In The
Supreme Court of the United States
October Term, 1966

STATES OF WISCONSIN, MINNESOTA, OHIO, AND PENNSYLVANIA, *Complainants,* *v.* STATE OF ILLINOIS AND THE METROPOLITAN SANITARY DISTRICT OF GREATER CHICAGO, *Defendants,* UNITED STATES OF AMERICA, *Intervenor.*	No. 1 Original
STATE OF MICHIGAN, *Complainant,* *v.* STATE OF ILLINOIS AND THE METROPOLITAN SANITARY DISTRICT OF GREATER CHICAGO, *Defendants,* UNITED STATES OF AMERICA, *Intervenor.*	No. 2 Original
STATE OF NEW YORK, *Complainant,* *v.* STATE OF ILLINOIS AND THE METROPOLITAN SANITARY DISTRICT OF GREATER CHICAGO, *Defendants,* UNITED STATES OF AMERICA, *Intervenor.*	No. 3 Original

MOTION FOR PRELIMINARY INJUNCTION

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INTRODUCTION

The states and Canadian provinces bordering the Great Lakes, and everyone that uses the Great Lakes for recreation or commerce, face a dire threat to this unique and irreplaceable resource, the largest freshwater system in the world. It is well documented that silver carp and bighead carp – huge by freshwater standards, voracious and prolific – pose a real potential to wipe out native species of fish in any waterway that the carp, each a species of Asian carp,[1] comes to inhabit. These fish, near the end of an unrelenting march up the Mississippi River from Mississippi and Arkansas – are literally at the threshold of Lake Michigan, swimming in the rivers and canals near Chicago.

The Chicago waterway system is artificially manipulated as an integral part of the Lake Michigan water diversion project that is the subject of this case. (App. 52a-53.)[2] It was created, funded, and/or authorized by the Defendant State of Illinois, and the entity it created, Defendant Metropolitan Water Reclamation District of Greater Chicago (District), and the U.S. Army Corps of Engineers (Corps), which operates under authority of Intervenor, the United States. The Chicago waterway system includes the Chicago Sanitary and Ship Canal, the Calumet-Sag Channel, and various

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[1] There are several species of Asian carp. Reference to "'Asian carp'" in this motion is intended only to mean silver carp and bighead carp.

[2] Reference to pages from the Appendix attached to Michigan's Motion to Reopen and for a Supplemental Decree, Petition, and Brief in Support of Motion is made as "'App. __.'"

"'improvements'" to the Chicago River. (App. 48a, 70a, 78a.)[3] It also includes the Calumet, Grand Calumet, and Little Calumet Rivers. (App. 78a.)[4]

The primary water control structures on this system are the Lockport Powerhouse and Lock on the Chicago Sanitary and Ship Canal, near its connection with the Des Plaines River; the O'Brien Lock and Dam on the Calumet River; the Chicago Controlling Works in downtown Chicago; and the Wilmette Pumping Station on the North Channel of the Chicago River.[5] (App. 85a.)

These waterways and control structures reversed the flows of the Chicago and Calumet Rivers and artificially connected them to the Illinois River basin for waste disposal and navigation purposes.[6] (App. 26a, 48a, 79a.) These waterways provide a direct connection between the Mississippi River and the Great Lakes (App. 26a, 48a, 66a, 67a) that did not exist before the diversion project was completed. (App. 26a.) This system was created by Illinois and is primarily maintained and operated by the District, but several structures in the system contain navigational locks and are jointly operated by the Corps – the Lockport Lock, the O'Brien Lock, and the Chicago Lock. (App. 77a, 91a.)

As described in detail in the Petition for Supplemental Decree, well-intentioned but ineffective measures have been taken by Illinois and the Corps, including construction of an electric "Dispersal Barrier System," intended to stop Asian carp from

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[3] *See* Attachment 1 (Corps of Engineers Diagrams, Before and After Canal System Construction). (App. 27a.)

[4] *See* Attachment 2 (Figure 1. Map of the Chicago and Calumet Waterways). (App. 85a.)

[5] *See* Attachment 3 (Corps of Engineers, Addressing Asian Carp Migration). (App. 72a.)

[6] *Wisconsin v. Illinois,* 278 U.S. 367 (1929).

moving from the Illinois River basin to Lake Michigan. (App. 27a-34a.) But as the Corps' own environmental DNA (eDNA) testing shows, these measures have not worked as evidence of the carp has been found lakeward of the "'Barrier.'" (App. 40a, 72a.) Moreover, as also more fully described in the Petition for Supplemental Decree, other pathways exist for the carp to enter Lake Michigan. Carp in the Des Plaines River could enter the Chicago Sanitary and Ship Canal, above the Barrier, if there is a significant flooding event. (App. 53a-54a.) There are also no permanent physical barriers to fish passage on the Grand and Little Calumet Rivers, which connect with Lake Michigan in Indiana. (App. 78a-79a, 119a.) If effective measures are not taken to stop the advance of Asian carp, and soon, these alien invaders will be in Lake Michigan where it will be, by most accounts, impossible to stop them from spreading to all the Great Lakes and the numerous inland lakes, rivers, and streams that connect to them. (App. 24a-26a, 45a.)

The urgent need for action cannot be overstated. Partial measures are no longer an option. The remaining obstacles between the carp and Lake Michigan are the navigational locks and other structures operated by the Corps and the District. (App. 72a.) If Defendants continue the current operation of these structures, particularly the locks, Asian carp will pass through these structures, and inevitably enter the Great Lakes system. Further, there are additional potential pathways provided by the Des Plaines River flooding (App. 53a-54a) and the Grand and Little Calumet Rivers. (App. 78a-79a, 119a.) Given the rapid advance of these fish up the

Mississippi River (App. 41a), there is no reason to believe that this invasion is not imminent.

If the carp make it to Lake Michigan, the environmental and economic disaster to follow may take some time to develop, but is virtually certain. That is the conclusion reached by the U.S. Fish and Wildlife Service in its final rule designating the silver carp to its list of "Injurious Wildlife Species" under the Lacey Act[7]:

> In summary, the Service finds all forms of live silver carp, including gametes, viable eggs and hybrids, to be injurious to wildlife and wildlife resources of the United States and to the interests of human beings because:
>
> - Silver carp are *highly likely to spread* from their current established range to new waterbodies in the United States;
> - Silver carp are *highly likely to compete* with native species, including threatened and endangered species, for food and habitat;
> - Silver carp have the potential to carry pathogens and transfer them to native fish;
> - Silver carp are *likely to develop dense populations* that will *likely affect critical habitat for threatened and endangered species* and could further imperil other native fishes and mussels;
> - Silver carp *are negatively impacting humans*;
> - It *would be difficult to eradicate* or reduce large populations of silver carp, or recover ecosystems disturbed by the species; and
> - There are no potential ecological benefits for U.S. waters from the introduction of silver carp.[8]

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[7] 18 U.S.C. § 42.

