

# **Northern Illinois Hydropower, L.L.C.**

## **401 Water Quality Certification**

Responsiveness Summary

Regarding

July 2, 2014 Public Hearing

Illinois Environmental Protection Agency

Office of Community Relations

January 29, 2015



**Northern Illinois Hydropower, L.L.C.**  
**401 Water Quality Certification---Responsiveness Summary**

**Table of Contents**

<b>Illinois EPA Permit Decision .....</b>	<b>3</b>
<b>Pre-hearing Public Outreach.....</b>	<b>3</b>
<b>Public Hearing of July 2, 2014 .....</b>	<b>4</b>
<b>Background of Northern Illinois Hydropower, L.L.C .....</b>	<b>5</b>
<b>Responses to Comments, Questions and Concerns</b>	
<b>Antidegradation Assessment.....</b>	<b>6</b>
<b>Structure/Habitat Concerns.....</b>	<b>10</b>
<b>Acronyms and Initials.....</b>	<b>15</b>
<b>Distribution of Responsiveness Summary.....</b>	<b>16</b>
<b>Who to Contact for Answers.....</b>	<b>16</b>

**Final January 29, 2015**

## **Northern Illinois Hydropower, L.L.C.**

401 Water Quality Certification

IEPA Log Nos. C-0408-08

### **Illinois EPA Decision**

The Illinois Environmental Protection Agency (Illinois EPA) has made a final decision to issue a 401 Water Quality Certification to Northern Illinois Hydropower, L.L.C. (NIH).

The Illinois EPA made this determination in accordance with 35 Illinois Administrative Code (Ill. Adm. Code), Subtitle C (*Water Pollution*), the Illinois Environmental Protection Act (Act), and the federal Clean Water Act (CWA). The 401 certification process is governed by the provisions of 35 Ill. Adm. Code Part 395, *Procedures and Criteria for Certification of Applications for Federal Permits or Licenses for Discharges into Waters of the State*, which can be obtained online at <http://www.ipcb.state.il.us/documents/dsweb/Get/Document-12064/>.

### **PRE HEARING PUBLIC OUTREACH**

The 401 Water Quality Certification hearing notice was published in *The Herald News* on June 1, 8 and 14, 2014.

The hearing notice was mailed or e-mailed to:

- a) Will County officials;
- b) Municipal officials in Joliet as well as state and federal representatives;
- c) US Corps of Engineers (USACE), the Illinois Attorney General;
- d) Illinois Chapter of the Sierra Club, Prairie Rivers Network, and Openlands (hearing requestors); and
- e) Those who have requested to be notified of Bureau of Water hearings.

The hearing notice was posted on the Illinois EPA website:

<http://www.epa.state.il.us/public-notices/2014/northern-il-hydropower/hearing-notice.pdf>

Hearing notices were posted at the Illinois EPA headquarters in Springfield.

## **July 2, 2014 PUBLIC HEARING**

Hearing Officer Dean Studer opened the hearing July 2, 2014, at 6:30 p.m. at the Weitendorf Agricultural Education Center, Joliet Junior College.

### **Facility Presentation**

Damon Zdunich, Northern Illinois Hydropower

### **Illinois EPA Presentations:**

Keith Runge, Permit Engineer in the Permit Section, Division of Water Pollution Control, provided a brief presentation regarding the 401 certification process and the application.

### **Illinois EPA Hearing Panel:**

Keith Runge, Permit Section, Division of Water Pollution Control  
Bob Mosher, Standards Section, Division of Water Pollution Control  
Sara Terranova, Assistant Counsel, Division of Legal Counsel  
Dean Studer, Agency Hearing Officer

Comments and questions were received from the audience.

Hearing Officer Dean Studer closed the hearing at 7:30 p.m. on July 2, 2014.

Illinois EPA personnel were available before, during, and after the hearing to meet with elected officials, news media, and concerned citizens.

Approximately 10 persons representing environmental groups, interested citizens, and NIH participated at and/or attended the hearing. A court reporter prepared a transcript of the public hearing which was posted on the Illinois EPA website at <http://www.epa.state.il.us/public-notice/2014/northern-il-hydropower/hearing-transcript.pdf>.

