BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:	)	
	)	
REVISIONS TO ANTIDEGRADATION RULES:	)	R01-13
35 ILL. ADM. CODE 302.105, 303.205, 303.206, AND	)	(Rulemaking-Water)
106.990 –106.995	)	P.C. #51
	)	
	)	
	)	
	)	
	)	

NOTICE OF FILING

PLEASE TAKE NOTICE that on this date, October 11, 2001, I filed with Dorothy Gunn, Clerk of the Illinois Pollution Control Board, James R. Thompson Center, 100 West Randolph, Suite 11-500, Chicago, IL 60601, the enclosed Post-Hearing Comments of the Environmental Law and Policy Center, Friends of the Chicago River, Prairie Rivers Network, and Sierra Club; Regarding the Proposed Rule, First Notice.

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October 11, 2001

35 East Wacker Drive, Suite 1300
Chicago, IL 60601-2110
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BEFORE THE POLLUTION CONTROL BOARD
OF THE STATE OF ILLINOIS

IN THE MATTER OF:	)
	)
Revisions to Antidegradation Rules:	) R01-13
35 Ill. Adm. Code 302.105, 303.205,	)
303.206 and 106.990-106.995	)

POST-HEARING COMMENTS OF THE ENVIRONMENTAL LAW AND POLICY CENTER, FRIENDS OF THE FOX RIVER, PRAIRIE RIVERS NETWORK AND SIERRA CLUB
REGARDING THE PROPOSED RULE, FIRST NOTICE

The Environmental Law and Policy Center, Friends of the Fox River, Prairie Rivers Network and Sierra Club (collectively "Environmental Groups") hereby file post-hearing comments regarding the Illinois Pollution Control Board's First Notice antidegradation regulation proposal, issued by the Board on June 21, 2001 (the "First Notice Proposal"). These comments also address certain proposed revisions to the First Notice Proposal proposed by the Illinois Environmental Protection Agency ("Illinois EPA" or the "Agency") and others.

First, we wish to reemphasize the importance of establishing antidegradation standards and implementation rules as soon as possible. The requirements of the current nondegradation rule, 35 Ill. Admin. Code 302.105, are not legally sufficient and do not give adequate instructions to National Pollutant Discharge Elimination System ("NPDES") permit writers or Illinois EPA officials responsible for making certification decisions under Section 401 of the Clean Water Act, 33 U.S.C. §1341 ("CWA 401 certification"). Bad decisions that are injuring Illinois waters have been and are being made as a result of sound antidegradation regulations not being

established. The Environmental Groups oppose any changes being made to the First Notice Proposal that will cause substantial delay in the final enactment of protective regulations.

Illinois EPA initiated meetings four years ago to discuss the development of antidegradation standards and implementation rules. During these meetings, the Agency repeatedly invited specific proposals from the participants and a number of specific proposals were made by the Environmental Groups. After two years of such discussions, the Agency offered its initial proposal to the Board in August 2000. Since then, there have been three Board hearings, issuance of the First Notice Proposal by the Board, the August 24, 2001 Hearing on the First Notice Proposal, and an additional comment period. The time for inviting further discussion should be ended. Standards and rules are needed now.

Since August 24, 2001, there have been numerous informal discussions among a number of the parties that participated in the workgroup meetings from 1997 to 2000. We believe these recent discussions have served to narrow still further the remaining areas of disagreement among the parties most active in this rulemaking proceeding. Illinois EPA, the Illinois Environmental Regulatory Group ("IERG") and the Environmental Groups have filed or are filing revised proposals that reflect agreements reached as a part of these recent discussions.

As the Environmental Groups testified August 24, 2001, the First Notice Proposal is generally very good. The Board needs to make a few small, but significant, changes and the proposal is probably as good and workable as possible. Any set of rules like the First Notice Proposal needs to be field tested to be perfected. That the antidegradation standards and rules that will be adopted by the Board in this proceeding will need to be revised in the future is not a

reason to further delay adopting badly needed regulations now.[1]

Our comments here will be limited to:

1. Responding to testimony and comments made by Illinois EPA in the August 24, 2001 hearing. These comments will include comments on the revised Agency proposals filed October 5, 2001, that would substantially reorganize the First Notice Proposal,[2]

2. Responding to testimony and comments made by the IERG in the August 24th hearing. Our remarks regarding IERG's proposals will reflect our understanding of IERG's current position, which we believe has changed in a number of respects since August 24th, and

3. Summarizing the testimony of the Environmental Groups in light of the questions and testimony of other witnesses to the August 24 hearing. Also, there are a few revisions that are needed to the First Notice Proposal that were not noted by the Environmental Groups until recently or that arose from the post-August 24 discussions.

Our proposed final revisions to the First Notice Proposal are attached as Attachment ONE. Because the Board may choose to reorganize the First Notice Proposal in the manner proposed by Illinois EPA in its October 5, 2001 filing, the Environmental Groups have also supplied, as Attachment TWO, the language we believe proper if the proposed Agency

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[1] For this reason, the Environmental Groups are not renewing their proposal that the Board make changes to Subtitle D regarding Mine Related Water Pollution in this proceeding although the Board's recent decision in Prairie Rivers Network v. Illinois EPA, PCB 01-112 (August 8, 2001) deepens the conflict between Illinois water quality regulations regarding mining and the Clean Water Act. The Board should note that under Prairie Rivers Network the water quality standards of part 302 and 303 are not generally applicable to mining operations that choose to exempt themselves from these standards. Thus, the part 302 regulations to be adopted by the Board in this proceeding will not be applicable to mining operations that choose to invoke their immunity.

[2]The Agency's proposed revised language will be cited here as "IEPA Revised Proposal".

reorganization is adopted by the Board.[3]

I The Board Should Adopt Some of the Agency's Proposed Revisions in this Proceeding But, if Necessary, Consider Other of the Agency's Proposals in a Separate Later Proceeding.

The Agency in its pre-filed testimony, filed August 10, 2001, and at the August 24 hearing indicated that it would propose changes to the Board's First Notice Proposal; particularly regarding proposed Section 302.105(f). The Agency's proposed revisions were filed October 5, 2001.

The Environmental Groups believe that some of the Agency's proposed revisions should be adopted by the Board in this proceeding. Other revisions proposed by the Agency should not be adopted in this proceeding. Still other proposed Agency revisions should only be adopted if the Board is confident that adoption of the proposals will not delay the establishment of antidegradation regulations for Illinois. If necessary, Agency proposals that would substantially delay adoption of antidegradation regulations should be considered in a separate proceeding. The basically sound First Notice Proposal should go into effect sooner rather than later.

A. Proposed Agency Revisions to Section 302.105(b)(4) of the First Notice Proposal - CWA Section 401Certification

The Agency's proposed changes to First Notice Proposal Section 302.105(b)(4) and many

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[3]We apologize that it is sometimes very hard to follow all of the proposed language changes and language movements. We have tried to make our comments as clear as possible but tracing proposed changes to a myriad of sections of a proposed regulation and commenting on these proposed changes makes for difficult text. We welcome any calls to counsel by staff to the Board that may serve to clarify our proposals, within the bounds of the rules governing such informal contacts by Board staff with participants in a regulatory proceeding.

of the proposed changes to other portions of the First Notice Proposal are designed to delete references to Clean Water Act Section 401 certification from the regulations regarding antidegradation permitting. The Environmental Groups are concerned that the Agency proposal eliminates any formal procedures for conducting antidegradation reviews for CWA 401 certifications. By removing CWA 401 certifications from First Notice Proposal Section 302.105(b)(4) and deleting references to CWA 401 certifications from 302.105(f) (before moving what was in 302.105(f) to various sections of part 309), the Agency separates the procedures for conducting an antidegradation review for NPDES permits from the procedures for reviewing CWA 401 certifications. There would then be no procedures established in this proceeding for CWA 401 certifications at all. We strongly object to these proposed changes.

The Agency's justification for insisting on entirely separate procedures for CWA 401 certifications (to be created in a future Agency rulemaking proceeding) is its concern that certain elements of the First Notice Proposal relating to Clean Water Act Section 401 certification by Illinois EPA of federally regulated activities (mainly wetland fill activities regulated by the U. S. Army Corps under Section 404 of the Clean Water Act, 33 U.S.C. §1344) may not mesh with federal procedures or will interfere with Illinois EPA's ability to work with federal agencies. Illinois EPA does not, however, point out any specific potential state/federal conflicts or cite any provision of the First Notice Proposal that conflicts with any federal rule or procedure. The Environmental Groups are unaware of any manner in which the provisions of the First Notice Proposal conflict with any federal rule or procedure.[4]

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[4]There is a wording problem in First Notice Proposal Section 302.105(d)(6) discussed below. That minor problem, however, can be corrected without taking the drastic step of

It is critical that Illinois EPA make sound CWA 401 certification decisions and that 401 certification not be a rubber stamp in Illinois, as it has often been in the past. The Board's First Notice Proposal seems well designed to accomplish these results. Other than offering general fears of possible future conflicts with federal authorities, Illinois EPA does not offer any reason the procedures for consideration of CWA 401 certifications should be different from those spelled out in the First Notice Proposal.

Accordingly, the Environmental Groups disagree with the Agency's proposed changes to First Notice Proposal Section 302.105(b)(4) as well as with the Agency's proposed changes to other parts of the First Notice Proposal insofar as these proposed changes are designed to remove the procedures for making decisions regarding CWA Section 401 certification from the procedures set forth in First Notice Proposal Section 302.105(f). [IEPA Revised Proposal Sections 309.103((a)(5), and 309.108(d)]

B. Proposed Agency Changes to First Notice Proposal Section 302.105(c)(2)

In the IEPA Revised Proposal, the Agency suggests a new sentence at 302.105(c)(2) that the "assessment to determine compliance with this Section 302.105 must be made on a case-by-case basis." The Environmental Groups believe that this "case-by-case" language, as well as different "case-by-case" language proposed by IERG, is unnecessary. However, given the apparent depth of IERG's feelings regarding this matter, we do not object to the inclusion of either the "case-by-case" language that is now proposed by the Agency (to please IERG) or to

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dropping all of the Board's proposed permitting rules in so far as they apply to CWA 401 certification.

IERG's proposed "case-by-case" language discussed below.[5]

C. Proposed Agency Changes to First Notice Proposal Section 302.105(d)(5)

This proposal to exempt increased loadings of non-contact cooling water containing chlorine to be permitted from the need for an antidegradation analysis is more limited than proposals that have been made to create a broad exemption for non-contact cooling water containing additives. It is *possible* that an exemption like that proposed by the Agency should be adopted in a future proceeding, but we do not know.

There has not been any notice of this proposal or testimony regarding it. The Environmental Groups could not in the few days that they knew of this proposal determine with confidence that chlorine is removed by the processes required by the Agency to the extent that it never poses a danger to aquatic life. Certainly, there is no evidence in the record of this proceeding that multiple sources of chlorine, regulated to the degree residual chlorine is regulated in Illinois, will never lessen the assimilative capacity of the receiving water. We note further that the present residual chlorine effluent standard would allow discharges that would raise ambient chlorine levels to levels above the standard for acute toxicity.[6]

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[5]It would be extremely repetitive for the Board to include both the Illinois EPA and IERG proposed "case-by-case" clauses in the final rule.

[6] The Agency's proposed 302.105(d)(5)(B) would allow discharges of chlorine that are nearly ten times the general water quality standard without any antidegradation review. We doubt such an exemption is appropriate.

The Agency's proposed 302.105(d)(5)(B) states that an antidegradation review is unnecessary for discharges of chlorine as long as the cooling water "is treated to remove residual chlorine, returned to the same body of water from which it was taken, as defined in 35 Ill. Adm. Code 352.104, provided that the discharge complies with applicable Illinois thermal and effluent standards." Illinois' effluent standards for total residual chlorine (35 Ill Admin. Code 304.222) only apply to non-intermittent discharges. Non-intermittent discharges are any that occur on a frequency greater than "two hours per day per condenser

The Board should not adopt the Agency's proposed exemption from antidegradation requirements for non-contact cooling water with chlorine additives in this proceeding. It may well be that a future petition to create such an exemption, properly supported by evidence that can be reviewed by the public, should be granted.

In the meantime, the lack of such a chlorine exemption should impose little hardship. An increased loading of non-contact cooling water containing a tiny amount of chlorine discharged into waters providing adequate dilution will need to undergo an antidegradation analysis. But, using the case-by-case approach adopted by the Board, the antidegradation analysis of such a loading may not need to be much more than a recitation of the facts regarding the need to disinfect and the insignificance of the increased chlorine loading.

D. Proposed Agency Changes to First Notice Proposal Section 302.105(d)(6)

The Environmental Groups agree with the Agency's proposed change to Section 302.105(d)(6) of the First Notice Proposal regarding general NPDES permits and national and regional Clean Water Act 404 permits. Under U.S. Army Corps regulations governing nationwide and regional Section 404 permits, a state is given a chance to refuse to certify the

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or cooling system unit." The numerical standards for these non-intermittent discharges is 0.2 mg/L (chronic) and 0.5 mg/L (acute).

The water quality standard for total residual chlorine is 0.011 mg/L (chronic) and 0.019 mg/L (acute). 35 Ill. Admin. Code 302.208(e). The Agency proposal therefore exempts from antidegradation review non-intermittent discharges of chlorine that are nearly twice the chronic water quality standards and over two-and-a-half times the acute water quality standard. Furthermore, the Agency proposal seems to exempt from antidegradation review all intermittent discharges of less than two hours duration although acute toxicity standards are normally based on consideration of a one hour exposure. It should also be noted that Illinois' 2000 305(b) report indicates that several miles of Illinois streams are already impaired by chlorine discharges, underscoring the possibility of environmental damage from chlorine discharges that presumably meet the effluent standards described in Section 304.222.

nationwide or regional permit for its state, or to certify the nationwide or regional permit subject to whatever limits the state chooses to impose. Thus, Illinois EPA in reviewing proposed nationwide or regional permits should reject certification or limit its certification of a proposed permit to assure that waters of particular biological significance are not affected by the permit.

After a nationwide or regional permit has been certified (subject to whatever limitations are imposed), Illinois EPA will not have occasion to certify or otherwise review activities falling within the certified permit.

As discussed below (in part III), the Environmental Group also propose a revision to First Notice Proposal Section 302.105(d)(6).

E. Proposed Changes to Section 302.105(f) [IEPA Revised Proposal Sections 309.103, 309.108, 309.113, and 309.141]

On October 5, the Agency has made a number of proposals for revisions to Section 302.105(f) of the First Notice Proposal. The Environmental Groups agree with some of the Agency's proposed revisions and oppose others.

