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BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

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STATE OF ILLINOIS
Pollution Control Board

PC#96

IN THE MATTER OF:)
)
PROPOSED AMENDMENTS TO)
DISSOLVED OXYGEN STANDARD)
35 ILL. ADM. CODE 302.206)
)
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)
)
)
)

R04-25
(Rulemaking - Water)

NOTICE OF FILING

TO: Ms. Dorothy M. Gunn
Clerk of the Board
Illinois Pollution Control Board
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(PERSONS ON ATTACHED SERVICE LIST)

PLEASE TAKE NOTICE that I have filed today with the Clerk of the Illinois Pollution Control Board an original and nine copies of the ILLINOIS DEPARTMENT OF NATURAL RESOURCES POST HEARING SUMMARY COMMENTS, ON THE ABOVE CAPTIONED MATTER, copies of which are herewith served upon you.

Respectfully submitted,

ILLINOIS DEPARTMENT OF
NATURAL RESOURCES.

By: Stanley Yonkauskis, Jr.
One of Its Attorneys

December 20, 2006

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ORIGINAL

CERTIFICATE OF SERVICE

I Stanley Yonkauski, Jr., the undersigned, certify that I have served a copy of the attached ILLINOIS DEPARTMENT OF NATURAL RESOURCES POST HEARING SUMMARY COMMENTS, upon:

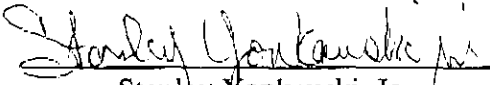
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Clerk of the Board
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100 West Randolph Street
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Chicago, Illinois 60601

in person

December 20, 2006; and upon

(SEE ATTACHED SERVICE LIST)

by depositing copies of said documents in the United States Mail in Springfield, Illinois on December 20, 2006.


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BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:)
)
PROPOSED AMENDMENTS TO)
DISSOLVED OXYGEN STANDARD)
35 ILL. ADM. CODE 302.206) R04-25
) (Rulemaking – Water)
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ILLINOIS DEPARTMENT OF NATURAL RESOURCES
POST HEARING SUMMARY COMMENTS

OVERVIEW

The Illinois Department of Natural Resources (Illinois DNR) agrees with testimony provided throughout this proceeding for the need to amend the existing Dissolved Oxygen water quality standard contained within 35 Ill. Adm. Code 302.206.

The existing standard inadequately accounts for the varied dissolved oxygen requirements of aquatic life, and inadequately accounts for how dissolved oxygen concentrations vary across a broad range of natural aquatic conditions throughout Illinois (Exhibit #23: Illinois EPA and Illinois DNR Technical Support Document, Mar. 31, 2006, page 1).

However the Illinois DNR and the Illinois Environmental Protection Agency (IEPA) do not believe the Illinois Association of Wastewater Agencies (IAWA) proposed revisions before the IPCB are adequate. Testimony by Mr. Streicher (page 2 of pre-filed testimony for the November 2006 hearing) stated that IAWA's goals for developing their proposal were to have a "DO regulation that met a few crucial criteria:

- A. *That it represents accurately what is expected in the least impaired waters of the state;*

- B. *That the design of the rule be both enforceable by the IEPA and be protective of all life stages of all vertebrate and invertebrate life found in the surface waters of Illinois;*
- C. *And that it has the fundamental strength of being based on good science."*

In our opinion, the IAWA proposal is not adequate because it fails to protect for species more sensitive to low dissolved oxygen than channel catfish and largemouth bass; fails to provide adequate protection for early life stages; does not address the range of waters contained in the General Use category; and, inadequately protects for long-term chronic effects of low dissolved oxygen. For these reasons, the Illinois DNR became involved in this proceeding because State law provides that the Department owns all aquatic life within our state boundaries and is specifically responsible for regulating and managing these natural resources.

