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August 11, 2008

Ms. Denise Keehner
U.S. EPA Headquarters
Ariel Rios Building
1200 Pennsylvania Ave., N.W.
Mail Code: 4305T
Washington, D.C. 20460

Dear Ms. Keehner:

It has been my pleasure to work with you and your staff over the last several months to clarify many fundamental Water Quality Standards issues we have wrestled with in recent years. Whether these issues arose through ASIWPCA, WQS Managers Meetings, WQS Workgroup Meetings or the WQS Academy, it has been both enlightening and encouraging to explore them with you.

Would it be possible for you to forward to me in writing the results of some of these discussions to share with my staff and state colleagues? As an example, we've framed the question of "existing uses" with the following questions:

What are existing uses?
When determining an existing use, are there situations where a state should describe existing uses more specifically than designated uses?
How should a state determine the existing use for a water body?
What is the difference between an existing use and a designated use?
Can a state adopt the existing use as its designated use?

We have discussed other foundational issues as well and I would be most interested in affirming my understanding of the outcomes of these discussions that reflect our common understanding.

Thanks again for all your time and effort on the critically important work of WQS. As always feel free to call me with any questions at (405) 530-8800.

Sincerely,

Derek Smithee, Chief
Water Quality Programs Division

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
WATER

September 5, 2008

Mr. Derek Smithee
State of Oklahoma
Water Resources Board
3800 N. Classen Blvd.
Oklahoma City, OK 73118

Dear Mr. Smithee:

Thank you for your letter of August 11, 2008. I also appreciate the discussions we have had with states at ASIWPCA meetings, WQS Managers Meetings, WQS Workgroup meetings, and the WQS Academy. You asked if we could forward you in writing the results of these discussions to share with your staff and colleagues. Our office is happy to provide you with answers to your specific questions that reflect common understanding throughout EPA Regional Offices in the enclosed attachment.

If you have any questions please feel free to contact me at 202-566-1566 or Jim Keating at 202-566-0383.

Sincerely,

Denise Keehner 9/23/08

Denise Keehner, Director
Standards and Health Protection Division

Enclosures

Attachment

1) ***What are existing uses?***

EPA's regulations define existing uses as "...those uses actually attained in the water body on or after November 28, 1975, whether or not they are included in the water quality standards."[1,2] Existing uses are relevant to two provisions in the Federal regulation – 40 C.F.R. § 131.10(g), designated uses, and 40 C.F.R. § 131.12(a)(1), antidegradation. Overall, these provisions:

- Prohibit removal of a designated use that would also remove an existing use.[3]
- Require the maintenance and protection of existing instream water uses and the level of water quality necessary to protect existing uses when implementing a state's or tribe's antidegradation policy.[4]

EPA considers the phrase "existing uses are those uses actually attained" to mean the use and water quality necessary to support the use that have been achieved in the waterbody on or after November 28, 1975. Waterbody uses relate to a distinct purpose (e.g., recreation, public water supply) or function (e.g., supporting an aquatic ecosystem). EPA's regulations, relating to the protection of existing uses, require states and tribes to maintain and protect these uses, not specific water quality parameters which may have achieved levels more protective than necessary to support these uses.[5]

In nearly all cases, a waterbody will have achieved some degree of use related to aquatic life, wildlife, and human activity on or after November 28, 1975. States and tribes are not bound by their designated use classification categories when describing existing uses. In some cases, the use(s) and water quality actually achieved may be less protective than the designated use(s) assigned to the waterbody. For example, while the water quality since November 28, 1975 may never have been sufficient to support the diverse aquatic community associated with the waterbody's designated use, it is likely that the water quality in the waterbody supports or has supported some less diverse community of organisms. When such uses have been achieved on or after November 28, 1975, EPA considers the uses reflecting the degree of aquatic life, wildlife, and human activity achieved to be "existing" uses.

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[1] 40 C.F.R. § 131.3(e).

[2] November 28, 1975 is the date EPA promulgated the initial Federal water quality standards regulations related to existing uses. 40 C.F.R. 55334 (Nov. 28, 1975).

[3] 40 C.F.R. § 131.10(g).

[4] 40 C.F.R. § 131.12(a)(1).

