Chapter 1

Introduction

The Ho Chunk, or Winnebago, Indians called Lake Wingra "Ki-chunk-och-hep-er-rah" meaning "the place where the turtle emerges" (Brown, 1915).

Lake Wingra, and its adjacent wetlands, prairies, and woods, are a unique and valuable asset for the people of Dane County. The area serves as an urban oasis for wildlife, boaters, swimmers, and fishermen. Lake Wingra's proximity to major research institutions has provided excellent opportunities for shallow lake research. However, in comparison to the deeper and clearer lakes of Madison, the shallow and marshy Lake Wingra has often gone unappreciated, and has been maligned throughout its history. In the mid-1800s, the lake was commonly referred to as "Dead Lake." One defender of Lake Wingra, Judge Levi B. Vilas, was provoked by this, and protested this name in an article in the *Madison Democrat* in 1869.

> "I protest here and now to the attempt in your issue of last evening to fasten the name of 'Dead Lake' upon that beautiful body of water upon the borders of our city known upon all the maps as Lake Wingra. It is one of the most healthy and beautiful lakes in our midst, and deserves no such name as you and your poetic contribution attempt to attach on it. It has none of the qualities of the Dead Sea, but on the contrary, is full of living fishes and surrounded and covered with winged fowls and singing birds from which it obtains its true and appropriate name. It takes its rise and origin from bubbling springs around its shores, and has a large flowing outlet by a connecting stream into the waters of Lake Monona. Then in the name of justice, truth, history, and propriety, let it always have its own true and beautiful name, 'Lake Wingra.' "

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Some people thought the lake was dying because marshy areas were expanding into the lake and springs were disappearing. Some thought the lake was sinking into the earth. But, as Judge Vilas pointed out, the lake was still very much alive. Moreover, the problems that Lake Wingra's detractors observed

were due to their own actions. Farmers were turning up soil with their plowshares right up to the water's edge causing the solid banks to gradually wash away into the lake. This soil clogged the springs and filled in the lakeshore, providing shallow water for marsh vegetation. New housing developments and landfills filled in low-lying wet areas, eliminating springs and wetlands.

Lake Wingra faces similar problems today that are still caused by human activity. While agricultural runoff was a major problem in 1869, the effects of urbanization have caused even greater changes to the lake ecosystem. Vast areas of rooftops, roads, and sidewalks no longer allow rainwater to infiltrate the ground. As a result, rainwater enters the lake as surface-water runoff instead of recharging the groundwater aquifers that feed the lake's wetlands and springs. This has caused a fundamental shift in the lake's hydrology. Stormwater runoff carries high nutrient and sediment loads to the lake, which cause nuisance algae blooms, excessive macrophyte growth, degraded wetlands, and sediment buildup. As a result, much of the original flora and fauna have been replaced by exotic species. Flocks of canvasback ducks, and expansive beds of wild rice and celery are no longer found in Lake Wingra. Fens and sedge meadows along the lake's borders are threatened with elimination.

While agricultural runoff pollution was a major problem in 1869, the effects of urbanization have caused even greater changes to the lake ecosystem.

These problems demonstrate the immense challenges involved in improving Lake Wingra. However, meeting these challenges is essential. Besides the lake's recreational value, the Lake Wingra watershed supports abundant wildlife, natural springs, and cultural landmarks including the UW-Arboretum, Vilas Zoo, and Vilas and Wingra parks.

Preserving the resources of the Lake Wingra watershed will be challenging. Urban natural areas require unique stormwater management since they are often the end point for stormwater runoff. Once an area is fully developed, as the Lake Wingra watershed is, stormwater controls must fit into the pre-existing infrastructure. Diverse stakeholder coordination, funding source development, and citizen participation are critical aspects that must be addressed and considered throughout the process of urban stormwater management. If these challenges are met, there is great potential for improvement in the Lake Wingra watershed.

Through the initiative of the Friends of Lake Wingra (FOLW), the 1999 Water Resources Management (WRM) Workshop was given support to help address these challenges. Our main objective was to research and develop tools that would better enable the FOLW to carry out its mission. We intended to provide watershed managers and citizen groups with tools and insights to manage the lake and its watershed. If our work is successful, the FOLW and other stakeholders will be equipped to develop an active watershed community committed to Lake Wingra.

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Improvements in the Lake Wingra watershed will ultimately depend on public support. The watershed has potential to serve as a model for urban watershed management. People can indeed make a lake "dead" through their actions, but we can also learn from our mistakes and work to enable Lake Wingra to continue to be a refuge for living fishes, winged fowls, singing birds, and bubbling springs around its shores as Judge Vilas described in 1869. "Then in the name of justice, truth, history, and propriety, let it always have its own true and beautiful name, Lake Wingra."