After the August 25, 2005 hearing, the Illinois DNR and Illinois EPA jointly developed a set of recommendations to address these shortcomings. As a result, joint recommendations contained critical enhancements to the original IAWA petition in four major areas by including: (1) two levels of numeric standards for protection of identified dissolved oxygen sensitive organisms in Illinois; (2) an additional 30-day period necessary to protect early life stages of fish; (3) a narrative standard for waters that naturally cannot achieve consistently higher levels of dissolved oxygen such as wetlands, sloughs, river backwaters, and lakes and reservoirs below the thermocline, and; (4) the addition of the 30-day chronic standards consistent with the USEPA National Criteria Document applicable to both levels of numeric standards for dissolved oxygen.

The Illinois Association of Wastewater Agencies (IAWA), through subsequent testimony, has generally accepted recommendations # 3 (narrative standard) and # 4 (30-day chronic from USEPA NCD) listed above. The remaining differences between the IAWA petition (as proposed originally on April 19, 2004 and through subsequent testimony as part of this proceeding) and the joint recommendations provided by the Illinois DNR and Illinois EPA, consist of the two levels of numeric standards for protection of identified dissolved oxygen sensitive organisms (recommendation #1 above) and the additional 30-day period (to July 31) necessary to protect early life stages of fish (recommendation #2 above). The Illinois DNR believes a review of the

record will show that extensive statewide biological data and scientific literature contained in Exhibit #23, as well as direct testimony provided by the Illinois DNR and Illinois EPA, fully supports all of these recommendations. In contrast, the Illinois DNR believes the IAWA position fails to adequately protect for known dissolved oxygen sensitive organisms, and early life stages of fish required by the USEPA National Criteria Document (NCD).

Protecting Illinois Aquatic Species Sensitive to Dissolved Oxygen:

The USEPA National Criteria Document (1986), also Exhibit #2, accounts for differences in dissolved oxygen sensitivity among types of fish and macroinvertebrates by providing two different levels of DO criteria. The Illinois DNR and Illinois EPA recommendation for two levels of numeric standards for dissolved oxygen is based on this sound, scientific foundation. Illinois DNR and Illinois EPA reviewed available scientific literature since 1986 related specifically to the DO tolerance of many types of fish and macroinvertebrates that inhabit Illinois waters. Based on the literature and staff expertise, we selected a set of species more sensitive to low DO than those protected by the IAWA proposal (Exhibit # 23, pages 10 – 21). We then established a detailed process for selecting threshold values for each biological measure to determine what constituted a meaningful amount of DO sensitive organisms at a site (Table 5 in Exhibit # 23). These threshold values were applied to statewide biological databases managed by Illinois DNR and Illinois EPA. The extrapolation of site-based analytical results to identify specific stream segments requiring enhanced dissolved oxygen protection was conducted using state-of-the-art Geographical Information Systems, or GIS technology (Exhibit #23, pages 38 – 45). The Illinois DNR believes a review of this record will show that recommendations for protecting Illinois aquatic species sensitive to dissolved oxygen is based on sound and appropriate biological data collected statewide. The Illinois DNR disagrees with opinions expressed by IAWA in testimony that the process for developing the joint Illinois DNR and Illinois EPA recommendations was arbitrary.

IAWA's proposal also fails to provide adequate protection for early life stages. USEPA (1986; Exhibit 2) defines early life stages as, "*Includes all embryonic and larval stages and juvenile forms to 30-days following hatching*" (see page 34 of USEPA, 1986). The Illinois DNR and Illinois EPA recommendation for an additional 30-day period (through July 31) necessary to