The hearing record remained open through August 1, 2014.

## **BACKGROUND OF Northern Illinois Hydropower, L.L.C. 401 Water Quality Certification**

On August 11, 2009, the Illinois EPA Bureau of Water received an application for a Section 401 Water Quality Certification (Log. No. C-0408-08) for discharge of dredge and fill material associated with construction of a hydropower facility into waters of the United States associated with a Section 404 permit application. The address of the applicant is Northern Illinois Hydropower, L.L.C., 801 Oakland Avenue, Joliet, Illinois 60435.

The applicant has applied for Section 401 Water Quality Certification for impacts associated with the construction of a new powerhouse at the Brandon Road Lock and Dam at Des Plaines River mile 286 in Will County, Illinois. The applicant is proposing to install four turbine/generator units in the power station. The design will comply with requirements set forth by Illinois Department of Natural Resources (IDNR) and Illinois EPA for a two-inch trash rack spacing, an approach velocity of 1.5 feet per second, and a range of flows that are in excess of the first 1000 cubic feet per second (cfs) available in the Des Plaines River. The project will be operated as a “run of the river” facility and pose no effect to the USACE operation of the lock and dam. The powerhouse will be controlled with an automated system that would automatically start-up, run, and shut down the turbines. The automated system would allow the USACE to modify hydroelectric operations instantaneously in response to emergencies related to lock operation or flood control. All materials will be removed from the floodway at the end of the project.

March 6, 2014, the Illinois EPA made a tentative determination to issue the Section 401 Water Quality Certification in accordance with 35 Ill. Adm. Code Subtitle C (*Water Pollution*), the Act and the CWA. The 401 certification process is governed by the provisions of 35 Ill. Adm. Code Part 395, *Procedures and Criteria for Certification of Applications for Federal Permits or Licenses for Discharges into Waters of the State*, which can be obtained online at <http://www.ipcb.state.il.us/documents/dsweb/Get/Document-12064/>.

## **Responses to Comments, Questions and Concerns**

Comments, Questions and Concerns in regular text  
**Illinois EPA responses in bold text**

### **Antidegradation Assessment/Water Quality Standards**

1. We are concerned with the dissolved oxygen (DO) levels in what's called the Upper Dresden Pool. With regard to the DO question, what we saw in the information we had is not very comforting, because we know that the upper Dresden Highland Pool, and the pool immediately above called the Brandon Pool, often or sometimes suffer from low levels. The data that we were given was the decrease in DO would be no greater than 0.7 milligrams per liter and 1.8 milligrams per liter. The standard is 4 milligrams per liter, or 3.5 milligrams per liter is what we're looking at. When compared to the standard, 1.8 is a great deal. Northern Illinois Hydropower should be required to perform continuous DO monitoring upstream and downstream of the dam. Will there be monitoring below the dam and where will the monitoring be located? Downstream monitoring site should be chosen based on early morning monitoring to determine downstream spot where a DO sag occurs.

**The Water Quality Certification prohibits NIH from causing or contributing to water quality standards violations. NIH is required to monitor and identify the potential reduction in downstream DO when the turbines operate. NIH would use this information to modify turbine operating flows and schedules to avoid DO violations in the Dresden Pool. The Water Quality Certification also contains monitoring requirements that will provide NIH and the Illinois EPA with data from the I-55 bridge to verify DO conditions. NIH will use both upstream and downstream monitoring data and the modeling information to assure that the hydropower plant operation does not cause DO Water Quality Standard violations.**

**The applicant shall conduct DO monitoring from representative monitoring points or samples taken in the Des Plaines River according to the following:**

- i) **Monitoring shall occur April thru October and when the river flow rate is less than 12,000 cfs.**
- ii) **Daily monitoring shall be conducted at the following three locations:**
  - 1) **In or downstream of the powerhouse tailrace;**
  - 2) **Upstream of the Brandon Road Lock and Dam and the intake channel to the turbines in the Brandon Road Pool; and**
  - 3) **Downstream of the powerhouse at the I-55 bridge.**

**Monitoring shall be completed at mid-depth elevations. Monitoring shall be continuous (once per hour) representing the daily minimum and mean DO concentrations.**

2. It is not clear to us how this is going to mesh with the endangered or with the work to prevent the invasive species. We would hope and expect there would be conditions in the 401 certification saying, "We are certifying this on the following conditions," such as maintaining the 1,000 cfs and things like that. Can the Illinois EPA speak to that possible language that will be in the certification?

