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Supreme Court of the United States
October Term, 1966

STATES OF WISCONSIN, MINNESOTA, OHIO, AND PENNSYLVANIA, <p style="text-align:right"><i>Complainants,</i></p> <i>v.</i> STATE OF ILLINOIS AND THE METROPOLITAN SANITARY DISTRICT OF GREATER CHICAGO, <p style="text-align:right"><i>Defendants,</i></p> UNITED STATES OF AMERICA, <p style="text-align:right"><i>Intervenor.</i></p>	No. 1 Original
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RENEWED MOTION FOR PRELIMINARY INJUNCTION

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INTRODUCTION

Michigan renews its Motion for Preliminary Injunction based upon new developments since the entry of the Court's January 19, 2010 Order denying that initial motion. Two significant circumstances have since occurred that demonstrate more than ever the need for immediate injunctive relief to prevent the movement of bighead and silver carp through the Chicago Waterway System into the Great Lakes:

- Silver carp environmental DNA has been recovered both in water samples from the Calumet River lakeward of the O'Brien Locks and from Calumet Harbor, which is essentially *in Lake Michigan* (Mich. App. II. 2a, 10a);¹ and
- Despite this new evidence of the increasingly imminent threat to the Great Lakes, neither the Army Corps of Engineers (Corps) nor the State of Illinois have lived up to their assurances to the Court that they would act upon significant new information and work to prevent Asian carp from getting into Lake Michigan. The Corps continues to open the O'Brien and Chicago Locks allowing the passage of more Asian carp into the Lake, while merely studying possible changes, months from now. Illinois has neither announced nor implemented any new measures – that it alone can control – to kill, capture, or otherwise contain the injurious fish in its waterway before more of them enter the Lake.

¹ Michigan has concurrently filed an Appendix in Support of Renewed Motion for Preliminary Injunction. This Motion refers to documents in that Appendix as (Mich. App. II. ___) to distinguish them from the documents contained in its initial Appendix filed December 21, 2009.

Moreover, two other new circumstances show that proper balancing of the equities even more clearly supports the preliminary injunctive relief Michigan now seeks:

- As detailed below, Michigan has refined the interim relief it requests, clarifying that it would not cause flooding, or otherwise endanger public health and safety, nor will it restrict navigation at locations other than the O'Brien and Chicago Locks.
- An expert in transportation and logistics, Dr. John C. Taylor, has assessed the transportation costs associated with closure of the O'Brien and Chicago Locks, and demonstrated that the Corps' and Illinois' claims of resulting economic "devastation" are seriously exaggerated and cannot reasonably be supported.

The DNA Evidence. The Corps' newly released scientific evidence indicates that the Asian carp threat to Lake Michigan is even more imminent than publicly documented when the Court considered Michigan's initial Motion for Preliminary Injunction. At that time, the available environmental DNA ("eDNA") data indicated that bighead and silver carp in the Calumet Sag channel were still south of the O'Brien Lock and Dam, approximately eight miles from the Lake. But now, as the United States acknowledged in a communication to the Clerk of the Court on January, 19, *after the court entered its Order*, additional eDNA testing has shown the presence of silver carp at two locations lakeward of the O'Brien Lock in the Calumet River and Calumet Harbor – literally in Lake Michigan itself. (Mich. App. II. 2a.)

The Response To The New Evidence. Public statements by federal and Illinois officials as part of the "Asian Carp Regional Coordinating Committee" evidence a continuing refusal to take timely and effective action to address the increasingly grave threat confirmed by the new eDNA data, despite the government's previous assurances to this Court that it would promptly act upon such new information. In opposing Michigan's initial Motion for Preliminary Injunction, the United States represented to this Court, through sworn declarations from the Assistant Secretary of the Army (U.S. App. 4a) and the Division Commander of the Army Corps of Engineers that "[i]f however, additional new information becomes available, which in the judgment of appropriate experts represents a significant threat of Asian Carp migration into Lake Michigan, [the government] would re-visit the conclusions related to lock closure and consider any other appropriate action." (U. S. App. 36a.) Yet, even in the face of significant new evidence that Asian carp are in Lake Michigan, the Corps insists on continuing to operate the O'Brien Lock, through which some silver carp have already passed, and through which others will certainly follow into the Lake. And this despite the warnings of its own eDNA expert that a positive eDNA detection shows the recent presence of at least one live fish, but "[t]he results could just as well indicate the presence of tens or hundreds more individual silver or bighead carp." (U. S. App. 129a.)

In its recent public communications (Mich. App. II. 18a-19a), the purported "expert" federal agency – the Corps of Engineers – tries to rationalize its continued opening of the locks by improperly minimizing the significance of these alarming new data from the true expert – Dr. David Lodge – and by misrepresenting the nature and

consequences of the injunctive relief sought by Michigan. Instead of at least again² temporarily closing the Locks to inhibit Asian carp movement into the Lake, the Corps' bureaucratic response languidly proposes to "consider...planning to develop the concept of how existing structures, such as locks, could be operated in a way that would minimize the risk of carp migration..." (Mich. App. II. 2a-3a) for some indeterminate period extending to at least September 30, 2010. (Mich. App. II. 16a.)

Similarly, the State of Illinois assured the Court that it "is doing everything within its legal authority...to combat the [Asian] carps' progress" (Ill. Mem. p.1) and that it "will continue to monitor the waterways for the presence of Asian Carp... and work with others to prevent Asian Carp from getting into Lake Michigan through the CSSC." In response to the most recent eDNA data, the Illinois Department of Natural Resources (IDNR) stated that it expected to perform some additional monitoring. (Mich. App. II. 3a.) But there is no publicly available information that it has done so. Moreover, Illinois has neither committed to, nor implemented, any additional measures that are uniquely within its authority to capture, kill, or otherwise control the movement of Asian carp in the waterway.

In the meantime, absent immediate injunctive relief from this Court, Asian carp, especially those that have already moved miles beyond the Corps electric "Dispersal Barrier," will be allowed free passage through the locks into the Great Lakes. As Dr. Lodge concluded in his January 4, 2010 Declaration proffered (but very selectively relied upon) by the United States:

² The locks were temporarily closed between December 1 and December 6, 2009 in response to previous eDNA detections of bighead and silver carp in the Calumet Sag Channel. (Mich. App. 68a.)

...[O]ur eDNA results indicate that at least a few individuals of both Silver and bighead carp have ready access to Lake Michigan via the O'Brien Lock and Dam...Because the probability of invasion increases the more individual Carp enter lake Michigan, the theory of invasion biology and rich experience of managing invasions... indicate *clearly that there remains an urgent need to reduce the probability that both silver or bighead carp individuals can enter Lake Michigan.* (U.S. App.134a; emphasis added.)