1. Deleting the References to CWA Section 401

For the reasons discussed above, the Environmental Groups oppose deleting references to Clean Water Act Section 401 from 302.105(f), or, if the Agency's proposed reorganization is adopted, the respective portions of Part 309. The First Notice Proposal is generally sound as to CWA Section 401 certifications and no federal-state conflict has been identified that would result from the Board adopting the First Notice Proposal.

2. Moving Language in 302.105(f) to Part 309

The Agency's view that "housekeeping" considerations (Frevert Testimony, Transcript

of Proceedings, August 24, 2001 at 80) support moving the proposed language of Section 302.105(f) to Part 309 regarding permitting procedures is probably correct. But the Environmental Groups cannot support any housekeeping measures that substantially delay the establishment of sound antidegradation regulations. The Agency continues to consider NPDES permits for new or increased discharges to Illinois waters under the current vague regulations without implementation rules. New CWA 401 certification decisions are made nearly every week.

The Board should adopt sound regulations as soon as feasible. The Board should not make changes to the First Notice Proposal motivated by aesthetic or housekeeping considerations if the changes will delay adoption of effective regulations.

3. Permit Applications - Needed Change to 302.105(f)(1)[IEPA Revised Proposal, Section 309.103(a)(5)] - "with a new or increased permit limit" should be deleted.

The first sentence of 302.105(f)(1) now begins:

> A permit application for any proposed increase in pollutant loading that necessitates a new, renewed, or modified NPDES permit, with a new or increased permit limit, ...

The Agency proposes striking "with a new or increased permit limit", and the Environmental Groups agree with this proposal.[7] These words arguably conflict with the first sentence of First Notice Proposal Section 302.105(c)(2) and are capable of being misconstrued.

The problem here can best be seen using an example. A sewerage treatment plant permitted to discharge a daily average flow of 1 million gallons per day into the Mississippi

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[7]The Agency also proposes striking the reference to "CWA Section 401 certification." For the reasons given above, we do not agree with this proposed change.

River will probably not have an ammonia effluent limit. There will be sufficient dilution that, unless mixing is very poor or there are unusual conditions in the vicinity of the discharge, an ammonia effluent limit will not be needed. Were that plant operator to seek a permit to triple its discharge without changing its treatment technology, there would be an increased loading of ammonia that should receive some level of antidegradation review (probably fairly cursory for the facts of this example), but there still would probably not need to be a new or increased permit limit for ammonia. The language that is now in 302.105(f)(1) muddies the conclusion that an antidegradation analysis must be done in this case where there is a new loading, but no new permit limits.[8]

We believe that everyone is now clear and agrees that the event that triggers an antidegradation assessment (subject to the specified exceptions) is a change to a permit or new permit to allow a new or increased loading of any pollutant. For the discharger to change its operations in a way that increases the loading within the confines of the existing permit (e.g. while holding a NPDES permit allowing discharge of 300 lbs of a pollutant per day, increasing the actual discharge from 100 lbs per day to 250 lbs per day) does not trigger an antidegradation assessment. That assessment should have been done when the permit was granted to discharge the amount allowed by the permit. On the other hand, seeking a permit to increase the total discharge from a facility (e.g. requesting a permit to go from 1 MGD to 3 MGD) does trigger an

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[8]Actually, in originally reading the First Notice Proposal, we did not catch this problem. We assumed that the Board meant that the increased discharge volume allowed by the permit, which would be reflected in a new permit limit, would trigger an antidegradation analysis regarding the increased loading of all pollutants for which there would be an increased loading, even if there were no effluent limits for those specific pollutants the loading of which would increase as a result of permitting a larger total discharge.

antidegradation analysis as to each pollutant for which an increased loading can be anticipated, even as to pollutants for which there is no effluent limit in the old or new permit.[9]

4. Other Agency Proposed Changes to 302.105(f)(1) [IEPA Revised Proposal, 309.103(a)(5)]

The Agency proposes adding the words "but are not limited to" to First Notice Proposal, Section 302.105(f)(1)(C) [IEPA Revised Proposal, 309.103(a)(5)(C)]and 302.105(f)(1)(D) [IEPA Revised Proposal, 309.103(a)(5)(D)]. The Environmental Groups do not think that this proposed change has any substantive effect.

5. Pre-Permit Application Assessment by the Agency - 302.105(f)(2)(A)-(C) [Deleted from IEPA Revised Proposal]

It is clear that some re-drafting of First Notice Proposal Section 302.105(f)(2)(B) is necessary to make clear that no appeal may be taken prior to the denial of a permit or the issuance of a permit with conditions. Further, the Environmental Groups agree with the Agency that the rules regarding informal consultation by permit applicants with the Agency should not be in the Board rules.

The Agency proposal, which removes all the language now contained in 302.105(f)(2)(A) through (C), eliminates these problems and is supported by the Environmental Groups.

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[9]Also, it does not affect the result if the discharger does not in fact intend to discharge to the full extent of the loading or concentration permit limits. The permit must be considered under the assumption that everything that is permitted will be done because there will not be another opportunity to consider antidegradation if the discharger increases its loading within its permit limits. Permit applicants should avoid asking to be allowed to pollute more than they actually need to pollute in order to avoid the need for an antidegradation analysis based on the effects of discharges they do not intend to make.

6. Written Analysis and Terms and Conditions of Permits - 302.105(f)(2)(D) [IEPA Revised Proposal, 309.108(d)]

The Agency's new proposal uses language now in Section 302.105(f)(2)(D) of the First Notice proposal to create a new 309.108(d) on written analysis of the proposed increase in loading.

The Environmental Groups do not believe that any changes are necessary to what is now First Notice Proposal Section 302.105(f)(2)(D). If the Board chooses not to rearrange and move 302.105(f), 302.105(f)(2)(D) can become the entire text of 302.105(f)(2). See Attachment ONE.

Turning now to the Agency's proposed 309.108 (d), it can be seen that, while borrowing from First Notice Proposal Section 302.105(f)(2)(D), the Agency proposes a number of changes to the Board language. Most notably, the changes call for the Agency to make an "assessment" of the "proposed activity" rather than determining whether the "demonstration" made by the applicant meets the requirement of 302.105.

The practical import of the nuance regarding "demonstration" by the applicant versus "assessment" by the Illinois EPA is unclear. The law is clear that an applicant for a NPDES permit must show that it is entitled to the permit. Panhandle Eastern Pipe Line Co. Illinois EPA, 314 Ill. App. 3d 296, 743 N.E. 2d 18, 24 (4th Dist. 2000); ESG Watts v. Pollution Control Board, 224 Ill. App. 3d 592, 586 N.E. 2d 1320,1322 (3d. Dist. 1992). On the other hand, no one has ever suggested that the Illinois EPA cannot assist the applicant to assemble the necessary information or contribute whatever relevant information Illinois EPA has to the record. Ultimately, if the evidence to support issuing the permit does not make it into the record, the permit cannot be issued legally.

7. Fact Sheets - 302.105(f)(3)[IEPA Revised Proposal, Section 309.113(a)(6)]

In the new Agency proposal, what is now First Notice Proposal Section 302.105(f)(3) is moved to Part 309 to become 309.113(a)(6). As stated above, the Environmental Groups are concerned about the potential that moving sections to Part 309 will delay enactment of a final rule. Further, we see no real reason to make any changes to the language that is now contained in First Notice Proposal Section 302.105(f)(3).

However, the Environmental Groups have no specific objections to the language proposed by the Agency in its proposed 309.113(a)(6)

8. The Agency's Proposed 309.141(i)

Again using language from Section 302.105(f)(1) of the Board's First Notice Proposal, the Agency proposes a new subsection 309.141(i). The Environmental Groups have no objection to the language of this proposed new section, except for the fact it does not cover CWA Section 401 certifications. However, for the reasons stated above, we are concerned about adoption of any proposed language that might lead to a substantial delay in adoption of final regulations. Further, we are uncertain whether the proposed new 309.141(i) is necessary.

II With A Few Exceptions, the Changes to the First Notice Proposal proposed by IERG Should be Rejected by the Board.

IERG in its August 24 testimony reargued matters that were considered by the Board and rejected in its June 21 First Notice Opinion and Order. With a few exceptions, the changes IERG proposed in August to the First Notice Proposal should be rejected by the Board.

However, it is our understanding that IERG now intends to withdraw some of the proposals that it made in August. While we appreciate the efforts IERG is making to simplify

this proceeding, we are now in a somewhat difficult rhetorical position. We do not wish to "beat a dead horse" by arguing at length against proposals that IERG is no longer advocating, but the fact that IERG is no longer advocating a revision does not, of course, preclude the Board from adopting it. Further, unlike the situation as to the Agency's final proposal filed last week, we do not have the benefit of seeing IERG's final filing.[10]

A. Changes to the Heading and First Notice Section 102.800

The Environmental Groups agree to IERG's correction of the typographical error in "RESOURCE" and have no objection to IERG's proposed insertion of the words "the adoption, amendment, or repeal of" in Section 102.800.

In Section 102.800, IERG also proposes the addition of the word "body" after water, a proposed change it continues throughout its proposal. We do not see that adding the word "body" after "water" throughout the regulation adds anything of great value.

B. Notice of an ORW Petition - IERG"s Proposed Changes to First Notice Proposal Section 102.810 Should Be Rejected.

IERG again attempts to impose vastly greater notice requirements on people trying to keep water clean than is required for persons seeking permits to pollute, variances or site specific relief. The Board was correct in believing that the normal notice given of Board proceedings is sufficient. The Illinois EPA's offer to assist in assuring that parties holding or applying for permits in potentially affected waters will receive notice (Frevert Testimony, Transcript of Proceedings August 24, 2001, at 87), should serve to eliminate any doubts that the Board had

[10]Which, of course, is also IERG's situation as to our final proposals. IERG and the Environmental Groups have attempted to share ideas but we have had to fashion our final comments simultaneously.

about its initial decision not to require that extraordinary notice be required of petitioners for ORW designations.

C. Proposed IERG Changes to First Notice Proposal 102.820

The changes proposed by IERG in August to the First Notice Proposal Section 102.820 should not be adopted, except that IERG's proposed change to 102.820(e)(4) adding "of an ORW designation" adds clarity and should be adopted. However, the proposed addition of Section 102.820(k) on published notice should be rejected because published notice is not necessary, not likely to be useful, and almost certain to be a wasted effort.

Generally, the scope and burden of the petition must be kept to a reasonable level or the opportunity to petition effectively will be frustrated and any ORW petitions that occur will be extremely bulky. As with other Board regulatory proposals, if it is clear from the petition that an ORW proposal is serious and might be granted, a hearing should be held to hear evidence.

D. Proposed IERG Change to First Notice Proposal 102.830

IERG's proposed changes to Section 102.830 should be rejected. It is unclear what it is intended to accomplish by proposing to substitute the word "may" for "must" in 102.830(b). On its face, the proposed change would allow the Board to reject arbitrarily an ORW designation although the Board finds the water qualifies for designation and the public interest favors designation.

The IERG August 24th proposal that the language explicitly place a burden on the "proponent of the designation" should also be rejected.[11] The Environmental Groups agree that

[11] It is our understanding that IERG no longer intends to press for this portion of its August 24th proposal.

the record must show that the requirements of 102.830(b)(1) and (2) are met, but there is no point to emphasizing that the proponent make this showing.[12] The evidence showing that the designation should be made can be offered by anyone participating in the proceeding.

E. Proposed IERG Changes to First Notice Proposal Section 302.105(b)

IERG's August 24th proposal regarding the section governing the circumstances in which new pollution may be permitted into an ORW would essentially gut the concept of an ORW. The whole idea of an outstanding resource water designation is to allow the state to designate waters that (subject to very limited exceptions) will not be subject to future degradation. Generally, new pollution should be allowed in ORWs only if it is a necessary part of an activity that will actually improve water quality.

It is our understanding that IERG intends to withdraw its August 24th proposal in favor of language that only allows an ORW to receive new loadings under more limited circumstances. Although the Environmental Groups themselves are offering proposed changes to First Notice Proposal Section 302.105(b), we believe that the difference between the positions of IERG and the Environmental Groups regarding 302.105(b) are now very narrow. (See part III of these comments below)

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[12]Indeed, it is somewhat ironic that IERG was concerned that there be no implication in 302.105(f) that the evidence justifying allowing new pollution must come from the permit applicant, but asked for language that suggests that the evidence supporting an ORW designation must come from the proponent. Actually, it should not in practice make much difference. A permit applicant or proponent of an ORW designation should be allowed to refer to evidence originating with other parties to the proceeding in making their necessary showing.

F. Proposed IERG Changes to First Notice Proposal 302.105(c)

IERG in its August 24th proposal suggested language stating explicitly that the 302.105(c) analysis must be made on a "case-by-case" basis. As stated above in discussing a "case-by-case" language proposal by the Agency, we do not oppose addition of some such "case-by-case" language.

The Environmental Groups do oppose IERG's August 24th proposal to add "to the extent it deems necessary" to the first sentence of 302.105(c)(2).[13] The "to the extent necessary " language could conceivably lead to a mistaken inference that the Board intends to give the Agency some sort of non-reviewable discretion to make a determination as to the extent of the assessment that is necessary to make the determination under 302.105(c). Under the First Notice Proposal it is clear that the Agency must make this determination on a case-by-case basis and, of course, the Agency will only require and analyze data to the extent it deems necessary. But the Agency's determination of the extent of assessment necessary, like other Agency determinations, is ultimately reviewable by the Board.

Other language in IERG's August 24th proposal would have stated that the Agency should consider "some or all of" the four elements listed in 302.105(c)(2)(B). Plainly the Agency must assure that all four elements listed are present before a permit for a new or increased pollutant loading can be permitted.

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[13]We believe that this proposal is also to being withdrawn by IERG.

G. Proposed IERG Changes to Section 302.105(d) - Exceptions to Antidegradation

1. Additives

The IERG August 24th proposal to allow categorically new pollution from non-contact cooling water containing Illinois EPA approved additives should not be accepted. The fact that Illinois EPA has approved the discharge of cooling water containing a certain loading of additives does not prove that loading a larger amount or concentration of additives would necessarily be safe or wise. Illinois EPA does not maintain a list of cooling water additives that are universally safe to load into Illinois waters no matter what the effluent level or concentration and it is doubtful that any such additives exist.[14]

It is our understanding that IERG now intends only to urge the Board to accept the exception for chlorine proposed by the Agency. As stated above, the risks of adding chlorine without an antidegradation analysis have not been sufficiently explored in this proceeding for such an exception to be adopted now.

2. General Permits

As noted above (part I.D), the Environmental Groups agree with the proposal of the Agency to make a change to the first sentence of First Notice Section 302.105(d)(6) regarding nationwide or regional CWA 404 permits. It is our understanding that IERG joins in this view.