[8] Injurious Wildlife Species: Silver Carp and Largescale Silver Carp, 72 Fed. Reg. 37461, 37464 (2007) (codified at 50 C.F.R. § 16) (emphasis added).

For these reasons, Michigan seeks immediate relief from this Court in the form of an Order that requires Defendants and Intervenor to (1) close and cease operating the two navigational locks at the O'Brien Lock and Dam and Chicago Controlling Works; (2) to operate the water control sluice gates at O'Brien and Chicago and the Wilmette Pumping Station in a manner that will not allow the carp to pass through them; and (3) take all other actions necessary to prevent the carp from entering Lake Michigan, including addressing the potential Des Plaines River and Grand and Little Calumet pathways.

Michigan realizes that an interim order closing the locks will impact the barge traffic and recreational boats that move between Lake Michigan and the waterways in and around Chicago. However, as shown below, any such loss is relatively minor and is finite. If the Asian carp enter the Great Lakes system, the damage to the environment and economies of the Great Lakes states and Canadian provinces will be staggering with no practical end in sight.

ARGUMENT

I. A proper balancing of the preliminary injunction factors compels entry of an order requiring that the control structures in the Chicago diversion waterway be operated in a manner that will not allow carp to pass beyond them, and that other pathways be blocked, at least until the Court can make a decision on the merits of this case.

A. The preliminary injunction factors.

A primary reason for any court to grant a motion for a preliminary injunction is to maintain the status quo.[9] While this is a benefit to the moving party, it also acts to preserve and protect the authority of the court to render a meaningful judgment.[10] Entering a preliminary injunction, just as entry of a permanent injunction, is the exercise of the court's equitable powers to ensure that a just result is reached.[11]

The federal courts have traditionally applied a handful of factors when asked to enter a preliminary injunction. The number of factors and the nature of the factors have varied over time and from court to court, but contemporary practice has generally settled on four factors. This Court has recently described the factors it considers before issuing a preliminary injunction:

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[9] *Deckert v. Independence Shares Corp.*, 311 U.S. 282 (1940); *In re De Lorean Motor Co.*, 755 F.2d 1223, 1229 (6th Cir. 1985) ("In a much earlier case, this Court said: "The object and purpose of a preliminary injunction is to preserve the existing state of things until the rights of the parties can be fairly and fully investigated...." *Blount v. Societe Anonyme du Filtre Chamberland Systeme Pasteur*, 53 F. 98, 101 (6th Cir. 1892).

[10] *Alabama v. U.S. Army Corps of Engineers*, 424 F.3d 1117, 1128 (11th Cir. 2005), *cert. denied* 547 U.S. 1192 (2006).

[11] *Lawson Products Inc. v. Avnet, Inc.*, 782 F.2d 1429, 1435 (7th Cir. 1986).

> A plaintiff seeking a preliminary injunction must establish that he is likely to succeed on the merits, that he is likely to suffer irreparable harm in the absence of preliminary relief, that the balance of equities tips in his favor, and that an injunction is in the public interest.[12]

Numerous U.S. Circuit Courts of Appeal have determined that during the application of these factors in a particular case, it is appropriate to give more weight to certain factors depending on the nature of the evidence. For example, several courts have held that where a very strong showing is made on the fact of irreparable injury, an injunction may enter even where the case supporting the likelihood of success on the merits factor is not as strong.[13]

As shown below, when these factors are properly weighed in the case at hand, it is clear that a preliminary injunction must be entered to protect the status quo of Lake Michigan waters that are currently free from the invasive Asian carp now infesting the waterways at issue.

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[12] *Winter v. NRDC, Inc.*, 129 S. Ct. 365, 374 (2008), *citing Munaf v. Geren*, 553 U.S. __, 128 S. Ct. 2207; (2008) (slip op. at 12), *Amoco Production Co. v. Gambell*, 480 U.S. 531, 542 (1987), and *Weinberger v. Romero-Barcelo*, 456 U.S. 305, 311-312 (1982).

[13] *Qingdao Taifa Group v. United States*, 581 F.3d 1375 (Fed. Cir. 2009) (*quoting Kowalski v. Chi. Tribune Co.*, 854 F.2d 168, 170 (7th Cir. 1988)) ("A request for a preliminary injunction is evaluated in accordance with a 'sliding scale' approach: the more the balance of irreparable harm inclines in the plaintiff's favor, the smaller the likelihood of success on the merits he need show in order to get the injunction."); *Sofinet v. INS*, 188 F.3d 703, 707 (7th Cir. 1999); *In re De Lorean Motor Co.*, 755 F.2d 1223, 1229 (6th Cir. 1985).

1. **If an injunction is not ordered requiring that specific action be taken to prevent carp from entering Lake Michigan through the waterway system operated by Defendants and Intervenor, Michigan will suffer irreparable injury from an infestation of Asian carp.**

a. The damage.

The threat of damage to Michigan's environment and economy posed by the Asian carp is proven by the damage already done by the carp in other states. These fish were brought to the United States by catfish farmers in Mississippi in the 1970s to remove algae from their fish ponds. (App. 44a, 49a.) In the 1990s, floods allowed some of the fish to escape their ponds and enter the Mississippi River basin. (App. 44a, 49a.) From there they have travelled hundreds of miles north, invading other waterbodies along the way. (App. 44a, 49a.) According to the U. S. Environmental Protection Agency, the carp have become "the most abundant species in some areas of the [Illinois] River." (App. 49a.) In a series of questions and answers on its web page, the Illinois Department of Natural Resources (Illinois DNR) describes the carp problem in that river:

> Asian carp are a problem because of their feeding and spawning habits. Bighead carp are capable of consuming 40% of their own body weight in food each day. Silver carp are smaller, but pose a greater danger to recreational users because of their tendency to jump out of the water when disturbed by boat motors. They have severely impacted fishing and recreation on the Illinois River. They can spawn multiple times during each season and quickly out-compete native species by disrupting the food chain everywhere they go. *Click the link to see how they have devastated the Illinois River.* http://www.youtube.com/watch?v=yS7zkTnQVaM. (App. 44a-45a.)