Dr. Lodge has good reason to be worried. The reliability of his testing procedure was confirmed by an independent Quality Assurance and Quality Control review team from the U.S. Environmental Protection Agency that declared that it "believes that the eDNA method . . . is sufficiently reliable and robust in reporting a pattern of detection that should be *considered actionable in a management context.*" (U.S. App. 121a-122a; emphasis added.) This contradicts the primary reason given by Major General Peabody for refusing to take action even before the latest data was disclosed: "To my knowledge, none of our interagency partners have opined that eDNA evidence alone should be used, in the absence of confirmatory evidence, to take major policy steps like closing the locks open to Lake Michigan." (U.S. App. 22a.) It is sadly apparent that, left to its own inertia, the Corps is inclined to stall and rationalize away the facts until it is too late to prevent Asian carp from becoming established in Lake Michigan. Thus, the need for immediate action by this Court is even more urgent.

Clarification of Request for Interim Relief. In its initial Motion for Preliminary Injunction, Michigan expressly limited its request for interim measures to those "consistent with the protection of public health and safety." (Mich. Motion p. 28.) Moreover, while Michigan did seek temporary closure of the O'Brien and Chicago Locks

(except as needed to protect public health and safety), Michigan did not intend to prevent continued navigation on the remainder of the Chicago Waterway System.

Nevertheless, the United States and Defendants opposed Michigan's initial Motion and, among other grounds, claim that the relief requested would result in massive flooding, property damage and the cessation of navigation inland from the O'Brien and Chicago Locks. Michigan never intended such results and does not now seek them. Accordingly, in renewing its Motion for Preliminary Injunction, Michigan is refining its request for interim relief to make clear that under the interim order it seeks:

- The O'Brien and Chicago Locks would remain temporarily closed, except as needed to protect public health and safety (e.g., to prevent flooding or allow the passage of vessels for emergency response purposes).
- The sluice gates in the Wilmette Pumping Station, Chicago Controlling Works, and the O'Brien Lock and Dam would remain temporarily closed, except as necessary to protect public health and safety.
- A new temporary barrier to fish passage in the Little Calumet River – where none now exists – would be installed and maintained in a manner that would protect public health and safety.
- Measures to capture, kill, or otherwise curtail the movement of Asian carp in the waterway will be implemented in a manner that protects public health and safety.

Michigan omits from its renewed Motion certain other previous requests for interim relief because they are duplicative of actions already being implemented by the United States (construction of the expanded Dispersal Barrier System IIB, structures for preventing bypass of the Dispersal Barrier system through flooding from the Des Plaines River and Illinois and Michigan Canal, and construction of a temporary barrier in the Grand Calumet River) or otherwise not now essential (e.g., operation of the Dispersal Barrier System at maximum power, and maintaining the waterways at the lowest level possible.)

Transportation and Logistics Costs Analysis. In opposing Michigan's initial Motion, both the Corps and Illinois also argued that the injunctive relief sought by Michigan would cause severe economic harm in the Chicago area that outweighed the harm that Michigan sought to prevent. The centerpiece of that argument was that closing the locks would increase the cost of moving freight currently transported by barge by over \$190 million (U.S. App. 72a) and would "devastate" the local economy and "Illinois' role in the regional, national and global economies." (Ill. Mem. p. 10.) Since that time, Michigan has received a report prepared by Dr. John C. Taylor, an expert in supply chain management, transportation, and logistics that assesses the transportation and logistics costs associated with creation of barriers to navigation at the O'Brien and Chicago Locks. (Mich. App. II. 34a-55a.) This report strongly rebuts the arguments of the Corps and Illinois. As explained in the report and summarized in Dr. Taylor's Affidavit, the claims of economic harm asserted by the Corps and Illinois are seriously exaggerated. (Mich. App. II. 20a-55a.)

For example, Dr. Taylor finds that the Corps' estimate is almost three times too high. To get to the \$190 million figure, the Corps estimated the cost of transporting the subject goods overland *the entire distance between Chicago and Louisiana* instead of merely accounting for the cost of land transportation *around the closed O'Brien Lock*. The latter, more realistic assessment of the impact of lock closure results in estimated increased costs of less than \$70 million. (Mich. App. II. 43a-44a.) And instead of a loss of jobs as decried by Defendant Illinois, the \$70 million spent to move freight around the locks would result in a net *increase* of jobs in the local economy. (Mich. App. II. 25a, 51a-52a.) Most telling, the annual Chicago economy is \$521 *billion*. In the context of local economy, the conservatively estimated \$70 million increase in cost is negligible, less than 0.02% of that economy, and a considerably smaller percentage of the overall state economy. (Mich. App. II. 25a.) Finally, only about one percent of the overall freight traffic in the region would be affected, and some would experience only minor inconvenience. (Mich. App. II. 48a.)

Thus, as discussed below, the Corps and Defendants have vastly overstated the potential harm resulting from the requested injunction. When a more realistic estimate of the impact of temporary lock closure is compared to the potential devastation to the Great Lakes Basin and its associated economies from an invasion by Asian carp, it is even more clear that the equities favor Michigan's Renewed Motion.

Relief Requested. Under these circumstances, for the reasons stated in Michigan's initial Motion for Preliminary Injunction and the additional reasons stated

below, the Court should grant Michigan's Renewed Motion for Preliminary Injunction.³ Michigan does not make this request lightly or without recognition of the extraordinary nature of the relief sought in the context of this Court's limited exercise of original jurisdiction. Michigan does so in these unique circumstances, out of its responsibility to protect one of its greatest resources from an imminent threat of extraordinary harm. The most recent eDNA results coupled with the Corps' and Defendants' failure to take timely and effective action commensurate with the threat leave it no choice.

Michigan therefore respectfully asks this Court to enter a preliminary injunction ordering the Corps, the State of Illinois, and the Metropolitan Water Reclamation District of Greater Chicago (District) to immediately take all measures within their respective control, consistent with the protection of public health and safety, to prevent the migration of silver and bighead carp into Lake Michigan, including, in particular, temporarily closing the locks at the O'Brien Lock and Dam and Chicago Controlling Works, and using the best available methods to block the passage of, capture or kill bighead and silver carp that may be present in the waterway, especially in those areas north of the Dispersal Barrier system.

STATEMENT

Based on compelling evidence that silver and/or bighead carp had evaded the Corps' electric Dispersal Barrier and were within eight miles of invading Lake Michigan, Michigan filed its initial Motion for Preliminary injunction seeking interim relief from this Court to force the Corps and Defendants to take immediate measures

³ In the interest of efficiency and minimizing repetition, Michigan adopts and incorporates herein by reference the arguments and authorities contained in its initial Motion for Preliminary Injunction.

necessary to stop the advance of the carp, which measures they have been unwilling to take voluntarily. The states of Ohio, Minnesota, Wisconsin, and New York⁴ filed responses supporting Michigan's motion, while the United States, Illinois, and the District filed responses in opposition. On January 19, 2010, the Court entered its Order stating: "The motion of Michigan for preliminary injunction is denied."