**A condition is included in the Section 401 Water Quality Certification that requires the applicant to operate the hydroelectric powerhouse facility such that at least 1,000 cubic feet per second (cfs) of flow will be maintained over the Brandon Road Lock and Dam.**

3. How has the Illinois EPA considered potential impacts of this project on the movement of the invasive species?

**Illinois EPA is aware that plans for installation of facilities at Brandon Road Dam to prevent Asian carp from entering Lake Michigan are under consideration. The plans to develop a barrier to upstream movement of Asian carp are not developed at this time. Therefore, it is not known how this NIH project will affect development of the Asian carp barrier. When the turbines are not being used, the headgates will be closed, thereby denying upstream movement of the carp. When the turbines are operating the velocity of the water coming out of the turbine will be approximately 6 feet per second. This project does not involve the locks at the Brandon Road Dam. Asian carp may now be able to progress upstream through these locks. At such time that an authority makes a decision as to how Asian carp will be blocked from progressing further upstream, the NIH project may be subject to that authority and may have to modify the hydropower project to accommodate whatever the authority deems necessary.**

4. There is an expectation that dissolved oxygen standards will become more stringent, as the result of use of the attainability analysis proceeding now before the Illinois Pollution Control Board. Has the Illinois EPA examined whether this project might cause or contribute to a violation the new standard?

**As stated in the response to Comment #1, the Water Quality Certification dictates that that NIH may not cause or contribute to water quality violations. This prohibition will be in force regardless of the status of DO Water Quality Standards for the river reach from the I-55 Bridge to Brandon Road dam, which is the reach that has standards that may soon change. NIH must collect river DO data to be able to anticipate river DO conditions and adjust operation of the turbines accordingly. When DO standards change for the river, NIH must make the appropriate adjustment in operations to assure that the new Water Quality Standards are achieved in the river.**

5. Data in the record indicates that dissolved oxygen violations, and potentially even super saturation, which indicates violations of water quality standards and potential violations of the Illinois EPA's proposed amendments to the effective Standard 302.203, and that is

occurring now before the facilities are built. Could you give some additional clarification on that?

**Illinois EPA conducts an assessment of many rivers and streams in Illinois every two years as part of the Illinois Water Quality Report and 303(d) List. This includes the lower Des Plaines River and upper Illinois River where the Dresden Pool is located. In the draft 2014 publication of these assessments, all of the stream segments in the Dresden Pool were fully supportive of Aquatic Life Uses. Water quality data, such as DO measurements, are used to evaluate use support in some of these segments and macroinvertebrate data is used in others. DO data used for the assessments included Illinois EPA collected data and data from the Metropolitan Water Reclamation District of Greater Chicago (MWRDGC) and Midwest Generation. Monitoring data from MWRDGC and Midwest Generation included some violations of either the Secondary Contact and Indigenous Aquatic Life or the General Use water quality standards, as appropriate to the location. The incidence of these violations was considered not to be significant to the overall well-being of the segments, hence the fully supporting conclusions. The protocol for determining whether fully supporting conditions exist in water bodies is explained in the Illinois Integrated Water Quality Report and Section 303 (d) List (<http://www.epa.state.il.us/water/tmdl/303-appendix/2014/iwq-report-surface-water.pdf>).**

6. Brandon Road DO Assessment Study Plan (Kleinschmidt, January 2014) - In the calculation performed to model impacts on dissolved oxygen (DO), low (2.6 mg/L) and high (11 mg/L) DO values were dismissed as outliers and not included in the analysis. To not include these values that are indicative of the extremes in DO that occur in the Lower Des Plaines River underplays the impacts of the hydropower project on DO levels at the extremes. The lowest levels of DO are those that are of most concern. In addition, evidence of super saturation (during daylight hours) indicates a likelihood of critically low DO levels at night. Why weren't these values included? Why was the analysis starting with a 5 mg/L upstream concentration when it should have been done starting as low as 2.6 mg/L, a measured upstream value?

