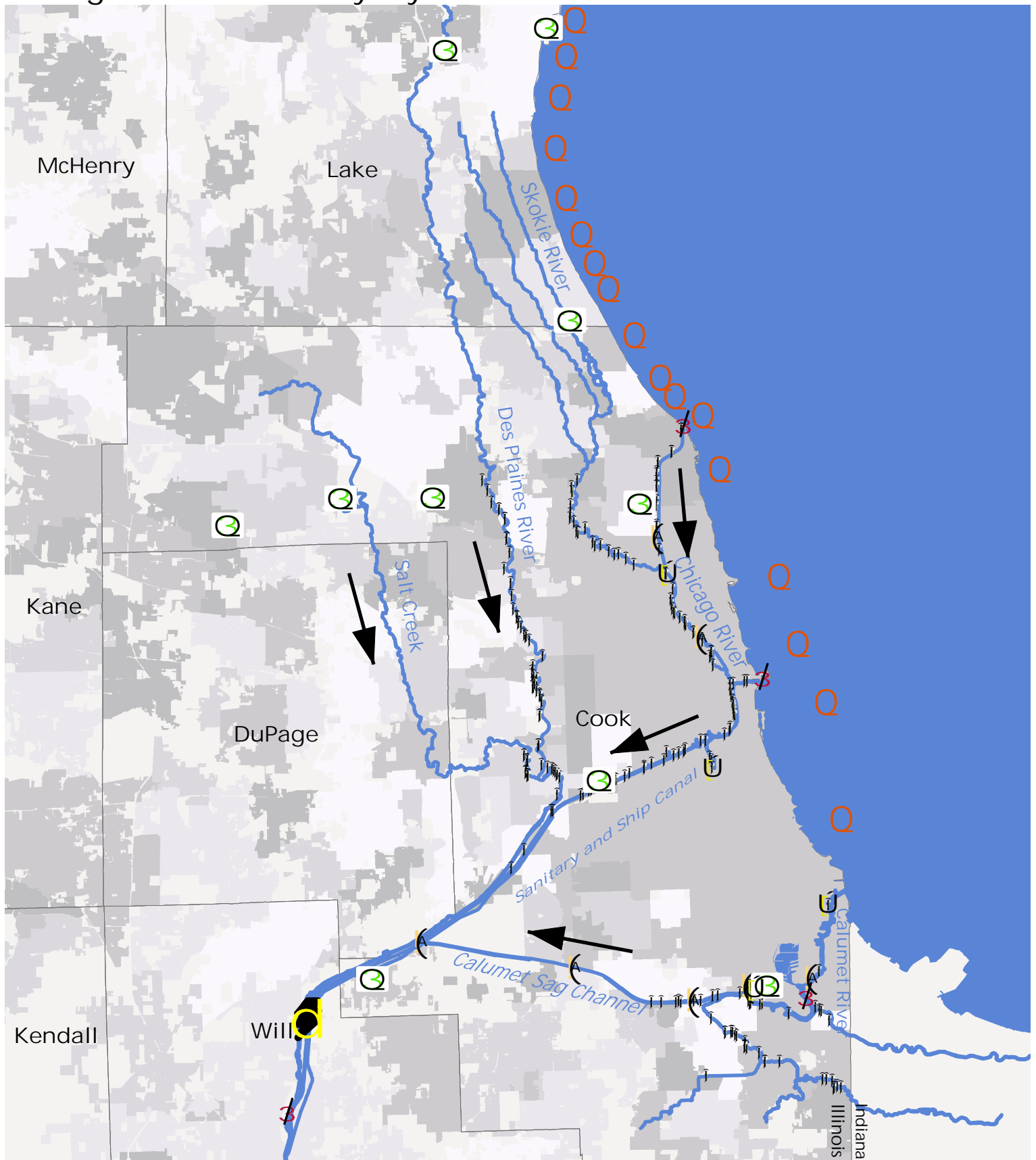
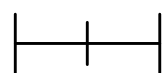