On January 19, 2010, just hours after the Court entered that Order, the Solicitor General sent a letter to the Clerk of the Court disclosing positive eDNA test results for silver carp in two samples collected on December 8, 2009, from the Calumet River and Calumet Harbor (Mich. App. II. 1a-4a.) The sample from the river was taken "lakeside," i.e., north of the O'Brien Lock, and the Calumet Harbor sample was for all practical purposes taken from Lake Michigan. (Mich. App. II. 10.) The Solicitor General's letter stated that this new information was provided to that office on the morning of January 19, 2010 by the Corps of Engineers, and that the data was received by the Corps on January 15, 2010. The January 19 letter included, as an attachment, a copy of a news release issued that day by the Corps regarding the new data. (Mich. App. II. 2a-4a.)

On January 19, the federal government separately disclosed to the media a briefing document, labeled "Asian Carp Update" consisting of 13 pages of slides. (Mich. App. II. 5a-17a.) The stated purpose was to "[h]ighlight recent Asian carp monitoring efforts and multi-agency migration prevention strategies." (Mich. App. II. 6a.) Among other things, the briefing included two maps depicting the location of

⁴ The Province of Ontario filed an amicus curiae brief in support of Michigan's motion.

eDNA testing, and the positive results in samples collected "above" i.e., lakeward of the electric dispersal barriers constructed by the Corps. (Mich. App. II. 8a, 10a.) Nowhere in the briefing did the government commit itself to closing the O'Brien Lock. All indications to date are that the Corps is prepared to conduct a lengthy study of the concept of possible changes in locks operation (not necessarily including actual lock closure) (Mich. App. II. 16a), but will not act, if at all, until Asian carp are sufficiently abundant in or near Lake Michigan to so that multiple carps can be readily seen and physically captured.

ARGUMENT

In light of the new eDNA evidence and the Corps' and Defendants' continuing failure to effectively respond to it, a proper balancing of the preliminary injunction factors compels entry of an order requiring that the control structures in the Chicago diversion waterway be operated in a manner that will not allow Asian carp to pass beyond them, that active measures be taken to capture, kill or otherwise impede their movement toward Lake Michigan and that other pathways into the Lake be blocked, at least until the Court can make a decision on the merits of this case.

A primary reason for any court to grant a motion for a preliminary injunction is to maintain the status quo.⁵ 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.⁶ Entering a preliminary injunction, just as entry of a permanent injunction, is the

⁵ *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).

⁶ *Alabama v. U.S. Army Corps of Engineers*, 424 F.3d 1117, 1128 (11th Cir. 2005), *cert. denied* 547 U.S. 1192 (2006).

exercise of the court's equitable powers to ensure that a just result is reached.⁷ This 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.⁸

Numerous U.S. Circuit Courts of Appeal have determined that during the application of these factors in a particular case, it is appropriate to give more weight to certain factors depending on the nature of the evidence. For example, several courts have held that where a very strong showing is made on the fact of irreparable injury, an injunction may enter even where the case supporting the likelihood of success on the merits factor is not as strong.⁹

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 Lake Michigan waters from the increasingly grave threat posed by invasive Asian carp now infesting the waterways at issue.

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

⁸ *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).

⁹ *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).

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

1. The injury.

The devastation that would follow the introduction of Asian carp to the Great Lakes is not in serious dispute. (U.S. App. 146a-148a.) Once the carp are established in the Great Lakes, it will for all practical purposes be impossible to get rid of them. (Mich. App. 26a.) Thus, there will be no realistic way to return to the status quo if an injunction is not entered now, and more carp find their way to Lake Michigan while the parties are litigating this case. This is truly irreparable damage that needs to be averted.

2. The danger is more imminent than when this Court considered Michigan's initial motion for preliminary injunction.

- a. New evidence that Asian carp are in Lake Michigan underscores the urgent need for immediate injunctive relief.*

The new eDNA data disclosed after the Court's January 19, 2010 Order (Mich. App. II. 1a-4a) punctuates Michigan's request for preliminary injunctive relief. The fact that the Solicitor General took the extraordinary step of sending a letter to the Clerk of the Court admitting the new development confirms its relevance to Michigan's request for injunctive relief. These new data are significant in several respects.

1. Location of positive samples.

The new results are critically important because of *where* the additional samples for silver carp eDNA were found. As the Solicitor General noted, they were

"both lakeside of the O'Brien Lock." (Mich. App. II. 1a.) More specifically, they were described as, "one positive environmental DNA result for silver carp *in Calumet Harbor* approximately one-half mile north of the Calumet River and one more in the Calumet River north of the O'Brien Lock." (Mich. App. II. 2a; emphasis added.) Calumet Harbor is past the mouth of Calumet River and is undeniably part of Lake Michigan. These locations, and the connecting waterway system are generally depicted in two maps publicly released by the government as part of its January 19, 2010 Asian Carp Update briefing. (Mich. App. II. 7a and 9a.)

These sampling locations are approximately forty miles northeast and upstream from the Corps' electric dispersal barrier system – the sole mechanism currently employed by Defendants to prevent Asian carp from invading the Great Lakes. Moreover, they are part of a larger pattern of positive DNA detections for silver or bighead carp beginning in mid-2009, that extends from initial positive results south of the dispersal barrier system to multiple, progressively northward locations in the Chicago Sanitary and Ship Canal, the Calumet-Sag Channel, the North Shore Channel and now the Calumet River and Harbor. Most alarmingly, the most recently reported results are beyond the O'Brien Lock that the Corps continues to open regularly on a business as usual basis. (Mich. App. II. 1a.)

The Corps' and Defendants' efforts to cast doubt that these test results prove that silver carp had swum upstream on their own accord was methodically discredited by their own expert, Dr. Lodge. Drawing upon his substantial expertise as a biologist specializing in invasive species (U.S. App. 112a), the extensive program of sampling

and eDNA analyses for bighead and silver carp outlined in his Declaration, and the pattern and distribution of test results, Dr. Lodge carefully considered the range of possible explanations for the test results, including transfer through barge ballast water discharges. (U.S. App. 130a-132a.) He concluded: "The presence of living silver and bighead carps north of the electric barriers is most plausibly explained by failures of the electric barrier to completely restrict the northward movement of silver and bighead carps." (U.S. App. 132a.)