However, IERG's proposal to change the last sentence of 302.105(d)(6) to allow new

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[14]Moreover, IERG has never proposed exempting these same pollutants if they originate form a source other than non-contact cooling water. The Board should not exempt pollutants from antidegradation review based on their source without regard to their concentration, loading or potential environmental effect.

pollution without an antidegradation analysis for all activities covered by a general NPDES or nationwide or regional 404 permit, except for activities affecting ORWs, should be rejected. There are many biologically significant and sensitive waters in Illinois and, as we all know, no ORWs have been designated in Illinois. Illinois remaining high quality streams should not be allowed to be degraded through general permits.

3. Site Stormwater

Another proposal for an exemption that we understand IERG is now withdrawing, concerned stormwater from sites with approved stormwater pollution prevention plans. The Board should not adopt this August 24th IERG proposal.

Basically, if an activity is covered by an existing stormwater permit, it does not need an antidegradation analysis for the same reason that all discharges and activities covered by existing permits do not need an antidegradation analysis. It is already permitted. However, if it is proposed to conduct new or expanded activities which will require a new or expanded permit, the activity should be subject to some level of antidegradation analysis. For example, the fact that a stormwater pollution prevention plan exists for construction activities to disturb a certain 10 acres of land does not mean that there should not be an antidegradation analysis to decide whether activities should be permitted that would disturb an additional 10 acres.

4. Site Specific Regulation

The exemption IERG proposed August 24th for discharges authorized by a site-specific regulation, adjusted standard, or variance should not be adopted by the Board. The Agency naturally may use any relevant Board findings or rulings in making its antidegradation analysis and in some cases such use will result in a very quick antidegradation analysis. However, it is

better not to establish an exemption that will result in arguments over whether the exception is applicable when it would be easier to simply do the antidegradation analysis.

5. De Minimis

It is our understanding that IERG is also withdrawing the de minimis exemption proposal it offered in August. The August 24th proposal, while narrower than earlier IERG proposals, still would have required the Agency to limit the extent of its antidegradation analysis based on consideration of only a few of the factors that it should consider in determining the extent of analysis needed.[15]

H. Proposed IERG Changes to 302.105(f)

In its August proposal, IERG proposed a number of changes to the Board's First Notice Proposal Section 302.105(f). It is our understanding that IERG is now making some of the changes it proposed for revisions to 302.105(f) in the form of proposed changes to the Agency's proposed changes to Part 309. IERG is no longer proposing some of the other changes it proposed to the First Notice Proposal on August 24th.

Responding first briefly to IERG's August 24th proposals regarding 302.105(f), the Environmental Groups oppose the "To the extent [the Agency] deems necessary" language that IERG proposed for the beginning of 302.105(f)(1) for the reasons given in discussing the "to the extent it deems necessary" language that was contained in IERG's August 24th proposal to revise

[15]IERG's August 24th de minimis proposal also relied on an inappropriate and largely inapplicable methods of analysis, the concept of "reasonable potential", for determining the assimilative capacity of the receiving waters.

Section 302.105(c)(2) of the First Notice Proposal.[16]

Also, again, the Environmental Groups do not object to addition of some explicit "case-by-case" language such as that contained in IERG's August 24th 302.105(f) proposal although we do not believe it is necessary.

As noted above, the Environmental Groups support the Agency's proposal, followed by IERG, to delete the language now contained in First Notice Proposal 302.105(f)(2)(A) through 302.105(f)(2)(C) from the Board rules.

The Environmental Groups have reviewed a draft of IERG's proposed changes to the Agency's proposed language for 309.103(a)(5), 309.108, 309.113 and 309.141. As explained above, the Environmental Groups harbor doubts regarding the need for the Agency's proposal to reorganize the First Notice Proposal, oppose making the procedural rules inapplicable to CWA 401 certifications, and do not see a compelling need for a number of the Agency's other proposed changes to the language now in First Notice Proposal 302.105(f). Keeping all those issues in mind and assuming that the final IERG proposal regarding proposed Part 309 changes does not contain new language, we do not find any basis on which to choose between the Agency and IERG proposals for Part 309.

III Summary of Proposed Environmental Group Changes

The Environmental Groups have proposed few changes to the First Notice Proposal and

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[16] We believe that the "to extent it deems necessary language" proposal is not contained in IERG's proposed changes to 309.103(a)(5).

The First Notice Proposal, the Agency proposal, and the old and new IERG's proposals all contain the "to the extent necessary for the Agency" language that appears later in the first sentence of First Notice Proposal 302.105(f)(1) [IEPA Revised Proposal 309.103(a)(5)] The Environmental Groups do not object to that later language.

those proposed changes do not require extensive discussion here except for those that have been revised since the August 24 hearing. Changes are proposed to the following sections of the First Notice Proposal:

Title to Subpart H - Correct typo by adding "R".

First Notice Proposal, Section 102.830(b)(1) - replace "uniquely high biological or recreational quality" with "exceptional recreational or ecological significance"

First Notice Proposal, Section 302.105(b) - As mentioned above and in the August 24 testimony of Robert Moore, changes are necessary to this provision which specifies the circumstances in which new pollution may be allowed in waters designated as ORWs. As currently drafted, First Notice Proposal Section 302.105(b) might be read to allow degradation that we believe it was not intended to allow and also to prevent certain loadings that were probably intended to be allowed.

In general, new permits should not be granted that would allow any new loading to outstanding resource waters. The only exceptions are:

- new permits for a new or increased loading that is necessary to facilitate an improvement to water quality[17]

- new permits for a new or increase loading that results in only a temporary lowering of water quality

- a new permit for an existing stormwater discharge for which a permit is needed, not because there is a new loading, but because of the recently expanded coverage of

[17]The classic example of this is a NPDES permit to allow unavoidable permitted discharges from a sewerage treatment plant needed to replace a defective septic system.

stormwater permitting requirements.[18]

Accordingly, we propose that 302.105(b) be revised to provide as follows:

b) Outstanding Resource Waters

1) Waters that are designated as Outstanding Resource Waters (ORWs) pursuant to 35 Ill. Adm. Code 303.205 and listed in 35 Ill. Adm. Code 303.206 must not be lowered in quality except by:

A) Activities that result **only** in short-term, temporary (i.e., weeks or months) lowering of water quality in an ORW; or

B) **Stormwater discharges in existence on the date of the ORW designation that only require a NPDES permit or CWA 401 certification because of new regulatory requirements,** that comply with applicable federal and state stormwater management regulations, and do not result in a violation of any water quality standards.

2) Any activity in subsections (b)(1)(A) or (b)(1)(B) that requires a National Pollutant Discharge Elimination System (NPDES) or a Clean Water Act (CWA) Section 401 certification must also comply with (c)(2).

~~3) To be permitted, an increase in pollutant loading to an ORW must also~~ meet the following requirements:

A) All existing uses of the water will be fully protected;

B) **Except for activities falling under the exceptions provided in 302.105(b)(1)(A) or (B) above,**

i.the proposed increase in pollutant loading is necessary for an activity that will improve water quality in the ORW; and

ii. The improvement could not be practicably achieved without the proposed increase in pollutant loading.

[18]Actually, this case does not actually encompass a new loading at all but a new permit for an existing loading.

4) Any proposed increase in pollutant loading requiring an NPDES permit or a CWA 401 certification for an ORW must be assessed pursuant to subsection (f) to determine compliance with this Section.

Regarding our proposed revision to Section 302.105(b)(1)(B), the Environmental Groups have consistently objected to the language proposed by the Agency and the Board regarding "existing site stormwater discharges"and degradation of ORWs. The purpose of designating an ORW is to ensure that water quality is maintained and protected for the purposes of preserving waters of exceptional ecological or recreational significance from all new sources of pollution, including stormwater.

In reviewing past comments and testimony on this subject, we presumed, as IERG did at the August 24th Board hearing "that this provision was included to allow the continued operation of facilities that were cited prior to the time a water segment was designated an ORW." (Hirner Testimony, Transcript of Proceedings, August 24, at 17)

The language offered above for 302.105(b)(1)(B) more specifically identifies the types of discharges meant to be addressed by this exemption, namely stormwater discharges that are in existence at the time that an ORW is designated. This language is more clear than the "existing site stormwater discharges" language.

Designation of an ORW precludes the authorization of new pollutant loading that would result in a net degradation of water quality, except as allowed for under 301.105 (b)(1)(A) and (B). However, if a stormwater discharge that had been in existence for some time required an NPDES permit or CWA 401 certification only because of the new Phase II stormwater permitting requirements or other regulatory changes (see 40 CFR 122.26), it would be reasonable to grant the permit for that existing stormwater discharge despite an ORW designation.

First Notice Proposal, Section 302.105(d)(6) - The Environmental Groups proposed that the term "particular biological significance" be clarified by adding:

> which include waters identified by the Illinois Department of Natural Resources to be biologically significant, waters known to contain state or federally listed threatened or endangered species, or waters identified as having high levels of biodiversity

Portions of the report referenced by Robert Moore during his testimony, *Biologically Significant Illinois Streams*, are attached as Attachment THREE. The entire report is being submitted to the Board.

It would not be burdensome for the Board to require Illinois EPA to review IDNR documents in determining the waters of particular biological significance. Illinois EPA is already using *Biologically Significant Illinois Streams* in making decisions on NPDES permits. See Attachment FOUR.

First Notice Proposal, Section 302.105(f)(1) - The clause providing "with a new or increased permit limit" should be deleted for the reasons stated above regarding the Agency proposal to delete this language.

New Proposed , Section 302.105(f)(1)(G) - The Environmental Groups believe that the Board regulations must make clear that the Illinois Department of Natural Resources should be notified of proposals to allow new or increased pollution to Illinois waters. IDNR has broad responsibilities under its general powers (20 ILCS 801/1-15), the Illinois Endangered Species Act (520 ILCS 10 et. Seq.), and other authorities to protect Illinois aquatic life. A new subsection should be added to the 302.105(f)(1)(G) that states:

> The Agency shall notify the Illinois Department of Natural Resources of the application as soon as practicable to allow IDNR

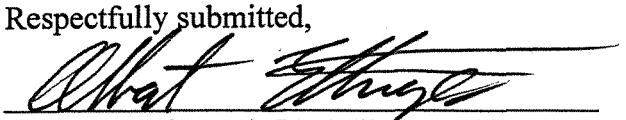
an opportunity to prepare comments or recommendations prior to issuance of the public notice of the draft permit or CWA Section 401 certification.

First Notice Proposal, Section 302.105(f)(2)(B) - As was indicated in our filing of August 10, 2001, there is a problem with this subsection of the First Notice proposal. This issue, of course, would be resolved by adopting the Agency proposal of deleting the language now contained in 302.105(f)(2)(A), (B) and (C) from the final Board rule and leaving the matters now covered by those subsections for consideration by Illinois EPA.First Notice Proposal, Section 303.205 - The phrase "of exceptional recreational or ecological significance" should be substituted for "uniquely high."

CONCLUSION

The Board's First Notice Proposal needs very little improvement. With the few changes necessary, the proposal should be adopted by the Board promptly so that it can begin to govern NPDES permitting and CWA Section 401 certification decisions in Illinois.

Respectfully submitted,



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October 11, 2001

Attachment ONE

SUBPART H: OUTSTANDING RESOURCE WATER DESIGNATION

Section 102.800 Applicability

This Subpart applies to any person seeking the adoption, amendment, or repeal of an Outstanding Resource Water (ORW) designation for a surface water or any water segment as provided by 35 Ill. Adm. Code 303.205.

Section 102.810 Petition

Any person may submit a petition for the adoption, amendment or repeal of an ORW designation. The original and nine (9) copies of each petition must be filed with the Clerk and one (1) copy each served upon the Agency, Illinois Department of Natural Resources, and the Attorney General.

Section 102.820 Petition Contents

Each proponent must set forth the following information in its proposal:

a) The language of the proposed rule, amendment, or repealer identifying the waters or water segment being proposed for designation as a ORW. Language being added must be indicated by underscoring, and language being deleted must be indicated by strike-outs. The proposed rule must be drafted in accordance with 1 Ill. Adm. Code 100.Subpart C;

b) A statement describing the specific surface water or water segment for which the ORW designation is requested and the present designation of the surface water or water segment;

c) A statement describing the area in which the specific surface water or segment exists including:

1) The existence of wetlands or natural areas;

2) The living organisms in that area including endangered or threatened species of plants, aquatic life or wildlife listed pursuant to the Endangered Species Act, 16 USC 1531 et seq. or the Illinois Endangered Species Protection Act, 41 ILCS 10.

d) A statement supporting the designation including the health, environmental, recreational, aesthetic or economic benefits of the designation;

e) A statement identifying the ORW designation's anticipated impact on economic and social development. This statement should include:

1) Impacts on the regional economy;

2) Impacts on regional employment;

3) Impacts on the community;

4) A comparison of the health and environmental impacts of an ORW designation to the economic impact of an ORW designation.

f) A statement describing the existing and anticipated uses of the specific surface water or water segment for which the ORW designation is requested;

g) A statement describing the existing quality of the specific surface water or water segment warranting the ORW designation;

h) A synopsis of all testimony to be presented by the proponent at hearing;

i) Copies of any material to be incorporated by reference within the proposed designation pursuant to Section 5-75 of the Administrative Procedures Act;

j) Proof of service upon all persons required to be served pursuant to Section 102.810 of this Part;

k) Unless the proponent is the Agency, Illinois Department of Natural Resources or receives a waiver by the Board, a petition signed by at least 200 persons, pursuant to Section 28 of the Act and Section 102.160(a); and

l) Where any information required by this Section is inapplicable or unavailable, a complete justification for such inapplicability or unavailability.

Section 102.830 Board Action

a) Dismissal

1) Failure of the proponent to satisfy the content requirements for proposals under this Subpart or failure to respond to Board requests for additional information will render a proposal subject to dismissal for inadequacy.

2) Failure of the proponent to pursue disposition of the petition in a timely manner will render a petition subject to dismissal. In making this determination, the Board may consider factors including the history of the

proceeding and the proponent's compliance with any Board or hearing officer orders.

3) Any person may file a motion challenging the sufficiency of the petition pursuant to 35 Ill. Adm. Code 101.Subpart E.

b) Designation of ORW. The Board must designate a water body or water body segment as an ORW and list it in 35 Ill. Adm. Code 303.206 if it finds:

1) The water body or water body segment is of ~~uniquely high biological or recreational quality~~ exceptional recreational or ecological significance; and

2) The benefits of protection of the water from future degradation outweigh the benefits of economic or social opportunities that will be lost if the water is designated as an ORW.