# Chicago Area Waterways System - Water Resource Infrastructure

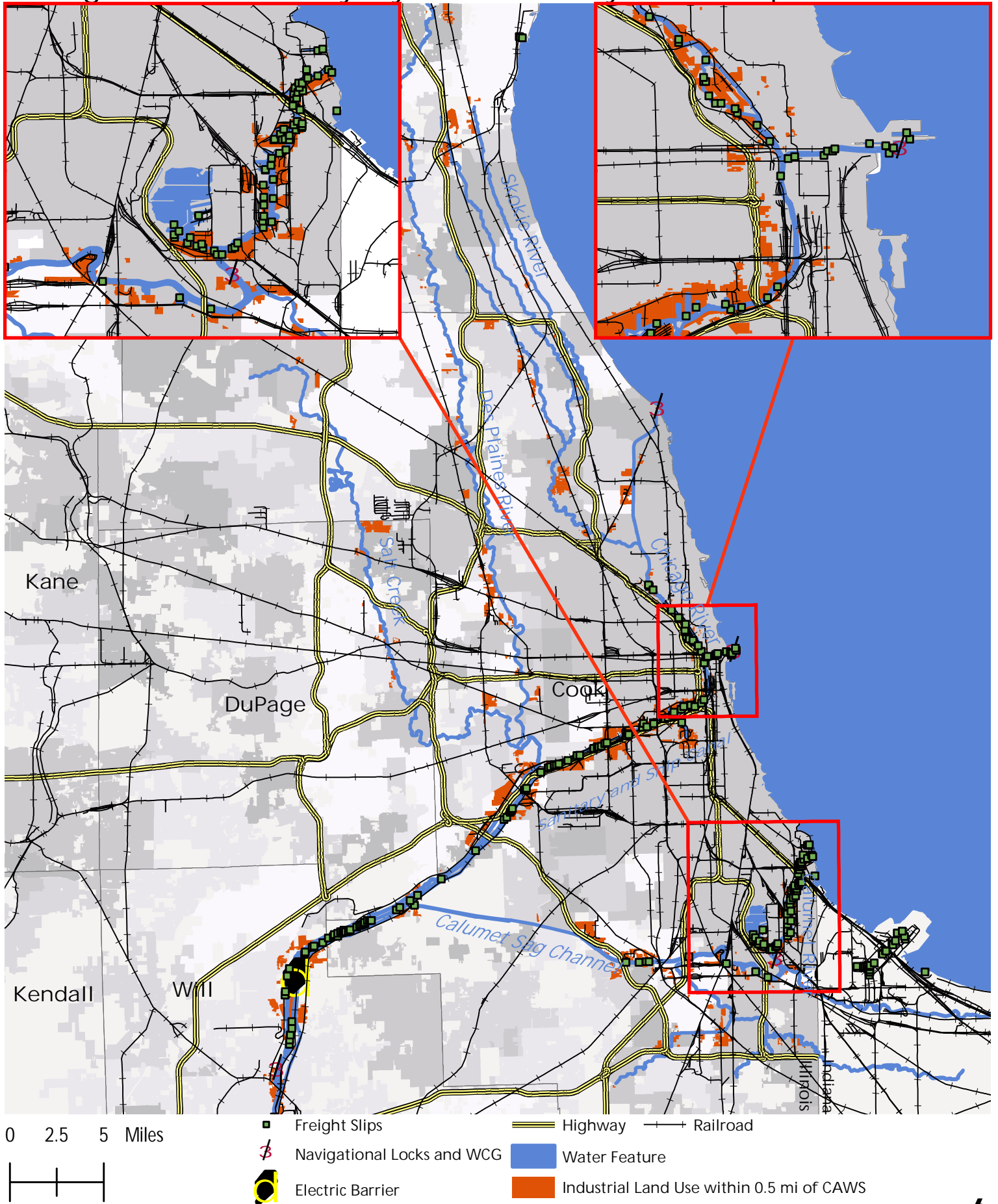


0 2.5 5 Miles

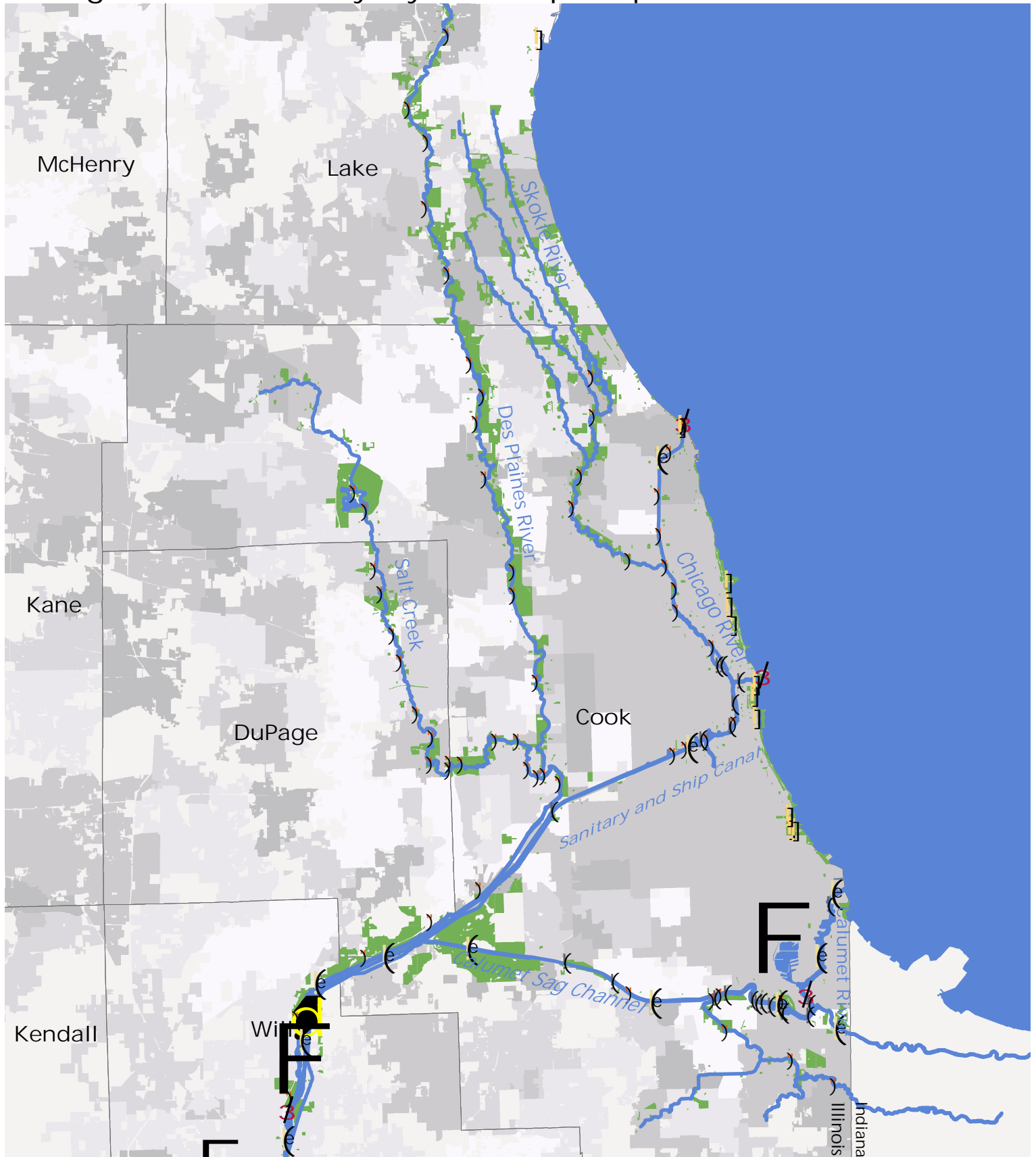


- |  |                   |  |                       |  |                            |
|--|-------------------|--|-----------------------|--|----------------------------|
|  | Electric Barrier  |  | Pump Station          |  | Lake Michigan Water Intake |
|  | Water Feature     |  | Water Treatment Plant |  | Navigational Locks and WCG |
|  | Direction of Flow |  | Aeration Station      |  | Combined Sewer Outfall     |