Nor can the government's efforts to otherwise question the eDNA test results be well taken. In seeking to diminish the need for immediate action to actually control – as opposed to merely monitor – bighead and silver carp detected in eDNA samples collected north of the dispersal barrier, the United States has repeatedly emphasized that to date, no bodies of living or dead Asian carp have yet been collected in those areas. (Mich. App. II. 10a, 18a.) However, as Dr. Lodge explained in detail in his Declaration, the protocols used in the eDNA analyses he has reported are well established in the scientific community, and there are several "reasons for high confidence that our detections of eDNA from silver and bighead carp are reliable." (U.S. App. 118a.) As noted by Dr. Lodge, these reasons include:

- (a) the successful use of eDNA as an accurate indicator of the presence of other species of aquatic organisms has been documented in published scientific literature (U.S. App. 118a-119a);
- (b) the eDNA protocols used have been reviewed by a team of independent scientists organized by the United States Environmental Protection

Agency who informed the Corps that the method used "is sufficiently reliable and robust in reporting a pattern of detection that should be considered actionable in a management context" (U.S. App. 119a-120 a; U.S. App. 21a);¹⁰

- (c) that the efficacy of the technique was confirmed when it detected eDNA from both species in areas "where silver or bighead carp were previously known to be abundant . . ." (U.S. App. 120a); and
- (d) in areas where neither species was thought to occur, management agencies applying traditional sampling methods saw or caught one silver and one bighead carp after eDNA sampling detected evidence of the carp. (U.S. App. 120a.)

The fact that no silver or bighead carp was caught during electrofishing and netting operations in early December 2009 coordinated by the IDNR at locations in the Calumet Sag Channel where positive eDNA test results had been reported does not establish that those results, or the method, is unreliable. Dr. Lodge noted that "it is not at all surprising to us that not even one silver or bighead carp was recently caught in the Calumet Sag Channel with traditional sampling tools, even in the locations where we have detected eDNA." (U.S. App. 129a.) As he explained, traditional fish sampling tools such as netting, electrofishing (stunning fish with an electric current emanating from a specially designed boat) and poisoning, have inherent limitations and that they may capture only a very small proportion of individuals comprising a

¹⁰ This directly contradicts the statement of General Peabody that the eDNA results are not sufficiently reliable for decision making. (U.S. App. 22a.)

local population of a fish species. It usually takes extraordinary effort to catch as many as 10% of a population, and in open or deep habitats, capture rates are likely to be one or more orders of magnitude lower (i.e., 1%, or 0.1% capture rates or lower). Therefore, where, as here, traditional sampling methods are used along the leading edge of an invasion by a fish species, and relatively few of the target species are likely to be present, none are likely to be caught (or bodies recovered in the case of poisoning). (U.S. App. 115a.)

In that regard, the Corps' juxtaposition of "One Bighead Carp" with "~55,000 lbs Common Fish" under the heading "eDNA Validation Efforts" in its January 19, 2010 briefing (Mich. App. II. 9a) is potentially misleading. To the extent that it intended to suggest that because "only" one carp was found among the thousands of fish that floated to the surface after the application of rotenone in the Canal during the barrier shutdown, that the eDNA data is somehow invalid, it is simply wrong. Under the circumstances, and because of the fact that many of the fish killed sank to the bottom of the canal (Mich. App. 65a), it is remarkable that even one such bighead carp was recovered.

The Corps' emphasis on the relative number of positive and negative eDNA test results (Mich. App. II. 10a, 18a) is likewise misplaced. As Dr. Lodge explained:

We draw inferences from negative results with considerably less confidence than from positive results because we know false negatives become more and more likely the lower the concentration of eDNA in the water. From sampling in the southerly pools, we know that even where target species are known to be present from traditional tools, we nevertheless did not detect eDNA in some samples (paragraph 24). Because low temperatures probably reduce the shedding of eDNA (paragraph 33), we are particularly cautious about negative results at low

temperature. Thus, overall, negative results must be interpreted with great caution no matter what time of year. *A negative result does not necessarily imply that no silver or bighead carp are present.* It means only that the concentration of eDNA was lower than the detection limits of our current eDNA protocols. (U.S. App. 130a; emphasis added.)

2. *Number of fish.*

In addition to the significance of the sampling locations, the new test results are of grave importance because of *what* they represent. As Dr. Lodge explained in his January 4, 2010 Declaration filed by the United States, each of the positive eDNA test results his laboratory reports indicates that at least one — but possibly hundreds of — live fish of the identified species was or had been very recently present near the sample location or upstream (here, north or lakeward):

Because of the care with which we have taken and processed samples, and the confidence expressed in our protocols by the EPA QA/QC team (paragraphs 16-17), there can be little, if any, doubt that the areas for which we have reported positive results (Figure 2) did indeed contain eDNA from the target species.

... Although we consider other possible explanations (paragraphs 40-45) for the presence of eDNA in the water, we believe that by far the most plausible interpretation for the presence of eDNA is that at least one live individual fish of a target species is present or has been present in the recent past near the location or upstream. By recent past, we mean hours to at most two days.

[T]he most informative statement we can confidently make is that a positive result indicates the presence of at least one live fish. The results could just as well indicate the presence of *tens or hundreds or more* individual silver or bighead carp. (U.S. App. 127a, 134a.)¹¹

¹¹ Although the United States and the Defendants have sought to downplay the significance of the eDNA results and even inexplicably imply they are not reliable, as discussed below, a careful review of Dr. Lodge's Declaration (U.S. App. 111a-135a), (proffered by the United States and unrebutted by Defendants), demonstrates how his methods, findings and conclusions are consistent with scientifically recognized methods and are reliable.

And the fact that the eDNA method so far used does not yet enable one to quantify the number of fish that may be present at a specific location in no way diminishes the validity and significance of the available data as they relate to Michigan's request for preliminary injunctive relief. The limitations of the existing method and associated uncertainties all relate to the possibility that the data *understate*, rather than overstate the presence and abundance of bighead and silver carp in the areas tested. The pattern of positive detections, and especially the most recent data collected in the Calumet River and Harbor underscore the imminent threat of continuing Asian carp movement into Lake Michigan. The longer the locks remain open and the longer efforts to kill or control them are deferred, the more fish can pass into the lake, and the greater the likelihood that populations of silver and bighead carp will become established in the Lake and connected waters.

