

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

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JUN 28 2013

STATE OF ILLINOIS
Pollution Control Board

IN THE MATTER OF:)
)
WATER QUALITY STANDARDS AND)
EFFLUENT LIMITATIONS FOR THE)
CHICAGO AREA WATERWAY SYSTEM)
AND THE LOWER DES PLAINES RIVER:)
PROPOSED AMENDMENTS TO 35 ILL.)
Adm. Code Parts 301, 302, 303 and 304)

R08-09
(Rulemaking – Water)
Subdocket C

PC#1373

NOTICE OF FILING

To: John Therriault, Clerk
Marie Tipsord, Hearing Officer
James R. Thompson Center
Illinois Pollution Control Board
100 West Randolph Street, Suite 11-500
Chicago, Illinois 60601

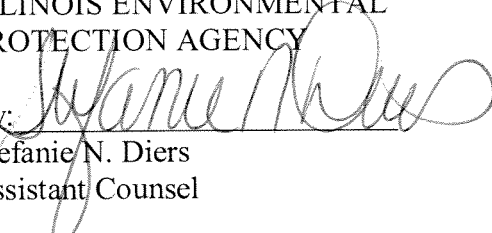


ORIGINAL

SEE ATTACHED SERVICE LIST

PLEASE TAKE NOTICE that I have filed today with the Illinois Pollution Control Board COMMENTS OF THE ILLINOIS EPA ON THE ILLINOIS POLLUTION CONTROL BOARD'S SUBDOCKET C FIRST NOTICE OPINION, a copy of which is herewith served upon you.

ILLINOIS ENVIRONMENTAL
PROTECTION AGENCY

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THIS FILING IS SUBMITTED ON RECYCLED PAPER

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CHICAGO AREA WATERWAY SYSTEM) (Rulemaking – Water)
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PROPOSED AMENDMENTS TO 35 Ill.)
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)

**COMMENTS OF THE ILLINOIS ENVIRONMENTAL PROTECTION
AGENCY ON THE ILLINOIS POLLUTION CONTROL BOARD'S SUBDOCKET C
FIRST NOTICE OPINION**

The Illinois Environmental Protection Agency ("Illinois EPA" or "Agency"), by and through its attorneys, hereby submits its Comments on the First Notice Opinion issued by the Illinois Pollution Control Board ("Board") on February 21, 2013. In support thereof, the Illinois EPA states as follows:

I. Procedural History

On October 26, 2007, the Agency filed a rulemaking proposal to update the designated uses and accompanying water quality standards and effluent limitations for the waters currently designated for Secondary Contact and Indigenous Aquatic Life Use which includes most waters in the Chicago Area Waterway System ("CAWS") and Lower Des Plaines River. The Board docketed this proposal as R08-09. On March 18, 2010, the Board issued an order dividing R08-09 into four separate subdockets.

On February 21, 2013, the Board issued a First Notice Opinion and Order in subdocket C establishing 1) two aquatic life use designations (CAWS Aquatic Life Use A and CAWS and Brandon Pool Aquatic Life Use B) and new definitions for those aquatic life designations; 2) the Upper Dresden Island Pool and Chicago River to be

classified as General Use waters; 3) Opening a subdocket E to examine issues surrounding South Fork South Branch Chicago River (Bubbly Creek); and 4) proposing language to establish water quality standards for fecal coliform bacteria applicable to Primary Contact Recreation Waters as the Board indicated in subdocket B it planned for this docket.

The Board's first notice proposal was published in Volume 37, Issue 11 of the Illinois Register on March 15, 2013. See, 37 Ill. Reg. 2851-2863.

II. Summary of Illinois EPA's First Notice Comments in Subdocket C

These comments provide Illinois EPA's response to the Board's First Notice Opinion and Order issued on February 21, 2013. Illinois EPA identifies seven issues to address from the Board's First Notice Opinion. The issues are: 1) the Board's proposal for two aquatic life use designations and the proposed definitions; 2) the Board's proposal for Upper Dresden Island Pool as a General Use water; 3) the Board's proposal to maintain the Chicago River as a General Use water; 4) Opening subdocket E for South Fork South Branch Chicago River (Bubbly Creek); 5) five specific comments the Board raised concerning the Illinois EPA's proposal on page 175 of the First Notice Opinion; 6) whether actions taken by the United States Environmental Protection Agency ("USEPA") impact the water quality standard for primary contact recreational uses or the need for water quality standard for incidental contact recreational uses; and 7) comments on the proposed regulatory language and typographical errors.

III. The First Notice Proposal for Two Aquatic Life Use Designations and the Proposed Definitions

The February 21, 2013, First Notice Opinion and Order in subdocket C of rulemaking docket R08-09, expresses concerns about the lack of clarity of intent in the aquatic life uses that Illinois EPA originally proposed. (Slip Opinion, p. 175-176). The Opinion provides alternative definitions of two of the three aquatic life uses that were proposed by Illinois EPA. Also, the Board invites comment on their concerns. (Slip Opinion, p. 177).

Illinois EPA addresses the Board's concerns as follows: 1) provide additional explanation and context for the originally proposed aquatic life uses; 2) identify some primary differences between the Board's alternative definitions and the Illinois EPA original definitions, and; 3) recommend resolutions to these differences and justify the recommendations. For brevity, the Agency refers to the Board definitions as "*new*" and the Illinois EPA definitions as "*original*".

A. Additional Context for Illinois EPA's Originally Proposed Definitions of Aquatic Life Uses

In the original definitions, Illinois EPA attempted to incorporate the meaning of the Clean Water Act goal of "*balanced indigenous populations*" of aquatic life. With these definitions, the Agency intended to represent the concepts of balance and imbalance of aquatic life by incorporating a readily recognizable aspect of those conditions: differences in the presence and abundances of aquatic life in each of three categories of relative tolerance to human impacts. The categories are intolerant, intermediately tolerant, and tolerant.

A fundamental aspect of evaluating the environmental health of a stream or lake is determining the presence and relative abundances of different animals relative to each animal type's general tolerance to human impact. Specifically, knowing whether

sensitive (i.e., intolerant) types of aquatic life are living in a section of stream or in a lake can help indicate the overall environmental health of that waterbody. To achieve the Clean Water Act goal of balanced aquatic life requires conditions that support intolerant types of fish, macroinvertebrates, and other organisms. Also, for a stream or lake, the occurrence and relative abundances of intermediately tolerant and tolerant organisms indicate how much imbalance may be present. A primary difference between balance and imbalance is the loss of reproducing populations of intolerant types. On that same continuum, increasing predominance of the most tolerant types represents increasing levels of imbalance. Illinois EPA believes that most people can readily recognize and relate to these aspects of balance and imbalance; thus, the Agency focused on these differences to distinguish among the three different aquatic life uses.

B. First Notice Definitions of Aquatic Life Use A and Use B Reliance on Individual Fish Species

As addressed in more detail below, Illinois EPA believes that several complications arise in trying to incorporate mention of individual types (e.g., species) of fish, macroinvertebrates, and other organisms in describing aquatic-life goals. These complications are best addressed outside of the regulatory definitions of each aquatic life use.

The First Notice Opinion and Order of February 21, 2013 for subdocket C of the R08-09 rulemaking provides new definitions of two of the aquatic life uses originally proposed by Illinois EPA. (Slip. Op. at p. 177). In each new definition, the Board specifies some individual species of fish, but does not mention specific types of other aquatic organisms. Illinois EPA believes that specific mention of fish species is not

necessary to convey the meaning of the use and can unintentionally limit the intended scope of the definition. Some of the Illinois EPA testimony addresses why such a list was unnecessary for the definitions. (See March 10, 2008 morning transcript pp. 86-88). The original definitions address tolerant types and intermediately tolerant types of all aquatic life, not just fish. For those original definitions, the Agency recognized that the terms, "*tolerant*" and "*intermediately tolerant*," are not specifically defined. The Agency also recognized the lack of specificity about which types of aquatic organisms are tolerant or intolerant to which types of human impacts. Trying to incorporate such specificity in these aquatic-life goals is problematic and causes too great a risk for unintentionally limiting their intended meaning and scope. See, pages 34-36 *supra* for further discussion.