(Added at _____ Ill. Reg. _____, effective _____.)

TITLE 35: ENVIRONMENTAL PROTECTION
SUBTITLE C: WATER POLLUTION
CHAPTER I: POLLUTION CONTROL BOARD
PART 302
WATER QUALITY STANDARDS
SUBPART A: GENERAL WATER QUALITY PROVISIONS

Section

302.100 Definitions
302.101 Scope and Applicability
302.102 Allowed Mixing, Mixing Zones and ZIDS
302.103 Stream Flows
302.104 Main River Temperatures
302.105 Antidegradation ~~Nondegradation~~

SUBPART B: GENERAL USE WATER QUALITY STANDARDS

Section

302.201 Scope and Applicability
302.202 Purpose
302.203 Offensive Conditions
302.204 pH
302.205 Phosphorus
302.206 Dissolved Oxygen
302.207 Radioactivity
302.208 Numeric Standards for Chemical Constituents

SUBPART C: PUBLIC AND FOOD PROCESSING WATER SUPPLY STANDARDS

Section

SUBPART D: SECONDARY CONTACT AND INDIGENOUS AQUATIC LIFE STANDARDS

Section

SUBPART E: LAKE MICHIGAN BASIN WATER QUALITY STANDARDS

Section

SUBPART F: PROCEDURES FOR DETERMINING WATER QUALITY CRITERIA

AUTHORITY: Implementing Section 13 and authorized by Sections 11(b) and 27 of the Environmental Protection Act [415 ILCS 5/13 11(b), and 27]

SOURCE: Filed with the Secretary of State January 1, 1978; amended at 2 Ill. Reg. 44, p. 151, effective November 2, 1978; amended at 3 Ill. Reg. 20, p. 95, effective May 17, 1979; amended at 3 Ill. Reg. 25, p. 190, effective June 21, 1979; codified at 6 Ill. Reg. 7818; amended at 6 Ill. Reg. 11161, effective September 7, 1982; amended at 6 Ill. Reg. 13750, effective October 26, 1982; amended at 8 Ill. Reg. 1629, effective January 18, 1984; peremptory amendments at 10 Ill. Reg. 461, effective December 23, 1985; amended at R87-27 at 12 Ill. Reg. 9911, effective May 27, 1988; amended at R85-29 at 12 Ill. Reg. 12082, effective July 11, 1988; amended in R88-1 at 13 Ill. Reg. 5998, effective April 18, 1989; amended in R88-21(A) at 14 Ill. Reg. 2899, effective February 13, 1990; amended in R88-21(B) at 14 Ill. Reg. 11974, effective July 9, 1990; amended in R94-1(A) at 20 Ill. Reg. 7682, effective May 24, 1996; amended in R94-1(B) at 21 Ill. Reg. 370, effective December 23, 1996; expedited correction at 21 Ill. Reg. 6273, effective December 23, 1996; amended in R97-25 at 21 Ill. Reg. 1356, effective December 24, 1997; amended in R01-13 at _____ Ill. Reg. _____, effective _____.

Section 302.105 Antidegradation

The purpose of this Section is to protect existing uses of all waters of the State of Illinois, maintain the quality of waters with quality that is better than water quality standards, and prevent unnecessary deterioration of waters of the State.

a) Existing Uses

Uses actually attained in the water body or water body segment on or after November 28, 1975, whether or not they are included in the water quality standards, must be maintained and protected. Examples of degradation of existing uses of the waters of the State include:

1) an action that would result in the deterioration of the existing aquatic community, such as a shift from a community of predominantly pollutant-sensitive species to pollutant-tolerant species or a loss of species diversity;

2) an action that would result in a loss of a resident or indigenous species whose presence is necessary to sustain commercial or recreational activities; or

3) an action that would preclude continued use of a water body or water body segment for a public water supply or for recreational or commercial fishing, swimming, paddling or boating.

b) Outstanding Resource Waters

1) Waters that are designated as Outstanding Resource Waters (ORWs) pursuant to 35 Ill. Adm. Code 303.205 and listed in 35 Ill. Adm. Code 303.206 must not be lowered in quality except ~~as provided below~~ by:

A) Activities that result only in short-term, temporary (i.e., weeks or months) lowering of water quality in an ORW; or

B) ~~Existing site~~ Stormwater discharges in existence on the date of the ORW designation that only require a NPDES permit or CWA certification because of new regulatory requirements that comply with applicable federal and state stormwater management regulations, and that do not result in a violation of any water quality standards.

2) Any activity in subsections (b)(1)(A) or (b)(1)(B) that requires a National Pollutant Discharge Elimination System (NPDES) or a Clean Water Act (CWA) Section 401 certification must also comply with (c)(2).

3) Any activity listed in subsection (b)(1) or proposed increase in pollutant loading must also meet the following requirements:

A) All existing uses of the water will be fully protected;

B) Except for activities falling under the exceptions provided in 302.105(b)(1)(A) or (B) above,

(i) The proposed increase in pollutant loading is necessary for an activity that will improve water quality in the ORW; and

(ii) The improvement could not be practicably achieved without the proposed increase in pollutant loading.

4) Any proposed increase in pollutant loading requiring an NPDES permit or a CWA 401 certification for an ORW must be assessed pursuant to subsection (f) to determine compliance with this Section.

c) High Quality Waters

1) Except as otherwise provided in subsection (d) of this Section, waters of the State whose existing quality is better than any of the established standards of this Part must be maintained in their present high quality, unless the lowering of water quality is necessary to accommodate important economic or social development.

2) The Agency must assess any proposed increase in pollutant loading that necessitates a new, renewed or modified NPDES permit or any activity requiring a CWA Section 401 certification to determine compliance with this Section 302.105. The assessment to determine compliance with this Section 302.105 must be made on a case-by-case basis. In making this assessment, the Agency must:

A) Consider the fate and effect of any parameters proposed for an increased pollutant loading; and

B) Assure the following:

i) The applicable numeric or narrative water quality standard will not be exceeded as a result of the proposed activity;

ii) All existing uses will be fully protected;

iii) All technically and economically reasonable measures to avoid or minimize the extent of the proposed increase in pollutant loading have been incorporated into the proposed activity; and

iv) The activity that results in an increased pollutant loading will benefit the community at large.

C) Utilize the following information sources, when available:

i) Information, data or reports available to the Agency from

its own sources;

ii) Information, data or reports supplied by the applicant;

iii) Agency experience with factually similar permitting scenarios; or

iv) Any other valid information available to the Agency.

d) Activities Not Subject to a Further Antidegradation Assessment

The following activities will not be subject to a further antidegradation assessment pursuant to subsection (c) of this Section.

1) Short-term, temporary (i.e., weeks or months) lowering of water quality;

2) Bypasses that are not prohibited at 40 C.F.R. 122.41(m);

3) Response actions pursuant to the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), as amended, corrective actions pursuant to the Resource Conservation and Recovery Act (RCRA), as amended or similar federal or State authority, taken to alleviate a release into the environment of hazardous substances, pollutants or contaminants which may pose a danger to public health or welfare;

4) Thermal discharges that have been approved through a CWA Section 316(a) demonstration;

5) New or increased discharges of a non-contact cooling water, without additives, returned to the same body of water from which it was taken as defined by 35 Ill. Adm. Code 352.104, provided that the discharge complies with applicable Illinois thermal standards;

6) Discharges permitted under a current general NPDES permit as provided by 415 ILCS 5/39(b) or ~~a general CWA, Section 401 certification~~ a nationwide or regional Section 404 of the CWA permit are not subject to facility-specific antidegradation review; however, the Agency must assure that individual permits or certification are required prior to all new pollutant loadings or hydrological modifications that necessitate a new, renewed or modified NPDES permit or CWA, Section 401 certification that affect waters of particular biological significance which include waters identified by the Illinois Department of Natural Resources to be biologically significant, waters known to contain state or federally listed threatened to endangered species, or waters identified as having high

levels of biodiversity; or

7) Changes to or inclusion of a new permit limitation that does not result in an actual increase of a pollutant loading, such as those stemming from improved monitoring data, new analytical testing methods, new or revised technology or water quality based effluent limits.

e) Lake Michigan Basin

Waters in the Lake Michigan basin as identified in 35 Ill. Adm. Code 303.443 are also subject to the requirements applicable to bioaccumulative chemicals of concern found at Section 302.521 of this Part.

f) Antidegradation Assessments

In conducting an antidegradation assessment pursuant to this Section, the Agency must comply with the following procedures.

1) A permit application for any proposed increase in pollutant loading that necessitates a new, renewed, or modified NPDES permit, ~~with a new or increased permit limit~~, or a CWA Section 401 certification, must include, to the extent necessary for the Agency to determine that the permit application meets the requirements of Section 302.105, the following information:

A) Identification and characterization of the waters affected by the proposed load increase or proposed activity and their existing uses. Characterization must address physical, biological and chemical conditions of the waters;

B) Identification and quantification of the proposed load increases for the applicable parameters and of the potential impacts of the proposed activity on the affected waters;

C) The purpose and anticipated benefits of the proposed activity. Such benefits may include:

i) Providing a centralized wastewater collection and treatment system for a previously unsewered community;

ii) Expansion to provide service for anticipated residential or industrial growth consistent with a community's long range urban planning;

iii) Addition of a new product line or production increase or modification at an industrial facility; or,

iv) An increase or the retention of current employment levels at a facility.

D) Assessments of alternatives to proposed increases in pollutant loading or activities subject to Agency certification pursuant to Section 401 of the CWA that result in less of a load increase, no load increase or minimal environmental degradation. Such alternatives may include:

i) Additional treatment levels including no discharge alternatives;

ii) Discharge of waste to alternate locations including publicly-owned treatment works and streams with greater assimilative capacity; or

iii) Manufacturing practices that incorporate pollution prevention techniques.

E) Any additional information the Agency may request.

F) Any of the information sources identified in subsection 302.105(d)(3).

G) The Agency shall notify the Illinois Department of Natural resources of the application as soon as practicable to allow IDNR an opportunity to prepare comments or recommendations prior to issuance of the public notice of the draft permit or CWA section 401 certification.

2) ~~The Agency must complete an antidegradation demonstration review in accordance with the provisions of this Section.~~

~~A) The antidegradation assessment pursuant to this Section is a part of the NPDES permitting process or the CWA Section 401 certification process. However, applicants may initiate communication with the Agency, preferably during the planning stage for any load increase. Communication will help assure the adequacy of information necessary to constitute an antidegradation demonstration and avoid or minimize delays and requests for supplemental information during the permitting stage. The Agency review process must be initiated by:~~

~~i) an informal or preliminary request of a proponent of a project prior to filing of a permit application; or~~

~~ii) receipt of application for an NPDES permit issuance, renewal or modification, or a CWA Section 401 certification.~~

~~B) A proponent seeking an immediate review of the results of the Agency's review pursuant to subsection (f)(2)(A)(ii) must do so within the NPDES permit process or the CWA Section 401 certification process.~~

~~C) After a review pursuant to subsection (f)(2)(A)(i), the Agency must consult with the proponent and respond:~~

~~i) in writing to written requests. The written response will include a statement by the Agency indicating whether the demonstration, based upon the information provided or information acquired by the Agency during the review process, meets the criteria of this Section;~~

~~ii) verbally to verbal requests; or~~

~~iii) in a manner otherwise agreed upon.~~

~~D)~~ After its review, the Agency must produce a written analysis addressing the requirements of this Section and provide a decision yielding one of the following results:

i) If the demonstration meets the requirements of this Section, then the Agency must proceed with public notice of the NPDES permit or CWA Section 401 certification and include the written analysis as a part of the fact sheet accompanying the public notice;

ii) If the demonstration does not meet the requirements of this Section, then the Agency must provide a written analysis to the applicant and must be available to discuss the deficiencies that led to the disapproval. The Agency may suggest methods to remedy the conflicts with the requirements of this Section;

iii) If the demonstration does not meet the requirements of this Section, but some lowering of water quality is allowable, then the Agency will contact the applicant with the results of the review. If the reduced loading increase is acceptable to the applicant, upon the receipt of an amended

demonstration, the Agency will proceed to public notice; or if the reduced loading increase is not acceptable to the applicant, the Agency will transmit its written review to the applicant in the context of a NPDES permit denial or a CWA Section 401 certification denial.

3) The Agency will conduct public notice and public participation through the public notice procedures found in 35 Ill. Adm. Code 309.109 or CWA Section 401 certifications. The Agency must incorporate the following information into a fact sheet accompanying the public notice:

A) A description of the activity, including identification of water quality parameters which will experience the increased pollutant loading;

B) Identification of the affected water segment, any downstream water segment also expected to experience a lowering of water quality, characterization of the designated and current uses of the affected segments and identification of which uses are most sensitive to the proposed load increase;

C) A summary of any review comments and recommendations provided by Illinois Department of Natural Resources, local or regional planning commissions, zoning boards and any other entities the Agency consults regarding the proposal;

D) An overview of alternatives considered by the applicant and identification of any provisions or alternatives imposed to lessen the load increase associated with the proposed activity; and

E) The name and telephone number of a contact person at the Agency who can provide additional information.

(Amended at _____ Ill. Reg. _____, effective _____.)

Section 302.105 ~~Nondegradation~~

~~Except as otherwise provided in Section 302.520, waters whose existing quality is better than the established standards at their date of their adoption will be maintained in their present high quality. Such waters will not be lowered in quality unless and until it is affirmatively demonstrated that such change will not interfere with or become injurious to any appropriate beneficial uses made of, or presently possible in, such waters and that such change is justifiable as a result of necessary economic or social development.~~

TITLE 35: ENVIRONMENTAL PROTECTION
SUBTITLE C: WATER POLLUTION
CHAPTER I: POLLUTION CONTROL BOARD

PART 303
WATER USE DESIGNATIONS AND SITE SPECIFIC WATER QUALITY STANDARDS

SUBPART A: GENERAL PROVISIONS

SUBPART B: NONSPECIFIC WATER USE DESIGNATIONS

SUBPART C: SPECIFIC USE DESIGNATIONS AND SITE SPECIFIC WATER QUALITY STANDARDS

SUBPART D: THERMAL DISCHARGES

AUTHORITY: Implementing Section 13 and authorized by Sections 11(b) and 27 of the Environmental Protection Act [415 ILCS 5/13, 11(b), and 27].