3. Effect of cold weather on testing.

The recent eDNA data are also significant because of *when* the samples were collected, i.e., December 8, 2009. As Dr. Lodge explained, because "fish activities (including movement, breathing, feeding, egestion and excretion) decline as temperature declines," and DNA is less likely to be shed into the water, sampling for eDNA analysis in the winter months is less likely to detect bighead and silver carp that are actually present in the waters sampled. (U.S. App. 127a.) In other words, cold

weather sampling, like that on December 8, 2009, was if anything, likely to *understate* the presence of silver and bighead carp.¹²

Based on Dr. Lodge's thorough explanation of the test results, there can be no serious dispute that at least one, but likely multiple, live silver carp are swimming in and near Lake Michigan at this moment. Nor can there be any serious argument that this conclusion demands an emergency response. Even before the new results from the December 8 samples were known, Dr. Lodge emphasized the urgent need to reduce the probability that silver or bighead carp can enter the Lake:

...[O]ur eDNA results indicate that at least a few individuals of both silver and bighead carp have ready access to Lake Michigan via the O'Brien Lock and Dam (Figure 2). Because the probability of invasion increases the more individual carp enter Lake Michigan, the theory of invasion biology (Lockwood et al. 2005, Drake & Lodge 2006) and rich experience of managing invasions (Lodge et al. 2006, Keller et al. 2009) indicate clearly that *there remains an urgent need to reduce the probability that both silver or bighead carp individuals can enter Lake Michigan.* (U.S. App. 134a; emphasis added.)

And, when the new results were publicized on January 19, he reiterated the need to prevent additional Asian carp from entering the Lake: "it is important to keep additional fish from migrating into the lake to lower the possibility that a self-sustaining population will result." (Mich. App. II. 2a.) The imminence of the harm is thus well-established.

Unfortunately, despite this increasingly imminent threat of grave harm, the United States and the Defendants have still failed to take effective action to keep

¹² Ironically, those samples were collected lakeward of the O'Brien Lock at almost the same time that the Corps decided to re-open the O'Brien Lock on the assumption that the recently concluded netting operation in the Calumet Sag Channel had somehow demonstrated Asian carp were not likely to pass through that lock. (Mich. App. 68a.)

additional Asian carp out of the Great Lakes. In the case of the Corps of Engineers, the government is willfully and unjustifiably persisting in a course of action — repeatedly opening the O'Brien Lock — that creates a free passage for more of these injurious fish to enter Lake Michigan, and ultimately, the remainder of the Great Lakes ecosystem. And it does not appear that the Corps is likely, in the wake of the January 19 disclosure of the latest eDNA data, to change its disastrous course in the foreseeable future. Nor has the State of Illinois since announced, let alone implemented, any active measures to capture, kill, or impede the movement of Asian carp in its waterways.

- b. The imminence of the harm is increased by the announced intentions of the federal government and Illinois in response to the new data to take no significant steps that would reduce the likelihood that Asian carp will become established in waters of the Great Lakes and their tributaries.*

As noted above, in opposing Michigan's initial Motion for Preliminary Injunction, the United States represented to the Court that if new information became available indicating a significant threat of Asian Carp migration into Lake Michigan, it would reconsider its decision to keep the O'Brien and Chicago locks open, and if appropriate, exercise its statutory authority ¹³ to take immediate measures to prevent the migration of Asian carp into the Lake. In her January 4, 2010 declaration, Assistant Secretary of the Army Jo Ellen Darcy stated that "if...[through continued monitoring]

¹³ The Energy and Water Development and Related Agencies Appropriations Act, 2010, Pub. L. No. 111-85, § 126 123 Stat. 2845, 2853 (2009) (hereinafter "Section 126 authority") provides the Secretary of the Army with authority to approve temporary measures "to prevent aquatic nuisance species from bypassing the Chicago Sanitary and Ship Canal Dispersal Barrier Project" Pursuant to Army General Orders No. 3, dated 9 July 2002, paragraph 6, the Secretary of the Army has delegated Section 126 authority to the Assistant Secretary of the Army for Civil Works. (U.S. App. 2a.)

additional or new information becomes available supporting the closure of [navigation and flood control structures at the O'Brien Lock and Dam and the Chicago Controlling Works], I am prepared to take appropriate action pursuant to Section 126 authority." (U.S. App. 4a.) The Corps District Commander, Major General John Peabody similarly stated: "[i]f however, additional new information becomes available, which in the judgment of appropriate experts represents a significant threat of Asian Carp migration into Lake Michigan, [the government] would re-visit the conclusions related to lock closure and consider any other appropriate action." (U. S. App. 36a.)

Despite those assurances, and the receipt of the most recent eDNA data indicating a significantly more imminent threat of silver carp migration into Lake Michigan, the Corps has taken no action to close or restrict the operation of the O'Brien Lock or the Chicago Lock. Instead, with respect to the locks, the Corps' January 19, 2010 press release states that in response to the most recent eDNA results it is "*consider[ing]...Planning to develop the concept of how existing structures, such as locks, could be operated in a way that would minimize the risk of carp migration while the U.S. Coast Guard, local public safety and emergency responders, needed cargo, and other traffic transits the waterway.*" (Mich. App. II. 2a; emphasis added.) The federal government's January 19 briefing "Update" indicates that this study of "Controlled Structural Ops" would apparently be part of an "Efficacy Study" scheduled to be completed in September 2010 (Mich. App. II. 10a, 15a.) This excruciatingly slow and bureaucratic response to the new eDNA data does nothing to stop the ongoing migration of silver carp through the O'Brien Lock into Lake Michigan and is at odds

with the government's prior representations to this Court. It clearly evinces the Corps does not view the Asian carp invasion as imminent, and that it is intending to take no decisive action at any time soon.

Similarly, in opposing Michigan's initial motion for preliminary injunction, the State of Illinois noted that it "is doing everything within its legal authority...to combat the [Asian] carps' progress" (Ill. Mem. p. 1) and that it "will continue to monitor the waterways for the presence of Asian Carp... and work with others to prevent Asian Carp from getting into Lake Michigan through the CSSC." (Affidavit of Steven J. Shults, Ill. App. 8a.) In particular, Illinois emphasized its primary role in the use of rotenone to kill fish during the dispersal barrier shutdown in early December 2009, and the electrofishing and netting operations in the Calumet Sag Channel between December 1 and 7, 2009. (Ill. Mem. p. 8.) Those activities were coordinated by the Illinois Department of Natural Resources (IDNR) (Ill. App. 6a-7a), which under Illinois law has regulatory and management authority over all fish in Illinois waters.¹⁴

In response to the latest eDNA evidence that silver carp were present in the Calumet River and Harbor, the IDNR joined with the federal members of the "Regional Coordinating Committee" in issuing a press release. The IDNR Assistant Director was quoted as saying that it was "committed to working with all of our partners in the coming weeks and months by using conventional sampling methods in the Chicago Waterway system and near shore area of Lake Michigan to help determine locations and abundance of Asian carp and try to confirm this new Environmental DNA

¹⁴ Illinois Fish and Aquatic Life Code, 515 Ill. Comp. Stat. 5/5-5.

evidence." (Mich. App. II. 3a.) If in fact any such additional monitoring has been undertaken since January 19, 2010, its nature, timing and results have not been publicly disclosed. In any event, since the January 19 disclosure of additional positive eDNA results, neither the IDNR nor any other agency of the State of Illinois has used fish poison, nets or any other measures to kill or capture silver or bighead carp anywhere in the Chicago waterway system, including the Calumet Sag Channel, the Calumet River or Calumet Harbor. Nor is there any evidence of any plan by the State of Illinois to take such steps in the near future.

