

UNITED STATES DISTRICT COURT  
NORTHERN DISTRICT OF ILLINOIS

STATE OF MICHIGAN, STATE OF WISCONSIN, )  
STATE OF MINNESOTA, STATE OF OHIO, )  
and COMMONWEALTH OF PENNSYLVANIA, )

Plaintiffs, )

v. )

UNITED STATES ARMY CORPS OF )  
ENGINEERS and METROPOLITAN )  
WATER RECLAMATION )  
DISTRICT OF GREATER CHICAGO )

Defendants. )

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Case No. 1:10-cv-04457

Hon. Robert M. Dow, Jr.

**PLAINTIFFS' BRIEF IN SUPPORT OF**  
**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 Asian carp, specifically the silver and bighead<sup>1</sup> – huge by freshwater standards, voracious and prolific – pose a real potential to seriously damage or even wipe out resident species of fish in any waterway that they come to inhabit. (Ex 10, 17, 18, 19, 43.)<sup>2</sup> These fish, near the end of an unrelenting march up the Mississippi River from Mississippi and Arkansas – have been found as far north as Lake Calumet, literally at the threshold of Lake Michigan. (Ex 9, 22.) And Asian carp DNA – which indicates live fish recently inhabited the sampled area (Ex 14) – has been found throughout the Chicago Area Waterway System (CAWS), and even in Calumet Harbor, which is part of Lake Michigan itself. (Ex 6, 33.) Given the capture on June 22, 2010 of an Asian carp in Lake Calumet, only six miles from Lake Michigan, along with the DNA evidence, there is every reason to believe that increasing numbers of Asian carp are swimming ever nearer the Great Lakes where there are few, if any, options to control their spread.

These discoveries confirm the urgency of taking decisive measures to block the invasion. Most biological experts, including those employed and retained by the United States, agree that the immediate goal must be to minimize the number of fish that can reach Lake Michigan, thereby reducing the risk that a reproducing population of Asian carp will be established in the Great Lakes. (Ex 14, 21, 38 par 13, 20.) Defendant U.S. Army Corps of Engineers (Corps) and Defendant Metropolitan Water Reclamation District of Greater Chicago (District) are variously responsible for the operation of structures such as locks, dams and sluice gates in the CAWS, the

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<sup>1</sup> There are several species of Asian carp. Reference to "Asian carp" in this Brief is intended only to mean silver carp and bighead carp.

<sup>2</sup> This Brief refers to Plaintiffs' concurrently filed supporting Exhibits as "Ex [number(s)]."

conduit for an Asian carp invasion. The Corps has been granted broad emergency authority pursuant to Section 126 of the 2010 Energy and Water Development Appropriations Act which requires the Corps "implement" necessary measures by October 28, 2010 to prevent the dispersion of Asian carp through the CAWS into the Great Lakes.<sup>3</sup> The Corps has also been authorized by Section 3061 of the Water Resources Appropriation Act of 2007 to conduct a Great Lakes and Mississippi River Interbasin Study to evaluate measures to prevent the migration of invasive species between those Basins.<sup>4</sup>

Beginning in December, 2009, when DNA evidence showed that Asian carp were much closer to the Great Lakes than anyone expected (Ex 4), Plaintiff Great Lakes States repeatedly asked that Defendants take action to minimize the risk that the carp would get into Lake Michigan. Plaintiffs demanded that the Corps comprehensively address each of the pathways through which Asian carp can enter Lake Michigan, including, at a minimum, temporarily closing the navigational locks and sluice gates nearest Lake Michigan – currently open doors to fish passage – except as needed to protect public health and safety, installing new physical barriers to fish passage at strategic locations where none now exist, and eradicating Asian carp present in the CAWS. Moreover, Plaintiffs demanded that the Corps expedite evaluation and planning for measures to permanently separate the Great Lakes and Mississippi Basins.

To date, while the Corps has made a great show of monitoring, studying, analyzing and planning to address the Asian carp issue sometime in the future as part of the federal government's "Asian Carp Control Strategy Framework" (Ex 13), and the District has installed screens in some of the sluice gates it controls to impede the passage of larger fish, neither Defendant has taken the comprehensive actions necessary to abate this public nuisance. Instead,

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<sup>3</sup> Pub. Law 111-85, 123 Stat. 2853.

<sup>4</sup> Pub. Law 110-114, 121 Stat. 1121.

Defendants have resisted urgent requests for more effective action by deploying varying rationales in the face of mounting evidence of the threat:

- Defendants initially downplayed the significance of the Corps' own environmental DNA (eDNA), evidence, suggesting that it was not a scientifically reliable indicator that Asian carp were actually present in the CAWS. (Ex 16, pp 16, 18; Ex 32, p 11.)
- Defendants then emphasized that because no Asian carp were initially recovered during conventional fishing and fish poisoning operations at certain locations in the CAWS, either no Asian carp were actually present, or their numbers were insignificant. Indeed, on June 3, 2010, the Corps reaffirmed its decisions to keep the locks open because, in the absence of such bodies, it had "insufficient evidence" that Asian carp were present. (Ex 12, p 52.)

Now, despite the June 22, 2010 capture of a live bighead carp during a fishing operation in Lake Calumet only six miles from Lake Michigan, the Corps has continued to routinely open the locks, including the nearby O'Brien Lock (Ex 22) through which that carp apparently swam. And the United States very recently made the remarkable assertion that that the capture of that fish shows that "the Framework is working" because that document includes a monitoring plan involving commercial fishing operations "designed to pinpoint and remove" any of the "small number" of Asian carp assumed to exist in the CAWS. (Ex 45.)

Unfortunately, such an inference of "success" is scientifically unwarranted. It is widely agreed by biological experts that Asian carp are exceptionally difficult to capture with conventional fishing nets and techniques, particularly where, as here, they are at the leading edge of a biological invasion. (Ex 14, 38; Affidavit of Tammy J. Newcomb, p 8.) Indeed, one of the federal government's own leading experts on Asian carp biology has compared the task of capturing all Asian carp in the CAWS with nets to "capturing all rats from a terrestrial habitat in Chicago of a similar size and shape-without using bait" and emphasized that "capture of one fish probably means there may be many uncaptured fish." (Ex 44, pp 41-42.)

If Defendants continue the current operation of the CAWS structures, particularly the locks, and the Corps fails to establish physical barriers to fish passage in other open CAWS channels, more Asian carp will pass through them, and inevitably enter the Great Lakes system. Given the existing eDNA data, the direct observation of Asian carp in the CAWS, and the rapid advance of these fish up the Mississippi River to the CAWS (they can swim up to 39 miles a day) (Newcomb Affidavit, p 3), there is no reason to believe this invasion is not ongoing.

If a reproducing population of Asian carp is established in Lake Michigan, what the Corps itself has referred to as an "ecological and economic disaster" (Ex 11) may take some time to develop in the Great Lakes, but it is virtually certain to follow. That danger has been widely recognized (Ex 17, 19, 43, 46) and is reflected by, among other sources, the U.S. Fish and Wildlife Service's final rule designating the silver carp to its list of "Injurious Wildlife Species" under the Lacey Act<sup>5</sup>:

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*;

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<sup>5</sup> 18 U.S.C. § 42.

- 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.<sup>6</sup>

While fortunately there is no evidence that such a reproducing population of Asian carp has already been established, and it may take an extended period of time for the effects of such an established population to become fully manifest in the Great Lakes, "that does not mean we are not now at a critical juncture," according to federal biologist Duane Chapman. (Ex 38, par 24, 26.) On the contrary, we face a finite, but inevitably shrinking window of time, in which decisive action can prevent a full-scale invasion of the Great Lakes by Asian carp. There is broad scientific consensus that the key to preventing the establishment of a reproducing population of Asian carp in Lake Michigan and connected waters is to minimize the number of those fish entering the Lake. (Ex 14, 21, 38.)

Because Defendants are maintaining conditions that allow more Asian carp to enter the Great Lakes, Plaintiff States' Motion for Preliminary Injunction seeks an order requiring Defendants to take all actions, within their respective authority and consistent with the protection of public health and safety, to minimize the movement of these fish into Lake Michigan. As more specifically described in the Motion and the Conclusion of this brief, the key elements of the requested preliminary injunction include:

- Where existing structures controlled by Defendants – the locks and sluice gates-function, when closed, as barriers to fish passage, even if not perfect, they should remain closed, except as necessary to protect public health and safety.
- Where barriers to fish passage in certain channels of the CAWS do not yet exist, especially the portion of the CAWS between the O'Brien Lock and Calumet Harbor

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<sup>6</sup> Injurious Wildlife Species: Silver Carp and Largescale Silver Carp, 72 Fed. Reg. 37461, 37464 (2007) (Ex 10)(emphasis added).

(including Lake Calumet and the Calumet River), and on the Little Calumet River before it enters Lake Michigan, the Corps should exercise its authority to install and maintain interim physical barriers, such as block nets, to impede the movement of fish.

- The existing and new interim barriers should be supplemented with the best available methods to kill and remove Asian carp in the CAWS.
- Comprehensive monitoring for Asian carp should continue, with a resumption of eDNA monitoring funded by the Corps.
- The Corps should be required to accelerate evaluation and planning for permanent physical separation of the Mississippi and Great Lakes Basins at the CAWS, on a schedule commensurate with the gravity of the threat. (Ex 46; Newcomb Affidavit, par 49)<sup>7</sup>

Plaintiffs acknowledge that some aspects of the interim relief requested – temporarily ceasing operation of the locks and placing interim barriers to fish passage in navigation channels – will impact some existing navigation in the CAWS and impose economic costs. However, any such loss is relatively minor, can be addressed through alternative means of transportation, and is *finite*. If the Asian carp establish themselves in the Great Lakes system, the damage to the environment and economies of the Great Lakes states and Canadian provinces will be staggering, irreversible, and long term. The Preliminary Injunction sought by Plaintiffs is needed to preserve the status quo, a Great Lakes ecosystem apparently still free of an established, reproducing population of Asian carp.