**NIH may not cause or contribute to DO water quality standard violations in the Des Plaines River. Whenever the river is not in compliance with the DO water quality standard upstream at the Brandon Road Dam, the station must shut down operations to allow water to pass through the turbines to alleviate the low DO condition downstream. When the upstream river meets or exceeds the DO water quality standard, NIH must use the knowledge gained through previous modeling as well as information from its downstream DO monitoring to determine whether its operations will cause DO in the Dresden Pool to fail to meet the water quality standard. NIH must shut down operations when there is an indication that DO standards will not be met downstream.**

**NIH must monitor DO in the Des Plaines River such that any diurnal low DO will be known and operations of the turbines will be adjusted accordingly. DO water quality standards in the Des Plaines River upstream of I-55 are proposed to be raised in a current Illinois Pollution Control Board (IPCB) rulemaking. At times, the most**



**stringent DO water quality standard applicable to the downstream area from the turbines will be 5 mg/L, hence the use of this value when modeling potential impacts to DO.**

7. The Public Notice does not indicate that Illinois EPA has considered the effect the proposed project will have on the Upper Dresden Pool (UDP) should its uses be re-designated pursuant to the Chicago Area Waterways use attainability Rivers letter.

**Since the hydropower project must always allow the DO water quality standard to be met downstream, the 401 Water Quality Certification will be effective in requiring the plant to operate responsibly regardless of the status of water quality standards of the upper pool. Meeting the proposed DO water quality standards for the re-designated portion of the upper pool will allow future proposed uses of the segment to be met.**

8. According to the Public Notice, DO decrease will be “no greater than 0.7 mg/L to 1.8 mg/L.” How can this be considered insignificant given that DO standard during part of the year may be just 3.5 mg/L? Has any calculation been made of how many violations of DO standards may be caused by such a decrease? In what area would the decrease occur? And how will this impact the specific aquatic life uses in the Lower Des Plaines River? For example, what aquatic life uses were found to exist in the R08-09 proceeding, and to what extent would the different projected levels of DO harm those uses?

**The predicted reduction in DO in the Dresden Pool from the model does not represent conditions that will always occur, but rather the maximum predicted extent of the reduced DO conditions that may at times be present. DO reduction due to the operation of the turbines is limited by the prohibition against causing or contributing to DO violations of water quality standards. Therefore, there should be no violations of DO water quality standard because of the hydropower plant and therefore no adverse impacts to aquatic life will occur.**

**Also, see response to comments # 1 & 4.**

9. The Public Notice also states that “available data indicate that current water quality standards are met below the Brandon Road Lock and Dam virtually all of the time. (Illinois EPA March 6, 2014 Public Notice, p.3) What analysis has been done in consideration of the new water quality standards proposed in R08-09? More critically, what “available data” does Illinois EPA have? We are only aware of continuous DO data being taken well above the project area by MWRD[GC] at Lockport and well below the project area by MWG at the I-55 Bridge, and we have recently discovered serious issues with the reliability of both of those sources of data. DO grab samples, particularly samples taken during daytime hours, are completely inadequate to determine DO levels that may be present in the water body before dawn due to the very high nutrient levels present in the lower Des Plaines.

**The Illinois EPA evaluated continuous DO data from the Midwest Generation data at I-55, MWRDGC data in Joliet (MWRDGC 93), and data taken by the applicant in 2008 and 2009. The applicant collected continuously at twenty minute intervals; upstream DO data in October and November of 2008 and upstream and downstream DO data**

from May 21 to October 2 of 2009. Based on the Midwest Generation data at I-55 and the data collected downstream of the Brandon Road Lock and Dam by the consultant, the current water quality standards are being met and the proposed water quality standards (R08-09) will be met also. In addition, the permit will have a condition requiring the facility to conduct monitoring upstream and downstream of the dam and to modify operations of the hydropower plant as needed to meet the water quality standards. See response to comment 1 for specifics on the monitoring requirements.