B. The equities favor Michigan.

1. Michigan only seeks relief that is not likely to cause flooding or other harm to public health or safety.

The second factor for the Court to consider when granting a preliminary injunction is the balance of the equities between the parties. As noted above, there is no dispute that establishment of a viable Asian carp population in the Great Lakes will cause irreversible damage to the environment and to fishing and other Great Lakes dependent industries, and that this damage will befall all the states and Canadian provinces bordering the Great Lakes.

The United States and Defendants, however, have sought to tip the balance of equities their way by distorting the nature and exaggerating the impact of the injunctive relief Michigan seeks. In its January 19 briefing in response to the most recent eDNA data, the government sought to perpetuate the myth – advanced in its filings in this Court (see U.S. Mem. pp. 47-49) and also by Defendants (Ill. Mem. p. 48; District Mem. pp. 14-17) – that Michigan's request for injunctive relief, if granted,

would cause serious flooding in the Chicago area. Indeed, the government's summary of "Impact Uncertainties" implies, under the heading "Flooding " that property loss or damage in the amount of billions of dollars, and even "loss of life" may occur. (Mich. App. II. 12a.)

This is a patent distortion both of Michigan's position and of fact. Michigan's initial motion expressly sought, and this renewed motion reiterates that it seeks only an injunction requiring Defendants and the Corps to "immediately take all available measures within their respective control, *consistent with the protection of public health and safety*, to prevent the migration of bighead and silver carp into Lake Michigan..." (Mich. Motion p. 28.) While Michigan sought, and still seeks, an order prohibiting regular operation of the locks at the O'Brien Lock and Dam and Chicago Controlling Works, it never sought to foreclose operation of the locks when needed to prevent flooding or otherwise protect public health and safety.

Operation of the locks to prevent flooding, however, is exceedingly rare, contrary to repeated suggestions otherwise by Defendants and the Corps. In fact, the Declaration of 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*. (U.S. App. 100a.) 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 initial Motion, both the United States and Illinois have erroneously suggested that the closure of the O'Brien and Chicago Locks would inevitably threaten public health and safety by interfering with watercraft used for emergency response and law enforcement purposes. The United States has submitted the declaration of Captain Luann Barndt, who is the Coast Guard Commander in the Chicago area. Captain Barndt acknowledges that it is "difficult to project" and "difficult to anticipate" how the lock closures would impact Coast Guard operations (U.S. App. 158a), but nevertheless asserts that there will be a negative impact to emergency response times and patrol missions because some Coast Guard boats go through the locks to enter the waterway system that is part of the Coast Guard's jurisdiction. Michigan reiterates that it has never asked that these locks remain closed when their use is necessary to address emergencies. That said, Captain Barndt's declaration does not address an obvious solution – docking Coast Guard vessels on both sides of the locks if needed – to the concern expressed. While that 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.

Illinois also submitted a declaration addressing emergency response from Suzanne Malec-McKenna, Commissioner of the Department of Environment of the City of Chicago. (Ill. App. 16a-27a.) Ms. Malec-McKenna raises concerns that the City'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. (Ill. App. 20a-24a.) As noted above, Michigan does not seek to close the locks when operation is necessary to respond to true emergencies. Nevertheless, Ms. Malec-McKenna's description of the City's dockage facilities suggests that with coordination, the city police and fire departments, along with the Coast Guard (Ms. Malec-McKenna indicates that the City shares dockage with the Coast Guard on the city side of the Lock (Ill. App. 20a) could provide appropriate emergency response on both sides of the lock without necessarily requiring its operation for each and every emergency call.¹⁵

In sum, Michigan is confident 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 address true emergencies without jeopardizing public health and safety.

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

Defendants and the Corps have also asserted that closing the locks will cause injury to the local economy through the disruption of the local barge and recreational traffic. Michigan understands that these locks are used for the transportation of freight, as well as by recreational boaters. There is no denying that there will be an

¹⁵ The Corps states in the declarations of Colonel Vincent V. Quarles and Michael Cox that periodic operation of the Chicago and O'Brien Locks is necessary to prevent ice build up in winter and to prevent seizure of the mechanisms and electrical components because the equipment is old, in need of rehabilitation and parts are hard to get. (U.S. App. 94a.) Mr. Cox notes that "additional heaters and pressure steamers" are being purchased and will allow a reduction in cycling times for the lock gates. Mr. Cox's declaration at least suggests there is a solution to keep the lock gates functional even when not opened periodically. In any event, the Army Corps of Engineers which specializes in the construction and operation of these structures should have the ability and expertise to solve this problem if it applies itself with the necessary vigor.

economic impact and unavoidable inconvenience if these locks are closed, even if alternate means are used to transport freight or for recreational boaters to gain access to Lake Michigan. Nevertheless, the balance of equities tips decidedly to Michigan.

First, Defendants, especially Illinois, have seriously overstated the magnitude of potential economic harm that may result from the Injunctive relief sought by Michigan. Michigan has consulted with John C. Taylor, Ph.D., Associate Professor of Supply Chain Management and Director of Supply Chain Programs at Wayne State University, who has produced an affidavit and a report dispelling numerous inaccurate claims made by the Corps and Defendants regarding the impact of closing the locks. (Mich. App. II. 20a-55a.)

As summarized in his affidavit, it is Dr. Taylor's professional opinion that the documents submitted by the United States and Illinois to this Court "have seriously exaggerated the economic and transportation impacts associated with closure of portions of the Chicago Waterway System at the Chicago and O'Brien Locks as requested by the State of Michigan..." and that "the claim that 'even a temporary closure of the locks will devastate the local economy and Illinois' role in the regional, national and global economy ...' cannot reasonably be supported." (Mich. App. II. 24a-26a.)