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<sup>7</sup> This aspect of Plaintiffs' requested relief is consistent with recently introduced legislation, H. R. 5625 and S. 3553, that would require the Corps to complete the feasibility study of hydrologic separation on the CAWS within 18 months, rather than the multi-year period currently envisioned by the Corps.

## BACKGROUND

### I. The Chicago Area Waterway System (CAWS)

The Chicago Area Waterway System (CAWS) is an integral part of the Lake Michigan water diversion project that had its genesis over 100 years ago. (Ex 11, 12 pp 11-12.) It is operated by the District and the Corps. (Ex 13, pp 8-10) The CAWS includes the Chicago Sanitary and Ship Canal (Canal), the Calumet-Sag Channel, the North Shore Channel connecting the Chicago River to Lake Michigan at Wilmette, and various "improvements" to the Chicago River. (Ex 2, 12 pp 12-13, Ex 13 pp 5, 12.)<sup>8</sup> It also includes the Calumet, Grand Calumet, and Little Calumet Rivers and Lake Calumet. (Id)<sup>9</sup> The primary water control structures on this system are the Lockport Powerhouse and Lock on the Canal near its connection with the Des Plaines River; the O'Brien Lock and Dam on the Calumet River; the Chicago River Controlling Works in downtown Chicago; and the Wilmette Pumping Station on the North Channel of the Chicago River.<sup>10</sup> (Ex 13 pp 8-9, 15 pp 4-5.)

Decades ago when these waterways and control structures were created, they were used to reverse the flows of the Chicago and Calumet Rivers and artificially connect them to the Illinois River basin for waste disposal and navigation purposes.<sup>11</sup> (Ex 13, pp 8-9, Ex 15 pp 4-5.) This system is primarily maintained and operated by the District, but several structures in the system contain navigational locks and are jointly operated by the District and the Corps. These waterways provide direct water connections between the Mississippi River and the Great Lakes (Ex 3, 13 pp 8-9, 15 pp 4-5) in a form that did not exist before the diversion project was

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<sup>8</sup> See Ex 1, Corps of Engineers Diagrams, Before and After Canal System Construction.

<sup>9</sup> See Ex 2, Map of the Chicago and Calumet Waterways.

<sup>10</sup> See Ex 3, Corps of Engineers, Addressing Asian Carp Migration.

<sup>11</sup> *Wisconsin v. Illinois*, 278 U.S. 367 (1929).

completed. (Ex 1, 12 p 8-9) These connections occur at five locations at or near the Lake (Ex 3.):

- The Wilmette Pumping Station, located where the North Shore Channel meets Lake Michigan. It is owned, operated, and maintained by the District. (Ex 12, p17.) It includes a concrete channel, pumps, and a sluice gate. (Ex 12, p 14.)
- The Chicago River Controlling Works in Downtown Chicago where the Chicago River joins Lake Michigan. The control structure includes a concrete wall separating the river from Lake Michigan, sluice gates, and a navigation lock. (Ex 12, p12.) The Corps of Engineers is responsible for maintenance and operation of the lock. The District is responsible for operation and maintenance of the remainder of the structure and the sluice gates. (Ex 12, p17.)
- The Thomas J. O'Brien Lock and Dam, located on the Calumet River. This structure controls the flows of water between Lake Michigan and the Little Calumet River and, thereby, the Calumet-Sag Channel. The navigational Lock and Dam are operated and maintained by the Corps. (Ex 12, p 13.) The sluice gates are operated by the Corps under the direction of the District. (Ex 12 p 17.)
- Indiana Harbor in Indiana. The Calumet-Sag Channel connects to the Grand Calumet River, which enters Lake Michigan at Indiana Harbor. (Ex 2, 12 p.5.)
- Burns Harbor in Indiana. The Calumet-Sag Channel connects to the Little Calumet River, which enters Lake Michigan at Burns Harbor. (Ex 2, 12 p 5.)

In addition, because of the creation and operation of the Canal, the North Shore Channel and the Calumet-Sag Channel by the District and the Corps, there is the potential for fish and other species to migrate from the Canal into Lake Michigan as a result of: (1) reversals of water flow into Lake Michigan at the Wilmette Pumping Station under certain stormwater flow conditions (Ex 32, p10); (2) direct passage through the Grand Calumet River into Lake Michigan at Indiana Harbor, if and when a temporary cofferdam recently installed as part of an ongoing environmental cleanup project at the Harbor is removed ; and (3) direct passage through the

Little Calumet River into Lake Michigan at Burns Harbor, Indiana. (Newcomb Affidavit, p 10.)<sup>12</sup>

Thus, the CAWS and its associated structures as currently maintained and operated by the District and the Corps provide a conduit for the movement of fish and other biota including Asian carp between the Illinois River and the Great Lakes at multiple locations on the shore of Lake Michigan. (Newcomb Affidavit, p 10.)

## II. Asian carp

Several species of carp native to Asia have been imported to the United States for various reasons, including experimental use in controlling algae in aquaculture and wastewater treatment ponds. (Ex 19.) Two species of Asian carp are of particular concern here: *silver carp* which can grow to lengths of three feet and weights of 60 pounds, (Ex 17) and *bighead carp* which can grow to lengths of five feet and weights approaching 100 pounds. (Ex 17.)

Both silver and bighead carp readily adapt to a variety of environmental conditions, reproduce prolifically, and spread rapidly. (Ex 10, 17.) Since their escape from ponds in the lower Mississippi River basin, both silver and bighead carp populations increased exponentially. (Ex 17, 18.) They have rapidly migrated through, and become established in rivers in the Mississippi River Basin, including the Illinois River. (Ex 17.) By aggressively consuming available nutrient sources, silver and bighead carp have substantially disrupted and in some areas largely displaced native fish populations in these rivers, impairing recreational and commercial

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<sup>12</sup> Furthermore, portions of the Canal located north of Lockport closely parallel two other nearby waterways – the Des Plaines River and the obsolete Illinois and Michigan Canal (I&M Canal). (Ex 11 p 11, Ex 16 p 9, Ex 1 p 4.) As recently as 2008, the Des Plaines River flooded into the Canal, creating another connection permitting the transmigration of species between the Mississippi River Basin and the Great Lakes. While the Corps is currently planning to construct fences on a strip of land between those waterways to reduce those risks, they have not yet been completed. (Ex 45, p 3.)

fishing. (Ex 10, 19, 43.) Because of their large size and extreme jumping behavior, silver carp have injured boaters and caused property damage, thus impairing recreational boating. (Ex 10, 19, 43.)

The migration of Asian carp, through the Canal and connecting waters into Lake Michigan, presents a grave threat of environmental and economic harm, as recognized by the Corps, the United States Fish and Wildlife Service (USFWS), and the Illinois Department of Natural Resources (Illinois DNR).

For example, the Corps has acknowledged:

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 inter-basin transfer of bighead and silver carp from the Illinois River to Lake Michigan is paramount in avoiding ecological and economic disaster. (Ex 11.)

A 2004 United States Fish and Wildlife publication similarly stated:

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. (Ex 17.)

The Illinois Department of Natural Resources in November 2009 stated:

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. (Ex 19.)

The enormous potential harm that Asian carp could cause in the Great Lakes is further described in the Affidavit of Tammy Newcomb, Ph.D., an expert in fisheries biology in the Michigan Department of Natural Resources and Environment. Dr. Newcomb describes the severity of the potential threat to fisheries resources of the Great Lakes Basin if silver and bighead carp enter and become established in some areas of the lakes and connecting rivers and streams (Newcomb Aff, pp 2-3.) She explains that the Great Lakes, including their bays, tributaries and drowned river mouths, and inland waters may provide desirable habitat for bighead and silver carp. (Newcomb Aff, pp 3-4.) And that those species' wide thermal tolerance, high reproductive rates, and fast growth will provide the potential for their expansion and competition with native fish. (Newcomb Aff, pp 4-6.) Dr. Newcomb also describes how key species of fish in the Great Lakes, which are targeted by recreational anglers and commercial fishing operations could decline because of both direct and indirect competition with silver and bighead carp for food. (Newcomb Aff, pp 6-7.) In summary, she states:

All natural resource management agencies and partners in the Great Lakes Basin have expressed concern about the potential ecological and economic effect of silver and bighead carp on the Basin. The life history traits of silver and bighead carp suggest there is a high probability that they will cause negative ecological and economic effects wherever they become established. Silver and bighead carp can reproduce multiple times per year, can attain very high densities, are long-lived, are very mobile, have a high tolerance for poor water quality, and have voracious feeding habits.

Once established, control of silver and bighead carp is believed to be nearly impossible. If those carp become established in the Great Lakes Basin, it will certainly be difficult and costly to deal with the negative ecological and economic effects caused by Asian carp and those effects will likely be, as a practical matter, permanent. (Newcomb Aff, p 8)

### **III. The eDNA and physical evidence of Asian carp in the CAWS**

Realizing that traditional fish sampling techniques were inadequate to predict the whereabouts of Asian carp in the CAWS, beginning in 2009, the Corps undertook a program of environmental surveillance for silver and bighead carp using eDNA methods developed by the University of Notre Dame. (Ex 20, 21.) In this method, samples of water are collected, filtered, and their contents analyzed for the presence of genetic material that has been emitted or secreted by those species. (Ex 20, 21.)

In December 2009, this eDNA testing method was examined in detail by a four member team of experts. This Quality Assurance audit team was led by the Environmental Protection Agency with an observer from the Corps also present. In their Summary, the Quality Assurance team confirmed that the genetic markers utilized by the eDNA testing method detected only the target fish species, endorsed the eDNA testing field and laboratory protocols, acknowledged that the methods used during testing minimized the possibility of reporting false positive results, and concluded: "Our team believes that the eDNA method [the Corps is] using is sufficiently reliable and robust in reporting a pattern of detection that should be considered actionable in a management context. We have a high degree of confidence in the basic PCR method [the Corps is] using for detecting Silver and Bighead carp environmental DNA." (Ex 21, pp 3-4.)