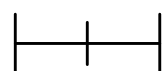
# Chicago Area Waterways System - Industry and Transportation



# Chicago Area Waterways System - Open Space and Recreation



0 2.5 5 Miles



- |          |                      |   |                             |   |   |
|----------|----------------------|---|-----------------------------|---|---|
| <b>F</b> | Carp Sighting        | ) | Water Access Point          | { | Inland Marinas, Dry Docks, and Minor Recreational Slips |
| €        | eDNA Finding         | ⚡ | Northeastern Illinois Locks | ■ | Open Space Land Use withing 0.5 mi of CAWS              |
| ]        | Lake Michigan Harbor | ⚡ | Electric Barrier            | ■ | Water Feature   |

# Background Information on Illinois Water Supplies

## Lake Michigan Diversion vs. Allocation

Illinois' Lake Michigan diversion and allocation are related concepts, but not the same. Due to the reversed flow of the Chicago River, a defined portion of northeastern Illinois — the diversion area — now loses water that previously would have flowed into Lake Michigan (see map on facing page). A U.S. Supreme Court decision in 1967 set Illinois' diversion at 3,200 cubic feet per second (cfs).

The diversion includes rainfall — stormwater — that would have flowed into one of the region's streams or rivers, then to Lake Michigan. Any stormwater that is captured by the diversion area's sewer systems, gets treated, and is eventually released downstream, counts as water Illinois has taken out of the lake, despite the fact that it was never put to good use.

In 2005, Illinois diverted 85 percent of its allowable total from Lake Michigan. Pumpage for treatment and use, as well as stormwater runoff, account for the majority of the actual diversion. Other components of the diversion include water for navigation on the Chicago River, water that leaks from Lake Michigan into the locks, and of course, water that is pumped out for domestic purposes.

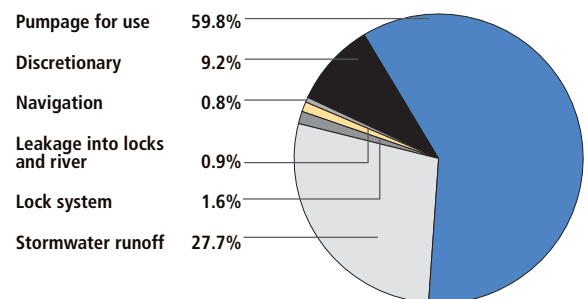
In the 1990s Illinois diverted as much as 120 percent of what is allowed. The decrease in recent years was an intentional effort to repay Illinois' 'water debt' to the Great Lakes. Illinois' use of Lake Michigan water is improving, but more work needs to be done.

Reducing any one component of the diversion, in effect, increases the amount of water that could be used for another purpose or simply left in the lake. The converse also is true. In rainier years than 2005 (a notable drought year), the amount of stormwater increases, so that portion of the diversion grows. With population growth increasing the need for domestic pumpage, and climate change generating more frequent incidents of heavy rain, the ability of the Lake Michigan diversion to serve northeastern Illinois' needs will be tested. It will be essential to eliminate waste and inefficiency.

IDNR is responsible for allocating set amounts of pumped Lake Michigan water to communities in the region. The allocation (service) area is considerably larger than the diversion area, and changes as communities move onto or off of Lake Michigan water. It is, in essence, a network of pipes and pumps. Communities seeking to receive Lake Michigan water must apply to IDNR, prove it is the most economically feasible source of water, and show some evidence of their ability to manage the water responsibly.