The web video recommended by the Illinois DNR in the above quote shows that the carp, once they are in a water system, quickly dominate that system to the

exclusion of nearly all the other native fish populations. This has happened to several rivers and streams, including the Illinois River (App. 44a-45a), which provides a direct connection to Lake Michigan via Chicago waterways. (App. 15a.) And not only do these fish threaten other fish – because the fish are prolific, massive, and they *jump* several feet in the air when watercraft pass, they have become a threat to passengers in boats who have sustained serious physical injuries when colliding with airborne fish. (App. 23a, 44a.)

The bighead carp can get as large as four-feet long and one hundred pounds (App. 44a, 49a) and, as noted by the Illinois DNR, they eat up to 40 percent of their body weight in a single day. Because the food they eat is the base of the food chain (plankton and other small organisms), they pose a mortal threat to smaller forage fish who can't compete with the carp's voracious appetite and size, which in turn threatens larger fish that would normally feed on the forage fish. (App. 116a-117a.)

The devastation that would follow the introduction of Asian carp to the Great Lakes is not in serious dispute. This threat has been documented by the U.S. Environmental Protection Agency, the Illinois DNR, the U.S. Army Corps, and the U.S. Fish and Wildlife Service. Excerpts from documents published by these agencies agree that an ecological and economic disaster is nearly unavoidable if the fish get into the Lakes:

(From a report of the U.S. Army Corps):

Asian carp have the potential to damage the Great Lakes and confluent large riverine ecosystems by disrupting the complex food web of the system and causing damage to the sport fishing industry. Two species of Asian carp, bighead carp (*Hypophthalmichthys nobilis*) and silver carp (*H. molitrix*), have become well established in the Mississippi and Illinois River systems exhibiting exponential population growth in recent years. Certain life history traits have enabled bighead and silver carp to achieve massive population numbers soon after establishing. Currently, the Illinois River is estimated to have the largest population of bighead and silver carp in the world. *The prevention of an interbasin transfer of bighead and silver carp from the Illinois River to Lake Michigan is paramount in avoiding ecologic and economic disaster.*[14]

(From the U.S. Environmental Protection Agency's web page):

Asian carp have been found in the Illinois River, which connects the Mississippi River to Lake Michigan. Due to their large size and rapid rate of reproduction, these fish could pose a significant risk to the Great Lakes Ecosystem . . . The carp have steadily made their way northward up the Mississippi, becoming the most abundant species in some areas of the River . . . Asian Carp are a significant threat to the Great Lakes because they are large, extremely prolific, and consume vast amounts of food. They can weigh up to 100 pounds, and can grow to a length of more than four feet. They are well-suited to the climate of the Great Lakes region, which is similar to their native Asian habitats . . . Researchers expect that Asian carp would disrupt the food chain that supports the native fish of the Great Lakes. *Due to their large size, ravenous appetites, and rapid rate of reproduction, these fish could pose a significant risk to the Great Lakes Ecosystem.*[15]

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[14] Dispersal Barrier Efficacy Study, dated 12/4/09, prepared by the U.S. Army Corps of Engineers. http://www.lrc.usace.army.mil/pao/ANS_Dispersal_Barrier_Efficacy_Study-Interim_I_Public.pdf. (*See* App. 51a, emphasis added.)

[15] http://www.epa.gov/glnpo/invasive/asiancarp/. (*See* App. 48a-49a, emphasis added.)

(From the Illinois DNR document entitled "Asian carp FAQ"):

What happens if Asian carp enter the Great Lakes?

Asian carp could have a devastating effect on the Great Lakes ecosystem and a significant economic impact on the $7 billion fishery. Once in Lake Michigan, this invasive species could access many new tributaries connected to the Great Lakes. These fish aggressively compete with native commercial and sport fish for food. *They are well suited to the water temperature, food supply, and lack of predators of the Great Lakes and could quickly become the dominant species. Once in the lake, it would be very difficult to control them.*[16]

(From a 2004 U. S. Fish and Wildlife Service publication):

Bighead and silver carp are in the Illinois River, which is connected to the Great Lakes via the Chicago Sanitary and Ship Canal. *Asian carp pose the greatest immediate threat to the Great Lakes ecosystem. . . .* Bighead and silver carp could colonize all of the Great Lakes and sustain high-density populations. High densities would likely result in declines in abundance of many native fishes.

* * *

Great Lakes sport and commercial fisheries are valued at $4.5 billion dollars annually, without including the indirect economic impact of those industries. *Degradation of those fisheries would have severe economic impacts on Great Lakes communities that benefit from the fisheries.* Waterfowl production areas are also at risk from Asian carp. Hunters spend more than $2.6 billion annually on their sport in the Great Lakes, so reduction of waterfowl populations there would decrease the economic value to communities that benefit from hunting.[17]

Most or all of these findings and predictions are confirmed in the U.S. Fish and Wildlife's 2007 final rule that adds silver carp to its list of "injurious fish" under the Lacey Act[18]:

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[16] http://dnr.state.il.us/pubaffairs/2009/November/faqs.pdf. (*See* App. 45a, emphasis added.)

[17] U.S. Fish and Wildlife Service document titled "Asian Carp – An Aquatic Nuisance Species," March 2004. (*See* App. 15a, emphasis added.)

[18] 18 U.S.C. § 42.

Silver carp have survived, have become established in river systems, and have been reproducing in natural waters of the United States since at least 1995. Because silver carp can occupy lakes, there is serious concern that this species will further expand its range beyond riverine environments and into lake environments including the Great Lakes.[19]

* * *

Potential Effects on Native Species

Silver carps' food consumption rate is high, but widely variable. Fry at the smallest size class consumed up to 140% of their body weight daily; 63 mg fingerlings consumed just more than 30% and 70-166 mg fingerlings consumed 63% of their body weight. Adult silver carp have been shown to consume 8.8 kilograms (kg) of food per year, with 90% of the consumption occurring during the three warmest months of the year.

Silver carp are quite tolerant of broad water temperatures from 4°C to 40°C. Silver carp can grow quickly (20 to 30 kg in 5 to 8 years), and large adults can reach over 1.2 meters in length and 50 kg in weight. Silver carp are difficult to age, but have been reported to live 15–-20+ years.

The reproductive potential of silver carp is high and increases with body size. It has been estimated that silver carp weighing 3.18 to 12.1 kg can produce 145,000-5,400,000 eggs. Silver carp mature anywhere from 3-8 years, and males usually mature one year earlier than females. The same female may spawn twice during one growing season. Silver carp exhibit a prolonged spawning period, into late summer or early fall, in the United States.