A series of eDNA sample results indicate that Asian carp are present in the Canal north of the Lockport Lock, in the North Shore Channel, in the Calumet-Sag Channel in the vicinity of the O'Brien Lock, in the Calumet River and in Calumet Harbor which is in Lake Michigan itself. (Ex 4, 5, 6, 7, 33.) Unfortunately, these results were confirmed when in December, 2009 a bighead carp was recovered from the Canal north of the Lockport Lock (Ex 13, pp3-4), and even more alarming, when on June 22, 2010, a bighead carp was recovered from Lake Calumet, north

of the O'Brien Lock and Dam and only six miles from Lake Michigan. (Ex 9, 22.) No physical barriers to fish passage currently exist anywhere between the O'Brien Lock and Lake Michigan.

The rapid migration of Asian carp through the Illinois and Des Plaines River toward Lake Michigan, the timing and spatial distribution of eDNA detections of Asian carp, and the physical recovery of actual Asian carp in the CAWS, most recently in Lake Calumet, all strongly support the inference that multiple Asian carp have migrated to the CAWS from the Mississippi River Basin and are now swimming through the CAWS toward Lake Michigan. (Newcomb Aff, pp12-13) While the Corps and the District have suggested other explanations for the existence of Asian carp eDNA in the CAWS, such as excrement from humans or birds that have eaten Asian carp, Asian carp released or disposed by humans in the CAWS, or release of ballast water that might contain Asian carp DNA, the Corps' own expert, Dr. David Lodge of the University of Notre Dame, considered and rejected all of these explanations in favor of the conclusion that the eDNA results mean that a live Asian carp was in the vicinity of the sampled water within two days of the sampling. He declared under oath:

Based on our understanding of the waterway and other potential pathways, we believe that no explanation other than the presence of multiple living silver and bighead carps can plausibly explain the entire spatial and temporal pattern of positive results for silver and bighead eDNA in the waterway. The presence of living silver and bighead carps north of the electric barriers<sup>13</sup> is most plausibly explained by failures of the electric barrier to completely restrict the northward movement of silver and bighead carps."<sup>14</sup>

Based on that eDNA evidence, as well as subsequent detection of Asian carp eDNA at other locations in the CAWS, including the Calumet River and Harbor, Dr. Newcomb, similarly concluded, regarding the bighead carp captured in Lake Calumet, that "the most scientifically

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<sup>13</sup> See Background Section IV. A., *infra*, for a discussion of the electric barrier system.

<sup>14</sup> Declaration of David M. Lodge dated January 4, 2009, p. 22, filed in U.S. Supreme Court (Ex 14)

plausible inference is that the fish in question is one of a number of bighead and silver cap that have migrated through the CAWS, swimming either through or around the electrical barrier."

(Newcomb Aff, p 12.)

#### **IV. Decisions, Actions, and Omissions of the Corps and the District**

Plaintiff States' Complaint details the numerous discrete decisions, actions, and omissions of the Corps and the District related to the Asian carp threat that have contributed to the creation and maintenance of a federal common law public nuisance, and constitute "agency action" for purposes of Plaintiff's Administrative Procedures Act claim. (Complaint, par 56, 60-63, 66-76 87- 82, 100.) These decisions, actions, and omissions are consistent with an apparent strategy to continue operating the structures on the CAWS in the same manner that has created the imminent risk that Asian carp will continue to traverse the CAWS and enter Lake Michigan. They can be broadly categorized as follows:

##### **A. The Corps' reliance on the electric Dispersal Barrier System as the primary physical barrier to Asian carp migration in the CAWS.**

The Corps' primary defense to Asian carp migration into the CAWS is an electrical "Dispersal Barrier System," comprised of underwater steel cables charged with electricity that is intended to deter the passage of invasive species. The first element of the Dispersal Barrier System – now referred to as "Barrier I" and located slightly north of the Lockport Dam began operation in 2002.<sup>15</sup> (Ex 13, App B, p 7.) Barrier I was conceived as an experimental means of deterring the movement of other aquatic invasive species that had infested the Great Lakes –

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<sup>15</sup> Congress authorized the construction of that barrier in 1996 in the National Invasive Species Act, 16 U. S. C. § 4722(i)(3).

such as zebra mussels and the round goby – from Lake Michigan through the Canal into the Illinois and Mississippi River basins. (Ex 12, pp 9-10.)

In 2004, the Corps began construction of a second electrical barrier – now referred to as "Barrier IIA" – located approximately 1,300 feet downstream from "Barrier I." (Ex 16, 23.) Although construction of Barrier IIA was completed in 2004, it was not placed into service until early 2009, and even then, initially at approximately 25 percent of its electrical capacity. (Ex 23, 24.) In August, 2009, after results of eDNA testing for Asian carp closer to Lockport Dam were reported, the Corps increased the electric settings on Barrier IIA somewhat. (Ex 23.) Those settings, however, still remain below their full design capacity. (Ex 23.) Further reducing its effectiveness, the Corps has determined that Barrier IIA cannot be operated continuously and must be periodically turned off for maintenance. (Ex 24.) The Corps has started construction of a third element of the Dispersal Barrier System – designated "Barrier IIB" to be located between Barriers IIA and I – but it has not yet been completed. (Ex 16, p 9, Ex 45, p 3.)

The numerous positive Asian carp eDNA detections in various parts of the CAWS, and the recent capture of a live bighead carp in Lake Calumet – 20 miles beyond and upstream of the barrier – demonstrate that the Dispersal Barrier System is not effective at preventing Asian carp from migrating into the CAWS and ultimately the Great Lakes. Despite mounting evidence that the Barrier has been breached, the Corps continues to rely on it as the primary line of defense, and refuses to operate other structures under its control in a manner to prevent further Asian carp migration or to put in place other structures to block carp pathways.

**B. Defendants have repeatedly refused to grant Plaintiff States' requests to close locks, add additional physical barriers, and take other measures to prevent Asian carp from migrating through the CAWS**

**1) Plaintiff States' requests**

Since the Corps announced, in November, 2009, that Asian carp eDNA had been detected in the CAWS lakeward of the Dispersal Barrier System, the Plaintiff States and other interested parties have repeatedly urged the Defendants to promptly take additional actions to minimize the risk that Asian carp will migrate through the CAWS into Lake Michigan. The actions requested have included: (1) closing and ceasing operation of the locks at the O'Brien Lock and Dam and Chicago Controlling Works; (2) limiting the opening of sluice gates; (3) installing interim barriers in the Little Calumet and River; (4) eradicating Asian carp in the CAWS through poisoning or other methods; and (5) accelerating planning and implementation of permanent physical separation of the CAWS and Lake Michigan. These requests for specific action were included in the following:

- A letter dated December 2, 2009, from the Attorney General of the State of Michigan to the Corps, the District and Illinois. (Ex 27.)
- The State of Michigan's December 21, 2009 Motion to Reopen and For a Supplemental Decree in Original Nos. 1, 2 and 3 in the United States Supreme Court, together with a Motion for Preliminary Injunction.<sup>16</sup> The States of Wisconsin, Minnesota, New York, Ohio and Pennsylvania filed responses in the Supreme Court supporting the relief requested by Michigan. (All filings may be viewed on the

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<sup>16</sup> In December 2009, Michigan asked the Supreme Court to reopen a prior original action that involved the allocation of water from Lake Michigan to Illinois. Because the Chicago diversion project was the means for this allocation – and is also the conduit for the introduction of Asian Carp into Lake Michigan – Michigan argued that it was proper for the Court to grant relief that would involve modifying the operation of the CAWS infrastructure. Alternatively, Michigan requested leave to file a new original action. Michigan's Request was supported by several states as well as the Province of Ontario. Michigan filed two motions for preliminary injunction, which were denied, without explanation, in orders dated January 21, 2010 and March 22, 2010. Ultimately, on April 26, 2010, the Court rejected the Petition and declined to exercise its original jurisdiction in a summary Order.

<http://www.supremecourt.gov/orders/courtorders/042610zor.pdf>

Supreme Court's web page,

[http://www.supremecourt.gov/specmastrpt/recentfilingsinoriginalnos\\_1\\_2\\_3.aspx](http://www.supremecourt.gov/specmastrpt/recentfilingsinoriginalnos_1_2_3.aspx)).

- The State of Michigan's February 4, 2010 Renewed Motion for Preliminary Injunction in the United States Supreme Court, reiterating its request for preliminary injunctive relief based on new eDNA sampling results showing Asian carp were in Calumet Harbor. The States of New York, Minnesota and Wisconsin filed Briefs in Support of Michigan's Renewed Motion for Preliminary Injunction.
- The Michigan Attorney General's February 18, 2010 written comments on the Draft Asian Carp Control Strategy Framework issued by the Asian Carp Regional Coordinating Committee. (Ex 28.)
- A May 19, 2010 letter from the Attorneys General of the Plaintiff States to Commander and Division Engineer Major General Peabody of the Corps, copied to the District, following the release of a Revised Asian Carp Control Strategy Framework, and a press release announcing a plan for applying the fish toxicant Rotenone in one segment of the Calumet Sag Canal, (Ex 29.)

## **2) Defendants' denials of Plaintiff States' requests**

The Corps and the District have largely rejected these requests. Through sworn declarations, responses to letters, and in reports and other public statements of intended action, they have made clear that they will not consistently operate existing structures in a manner to prevent fish passage or undertake the additional measures requested to impede Asian carp migration. These include the following:

- In its January 5, 2010 Opposition to Michigan's initial Motion for Preliminary Injunction in the Supreme Court, the Corps announced its decision, reflected in the Declaration of General Peabody (excerpts attached as Ex 16, entire document viewable on the Supreme Court's web page as part of the Appendix to United States Memorandum), to reject most of the relief requested by Michigan and the other Plaintiff States.
- In its January 5, 2010 Opposition to Michigan's initial Motion for Preliminary Injunction in the Supreme Court action, the District also rejected most of the relief requested by Michigan and the other Plaintiff States. In particular, as reflected in the Affidavit of District Executive Director Richard Lanyon (included in the Appendix to Metropolitan Water Reclamation District of Greater Chicago's Response, excerpt attached as Ex 15) the District insisted that it must be able to continue unrestricted operation of sluice gates at the Wilmette Pumping Station and Chicago River Controlling Works not only for flood control, but also navigation and discretionary diversion purposes. It further

asserted that it had no means to prevent fish passage through the sluice gates when they are opened. (Ex 15.)