10. Joint Application-Protecting Illinois Waters, Brandon Road Hydroelectric Project (FERC No. 12717) Kleinschmidt, November 2013 - From the information provided in this report, it is unclear at what times of day dissolved oxygen data were collected. He reported minimum DO level of 8.1 mg/L downstream of the dam and 5.6 mg/L upstream of the dam certainly do not conform with the continuous DO data provided in the January 2014 Kleinschmidt report. Please explain this discrepancy.

The November 2013 application does not include all of the water quality analyses conducted by NIH. However, that information is contained within the December 2009 Brandon Road Hydroelectric Project Water Quality Study submitted to the Illinois EPA and the FERC in January 2014. Water quality data were collected from October 2 through November 11, 2008 and May 21 through October 2, 2009. Generally, data were collected continuously at 20 minute intervals for the period of record except for short data gaps caused by vandalism, high water, or equipment failure. The initial November 2013 application includes only the data collected during October of 2008.

### **Structure/Habitat Concerns**

11. What kind of structure is going in? What is there now that will not be there as a result of this project? I don't see any sort of engineering drawings or things, and we would like to see something like that, because the key thing is that right now, that habitat immediately in the Brandon Road tail waters is very important. If you go out there, there are a lot of birds there. We've done a lot of work there. He has done work on the habitat there. I think we can all confirm that this is one of the best parts of habitat in the entire system. So, where are you going to put the concrete in relation to the habitat in the area?

**NIH will work with IDNR to use clean rock excavated from the construction of the tailrace to create habitat below the tailrace similar to the habitat lost to create the tailrace.**

**See attachments 1 & 2 for structures to be constructed below the dam.**

12. The type of turbine installed can make a significant difference on the degree of damage suffered by fish and American eels, which is likely be listed by the state as a threatened species by the end of this year. American eel populations are a species of concern because

they are in steep decline. Specimens of American eel have been collected upstream of Brandon, as far as Salt Creek, and are likely within the project area.

The change in pressure from turbines is known to cause barotrauma, and the turbine blades can chop up fish. The Illinois EPA should require use of technology like the Kaplan turbine and screw-type turbines, which when installed correctly with room for fish to pass underneath, can reduce impacts to aquatic life. Other technologies that employ a vertical drop can pose much greater problems for fish and other species. Plant operation should be restricted during dark stormy nights, as the American eel only migrates during these conditions.

**The project is designed with horizontal Kaplan turbines. Water flow rates will make upstream passage of aquatic life virtually impossible and if the system is not operating the tube gates will be closed. Downstream passage will be inhibited by the 2-inch trash rack and if fish do get as far as the turbines, the applicant predicts that survival rates through the turbines of this type typically exceed 95%. The low head nature of the navigation dams or the turbines is unlikely to cause barotrauma.**

**Downstream passage, if any passage is occurring, can be through the locks or over the dam through the tainter gates. In addition, Illinois DNR requires NIH to design the turbine intake structure for velocities no greater than 1.5 feet per second. That velocity is well below the 'burst speed' (and even normal swimming speed) of most species and age classes of fish. Furthermore, eels, when migrating downstream, typically follow flow and water volume flow rates that are greatest. The bypass at 1,000 cfs will be greater than the turbine intake. These conditions provide the flow that attracts eels causing the eels to avoid the intakes and pass through the tainter gates.**

**Illinois DNR, as the agency responsible for managing threatened and endangered species, has not identified the American eel as a concern for this project.**

**Illinois DNR stated that the project was not likely to have adverse impacts on protected resources (including threatened and endangered species) and that the consultation was terminated in a letter dated December 13, 2013.**

13. We are also aware of proposals for add-on technology to be installed at the Lock and Dam to reduce the risk of the invasive bighead and silver carp moving upstream. This project should not be given the go-ahead to proceed without coordinating with the Army Corps of Engineers on any other construction that may be anticipated to occur at the Lock and Dam within the next ten years. Construction of all projects should be coordinated to minimize disturbance to the greatest extent possible. In addition, any impacts to this area of vital habitat, both temporary and long-term, should be mitigated with projects that can improve habitat in the Lower Des Plaines River. Steve Pescitelli, Illinois Dept. of Natural Resources fisheries biologist for this region, should be consulted to identify and develop suitable mitigation projects.