protect early life stages of fish, is based on extensive spawning information and data from six authoritative texts which represent nearly 100 years of fish species spawning information. A compilation of this spawning data, including references to the authoritative texts used to compile this information, is summarized in Table 4 of Exhibit #23. The Illinois DNR believes a comparison of the proposed IAWA date of June 30 and the recommended date of July 31 by Illinois DNR and Illinois EPA, will clearly show the biological need for extending protection for early life stages of fish by this additional 30 days. Through its testimony, the Illinois DNR has provided the IPCB with information that shows the IAWA's date of June 30 neglects to include protection for post-hatch embryonic and yolk-sac development as required by USEPA (1986), Exhibit #2. In contrast, IAWA through Dr. Garvey's testimony, attempts to describe spawning strategies in Illinois fish (see reference on page 24 of Exhibit #23, Protracted Spawning in Streams Fishes – Implications for Proposed Dissolved Oxygen Standards). In addition, Dr. Garvey's testimony provided at the November 2006 hearing states on page 3 of pre-filed testimony "*Evidence is mounting that the majority of reproduction of aquatic organisms in Illinois either occurs before July 1 (see Csoboth 2006 thesis, SIUC: Exhibit #1) or late-spawning organisms have early life stages that are tolerant to low dissolved oxygen concentrations.*" The Illinois DNR respectfully disagrees with Dr. Garvey's conclusions. For example, Csoboth 2006 thesis is cited as evidence that the majority of reproduction of aquatic organisms in Illinois occurs before July 1. A review of this thesis shows it is limited in geographic scope and cannot be extrapolated to all water types in all parts of the State. Again, in comparison, the Illinois DNR would direct the IPCBs attention to the extensive compilation of spawning information contained within Table 4 of Exhibit #23.

To supplement evidence on spawning of Illinois fishes, Illinois DNR field biologists provided direct testimony at the November 2006 hearing that refutes conclusions made by Dr. Garvey (see hearing transcript of November 2006, pages 35 – 40). In the same testimony provided by Dr. Garvey at the November 2006 hearing, page 3 of pre-filed testimony, it is stated "*late-spawning organisms have early life stages that are tolerant to low dissolved oxygen.*" Again extensive data, scientific literature and Illinois DNR biologists' testimony provided in Exhibit #23, pages 24 - 26 provides evidence to the contrary. In addition, USEPA (1986) states, "*The warm water criteria are necessary to protect early life stages of warm water fish as sensitive as channel*

catfish..." (see also page 6 of the Illinois DNR and Illinois EPA TSD, Exhibit #23). Clearly, the evidence present on Table 4 of Exhibit # 23 showing Channel catfish spawning through July 31, demonstrates that it is absolutely necessary to provide the additional 30-day protection. Illinois DNR strongly believes a review of this record clearly shows that an additional 30-day period as a statewide date (July 31) is absolutely essential for protecting early life stages of fish species in Illinois.

EXAMINATION OF KEY ISSUES AND TESTIMONY

Throughout this proceeding, several issues have been raised that we want to clarify.

Stakeholder Process:

Testimony by IAWA (Streicher) during the November 2006 hearing discusses the stakeholder process as the joint IDNR and IEPA recommendations were being developed (see page 6 of pre-filed testimony). Mr. Streicher states "*...a new round of meetings were scheduled while they worked out what is now the Joint IDNR/IEPA proposal, I wouldn't describe these meetings as being stakeholder meetings. The group was larger than ideal for this sort of discussion. We weren't usually apprised of what the data would be presented before attending the meetings. I'm sorry to say, that in my opinion we were not given the opportunity to have meaningful input.*" The Illinois DNR respectfully disagrees. Testimony provided by Illinois DNR during the April 2006 hearing (see page 6), states "*Scheduled stakeholder meetings were held on October 19, 2005 in Chicago, and November 15, 2005 in Springfield. These meetings were attended by Illinois DNR, Illinois EPA, IAWA, Illinois Environmental Regulatory Group, Sierra Club, Prairie Rivers Network, USEPA, and Friends of the Chicago River. The Illinois DNR and Illinois EPA hosted additional meetings with IAWA on February 24, 2006 and with the Sierra Club and Prairie Rivers Network on March 1, 2006. The stakeholder process provided valuable input to the Illinois DNR and Illinois EPA in developing these recommendations for dissolved oxygen standards.*" The Illinois DNR believes these stakeholder meetings and smaller meetings were essential to the Illinois DNR and Illinois EPA joint recommendations.