Due to the large size, fast growth rate, high food consumption rate and high reproductive potential of silver carp, competition for food and habitat with native planktivorous fishes and with post-larvae and early juveniles of most native fishes is likely high. Since nearly all larvae and juvenile fishes are planktivorous and based on other demonstrated impacts, it is highly likely that silver carp are adversely affecting many native fishes in the Mississippi River Basin, particularly in waters where food may become limited, though long-term studies have not yet been conducted. [. . .] It is highly likely silver carp would adversely affect fishes in the Great Lakes basin or other watersheds, if they establish.[20]

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[19] Injurious Wildlife Species: Silver Carp and Largescale Silver Carp, 72 Fed. Reg. 37461 (2007) (codified at 50 C.F.R. § 16). (*See* App. 19a.)

[20] 72 Fed. Reg. at 37461-37462. (*See* App. 19a-21a.)

Adverse effects of silver carp on some threatened and endangered freshwater mussels and fishes are likely to be moderate to high.[21]

* * *

However, due to the impacts listed above, it is highly likely that silver carp would have adverse effects on designated critical habitats of threatened and endangered species. There are currently 60 species of fishes and 18 mussels with designated critical habitat. Of those, at least 26 inhabit lakes or reaches of streams large enough to support silver carp. Therefore, dense populations of silver carp are likely to affect the critical habitats upon which the threatened and endangered species depend.[22]

* * *

Impacts to Humans

Silver carp in the United States cause substantial impacts to the health and welfare of human beings who use waterways infested with silver carp. There are numerous reports of injuries to humans and damage to boats and boating equipment because of the jumping habits of silver carp in the vicinity of moving motorized watercraft. Some reported injuries include cuts from fins, black eyes, broken bones, back injuries, and concussions. Silver carp also cause property damage including broken radios, depth finders, fishing equipment, and antennae. Some vessels have been retrofitted with a Plexiglas pilot's cab as protection against jumping silver carp.

* * *

Detection and Response

If silver carp were introduced or spread into new U.S. waters, it is unlikely that the introduction would be discovered until the numbers were high enough to impact wildlife and wildlife resources. . . . It is unlikely that silver carp could be eradicated from U.S. waterways unless they are found in unconnected waterbodies.

* * *

It would be difficult to eradicate or reduce large populations of silver carp, or recover ecosystems disturbed by the species. . . .[23]

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[21] 72 Fed. Reg. at 37462. (*See* App. 21a.)

[22] 72 Fed. Reg. at 37462-37463. (*See* App. 23a.)

[23] 72 Fed. Reg. at 37463. (*See* App. 26a.)

The nature and extent of the damage these federal and Illinois natural resource agencies have predicted is echoed by the Affidavit of Tammy J. Newcomb, Ph.D., State Administrative Manager in the Fisheries Research Program with the Michigan Department of Natural Resources. (App. 109a-136a.) Dr. Newcomb also confirms what is apparent from the excerpts quoted above, that the damage from the carp is essentially irreversible, at least with present day technologies. (App. 111a.) Once the carp are established in the Great Lakes, it will for all practical purposes be impossible to get rid of them. Thus, there will be no realistic way to return to the status quo if an injunction is not entered now, and the carp find their way to Lake Michigan while the parties are litigating this case. This is truly irreparable damage that needs to be averted.

b. The danger is imminent.

Fortunately, as far as Michigan knows, no Asian carp has been discovered in Lake Michigan.[24] But it is only a matter of time, and time is running out. The supposed solution for keeping the carp from the Great Lakes is the electric Dispersal Barrier System built and operated by the Corps in the Chicago Sanitary and Ship Canal west of Chicago. (App. 27a-34a.) Upstream of this Barrier are the Chicago River, the Calumet-Sag Channel, and the Calumet, Grand Calumet, and Little Calumet Rivers, which provide direct connections to Lake Michigan. (App. 78a-79a, 85a.)

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[24] The Corps' eDNA testing lakeward of the O'Brien Locks did not find evidence of the carp. (App. 73a.)

While the electric Barrier may have slowed the northward advance of the Asian carp, it is an imperfect protection, even when it is operating properly. The flaws in this defense have been recognized by the Corps itself, which, to its credit, has taken some measures to monitor the carp's progress and location. It was as a result of this monitoring that the Corps determined there is a serious risk that Asian carp got by the electric Barrier, and have passed into the Calumet-Sag Channel upstream of the Barrier – only eight miles from Lake Michigan.[25] (App. 40a, 72a-73a.) This discovery came as a result of eDNA testing[26] of the waters conducted by the Corps. This test looks for traces of residue in the water which can be associated with the presence of the carp through DNA markers. (App. 35a-36a.) Since the Calumet-Sag Channel flows away from Lake Michigan toward the electrified Barrier (App. 85a), the carp DNA detected by the Corps had to come from fish upstream of the Barrier. The discovery of Asian carp DNA in the Calumet-Sag Channel raises significant concerns that the fish have evaded the Barrier and are ever closer to the Great Lakes.

It was this alarming discovery of DNA evidence and the Corps' acknowledgment that flooding of the Des Plaines River could allow the carp to enter the Chicago Sanitary and Ship Canal beyond the Barrier (App. 53a-54a) that prompted Michigan to bring this motion to require Defendants and Intervenor to immediately take whatever

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[25] *Also see*, a fact sheet (App. 35a) from the Corps and University of Notre Dame that confirms the efficacy of eDNA testing. http://www.lrc.usace.army.mil/pao/eDNA_FactSheet_20090918.pdf.

[26] Environmental DNA testing (eDNA testing) is described in the FAQs published by the IDNR (App. 45a-46a): "*What is eDNA testing/How does it work?*" Environmental DNA testing (eDNA) was developed at the University of Notre Dame to improve monitoring of invasive species. All fish, including Asian carp, release DNA into the environment. The presence of individual species can be detected by filtering water samples, and then extracting and amplifying short fragments of the shed DNA. The objective is to use eDNA testing as an early detection tool to identify Asian carp locations.'" http://dnr.state.il.us/pubaffairs/2009/November/faqs.pdf.

additional steps are necessary to create a backstop to the obviously inadequate electric Barrier.