- In its February 26, 2010, Opposition to Michigan's renewed Motion for Preliminary Injunction filed in the Supreme Court, the United States, on behalf of the Corps, again rejected the relief sought by the Plaintiff States. Among other things, the February 24, 2010 supplemental Declaration of General Peabody (included in the Appendix to the Response filed by the United States, excerpt attached here as Ex 31) asserted that there was insufficient evidence that Asian carp were present in the CAWS beyond the Dispersal Barrier System and again rejected even the temporary closure of the Chicago and O'Brien Locks. (Ex 31, p 6.)
- The District followed the Corps' lead. In its February 24, 2010 Opposition to Michigan's Renewed Motion for Preliminary Injunction, the District opposed significant aspects of the relief sought by the Plaintiff States. While the District asserted that it was at that time only opening sluice gates "for reversals to the Lake" as necessary to prevent flooding, it continued to oppose limitations on its "discretionary diversions" of Lake Michigan water through sluice gates at the Chicago River Controlling Works and O'Brien Lock and Dam. (Ex 32, pp 6-7.) The District stated that it proposed to install a "trial" bar screen to be inserted in some, but not all of the sluice gates it controls. (Ex 32, pp 8-9.)
- On June 3, 2010, the Corps released a report entitled "Interim III, Modified Structural Operations, Chicago Area Waterways Risk Reduction Study and Integrated Environmental Assessment" (Interim III). (Excerpts attached as Ex 12; complete document viewable at [http://www.lrc.usace.army.mil/pao/02June2010\\_InterimIII.pdf](http://www.lrc.usace.army.mil/pao/02June2010_InterimIII.pdf)) In an accompanying press release issued the same day (Ex 36), and in the report, the Corps stated that it did not intend to even temporarily close the O'Brien and Chicago Locks, except intermittently, on a "case by case basis in support of fish management efforts such as spot piscicide application, or intensive commercial fishing efforts by the ... USFW and ...IDNR." (Ex 36.)
- In a letter dated June 8, 2010, General Peabody, on behalf of the Corps, replied to the May 19, 2010 letter from the Attorneys General the Plaintiff States. (Ex 37) Of the five additional short term actions specifically requested in the States' May 19th letter to reduce the risk of Asian carp migration, the Corps indicated that only one – installation of screens in sluice gates – was actually being implemented. The Corps reiterated and referred to the conclusions in its June 3, 2010 Interim III Report. While stating that the Corps "agrees" that the issue of potential permanent solutions to the hydrologic connection of the CAWS to the Great Lakes in the GLMRIS "merits a focused study on an aggressive schedule," (Ex 37) the Corps did not propose, let alone commit itself to any acceleration of its previously announced schedule, as urged by the Plaintiff States.

**C. The Corps' decisions to reopen the O'Brien Lock twice after closing the lock to undertake activities to address the concern that Asian carp were near the lock**

During the December 2009 shutdown of the Barrier, the United States Coast Guard temporarily restricted navigation in the Canal. (Ex 26.) The Corps also kept the O'Brien Lock closed between December 1 and December 7, 2009. (Ex 12, pp 55-56.) During that time the Asian Carp Rapid Response Workgroup used fishing nets to collect fish in a segment of the Calumet-Sag Channel near the O'Brien Lock where Asian carp eDNA had been found.<sup>17</sup> (Ex 12, 30.) Despite requests by some of the Plaintiff States to keep the lock closed due to the risk that Asian carp may present, the O'Brien Lock was re-opened on December 7, 2009, (Ex 12, p 56; Ex 30), re-establishing a direct, unobstructed water connection to Lake Michigan.

On May 20, 2010, the Corps temporarily closed the O' Brien Lock so a second application of rotenone poisoning in a 2.5 mile segment of the Calumet-Sag Channel could be conducted. But it then reopened the lock on May 25, emphasizing in public statements that no Asian carp were among the fish recovered in that operation. (Ex 12, p 56; Ex 35.)

By ordering the reopening of the O'Brien Lock twice, the Corps effectively denied relief requested by the Plaintiff States, and re-established a direct water connection through which Asian carp could migrate into Lake Michigan. While the O' Brien and Chicago locks are not designed as barriers to fish passage and may allow some water to pass through small openings at the edge of some lock gates, it is indisputable that when the locks are closed they are far less likely to allow the passage of fish than when they are opened, and thus, closure reduces the risk

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<sup>17</sup> Although no Asian carp were found among the several hundred fish netted in that process, the fishing effort could not and did not recover all fish present in that area, and thus did not establish that no Asian carp were present. The difficulty of capturing live or dead Asia carp has been recognized by multiple biological experts, including at least two experts consulted by the Corps, Dr. Lodge (Ex 14, p 6) and Duane Chapman (Ex 38, par 26.)

of Asian carp migration. (Newcomb Affidavit, p 10.) In fact, six out of seven members of an Expert Risk Assessment Panel convened by the USFWS who responded to the Corps' question on this subject said that notwithstanding such gaps on lock gates, closing the locks *would* "be effective in significantly impeding the migration of Asian carp into Lake Michigan." (Ex 44, p 29.)

**D. The "no change in operations" response to the June 22, 2010 capture of an Asian carp in Lake Calumet**

Despite the alarming news that a bighead carp had been caught in Lake Calumet, in a press release issued by the RCC on June 23, 2010, Colonel Vincent Quarles of the Corps' Chicago District, made it clear that the Corps intended to continue to operate the locks in a business as usual fashion. (Ex 22.) This statement is consistent with statements Colonel Quarles made in a press release issued June 3, 2010 (Ex 36) that addressed findings and conclusions of the Corps with regard to "modified structural operations." In this press release, Colonel Quarles stated: "In the end the analysis showed that using measures such as temporary lock closures will do very little to reduce the risk of Asian carp migration." (Ex 36.)<sup>18</sup>

It is clear from the statements issued by Colonel Quarles in the June 3 and June 23 press releases, that the Corps has elected to implement the "no change in operations" option outlined in the Draft and Revised Frameworks, and that it will not be closing the locks as requested by the

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<sup>18</sup> However, as alleged in paragraphs 73-75 of the Complaint, the Corps' characterization of the results of the expert risk analysis is seriously misleading. Among other things, the Corps artificially constrained the array of alternatives the experts were allowed to consider, limiting the options to intermittent, or very short term closure. (Ex 12, pp 49-51.) Notably, the majority of the panel concluded that each of the options, *including the "no-action" alternative* (i.e. continuing routine lock operations) that was in essence adopted and is still being applied by the Corp presents an "unacceptable" risk, that is "[T]here [is] an imminent threat that Asian carp (silver and bighead) will establish a sustainable population in Lake Michigan in the near future." (Ex 44, Table 4 and p 19.)

Plaintiff States (except possibly for the limited purpose of temporarily supporting its sampling operations), despite compelling evidence that the Dispersal Barrier System can't keep the Asian carp out of Lake Michigan.

**E. Conclusion**

The Corps and the District have made clear that they intend to operate and maintain the CAWS infrastructure largely in a "business as usual" manner. The Corps has refused to close the locks or install other barriers to impede Asian carp passage into Lake Michigan. Even with the discovery of a live bighead carp in Lake Calumet, to the best of Plaintiffs' knowledge the Corps has not announced any plans to erect a physical barrier in the Calumet River between Lake Michigan and the O'Brien Lock, or even to apply rotenone in that area. Similarly, to the best of Plaintiffs' knowledge, the District still refuses to commit to operation of its sluice gates in a manner that will prevent all Asian carp from passing through them, and has not, to date, installed screens in all the sluice gates it controls, nor committed itself to maintaining such screens in place whenever the sluice gates are opened.

**ARGUMENT**

**I. A proper balancing of the preliminary injunction factors compels entry of an order requiring that the control structures in the CAWS be operated in a manner that will not allow Asian 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.<sup>19</sup> 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.<sup>20</sup> 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.<sup>21</sup>

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. The U.S. Supreme Court has recently described the factors it considers before issuing a preliminary injunction:

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.<sup>22</sup>

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

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<sup>19</sup> *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).

<sup>20</sup> *Alabama v. U.S. Army Corps of Engineers*, 424 F.3d 1117, 1128 (11th Cir. 2005), *cert. denied* 547 U.S. 1192 (2006).

<sup>21</sup> *Lawson Products Inc. v. Avnet, Inc.*, 782 F.2d 1429, 1435 (7th Cir. 1986).

<sup>22</sup> *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).

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.<sup>23</sup>

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 not the home of an established reproducing population of Asian carp.

**1. If an injunction is not issued requiring Defendants to cease operating certain structures in the CAWS in a manner that allows Asian carp to enter Lake Michigan, Plaintiff States will suffer irreparable injury from an infestation of Asian carp.**

**a. The damage.**

The threat of damage to the environment, public rights and economies of the Plaintiff States posed by the Asian carp is demonstrated by the damage already done by these carp in other states. These fish were reportedly brought to the United States by catfish farmers in Mississippi in the 1970s to remove algae from their fish ponds. (Ex 18.) In the 1990s, floods allowed some of the fish to escape their ponds and enter the Mississippi River basin. (Ex 18.) From there they have travelled hundreds of miles north, invading other waterbodies along the way. (Ex 17, 18.) According to the U. S. Environmental Protection Agency, Asian carp have become "the most abundant species in some areas of the [Illinois] River." (Ex 18.) In a series of questions and answers on its web page, the Illinois Department of Natural Resources (Illinois DNR) described the Asian 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

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<sup>23</sup> *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).

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>. (Ex 19)

The web video recommended by the Illinois DNR in the above quote shows that the Asian carp, once they are in a water system, quickly dominate that system to the exclusion of nearly all the other native fish populations. 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. (Ex 19, 43.)

The bighead carp can get as large as five-feet long and one hundred pounds (Ex 19) 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 Asian carp's voracious appetite and size, which in turn threatens larger fish that would normally feed on the forage fish. (Ex 10, 43.)