Perhaps chief among these fallacies is the notion that closing the locks will increase the cost of moving goods otherwise transported by barge on the diversion waterway by over \$190 million a year. Dr. Taylor notes that this number was obtained by assuming that such goods otherwise transported by barge to or from Chicago to

Louisiana would now be transported that entire distance by rail or truck. (Mich. App. II. 49a.) Dr. Taylor takes the more rational approach of assuming that alternate means would be necessary only to transfer the goods *around* the closed lock or other barrier.¹⁶ Under this scenario, goods coming from Louisiana would travel as they normally do up the Mississippi River by barge until they come to the barrier in the Chicago area. They would then be transferred to another mode of transportation, such as truck or train, for movement to their destination. For goods travelling from the Great Lakes to Louisiana, the reverse process would pertain so that the bulk of the transportation would occur by barge.¹⁷ (Mich. App. II. 44a-45a.) And while this interruption of course adds cost to the transport of the goods, Dr. Taylor conservatively estimates that it is in the range of only \$70 million, not \$190 million. (Mich. App. II. 43a-44a.) This cost is insignificant when compared to the overall Chicago annual economy valued at \$521 billion. (Mich. App. II. 49a.) It is also insignificant when compared to the \$7 billion annual Great Lakes sport fishery that could be decimated should Asian carp become established in those lakes and their connecting waterways.

Another fallacy promoted by the Corps and Defendants is that closing the locks would cost jobs. (U.S. App. 73a; Ill. Mem. p. 49.) In fact, as explained by Dr. Lodge, the extra work of transferring freight around the barrier would create additional jobs

¹⁶ Dr. Taylor's report assumes that some barrier will disconnect the diversion waterway from Lake Michigan in the general area of the locks. (Mich. App. II. 36a.) For purposes of this motion, it does not matter whether the barrier is the actual closure of the locks or some independent barrier.

¹⁷ To the extent the Corps and Defendants base their claims of increased costs on the assumption that the Lockport Lock on the southwest arm of the diversion waterway would be closed, their claims are entirely baseless. Nowhere has Michigan asked or even suggested that the Lockport Lock be closed. This action only seeks closure of the O'Brien Locks and the Chicago Controlling Works Locks. And, as clarified herein, Michigan's request does not seek to minimize water levels in the waterway.

in the Chicago area. (Mich. App. II. 51a-52a.) This makes complete sense. There is no dispute that costs of transportation will go up. It is only logical that some of those costs will be the result of having to employ additional people in the transportation chain. While the nature of area jobs may change, the net effect will be an increase in work. (Mich. App. II. 51a-52a.)

Nor will a lock closure cause significant adverse environmental effects in the way of increased pollution created by trucks and trains transporting freight overland. As stated earlier, there will be a minimal increase in the use of trucks and trains, limited to moving goods around the barrier. Dr. Taylor found:

- 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. (Mich. App. II. 24a.)

The governments' calculations showing increased pollution are unrealistically based on using overland transportation for the entire trip between Chicago and Louisiana. (Mich. App. II. 44a-45a.) This is not supportable.

Dr. Taylor points out other reasons why it is fallacious to predict doom merely because the locks are closed. It is indisputable that much of the cost savings associated with the use of inland waterways such as the diversion waterway result from

government subsidization of the waterway system. (Mich. App. II. 45a-46a.) Thus, even if private shippers save some money by selecting transportation by barge instead of by truck or rail, there is little or no savings to the overall economy that pays for it through the use of tax dollars to maintain and operate the waterways. (Mich. App. II. 45a-46a.) Moreover, closing the locks now may only be advancing the day when the waterways are not used commercially. The numbers clearly evidence a distinct decline in the amount of freight transported by barge. (Mich. App. II. 49a-51a.) For example, the amount of freight moved through the O'Brien Locks declined 45 percent from 1994 to 2007. (Mich. App. II. 49a-50a.)

Dr. Taylor summarized his findings as follows:

In sum, waterway closure at the Chicago and O'Brien Locks would have a localized impact on already declining commercial cargo traffic that comprises only a tiny fraction of economic activity in the metropolitan Chicago area. The conservatively estimated additional transportation and logistical costs of shifting a portion of the existing barge traffic to other modes of transportation along a small portion of its route is far less than that suggested by the Corps and Illinois, and is orders of magnitude less than the estimated economic impact of sport and commercial fishing in the Great Lakes. (Mich. App. II. 26a.)

The United States and Illinois have also suggested that Michigan's request to temporarily close the O'Brien and Chicago Locks should be denied because it would adversely affect the operation of commercial tour boats and private recreational boats. But, once again, the federal government and Illinois appear to overstate the nature of those impacts and their relative weight in the context of Michigan's request for interim relief.

Illinois filed a declaration from John Groundwater, Director of the National Association of Passenger Vessel Owners, Inc., a Maryland non-profit corporation. (Ill. App. 62a.) Mr. Groundwater asserts that his association represents seven Chicago area tour boat companies that will be harmed if the Chicago Locks are closed (there is no harm alleged from closing the O'Brien Locks), because their business is "dependent" on "Lake-to-River and River-to-Lake" excursions. (Ill. App. 64a.) He asserts that these boats are docked both "inside and outside of the Chicago River Lock." (Ill. App. 66a.) He does not describe the excursions, but presumably some are in the river system, some are Lake Michigan shoreline sightseeing tours, and some may combine tours of both.¹⁸ Michigan's proposed injunction would not affect tour boat operations within the waterway system. It is certainly true that closing the Chicago Lock will be inconvenient for some of these tour boats owners, to the extent, if any, that their existing operations regularly transit the Chicago Lock. But, based on Mr. Groundwater's representation that these boats are docked on both sides of the lock, it is reasonable to assume that, with some logistical maneuvering, these operators could arrange to conduct river tours from boats docked in the river, and shoreline tours from boats docked at locations in Lake Michigan.

The United States, through the declaration of Colonel Vincent Quarles, has asserted that in 2008 an estimated 43,000 recreation vessels transited Chicago Lock and 19,000 transited O'Brien Lock. (U.S. App. 73a.) However, Dr. Taylor, who relied upon publicly available information from the Corps' own Navigation Data Center,

¹⁸ See, e.g., http://www.chicagotraveler.com/boat_tours.htm.

reports considerably lower recreational vessel usage: in 2008, 23,886 recreational vessels transited the Chicago Lock and 15,184 transited O'Brien Lock. (Mich. App. II. 38a-39a.) 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. (Mich. App. II. 38a.)

In any event, it is reasonable to assume that most, if not all pleasure boat traffic occurs in the warm-weather season. Presumably, the use of the locks by a large segment of these boaters occurs in spring and fall when boats are moved out of and into winter storage, on land, at locations inland from the locks. Such boats, which routinely are removed from and returned to the water on a seasonal basis at those storage locations could alternatively be transported to lakeside locations, bypassing the locks. Many pleasure boats can be, and routinely are, transported by trailer. Other pleasure craft that during the boating season wish to transit the locks on a daily basis may face inconvenience, decisions about possible relocation, and additional expense.¹⁹ Colonel Quarles preliminarily estimated \$700,000 in recreational impacts would result from closure of the O'Brien and Chicago Locks. (U.S. App. 74a.) Such inconvenience and potential cost impacts cannot reasonably be considered to outweigh the potential injury caused by Asian carp in the Great Lakes.