SOURCE: Filed with the Secretary of State January 1, 1978; amended at 2 Ill. Reg. 27, p. 221, effective July 5, 1978; amended at 3 Ill. Reg. 20, p. 95, effective May 17, 1979; amended at 5 Ill. Reg. 11592, effective October 19, 1981; codified at 6 Ill. Reg. 7818; amended at 6 Ill. Reg. 11161 effective September 7, 1982; amended at 7 Ill. Reg. 8111, effective June 23, 1983; amended in R87-27 at 12 Ill. Reg. 9917, effective May 27, 1988; amended in R87-2 at 13 Ill. Reg. 15649, effective September 22, 1989; amended in R87-36 at 14 Ill. Reg. 9460, effective May 31, 1990; amended in R86-14 at 14 Ill. Reg. 20724, effective December 18, 1990; amended in R89-14(C) at 16 Ill. Reg. 14684, effective September 10, 1992; amended in R92-17 at 18 Ill. Reg. 2981, effective February 14, 1994; amended in R91-23 at 18 Ill. Reg. 13457, effective August 19, 1994; amended in R93-13 at 19 Ill. Reg. 1310, effective January 30, 1995; amended in R95-14 at 20 Ill. Reg. 3534, effective February 8, 1996; amended in R97-25 at 22 Ill. Reg. 1403, effective December 24, 1997; amended in R01-13 at _____ Ill. Reg. _____, effective _____.

Section 303.205 Outstanding Resource Waters

An Outstanding Resource Water (ORW) is a water body or water body segment that is of ~~uniquely high biological or recreational quality~~ exceptional recreational or ecological significance and must be designated by the Board pursuant to 35 Ill. Adm. Code 102.Subpart H.

a) Outstanding Resource Waters ("ORW") shall be listed in Section 303.206 of this Part. In addition to all other applicable use designations and water quality standards contained in this Subtitle, an ORW is subject to the antidegradation provision of Section 302.105(b).

b) A petition to designate a water or water segment as an ORW must be submitted to the Illinois Pollution Control Board pursuant to the procedural rules found in 35 Ill. Adm. Code 102.Subpart H.

(Added at _____ Ill. Reg. _____, effective _____.)

Section 303.206 List of Outstanding Resource Waters

The Board has not designated any Outstanding Resource Waters pursuant to 35 Ill. Adm. Code 102.Subpart H.

(Added at _____ Ill. Reg. _____, effective _____.)

ATTACHMENT TWO

In this Attachment TWO, the Environmental Groups set forth specific proposals for the language that should be adopted by the Board *if* the Board decides to accept Illinois EPA's proposal to move First Notice Proposal Section 302.105(f) to part 309 and reorganize and revise much of the text now in Section 302.105(f).

In setting forth our views, we have utilized the language sent to us by the Agency. We have tried to indicate changes that we believe should be made *from the language of the First Notice Proposal.* We have not attempted to track the differences between our proposed language and the language proposed by the Agency. Differences between the language favored by the Environmental Groups and that favored by the Agency can be seen by comparing this Attachment TWO with Attachment B to the Agency's filing of October 5, 2001.

The major difference between the Environmental Groups' proposed language for part 309 and that of the Agency is that the Environmental Groups' proposed text keeps language regarding CWA Section 401 certification, contained in the First Notice Proposal, that the Agency proposes to delete. The Environmental Groups accept most, but not all, of the minor revisions to language appearing in the First Notice Proposal that are proposed by the Agency in its part 309 language.

For the sections on which the Agency proposes changes, our comments are as follows:

Section 302.105(b)(4)

The Environmental Groups oppose the revisions proposed by the Agency to this Section of the First Notice Proposal.

Section 302.105(c)(2)

The Environmental Groups support the Agency's proposed revision to this Section, which is as follows :

Recommended language:

> 2) The Agency must assess any proposed increase in pollutant loading that necessitates a new, renewed or modified NPDES permit or any activity requiring a CWA Section 401 certification to determine compliance with this Section 302.105. **The assessment to determine compliance with this Section 302.105 must be made on a case-by-case basis.** In making this assessment, the Agency must....

Section 302.105(d)(6)

The Environmental Groups support the Agency's proposed revision to this Section of the First Notice Proposal and propose their own revision to this section. The Environmental Groups believe that the final language of this section should provide:

> Discharges permitted under a current general NPDES permit as provided by 415 ILCS 5/39(b) or a ~~general CWA, Section 401 certification~~ **nationwide or regional Section 404 of the CWA permit** are not subject to facility-specific antidegradation review; however, the Agency must assure that individual permits or certifications are required prior to all new pollutant loadings or hydrological modifications that necessitate a new, renewed or modified NPDES permit or CWA, Section 401 certification that affect waters of particular biological significance **which include waters identified by the Illinois Department of Natural Resources to be biologically significant, waters known to contain state or federally listed threatened or endangered species, or waters identified as having high levels of biodiversity**; or

(Changes are noted from the First Notice Proposal with strike out and bold)

Section 302.105(d)(5) -The Environmental Groups oppose the adoption in this proceeding of the Agency's proposed change to 302.105(d)(5) that would allow new loadings of chlorine without an antidegradation analysis.

Proposed Part 309 Revisions -

The Environmental Groups agree to or propose the following language for Sections 309.103, 309. 108, 309.113 and 309.141 if the Board decides to adopt the Agency's proposal to move First Notice Proposal Section 302.105(f) to part 309.

Section 309.103 Application - General

5) A permit application for any proposed increase in pollutant loading that necessitates a new, renewed, or modified NPDES permit or a CWA Section 401 certification must include, to the extent necessary for the Agency to determine that the proposed activity meets the requirements of 35 Ill. Adm. Code 302.105, the following information:

A) Identification and characterization of the waters affected by the proposed load increase or proposed activity and their existing uses. Characterization must address physical, biological and chemical conditions of the waters;

B) Identification and quantification of the proposed load increases for the applicable parameters and of the potential impacts of the proposed activity on the affected waters;

C) The purpose and anticipated benefits of the proposed activity. Such benefits may include:

i) Providing a centralized wastewater collection and treatment system for a previously unsewered community;

ii) Expansion to provide service for anticipated residential or industrial growth consistent with a community's long range urban planning;

iii) Addition of a new product line or production increase or modification at an industrial facility; or

iv) An increase or the retention of current

v) employment levels at a facility.

D) Assessments of alternatives to proposed increases in pollutant loading or activities subject to Agency certification pursuant to Section 401 of the CWA that result in less of a load increase, no load increase or minimal environmental degradation. Such alternatives include:

i) Additional treatment levels including no discharge alternatives;

ii) Discharge of waste to alternate locations including publicly-owned treatment works and streams with greater assimilative capacity; or

iii) Manufacturing practices that incorporate pollution prevention techniques.

E) Any additional information that the Agency may request.

Section 309.108 Tentative Determination and Draft Permit

d) For any proposed increase in pollutant loading that necessitates a new, renewed, or modified NPDES permit, ~~with a new or increased permit limit~~ subject to review pursuant to 35 Ill. Adm. Code 302.105, the tentative determination of the Agency with regard to 35 Ill. Adm. Code 302.105.

1) **After its assessment pursuant to Section 309.141(i)** ~~(f)(2)(A)(ii)review~~, the Agency must produce a written analysis addressing the requirements of **35 Ill. Adm. Code 302.105** ~~this Section~~ and provide a decision yielding one of the following results.

(A) If the proposed activity~~demonstration~~ meets the requirements of **35 Ill. Adm. Code 302.105**~~this Section~~, then the Agency must proceed with public notice of the NPDES permit or CWA Section 401 certification and include the written analysis as a part of the fact sheet accompanying the public notice;

(B) f the proposed activity~~demonstration~~ does not meet the requirements of **35 Ill. Adm. Code 302.105**~~this Section~~, then the Agency must provide a written analysis to the applicant and must be available to discuss the deficiencies that led to the disapproval. The Agency may suggest methods to remedy the conflicts with the requirements of **35 Ill. Adm. Code 302.105**~~this Section~~.

(C) If the proposed activity~~demonstration~~ does not meet the requirements of **35 Ill. Adm. Code 302.105**~~this Section~~, but some lowering of water quality is allowable, then the Agency will contact the applicant with the results of the review. If the reduced loading increase is acceptable to the applicant, upon the receipt of an amended application~~demonstration~~, the Agency will proceed to public notice~~; or~~

2) If the reduced loading increase is not acceptable to the applicant, the Agency will transmit its written analysis~~review~~ to the applicant in the context of a NPDES permit denial or a CWA Section 401 certification denial.

e~~d~~) Upon tentative determination to issue or deny an NPDES Permit:

1) If the determination is to issue the permit the Agency shall notify the applicant in writing of the content of the tentative determination and draft permit and of its intent to circulate public notice of issuance in accordance with Sections 309.108 through 309.112;

2) If the determination is to deny the permit, the Agency shall notify the applicant in writing of the tentative determination and of its intent to circulate public notice of denial, in accordance with Sections 309.108 through 309.112. In the case of denial, notice to the applicant shall include a statement of the reasons for denial, as required by Section 39(a) of the Act.

(Source: Amended at Ill. Reg. , effective , 2001.)

Section 309.113 Fact Sheets

(a)

6) For any proposed increase in pollutant loading that necessitates a new, renewed, or modified NPDES permit, ~~with a new or increased permit limit~~ subject to review pursuant to **35 Ill. Adm. Code 302.105**, the following information:

A) A description of the activity, including identification of water quality parameters **for which there will be an**~~which will experience the~~ increased pollutant loading;

B) Identification of the affected water segment, any downstream water segment also expected to experience a lowering of water quality, characterization of the designated and current uses of the affected segments and identification of which uses are most sensitive to the proposed load increase;

C) A summary of any review comments and recommendations provided by the Illinois Department of Natural Resources, local or regional planning commissions, zoning boards and any other entities the Agency consults regarding the proposal;

D) An overview of alternatives considered by the applicant and identification of any provisions or alternatives imposed to lessen the load increase associated with the proposed activity; and

E) The name and telephone number of a contact person at the Agency who can provide additional information.

Section 309.141 Terms and Conditions of NPDES Permits

i) If the NPDES permit is for a **discharge that constitutes an** increase in pollutant loading that necessitates a new, renewed or modified ~~NPDES~~ permit, the Agency must complete an antidegradation assessment ~~demonstration review in accordance with the provisions of this subsection.~~to determine compliance with **35 Ill. Adm. Code 302.105. The assessment to determine compliance with 35 Ill. Adm. Code 302.105 must be made on a case-by-case basis.** The Agency must consider the:

1) criteria stated in 35 Ill. Adm. Code 302.105(c)(2); and
2) the following information:
   A) Identification and characterization of the waters affected by the proposed load increase or proposed activity and their existing uses. Characterization must address physical, biological and chemical conditions of the waters;
   B) Identification and quantification of the proposed load increases for the applicable parameters and of the potential impacts of the proposed activity on the affected waters;
   C) The purpose and anticipated benefits of the proposed activity. Such benefits may include:
      i) Providing a centralized wastewater collection and treatment system for a previously unsewered community;
      ii) Expansion to provide service for anticipated residential or industrial growth consistent with a community's long range urban planning;
      iii) Addition of a new product line or production increase or modification at an industrial facility; or
      iv) An increase or the retention of current employment levels at a facility.
   D) Assessments of alternatives to proposed increases in pollutant loading or activities subject to Agency certification pursuant to Section 401 of the CWA that result in less of a load increase, no load increase or minimal environmental degradation. Such alternatives include:
      i) Additional treatment levels including no discharge alternatives;
      ii) Discharge of waste to alternate locations including publicly-owned treatment works and streams with greater assimilative capacity; or
      iii) Manufacturing practices that incorporate pollution prevention techniques; and
   E) Any of the information sources identified in 35 Ill. Adm. Code 302.105(c)(2)(C).

Attachment THREE

BIOLOGICALLY SIGNIFICANT ILLINOIS STREAMS

An Evaluation of the Streams of Illinois Based on Aquatic Biodiversity

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Technical Report 1992(1)

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Project Completion Report
Enhancement of Biological Stream Characterization
F-110-R

April 1, 1990 through September 30, 1991

EXECUTIVE SUMMARY

Streams and other aquatic habitats are being destroyed at an alarming rate in Illinois, and several governmental agencies have given high priority to activities aimed at the protection of aquatic habitats and their biota. One of the stated objectives is to protect 100% of the stream-dependent biodiversity, which means that one or more populations of each stream-dependent species should be protected.

The objective of our study was to identify the state's most biologically significant streams so that protection efforts can be concentrated on a reasonable number of streams and the objective of protecting 100% of Illinois' stream-dependent biodiversity can be realized. The identification of the biologically most significant streams will provide a basis for decisions by governmental and other organizations as to which streams should be protected for their biodiversity and which will be used for transportation, industrial, or other consumptive uses. The recognition of outstanding streams will affect decisions made by lawmakers and governmental agencies. It is anticipated that the Nature Preserves Commission, The Nature Conservancy, and other conservation organizations will purchase easements, dedicate preserves, and otherwise protect the identified outstanding aquatic ecosystems. Efforts at stream management for sport fishes and other forms of recreation will be enhanced through the identification of the least degraded streams in Illinois.

An earlier and continuing study to identify biologically significant streams is the Biological Stream Characterization (BSC). The BSC is a stream-quality index developed by the Illinois Department of Conservation and Environmental Protection Agency to categorize streams and is based largely on fish populations, water quality, and aquatic macroinvertebrates. In the BSC, stream segments are categorized from "A" (highest quality) to "E" (lowest). Twenty-four stream segments currently are considered to be in the "A" category, and 50 in the "B" category (next highest). Because of the high diversity of fishes they support, we consider all "A" streams to be among the most biologically significant streams in Illinois.

In this report the list of biologically significant streams has been expanded beyond BSC "A" streams by considering additional data on biodiversity, specifically data on endangered and threatened species and on mussel diversity. The expanded list identifies streams that

are most important to protect and manage for their outstanding biological characteristics. Protection of the streams identified in this report as biologically significant will constitute a major step toward the protection of 100% of the stream-dependent biodiversity.

Illinois has over 2700 named streams that make up more than 26,000 miles of inland water courses. In this report, we have divided the state into 25 regions encompassing one large river, a river system, or several small river systems. To identify the most biologically significant streams, we located those supporting populations of federal or state threatened, endangered, and "watch list" species, and those with the highest fish (BSC "A" streams) and mussel diversity. Threatened and endangered species lists and watch lists are based on statewide surveys of organisms, and the only aquatic groups for which recent statewide surveys have been conducted (or are being conducted) are fishes, mussels, crayfishes, and vascular plants. Our analysis was therefore restricted to these taxonomic groups. Although data on additional groups would refine our analysis, healthy streams tend to have high diversity in many groups of organisms and protecting streams in this report will have the effect of protecting a majority of the aquatic biodiversity of Illinois.