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, among others, the U.S. Army Corps, and the U.S. Fish and Wildlife Service.<sup>24</sup> The U.S. Environmental Protection Agency also agrees that an ecological and economic disaster is nearly unavoidable if the fish get into the Lakes:

Asian carp . . . 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

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<sup>24</sup> See Section II of Background.

significant threat to the Great Lakes . . . They are well-suited to the climate of the Great Lakes region, which is similar to their native Asian habitats . . . Due to their large size, ravenous appetites, and rapid rate of reproduction, these fish could pose a significant risk to the Great Lakes Ecosystem.(Ex 18)

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.<sup>25</sup> This rule found that the silver carp posed a serious threat to expand in the Great Lakes, that this would devastate native species of fish, that silver carp reproduce rapidly, they would pose a threat to already threatened endangered species, that they would likely cause serious injury to boaters, and perhaps most disturbingly:

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.

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It would be difficult to eradicate or reduce large populations of silver carp, or recover ecosystems disturbed by the species. . . .(Ex 10)

The nature and extent of the damage these federal agencies have predicted is, as noted above, echoed by the Affidavit of Tammy J. Newcomb. Dr. Newcomb also confirms what is apparent from the excerpts quoted above, that the damage from the Asian carp is essentially irreversible, at least with present day technologies. (Newcomb Aff, p 8.) Once the Asian 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 Asian carp establish a reproducing population in Lake Michigan while the parties are litigating this case. This is truly irreparable damage that needs to be averted.

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<sup>25</sup> 18 U.S.C. § 42.

**b. The danger is imminent.**

Time is running out. This was recognized by Congress when it gave the Corps one year – until October 28, 2010 – to "implement" measures to prevent Asian carp from dispersing into the Great Lakes.<sup>26</sup> The supposed solution for keeping the Asian 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. Under current operation of the CAWS structures, there is nothing blocking the Asian carp's route to Lake Michigan once they get past the Dispersal Barrier System.

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.<sup>27</sup> The flaws in this defense were recognized by the Corps itself, which, to its credit, took some measures to monitor the Asian carp's progress and location. It was as a result of the eDNA monitoring described above that the Corps first determined there was a serious risk that Asian carp got by the electric Barrier.

Since October, 2009, there have been numerous positive eDNA tests in several areas of the CAWS located beyond the Dispersal Barrier System, including the Canal, the Calumet Sag Channel, the Chicago River, the North Shore Channel, the Little Calumet River, the Calumet river and Calumet Harbor. (Ex 4, 5, 6, 7, 33.) The latter is in Lake Michigan.

Asian carp passage through the O'Brien Lock is the most immediate threat as it lies a short distance north (lakeward) from where eDNA testing has repeatedly determined the presence of Asian carp in the Calumet-Sag Channel (Ex 4-7, 33.) The O'Brien Lock is south of the locations in the Calumet River and Calumet Harbor where silver carp eDNA was found in

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<sup>26</sup> Energy and Water Development and Related Agencies Appropriations Act of 2010, Section 126, (quoted on p 6 of Ex 12) Pub. Law 111-85, 123 Stat. 2853.

<sup>27</sup> This was implicitly recognized by Congress when, in Section, 126 it gave the Corps one year to implement measures in addition to the barriers, to prevent carp migration.

December, 2009, and from where the bighead carp was caught in Lake Calumet in June 2010. (Ex 6, 8, 9.) If this lock is allowed to continue to operate as usual, it will permit other Asian carp to get into the Calumet River, Lake Calumet, and ultimately, Lake Michigan. 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 implicitly 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, and again in May, based on the discovery of the eDNA evidence past the Dispersal Barrier System, but below the Lock.<sup>28</sup>

The Chicago Lock lies lakeward of locations in the Canal and the Chicago River where Asian carp eDNA has been detected (Ex 4-7.) Whenever the lock is opened, it also creates a conduit through which Asian carp may migrate into Lake Michigan. (Newcomb Aff pp 10, 13.)

The O'Brien Lock, the Chicago Lock, and the Wilmette Pumping Station also have sluice gates that are sometimes open to Lake. This could result in fish, including Asian carp, being released into Lake Michigan through any of these three structures. While the District has installed screens or grates in some of the sluice gates that, when in place, could deter the passage of adult Asian carp, it has not installed them in all of the sluice gates it controls, and has stated its intention to remove them under certain "reverse flow" conditions when stormwater is diverted from the CAWS into Lake Michigan. (Ex 32.) The Corps has similarly proposed to install screens in some sluice gates, it has not committed to installing them in all the gates, nor to keeping them in place whenever the gates are opened. (Ex 12 pp 45-47, 58.)

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<sup>28</sup> Safety and Security Zone, Chicago Sanitary and Ship Canal, Romeoville, Illinois, 74 Fed. Reg. 65439 (2009). (*See also*, App. 68a.)

Finally, the area where eDNA evidence has been found on the Calumet-Sag Channel is near the confluence of the Channel and the Grand and Little Calumet Rivers. (Ex 4-7.) These rivers provide potential entry points for Asian carp into Lake Michigan and have no permanent barriers to fish passage. (Ex 3, 12, pp 43-44.)<sup>29</sup>

Although it is unknown how many Asian carp may have already migrated through the CAWS into Lake Michigan and no one can predict precisely when and in what numbers additional Asian carp will enter Lake Michigan, if more are present in Lake Calumet and the other areas of the CAWS where the eDNA evidence shows they have been, given the track record of the Asian carp and its ability to swim up to 39 miles a day, the danger of continuing Asian carp migration into Lake Michigan is imminent. Indeed, as noted above, when the Corps asked an Expert Risk Assessment Panel convened by the USFWS about the risk of Asian carp establishment in Lake Michigan if the Corps continued to routinely operate the O'Brien and Chicago Locks, the majority (63 percent) of the respondents indicated that under that scenario - which is what the Corps is still doing now - there is "an imminent threat that A[sian] C[arp] will establish a sustainable population in Lake Michigan in the near future." (Ex 4, Table 4.) Even considering the acknowledged uncertainty in those responses, it is clear that there is an imminent risk that Asian carp will continue to migrate through the CAWS into Lake Michigan.

Minimizing the risk that additional Asian carp will migrate through the CAWS into Lake Michigan is the key to preventing the establishment of a reproducing population in the Great Lakes. (Newcomb Aff, p 9.) Duane Chapman, a federal fisheries biologist with whom the Corps has consulted has similarly observed that "[m]inimizing the number of invading individuals is key to preventing successful establishment of a species." (Ex 38, par 20.) Dr. David Lodge,

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<sup>29</sup> There is currently a temporary barrier- a sheet piling- in the Grand Calumet River near the Illinois- Indiana border as part of an unrelated, environmental clean up project. (Ex 12, p 44.)

flatly stated, on January 4, 2010, that "there remains an urgent need to reduce the probability that both silver or bighead carp individuals can enter Lake Michigan." (Ex 14.) More specifically, in his February 9, 2010 testimony before the House Subcommittee on Water Resources and Environment, Dr. Lodge addressed the subject of "Science-based management actions for the Chicago canal" as follows, listing measures to prevent Asian carp from entering the Lake as the first priority:

Given the goal shared by all federal agencies to prevent an invasion of the Great Lakes by either silver carp or bighead carp, any management action that reduces the likelihood of individuals of either species entering the lake should be seriously considered. ***First, while other options are considered, I recommend that urgent attention be given to any management action that will prevent the silver and bighead carp that are currently above the barrier from entering Lake Michigan.*** Second, options for eradicating or at least dramatically reducing the numbers of the individuals above the barrier should also be considered. Third, the operation and maintenance of the two existing barriers, and the plans for the third barrier, should be fine-tuned as much as possible to maximize effectiveness against fishes moving in either direction (barrier IIA was designed to be more effective against species moving northward). Fourth, a surveillance program needs to be established in the Great Lakes to locate and determine the extent of any Asian carp presence in the Great Lakes, targeted perhaps at the tributaries most likely to support spawning of the carps. This should be coupled with development of methods that would allow any fish detected to be contained, and eradicated. Fifth, other deterrents to fish movement should be considered to augment the barriers. Sixth, the Mississippi River basin and the Great Lakes basin should be permanently separated ecologically, as agreed among many agencies, stakeholders and experts at the 2003 canal summit in Chicago (Brammier et al. 2008). It is not only Asian carp we should be thinking about, but the hundreds of potentially harmful species (many of them completely unaffected by electrical current) in both basins, the damages from which would be suffered by us and our children in perpetuity ( Ex 21 p 11, emphasis added.)

Given the potential devastation to the Great Lakes ecosystems and economies if Asian carp become established, there is no real choice but to immediately take whatever measures are available to stop more Asian carp from passing from the CAWS into the Great Lakes. In the short term, the most effective and urgently needed of such measures are using physical barriers where they already exist and supplementing them with new interim ones where they do not, in a

way that minimizes the opportunity for additional Asian carp to enter the Great Lakes through each of the five channels where the CAWS connects to Lake Michigan. (Newcomb Affidavit, par. 47.)

In her affidavit Dr. Newcomb more specifically describes specific short term and long term measures needed to abate the threat of Asian carp migration through the CAWS. With respect to existing control structures, it is Dr. Newcomb's opinion that necessary measures include:

- Temporarily close and cease operations of the locks at the O'Brien lock and Dam and the Chicago Lock except as needed to protect public health and safety.
- Temporarily close and cease operation of the sluice gates at the O'Brien Lock and Dam, the Chicago River Controlling Works and the Wilmette Pumping Station except as needed to protect public health and safety.
- Install and maintain grates or screens on or over the openings to all of the sluice gates at the O'Brien Lock and Dam, the Chicago River Controlling Works and the Wilmette Pumping station.

With respect to areas where physical barriers do not now exist, Dr. Newcomb states that necessary measures include:

- Install and maintain block nets or other suitable interim physical barriers to fish passage at strategic locations in the Calumet River between Lake Calumet and Calumet Harbor.
- Install and maintain block nets or other suitable temporary physical barriers to fish passage in the Little Calumet River as needed to prevent the migration of bighead and silver carp into Lake Michigan.