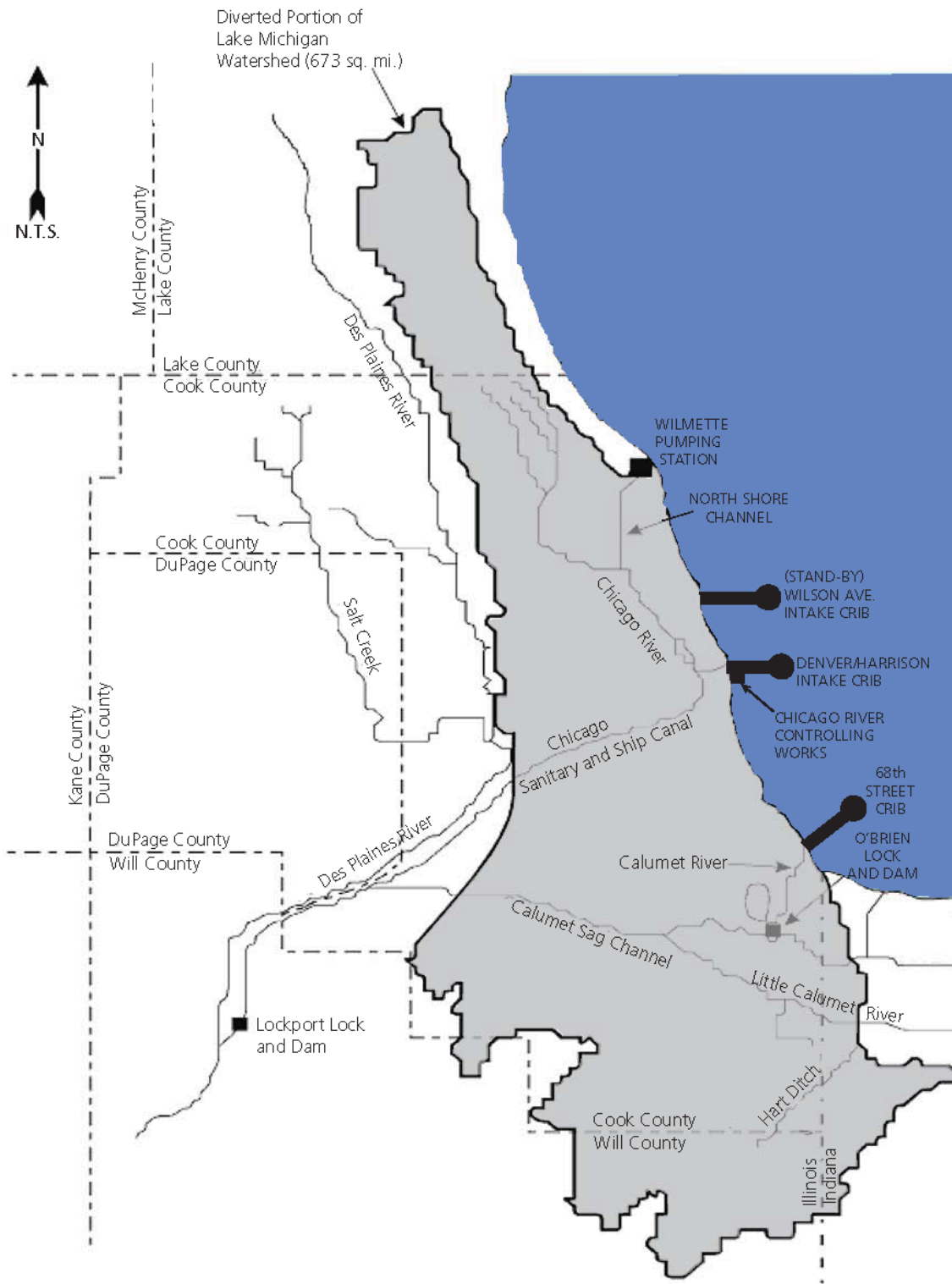
Illinois' diversion is set by federal statute and will not increase in the foreseeable future. Allocation of Lake Michigan water is much more flexible. Illinois is limited to its 3,200 cfs, but a greater portion of that could be used for domestic purposes such as drinking and landscaping irrigation. If measures are taken to reduce other portions of the diversion, more water may become available for future population growth or allocation to communities struggling with groundwater challenges. Given the defined limits of Illinois' diversion, conservation and efficiency of both the total diversion and individual allocations is paramount to long-term regional sustainability.