[5] In the 1982 preamble to the proposed rule for the current WQS regulations, EPA stated that the first tier of antidegradation applies to uses, not specific parameters. For example, if a stream actually achieved a warm water fishery use and achieved a dissolved oxygen level of 7.0 mg/L, under the existing use regulation the state would only be required to maintain the dissolved oxygen levels sufficient to support the warm water fishery existing use (e.g. 5.0 mg/L if that is sufficient to support the existing warmwater fishery use). 47 Fed. Reg.49,234, 49,238 (col. 3)(Oct. 29, 1982).

A waterbody may have multiple existing uses. When evaluating the uses actually achieved along a continuum, the existing uses of a waterbody are the "highest degree of uses" and water quality necessary to support those uses, that have been achieved since November 28, 1975, independent of the designated use. "Highest degree of uses" generally means the degree of use closest to those supported by minimally impacted conditions, which usually is associated with the highest level of water quality. In the paragraph above, if this less diverse community is the highest degree of aquatic life use that has been achieved since 1975, this would be the existing aquatic life use.

EPA's existing use regulations ensure that the waterbody's highest degree of uses and the necessary levels of water quality actually achieved on or after November 28, 1975 will be maintained and protected consistent with the overall objective of the Clean Water Act (CWA) to restore and maintain the physical, chemical, and biological integrity of the nation's waters.[6] Thus, 40 C.F.R. §§ 131.10(g) and 131.12(a)(1) define the absolute "floor" or minimum use and necessary level of water quality achieved that must be maintained and protected in a waterbody.[7] In the above example, where a state is designating its uses or revising its designated uses, the state or tribe must ensure that the resulting water quality will not jeopardize the less diverse aquatic community (and thus the existing use).

The regulation at 40 C.F.R. § 131.10(g) prohibiting removal of an existing use is not intended to apply to a situation where the state or tribe wishes to remove a use where the removal would result in improving the condition of a waterbody, i.e., facilitates attainment of a use closer to those supported by minimally impacted conditions.[8] The intent of the regulation is to further the objectives of the CWA "to restore and maintain the chemical, physical, and biological integrity" of the nations waters (CWA section 101(a)), not to prevent actions that make the waterbody more like its minimally impacted condition. For example, if a pollution tolerant aquatic community is replaced by a more diverse aquatic community as a result of improving water quality, loss of the pollution tolerant community is a necessary step towards restoring a waterbody to its minimally impacted condition and is not a removal of an existing use. Similarly, if a state or tribe stocks trout (a coldwater species) into a natural warmwater fishery, the existing use provision would not prevent removal of that stocked trout fishery use because a natural warmwater fishery is closer to the minimally impacted condition.

Existing use determinations should be made on a site-specific. If a state or tribe can show that removing a designated use will not remove an existing use and the state or tribe can show that there are factors precluding the attainment of this designated use, the state/tribe must then determine and designate the highest attainable use.

2) ***When determining an existing use, are there situations where a state or tribe should describe existing uses more specifically than designated uses?***

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[6] CWA section 101(a).
[7] See the preamble to EPA's WQS regulations at 48 Fed. Reg. 51,500, 51,403, col. 2 (Nov. 8, 1983).
[8] See 40 C.F.R. § 131.10(h). States or tribes may remove existing uses where the state or tribe is adding a use requiring more stringent criteria..

Yes. While there are some situations where it would be reasonable to describe existing uses of a waterbody using the same broad categories employed for designating uses, a state or tribe should describe existing uses more specifically where necessary to meet the intent of the existing use requirements. It would be consistent with the intent of the regulation for a state or tribe to more specifically describe its existing use, for example, where necessary to maintain and protect unique attributes of a waterbody that are not adequately described using a broadly defined designated use category. Examples 1 (CSO-impacted waters) and 2 (mining-impacted waters) provided in the next question, demonstrate the importance of describing the existing use (and the water quality necessary to support this existing use) in a specific manner so that the uses and the water quality improvements achieved since 1975 can be maintained and protected.