Field Versus Laboratory-Based Approaches:

Testimony by IAWA (Dr. Garvey) during the November 2006 hearing (see page 3 and 4 of pre-filed testimony), states *"Only through experiments that establish causality between oxygen tolerance and fish life processes can tolerance be assessed. Again, these issues have been addressed in previous testimony when I described the research by Smale and Rabeni published in the Transactions of the American Fisheries Society. Recall, these investigators used a combination of lab assays and surveys to develop an index of oxygen sensitivity in Missouri streams."* While it is true these investigators used a combination of lab assays and surveys, Dr. Garvey neglects to complete the story indicated by the evidence in Smale and Rabeni, as well as other literature. The Illinois DNR would direct attention to the Exhibit #23 for a full discussion of this topic entitled "Difficulties in interpreting critical thresholds of dissolved oxygen for aquatic life," (see pages 22 and 23). Excerpts from this Illinois DNR and Illinois EPA testimony further quote Smale and Rabeni (1995) as *"Considerable differences have been found between laboratory tolerance values and lethal conditions in natural situations (Moore 1942; Davis 1975). It may not be appropriate to use laboratory measurements to predict specific, numerical values of either hypoxia or hyperthermia that would be lethal to fish in the wild."* Smale and Rabeni (1995) further states, *"The complexity of environmental challenges faced by fish in natural situations does not inspire confidence in the applicability of apparently simplistic and reductionist laboratory tolerance data..."* The Illinois DNR and Illinois EPA approach in developing the joint recommendations account for these concerns. The Illinois DNR believes the record is clear and scientific literature fully supports the Illinois DNR and Illinois EPA approach in identifying Illinois species that are DO sensitive. Dr. Garvey expresses further concern about the Illinois DNR and Illinois EPA approach in testimony from the November 2006 hearing on page 3 of pre-filed testimony where he states *"My concern about this approach is that the selection of streams based solely on associations between aquatic organisms and average oxygen concentrations ignores other potential causal factors such as habitat quality, gradient and temperature. Thus, coining these organisms as oxygen sensitive and then using them to select enhanced waters may be completely spurious."* A complete and accurate account of how the Illinois DNR and Illinois EPA analyzed associations between fish and oxygen concentrations is provided in Exhibit #23, pages 10 – 13. The Illinois DNR believes the testimony and scientific literature presented here and throughout the Technical Support Document (Exhibit #

23) clearly acknowledges the "coining of organisms as oxygen sensitive" as not only valid, but a concept that the USEPA National Criteria Document requires States to address.

Relevance of dissolved oxygen data, temperature data, and habitat data:

A great deal of the record in this proceeding has been dedicated to the presentation and analysis of abiotic data, including dissolved oxygen concentration data, (whether continuous or grab), temperature data and habitat data. The Illinois DNR acknowledges this abiotic data is of interest to this rulemaking. The continuous dissolved oxygen data provided in testimony from a handful of locations throughout the State does help quantify the natural variability of dissolved oxygen, thus justifying the need to update the existing dissolved oxygen standards. However, it's the biological data (fish and macroinvertebrates) and scientific literature that describes their sensitivity to dissolved oxygen that is most relevant to deciding what the appropriate standards need to be to fully protect aquatic life. The joint recommendations from Illinois DNR and Illinois EPA were based on identifying the aquatic life needs for dissolved oxygen. Given this objective and purpose, direct use of other abiotic data was not necessary, nor was it appropriate. During the November 2006 hearing, both Illinois EPA and Illinois DNR provided responses to cross-examination further justifying the sole use of biological data (see pages 43 – 44).

This record also includes the analysis and comparison of current dissolved oxygen measurements to the proposed standards. While this has proven to be an interesting exercise, the Illinois DNR believes the basis for amending the dissolved oxygen standard should not be whether or not waters are currently meeting the proposed standards, but rather, standards are set at levels to meet aquatic life needs, including those life stages and species sensitive to dissolved oxygen.