Carp passage through the O'Brien Lock is the most immediate threat as it lies a short distance from where eDNA testing has determined the presence of Asian carp in the Calumet-Sag Channel. (App. 72a-73a.) If this lock is allowed to continue to operate and enable passage of boats to and from Lake Michigan, it will permit the carp to get into that Lake. (App. 80a, 118a-119a.) There is currently no mechanism in place that prohibits any fish from swimming into the lock when it is opened to allow a boat to enter, or to stop the fish from escaping the lock when it opens to allow a boat to exit the lock on its way to Lake Michigan. The Corps and Coast Guard recognized this danger when they shut down the Calumet-Sag Channel to boat traffic, and closed the O'Brien Lock for several days in December based on the discovery of the eDNA evidence.[27] Similarly, if the Corps' eDNA evidence is correct, and the carp have passed through the electric Barrier, there is nothing in their path to stop the carp from eventually entering Lake Michigan through the Chicago Locks in downtown Chicago.

Of only slightly less urgency, the O'Brien Lock, the Chicago Lock, and the Wilmette Pumping Station have sluice gates that are open to Lake Michigan when water is diverted from the Lake, and, of greater concern, when the waterway system is flooded, allow water to escape from the system into the Lake. (App. 77a-80a.) This could result in fish, including carp, being released into Lake Michigan through any of these three structures. (App. 77a-80a.)

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[27] Safety and Security Zone, Chicago Sanitary and Ship Canal, Romeoville, Illinois, 74 Fed. Reg. 65439 (2009). (*See also*, App. 68a.)

Finally, the area where DNA evidence was found on the Calumet-Sag Channel is at the confluence of the Channel and the Grand and Little Calumet Rivers. (App. 72a.) (Attachment 3 hereto.) These rivers provide a potential entry point for the carp and have no permanent barriers to fish passage. (App. 79a, 119a.)

Although no one can predict with certainty how long it will be before the carp enter Lake Michigan, if they are present in the areas where the Corps' eDNA evidence shows they are, and given the track record of the Asian carp and its ability to swim 10 to 15 kilometers a day (App. 112a-113a), there is no reason to believe that the danger is not imminent. And given the unimaginable devastation to the Great Lakes ecosystems and economies if no action is taken, there is no real choice but to immediately take whatever measures are necessary and possible to stop the carp from passing from the Illinois waterways into the Great Lakes.

2. The equities favor Michigan.

The second factor for the Court to consider when granting a preliminary injunction is the balance of the equities between the parties. In the preceding section, Michigan has shown that the introduction of Asian carp into its waters will, in the judgment of most experts, including the agencies with expertise in the United States and Illinois governments, cause irreversible damage to the environment, and fishing and other Great Lakes dependent industries, and of all the states and Canadian provinces bordering the Great Lakes.

Michigan expects that the Defendants and Intervenor will assert that closing the locks will cause injury to the local economy through the disruption of the local barge

and recreational traffic. Michigan understands that these locks are used for the transportation of freight, as well as by recreational boaters. There is no denying that there will be an economic impact and unavoidable inconvenience if these locks are closed, even if alternate means are used to transport freight or for recreational boaters to gain access to Lake Michigan. Nevertheless, the balance of equities tips decidedly to Michigan. Any short-term economic impact or inconvenience from closing the locks pales in comparison to the devastation that will occur if Asian carp make their way into the Great Lakes in sufficient numbers to establish a reproducing population.

Any injury from closing the locks will be temporary. It will end when alternate means of transportation are engaged or when some other effective mechanism to protect the Great Lakes from Asian carp is put into place. There would no doubt be economic injury, but the damage will be finite, and will be miniscule in comparison to the economic harm caused should the carp enter the Great Lakes.

If the carp make it into the Great Lakes, the damage will likely be permanent and irreparable. Michigan is aware of no means for ridding the Great Lakes of Asian carp, or even controlling them, once they become established. (App. 24a-26a, 45a.) And the damage to the Great Lakes will continue year after year, with no foreseeable end. The monetary extent of the potential damage is also undeniably far greater than any temporary harm caused by the requested injunction. As Illinois and the Corps have recognized, the value of the commercial and sport fishery that would be threatened by the introduction of Asian carp in the Great Lakes is billions of dollars a year. (App. 45a, 54a, 117a-118a.)

Moreover, this Court has recognized that environmental damage presents a special concern when considering a motion for preliminary injunction:

> Environmental injury, by its nature, can seldom be adequately remedied by money damages and is often permanent or at least of long duration, i.e., irreparable. If such injury is sufficiently likely, therefore, the balance of harms will usually favor the issuance of an injunction to protect the environment.[28]

As shown above, both the Illinois DNR and the Corps have confirmed the existence of Asian carp in the Calumet-Sag Channel in an area between the electric Barrier and Lake Michigan. And the Illinois DNR and the Corps, as well as virtually every other government agency, have recognized that the introduction of the Asian carp would be an ecological and economic disaster for the Great Lakes. Weighing the undisputed fact that the scope of the potential injury to Michigan is immense if nothing is done to prevent the carp from entering the Great Lakes, against a short-term economic harm to barge and recreational boating traffic, the balance tips decidedly in favor of Michigan.

3. A preliminary injunction is in the public interest.

The demonstrated extent, imminence, and relative scale of the respective harms detailed above strongly supports a finding that it is in the public interest to take whatever steps are necessary to protect the Great Lakes from an Asian carp invasion. This is particularly true where, as here, there is a strong public policy reiterated in numerous federal and state statutes favoring the protection of the environment and

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[28] *Amoco Production Co. v. Gambell*, 480 U.S. 531, 545 (1987).

natural resources.[29] Where such public policy is identified by Congress in specific statutes, it is given great weight by federal courts considering whether or not to grant a preliminary injunction.[30]

Courts are likewise more apt to grant motions for injunctive relief when the interests furthered are public as opposed to private interests. "Courts of equity may, and frequently do, go much farther both to give and withhold relief in furtherance of the public interest than they are accustomed to go when only private interests are involved."[31] While there may be broader impacts to the public in the Greater Chicago area from closing the locks, the primary impact will be felt by private individuals or companies who use the locks. On the other hand, if the Asian carp invade the Great Lakes, the world's largest freshwater ecosystem, the damage to the environment will be immense and the economic, recreational, and safety interests of the citizens of seven other states and two Canadian provinces will suffer significant consequences.

Measured by the public interest reflected in federal law, the national and global importance of the resource at issue, and the number of people potentially harmed, the public interest is clearly better served by entry of temporary injunctive relief that will prevent Asian carp from entering the Great Lakes.