States and tribes must consider existing uses prior to removing or revising a designated use and in the context of its antidegradation requirements.[9] The Federal regulations do not require states and tribes to specify both existing uses and designated uses for each waterbody in their water quality standards; however a state or tribe may do so if it chooses.[10]

3) ***How should a state or tribe determine the existing use for a waterbody?***

A state or tribe should determine existing uses on a site-specific basis to ensure it has identified the highest degree of uses and water quality necessary to support the uses that have been achieved since November 28, 1975. When describing existing uses, states and tribes should articulate not only the use(s) that has been achieved, but also the water quality supporting the specific use(s) that has been achieved. Examples 1 (CSO-impacted) and 2 (mining-impacted) below illustrate this point. For aquatic life, states and tribes should consider the available biological data as an indicator of both water quality and the actual use, in conjunction with any available chemical water quality data.

Although EPA interprets the definition of "existing use" to require consideration of the available data and information on both actual use and water quality, all the necessary data may not be available. In these circumstances, a state or tribe may choose, in implementing its water quality standards program, to determine an existing use based on the strength of evidence that a use has actually been achieved or the strength of evidence that water quality supporting a use has been achieved. In other words, where data may be limited or inconclusive, EPA expects states and tribes to consider the quantity, quality, and reliability of the different types of available data to describe the existing use as accurately and completely as possible and to resolve any apparent discrepancies based upon that evaluation. As an example, a state is considering removing a primary contact recreation use and is therefore evaluating the existing use. While it has information that people are swimming in a waterbody, it does not have any data to determine the level of water quality that has been achieved on or after November 28, 1975. In this case, the state has two

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[9] 40 C.F.R. §§ 131.10(g) and 131.12(a)(1).

[10] EPA notes that 40 C.F.R. § 131.10(i) requires states and tribes to "revise its standards to reflect the uses actually being attained."

choices regarding the existing recreation use. If there is no reason to believe that there has ever been a water quality problem (e.g., no nearby sources of bacteria), then it would be reasonable for the state or tribe to determine that primary contact recreation is the existing use. However, if there is reason to believe a nearby source may have been limiting the water quality since November 28, 1975, the state should conduct a use attainability analysis to determine if primary contact recreation is attainable or not. If primary contact recreation is deemed attainable, the state must retain primary contact recreation use as the designated use, even if it is unclear whether that use is existing. If a primary contact recreation use is not attainable, then the state or tribe must designate the highest attainable recreation use.[11]

In a 1985 Antidegradation Questions and Answers document, EPA said "An existing use can be established by demonstrating that fishing, swimming, or other uses have actually occurred since November 28, 1975 or that the water quality is suitable to allow such uses to occur (unless there are physical problems which prevent the use regardless of water quality.)" While this approach allows states to make an existing use determination where it only has information on one or the other type of information, some have interpreted this statement as obligating states to ignore one set of information where both types are available. EPA has found that, in practice, taking into account all the available information results in a more accurate articulation of the existing uses. In addition, the 1985 policy was stated under the assumption that states and tribes would likely describe existing uses in the same terms or categories employed for designated uses. However, during the time since issuing those Qs and As, EPA has seen increasingly complex issues arise regarding the implementation of the existing use provisions of the Federal water quality standards regulations. It has become apparent that using the same designated use categories to describe existing uses may be insufficiently detailed to accurately describe the existing use.

Under the clarification that states and tribes are not bound to describing their existing uses with the same categories employed for designated uses, the following summarizes how states and tribes should determine existing uses.

1. Where a use (i.e., some degree of use related to aquatic life, wildlife, and human activity) has actually been achieved on or after November 28, 1975, the existing use is the highest degree of use *and* the water quality that has been achieved and is necessary to support the use (see examples 1 and 2); and

2. Where the water quality achieved was sufficient to support a use on or after November 28, 1975, but the use (i.e., some degree of use related to aquatic life, wildlife, and human activity) has not occurred, the federal regulations provide states and tribes the discretion to determining whether or not this is an existing use. In this case, however, it would be reasonable to presume the use is attainable and that a state or tribe would need to explain the factors unrelated to water quality (e.g. human caused conditions that cannot be remedied, hydrologic modifications) that

[11] 40 C.F.R. §§ 131.10(a) – (k).

are limiting the attainment of the use before it can be removed (see examples 3 and 4).

