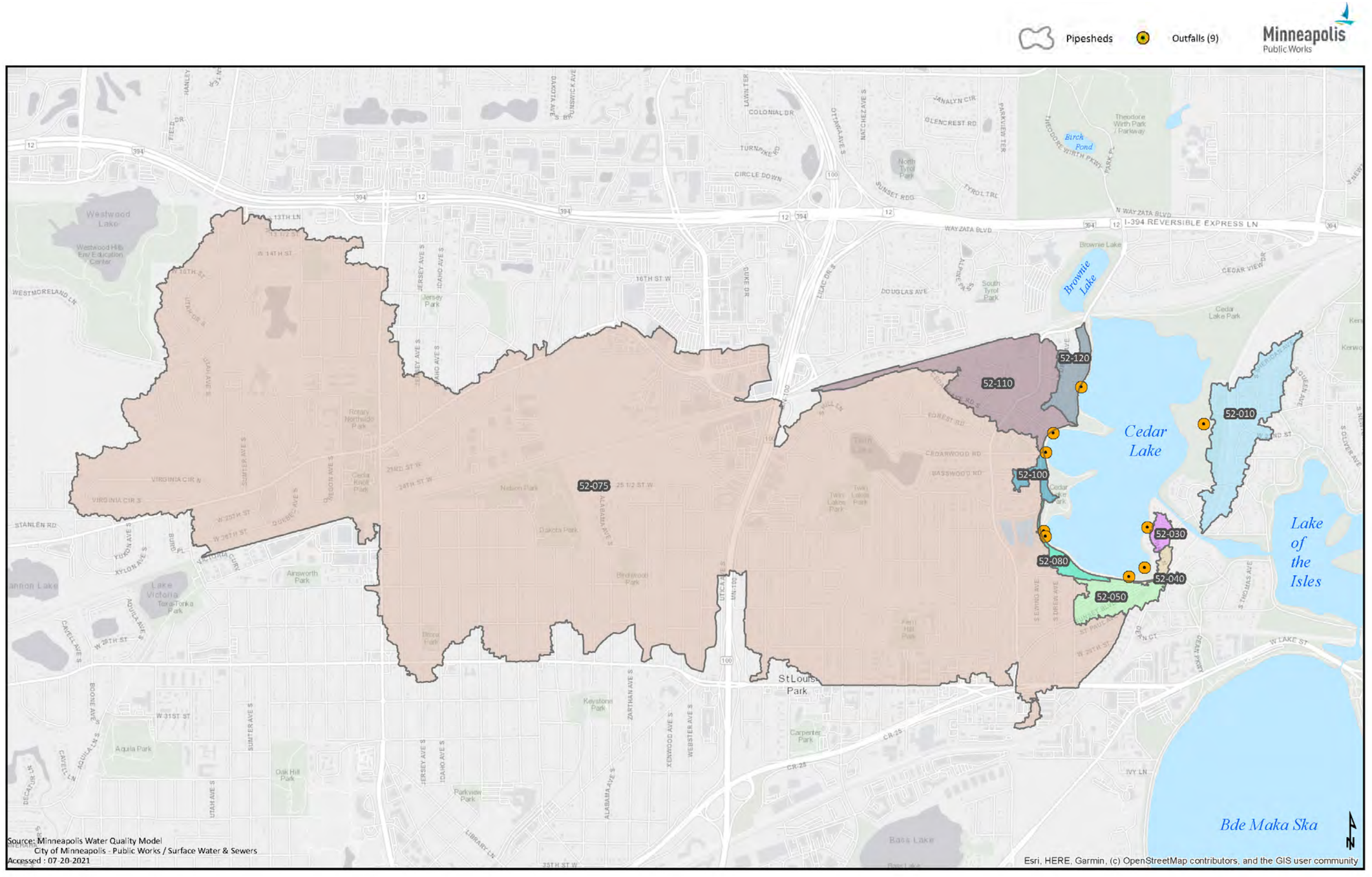