Dr. Newcomb identifies other needed short term measures to minimize the risk of continuing Asian carp migration into the Lake:

- As a supplement to physical barriers and a means of reducing propagule pressure, apply rotenone at strategic locations in the CAWS, especially those areas north of the O'Brien Lock and Dam where bighead or silver carp are most likely to be

present, using methods and techniques best suited to eradicate them and minimize the risk of their movement into Lake Michigan.

- Undertake continuous and regular monitoring for silver and bighead carp above the electrical barriers and in other strategic locations throughout the Chicago Waterway System. Such monitoring should include, among other method, eDNA testing. (Par 47.)

Finally, like other scientists (Ex 21) and observers, including, among many others, the Great Lakes Commission<sup>30</sup> (Ex 46.) Dr. Newcomb states that there must be permanent, hydrologic separation of the Mississippi and Great Lakes Basins in the CAWS, and planning for such a permanent solution must be expedited. Dr. Newcomb explains that:

"The best, long-term solution to ensure silver and bighead carp are not readily transferred between the Mississippi River Basin and Lake Michigan is to eliminate any physical connection between the two water bodies. To eliminate the immediate and irreversible risk of damage to the Great Lakes posed by the invasion of Asian carp through the Chicago Waterway System and into Lake Michigan, the study of permanently separating the Mississippi River and Great Lakes basins should be completed as quickly as practicable. Subsequent to a final report, actions required to achieve the goal of permanent separation should commence immediately." (par 48.)<sup>31</sup>

## **2. The equities favor Plaintiffs.**

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, Plaintiffs have shown that the introduction of Asian carp into their waters will, in the judgment of most experts, including the agencies with expertise in the United States government, cause irreversible damage to the environment, fishing and other Great Lakes dependent industries of all the states and Canadian provinces bordering the Great Lakes.

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<sup>30</sup> The Great Lakes Commission is a body representing all of the Great Lakes states. The resolution referenced was unanimously passed by Commission.

<sup>31</sup> The specific, preliminary injunctive relief requested by Plaintiff States in that regard – requiring the Corps to accelerate its feasibility study of options for such permanent separation so that the study is completed within 18 months, with interim progress reports at 6 and 12 months- is consistent with schedules contained in pending legislation, H. R. 5625 and S. 3553.

Defendants asserted in their Supreme Court filings, and are likely to assert here, that certain relief sought by Plaintiffs — temporarily closing locks and sluice gates — will cause harm to other parties and the public that should preclude the requested injunction. These claimed harms range from widespread flooding, property damage, disruption of emergency response services, and injury to the local economy through the disruption of the local commercial and recreational vessel traffic. Such contentions do not withstand scrutiny.

**a. Plaintiffs seek injunctive relief consistent with the protection of public health and safety.**

First, and most important, the Plaintiffs request for preliminary injunctive relief here — including temporary lock and sluice gate closure — is expressly qualified by the condition that the measures to be ordered would be *consistent with the protection of public health and safety*. That is, the Defendants would be enjoined from opening the locks and sluice gates except when necessary to protect public health or safety. Thus, for example, if circumstances arose where it became necessary to reopen locks or sluice gates to prevent flooding, or to accommodate the movement of emergency response vessels, those activities would not be enjoined.

Operation of the locks to prevent flooding, however, is exceedingly rare, contrary to repeated suggestions otherwise by Defendants. In fact, the Declaration of the Corps' hydraulic engineer Tzuoh-Ying Su proffered by the government, acknowledged that the Chicago Lock has been opened in response to severe rain events on only eight occasions in the last 55 years, and the O'Brien Lock has been opened for that reason on only four occasions in the last 45 years. (Ex 39.) These extraordinarily rare circumstances do not justify regular operation of the locks in the face of the imminent and mounting threat of Asian carp movement through the locks and into Lake Michigan.

In opposing Michigan's preliminary injunction requests in the Supreme Court, both the United States and Illinois officials claimed that the closure of the O'Brien and Chicago Locks would threaten public health and safety by interfering with watercraft used for emergency response and law enforcement purposes. Plaintiffs reiterate that they do not ask that these locks remain closed when their use is necessary to address emergencies. During the summer, the Coast Guard already maintains a station in downtown Chicago that straddles the Chicago Lock, i.e. boats are positioned on both sides of the lock, and throughout the year it maintains a station at Calumet Harbor. (Ex 40.) While docking Coast Guard vessels on both sides of the O'Brien Lock year round if needed would certainly entail some additional expense for the dockage, and potentially cause additional effort to consolidate activities, such expense and efforts would not be unreasonable given the need to reduce the risk of irreparable injury facing the rest of the Great Lakes community. Moreover, both the Coast Guard and the Corps have acknowledged that the Corps already plans to completely shut down the Chicago Lock for maintenance for six months, between November 2010 and April 2011. (Ex 41.) This confirms that extended closure of the Lock does not present an unacceptable risk to public health and safety.

Plaintiffs also expect that Defendants may argue that the City of Chicago's police boats, which are docked on the city side of the Chicago Lock, and fire boats, which are on the lake side of the Chicago Lock, will be slowed or prevented from moving when responding to emergencies if the Chicago Lock is closed. As noted above, Plaintiffs do not seek to close the locks when operation is necessary to protect public health and safety, including when needed for emergency response. Presumably, Chicago officials have already developed plans to maintain essential emergency services during the Corp's planned, complete closure of the Chicago Lock between

November, 2010 and April 2011. Such plans could be implemented sooner if, as Plaintiffs request, the Court temporarily orders closure of the Chicago Lock.

In sum, an Order can be fashioned that will: (a) minimize the risk of introducing additional Asian carp into Lake Michigan; and (b) still allow operation of the locks when and if necessary to accommodate emergency response, without jeopardizing public health and safety.

**b. Any injury to the local economy is insignificant compared to the potential injury from Asian carp.**

Plaintiffs understand 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 the O'Brien and Chicago Locks are temporarily 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 Plaintiffs.

In seeking to justify its decisions to continue regular openings of the O'Brien and Chicago Locks, despite mounting evidence of the risk that Asian carp will migrate through them into Lake Michigan, the Corps has relied, in part, on assertions that even the temporary closure of the locks urged by the Plaintiff States would impose unacceptable costs upon commercial and recreational users of those portions of the CAWS. But between January and June 2010, the Corps has publicly disclosed three separate, but consecutively declining estimates of such costs. Initially, in January, 2010, the Corps estimated that the annual transportation related cost impact would be approximately \$192 million. Then, in February, 2010, in a Declaration by Corps economist Rebecca J. Moyer, appended to the United States' Opposition to Michigan's Renewed Motion for Preliminary Injunction in the Supreme Court, the Corps lowered its estimate to \$167 million per year. Most recently, in its June 2010 Interim III Report, the Corp's estimate was further reduced to approximately \$150 million. (Ex 12, p 39.)

To address this issue, the State of Michigan consulted with John C. Taylor, Ph.D., Associate Professor of Supply Chain Management and Director of Supply Chain Programs at Wayne State University, an expert in transportation and logistics. In February, 2010, Dr. Taylor prepared an Affidavit filed in the Supreme Court proceeding, summarizing and incorporating an initial report of his research.<sup>32</sup> In that Affidavit and Report, Dr. Taylor concluded, among other things, that the Corps' initial \$192 million estimate seriously exaggerated the transportation related impacts associated with the proposed closure of the locks, and conservatively estimated those costs to be in the range of approximately \$64-69 million per year.

Subsequently, Dr. Taylor and his co-author, transportation consultant James L. Roach, performed additional research and also reviewed additional information prepared by the Corps, including the Moyer Declaration and the Interim III Report, as well as a report prepared by Dr. Joseph Schwieterman, of De Paul University, for the Illinois Chamber of Commerce.<sup>33</sup> Based upon that additional research and review, Dr. Taylor and Mr. Roach prepared an updated report, entitled "Chicago Area Waterway System: The Logistics and Transportation Related Cost Impact of Waterway Barriers", dated July 14, 2010 (Updated Report) Dr. Taylor has summarized his findings in his Affidavit, dated July 14, filed concurrently with the Plaintiff States' Motion.

As summarized in paragraph 10 of his July Affidavit, it was and remains Dr. Taylor's professional opinion that assertions by the Corps and others that temporary lock closure would result in increased transportation costs in excess of \$190 million, substantially increase pollution,

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<sup>32</sup> Chicago Waterway System Ecological Separation: The Logistics and Transportation Related Cost Impact of Waterway Barriers, February 2, 2010.

<sup>33</sup> An Analysis of the Economic Effects of Terminating Operations at the Chicago River Controlling Works and O'Brien Locks on the Chicago Area Waterway System; DePaul University; April 7, 2010.

and have a severe adverse impact on the local and regional and economy were unfounded, because, among other reasons:

- (a) Only approximately seven million tons of cargo per year would be affected and some of this would incur relatively minor inconvenience.
- (b) That affected volume represents less than one percent of all the freight traffic in the Chicago Region and only thirty percent of the total Port of Chicago traffic.
- (c) The affected barge traffic is the equivalent of two daily loaded rail unit trains in a region that has approximately 500 daily freight trains.
- (d) Truck traffic in Chicago would increase less than 1/10 of one percent.
- (e) Most of the affected cargo would continue to move on the inland waterway system, through the Lockport Locks, but would have to stop a few miles short of its former destination.
- (f) Most of the claimed environmental, air quality, safety, and energy benefits associated with barge transportation would continue since most of the barge traffic would continue.
- (g) Some of the affected cargo traffic may require transfer to another mode of transportation such as rail, truck, or pipeline at transload locations. Such transfers are the norm in an intermodal transportation system (e.g., grain moves by truck to an elevator, by rail to a port, and by barge to an end user to an export location). Indeed, much of the traffic in the inland waterway system already uses several modes.
- (h) The suggestion that other modes of transportation are not available is incorrect. Virtually all of the major shippers have direct or proximity access to both rail and highway. The assertion that there are not enough rail cars or trucks to handle the traffic is also very wrong. There is more than sufficient capacity to handle seven million tons annually and it could readily be provided. (Taylor Aff , p 5-6.)