The original definitions can serve well as regulatory language. The definitions address the Clean Water Act conceptual goal of balanced aquatic life in a plain and readily recognizable way while not specifying to a burdensome or unintentionally limiting degree. For example, specific mention of individual species of fish or other aquatic life seems to be rare in the regulatory language that defines aquatic life uses in other states—except for distinguishing some "*cold-water*" uses from "*warm-water*" uses by mentioning trout or salmon as cold-water fish. However, this distinction (cold vs. warm) does not pertain directly to balance versus imbalance and thus does not pertain to the proposed Illinois aquatic life uses. Upon review of the Board's First Notice Opinion, Illinois EPA reviewed the regulatory language of approximately 20 other states – including several midwestern states – to see how those states define aquatic life uses. Aside from the coldwater/warmwater distinction, the Agency found that regulatory

definitions of aquatic life uses do not typically mention individual fish species. The only two states that seemed to rely on a listing of species in establishing aquatic life use designations and definitions were Arkansas and Nebraska.

If the Board disagrees with Illinois EPA and chooses to include specific fish species, macroinvertebrate taxa, and types of other aquatic life in the definitions of these aquatic life uses, then Illinois EPA recommends that a continuum of tolerance be considered that includes five categories: Intolerant, Moderately Intolerant, Intermediately Tolerant, Moderately Tolerant, and Tolerant (Figure 1 *infra*). This framework is used by the Ohio Environmental Protection Agency ("Ohio EPA") to characterize the relative tolerance of fish species in Ohio to human impacts that represent "*a wide variety of environmental conditions...including both point and nonpoint source impacts and habitat modification.*" Attachment T to Statement of Reasons at p. B-1. Specifically, Ohio EPA uses these five tolerance categories for fish: *Intolerant, Moderately Intolerant, Intermediate Tolerance, Moderately Tolerant, and Tolerant.* These five tolerance categories represent a slight revision to the original tolerance categories used by Ohio EPA in 1988 in Attachment T to Statement of Reasons at p. B-16.

Ohio EPA also uses similar tolerance descriptions for macroinvertebrate species: Intolerant, Moderately Intolerant, Facultative, Moderately Tolerant, Tolerant and Very Tolerant. See, Ohio EPA Macroinvertebrate Taxa List, February 2013 (http://www.epa.ohio.gov/Portals/35/documents/Macro_Taxa_List.pdf). Ohio EPA lists thirteen organisms in Ohio that appear to be "extremely pollution tolerant" to organic and/or toxic impacts. See, Attachment T to the Statement of Reasons at pp. 5-13 and

5-16. It is not entirely clear whether Ohio EPA's 2013 tolerance list represents a "broad scope" of human impacts or only organic and toxic impacts. However, Ohio EPA does indicate that "In streams of high water quality and suitable habitat, a stable, well balanced macroinvertebrate community usually exists. The organisms in these areas are usually larval forms of predominantly pollution sensitive insect groups such as stoneflies, mayflies and caddisflies. The most pollution tolerant groups such as sludgeworms, pulmonate snails, and many types of larval dipteran insects (i.e. bloodworms) are represented by a few species in low numbers. When environmental quality is adversely impacted, the sensitive groups decline or are eliminated and the few tolerant organisms present greatly increase in number." Attachment T to Statement of Reasons at pp. 5-1 and 5-2.

In the original definitions of the three aquatic life uses, Illinois EPA used the word "*Intolerant*," to reflect the range represented by Ohio EPA categories of "*Intolerant*" and "*Moderately Intolerant*" (Ohio EPA also labels these combined categories as "*Sensitive*"). Analogously, the use of the word, "*tolerant*," reflects the range of tolerances represented by Ohio EPA categories of "*Moderately Tolerant*" and "*Tolerant*". Use of the words "*intermediately tolerant*" reflects the Ohio EPA usage of "*Intermediate Tolerance*." In this context, usage of the words, "*intermediately tolerant*," differs intentionally from that of the words, "*moderately tolerant*," which are used in the new, alternative definition on page 177 of the First Notice Opinion. The term, "*Intermediate*," is also used as a fish-tolerance category in Appendix C of Barbour et al. (1999; *Rapid Bioassessment Protocols for Use in Wadeable Streams and Rivers, EPA 841-B-99-002*) which is a compendium of fish-tolerance categorizations that are used for biological

assessment in the eastern and Midwestern United States. See, citations to this document in Attachment A to Statement of Reasons at p. 5-19 and Attachment B to the Statement of Reasons at p. 5-15. Figure 1 shows the Illinois EPA usage of terms in the original definitions relative to the tolerance categories that Ohio EPA uses for fish. Illinois EPA recommends consistency with these Ohio EPA categories of tolerance.

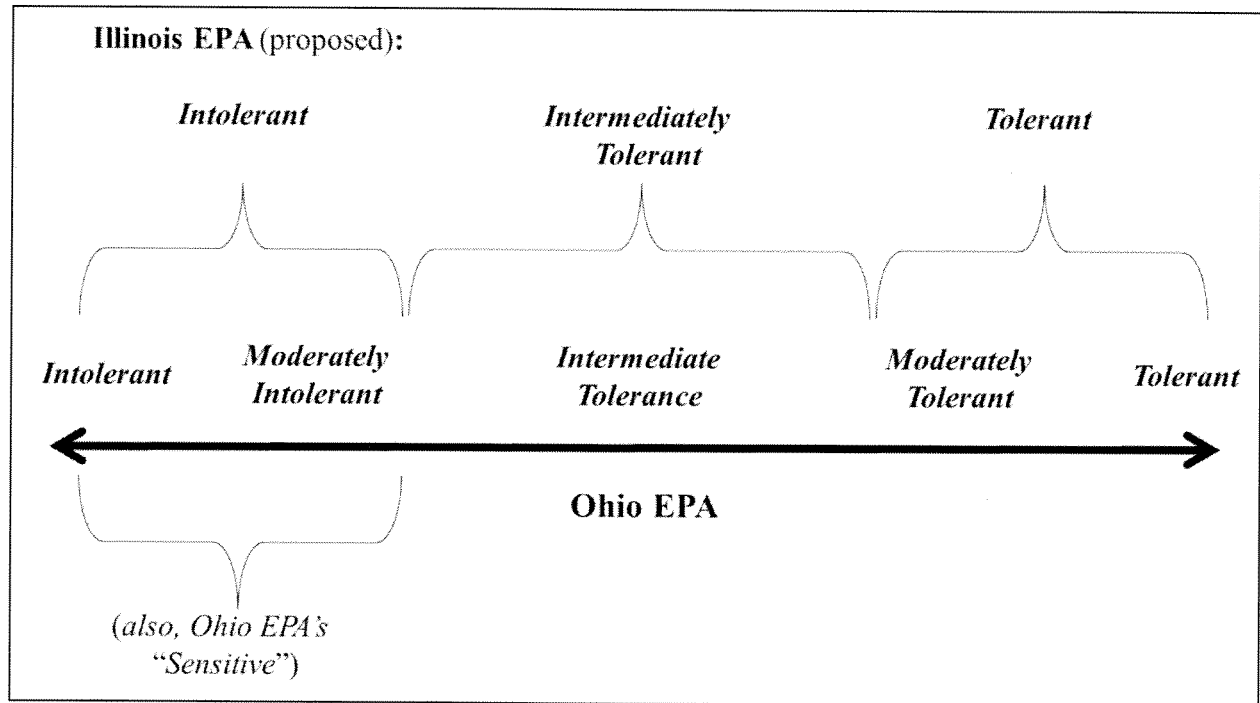


Figure 1. Tolerance continuum showing the terms that Illinois EPA uses in defining three proposed aquatic life uses for lower Des Plaines River and the Chicago Area Waterways System, relative to Ohio EPA categories.

If specific mention of fish species and their tolerances are desired in defining the aquatic life uses addressed in this rulemaking, then Illinois EPA recommends that a specific source of tolerance categorizations be cited, such as Ohio EPA (2006) or Barbour et al. (1999). The Agency also recommends including language that allows for exceptions to these published categorizations, including a requirement to justify such exceptions based on regionally appropriate information. As explained in detail in the

2011 testimony of Roy Smogor, the fish tolerance ratings used in the CAWS Habitat Evaluation Report (Public Comment 284; Attachment B to Appendix A) are not appropriate for defining the proposed aquatic life uses because they are neither consistent with existing relevant publications such as Ohio EPA (2006) and Barbour et al. (1999) nor sufficiently justified as applying to Illinois waters. See, Testimony of Roy Smogor, Exhibit 476 at pp. 12-18. For example, of the 24 fish species rated as "*Tolerant*" in the CAWS Habitat Evaluation Report, 13 of them are rated by both Ohio EPA (2006) and Barbour et al. (1999) as being of intermediate tolerance rather than "*Tolerant*".