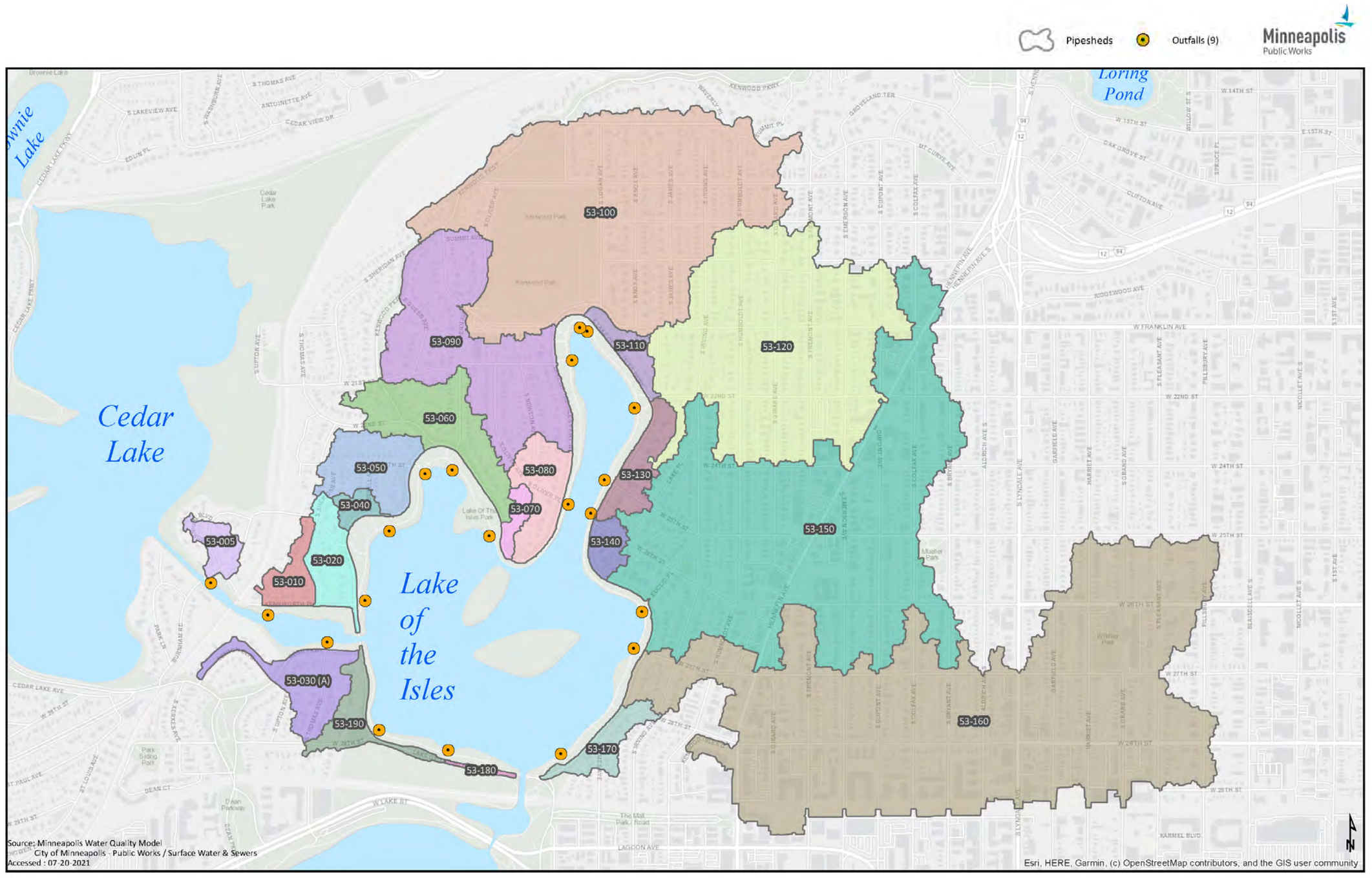