Testimony by IAWA (Streicher) referenced work conducted by Dr. Mark David, who is working with the Illinois Council for Food and Agricultural Research (CFAR). On page 11 of Mr. Streicher's pre-filed testimony from the November 2006 hearing, he states "*While that effort is not yet complete Dr. David was willing to state that his findings show that the greatest influence on biological diversity in Illinois waters is habitat. Diverse and intact habitats result in the greatest diversity of fish and macroinvertebrate communities.*" The Illinois DNR agrees with this research and has accepted this premise for a long time in management activities conducted to

benefit the State's natural resources. However, biodiversity is not the issue. The presence of DO sensitive organisms at locations within the State does not imply those sites are biologically diverse. Testimony by Dr. Garvey (page 5 of pre-filed testimony) carries this premise even further when he states *"As I have argued throughout this process and in the original IAWA-sponsored report, these results indicate that stream physical characteristics trump water quality and need to be the primary focus of standard development."* The Illinois DNR respectfully disagrees with the broad, general conclusion that physical characteristics need to be the primary focus of standards development. Water quality improvements over the last 30 or so years, since the enactment of the federal Clean Water Act, have resulted in major improvements in aquatic life in waters such as the Illinois River, where habitat during the same time period has been even further degraded.

How can river segments recommended for enhanced protection for dissolved oxygen have a meaningful amount of DO sensitive taxa yet fail to meet the proposed dissolved oxygen standards?:

The issue stated in the above question has arisen throughout these proceedings since the Illinois DNR and Illinois EPA joint recommendations were presented. As previously described in these summary comments, dissolved oxygen concentration data and biological data are very different (i.e. concentration data only reflects the condition at that point for that particular time period it was collected, while biological data reflects what the organisms are exposed to regarding stresses over time). This makes direct comparison of the two difficult without consideration of the limitations in both types of datasets. During the November 2006 hearing, witnesses from the Illinois EPA and Illinois DNR described some of the factors that can account for this in field situations and at site specific locations (see page 30 – 35 of November 2006 hearing transcripts). These factors include and depend on the magnitude and duration of dissolved oxygen excursions, where minor excursions in concentration for limited periods of time may be tolerated. If the excursions are severe enough and for a long enough time period, organisms will seek other refuges in nearby tributaries or segments of stream and return when dissolved oxygen levels recover. An Illinois DNR field biologist provided direct testimony where this phenomenon was observed in the field as a result of dissolved oxygen excursions (see page 33- 34 of November 2006 hearing transcripts). Differing collection techniques between dissolved oxygen

concentration data and how biological data are collected over multiple microhabitats (riffle, run, pools) can also easily account for this seemingly apparent discrepancy in what the two data sets are indicating. Some of our most DO sensitive species can survive and thrive in waters that have occasional excursions in dissolved oxygen, however they will not survive long in a system that has dissolved oxygen excursions that occur frequently to 3.5 mg/l and is at a 7 day mean minimum of 4.0 mg/l.

Tiered Aquatic Life Use Designations:

Testimony by IAWA (Streicher) during the November 2006 hearing discusses efforts to develop Tiered Aquatic Life Uses for future consideration by the IPCB (see pages 8 – 10 of pre-filed testimony). Mr. Streicher states *“This is indeed a complex process and we expect this to be a long and laborious effort. Yet in their testimony at the last hearing and their Joint IDNR/IEPA Proposal, the IDNR and IEPA are suggesting we move to a two-tiered dissolved oxygen standard now.”* This is a misrepresentation of Illinois DNR and Illinois EPA testimony that states in Exhibit # 23, page 1, *“To replace the current General Use dissolved oxygen standard, Illinois DNR and Illinois EPA recommend two levels of standards, each level applying to one of two sets of waters in Illinois. One level applies to the large majority of General Use waters and is designed to ensure sufficient oxygen concentrations for the aquatic life therein. Another higher level of standards applies to a small, selected subset of General Use waters; these thresholds are designed to protect Illinois’ most sensitive types and life stages of aquatic life that require relatively higher dissolved oxygen concentrations.”* Both Level I and Level II waters that are part of the joint recommendations from Illinois DNR and Illinois EPA are contained within the existing General Use designation.