In the Board's new definition of *CAWS Aquatic Life Use A*, eight fish species are mentioned as examples of "*tolerant*" or "*moderately tolerant*" species. However, as illustrated in the following table, difficulties exist in mentioning these individual fish species and their tolerances. Although the originally proposed definition of *CAWS Aquatic Life Use A* intends to include some types of fish, macroinvertebrates, and other organisms that are at the most tolerant end of the continuum—indicated in Figure 1 as Ohio EPA's "Tolerant" category—none of the eight species mentioned in the new definition clearly represents this intended tolerance category. Specifically, as shown in the following table, none of those eight fish species are rated as being most tolerant, which is the category, "*Tolerant*," used by Ohio EPA (2006) and by Barbour et al. (1999). Rather, seven of the eight are intermediately tolerant while one is moderately tolerant (bluegill).

Fish Species Mentioned as Being "Tolerant" or "Moderately tolerant" in New Definition of CAWS Aquatic Life Use A	Ohio EPA (2006) Tolerance Category	Barbour et al. (1999) Tolerance Category
Channel catfish	Intermediate Tolerance	Intermediate
Largemouth bass	Intermediate Tolerance	Intermediate ¹
Bluegill	Moderately Tolerant	Intermediate ¹
Northern pike	Intermediate Tolerance	Intermediate ²
Black crappie	Intermediate Tolerance	Intermediate
Tadpole madtom	Intermediate Tolerance	Intermediate ²
Spotfin shiner	Intermediate Tolerance	Intermediate ¹
Orangespotted sunfish	Intermediate Tolerance	Intermediate

¹ Categorized as "Tolerant" in some applications.

² Categorized as "Intolerant" in some applications.

If individual fish species are to be mentioned in the definition of *CAWS Aquatic Life Use A*, then Illinois EPA recommends mentioning at least two species that represent the most tolerant end of the continuum, e.g., common carp and green sunfish are each categorized as "*Tolerant*" in Ohio EPA (2006) and in Barbour et al. (1999).

Another difficulty of incorporating individual species in the definitions of aquatic life uses is indicated by the footnotes in the table immediately above. Two of the categorizations in Barbour et al. (1999) indicate that the realized tolerance of some species can depend on regional circumstances. For example, although from a larger geographic perspective northern pike is rated as "*Intermediate*" in tolerance, from a perspective limited to the northeastern U.S., this species is rated as "*Intolerant*". Mentioning individual species (or other types) in defining Illinois aquatic life uses would seem to require additional language that allows for exceptions to the published categorizations, but only if such exceptions can be justified based on regionally appropriate information. Illinois EPA believes that such complications are best addressed not in the definitions of the uses, rather in application of the standards.

Illinois EPA believes that aquatic life uses are intended to serve as conceptual goals. How to protect for these goals in more concrete ways is best left to numeric water quality standards and implementation guidelines to operationalize that intended protection. An intended lack of specificity in defining an aquatic-life goal does not prevent that goal from being protected in more specifically defined ways.

C. The First Notice Opinion's New Definition of CAWS Aquatic Life Use A Specifies "Native" Status

The new definition of *CAWS Aquatic Life Use A Waters* specifies, "*These waters are capable of supporting communities of native fish that are tolerant and moderately tolerant...*" (Slip. Op. at p. 177). Illinois EPA believes that specific mention of "*native*" status is not necessary to convey the meaning of the use and can unintentionally confound the definition. The use is not intended to be limited to fish only. For some fish and other aquatic life, tolerant or intermediately tolerant types that meet the intended meaning of the use are not necessarily native types. Moreover, the term "*native*" can have multiple meanings depending on spatial and temporal frames of reference. For example, about 130 years ago, common carp did not live in United States waters; however, today, this species reproduces natively throughout the U.S., including in Illinois streams and lakes. Similarly, in the state of Virginia, smallmouth bass did not originally occur in streams that flowed eastward to Chesapeake Bay; however, due to introductions by humans, today this species reproduces natively in those waters. Depending on one's spatial and temporal frames of reference, a particular type of fish, macroinvertebrate, or other organism can be considered "*native*" to a particular stream within a particular time frame and "*not native*" to a different stream in the same region or to that same stream, but in a different time frame. Including the term, "*native*," without

specifying both a spatial and temporal frame of reference to define nativeness can unintentionally confound the intended meaning of the aquatic life use. Also, to clearly define the two aquatic life uses under consideration—each representing an already imbalanced biological condition—does not require incorporating the concept of nativeness. For these reasons, Illinois EPA recommends against specifying native or non-native status of aquatic life in the definitions of *CAWS Aquatic Life Use A Waters* and *CAWS and Brandon Pool Aquatic Life Use B Waters*.

D. First Notice Proposal's Use of the Terms "Maintaining" and "Supporting" in the Definitions of Aquatic Life Uses

The Board opinion clarifies its usage of the term, "maintaining," on page 176 by stating, "The Board uses the term 'maintaining' to suggest the aquatic system would have the characteristics needed to meet the needs of aquatic organisms at all life stages." (Slip op. at p. 176). While this clarification is helpful, some ambiguity remains in the definitions by usage of both of the terms, "maintaining" and "supporting." Specifically, use of both of these terms in each of the two new definitions of aquatic life uses raises the question of whether these terms are intended to mean different things.

The First Notice proposal's aquatic life use definitions state that the *CAWS Aquatic Life Use A Waters* and *CAWS and Brandon Pool Aquatic Life Use B Waters* "are not presently capable of ***maintaining*** a balanced integrated, adaptive community of warm-water fish and macroinvertebrates." But the definitions go on to state what "these waters are capable of supporting" without indicating whether there is a different meaning to the terms "supporting" than what is meant by "maintaining."

In addition to substituting the term "supporting" for the defined term "maintaining," the Board also uses the term "maintain" in the Use A definition in a manner very

different from its explanation of its use of the term “maintaining” when it states in proposed Section 303.230 “**necessary to maintain** navigational use, flood control, and drainage functions of the waterway system.” “Maintain” in this context also has a different meaning than was intended by the definition on page 176.

E. The First Notice Proposal’s Mention of Both Present Incapability and Future Capability in the New Aquatic Life Use Definitions

The First Notice proposal definitions for *CAWS Aquatic Life Use A* and *CAWS and Brandon Pool Aquatic Life Use B* attempt to define both what the waters in these categories are not capable of achieving and what they are capable of achieving. Each of the First Notice proposal’s two new definitions of aquatic life use begins by the stating present incapability of the waters with respect to biological condition. Also, the new definition for *CAWS Aquatic Life Use A Waters* does not address that the present incapability is irreversible; whereas, the definition for *CAWS and Brandon Pool Aquatic Life Use B Waters* does.

Illinois EPA believes that it is unnecessary to address present conditions in defining these uses. Rather, because these uses represent aquatic-life goals, the Agency believes it is more appropriate that each definition focus on describing what is attainable rather than what is not attainable. The original definitions focus on biological potential rather than on present biological conditions. The original definitions thereby avoid the problem of trying to incorporate “*present*” conditions. Mention of “*present*” conditions in these definitions introduces ambiguity about the meaning of “*presently*” or “*not presently*” unless a clear benchmark in time that defines “*present*” is also included. It is not necessary to incorporate present conditions in order to clearly define the aquatic life use goals for these waters.

F. First Notice Proposal's Use of the Phrase, "Balanced, Integrated, Adaptive Community of Warm-Water Fish and Macroinvertebrates"

If the Board disagrees with Illinois EPA and determines that it is appropriate to incorporate present conditions in defining the two aquatic life uses, then, for the following reasons, Illinois EPA recommends against using the following wording: "...a *balanced, integrated, adaptive community of warm-water fish and macroinvertebrates* ..." and "...a *balanced, integrated, adaptive community of warm-water fish and macroinvertebrate community*..." Illinois EPA recommends against using the combination of words, "*balanced, integrated, adaptive community*," because this specific four-word combination has long been recognized as a definition for biological integrity—which is an overall objective of the Clean Water Act, but not equivalent to the interim aquatic-life goal of balanced populations. "*Biological integrity*" means a highly natural condition; whereas, the interim aquatic-life goal of the Clean Water Act is not intended to represent such a highly natural condition. In other words, although achieving the interim goal of balanced populations of aquatic life is a necessary step toward achieving the overall Clean Water Act objective of biological integrity, biological conditions that meet this interim goal do not necessarily represent biological integrity.