When viewed in the proper context, closing these two locks on a temporary basis to protect the Great Lakes from Asian carp is not even a close call.

¹⁹ Dr. Taylor noted that it may ultimately be possible to move some of these boats around the lock through various mechanical means. (Mich. App. II. 36a.)

Besides the disparity in dollars between any harm to the Chicago economy and the harm to the economies of all the other Great Lakes states and provinces, as noted in Michigan's initial motion, any injury from closing the locks will be temporary. It will end when alternate means of transportation are engaged or when some other effective mechanism to protect the Great Lakes from Asian carp is put into place. There would no doubt be economic injury, but the damage will be finite, and will be miniscule in comparison to the economic harm caused should the carp enter the Great Lakes. Weighing the undisputed fact that the scope of the potential injury to Michigan is immense if nothing is done to prevent the carp from entering the Great Lakes, against a short-term economic harm to barge and recreational boating traffic, the balance tips decidedly in favor of Michigan.²⁰

C. 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.²¹ Where such public policy is identified by Congress in specific statutes, it is given great weight by federal courts considering whether or not to grant

²⁰ The United States and the Defendants have advanced a variety of other rationalizations for their opposition to the interim relief Michigan seeks. Michigan has sought to focus on their primary arguments. Merely because Michigan does not expressly dispute each claim raised by the United States and Defendants, however, does not mean that Michigan concedes they are valid.

²¹ 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.

a preliminary injunction.²² Courts are likewise more apt to grant motions for injunctive relief when the interests furthered are broad public interests (the economic, recreational, and safety interests of the citizens of seven other states and two Canadian provinces) as opposed to private interests (primarily local businesses and their employees).²³

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.

D. Michigan is likely to succeed.

The final factor for consideration is the likelihood that Michigan will succeed on the merits of its action. In a nutshell, in its Motion to Reopen and for Supplemental Decree, Petition, and supporting Brief, Michigan has presented two avenues by which the Court can grant it the relief it seeks for the protection of the Great Lakes: 1) Reopening Nos. 1, 2, and 3, Original, pursuant to the Court's retained jurisdiction under paragraph 7 of the Decree, to consider Michigan's Petition for Supplemental Decree, and the claims stated in the Petition, and enter a supplemental decree declaring that Defendants and the Intervenor's operation of the diversion constitutes a common law public nuisance and is otherwise contrary to law; and 2) In the

²² *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.")

²³ *Yakus v. United States*, 321 U.S. 414, 441 (1944), quoting *Virginian Ry. Co. v. System Federation*, 300 U.S. 515, 552 (1937).

alternative, proceeding under the Court's original and exclusive jurisdiction under 28 U.S.C. § 1251(a).

The legal and factual grounds supporting these claims are set forth in detail both in Michigan's Motion to Reopen and for Supplemental Decree, Petition, and supporting Brief and in its initial Motion for Preliminary Injunction. Michigan respectfully refers the Court generally to those filings.

Michigan does wish, however, to address one point being made by Defendants and the Corps regarding this Court's authority to entertain this action. Defendants and the Corps assert that the State of Illinois is not a necessary party to this lawsuit. (see, e.g., U.S. Mem. pp. 33-34). Briefly stated, they argue that Michigan's request for relief seeks no action from Illinois (U.S. Mem. pp. 32-34), and that this proves that Illinois is not a necessary party. There are several reasons why Illinois is a necessary party to this action,²⁴ including the fact that certain discrete aspects of the relief requested by Michigan can only be obtained from Illinois. Specifically, in its initial Motion for Preliminary Injunction, Michigan asked Defendants, including Illinois to "immediately take all available measures within their respective control . . . to prevent the migration of bighead and silver carp into Lake Michigan, including, but not necessarily limited to . . . Eradicating any bighead or silver carp discovered in these waters." (Mich. Motion pp. 28-29.) In its Renewed Motion, Michigan similarly asks the Court to require Defendants to block the passage of, capture, or kill bighead and silver carp in the waterway. This aspect of the request for relief is particularly

²⁴ Fully addressed in Michigan's Motion to Reopen and for Supplemental Decree, Petition, and supporting Brief.

important now given that some of the carp are on the lakeward side of the locks and will not be impacted by a closure of those locks. Michigan is asking that these fish be destroyed and the only entity that has that authority is, by its own law, the State of Illinois:

The ownership of and title to all aquatic life within the boundaries of the State, are hereby declared to be in the State, and no aquatic life shall be taken or killed, in any manner or at any time, unless the person or persons so taking or killing the aquatic life shall consent that the title to the aquatic life shall be and remain in the State for the purpose of regulating the taking, killing, possession, use, sale, and transportation of aquatic life after taking or killing, as set forth in this Code.²⁵

Michigan does not care if Illinois eradicates these Asian carp under its control by netting, electrocuting, poisoning or other means so long as they are effective. But it does reasonably ask here that any Asian carp that cannot be physically prevented from entering the Great Lakes be destroyed. This is primarily Illinois' prerogative and responsibility. The argument that Illinois is not a necessary party has no merit.

In any event, given the indisputable evidence that irreparable injury will occur if the carp become established in the Great Lakes, coupled with the recent admissions that Asian carp eDNA has been discovered in Lake Michigan, the risk factor here is so strong that even a modest showing on the likelihood of success factor should be sufficient to support entry of the requested temporary injunctive relief.

Thus, based on a careful weighing of the four factors, Michigan's Renewed Motion for Preliminary Injunction should be granted.

²⁵ 515 ILCS 5/5-5. Illinois law makes it clear that all fish within Illinois borders belongs to the state. See 515 ILCS 5/1-20; 515 ILCS 5/5-10.

CONCLUSION AND RELIEF REQUESTED

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

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

- (a) Temporarily closing and ceasing operation of the locks at the O'Brien Lock and Dam and the Chicago Controlling Works except as needed to protect public health and safety.
- (b) Immediately using the best available methods to block the passage of, capture or kill bighead and silver carp that may be present in the waterway, especially in those areas north of the dispersal barrier system in a manner that protects public health and safety.
- (c) Temporarily operating the sluice gates at the O'Brien Lock and Dam, the Chicago Controlling Works, and the Wilmette Pumping Station in a manner that will not allow fish to pass those structures into Lake Michigan except as needed to protect public health or safety.
- (d) Immediately installing and maintaining interim barriers or structures 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.

In the event the Court determines that disposition of Michigan's Renewed Motion necessitates an evidentiary hearing, Michigan respectfully requests that the Court appoint a special master to conduct such a proceeding as expeditiously as possible and make recommendations to this Court.

Respectfully submitted,

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