Illinois DNR perspectives on Dissolved Oxygen Rulemaking:

Testimony by IAWA (Streicher) during the November 2006 hearing attempts to portray Illinois DNR’s perspectives as different from Illinois EPA (see pages 5-7 of pre-filed testimony). Mr. Streicher stated on page 5 that *“It would obviously be pointless to develop a rule that no one can meet. This is, I think, the source of the different perspectives between the two agencies. They aren’t opposed to each other but they have approached this petition from slightly different viewpoints. IDNR wants to be as protective as possible while IEPA needs an enforceable and*

attainable rule that is as protective as necessary.” While the Illinois DNR accepts this as the opinion of IAWA, the Department does not agree and believes we have testified as to our perspective during the April 2006 hearing (see page 7 of pre-filed testimony) where we state “*At the same time, the Illinois DNR and Illinois EPA recommendations are not unnecessarily over protective elsewhere. Therefore, the Illinois DNR further believes these joint recommendations will allow for targeting of limited state resources to the most critical waters impacted by low dissolved oxygen concentrations.*” While it is true that the statutory authorities and mission statements of the two agencies differ (Illinois DNR and Illinois EPA), the Illinois DNR believes the joint recommendations would not have been possible if the two agencies approach and perspectives were as different as IAWA attempts to portray.

Averaging dissolved oxygen values and Liebig's Law of the Minimum:

Testimony by IAWA (Dr. Garvey) during the November 2006 hearing (page 6 - 7 of pre-filed testimony), states “*Leibig aptly noted that the distribution of all living organisms will not be dictated by average conditions, but rather the availability of the most limiting condition.*” The Illinois DNR does not disagree with the general principles of this premise. However, Dr. Garvey further testifies “*Only by identifying the limiting conditions, in other words the acute minimum oxygen concentration can we determine what should be present through time.*” This conclusion fails to recognize the significance that Illinois’ environmental and natural resource programs place in biological data. The biological data reflects multiple stresses that may be present, and affecting the aquatic community function and structure over time. This is why biological data has been critical for decades, and state’s such as Ohio and Illinois have relied on the biological data to give a better indication of stream quality as part of monitoring and assessment programs. It is also the fundamental premise for the Illinois DNR and Illinois EPA joint recommendations and why the extensive biological data from both agencies was used in lieu of dissolved oxygen concentration data, or other abiotic data such as habitat and temperature.

In addition, Dr. Garvey’s conclusion in applying Liebig’s general principle seems to argue against the basis for the USEPA National Criteria Document’s use of chronic dissolved oxygen standards. It also seems to conflict with other IAWA testimony by Mr. Stricher from the November 2006 hearing where he states “*The two agencies have proposed a seasonal DO*

standard. They agree with the IAWA concept of averaging the dissolved oxygen measurements.”
(See page 7 of pre-filed testimony).

Sierra Club Recommendation:

During the November 2006 hearing, the Sierra Club through its testimony, proposed an addition to the Illinois DNR and Illinois EPA recommendations including a minimum DO concentration of 6.5 milligrams per liter from December through March to be applicable to both Level I and Level II waters. This addition is based on testimony provided by Dr. Murphy expressing concerns that a revised standard must ensure sufficient dissolved oxygen for aquatic life during low temperatures. While the Illinois DNR has not extensively investigated and evaluated this issue in detail, it is likely that the physiological needs of aquatic organisms at low temperatures are lessened as a result of lower metabolic rates during these cold periods. If adopted by the IPCB, the Illinois DNR would encourage the IPCB to consider basing the minimum dissolved oxygen concentration of 6.5 milligrams per liter on a temperature basis, when water temperatures reach 10 degrees centigrade or below, in lieu of the calendar months of December through March.