The words, "*balanced, integrated, adaptive community*," do not accurately describe the interim Clean Water Act aquatic-life goal of balanced aquatic life and therefore misrepresent this critical point of reference for defining the two less-natural uses in this rulemaking. Rather, during the past 30 years, these exact four words (i.e., "*balanced, integrated, adaptive community*") have been used to define a highly natural condition. For example, citing previous sources, Karr and Chu (1999) in their book, *Restoring Life in Running Waters. Better Biological Monitoring*, reiterate the definition of

biological integrity as, "*This biota is a balanced, integrated, adaptive system having the full range of elements (genes, species, assemblages) and processes (mutation; demography; biotic interactions; nutrient and energy dynamics; and metapopulation, or fragmented population processes) that are expected in the region's natural environment... Adopting integrity as a management goal means aiming for a system that resembles this evolved state as much as possible...*" (See reference in Exhibit 476 at p. 13). As another example, Davies and Jackson (2006), reiterate this definition of biological integrity. Davies, S.P. and S.K. Jackson, The Biological Condition Gradient: a descriptive model for interpreting change in aquatic ecosystems, *Ecological Applications* 16:1251-1266 (2006). They state on page 1252, "*One way to define biological integrity was described over 25 years ago (Frey 1977) and has been refined to mean a balanced, integrated, adaptive system having a full range of ecosystem elements (genes, species, assemblages) and processes (mutation, demographics, biotic interactions, nutrient and energy dynamics, and metapopulation dynamics) expected in areas with no or minimal human influence (Karr and Dudley 1981, Karr and Chu 2000).*" Id. at 1252.

Illinois EPA also recommends against restricting the definition of the two aquatic life uses at issue in this rulemaking to apply only to a "...community of warm-water fish and macroinvertebrates" or to a "...community of warm-water fish and macroinvertebrate community". This language unnecessarily limits the intended scope of the uses to apply to types of aquatic life that are neither fishes nor macroinvertebrates. Moreover, including the undefined word, "warm-water," increases

the potential for confusion without contributing essential meaning or context to the definitions. The Agency recommends excluding mention of ‘water-water.’

G. Adoption of Waste Assimilation as a Use

In the CAWS Use A definition, the Board uses the following language: “due to the unique physical conditions, flow patterns, and operational controls necessary to maintain navigational use, flood control, and drainage functions of the waterway system.” Although the First Notice proposal uses this phrase to describe a use that cannot be attained, rather than the use that can be attained, the First Notice proposal has otherwise relied on the same language proposed by the Agency. The Agency’s proposal was purposefully drafted to maintain compliance with 40 C.F.R. §131.10(a), which states that “In no case shall a State adopt waste transport or waste assimilation as a designated use for any waters of the United States.” USEPA expressed concern that the Agency’s proposal could conflict with this provision; but because the phrase “drainage functions of the waterway system” are used merely to modify the type of “operational controls” being described, the definition remains consistent with federal law and minimizes the potential for misinterpreting that drainage function (which includes waste transport) is being proposed as part of the defined use.

The First Notice’s new definition of CAWS and Brandon Pool Aquatic Life Use B does not use this terminology from the Agency’s proposal, but instead uses the following language: “Such physical modifications are of long duration and may include artificially constructed channels consisting of vertical sheet-pile, concrete and rip-rap walls designed to support commercial navigation and ***the conveyance of stormwater and wastewater.***” This usage of the phrase, “the conveyance of stormwater and

wastewater,” can readily be misinterpreted that waste transport or waste assimilation is intended to be part of the defined and designated use, which would contravene the federal regulation in 40 C.F.R. §131.10(a).

Illinois EPA recognizes the difficulty of defining these aquatic life uses. Overall, the Agency believes that the intent of these goals is best served by language that represents a balance between over-specifying and over-generalizing the biological condition that each use represents relative to the Clean Water Act interim aquatic life goal. In this context and for the reasons addressed above, the Agency believes that the originally proposed definitions better meet this balance than do the new definitions in the First Notice Opinion. Therefore, Illinois EPA recommends retaining the original definitions proposed in 2007.

IV. First Notice Proposal to Designate Upper Dresden Island Pool as a General Use Water

The First Notice opinion does “not propose an aquatic life use for the Upper Dresden Island Pool (UDIP) designation. Instead, the Board proposes that the UDIP be classified as General Use, based on its ability to meet the CWA goals. However, the Board will revisit the issue of appropriate water quality standards for UDIP in subdocket D.” Slip Op. at 1.

On April 5, 2013, Illinois Environmental Regulatory Group (“IERG”) filed a Motion for Clarification of the First Notice Opinion and Order in subdocket C. The motion sought clarification from the Board on the intent behind this designation, the interpretation of the water quality standards that would apply and the interaction between this decision, and the Board’s holding on recreational uses for this segment in R08-09(A). The Agency responded to this Motion on April 19, 2013 that it shared some

of IERG's confusion. On May 16, 2013, the Board issued an opinion providing clarification and soliciting additional input on the proposal. The Board stated that:

"First, the Board does not intend that the General Use water quality standard will apply to the UDIP until the conclusion of Subdocket D. In Subdocket D, the Board will examine the record to determine appropriate water quality standards for UDIP. The Board invites the participants to provide clarification for the rule to alleviate any confusion. For example, should the Board delay the effective date of the proposed rule, which designates the aquatic life use for the UDIP or simply wait to adopt the UDIP aquatic life use designation until Subdocket D is also adopted? These are merely two ways that the rule language could be amended to address this concern."

May 16, 2013 Opinion at p. 4.

Under 40 C.F.R. §131.20, Illinois is generally expected to submit water quality standards to USEPA for approval within 30 days of final State action. The Agency is exploring whether it would be possible to delay submittal of the uses established under subdocket C for approval by USEPA until after the water quality standards in subdocket D are adopted. But in the event that delay is not possible, the Board's suggestion of linking the timing of the adoption of the use designation to the timing of the adoption of new water quality standards for the protection of that use designation would be a solution to the Agency's conclusion that General Use standards would become applicable in their entirety to the Upper Dresden Island Pool upon final adoption of the General Use designation by the Board.

Although the Board proposed a General Use designation for Upper Dresden Island Pool, the opinion also indicated that "The Board will examine water quality standards for the UDIP in subdocket D to ensure that UDIP can meet the water quality standards applicable under the General Use standard. The Board is mindful that,

particularly in the area of temperature, water quality standards may need to be adapted for the UDIP.” (Slip Op. at 221). Illinois EPA is concerned that the wording of this statement in the Board’s opinion could be interpreted as a misapplication of the Clean Water Act requirements for federal approval of water quality standards. The task in subdocket D is to determine which water quality standards are necessary to protect the designated uses, not which standards the Upper Dresden Island Pool “can meet”. If the General Use designation is attainable, to conclude that Upper Dresden Island Pool cannot meet the General Use water quality standards would not be an appropriate basis to deviate those standards from the General Use standards. Under the Clean Water Act, the standard necessary to protect the use designation must be adopted, and where the standard is not met, a TMDL is conducted to determine what steps must be taken to bring the segment into compliance with the water quality standards.

On May 24, 2013, the Agency submitted a motion to amend its subdocket D rulemaking proposal and language amending that proposal. The Agency’s changes would update the language proposed for Part 302 of the Board’s rules to eliminate the reference to a unique use designation for the Upper Dresden Island Pool and to eliminate the water quality standards proposals that were applied directly to the Upper Dresden Island Pool only (dissolved oxygen and temperature). It is the Agency’s conclusion, at this time, that adoption of general use designations for any of the CAWS and Lower Des Plaines River waters would generally be expected to be accompanied by the application of general use water quality standards. Illinois EPA agrees that temperature may be unique from the other parameters based on the Agency’s reliance on the development of a list of Representative Aquatic Species (RAS) on a site specific

basis and the fact that several other large rivers in Illinois have specific water quality standards (usually more stringent than General Use) applicable to them. In general, the burden to defend and obtain USEPA approval for the adoption of less stringent numeric criteria which deviate from general use standards for a General Use Upper Dresden Island Pool is likely to be difficult.