To identify streams supporting populations of threatened, endangered, and watch list species, we identified streams and stream segments from which one or more threatened, endangered, or watch list species have been observed since 1950 or, for lotic plants, since 1900. The exact locations of known populations of these species are stored on computerized databases at the Illinois Natural History Survey. Streams on this list were assumed still to support threatened, endangered, or watch list species if the species have been observed there since 1980. If a threatened, endangered, or watch list species was recorded from the stream but has not been observed there since 1980, the stream was resampled in 1990-91 in an effort to determine whether the population still existed. If a species has been recorded since 1980, the stream in which it is found is placed on the list of biologically significant streams.

In addition to the consideration of threatened, endangered, and watch list species, some stream segments were identified as biologically significant based on mussel diversity. However, recent diversity data (post-1976) on mussel populations have been collected for only eight of the 25 drainage regions: Kankakee River, Kaskaskia River, Vermilion River, Embarras River, Mackinaw River, Little Wabash River, Wabash River, and Sangamon River.

One hundred and eight streams supporting populations of endangered, threatened and watch list species or supporting a high diversity of mussels were identified. These streams plus the 24 streams identified as "A" streams in the BSC classification brings to 132 the number of biologically significant streams recognized in this report.

INTRODUCTION

Streams and other aquatic habitats are being destroyed at an alarming rate in Illinois, and several governmental agencies have given high priority to activities aimed at the protection of aquatic habitats and their biota. One of the stated objectives is to protect 100% of the stream-dependent biodiversity, which means that one or more populations of each stream-dependent species should be protected.

Given the multiple uses of streams in Illinois, it is imperative that a multifaceted approach to their protection be developed. Habitat protection organizations and agencies, such as the Illinois Nature Preserves Commission, have the potential to protect the most biologically significant streams in Illinois as natural areas. Other approaches to protecting streams will include the development of methods to reduce point and nonpoint pollution and to restrict introductions of exotic species.

The objective of our study is to identify the state's most biologically significant streams so that protection efforts can be concentrated on a reasonable number of streams and the objective of protecting 100% of Illinois' stream-dependent biodiversity can be realized. The identification of the biologically most significant streams will provide a basis for decisions by governmental and other organizations as to which streams should be protected for their biodiversity and which will be used for transportation, industrial, or other consumptive uses. The recognition of outstanding streams will affect decisions made by lawmakers, governmental agencies, etc. It is anticipated that the Nature Preserves Commission, The Nature Conservancy, and other conservation organizations will purchase easements, dedicate preserves, and otherwise protect the identified outstanding aquatic ecosystems. Efforts at stream management for sport fishes and other forms of recreation will be enhanced through the identification of the least degraded streams in Illinois.

An earlier and continuing study to identify biologically significant streams is the Biological Stream Characterization (BSC) (Hite and Bertrand, 1989). The BSC is a stream-quality index developed by the Illinois Department of Conservation and Environmental Protection Agency to categorize streams and is based largely on fish populations, water quality, and aquatic macroinvertebrates. In the BSC, stream segments are categorized from "A"

(highest quality) to "E" (lowest). Twenty-four stream segments currently are considered to be in the "A" category, and 50 in the "B" category (next highest). Because of the high diversity of fishes they support, we consider all "A" streams to be among the most biologically significant streams in Illinois.

In this report we have expanded the list of biologically significant streams beyond BSC "A" streams by considering additional data on biodiversity, specifically data on endangered and threatened species and on mussel diversity. The expanded list identifies streams that are most important to protect and manage for their outstanding biological characteristics. Protection of the streams identified in this report as biologically significant will constitute a major step toward the protection of 100% of the stream-dependent biodiversity.

Illinois is considered a well-watered state due to its large and complex drainage pattern (Page, 1991). Three rivers border Illinois, the Mississippi River on the west, the Ohio on the south, and the Wabash on the southeast. In addition to being almost surrounded by water, Illinois has over 2700 named streams that make up more than 26,000 miles of inland water courses (IDOC, 1992). In an earlier report that classified streams on the basis of fish diversity, Smith (1971) divided the state into 33 drainage basins. In this report, we have modified his classification and divided the state into 25 regions encompassing one large river, a river system, or several small river systems (Figure I-1, Table I-1).

METHODS

Although most Illinois stream basins are not contained within one division, we use Schwegman's (1973) *Natural Divisions of Illinois* to help describe and characterize each of our 25 regions. Other background information on the rivers is from a variety of sources. Historical information on Illinois streams was taken from C.W. Rolfe's descriptions in Forbes and Richardson's *The Fishes of Illinois* (1908). Information on length, width, and substrate composition came from the series *Surface Water Resources of Illinois* (1968-1973), published by the Illinois Department of Conservation. The series began in 1968 and included data on the surface waters by county; unfortunately, only 81 counties were completed. The area (in square miles) drained by a river was found in Ogata (1975), *Drainage Areas for Illinois Streams*.

Water quality information came from three sources: *Illinois Water Quality Report* (IEPA, 1990), *Biological Stream Characterization (BSC): A Biological Assessment of Illinois Stream Quality* (Hite and Bertrand, 1989), and *Illinois Streams: A Classification Based on Their Fishes and an Analysis of Factors Responsible for Disappearance of Native Species* (Smith, 1971). The *Illinois Water Quality Report* (IEPA, 1990) assessed 93.2% of Illinois' interior and border river miles for degree of designated aquatic life support and attainment of the Clean Water Act's fishable goals. The degree of designated aquatic life use support is described as Full Support, Partial Support/Minor Impairment, Partial Support/Moderate Impairment, and Nonsupport. The degree to which Illinois streams support designated uses was determined using a combination of biotic and abiotic data, intensive survey field observations, and professional judgment. The primary focus was on biotic data (fishery and macroinvertebrates) and on the Biological Stream Characterization ratings when they were available.

The Biological Stream Characterization (BSC) report (Hite and Bertrand, 1989) was conceived and developed as an aquatic resource management tool. Its objectives were to inventory the nature, extent, and distribution of Illinois stream resources and identify stream segments of exceptional quality that warrant special consideration for protection. The criteria used to identify these streams or stream segments were based largely on the type and condition of the fishery resource. A five tiered classification was developed and streams were ranked as follows: A Streams - Unique Aquatic Resource, B Streams - Highly Valued Aquatic Resource, C Streams - Moderate Aquatic Resource, D Streams - Limited Aquatic Resource, or E Streams - Restricted Aquatic Resource.

Smith (1971) rated each stream on the basis of the fishes known to occur there and its potential for harboring others. Ratings of Excellent, Good, Fair, and Poor were used. An Excellent rating indicated that the expected species were still present in a numerical relationship suggesting little modification of the stream from its original condition.

Our objective is to identify streams most biologically worthy of protection in Illinois and, therefore, biodiversity itself was the basis for the recognition and classification of streams. Other parameters that might be used, e.g., water quality, land use, unusual habitats, naturalness of the ecosystem, and natural divisions, are reflected in the biodiversity. If rare species, or many species, are present it is because the water quality has remained good for a long time, unusual habitats are present, etc.

Table I-1. Illinois Stream Systems

1. Galena, Apple, and Plum River Systems
2. Rock River System
3. Middle Mississippi River Tributaries
4. Des Plaines River and Lake Michigan Tributaries
5. Fox River System
6. Little Vermilion River, Big Bureau and Kickapoo Creek Systems
7. Kankakee - Iroquois River System
8. Vermilion and Mazon River Systems
9. Spoon River System
10. La Moine River System
11. Mackinaw River System
12. Sangamon River System
13. Lower Illinois River Tributaries and American Bottoms
14. Kaskaskia River System
15. Big Muddy River System
16. Cache River System
17. Massac, Bay, Lusk, Big Grand Pierre and Big Creek Systems
18. Saline River System
19. Little Wabash River and Bonpas Creek Systems
20. Embarras River and Wabash River Tributaries
21. Vermilion and Little Vermilion River Systems
22. Illinois River
23. Mississippi River
24. Ohio River
25. Wabash River

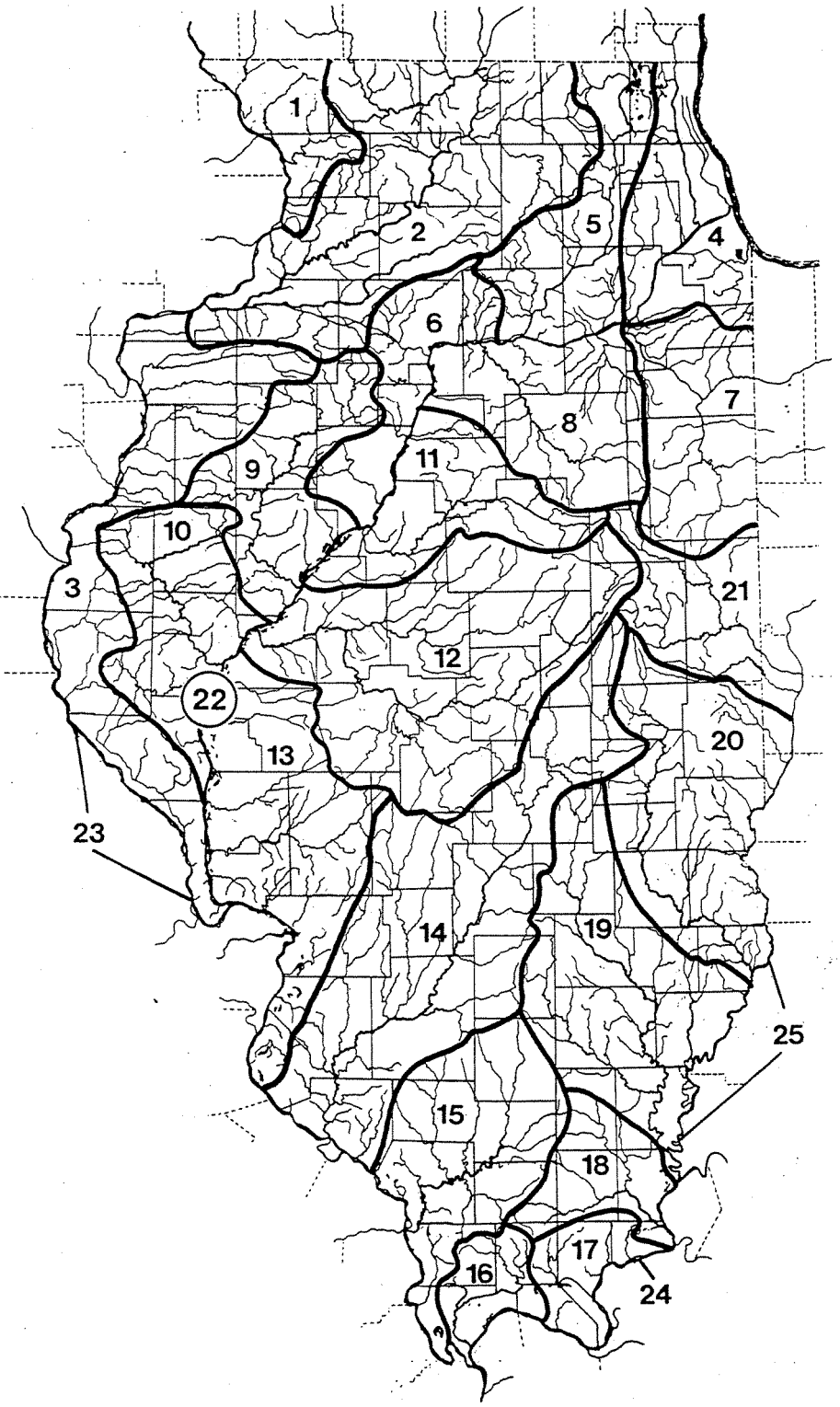


Figure I-1. Major river drainages in Illinois.

To identify the most biologically significant streams, we located those supporting populations of federal or state threatened, endangered, and "watch list" species, and those with the highest fish (BSC "A" streams) and mussel diversity. Threatened and endangered species lists and watch lists are based on statewide surveys of organisms, and the only aquatic groups for which recent statewide surveys have been conducted (or are being conducted) are fishes, mussels, crayfishes, and vascular plants. Our analysis was therefore restricted to these taxonomic groups. Although data on additional groups would refine our analysis, healthy streams tend to have high diversity in many groups of organisms and protecting streams in this report will have the effect of protecting a majority of the aquatic biodiversity of Illinois.

To identify streams supporting populations of threatened, endangered, and watch list species, we identified streams and stream segments from which one or more threatened, endangered, or watch list species have been observed since 1950 or, for lotic plants, since 1900. The exact locations of known populations of these species are stored on computerized databases at the Illinois Natural History Survey. Streams on this list were assumed still to support threatened, endangered, or watch list species if the species have been observed there since 1980. If a threatened, endangered, or watch list species was recorded from the stream but has not been observed there since 1980, the stream was resampled in 1990-91 in an effort to determine whether the population still existed. If a species has been recorded since 1980, the stream in which it is found is placed on the list of biologically significant streams.

In each chapter the term "special status" is used for mussels which are either threatened or endangered mussels or likely to be listed in the near future (state watch list species). High quality streams based on threatened or endangered mussels do not include those supporting the pondhorn, *Uniomerus tetralasmus*. Currently listed as threatened in Illinois, the pondhorn has been found to be more common than previously believed, and it is likely to be removed in the next edition of the threatened and endangered species list. However, because *U. tetralasmus* is still listed as threatened, distribution maps showing the location of threatened and endangered species include the pondhorn.

In addition to the consideration of threatened, endangered, and watch list species, some stream segments were identified as biologically significant based on mussel diversity. However, recent diversity data (post-1976) on mussel populations have been collected for only eight of the 25 drainage regions. The drainages investigated, the year(s), and the

number of sites sampled in each basin are as follows: Kankakee River (1978, 13), Kaskaskia River (1978-79, 19), Vermilion River (1981, 28), Embarras River (1986-87, 25), Mackinaw River (1987, 25), Little Wabash River (1988, 30), Wabash River (1987, 27; 1988, 26), and Sangamon River (1987-89, 57).

To measure mussel diversity, streams were sampled on a catch per unit effort basis. A diversity index (Shannon's H'), was calculated according to the method given by Lloyd et al. (1968). Streams segments with more than ten live species of mussels or those having an H' greater than 2.5 were considered to have a diverse mussel fauna and categorized as biologically significant streams. The data used to calculate mussel diversity can be found in the following reports or publications: Suloway (1981), Suloway et al. (1981a, 1981b), Cummings et al. (1987, 1988a, 1988b, 1988c, 1989), and Schanzle and Cummings (1991).