It is appropriate to describe the existing uses of a waterbody in terms of both actual use and water quality because doing so provides the most comprehensive means of describing the baseline conditions that must be protected. In identifying an existing use, it is important to have a high degree of confidence because a state or tribe may not remove an existing use when revising designated uses, regardless of whether the existing use remains attainable. This is also important because EPA's antidegradation provisions require any CWA authorization of a discharge or activity that may result in a discharge to protect the existing use.[12]

A specific example given in the 1985 Antidegradation Qs and As was one of shellfish harvesting. In the example, shellfish are thriving, but it is not clear whether people were actually harvesting the shellfish. In 1985, EPA said that shellfish harvesting is the existing use because to say "otherwise would be to say that the only time an aquatic protection use 'exists' is if someone succeeds in catching fish." (Appendix G Water Quality Standards Handbook). EPA's regulations provide states and tribes the discretion to determine whether or not shellfish harvesting is the existing use in this example. While in the example there was actual evidence of aquatic life (healthy shellfish), there was no evidence of shellfish harvesting. Under EPA's current interpretation, the state or tribe is not *required* to deem shellfish harvesting is an existing use in this situation. A state or tribe may determine that the existing use is an aquatic life use that supports healthy shellfish but that "harvesting" is not part of the "existing use" since there is no evidence of actual harvesting. On the other hand, if shellfish harvesting has not been documented but the evidence shows that the water quality to support harvesting has been achieved and the shellfish present are (or were) suitable for consumption, a state or tribe may determine the existing use is shellfish harvesting or shellfish suitable for consumption. Example 3 below further discusses that if water quality supports harvesting, a shellfish harvesting use is considered attainable (whether or not the state/tribe has determined it is an existing use) and should not be removed, even if no harvesting has actually occurred, unless the state can demonstrate otherwise based on one of the 131.10(g) factors.

For example, if shellfish harvesting has not been documented but the evidence shows that the water quality achieved and presence of shellfish suitable for consumption support harvesting, a state or tribe could determine the existing use is shellfish harvesting or shellfish suitable for consumption. Please see examples 3 (shellfish harvesting) and 4 (public water supply) for further discussion.

Example 1

People occasionally recreate in a waterbody impacted by combined sewer overflows (CSOs). While water quality may be sufficient to support full primary contact recreation most of the time (i.e., the ambient bacterial densities in the waterbody meet the bacteria water quality criteria), the number of indicator bacteria is likely to exceed the water

[12] 40 C.F.R. § 131.12(a)(1).

quality criteria established to support primary contact recreation during heavy rainfall events that trigger CSO events. If the CSOs have existed before November 28, 1975, what is the existing use related to recreation for this scenario?

In this example, water quality data may show that bacteria levels fluctuated above and below the state/tribal criterion for the protection of primary contact recreation and that exceedances correlated with the occurrence of CSO events. In addition, data regarding the type, timing, and frequency of recreation may show that some recreation (swimming or kayaking) occurs regularly in the waterbody even after a CSO discharge when the bacteria levels make it unsafe for primary contact recreation.

Based on the available data for this example, the existing use may be described as a primary contact recreation use at times not affected by CSOs and high risk recreation at times of CSO overflows (because there is a higher risk of getting sick from pathogens than in a water that supports a primary contact recreation use all the time). This existing use describes the absolute "floor" or minimum use and necessary level of water quality achieved for this waterbody that may not be removed when changing designated uses. In addition, the existing use must be protected in the context of antidegradation when authorizing a discharge or activity, under the CWA, that is required to meet water quality standards (WQS). The WQS existing use regulations, therefore, would not allow designated use changes or CWA authorized discharges/activities that would, for example, lower the water quality in a manner that would reduce the level of protection to recreators achieved by the existing use. Once the state/tribe has determined that changing the designated use will not remove an existing use, the state or tribe must conduct a use attainability analysis (UAA) if it wishes to change its currently designated recreational use to one that would require less stringent criteria.

Example 2

Hard rock mining has affected a mountain stream since before November 28, 1975, eliminating trout and other native fish, as well as impairing the benthic invertebrate community, within 20 stream miles of the mining district. Between 1990 and 2000, the State undertook a major remediation effort which resulted in a significant reduction in most metal concentrations. However, concentrations of cadmium and zinc (year round) remain well above the State's acute and chronic numeric criteria adopted to protect the trout stream use classification. The State found that with the significant reduction in most metals, the benthic invertebrate community fully recovered and the trout and other native fish returned to the remediated segment. Yet, the State also found that the number of fish per acre was still less than those at similar reference sites and the length/weight index showed these trout were not in as good of condition as those in the reference streams. Despite the inferior condition of the trout, the lower species numbers, and the fact that the water quality was exceeding some of the criteria adopted to protect a trout fishery use classification, the return of the trout was enough to encourage the public to fish and thus establish a successful trout fishing use.