In adopting the General Use designation for Upper Dresden Island Pool, the Board found that “there appears to be little difference between the UDIP designation as defined by [Illinois] EPA and General Use waters. Accordingly, the Board proposes designating UDIP as General Use rather than defining a unique aquatic life use.” (Slip Op. at 176). The Board also stated that the Agency “has not adequately explained its justification for a UDIP ALU in light of its conclusion that none of the UAA factors apply. As explained above, the Board attempted to discern Illinois EPA’s intent by reviewing Illinois EPA’s proposed water quality standards for the UDIP.” (Slip Op. at 221). This particular statement from the First Notice Opinion appears to overlook the key difference between the Upper Dresden Island Pool use designation proposed by the Agency and the General Use category: that the Upper Dresden Island Pool designation does not address recreational uses. As the Board stated on page 173 of its opinion, “...Illinois’ current designation of General Use addresses aquatic life together with recreational use without providing for the possibility that a segment may attain one but not the other.” (Slip op. at 173). While the First Notice opinion did not explain how the General Use designation should be read in conjunction with the incidental contact recreation water designation adopted for these waters in R08-09(A), the Board provided clarification in its May 16, 2013 supplemental opinion by stating that in adopting the

general use designation “the Board did not intend to change or alter the Recreational Use designations and standards decided in Subdockets A and B.” (R08-09(C), May 16, 2013, Slip. Op. at 4). To adopt a General Use designation for the Upper Dresden Island Pool without further clarifying language would create the inconsistency of having two conflicting recreational use designations for this waterbody. Illinois EPA recommends that the Board adopt language in Part 303 that clarifies this segment is designated as General Use for aquatic life, agricultural, aesthetic use and all other purposes except for recreational uses if it retains the General Use designation in the adopted rule.

Illinois EPA would also like to clarify a factual statement in the Board’s discussion of the Upper Dresden Island Pool. The Board states that:

“The Board examined Illinois EPA’s UDIP designation in the context of Illinois EPA’s proposed water quality standards to understand how Illinois EPA’s proposed UDIP ALU compares to General Use and CAWS ALU A. As proposed by Illinois EPA, most water quality standards for the UDIP waters are identical to those for General Use, including DO. The two exceptions are mercury and temperature. Illinois EPA proposes a more stringent mercury standard for UDIP than General Use. Illinois EPA’s proposed temperature standard for UDIP is more stringent than General Use for the months of April through November (88.7 °F for UDIP; 90 °F for General Use). For the months of December through March, the temperature standard would be less stringent for the UDIP ALU than General Use standards (88.7 °F for UDIP; 60 °F for General Use).”

(Slip Op. at 216).

Illinois EPA would like to clarify three points from this paragraph. First, the Agency’s proposed mercury water quality standard for the protection of human health for all three aquatic life use designations is the same as the General Use standards. The Board is correct to point out that the proposed acute and chronic water quality standards for the protection of aquatic life have been updated and are more stringent than the current General Use standards. However, since the human health standard is

much more stringent than the acute and chronic standards (although it is applied as an annual average), that number will generally be the controlling requirement in most circumstances. Second, the summary of when the proposed temperature standards are more or less stringent than General Use only addresses the maximum or absolute maximum temperatures and not the period average. Third, there are additional proposed water quality standards that differ between the Agency's proposal and General Use water quality standards that are not mentioned. In addition to the standards mentioned by the Board, the Agency proposed updated standards for the waters subject to this rulemaking that differed from the existing General Use standards for Arsenic, Chromium (total), Copper and Silver.¹

V. The Board's Proposal to Maintain the Chicago River as a General Use Water

In its First Notice Opinion, the Board "determined that maintaining the General Use standard for the Chicago River is appropriate as the Chicago River can meet the CWA goals in the foreseeable future. Therefore no change is proposed for the Chicago River." (Slip. Op. at 1). As the Agency explained in its response to IERG's Motion for Clarification, USEPA has previously approved the Board's proposed language from subdocket A of R08-09 that is applicable to the Chicago River for purposes of recreational uses. On November 3, 2011, USEPA approved the Primary Contact Recreation definition and on May 16, 2012, USEPA approved changing Chicago River from General Use to Primary Contact Recreation Use. While there may be no practical difference between the General Use recreational use and the Primary Contact

¹ In the Agency's May 24, 2013 motion to amend, the Agency also proposed some changes to the standards in this rulemaking to match superseding changes made to the General Use standards. These include zinc, fluoride and manganese.

Recreation use waters, the Board has not identified which regulation should be applicable in the Chicago River.² However, in its May 16th opinion, the Board stated it “did not intend to change or alter the Recreational Use designations and standards decided in Subdockets A and B.” (Slip. Op. at 4).

When USEPA approved the removal of the General Use designation for recreational purposes, it simultaneously disapproved any such removal for purposes of aquatic life, wildlife, agricultural, industrial and aesthetic quality uses because no adequate rationale was provided in subdocket A. See, May 16, 2012 determination letter (Public Comment #1338). One area of confusion created by USEPA’s May 16, 2012 determination is whether it is possible for a single piece of regulatory language to simultaneously be approved and disapproved by USEPA. It may be possible, as USEPA seemed to conclude, for the General Use designation to be applied for some uses, but not others. However, the Agency encourages the Board to adopt rules that make clear on their face which uses the Board intends to apply to which segments for both recreational and aquatic life use purposes without requiring an analysis of prior Board opinions and USEPA determinations to understand which uses and water quality standards are intended to apply under State law. If the Board retains the general use aquatic life standards for the Chicago River, the Agency recommends that the Board maintain those uses for recreational purposes as well for clarity even though there should be no practical distinction between the two recreational use designations.

Unlike the First Notice Upper Dresden Island Pool proposal, the General Use proposal for the Chicago River segment maintains the existing aquatic life use

² 35 Ill. Adm. Code 301.323 defines “Primary Contact Recreation” as the use designation applicable to certain CAWS and Lower Des Plaines River segments while Section 301.355 defines the term “primary contact” as used in the General Use regulations.

designation. But unlike the First Notice proposal in the Upper Dresden Island Pool proposal, the Agency does not agree with the technical basis for the conclusions reached regarding the attainability of Clean Water Act aquatic life goal uses in this segment. Illinois EPA still believes that the technical analysis that led the Agency to propose *CAWS and Brandon Pool Aquatic Life Use B* for this segment is valid. While the Agency was willing to accept the compromise reached by the Metropolitan Water Reclamation District of Greater Chicago (“MWRDGC”) and the representatives of various environmental groups to designate this segment as *CAWS Aquatic Life Use A*, the Agency has technical concerns with the proposed General Use designation for this segment.

The Board concluded that “Both CAWS and LDPR have shown improvement since these waters were last classified. However, certain segments that are classified as General Use have been unable to attain the water quality standards of General Use or meet the CWA goals of ‘protection and propagation of fish, shellfish and wildlife’. Other segments have shown improvement in fish diversity and water quality but still cannot yet meet the CWA goal.” (Slip op. at 173). But with regard to the Chicago River, the Board concluded that “The existing water quality and fish assemblage, have been impacted by hydrologic modifications, but not to such an extent that the CWA goals cannot be achieved in the foreseeable future. The Board believes this is especially true given the redesignation of recreational use in the Chicago River to primary contact with corresponding water quality standards, which should improve overall water quality in the Chicago River.” (Slip Op. at 191). It is not clear what this statement on page 191 regarding the interaction with the recreational use designations in this segment is based

upon. There was no indication from the Board's subdocket A opinion that the Primary Contact Recreational Use designation is a more natural use designation than General Use. In addition, the water quality standard being proposed for the Primary Contact Recreation Use segment is exactly the same (35 Ill. Adm. Code 302.209) as the standard currently applicable to the Chicago River as a General Use segment. It is not clear how the Board's opinions would result in improved water quality in this segment, nor is it apparent how a theoretical improvement in indicator bacteria water quality would improve conditions for aquatic life.

The First Notice opinion demonstrates that the Agency's analysis regarding this segment was not always presented clearly in the Record. The Board explained its confusion with the Agency's approach in explaining one of its areas of concern:

"The fourth concern the Board has is that the UAAs and public comments and testimonies do not seem to have a consistent correlation between water quality and habitat when using those two factors to determine the appropriate aquatic life use. For example, Illinois EPA relied on the lack of aquatic habitat to argue that the Chicago River should be designated ALU B, while placing less emphasis on water quality. In contrast, for the Upper North Shore Channel, Illinois EPA relied on the lower water quality in terms of DO, while placing less emphasis on the high quality habitat, and proposed downgrading from General Use to an ALU designation."

(Slip. op. at 176).

This concern indicates that the Agency was not sufficiently clear in explaining its use of water quality data in proposing which aquatic life uses to designate. As indicated on Page 4-7 of Attachment B to the Statement of Reasons, "five years of available water quality data were evaluated using a use attainment screening approach that identified CAWS reach segments currently attaining CWA goals." Similarly in the Lower Des Plaines Report it states with regard to the water body assessment of chemical

integrity that “This assessment is an integral part of the first step (Figure 2.1) of the Use Attainability Analysis for the Lower Des Plaines River that screens the available chemical sampling data to determine which parameters are currently meeting the State of Illinois General Use Water Quality Standards and which are not.” Attachment A to Statement of Reasons at p. 2-1. Additional explanation of the contractor’s use of water chemistry data may be found on pages 2-24, 2-26, and 9-2 of Attachment A to the Statement of Reasons.