Locations for collections and historical observations of threatened and endangered lotic plant species were obtained from herbarium data compiled by the Natural Land Institute in 1977 during the preparation of the original list of threatened and endangered species. Files compiled by the Illinois Natural Areas Inventory during 1975-1978 and maintained by the Illinois Department of Conservation Natural Heritage Division were used, as was the Illinois Plant Information Network (ILPIN). ILPIN is a data base developed and maintained by the Illinois Natural History Survey on the ecology, biology, distribution, taxonomy, and literature of 3200 plant species in Illinois. Using records back to 1900, each location known for threatened and endangered lotic plant species was visited during 1990 and 1991 to search for extant populations.

Although localities for some threatened and endangered plants are in riparian habitats (e.g., ravines, marshes) rather than in the streams, these plants are dependent on a healthy stream ecosystem and, if the stream is further altered, the plant is unlikely to survive. For example, a floodplain species is unlikely to survive if a stream is channelized and no longer floods, or becomes polluted. Protection of streams is necessary for survival of riparian plants.

The distributional data on mussels are based only on specimens vouchered in the Mollusk Collection of the Illinois Natural History Survey (INHS), Champaign, Illinois, or the following collections: the Academy of Natural Science of Philadelphia (ANSP), Chicago Academy of Science (CHAS), Field Museum of Natural History, Chicago (FMNH),

Illinois State Museum (ISM), Museum of Comparative Zoology - Harvard University (MCZ), Ohio State University Museum of Zoology (OSUM), University of Illinois Museum of Natural History (UIMNH), University of Michigan Museum of Zoology (UMMZ), and the United States National Museum (USNM). The mussel nomenclature follows a list prepared by the Committee on Scientific and Vernacular Names of Mollusks of the Council of Systematic Malacologists, American Malacological Union (Turgeon et al., 1988) except as follows: 1) subspecies are not recognized, 2) members of the *Pleurobema cordatum* complex are recognized following Stansbery (1983).

For each of the 25 stream systems the organization and order of the maps and tables are as follows. Not all are present in each chapter.

1. General map of the system with major streams labeled for identification.
2. Map of fish collection sites represented in the Illinois Natural History Survey Fish Collection.
3. Table of fishes recorded in the system based on specimens in the Illinois Natural History Survey Fish Collection.
4. Map of mussel collection sites represented in the Illinois Natural History Survey Mollusk Collection and other museum collections.
5. Table of mussels recorded in the system based on specimens in the Illinois Natural History Survey Mollusk Collection and other museum collections.
6. Map of crustacean collection sites represented in the Illinois Natural History Survey Crustacean Collection.
7. Table of freshwater crustaceans recorded in the system based on specimens in the Illinois Natural History Survey Crustacean Collection.
8. Map of historic (open symbols = pre-1980) and extant (solid symbols = 1980 to present) populations of endangered lotic plants (circles) if present.
9. Map of historic (open symbols = pre-1980) and extant (solid symbols = 1980 to present) populations of threatened or endangered fishes (squares), mussels (circles), and crustaceans (triangles).
10. Topographic map(s) highlighting the Biologically Significant Stream segments based on threatened or endangered species or high mussel diversity as identified in the text.
11. Map of Biological Stream Characterization (BSC) (Hite and Bertrand, 1989) "A" and "B" streams.

4. Des Plaines River and Lake Michigan Tributaries

INTRODUCTION

The long narrow basin of the Des Plaines River lies west of Lake Michigan in the northeast corner of Illinois. The lower portion of the valley southwest of Chicago was once occupied by a great river, the outlet of early Lake Michigan. The basin drains 1231 square miles and comprises five counties—Lake, Cook, DuPage, Will, and Grundy. Two natural divisions are encompassed—Grand Prairie and Northeastern Morainal (Schwegman, 1973). The latter makes up 90% of the basin. Unlike most of Illinois, the majority of the soils in this basin are derived from glacial drift rather than loess. Drainage is poorly developed and many natural lakes are found. The soils are derived from glacial drift, lake bed sediments, beach deposits, and peat, range from gravel and sand to silty clay loams and have been deposited over bedrock (Schwegman, 1973).

The Des Plaines River and its major tributary the DuPage River drain the majority of the watershed. Spring freshets of the upper Des Plaines afforded the early French explorers an easy and continuous canoe route from the Great Lakes to the Mississippi. The basin contained numerous small lakes and marshes and was highly attractive to waterfowl and furbearing animals. Today most of the watershed is part of the greater Chicago metropolitan region and has been extensively developed for urban and industrial use. The basin is home to the Illinois and Michigan Canal and the Chicago Sanitary and Ship Canal. Septic conditions, algae blooms, and poor fish populations have reduced the attractiveness for water-oriented recreation. Over enrichment of the water from treated and untreated sewage is a major problem. At least 100 waste treatment plants empty into the basin (Vidal, 1969).

Des Plaines River

The Des Plaines River rises near Racine in Kenosha County, Wisconsin. The river enters Illinois two miles northeast of Rosecranes in Lake County and flows south for 97 miles before its confluence with the Kankakee River. At their confluence the rivers form the Illinois River in Grundy County. Historically, the Des Plaines possessed 21 miles of rapids, riffles, and rocky shallows. Today little remains of what was once considered a dangerous river (Vierling, 1977). Stream width ranges from 60 feet in Lake County to 600 feet in Will County. The river bottom is of bedrock, largely covered with sand and gravel, but bare rock is found in portions of its swiftest descent. The sand and gravel are often

unnamed stream in Highland Park, Cook County (1923). A recent record includes the Des Plaines River, Lake County (1981). All natural populations of *P. cordata* have been extirpated at the sites occurring in the Des Plaines River drainage. The last observed population (1981) was destroyed by siltation due to construction of a subdivision. A restoration project is being conducted at Pilcher Park, Will County (M. Bowles pers. comm., August 1990; Bowles et al., 1988; Moran, 1978).

Potamogeton gramineus: The only historical record for the grass-leaved pondweed in this region is Wolf Lake, Cook County (1975). *Potamogeton gramineus* was found in Wolf Lake and Fourth Lake, Lake County, during a 1991 search.

Potamogeton robbinsii: The fern pondweed has been recorded from Wolf Lake, Cook County in 1975 and 1987. *Potamogeton robbinsii* was not found during a search of a segment of Wolf Lake in 1991. An algal bloom covering most of the lake impeded the search and *P. robbinsii* may still occur in the drainage.

Potamogeton strictifolius: The only record for the stiff pondweed in the Des Plaines drainage is Wolf Lake, Cook County (1901). This site was searched in 1987/1988 (Bowles et al., 1991) and in 1991, but the population was not found. An algal bloom covering most of the lake impeded the search and *P. strictifolius* may still occur in the drainage.

BIOLOGICALLY SIGNIFICANT STREAMS

No recent records of threatened or endangered mussels or crustaceans are known from the streams in this region. No recent mussel surveys have been conducted in any of the streams of this region; therefore, no assessment of stream quality based on mussel diversity can be made.

Although this study was directed at streams of Illinois, Powder Horn and Wolf lakes in southern Cook County contain the state threatened banded killifish and Iowa darter. Wolf Lake in Cook County and Fourth Lake in Lake County contain the state endangered grass-leaved pondweed.

BSC Class "A" Streams (Figure 4-6)
- Manhattan Creek, Will County

5. Fox River System

INTRODUCTION

The 1720 square mile drainage basin of the Fox River lies entirely within the limits of Wisconsinan glaciation. As the Wisconsinan Glacier began to recede northward, tremendous quantities of meltwater, called the Fox River Torrent, swept southward, accomplishing a rapid down cutting of the valley. Remnants of this river torrent exist as the present day Fox River (Langbein and Ferencak, 1988). Many glacial lakes are found in the basin, formed either by interlaced moranic ridges that produce cups or kettles within which lakes are formed, or by large chunks of ice that broke off the glacier, were buried in the upper basin, and melted to form lakes.

All of Kendall County and parts of Kane, McHenry, Lake, Cook, DuPage, DeKalb, Will, LaSalle, and Grundy counties are included in the basin. The basin comprises two natural divisions: the Northeastern Moranial found in the northern half of the basin and the Grand Prairie in the southern part (Schwegman, 1973). Soils range from moderately thick loess on Wisconsinan till to gravel, sand, and silty clay loams (Iverson, 1987). The landforms range from land-locked ponds with gravel bottoms to marshes, wet prairies, peat bogs, and dry prairies.

The basin can be divided into three zones—Northern, Central, and Southern. The Northern zone has numerous lakes and recreational areas, smaller populated communities, and dairy lands. The Central zone is comprised of industries, dense population areas, and agriculture and timber lands. The Southern zone has a lesser population and is more scenic then the Central zone. Sport fishing, boating, canoeing, swimming, ice fishing, and hiking are the major water-based activities.

Fox River

The Fox River rises in the northern part of Waukesha County, Wisconsin. The river enters Illinois in the northwest corner of Lake County, travels 115 miles southward to empty into the Illinois River in Ottawa. The Fox River is the third largest tributary of the Illinois River. A large number of glacial lakes and ponds are tributaries of the Fox. Over 200 islands are found in the Fox River between Ottawa and McHenry, Illinois. Between the Illinois and Wisconsin state line and Algonquin, Illinois, the main channel of the Fox is ill-defined as it passes through a series of lakes and marshes. From Algonquin to Aurora the

Potamogeton praelongus: Historical records of the white-stemmed pondweed include west channel of the Fox River, McHenry County (1916), Sullivan Lake, Lake County (1932), and Cedar Lake, Lake County (1959). Present locations of *P. praelongus* include Cedar Lake (1991), Loon Lake (1991), Bang's Lake (1991), and Deep Lake (1990), all in Lake County. *Potamogeton praelongus* was not found on the west channel of the Fox River nor at Sullivan Lake in 1990-1991.

Potamogeton pulcher: The spotted pondweed was collected at Ferson Creek, Kane County (1980). During a search of the area in 1991 the plant was not found. A housing development now surrounds the site, the small lake has been drained, and Ferson Creek has been dammed. It is unlikely that *P. pulcher* still occurs here.

Potamogeton robbinsii: The historical record of fern pondweed is Grays Lake, Lake County (1966). Present locations include Lily Lake, McHenry County (1991) and Cedar Lake, Lake County (1991). *Potamogeton robbinsii* was not found in Grays Lake.

Potamogeton strictifolius: Grays Lake, Lake County (1966) is the only historical record for the stiff pondweed in the Fox River drainage. A search of Grays Lake in 1991 did not reveal the plant.

BIOLOGICALLY SIGNIFICANT STREAMS

Although this study was directed at streams of Illinois, lakes in the Fox River system are included because of the many connections between the lakes and streams. Through their course, the Fox River and its tributaries wind through many of the lakes, and it is obvious that populations in the lakes have immediate access to the streams.

Fox River, Morgan Creek to confluence with the Illinois River, Kendall/LaSalle counties (greater redhorse, river redhorse) (Figure 5-6)

This stretch of the Fox River is a medium-sized river. The substrate is bedrock, overlain in some areas with boulders or mixtures of sand and gravel. Habitats present include swift, boulder/gravel riffles, smooth flowing runs, quiet sand-bottomed backwaters, and silt-bottomed pools. Depths range from six inches in some of the shallow riffles to four feet in the main channel. Both *Moxostoma valenciennesi*, the greater redhorse, and *Moxostoma carinatum*, the river redhorse, are present.

Unnamed tributary to Fox River at Yorkville, Kendall County
(heart-leaved plantain) (Figure 5-6)
This intermittent tributary of the Fox River is a fast moving, natural stream about five feet wide with a substrate of cobble, gravel, and sand. *Plantago cordata*, the heart-leaved plantain, occurs on gravel bars on the banks and in the stream. The width of the riparian zone on the east bank is small, surrounded by mowed lawns and a housing development. The owners mow up to the *Plantago cordata* site on the east bank. The riparian vegetation on the west side is typical mesic floodplain forest with the herbs, *Eupatorium maculatum* (Joe Pye weed), *Helenium autumnale* (sneezeweed), and *Lobelia siphiliatica* (blue lobelia). Also, common on the west bank are seep springs which empty into this small intermittent tributary, populated by *Symplocarpus foetidus* (skunk cabbage) and *Caltha palustris* (marsh marigold).

North Branch Nippersink Creek from Wisconsin border to Nippersink Creek, McHenry County
(creek heelsplitter) (Figure 5-7)
The North Branch of Nippersink Creek is a small natural stream with a sand, gravel, and silt substrate and no vascular aquatic vegetation. *Lasmigona compressa*, the creek heelsplitter, is present. The riparian zone is 10-50 feet wide and consists of trees and grass. Richmond waste treatment plant and a golf course are upstream.

Cedar Lake, Lake Villa, Lake County
(blackchin shiner, blacknose shiner, banded killifish, Iowa darter, water marigold, grass-leaved pondweed, white-stemmed pondweed, fern pondweed) (Figure 5-8)
Cedar Lake is one of the larger glacial lakes in Lake County. The depth varies from only inches deep along the shore to 35 feet near the middle; the water is very clear. The only heavy residential development is on the northwest end. Water milfoil (weed) first appeared in the lake five years ago and has formed large dense beds and in some areas is choking other plants. Cedar Lake is of excellent quality and a good candidate for preservation. Potential threats to the habitat are the spread of water milfoil, increased recreational use by motorboats, and a new housing development with access to the north. Four endangered plant species—*Bidens beckii*, water marigold, *Potamogeton praelongus*, white-stemmed pondweed, *Potamogeton robbinsii*, fern pondweed, and *Potamogeton gramineus*, grass-leaved pondweed—and four threatened fish species—*Notropis heterodon,* blackchin shiner, *Notropis heterolepis*, blacknose shiner, *Fundulus diaphanus*, banded killifish, and *Etheostoma exile*, Iowa darter—are present. A small part of the lake is preserved within Cedar Lake Bog Nature Preserve.

Cross Lake, Wisconsin and Illinois state line, Lake County
(pugnose shiner, blackchin shiner, blacknose shiner, banded killifish, Iowa darter) (Figure 5-8)
Cross Lake is a border lake located in both Wisconsin and Illinois. Maximum depth is 35 feet. Heavy residential development surrounds the southern portion of the lake. *Notropis anogenus*, pugnose shiner, *Notropis heterodon,* blackchin shiner, *Notropis heterolepis*, blacknose shiner, *Fundulus diaphanus*, banded killifish, and *Etheostoma exile*, Iowa darter, are present.

Deep Lake, Lake County
(pugnose shiner, blackchin shiner, banded killifish, white-stemmed pondweed) (Figure 5-8)
Deep Lake is one of the states deepest lakes with a maximum depth of over 50 feet. Less than half of the land surrounding the lake has been developed, with the eastern shore showing the most development. Vascular aquatic vegetation is abundant. The endangered white-stemmed pondweed, *Potamogeton praelongus*, is present. Also present are *Notropis anogenus*, pugnose shiner, *Notropis heterodon,* blackchin shiner, and *Fundulus diaphanus*, banded killifish.