**NIH will work with IDNR to re-create habitat below the proposed tailrace. NIH is required to coordinate with the USACE regarding construction and operation of the hydropower facility at the Corp's Brandon Road Lock and Dam. The Corps is responsible for the dam, its operation, and any proposed modifications to the dam with regard to future plans to install facilities to restrict Asian Carp movement.**

**Also see response to comment # 3.**

14. The other major set of questions I had, how it might potentially affect habitat and tail water, what work is proposed, is some level of dredging proposed or something, in connection with the work that you are doing? What sort of heavy equipment will you have in the tail waters that might affect the habitat there?

**The dredging area above the dam will be isolated using silt curtains to minimize the amount of suspended solids transported from dredging. The dredge bucket will be cleaned in the barge after each bucket is deposited. The dredged material will be off loaded onto trucks and hauled to a landfill. The work done downstream will be conducted after the area is dewatered. Any equipment downstream will be in the dewatered area. The aquatic habitat will be temporarily affected by the dewatering and excavation from the dewatered area. See attachments 1 and 2 for drawings showing the construction project.**

15. So wherever it says here the alternative was rejected, I should understand that to mean that the Illinois EPA insisted on maintaining the 1,000 cfs as opposed to other dissolved oxygen measures that the applicant has suggested; is that correct?

**During discussions with NIH preceding the development of a proposed 401 Water Quality Certification, Illinois EPA and IDNR insisted that at least 1,000 cfs of spill (i.e., discharge over the dam) was necessary to preserve valuable aquatic life habitat below the dam. This minimum spill requirement has the added benefit of ensuring that some reaeration always occurs.**

16. "Evaluation of Potential Biological Impacts of Adding Hydroelectric Power Units to Two Dams on the Upper Illinois Waterway MBI", October 14, 2011 - We note, especially, that this report describes 'areas immediately downstream from the dams provide the "best" areas of physical habitat and are the closest to natural in form relative to the impoundments that characterize most of the UIW [Upper Illinois Waterway].' This raises concerns about construction of the proposed hydroelectric facilities in this area. Temporary and permanent impacts to critical habitat should not proceed without a detailed mitigation and restoration plan made available for public review and input. Illinois EPA Log No.: C-0408-08 FERC appl. #: P-12717

The report also states that, "The fact that the power stations are proposed only to be operated when DO would not violate WQS indicates that their operation will not impact water quality." In the other materials we have reviewed, we see no indication of any plans to use a measurement of DO as a decision-making factor in whether the hydroelectric facilities will be operated or not. Thus, we question the conclusion of this report. We are also concerned about the impingement and entrainment (I/E) that will occur at the proposed

facility. The MBI report cites a Kleinschmidt (2009) study that ~81,750 fish will be entrained annually at the proposed Brandon Road facility. No mention of I/E was contained in the Agency's Antidegradation Assessment. IEPA must evaluate alternatives that will minimize environmental degradation, including I/E 35 Ill. Adm. Code 302.105 f).

**Illinois EPA and Illinois DNR have worked with NIH to require trash racks with spacing of two inches between bars to prevent entrainment of fish. Illinois EPA and IDNR insisted that this project must always allow at least 1,000 cfs of spill in order to preserve aquatic life habitat below the opening and dam. NIH must operate the system such that the DO water quality standard is not violated in the river. Illinois EPA required NIH to conduct modeling and will require them to monitor the river for DO so that data will be available for NIH to make operational decisions that will protect river DO. NIH was required to design the intake for the turbines to comply with IDNR requirements for intake velocity of 1.5 feet per second or less at the trash rack/screens. NIH will work with IDNR to use clean rock removed from the construction of the tailrace and powerhouse to recreate habitat downstream of the dam. As the DO in the river drops or starts to get close to the DO standard the flow through the turbines will be decreased or stopped.**

17. We are very concerned with the potential for this project to adversely affect the good habitat found in the Brandon Lock & Dam tail waters. The type of turbine installed can make a significant difference on the degree of damage suffered by fish and American eels, which is likely to be listed by the state as a threatened species by the end of this year. American eel populations are a species of concern because they are in steep decline. Specimens of American eel have been collected upstream of Brandon, as far as Salt Creek, and are likely within the project area.