The Record may also have been unclear as to what was meant by a ‘screening approach’. The purpose of examining water quality data in the CAWS and Lower Des Plaines River Use Attainability Analyses was to evaluate the data against the existing General Use standards or other appropriate USEPA national criteria to determine whether an argument could be made that the Clean Water Act aquatic life goal uses were existing uses in a given segment. Regardless of the presence of one or more of the six UAA factors, States cannot remove a Clean Water Act goal use where such use is an existing use. Based on this screening tool, the Agency concluded that the Clean Water Act goal uses were not existing uses in any of the study segments (but concluded they were ‘attainable’ in the Upper Dresden Island Pool, even though they were not currently being met). In this manner, the Agency believes it used water quality information similarly in the North Shore Channel and the Chicago River to conclude that the General Use designation is not an existing use.³

³ In the North Shore Channel, while habitat is better than in many other segments, the stagnation created by hydrologic modifications makes the Clean Water Act goal uses unattainable in this segment. The appropriate purpose for the discussion of dissolved oxygen in the North Shore Channel is to address the attainability of CWA goal uses as a result of these flow modifications, not to discuss water quality as a unique factor relating to attainability in its own right.

The Agency would like to clarify some statements from the First Notice opinion with regard to water quality in this segment. The Board was correct to state that: “The Chicago River receives fresh water from Lake Michigan diversions. Id. at 4-48 (Attachment B).” (Slip Op. at 189). While the Agency agrees that water quality in the Chicago River segment has historically been relatively good as a result of the influence of Lake Michigan water, the Chicago River still did not meet the screening test for attainment of the General Use water quality standards and for this reason the Agency concluded that General Use is not an existing use in this segment.

The First Notice opinion indicates that the CAWS UAA identified one water quality impairment for the Chicago River of bacteria and “the existing water quality is generally meeting the General Use water quality standards, including DO and temperature.” (Slip. Op. at 190-191). This conclusion does not reflect the Agency’s understanding of the UAA findings or the Agency’s formal conclusions regarding attainment of this segment with the existing General Use aquatic life use designation. On page 1-8, the CAWS UAA report summarizes its findings regarding exceedances of screening criteria in the North Branch Chicago River, Chicago River and South Branch Chicago River (including South Fork). For the Chicago River segment, water quality screening criteria were exceeded for total silver and dissolved zinc. In the same report, Figure 4-18 and 4-19 on page 4-52 show exceedances in Chicago River for silver, zinc and pH. Table 4-31 on page 4-53 of the UAA Report includes total silver and bacteria as constituents of major concern with DO, temperature, dissolved zinc and pH included as additional concerns.

When evaluating the water quality of North Shore Channel, the Board referenced the Agency's conclusions regarding attainment of the General Use water quality standards in the 2004 Clean Water Act Section 305(b) Report. (Slip. Op. at 188). In that same report, the Agency list impairments for all uses in the Chicago River segment including silver and phosphorus (aquatic life use), fecal coliform (primary contact use), PCBs and mercury (fish consumption use). The aquatic life use assessment was based on MWRDGC water chemistry data and was assessed as nonsupport (fair) with silver (21% noncompliance) and phosphorus listed as causes.

In addition, the Agency is in the process of assessing attainment of this segment with the current General Use designation for the 2014 305(b) Report. The Agency has tentatively determined that Chicago River is to be assessed for this cycle as nonsupport (fair) for aquatic life use and for primary contact use. The aquatic life assessment was primarily based on macroinvertebrate data from 2011. Listed causes of this impairment include pH and dissolved oxygen although exceedances of the standards occurred infrequently for both. Phosphorus has remained a cause of impairment but silver is likely to no longer be identified based on compliance with the General Use standard. Water chemistry data used for this assessment will be based on MWRDGC Ambient Water Quality Monitoring data from 2008 – 2010 at Lake Shore Drive and Wells Street, and continuous DO monitoring at Clark Street in 2010. In addition, the Agency collected water quality data three times in 2011 at Wells Street. Other possible causes of impairment include changes in stream depth and velocity patterns, loss of instream cover and other flow regime alterations.

Once it is determined that Clean Water Act aquatic life uses are not existing uses under the water quality screening process, the Agency used habitat information to evaluate the attainable uses in each segment. Biological information was compared to the habitat information to see if individual segments appeared to be attaining the conditions the current habitat would allow. One possible cause of biological conditions not achieving the condition that habitat would appear to allow could be water quality impairments. Finally, it was necessary for the Agency to evaluate the reversibility or irreversibility of those habitat conditions that interfered with attainment of Clean Water Act goal uses.

The Board has stated that it used water quality, biological and habitat data in a very different way than used by the Agency. The Board states that “in determining the appropriate aquatic life use designation, the Board based its decision on an examination of water quality, biological conditions, and habitat, with no one of these factors being more important than the others.” (Slip. Op. at 191). The Board may need to explain this methodology in more detail for USEPA to be able to determine if the Board’s analysis is consistent with the Clean Water Act. It may or may not be possible to give these three factors “equal weight” in determining the attainable aquatic life use of a given segment. The Agency did not intend to give chemical measures of water quality greater or lesser weight than other facts, but to give that information the proper role in formulating the use designation decision. While it is legitimate to use water quality data to determine existing and attainable uses, it is not generally appropriate to use water quality data to determine that a Clean Water Act aquatic life goal use cannot be attained without

connecting this information to demonstration that one of the use attainability analysis factors in 40 C.F.R. 141.10(g) are the reason for the water quality exceedances.⁴

With regard to habitat, the First Notice Opinion states that “One positive attribute of the Chicago River is that the water depths are greater than 15 inches. Attach. B at 4-68.” (Slip. Op. at 190). This statement from the CAWS UAA is taken out of context.⁵

That report states:

“The habitat survey conducted by Rankin (2004) for the Chicago River had very poor aquatic life potential in the river as it flows through the heart of Chicago. His findings revealed that the Chicago River had the most limited habitat of all surveyed sites in the Chicago area waterways. Limiting habitat features included: Channelization of the waterway; no sinuosity (no meanders); no instream cover, mostly sheet-pile walls; and no riffles or fast current. The only positive feature of the Chicago River was the water depths were greater than 15-inches, which are a weak attribute for big rivers (Table 4-41).”

(Attachment B at 4-68). The First Notice proposal would maintain a General Use designation for the waterway segment found to have the lowest habitat potential of all the sites surveyed in the CAWS. While the Board agrees that habitat in this segment is very poor, the Board concludes that the fish diversity in the Chicago River is “good”. (Slip. Op. at 190). In reviewing the data, the IBI values at one site in segment (Loop area) are 12 to 24 (very poor to poor) and the IBI values at the other site (inner harbor) are 14 to 36 (very poor to fair). The MBI scores range from good (5.6) at Lakeshore Drive to very poor (9.5) at Wells Street. (Slip Op. at 190). Illinois EPA disagrees with the conclusion that the biological condition of the Chicago River segment is good.

⁴ For instance, UAA factor 1 provides “Naturally occurring pollutant concentrations prevent the attainment of the use” as a basis for designating a use less natural than the Clean Water Act goal use. 40 C.F.R. 110(g)(1).

⁵ The Agency had difficulty understanding why the contractor stated that depths greater than 15 inches were considered a ‘positive feature’. The answer may be in explaining “which are a weak attribute for big rivers.” This may be intended to indicate that although having a maximum depth of greater than 15 inches is generally a positive QHEI attribute, for large rivers such depths are not as important relative to other habitat features because large rivers typically have maximum depths that are much greater than 15 inches. Whatever the meaning of the phrase was intended to be, it could not have been intended to indicate the presence of good habitat in this segment relative to other CAWS segments as every segment of the CAWS would have “water depths greater than 15 inches”.

On basis for the First Notice opinion's conclusions may be that: "The Board also finds no reason to support jeopardizing a decline in water quality based on one attribute of the Chicago River." (Slip Op. at 191). The opinion does not explain how adoption of the appropriate use designation could jeopardize a decline in water quality. There are a number of legal requirements in place that would prevent that from occurring. As explained above, the current water quality is not attaining the General Use standards and there is no reason to conclude that water quality will be allowed to decline based on the Agency's proposed use designation. The continuation of the current artificially elevated state of water quality and fish species in the eastern-most portions of this segment will depend most on the changes made to discretionary diversions from Lake Michigan or leakages from the Chicago River locks as opposed to the Board's actions in this subdocket.