CEDAR LAKE PIPESHEDS AND OUTFALLS



LAKE OF THE ISLES PIPESHEDS AND OUTFALLS



WATER QUALITY TREATMENTS | precedent images

In-Lake Treatments (Permanent Structure)

In-Lake Treatments (Periodic Applications)

Stablized, Consolidated Lake Access Points

Woodland Restoration (Oak Savanna Restoration, Mesic Oak Forest Restoration)

Upland Buffers (Prairie Enhancement)

Turf Conversion

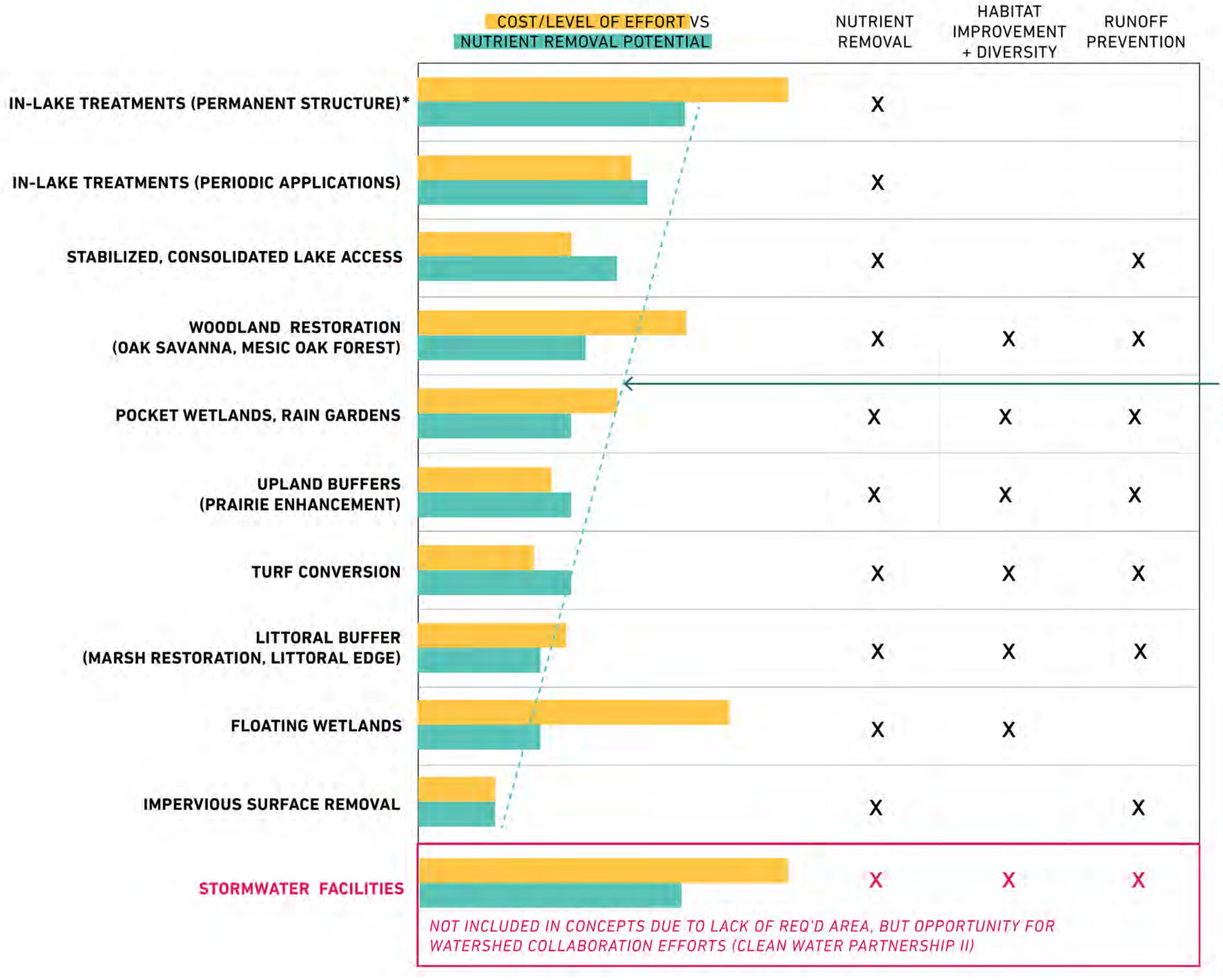
Littoral Buffer (Marsh Restoration, Littoral Edge Expansion)