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[29] *See, e.g.*, the Nonindigenous Aquatic Nuisance Prevention and Control Act, 16 U.S.C. §§ 4711-4751; the Clean Water Act, 33 U.S.C. §§ 1251-1387; the Endangered Species Act, 16 U.S.C. §§ 1531-1599.

[30] *Anglers of the Au Sable v. United States Forest Serv.*, 402 F. Supp. 2d 826, 839 (E.D. Mich. 2005); Wright, Miller & Kane, Federal Practice and Procedure: Civil 2d § 2948.4 ("The public interest may be declared in the form of a statute.")

[31] *Yakus v. United States*, 321 U.S. 414, 441 (1944), *quoting Virginian Ry. Co.* v. *System Federation*, 300 U.S. 515, 552 (1937).

4. Michigan is likely to succeed.

The final factor for consideration is the likelihood that Michigan will succeed on the merits of its action. The jurisdictional, legal, and factual bases of Michigan's request for supplemental equitable relief are described in detail in Michigan's Motion to Reopen and for Supplemental Decree, Petition, and supporting Brief. In the interest of brevity, Michigan incorporates those papers here by reference and only briefly summarizes the merits of its position here.

This litigation arose because Defendants, the State of Illinois and the Metropolitan Water Reclamation District, created a massive engineering project to divert water from Lake Michigan through new artificial waterway connections into the Illinois River basin. Although the diversion project was primarily intended as a means for disposing of sewage and industrial wastes that were otherwise polluting public water supplies drawn from Lake Michigan, the project also expanded opportunities for inland navigation beyond the Chicago River.[32]

In these consolidated cases invoking this Court's original jurisdiction, the State of Michigan and several other Great Lakes states sought to enjoin Defendants' diversion of water from Lake Michigan. The complainant states alleged that the diversion was not authorized by federal law, and that it was significantly lowering water levels in the Great Lakes and connecting waterways. As a result, the diversion substantially impaired public uses of those Great Lakes and connected waters for navigation, fishing, hunting, recreation, and other riparian rights.

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[32] *Wisconsin v. Illinois*, 278 U.S. at 415.

The Court determined that the Defendants' diversion of water from Lake Michigan was indeed unlawful, except to the very limited extent necessary to avoid impairment of navigation in the Chicago River that would otherwise result from the deposit and accumulation of wastes from Chicago into the river.[33] Because an immediate injunction against further diversion would have threatened public health absent other means of sewage management, the Court fashioned a decree gradually reducing the rate of diversion as improved wastewater treatment systems were built.

In its Decree, the Court expressly authorized any party to apply for "any other or further action or relief" and retained jurisdiction in these cases "[f]or the purpose of making any order or directive, or modification of this decree, or any supplemental decree, which it may deem to be proper in relation to the subject matter in controversy."[34]

In 1967, following further proceedings, and the intervention of the United States of America, the Court entered a Consent Decree that specifically restricted the quantity of water that Defendants may divert from Lake Michigan. That Decree contained language identical to the original 1930 Decree retaining jurisdiction.[35]

As a direct result of the changed circumstances outlined above – the fact that the diversion project infrastructure now serves as a conduit for the movement of Asian carp from the Illinois River basin to the Great Lakes – Michigan now again invokes this Court's original jurisdiction to seek equitable relief regarding harmful effects of the

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33 *Wisconsin v. Illinois*, 278 U.S. at 417-419.

34 *Wisconsin v. Illinois*, 281 U.S. 696, 698 (1930).

35 *Wisconsin v. Illinois*, 281 U.S. at 699; *Wisconsin v. Illinois*, 388 U.S. 426, 430 (1967).

diversion project. Michigan's Motion to Reopen and for Supplemental Decree asks this Court to:

(a) Reopen Nos. 1, 2, and 3, Original, pursuant to its retained jurisdiction under paragraph 7 of the Decree, to consider Michigan's Petition for Supplemental Decree, and the claims stated in the Petition.

(b) Enter a Supplemental Decree:

(i) Declaring that to the extent the facilities created, maintained, and operated by the Defendants and the Intervenor allow bighead or silver carp to migrate into Lake Michigan, the maintenance and operation of these facilities in that condition constitutes a common law public nuisance and is otherwise contrary to law; and

(ii) Enjoining the Defendants and the Intervenor to take all necessary measures within their control to prevent and abate that nuisance, including both interim measures to minimize the risk that those species will be introduced to the Lake, as well as the development and implementation of plans to permanently and reliably separate the carp-infested waters of the Illinois River basin from Lake Michigan.

There is a substantial likelihood that Michigan will succeed on the merits of these claims.

B. The claims asserted and the relief sought are within the Court's retained original jurisdiction.

Michigan's requested supplemental relief directly relates to the subject matter in controversy – Defendants' diversion project – and is needed to prevent substantial injury to its rights caused by that project. The supplemental relief sought by Michigan is "proper in relation to the subject matter in controversy," as provided in paragraph 7 of the 1967 Decree. The Chicago Sanitary Ship Canal and the other associated artificial waterways were and remain central to the diversion project at issue in this case. None of the purposes of the diversion project – flow reversal, waste disposal, or navigation – could have been accomplished without the Canal.

And, but for the artificial connections between Lake Michigan and the Illinois River basin established and maintained through the diversion project, the present, imminent threat of Asian carp migration into Lake Michigan would not exist. (App. 27a.)

Moreover, as outlined above, the diversion project facilities through which the injurious fish now threaten to move into the Great Lakes were created by and remain under the control of Illinois, the District, and the United States, through the Corps. Those parties, all of whom are subject to the Court's continuing jurisdiction over the diversion project, have both the responsibility and means to prevent and abate the threatened harm to Michigan's interests in the Great Lakes.

In sum, the conditions that form the basis of Michigan's claims are inextricably related to the subject of the controversy in these cases and therefore are properly within the Court's retained jurisdiction under paragraph 7 of the Decree.

C. Michigan is likely to succeed on the merits of its common law public nuisance claim.

In addition, the claims that Michigan advances in support of its request for supplemental relief are both substantial and legally cognizable under the common law doctrine of public nuisance.

Defendants and the Corps are continuing to maintain and operate the diversion project infrastructure in a manner that allows very injurious species to enter the Great Lakes. The resulting injury to the public rights is both foreseeable and severe.