VI. Opening of a Subdocket E for South Fork South Branch Chicago River (Bubbly Creek)

In the First Notice Opinion, the Board ordered the Clerk to open a new subdocket E of rulemaking docket R08-09 to "examine issues surrounding Bubbly Creek (the South Fork South Branch Chicago River) as requested by the Metropolitan Water Reclamation District of Greater Chicago (District) and Environmental Law and Policy Center, Friends of the Chicago River, Sierra Club Illinois Chapter, Natural Resources Defense Council and Openlands (Environmental Groups)." (Slip Op. at 2). In making this decision the Board concluded that:

"Bubbly Creek is currently designated as Indigenous Aquatic Life Use. [Illinois] EPA proposed to revise this designation to ALU B; however, the District and Environmental Groups ask that a new subdocket be created to address Bubbly Creek. 1/27/12 Statement Attach A; PC 1366 at 2. The District and Environmental Groups ask that the Board delay any action on

Bubbly Creek until the USACE issues its report on Bubbly Creek. I[[Illinois] EPA notes that even though designation of Bubbly Creek was adequately addressed in I[[Illinois] EPA's proposal, I[[Illinois] EPA supports the District and the Environmental Groups request for deferring decision on this segment while the USACE completes an ecosystem restoration study. PC 1275 at 23.”

(Slip Op. at 193).

In May 2012, USEPA approved the Board's designation of the South Fork South Branch Chicago River as Incidental Contact Recreation Use. The Agency recommends that the Board is clear that subdocket E is not intended to disturb this adopted and approved use designation for recreational uses. Also, the Board should provide clarity on what standards apply to this segment prior to adoption of a final opinion in subdocket E. It would seem the Board's intent would be for the “Indigenous Aquatic Life use” aspect of the Secondary Contact and Indigenous Aquatic Life Use standards to continue to apply. Before Section 303.441 of the Board regulations was repealed, the South Fork South Branch Chicago River was identified in that provision as part of the South Branch Chicago River and not independently identified as a Secondary Contact and Indigenous Aquatic Life Use segment. In order for Indigenous Aquatic Life Use standards to continue to apply to this segment, the final opinion and order will need to include additional regulatory language identifying the segment and cross-referencing which water quality standards apply to it. In addition, the Agency's proposal in subdocket D to repeal the Secondary Contact and Indigenous Aquatic Life use water quality standards in Part 302 would likely have to be delayed until the completion of subdocket E. The Agency recommends that the final Board Opinion in Subdocket C provide this type of clarity on what standards apply to the South Fork South Branch Chicago River at the time of adoption and into the near future.

In its May 16, 2013 opinion, the Board solicited comment on this issue by stating that “if [Illinois] EPA believes language is necessary as a placeholder for Bubbly Creek during the pendency of Subdocket E, the Board invites suggestions.” (Slip. Op. at 4). As indicated above, the Agency does believe some type of language is necessary. One possible method of establishing placeholder language would be to keep all the existing Secondary Contact and Indigenous Aquatic life use water quality standards in place until Subdocket E is completed and to include language in Part 303 that retains the use designation for “Indigenous Aquatic Life Use” (without the Secondary Contact portion) for this segment only.

VII. Request for Additional Comments on Board’s Concerns with the Agency’s 2007 proposal

On pages 175-176 of the Board’s First Notice Opinion the Board raised five areas of concern regarding the aquatic life use definitions and designations for the various segments proposed by Illinois EPA. The Agency will attempt to address these issues in more detail below.

The first issue raised by the Board on page 175 is “First, [Illinois] EPA did not fully explain how its proposed definitions were crafted or why they differed from those recommended in the CAWS and LDPR UAAs.” While the Agency has provided additional detail above regarding the meaning and intent behind the aquatic life use definitions and decisions made when the Agency filed its original proposal, the Agency would like to further address this concern here.

The Agency appreciated the data compilation and analysis of the contractors whom USEPA provided funding to evaluate the Lower Des Plaines River and the Chicago Area Waterway System. (Attachments A and B to Statement of Reasons).

Use designations also involve policy decisions that were not possible to delegate to non-governmental technical contractors. In addition, the scientists who developed the UAA reports were not experts in Illinois law or Board regulations and were not able to propose appropriate regulatory language for the Board rules. The Agency regrets that it did not provide the Board the detail and clarity it was looking for into why certain contractor recommendations were deemed inappropriate by either the Lower Des Plaines River and CAWS stakeholder workgroups or the Agency. However, the contractors of the UAA reports did not present testimony to the Board and therefore UAA reports should be relied on primarily for the value they present as a compilation of available data. To rely on regulatory language that was proposed in the UAA reports but not presented at hearings or subject to cross-examination could create confusion in the record as to the intent and meaning of the Board's language proposal.

Another issue of concern raised by the Board was the lack of clarity in the meaning and use of the terms "tolerant, intermediately tolerant and intolerant." As explained on pages 6 - 10 *infra*, Illinois EPA attempted to incorporate the meaning of the Clean Water Act goal of "balanced indigenous populations" of aquatic life in its aquatic life use definition proposals. Specifically, the Agency tried to represent the concepts of balance and imbalance of aquatic life by incorporating a readily recognizable aspect of those conditions: differences in the presence and abundances of aquatic life in each of three categories of relative tolerance to human impacts. These categories are intolerant, intermediately tolerant, and tolerant.

Roy Smogor testified that the Agency attempted to define balance and imbalance in terms of the relative types and numbers of organisms based on their tolerances. See

pp. 62-63; 65-67; 82-83; and 85-89 of the March 10, 2008 morning transcript; *See also*, pp. 6 – 9; 16-19 and 21-24 of March 11, 2008 transcript. The Agency further testified that the terms chosen were descriptions of what the Agency believed were attainable biological conditions in a narrative form. *See*, March 28, 10, 2008 morning transcript, p. 65 (Smogor).

A fundamental aspect of evaluating the environmental health of a stream or lake is determining the presence and relative abundances of different animals relative to each animal type's general tolerance to human impact. Specifically, knowing whether sensitive (i.e., intolerant) types of aquatic life are living in a section of stream or in a lake can help indicate the overall environmental health of that waterbody. To achieve the Clean Water Act goal of balanced aquatic life requires conditions that support intolerant types of fish, macroinvertebrates, and other organisms. Also, for a stream or lake, the occurrence and relative abundances of intermediately tolerant and tolerant organisms indicate how much imbalance may be present. A primary difference between balance and imbalance is the loss of intolerant types. On that same continuum, increasing predominance of the most tolerant types represents increasing levels of imbalance. Agency witness Roy Smogor testified as to the Agency's attempts to define balance and imbalance in terms of the relative types and numbers of organisms based on their tolerances. *See*, pp. 6 - 9 of March 11, 2008 Joliet hearing transcript. Illinois EPA believes that most people can readily recognize and relate to these aspects of balance and imbalance; thus, the Agency focused on these differences to distinguish among the three different aquatic life uses that were originally proposed.

The Board also indicated it “found it difficult to reconcile I[[llinois] EPA’s proposed definitions for ALU A, ALU B, and UDIP with the corresponding water quality standards.” Slip Op. at 175. On pages 25 -26 infra the Agency discusses the role of water chemistry in the use designation process. In addition, it is worth noting that protecting for different levels of biological potential does not require that all chemical water-quality standards be different. For most chemical standards—especially those intended to prevent toxic effects—the thresholds will not differ much because between use designations because all aquatic life uses would at least protect against harmful toxic effects. Examples of states that have tiered aquatic life uses indicate that most chemical standards do not differ among the different tiers. The most likely standards to vary among different use designations are the same ones that vary in the Agency’s proposals such as dissolved oxygen, ammonia and temperature.

The Board’s fourth area of concern was the lack of a “consistent correlation between water quality and aquatic habitat when using those two factors to determine the appropriate aquatic life use.” Slip. Op. at 176. The Agency attempts to shed additional light on the methodologies of utilizing habitat on page 29 these comments. Another important issue when reviewing the habitat data, testimony and comments is to recognize the importance of the issue of reversibility versus irreversibility of habitat limitations. In some segments, irreversibility of the existing degraded physicochemical water conditions prevails over the otherwise less-degraded existing physical habitat (e.g., upper North Shore Channel). However, for most segments, irreversibility of the existing degraded physical-habitat conditions prevails over the existing (though reversible) degraded physicochemical conditions of the water.