In this example, the existing use (i.e., highest degree of aquatic life use and water quality necessary to support the use that has been achieved since November 28, 1975) may be described as a trout fishery in waters with high levels of cadmium and zinc concentrations. In this example, it is likely that maintaining the water quality improvements for the most limiting water quality parameters (cadmium and zinc) is especially important to maintain the existing use because changes to these parameters are likely to correlate with changes in the trout population.

Example 3

A waterbody has a healthy shellfish community that is propagating and thriving in a biologically suitable habitat and the water quality is sufficient to support both this healthy shellfish community and shellfish consumption by humans. However, there is not available information indicating that shellfish have been harvested since November 28, 1975. Because the water quality is sufficient to fully support a healthy shellfish community and a shellfish community actually exists, the existing use may be described as "a healthy shellfish community" or, as discussed earlier, the state or tribe may choose to determine shellfish harvesting is the existing use by weighing the evidence on water quality sufficient to support the use and evidence of actual use, and relying on one to a greater extent than the other. If the available data are lacking or inconclusive on whether shellfish are actually being harvested and consumed, a state or tribe may determine the existing use based on a reasonable judgment.

Shellfish harvesting is a CWA 101(a)(2) use. Therefore, if a state or tribe is considering removing a designated shellfish harvesting use, under 40 C.F.R. § 131.10(j)(2), it must conduct a UAA to demonstrate that shellfish harvesting is not feasible to attain due to one of the six factors in 40 C.F.R. § 131.10(g), keeping in mind that it cannot adopt a use that would lower the water quality in such a way that the water would no longer support the existing use. If the water quality is sufficient to support shellfish harvesting, it may be difficult to demonstrate that the use is not feasible to attain, even if no harvesting has or is occurring. However, 40 C.F.R. § 131.10(g) does provide for situations where factors other than water quality affect the attainability of a use. Any proposed use change must go through a public process consistent with state/tribal law and EPA's public participation requirements.[13]

Example 4

Since November 28, 1975, a particular waterbody has met the human health criteria necessary for a waterbody to be used as a source of public water supply. However, there has never been a drinking water intake because the waterbody has never been used as a source of drinking water. Is public water supply an existing use for this scenario?

As stated above, EPA expects states and tribes to look at the available data and information on both water quality and actual use to determine if it is an existing use. If data are clear that the water quality was sufficient to support a public water supply (PWS)

[13] 40 C.F.R. §§ 131.10(e) and 131.20(b).

use, but no PWS use actually occurred since there was no PWS intake, then the Federal regulations do not *require* that the state or tribe find that there is an existing public water supply use. EPA recognizes that when states/tribes initially designated uses they may have designated certain waters or all state/tribal waters for public water supply use even though state, tribal, and local governments have never actually used these waters as public water supply sources since November 28, 1975. However, as discussed earlier, states and tribes may choose, in implementing their water quality standards programs, to determine that a public water supply use is an existing use based on the strength of evidence that a use is actually occurring or the strength of evidence that water quality supports a potential use. For example, if a use has never occurred in or on the waterbody since November 28, 1975, but the water quality at the time of evaluation would support such a use, a state or tribe may determine that this use is an existing use because maintaining the water quality will preserve its use in the future. In addition, where data are unavailable or inconclusive, a state or tribe has the discretion to determine whether or not there is an existing public water supply use based on best professional judgment.