**At present, the easiest way for American eels to progress upstream or downstream of the Brandon dam is for them to pass through the locks. The design of the turbines will prevent American eels, as well as other fish, from moving upstream in this manner. Velocities are too great at the discharge for movement up into the draft tubes. Downstream movement (if any is occurring) of American eels should continue as before.**

**Also see response to comment # 11 and 12.**

18. There is much recent discussion underway about possible proposed modifications to be made to the Brandon Road Lock and Dam to prevent the transfer of aquatic invasive species, specifically the movement of big-head and silver carp upstream. Has the construction of the proposed new powerhouse at the dam been considered in concert with the other modification proposed for the lock and dam? Has Northern Illinois Hydropower or the Army Corps of Engineers performed any analysis on whether operation of the new powerhouse will facilitate or hinder the movement of big-head and silver carp upstream? While the powerhouse is under construction, will construction activities facilitate the movement of big-head and silver carp upstream?

**When work is being performed downstream, the area will be de-watered and work completed in the dry. Construction work upstream of the dam will be isolated from construction work downstream, therefore not causing any additional connections between the two sides of the dam during construction.**

**See response to comment #3.**

19. The public notice states that if permanent wetland impacts occur mitigation will be provided by the purchase of credits from an approved mitigation bank with the same 8-digit HUC unit or the Des Plaines River watershed. A project to restore habitat in the Des Plaines River near the I-55 bridge has been identified by the Illinois Department of Natural Resources, and there are a number of other projects that have been identified in the Hickory Creek watershed. Hickory Creek empties into the Des Plaines River at the location of the Brandon Road Lock and Dam. We request that any required mitigation occur within the Des Plaines River watershed within a 10 mile radius of the impacted area.

**If permanent wetland impacts occur the applicant has agreed to mitigate by purchasing credits from an approved mitigation bank with the same 8-digit HUC unit as the impacts or the Des Plaines River watershed. The Applicant will mitigate emergent herbaceous wetland impacts at a 1.5 to 1 ratio. The Applicant agreed and memorialized through an electronic mail dated December 30, 2013 that the forested wetland mitigation would be changed to a 2.5 to 1 ratio. The Agency has determined that the proposed mitigation is adequate to protect existing uses and meet the water quality standards.**

## Acronyms and Initials

401 WQC	401 Water Quality Certification
cfs	Cubic feet per second
CWA	Clean Water Act
DO	Dissolved oxygen
Ill. Adm. Code	Illinois Administrative Code
IDNR	Illinois Department of Natural Resources
Illinois EPA	Illinois Environmental Protection Agency
IPCB	Illinois Pollution Control Board
mg/L	Milligrams per liter
MWRDGC	Metropolitan Water Reclamation District of Greater Chicago
NIH	Northern Illinois Hydropower, LLC
NPDES	National Pollutant Discharge Elimination System
PE	Permit Engineer
Section 401	Section 401 of the Federal Clean Water Act
USACE	United States Army Corps of Engineers

## DISTRIBUTION OF RESPONSIVENESS SUMMARY

An announcement, that the 401 Water Quality Certification decision and accompanying Responsiveness Summary is available on the Illinois EPA website, was mailed or e-mailed to all who registered at the hearing or who sent in written comments. Printed copies of this Responsiveness Summary are available from Barb Lieberoff, Illinois EPA, Office of Community Relations, 217-524-3038, email: [barb.lieberoff@ilinois.gov](mailto:barb.lieberoff@ilinois.gov)

## WHO CAN ANSWER YOUR QUESTIONS

### Illinois EPA 401 Water Quality Certification:

Illinois EPA Technical Decisions:	Bob Mosher	217-558-2012
Antidegradation Assessment	Eric Runkel	217-558-2012
Mitigation Plans	Eric Runkel	217-558-2012
Structure/Habitat Concerns	Keith Runge	217-782-0610
Legal issues	Sara Terranova	217-782-5544
Public hearing of July 2, 2014	Dean Studer	217-558-8280

The public hearing notice, the hearing transcript, and the responsiveness summary are available on the Illinois EPA website (please copy this website and pasted into your web browser): <http://www.epa.illinois.gov/public-notices/section-401-notices/index#northern-il-hydropower>.