CLOSING STATEMENT

The IAWA’s primary supporting documentation for their proposal consists of the Garvey/Whiles, April 2004 report “An Assessment of National and Illinois Dissolved Oxygen Water Quality Criteria”, Exhibit # 1. While this report represents a valid initial discussion of the dissolved oxygen issue, it falls short of providing the complete and necessary protection for DO sensitive species in Illinois, and species that are DO sensitive during early life stages. In recent testimony, IAWA has provided additional studies in contrast to the biological data and scientific literature presented by the Illinois DNR and Illinois EPA in support of their joint recommendations (Csoboth thesis, Dr. Davis’ research regarding physical characteristics, application of Liebig’s law for averaging conditions, analysis of continuous dissolved oxygen concentration data). While the Illinois DNR acknowledges these studies and analyses may be useful, they are limited in scope and statewide applicability. Therefore, the Illinois DNR believes extreme caution should be used in applying these studies to support broad, statewide

conclusions for all waters applicable to these proposed amendments to the dissolved oxygen standard. In his testimony during the November 2006 hearing, Dr. Garvey used these studies, (particularly Dr. David's research and the premise that physical characteristics trump water quality) to build toward and support his final conclusion where he states "*I favor scrapping dissolved oxygen as a standard altogether.*" (November 2006 hearing, page 11 of pre-filed testimony). Additional IAWA testimony presented by Mr. Dennis Streicher (November 2006 hearing, pages 9, 10, 12, 14 of pre-filed testimony) expresses the opinion that the joint recommendations presented by Illinois DNR and Illinois EPA are arbitrary and are based on no scientific data.

The Illinois DNR believes the record clearly shows that the joint recommendations presented to the IPCB by the Illinois DNR and Illinois EPA are not arbitrary, and are based on extensive and relevant biological data. Specifically this includes:

- The only statewide dataset in this record (biological data for fish and macroinvertebrates from 1,110 sampling sites),
- The use of scientifically valid and sound processes for developing the joint recommendations (described in detail within Exhibit #23),
- Compilation of spawning periods for Illinois fish species representing nearly 100 years of data and information from six of the foremost authoritative texts on the subject,
- Expertise from field biologists in both Illinois EPA and Illinois DNR, representing within IDNR alone, over 218 years of aquatic biology expertise in Illinois,
- Published scientific research from over 30 scientific literature sources contained within the Technical Support Document, Exhibit #23,
- Incorporation of significant input from other stakeholders through multiple stakeholder meetings, and additional meetings with individual interested parties held at their request,
- Providing all ancillary data and information requested by IAWA for the stated purpose of preparing for cross examination questions for agency witnesses.

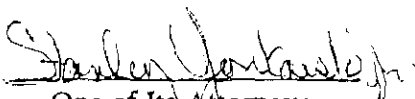
The need to protect DO sensitive species in Illinois and species that are DO sensitive during early life stages, including the NCD required 30-day period for larval development, is clear. The

Illinois DNR believes the record includes the data and science known today to move forward with this significant improvement to the existing dissolved oxygen water quality standards. The Illinois DNR further believes that other recommendations presented by Illinois DNR and Illinois EPA (including a narrative standard for waters that naturally cannot achieve consistently higher levels of dissolved oxygen, and the addition of the 30-day chronic standards consistent with the USEPA National Criteria Document applicable to both levels of numeric standards for dissolved oxygen), provide essential components to the dissolved oxygen standards necessary for USEPA approval, should the IPCB adopt the Illinois DNR and Illinois EPA recommendations.

WHEREFORE, the Illinois DNR respectfully submits it's Post Hearing Summary Comments for consideration by the Illinois Pollution Control Board.

Respectfully submitted,

ILLINOIS DEPARTMENT OF
NATURAL RESOURCES,

By: 
One of Its Attorneys

December 20, 2006

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DEC 19 2006

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From: Stanley Yonkauskki, Jr.

Number of Pages (including cover): 18

Message: Illinois DNR's Post Hearing Summary Comments for Dissolved Oxygen Rule Making (R04-025). Please accept this filing, original will follow express mail dated December 20, 2006.

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