Floating Wetlands

Impervious surface Removal

Pocket Wetlands, Rain Gardens

RELATIVE IMPACTS OF PROPOSED WATER QUALITY TREATMENTS

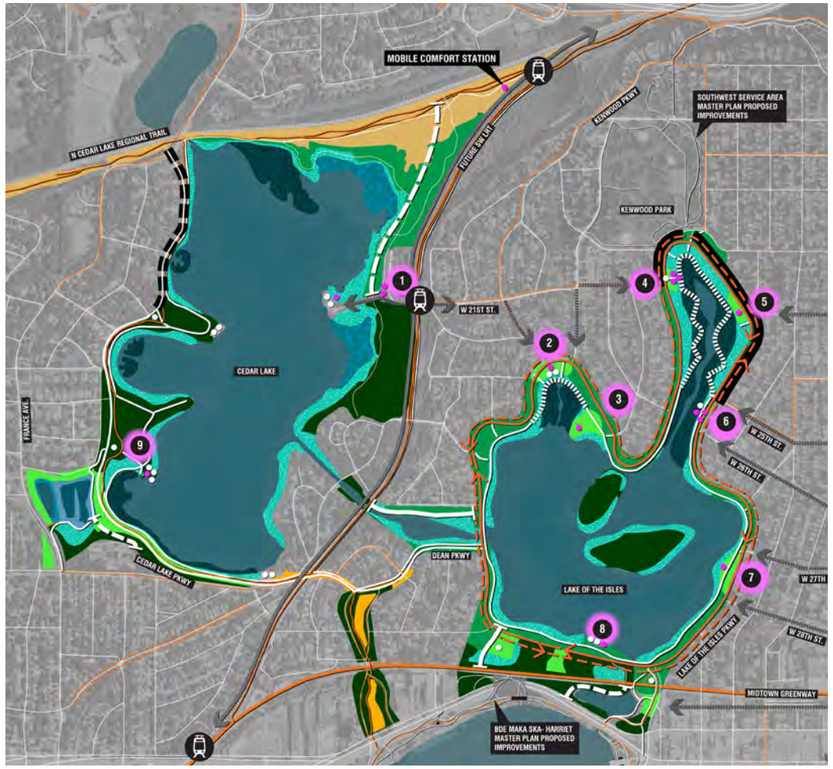


** FEASIBILITY OF THIS OPTION DEPENDS ON LAND AREA CONSTRAINTS*

CHART LISTS TREATMENTS IN ORDER FROM HIGHEST TO LOWEST NUTRIENT REMOVAL POTENTIAL

TWO CONCEPTS

A: LIVING LAKES prioritizes filtering runoff water before it reaches the lakes through habitat restoration and buffer plantings. Natural treatment of in-lake nutrients.

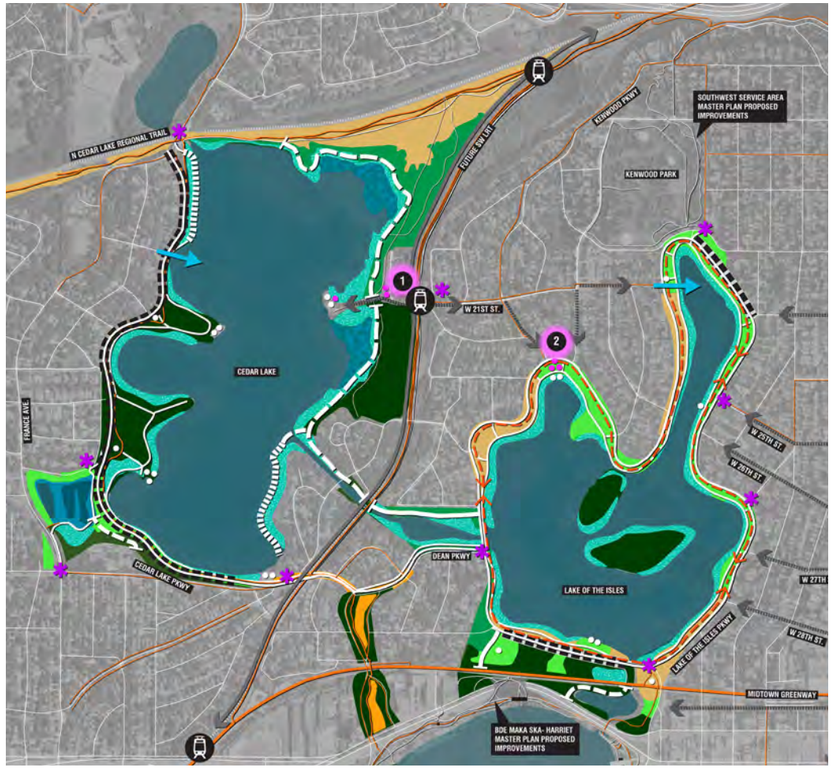


Utilization of treatment type:

low ⟶ high

- In-lake treatments (permanent structure)
- In-lake treatments (periodic applications)
- Stabilized, consolidated lake access
- Woodland restoration
- Upland buffers
- Turf conversion
- Littoral buffer
- Floating wetlands
- Impervious surface removal
- Pocket wetlands, rain gardens

B: UNIQUE LAKE EXPERIENCES focuses on in-lake treatment options alongisde a milder habitat restoration/buffer proposal to prioritize preserving the current character of each lake.



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