In the Board's opinion it stated that "in determining the appropriate aquatic life use designation, the Board based its decision on an examination of water quality, biological conditions, and habitat, with no one of these factors being more important than the others." (Slip. Op. at 191). The Board may need to explain this methodology in more detail for USEPA to be able to determine if the conclusions are consistent with the Clean Water Act. It is not clear that these three factors can legitimately be given equal weight in determining the attainable aquatic life use of a given segment. The role of water quality is different than the roles of biology and habitat. At the same time the legitimate role of biology differs from that of habitat. As explained above, water chemistry is used for screening whether General Use is an existing use. Water chemistry does not necessarily play an important role in determining attainability of a non-existing use because existing impaired water quality that is precluding a use may be considered reversible. Habitat is the most important factor for determining the attainable aquatic life use and the state must also look to whether habitat impairments are reversible or irreversible in the foreseeable future. Finally biology is used to test the conclusions about habitat and attainability of uses and evaluate whether water quality or other factors may be interfering with attainability.

There may also be some confusion about the dividing line between the factors of water quality, biology and habitat because biological data is also often used to evaluate water quality. When the Board states "that while the physical attributes of the Calumet River from Lake Michigan to Torrence Avenue are similar to the Chicago River, the lower water quality as reflected in the IBI and MBI scores in the Calumet River in connection with those physical attributes supports an ALU A designation rather than

General Use.” (Slip Op. at 203).⁶ While this statement appropriately links biological data to water quality, it creates some confusion as to what information the Board placed in the “biological information” category and what information the Board placed in the “water quality” category in its analysis of the three factors it attempted to give equal weight. The term water chemistry has often been used synonymously with the term water quality in these proceedings, but in this case, the Board is using IBI and MBI scores, rather than water chemistry, to define water quality. Biologists typically use IBI and MBI scores as a way to measure biological health.

Finally, the Board stated in their Opinion they were concerned about the limited focus on stream segments rather than on the larger aquatic systems and their connectivity by the Agency in the original proposal by the Agency. (Slip. Op. at 176). The Agency is not sure how to address this issue, but is willing to provide any additional information that the Board may find helpful in addressing this concern.

VIII. The Decision Concerning Whether USEPA’s Actions Impact the Water Quality Standard for Primary Contact Recreational Uses or the Need for Water Quality Standard for Incidental Contact Recreational Uses.

The Board has invited participants to comment on whether USEPA’s actions (publication of “2012 Recreational Water Quality Criteria”) impact the water quality standards for primary contact recreational use or the need for water quality standards for incidental contact recreational use. See, Slip Op. at p. 222.

As the Agency stated in our subdocket B filing, the scientific information is not available to promulgate ambient water quality standards for Incidental Contact

⁶ It should be noted that fish and macroinvertebrate data were not collected in the Calumet River between Lake Michigan and Torrence Avenue. Biological data were collected 5.5 miles downstream of Lake Michigan at 130th Street (about 1 mile downstream of Torrence Ave.) and at the O’Brien Lock and Dam. If the Calumet River had been sampled close to Lake Michigan it is possible that it would have shown similar biological conditions as the Chicago River at Lake Shore Drive/inner harbor.

Recreational Use activities. See, Agency Comments filed in subdocket B on November 9, 2011, p. 6. The “2012 Recreational Water Quality Criteria” document does not address recreational uses other than primary contact. See, Executive Summary at p. 1. Therefore, at this time the Agency cannot propose what water quality standards would apply to incidental contact recreational uses since there is no federal guidance for such waters and no additional science on which to base such a proposal.

With regard to how the Agency plans to address the new bacteria criteria document, the Agency has committed to USEPA that it will propose to the Board a change to the bacteria water quality standard from fecal coliform to *Escherichia coli* (“*E. coli*”) for the General Use waters. The Agency is currently in the process of reviewing the bacteria National Criteria Document and will be doing outreach to the regulated community and interested parties later this year. After outreach, the Agency will finalize the proposed language and initiate a rulemaking before the Board. It is the Agency’s plan to make the change state-wide with this future rulemaking, which will include all of the General Use waters and waters that are designated for primary contact recreational uses.

Illinois EPA appreciates that the Board accepted the Agency’s proposed language to establish a primary contact recreation standard in the First Notice Opinion that cross-references the General Use standard in Section 302.209. At this time, the Agency would prefer that the Board go forward with the proposed language that is in Section 303.220 and wait for the Agency’s statewide proposal to evaluate the need to update the use of fecal coliform as an indicator organism.

IX. Suggested Edits to the Board’s First Notice Order

In the regulatory language from the First Notice Order, the Board accepted the Agency's suggestion in the subdocket B rulemaking to use the term "fecal coliform bacteria" in Section 303.204. However, with the changes the Agency expects to propose when a state-wide rulemaking is filed with the Board to address the new USEPA bacteria criteria, the Agency suggests removing the reference to "fecal coliform" from this section. This will allow the flexibility in Section 303.204 to reference the appropriate bacteria criteria in Section 302.209 whether it is the current fecal coliform bacteria criteria or a future *e coli* bacteria criteria.

In addition, the Agency has identified two minor typos in the last sentence of the same section. Therefore, the Agency suggests the following edit to the Board's First Notice proposal in Section 303.204:

The Chicago Area Waterway System and Lower Des Plaines River Waters are designated to protect for primary contact recreation, incidental contact or non-contact recreational uses (except where designated as non-recreational waters) and commercial activity (including navigation and industrial water supply uses) and the highest quality aquatic life and wildlife attainable, limited only by the physical condition of these waters and hydrologic modifications to these waters. These waters are required to meet the secondary contact and indigenous aquatic life standards contained in 35 Ill. Adm. Code 302, Subpart D, but are not required to meet the general use standards or the public and food processing water supply standards of 35 Ill. Adm. Code 302, Subpart B and C, except that the waters designated as Primary Contact Recreation Waters in Section 303.220 must meet the numeric water quality standard for fecal coliform bacteria applicable to protected waters in 35 Ill. Adm. Code 302.209. Designated recreational uses and aquatic life uses for each segment of the Chicago Area Waterway System and Lower Des Plaines River are identified in this Subpart.

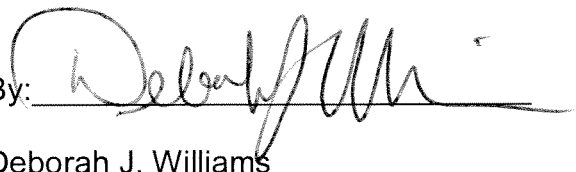
X. Conclusion

The Agency appreciates the opportunity to comment on the Board's First Notice Opinion and Order and the time and effort invested by the Board in addressing the issues covered in subdocket C. The Agency is full support of the aspects of the Board's

First Notice Order that are not addressed in detail in these comments and looks forward to the conclusion of this rulemaking docket.

WHEREFORE, the Illinois EPA respectfully requests the Pollution Control Board proceed to Second Notice and Final Adoption of subdocket C consistent with the comments submitted above.

Respectfully submitted,

By: 

Deborah J. Williams
Assistant Counsel
Division of Legal Counsel

Date:

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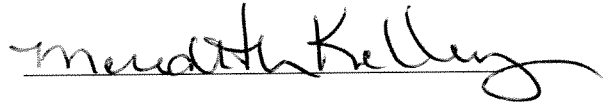
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Pollution Control Board

PROOF OF SERVICE

I, the undersigned, on oath state that I have served the attached COMMENTS OF ILLINOIS EPA'S ON THE ILLINOIS POLLUTION CONTROL BOARD'S SUBDOCKET C FIRST NOTICE OPINION upon the person to whom it is directed by placing it an envelope addressed to:

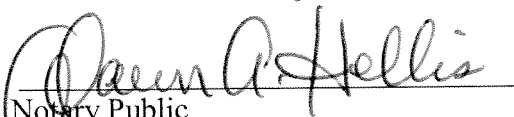
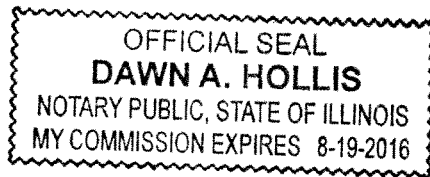
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and mailing it First Class Mail from Springfield, Illinois on June 26, 2013, with sufficient postage affixed to the addresses on the attached Service List.



SUBSCRIBED AND SWORN TO BEFORE ME

This 26th day of June, 2013


Notary Public

THIS FILING IS SUBMITTED ON RECYCLED PAPER