With respect to the more recent documents prepared by the Corps and Dr. Schwieterman,

Dr. Taylor, in paragraph 14 of his Affidavit summarized his conclusions as follows:

- (a) Our original estimate that if barriers were established at the O'Brien and Chicago Locks, transportation and handling costs would increase by less than \$70 million annually in a Chicago metropolitan area economy of \$521 billion remains sound and conservative. Indeed, that estimate overstates those costs if one uses

the shipping volume data most recently relied upon by the Corps in its June 3, 2010 Interim III Report. Moreover, in that portion of his report and analysis that is directly relevant to our analysis, Dr. Schwieterman, on behalf of the Illinois Chamber of Commerce, independently estimated that such transportation and handling costs would increase by approximately \$89 million annually. His estimate on that subject is generally comparable to ours on the same subject.

(b) Dr. Schwieterman's far larger estimate of approximately \$4.7 billion in additional costs and economic effects over a 20 year period is not comparable to our analysis and does not accurately predict the economic consequences of the interim, and conditional, closure of the O'Brien and Chicago Locks proposed by the State of Michigan and other Great Lakes States. Most of the additional costs estimated by Dr. Schwieterman pertain to permanent infrastructure changes relating to flood control, assuming the Locks were continuously and permanently closed. However, because Michigan's proposal would allow for reopening of the Locks as needed to prevent flooding or otherwise protect public health and safety, those assumed expenditures are not relevant here. Further, as noted in our report, other aspects of additional indirect costs estimated by Dr. Schwieterman appear to be inadequately supported.

(c) The Corps' varying estimates of increased transportation related costs associated with lock closure, ranging from \$192 million (January, 2010), to \$167million (February, 2010) and most recently to \$150 million (June, 2010) are neither well-supported nor persuasive. The Corps estimates are based upon an assumption that if barge traffic, including long distance traffic (e.g., New Orleans to Chicago), is disrupted by lock closure during the first or last few miles of the trip, the cargo would be shifted in its entirety to a rail or truck alternative for the entire distance of the trip. Regardless of whether such an assumption is somehow constrained here by principles and guidelines typically used by the Corps for evaluating proposed water resource development projects, it is not economically realistic in the present context. Given this fundamental flaw, each of the Corps' estimates is overstated.

(d) Ultimately, whether, as we have estimated, the annual transportation related costs of temporary lock closure are approximately \$64-69 million, or approximately \$89 million as estimated by Dr. Schwieterman, or even \$150 million as most recently estimated by the Corps, such economic effects are far lower than the potential damage to the widely estimated \$7 billion annual value of the Great Lakes fisheries and recreational resources that are threatened by the migration of Asian carp through the CAWS into Lake Michigan and connected waterways. (Taylor Aff pp 9-10.)

The Corps has also suggested that the O'Brien and Chicago Locks should not be closed because it would adversely affect the operation of commercial tour boats and private recreational

boats. But, once again, the Corps appears to overstate the nature of those impacts and their relative weight in the context of Plaintiffs' request for interim relief.

It is certainly true that closing the Chicago Lock will be inconvenient for some of these tour boats owners to the extent they regularly transit the Chicago Lock. But, because these tours occur on both sides of the lock, separate river and lake tours could be continued and it may be possible, with some logistical maneuvering, to transfer passengers short distances on land, between boats docked in the river, and boats docked at locations in Lake Michigan. (Taylor Aff, Attachment 2, p 25 report.)

The Corps, through the declaration of Colonel Vincent Quarles filed in the Supreme Court, has asserted that in 2008 an estimated 43,000 recreation vessels transited Chicago Lock and 19,000 transited O'Brien Lock. However, Dr. Taylor, who relied upon publicly available information from the Corps' own Navigation Data Center, reports considerably lower recreational vessel usage: in 2008, 23,886 recreational vessels transited the Chicago Lock and 15,184 transited O'Brien Lock. (Taylor Aff, Report, p 7.) Moreover, Dr. Taylor reports that according to the Corps' own statistics, both recreational and tour boat operations through the Chicago Locks have significantly declined from the peak years of 1994-1995. (Taylor Aff Report, p 7.)

Some segment of these trips though the locks are twice a year occurrences in spring and fall when boats are moved out of and into winter storage, on land, at locations inland from the locks. These boats could be transported by other means not requiring use of the locks. Many pleasure boats are routinely transported by trailer. Other pleasure craft owners that wish to

transit the locks on more frequent basis may face inconvenience, and additional expense.<sup>34</sup> Even using the Corps' most recent estimate of \$500,000 for the total economic benefits to recreational boaters using the O'Brien and Chicago Locks (Ex 12, p 40.), these costs pale in comparison to the potential injury caused by Asian carp in the Great Lakes.

Besides the disparity in dollars between harm to the Chicago economy and the harm to the economies of all the other Great Lakes states and provinces, 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 Asian carp enter the Great Lakes. Weighing the undisputed fact that the scope of the potential injury to the other Great Lakes States is immense if nothing is done to prevent Asian carp from entering the Great Lakes, against the short-term economic harm to barge and recreational boating traffic, the balance tips decidedly in favor of Plaintiffs.

If Asian carp establish a reproducing population in the Great Lakes, the damage will likely be permanent and irreparable. Plaintiffs are aware of no means of ridding the Great Lakes of Asian carp, or even controlling them, once they become established. 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 the Corps and others 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. (Ex 11, 19; Newcomb Aff, p 7.)

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<sup>34</sup> Dr. Taylor noted that it may ultimately be possible to move some of these boats around the lock through various mechanical means. (Taylor Aff, Report p 7-8.)

Moreover, 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.<sup>35</sup>

As shown above, the Corps own eDNA testing and the recent capture of a live bighead carp confirm the existence of Asian carp in the CAWS past not only the Dispersal Barrier System but past any remaining barriers to 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 the environment and Plaintiffs' economies is immense if nothing is done to prevent Asian 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 Plaintiffs.

**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 natural resources.<sup>36</sup> Where such public policy is

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<sup>35</sup> *Amoco Production Co. v. Gambell*, 480 U.S. 531, 545 (1987).

<sup>36</sup> *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.

identified by Congress in specific statutes, it is given great weight by federal courts considering whether or not to grant a preliminary injunction.<sup>37</sup>

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."<sup>38</sup> 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 immeasurable, and the economic, recreational, and public safety interests of the citizens of eight states and two Canadian provinces will seriously suffer.

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.

#### **4. Plaintiffs are likely to succeed on the merits of their claims**

Given the indisputable gravity of the irreparable harm that is likely to occur if Asian carp establish a reproducing population in the Great Lakes, Plaintiffs do not need to make an incontestable showing with regard to the likelihood of success on the merits factor to be entitled to a preliminary injunction under the established standards of this Circuit. Nevertheless, the overwhelming weight of the evidence, much of it gleaned from documents produced by the

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<sup>37</sup> *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."))

<sup>38</sup> *Yakus v. United States*, 321 U.S. 414, 441 (1944, *quoting* *Virginian Ry. Co. v. System Federation*, 300 U.S. 515, 552 (1937)).

Defendants themselves, clearly supports a finding that the Plaintiffs are likely to succeed on both their common law public nuisance claims and their APA appeal.

**a. Plaintiffs are likely to succeed on their common law public nuisance claim.**

Defendants continue to maintain and operate the CAWS infrastructure in a manner that allows admittedly injurious species to enter the Great Lakes. The resulting injury to the public rights is both foreseeable and severe. At common law, a condition, action, or failure to act that unreasonably interferes with a right common to the general public is a public nuisance.<sup>39</sup> The attorney general may bring an action for injunctive relief to prevent or abate such a public nuisance.<sup>40</sup> Any immunity of the Corps to such an action has been waived by Congress.<sup>41</sup>

To sustain an action for public nuisance, a plaintiff must establish that there is an unreasonable interference with a common public right. Federal courts have described the circumstances sustaining a holding that an interference with a public right is unreasonable to include the following:

- (a) Whether the conduct involves a significant interference with the public health, the public safety, the public peace, the public comfort or the public convenience, or
- (b) whether the conduct is proscribed by a statute, ordinance or administrative regulation, or

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<sup>39</sup> Restatement (Second) of Torts, § 821B(1); *Connecticut v. Am. Elec. Power Co.*, 582 F.3d 309, 327, 352 (2d Cir. N.Y. 2009)("Moreover, as a general matter, the Supreme Court and this Court have often turned to the Restatement (Second) of Torts for assistance in developing standards in a variety of tort cases . . . In keeping with the precedents discussed above, we will apply the Restatement's principles of public nuisance as the framework within which to examine the federal common law of nuisance question presented by the instant cases. We believe the Restatement definition provides a workable standard for assessing whether the parties have stated a claim under the federal common law of nuisance.")

<sup>40</sup> *Missouri v. Illinois*, 180 U.S. 208, 244 (1901).

<sup>41</sup> 5 U.S.C. § 702. That waiver of sovereign immunity is not limited to suits brought under the Administrative Procedures Act. *Trudeau v FTC*, 456 F. 3d 178, 186-187 (D.C. Cir. 2006).

(c) whether the conduct is of a continuing nature or has produced a permanent and long-lasting effect, and, as the actor knows or has reason to know, has a significant effect upon the public right.<sup>42</sup>

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.<sup>43</sup> The public rights in those waters and resources include, but are not limited to, fishing, boating, commerce, and recreation.

As established above, the migration of bighead and silver carp from the CAWS into Lake Michigan, and thereby into other Great Lakes and connected rivers and waterbodies, will cause enormous and irreversible harm to the common public rights in those waters. Maintaining operation of the CAWS infrastructure in a way that permits this migration clearly interferes with public safety, health, comfort and convenience because if established in the Great Lakes, Asian carp will cause physical injury to boaters and drive out native fish species sought after by sport and commercial fishers.