East Loon Lake, Lake County
(pugnose shiner, blackchin shiner, blacknose shiner, banded killifish) (Figure 5-8)
East Loon Lake has a maximum depth of 25 feet and receives drainage of both Deep and Sun Lakes. Residential development is heavy on the east while West Loon Lake borders on the west. *Notropis anogenus*, pugnose shiner, *Notropis heterodon,* blackchin shiner, *Notropis heterolepis*, blacknose shiner, and *Fundulus diaphanus*, banded killifish, are present.

West Loon Lake, Lake County
(grass-leaved pondweed, white-stemmed pondweed) (Figure 5-8)
West Loon Lake has some residential development on the north and south. Maximum depth is 40 feet. Aquatic vascular vegetation is abundant with the endangered *Potamogeton praelongus*, white-stemmed pondweed, and *Potamogeton gramineus*, grass-leaved pondweed, present.

Bangs Lake, Wauconda, Lake County
(grass-leaved pondweed, white stemmed pondweed) (Figure 5-8)
Bangs Lake is surrounded by the town of Wauconda. Recreational use is fairly heavy with water-skiing, swimming, and fishing the most notable activities. Large beds of aquatic

vegetation are present, including *Potamogeton praelongus*, white-stemmed pondweed, and *Potamogeton gramineus*, grass-leaved pondweed.

Sullivan Lake, Lake County
(blackchin shiner, grass-leaved pondweed) (Figure 5-8)
Sullivan Lake, a natural pothole slough, is fairly clear with a mud bottom. The lake is not very deep (to ten feet). A small cattail island occupies the center of the lake. Residential development is light. Aquatic vegetation is abundant and includes *Potamogeton gramineus*, grass-leaved pondweed. *Notropis heterodon*, the blackchin shiner, is also present.

Wooster Lake, Wilson, Lake County
(blackchin shiner, blacknose shiner) (Figure 5-8)
Wooster Lake, surrounded by heavy residential development, has a maximum depth of 30 feet. *Notropis heterodon*, the blackchin shiner, and *Notropis heterolepis*, the blacknose shiner, are present.

Lily Lake, Lakemoor, McHenry County
(grass-leaved pondweed, fern pondweed) (Figure 5-8)
Lily Lake is a peat lake. Residential development occurs only on the east and west shores. Vascular aquatic vegetation beds are found in the west and north. A sand beach grades into the lake on the east side and has little vegetation. White water lily and yellow pond lily form large beds throughout the lake. The average depth is two to five feet and small peat islands are common in the middle. *Potamogeton robbinsii*, fern pondweed, and *Potamogeton gramineus*, grass-leaved pondweed, are present.

Turner Lake, Chain O' Lakes State Park, McHenry County
(Iowa darter) (Figure 5-8)
Turner Lake, which is within Chain O' Lakes State Park, is owned by the Illinois Department of Conservation. Turner Lake Fen Nature Preserve, an example of the wetlands associated with the glacial lakes and ponds of northeastern Illinois, borders the south and west shorelines of the lake. *Etheostoma exile*, the Iowa darter, is present in Turner Lake.

Round Lake, Round Lake Park, Lake County
(grass-leaved pondweed) (Figure 5-8)
Round Lake is surrounded by residential development. The water is very turbid and debris litters the lake. There is some residential drainage into the lake. Although few vascular aquatic plant beds were found, *Potamogeton gramineus*, grass-leaved pondweed, is present.

Crystal Lake, Crystal Lake, McHenry County
(grass-leaved pondweed) (Figure 5-8)
Crystal Lake is surrounded by residential development. Maximum depth is 30 feet. *Potamogeton gramineus*, grass-leaved pondweed, is present.

McCullom Lake, McHenry, McHenry County
(grass-leaved pondweed) (Figure 5-8)
McCullom Lake was constructed in the late 1800's by damming a slough area northeast of McHenry, Illinois. The lake is surrounded by residential development. *Potamogeton gramineus*, grass-leaved pondweed, is present.

Grays Lake, Grayslake, Lake County
(grass-leaved pondweed) (Figure 5-8)
Residential development surrounds Grays Lake. In the early 1960's Grays Lake had large quantities of vascular aquatic vegetation, including several endangered species. Although the lake still contains large quantities of aquatic vegetation, only the endangered *Potamogeton gramineus*, grass-leaved pondweed, is present. Water milfoil, which the residents attempt to control, chokes the lake.

BSC Class "A" Streams (Figure 5-9)

- Buck Creek, LaSalle County

Attachment FOUR

Permits

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276

THOMAS V. SKINNER, DIRECTOR

MEMORANDUM

Date: 3 May 2001

To: Abel Haile

From: Scott Twait ST

Subject: Water Quality Based Effluent Limit and Nondegradation Evaluation for Joliet West STP NPDES No. IL0033553 (Will County)

The subject facility has not been able to consistently meet their ammonia nitrogen permit limits. Therefore, they have entered into a compliance commitment agreement to achieve these limits. As part of that agreement, long term compliance will be achieved by expanding the existing sewage treatment facility from 10.0 MGD DAF to 14.0 MGD DAF. The facility discharges to the Des Plaines River at a point where 1955 cfs flow exists upstream during 7Q10 low-flow conditions. The Des Plaines River is classified as a secondary contact water at this location.

The Des Plaines River is rated a "C" stream under the Agency's Biological Stream Characterization (BSC) program.

The Des Plaines River is found on the Illinois 303(d) list as published by the Agency on April 1, 1998. The causes of impairment given for the segment at that time were priority organics (Moderate), metals (High), ammonia (M), nutrients (H), and pathogens (M). The sources associated with the impairment are industrial point sources (M), municipal point sources (M), combined sewer overflows (Slight), construction (S), land development (S), urban runoff/storm sewers (M), hydrologic/habitat modification (S), channelization (S), flow regulation/modification (S), other (H), and in-place contaminants (H).

The Des Plaines River segment G-12 has been re-evaluated for the year 2000 305(b) assessment. After consideration of new water quality data and using an updated system of designating causes and sources of impairment, the following is the current listing for this segment. Causes of impairment are given as PCBs (Slight), metals (S), copper (S), chromium (S), mercury (S), nutrients (Moderate), phosphorus (S), nitrogen (M), flow alterations (S), and habitat alterations (S). Sources of impairment are given as industrial point sources (S), municipal point sources (S), urban runoff/storm sewers (S), hydromodification (S), channelization (S), flow regulation/modification (S) and contaminated sediments (S).

The Illinois Natural History Survey does not list the Des Plaines River as a biologically significant stream nor does it indicate that any threatened or endangered species of aquatic life are resident according to the 1992 publication *Biologically Significant Illinois Streams*.

The parameters for which nondegradation issues arise at this facility are BOD, nutrients and ammonia. The increased loading of BOD should not impact aquatic life in the Des Plaines River. The expanded facility will be required to meet BOD and TSS effluent standards established by the IPCB. These standards are applied consistently on a state-wide basis and have been proven to be protective of dissolved oxygen water quality standards in receiving waters. The additional loading of BOD to the Des Plaines River is not expected to cause depletion of dissolved oxygen or cause any other environmental problem. BOD will degrade as the effluent flows downstream. The expanded plant should cause no discernable change to the quality of the Des Plaines River. No degradation will occur from this discharge.

USEPA is developing national nutrient criteria that will formulate the basis for future state water quality standards and nutrient management strategies. Upon promulgation of national criteria, state standards and adoption of a management strategy, there may be nutrient reduction requirements imposed on this source. At the present time however, the incremental nutrient loading anticipated to result from this project is not expected to increase algae or other noxious plant growth, diminish the present aquatic community or otherwise aggravate existing stream conditions. Therefore no permit limits for nutrients are recommended at this time. It may be prudent to advise the permittee that nutrient criteria are being developed and nutrient limitations may be imposed on this source at some future time.

The Joliet West STP currently has monthly limits of 1.5 mg/L (summer) and 4.0 mg/L (winter). However, they have not been able to consistently meet these limits. They have had 7 excursions of these limits in the last two years with a maximum monthly average of 5.53 mg/L (summer) and 10.0 mg/L (winter). The Joliet West STP has entered into a compliance commitment agreement to expand the treatment plant to achieve compliance with the existing ammonia nitrogen permit limits. Ammonia loading to the Des Plaines River will be reduced with the expanded facility meeting the permit limits of 1.5 mg/L (summer) and 4.0 mg/L (winter). Based on the reduced ammonia loading and the delisting of ammonia as a source of impairment from the 2000 303(d) list, ammonia is not an issue of concern. No degradation should occur from the ammonia content of the effluent.

The need for the new facility is based on the need to expand the existing sewage treatment plant to achieve compliance with the ammonia nitrogen permit limits. An social need based on protection of the environment is therefore present justifying the decision to expand the sewage treatment plant.

This evaluation was conducted to satisfy the Illinois Pollution Control Board regulation for Nondegradation found at 35 Ill. Adm. Code 302.105. Under policies in place at this time, waters will be allowed to receive new or increased discharges with the following provisions: the water quality standards are met, there is an economic or social need for the discharge, best degree of treatment is attained, and, no ecological alteration of the receiving stream is likely to occur. In the case of the proposed Joliet West STP discharge, all these conditions are met. The proposed discharge is therefore consistent with the Board's Nondegradation regulation.

Limits

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276

THOMAS V. SKINNER, DIRECTOR

MEMORANDUM

RECEIVED

2001

ENVIRONMENTAL PROTECTION AGENCY

BOW/WPC/PERMIT SECTION

Date: June 22, 2001

To: Don Netemeyer

From: Scott Twait ST

Subject: Water Quality Based Effluent Limits and Nondegradation Evaluation for Huntley - West STP NPDES No. IL0070688 (McHenry County)

The subject facility proposes to expand from a 0.65 MGD to a 1.6 MGD DAF mechanical sewage treatment plant. The plant discharges to the South Branch of the Kishwaukee River which is a 0.17 cfs 7Q10 flow stream at this location.

The South Branch of the Kishwaukee River is not found on the Illinois 303(d) list as published by the Agency on April 1, 1998.

The South Branch of the Kishwaukee River is rated a "B" stream under the Agency's Biological Stream Characterization (BSC) program.

The Illinois Natural History Survey does not list the South Branch of the Kishwaukee River as a biologically significant stream nor does it indicate that any threatened or endangered species of aquatic life are resident according to the 1992 publication *Biologically Significant Illinois Streams*.

The parameters for which nondegradation issues arise at this facility are BOD, nutrients and ammonia. The increased loading of BOD should not impact aquatic life in the South Branch of the Kishwaukee River. The new facility will be required to meet BOD and TSS effluent standards established by the IPCB. These standards are applied consistently on a state-wide basis and have been proven to be protective of dissolved oxygen water quality standards in receiving waters. The additional loading of BOD to the South Branch of the Kishwaukee River is not expected to cause depletion of dissolved oxygen or cause any other environmental problem. BOD will degrade as the effluent flows downstream. The new plant should cause no discernable change to the quality of the South Branch of the Kishwaukee River. No degradation will occur from this discharge.

USEPA is developing national nutrient criteria that will formulate the basis for future state water quality standards and nutrient management strategies. Upon promulgation of national criteria, state standards and adoption of a management strategy, there may be nutrient reduction requirements imposed on this source. At the present time however, the incremental nutrient loading anticipated to result from this project is not expected to increase algae or other noxious plant growth, diminish the present aquatic community or otherwise aggravate existing stream conditions. Therefore no permit limits for nutrients are recommended at this time. It may be prudent to advise the permittee that nutrient criteria are being developed and nutrient limitations may be imposed on this source at some future time.

Ammonia limits recommended for the plant are given on the attached ammonia analysis sheet. Ammonia loading to the South Branch of the Kishwaukee River will increase with the advent of this discharge. However, no degradation should occur from the ammonia content of the effluent.

Given the predicted ambient conditions of the South Branch of the Kishwaukee River near the outfall, as determined using data collected at AWQMN station PQ-10, Kishwaukee River, monthly average limits of 1.2 mg/L (summer) and 1.5 mg/L (winter) are appropriate. The summer and winter limits are based on median pH and mixing.

Daily maximum limits of 5.1 mg/L (summer) and 5.1 mg/L (winter) are recommended. These limits reflect the seasonal acute water quality standards with no mixing allowance since the stream has insufficient stream width for discharge induced mixing.

The facility has explored two alternatives and decided that they are not feasible. The first alternative explored is on-site water treatment systems (i.e., septic tanks) and is not suitable due to nature and density of area. The second alternative explored is a lagoon plus land application and is not suitable since suitable acreage is not available for land application.

The need for the plant expansion is based on growth within the community based on the Northeastern Illinois Planning Commission's (NIPC) projection. The Water Quality Management Plan was supported by NIPC on December 16, 1999. A social reason is therefore present justifying the expanded discharge.

This evaluation was conducted to satisfy the Illinois Pollution Control Board regulation for Nondegradation found at 35 Ill. Adm. Code 302.105. Under policies in place at this time, waters will be allowed to receive new or increased discharges with the following provisions: the water quality standards are met, there is an economic or social need for the discharge, best degree of treatment is attained, and, no ecological alteration of the receiving stream is likely to occur. In the case of the proposed Huntly - West STP discharge, all these conditions are met. The proposed discharge is therefore consistent with the Board's Nondegradation regulation.

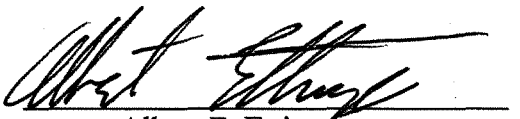
The seasonal disinfection exemption for the existing plant is still applicable for the expanded plant.

These recommendations reflect a water quality standards perspective only and should not be construed as being indicative of all factors which have to be taken into consideration by the permit writer.

cc: Jay Patel
Wally Matsunaga
Bob Mosher

CERTIFICATE OF SERVICE

I, Albert F. Ettinger, certify that I have filed the above Notice of Filing together with an original and 9 copies of the *Post Hearing Comments of the Environmental Law & Policy Center, Friends of the Fox River, Prairie Rivers Network and Sierra Club, Regarding the Proposed Rule, First Notice* printed on recycled paper, with the Illinois Pollution Control Board, James R. Thompson Center, 100 West Randolph Street, Suite 11-500, Chicago, IL 60601, and served all the parties on the attached Service List by depositing a copy in a properly addressed, sealed envelop with the U.S. Post Office, Chicago, Illinois, with proper postage prepaid on October 11, 2001.



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