At common law, including the common law of Illinois, a condition, action, or failure to act that unreasonably interferes with a right common to the general public is a public nuisance.[36] The attorney general may bring an action for injunctive relief to prevent or abate such a public nuisance.[37]

The waters and aquatic resources of Lake Michigan and the other Great Lakes are held in trust for the benefit of the public by Michigan and other Great Lakes states, within their respective jurisdictions.[38] The public rights in those waters and resources include, but are not limited to, fishing, boating, commerce, and recreation.

As Illinois and as the United States, through the Corps and the United States Fish and Wildlife Service, have properly acknowledged, the migration of bighead and silver carp from the Canal into Lake Michigan, and thereby other Great Lakes and connected rivers and waterbodies, will cause enormous and irreversible harm to the public rights in those waters.

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[36] *City of Chicago v. Beretta U.S.A. Corp.*, 213 Ill. 2d 351, 366 (Ill. Sup. Ct. 2004).

[37] *Missouri v. Illinois*, 180 U.S. 208, 244 (1901).

[38] *Illinois Central R.R. Co. v. Illinois*, 146 U.S. 387, 455-458 (1892).

Under these circumstances, the Defendants' and Intervenors' maintenance and operations of the diversion project in the manner allowed by the existing Decree is no longer equitable. Indeed, it is a continuing public nuisance that substantially infringes upon Michigan's rights. Supplemental relief is therefore warranted.

D. D. In any event, Michigan's claims against Illinois warrant consideration by the Court because of their serious nature and the absence of any alternative forum for the equitable relief sought.

Finally, even if the Court had not specifically retained jurisdiction in paragraph 7 of the Decree to consider Michigan's present request for a Supplemental Decree, the nature of and significance of Michigan's claims for equitable relief set forth in the Petition are within the Court's original and exclusive jurisdiction under 28 U.S.C. § 1251(a), and warrant consideration by the Court.

The substance of Michigan's Petition satisfies both of the two factors identified by the Court in *Mississippi v. Louisiana*[39] that determine whether it should exercise its original jurisdiction. First, with respect to the "seriousness and dignity"[40] of the complaining states' claim, Michigan's interest here involves the protection of unique public trust resources – the Great Lakes, their connecting waters, and the public uses of those resources – from "ecological and economic disaster." (App. 47a.) The impending threat to the resources created and maintained by Defendants and the Intervenor is certainly a matter of great significance warranting the Court's consideration.

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39 *Mississippi v. Louisiana*, 506 U.S. 73, 77 (1992).

40 *Mississippi v. Louisiana*, 506 U.S. at 73, 77.

Second, no alternative forum exists[41] where Michigan's claims for declaratory and injunctive relief regarding the diversion project can be resolved. The State of Illinois was and remains directly responsible for the diversion project[42] that is the source of the imminent threat of devastating harm to the Great Lakes. It continues to exercise statutory control over the diversion. It has also exercised control over fish present in the Chicago Waterway System and assumed responsibility for measures intended to address the migration of carp through that system into Lake Michigan.

Thus, Illinois is an indispensable party to any proceeding to redress Michigan's present claim of a common law public nuisance. Accordingly, since by law this Court has "'original and *exclusive* jurisdiction of all controversies between two or more states,"'[43] there is no other forum in which Michigan may obtain the equitable relief it seeks.

In sum, Michigan has shown a strong likelihood of success in persuading the Court to exercise its original jurisdiction with respect to the subject of Michigan's Petition for a Supplemental Decree, as well as substantial grounds for the relief sought.[44]

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41 *Mississippi v. Louisiana*, 506 U.S. at 77.

42 *Wisconsin v. Illinois*, 289 U.S. 395, 399-400 (1933).

43 28 U.S.C. § 1251(a) (emphasis added).

44 If the Court were to determine that notwithstanding paragraph 7 of the Decree, Michigan should have filed a new Bill of Complaint, Michigan respectfully asks the Court to treat the Petition as Michigan's Bill of Complaint in a new original action and allow Michigan to proceed on the basis of the papers already filed.

CONCLUSION AND RELIEF REQUESTED

Each of the factors applied by the Court in determining whether to issue preliminary injunctive relief weighs in favor of the Petitioners. Accordingly, Petitioners request that the Court enter an order providing the following relief:

A preliminary injunction enjoining the State of Illinois, the Metropolitan Water Reclamation District of Greater Chicago, and the U.S. Army Corps of Engineers to immediately take all available measures within their respective control, consistent with the protection of public health and safety, to prevent the migration of bighead and silver carp into Lake Michigan, including, but not necessarily limited to, the following:

(a) Closing and ceasing operation of the locks at the O'Brien Lock and Dam and the Chicago Controlling Works.

(b) Operating the sluice gates at the O'Brien Lock and Dam, the Chicago Controlling Works, and the Wilmette Pumping Station in a manner that will not allow fish to pass those structures into Lake Michigan. This should include maintaining the waterways at the lowest level possible that is still consistent with protecting against serious threats to public health and safety, and limits opening the gates except as required to prevent significant flooding that threatens public health or safety.

(c) Installing interim Barriers or structures as needed in the Grand and Little Calumet Rivers to prevent the migration of bighead and silver carp into Lake Michigan.

(d) Installing interim Barriers or structures between the Des Plaines River and the Chicago Sanitary and Ship Canal to prevent bighead and silver carp from entering the Canal from the Des Plaines River during a flood event.

(e) Operating the existing Electrical Dispersal Barrier System at full operating power and expediting completion of the proposed Barrier IIB.

(f) Comprehensively monitoring the Chicago Sanitary and Ship Canal and all connected waterways for the presence and location of bighead and silver carp using the best available methods and techniques.

(g) Eradicating any bighead or silver carp discovered in these waters.

Respectfully submitted,

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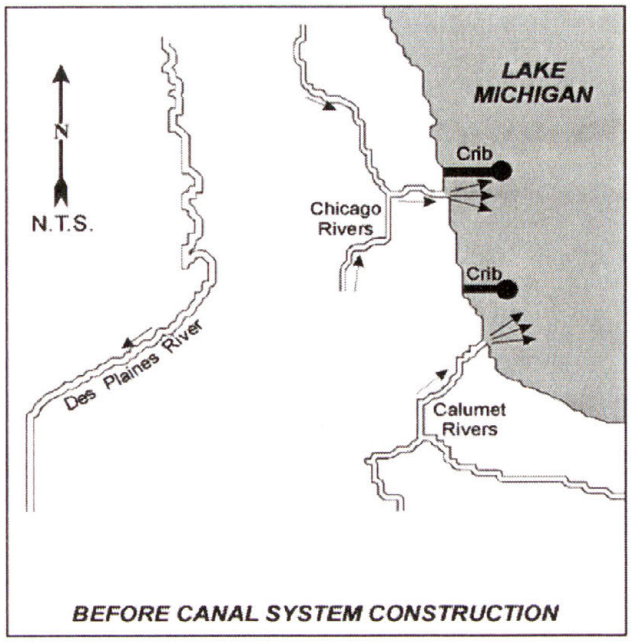
Dated: December 21, 2009