### Breakdown of Illinois' Lake Michigan Diversion, Water Year 2005



SOURCE: U.S. Army Corps of Engineers' *Lake Michigan Diversion Accounting: Water Year 2005 Report*.

# Illinois' Lake Michigan Watershed Diversion Area



SOURCE: Army Corps of Engineers' Lake Michigan Diversion Accounting: Water Year 2005 Report.

Since 1934, the Metropolitan Planning Council (MPC) has been dedicated to shaping a more sustainable and prosperous greater Chicago region. As an independent, nonprofit, nonpartisan organization, MPC serves communities and residents by developing, promoting and implementing solutions for sound regional growth.

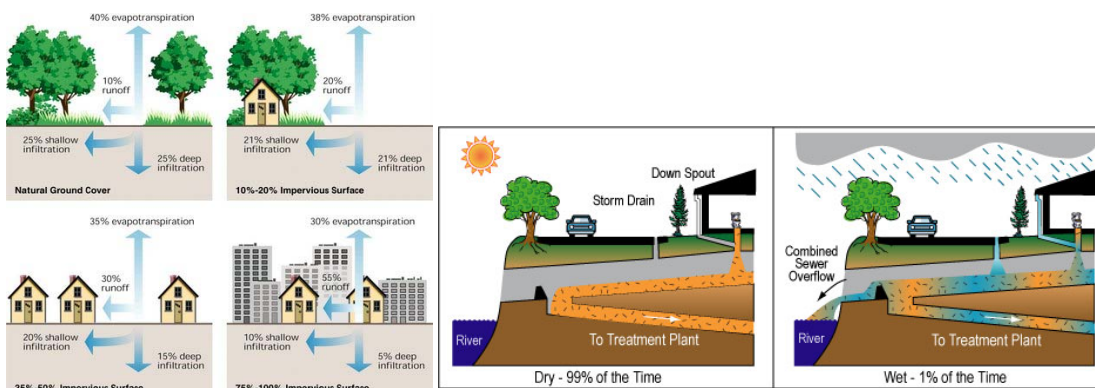
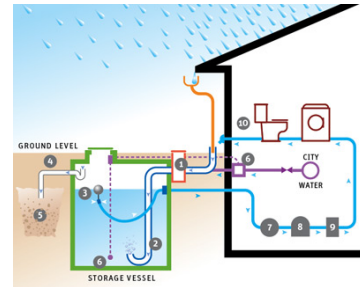


Fig. 1.31 – Relationship between impervious cover and surface runoff. Impervious cover in a watershed results in increased surface runoff. As little as 10 percent impervious cover in a watershed can result in more degradation.  
 In *Urban Stormwater Management: Principles, Processes, and Practices* (1998).  
 By the Federal Interagency Stormwater Working Group (FISRWG) (13 Federal agencies of the U.S.)

### Northeastern Illinois Water Demand Scenarios

| Scenarios                 | Normal withdrawals, 2005 (mgd) | Normal withdrawals, 2050 (mgd) | Change, 2005-2050 (mgd) | % Change, 2005-2050 change |
|---------------------------|--------------------------------|--------------------------------|-------------------------|----------------------------|
| Less resource intensive   | 1480.3                         | 1587.5                         | 107.2                   | 7.2%                       |
| Current trends (Baseline) | 1480.3                         | 2010.7                         | 530.4                   | 35.8%                      |
| More resource intensive   | 1480.3                         | 2429.4                         | 949.1                   | 64.1%                      |

SOURCE: Regional Demand Scenarios for Northeastern Illinois: 2005-2050, Dziegielewski and Chowdhury, 2008



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