Likewise, facilitating the introduction of aquatic invasive species such as the Asian carp contravenes policies delineated in the Nonindigenous Aquatic Nuisance Prevention and Control Act and the Lacey Act. Such conduct is thus proscribed by "statute, ordinance or administrative regulation" and on this basis alone should be considered a public nuisance.

And there is no serious question that if Asian carp establish a reproducing population in the Great Lakes, this will produce "a permanent and long-lasting effect." The Corps' own statements confirm that they are acutely aware of this long-lasting effect.

Defendants' conduct thus satisfies all three Restatement tests of whether there is an unreasonable interference with a common public right. Under these circumstances, the

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<sup>42</sup> *Connecticut v. Am. Electric*, at 352, citing the Restatement of Torts § 821B(2).

<sup>43</sup> *Illinois Central R.R. Co. v. Illinois*, 146 U.S. 387, 455-458 (1892).

Defendants' maintenance and operations of the diversion project in the current manner is no longer equitable. Indeed, it is a continuing public nuisance that substantially infringes upon Plaintiffs' rights. Declaratory and injunctive relief is therefore warranted.

**b. Plaintiffs are likely to succeed on their APA appeals.**

Under 5 U.S.C. § 702, "[a] person suffering legal wrong because of agency action, or adversely affected or aggrieved by agency action within the meaning of a relevant statute, is entitled to judicial review thereof." 5 U.S.C. § 706(1) provides that a court may: "compel agency action unlawfully withheld or unreasonably delayed . . . ." 5 U.S.C. § 706(2) provides, in part, that a court may: "[h]old unlawful and set aside agency actions, findings and conclusions found to be – (a) Arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law. . ." "Agency action" is defined in 5 U.S.C. § 551(13) to include "the whole or a part of an agency rule, order, license, sanction, relief, or the equivalent or denial thereof, or failure to act. . ."

In the case at hand, the State Plaintiffs have been adversely affected and aggrieved by a number of actions, of the Corps. These are discussed in detail above, but a few notable examples are:

- The Corps decision to operate the CAWS infrastructure in a manner that creates or contributes to a public nuisance by allowing Asian carp to migrate unimpeded through the CAWS to Lake Michigan, even after the Corps learned through its own eDNA testing that Asian carp were more than likely in Calumet Harbor in Lake Michigan.
- The decision of the Corps to rely almost exclusively on the Dispersal Barrier System as its method for precluding Asian carp from entering the Great Lakes. Even at the time this decision was made, it was apparent that the barrier was an experimental and unproven technology and that it would need to be taken off-line for maintenance. Yet the Corps implemented no back-up strategy, or even plan, until it was effectively too late and the Asian carp had bypassed the electric barrier.

- The Corps ordered the reopening of the O'Brien Locks and continued operation of those locks in December, 2009 and May 2010 after they had been closed while the Corps applied rotenone and conducted netting operations. The result of continuing lock operations as usual was to perpetuate activities that contributed to a public nuisance.
- The Corps' adoption of the "no change in operation" option described in the Interim III Report, which meant that the Corps decided to continue reopening the locks without any change in operation in response to the Asian carp threat. (Ex 12.)

These decisions, which are ultimately part of a clear strategy to maintain the current operation of the CAWS, are "agency action[s]" as defined by 5 U.S.C. § 551 and are appealable. These actions should be set aside and declared unlawful pursuant to 5 U.S.C § 706(2) because they violate the federal common law of public nuisance, the Nonindigenous Aquatic Nuisance Prevention and Control Act and the Lacey Act, and are arbitrary and capricious and an abuse of discretion.

A prime example of the arbitrary nature of the Corps decision making is established by the decision to adopt the "no change in operation" option for the proposed modified structural operations. A careful review of the "Interim III" Report (Ex 12) reveals that the Corps was not considering an obvious solution to the problem – whether to stop operating the locks on a temporary basis until a more permanent solution could be put in place. The only "options" for modifying lock operations actually evaluated in the Interim III Report were variations on closing the locks intermittently, such as a few days a week or at most, two months. (Ex 12, pp 49-56.) Not surprisingly, the panel of experts consulted by the Corps that assessed these options concluded that intermittent closures would do little to hinder the advance of Asian carp because they would pass through the locks on the days that they were open. (Ex 12, pp 49- 51.) This process was clearly not designed to conduct an objective assessment of the full array of real options to address the Asian carp invasion. It was skewed from the start in a manner that would

not allow consideration of the relief being requested by the Plaintiff States, i.e., stopping lock operations altogether (with exceptions to protect public health and safety) pending a permanent solution to the problem.

This is a textbook example of arbitrary and capricious action. For conduct not to be arbitrary, it must have some rational basis. As noted by the Supreme Court:

Normally, an agency rule would be arbitrary and capricious if the agency has relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise.<sup>44</sup>

Here, by not allowing the expert panel to even consider temporary cessation of lock operations – an obvious option for dealing with Asian carp – the Corps' evaluation of "modified operations" under the Framework and in the Interim III report (Ex 12) was an intentional effort to fail to consider "an important aspect of the problem." It also "runs counter to the evidence before the agency." Ignoring this option for addressing the Asian carp threat is clearly arbitrary and capricious.

Another example of the Corps ignoring the evidence before it is its persistent refusal to act based on eDNA evidence. The pattern of positive eDNA samples establishes that Asian carp have been migrating past the electric barrier, through the CAWS and into Lake Michigan. This was the conclusion of Dr. David Lodge who the Corps described as "one of the leading scientists on the subject" of the Asian carp invasion. (Ex 34, p ES-2.) In a declaration filed with the Supreme Court, Dr. Lodge rejected suggestions that the positive eDNA results should be attributed to anything other than live Asian carp inhabiting the CAWS where positive samples had been taken. And as noted by Dr. Lodge, this eDNA testing method had been vetted by the

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<sup>44</sup>*Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (U.S. 1983.)

U.S. E.P.A and declared to be sufficiently reliable and robust so that the results would be "actionable in a management context." (Ex 14, pp 9-10.) Yet the Corps persistently refuses to believe the eDNA test results and claims that the method is not reliable enough for its use when deciding whether to change the way it is acting and making decisions. (Ex 12, 22, 36.) This course of conduct is clearly arbitrary as it ignores evidence that the Corps' own experts have presented them.<sup>45</sup> The irrationality of this decision making process was recently brought home when, after repeatedly heralding the news that its netting operations had not recovered a single Asian carp, either live or dead, lakeward of the Dispersal Barrier System on June 22, a live Asian carp was recovered near areas that had previously tested positive for Asian carp. Even after this confirmation of the reliability of Dr. Lodge's analysis, the Corps has made no effort to revise its decision to make "no change in operations" with regard to its continued operation of the CAWS infrastructure. And despite the fact that on June 3, 2010, the Corps refused to consider extended lock closure, saying it had "insufficient information to conclude that Asian carp are actually present above the fish barrier" (Ex 12, p 52), the capture of an actual carp did not change that decision.

It is therefore clear that the Corps has taken "action" as defined by the APA, and that these actions are unlawful and arbitrary and capricious.

### **CONCLUSION AND RELIEF SOUGHT**

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

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<sup>45</sup> Similarly, as noted above, the Corps persists in routine operation of the Chicago and O'Brien Locks, notwithstanding the findings by a majority of the Expert Risk Assessment Panel that under that condition, there is "an imminent threat that [Asian carp] will establish a sustainable population in Lake Michigan in the near future." (Ex 44, Table 4.)

1. Enter a Preliminary injunction enjoining the Defendants 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 through the CAWS into Lake Michigan, including, but not necessarily limited to, the following:

(a) Using the best available methods to block the passage of, capture or kill bighead and silver carp that may be present in the CAWS, especially in those areas north of the O'Brien Lock and Dam.

(b) Installing block nets or other suitable interim physical barriers to fish passage at strategic locations in the Calumet River between Lake Calumet and Calumet Harbor.

(c) Temporarily closing and ceasing operation of the locks at the O'Brien Lock and Dam and the Chicago River Controlling Works except as needed to protect public health and safety.

(d) Temporarily closing the sluice gates at the O'Brien Lock and Dam, the Chicago Controlling Works, and the Wilmette Pumping Station except as needed to protect public health or safety.

(e) Installing and maintaining grates or screens on or over the openings to all the sluice gates at the O'Brien Lock and Dam, the Chicago River Controlling Works, and the Wilmette Pumping Station in a manner that will not allow fish to pass through those structures if the sluice gates are opened.

(f) Installing and maintaining block nets or other suitable interim physical barriers to fish passage as needed in the Little Calumet River to prevent the migration of bighead and silver carp into Lake Michigan, in a manner that protects public health and safety.

(g) As a supplement to physical barriers, applying rotenone at strategic locations in the CAWS, especially those areas north of the O'Brien Lock and Dam where bighead and silver carp are most likely to be present, using methods and techniques best suited to eradicate them and minimize the risk of their movement into Lake Michigan.

(h) Continue comprehensive monitoring for bighead and silver carp in the CAWS, including resumed use of environmental DNA testing.

2. Enter a preliminary injunction requiring the Corps to expedite the preparation of a feasibility study, pursuant to its authority under Section 3601 of the Water Resources Development Act of 2007, developing and evaluating options for the permanent physical separation of the CAWS from Lake Michigan at strategic locations so as to prevent the transfer of Asian carp or other invasive species between the Mississippi River Basin and the Great Lakes Basin. Specifically, the Corps should be required to:

(a) Complete, and make available for public comment, within six months, an initial report detailing the progress made toward completion of the evaluation.

(b) Complete, and make available for public comment, within twelve months, a second, interim report detailing the progress made toward completion of the evaluation.

(c) Complete, and make available for public comment, within eighteen months a final report detailing the results of the evaluation and recommendations for specific measures to permanently physically separate the CAWS from Lake Michigan at strategic locations to prevent the migration of bighead carp, silver carp or other harmful invasive species between the CAWS and the Great Lakes.

3. Grant the Plaintiff States such other relief as the Court determines just and proper.

Dated this 19th day of July, 2010

Respectfully submitted,

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