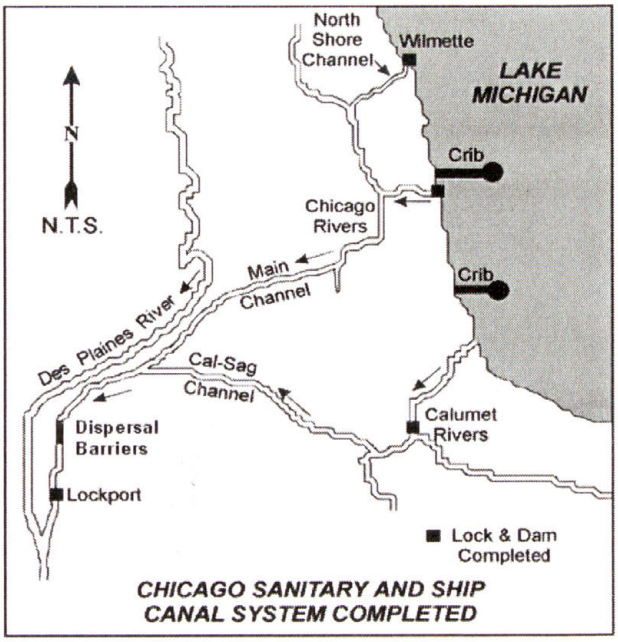
ATTACHMENT 1

Corps of Engineers Diagrams, Before and After Canal System Construction

(App. 27a)



BEFORE CANAL SYSTEM CONSTRUCTION

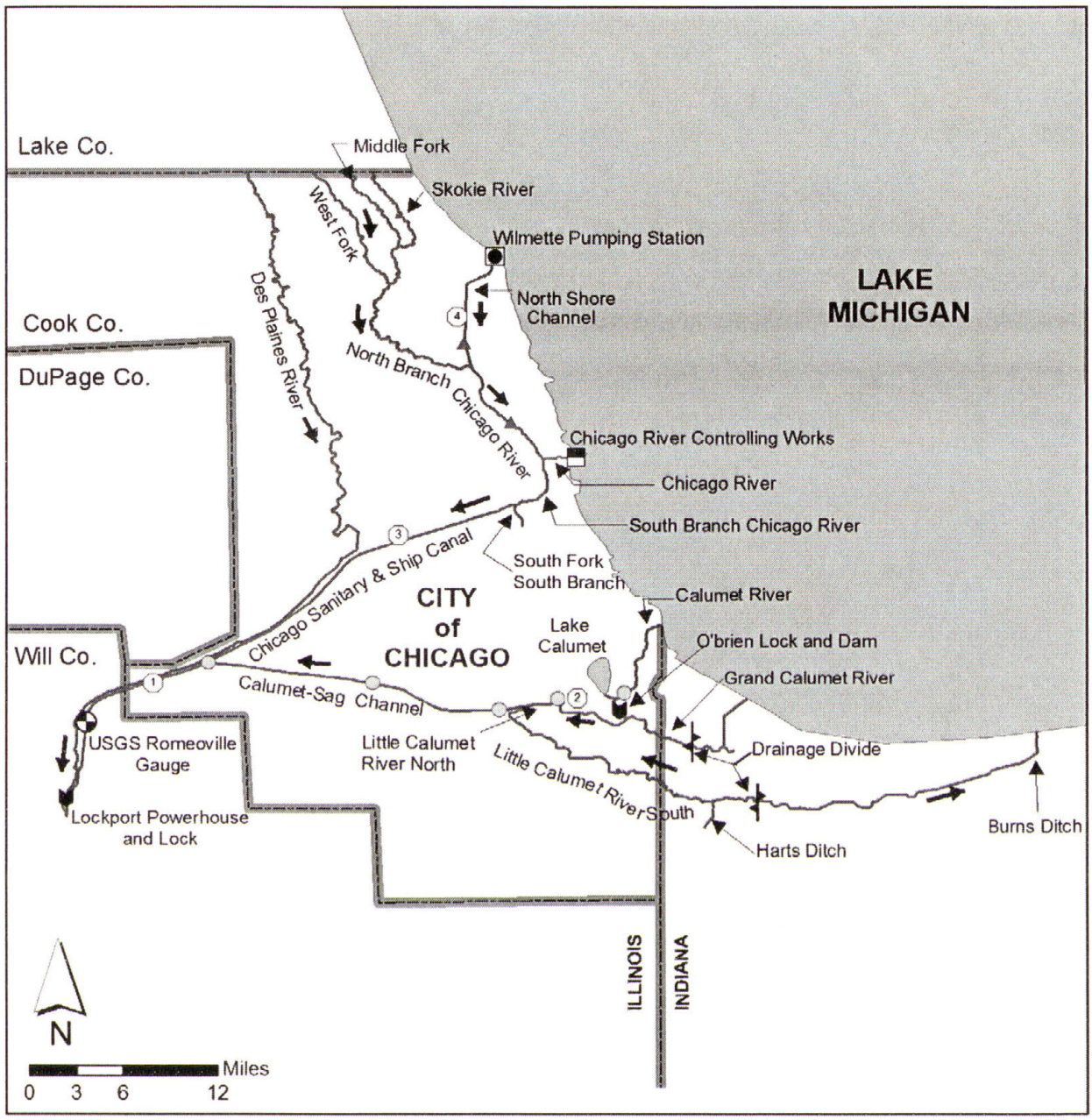


CHICAGO SANITARY AND SHIP
CANAL SYSTEM COMPLETED

ATTACHMENT 2

Figure 1. Map of the Chicago and Calumet Waterways

(App. 85a)



Structures

- Control Gate
- USGS Gauge
- Lock and Dam
- Pumping Station

Major Lakes

Major Rivers

County Boundaries

Direction of Flow

Supplemental Aeration

- Aeration Station
- SEPA Station

Water Reclamation Plants

1. Lemont WRP
2. Calumet WRP
3. Stickney WRP
4. North Side WRP

ATTACHMENT 3

Corps of Engineers, Addressing Asian Carp Migration

(App. 72a)

Addressing Asian Carp Migration