4) ***What is the difference between an existing use and a designated use?***

In 1998, EPA stated that "Designated uses focus on the attainable condition while existing uses focus on the past or present condition."[14]Existing uses are a description of the highest degree of uses and water quality necessary to support the uses that have been achieved at any time since November 28, 1975.[15] The existing use identifies a minimum use and level of water quality that must be maintained to protect uses that have already been attained (*i.e*, the "floor").[16] A designated uses, on the other hand, expresses the state/tribal objectives (i.e., the highest attainable uses) for a waterbody or set of waterbodies. The designated use may or may not have actually been attained in the waterbody.[17] In implementing the regulations, it is important to consider both the distinction and linkage between designated and existing uses. The following is a somewhat simplified example to illustrate how they relate to one another:

Blue Lake is a relatively small, natural lake. It is fed by tributary streams and has an outlet stream that connects it to a larger watershed. Beginning in the 1960s, Blue Lake served as a summer retreat and was surrounded by small summer homes with onsite septic systems. Over time, as popularity for the vacation spot increased, the area became incorporated into a larger urban area. The resulting urban nonpoint source pollution, hydrologic modifications to the watershed (increased impervious surfaces), and failure of onsite septic systems caused high nutrient and sediment loadings, organic enrichment, and low dissolved oxygen (DO) levels in Blue Lake. This led to an increase in nuisance algae blooms and loss of submerged aquatic vegetation. The State conducted a biological assessment in 1974 which documented poor water quality and that the aquatic community

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[14] 1998 Advance Notice of Proposed Rulemaking on the Water Quality Standards Regulation. 63 FR 36,742, 36, 748 (col. 3) (July 8, 1998).
[15] 40 C.F.R. § 131.3(e).
[16] See the preamble to EPA's WQS regulations at 48 Fed. Reg. 51,500, 51,403, (col. 2) (November 8, 1983).
[17] 40 C.F.R. § 131.3(f).

was comprised of low numbers of tolerant invertebrate and fish species. Based on this information, the State designated a limited warmwater aquatic life use for Blue Lake.

During the 1980s and 1990s, the community reduced pollutant loadings to Blue Lake and water quality and biological conditions improved. Although pollutant loadings from urban stormwater remained, connecting the homes to community water and sewer lines significantly reduced the organic enrichment and nutrient loadings to Blue Lake. State monitoring data showed an increase in water clarity, reduced algal turbidity, reduced chlorophyll *a,* and reduced nutrients. Biological assessment data showed a return of expected submerged aquatic vegetation and an improved invertebrate community (rating as a fair quality aquatic community). This information documented the improved condition and helped the State define the existing use (much improved from the limited warmwater aquatic life designated use). However, the fish community still lacked a variety of species expected for this type of lake and water quality still did not meet the criteria for the state's designated warmwater aquatic life use.

In response to the improved conditions, the identified existing use, and the remaining stressors, the State conducted a use attainability analysis (UAA) in 2005 to determine the highest attainable use that should be designated. The UAA demonstrated that implementing a stormwater management program would likely result in attainment of the warmwater aquatic life designated use, although it would take several years. The State expects the projected improved water quality levels to support a good quality aquatic community. Despite the number of years it might take to see improvements, the State determined that a warmwater aquatic life use (and not a limited warmwater aquatic life use) was the appropriate long term objective and revised its water quality standards to adopt the new designated use.

Although it is important to recognize that the regulatory roles and requirements for existing and designated uses differ, decisions about each are not made in isolation. In this example, the aquatic community assessments not only helped to identify improvements in the existing condition but also helped to identify the stressors limiting attainment of a higher use. Information about the limiting stressors, then, was used to evaluate whether or not the expected condition would be attainable. As illustrated here, there is a link between existing and designated uses, and information about the existing condition can be used to inform attainability decisions.

5) ***Can a state or tribe adopt the existing use as its designated use?***

In 1998, EPA stated that "Designated uses focus on the attainable condition while existing uses focus on the past or present condition." EPA's regulations at 40 C.F.R. § 131.10 links these uses in a manner which intends to ensure that States and Tribes designate appropriate water uses, reflecting both the exiting and attainable uses of each waterbody.[18] A state or tribe may adopt an existing use as the designated use where it is the highest attainable use. However, where it is not, states and tribes must consider designating uses based on the

[18] 1998 Advance Notice of Proposed Rulemaking on the Water Quality Standards Regulation. 63 FR 36,742, 36, 748 (col. 3) (July 8, 1998).

potential of a waterbody to attain a use, and not simply base the use designation on what has been attained, (i.e. the existing use).[19]

[19] 40 C.F.R. §§ 131.2 and 131.10.