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

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OFFICE OF WATER

MEMORANDUM

SUBJECT: Establishing Site Specific Aquatic Life Criteria Equal to Natural Background

FROM: Tudor T. Davies, Director
Office of Science and Technology

TO: Water Management Division Directors, Regions 1-10
State and Tribal Water Quality Management Program Directors

In the course of reviewing State and Tribal water quality standards (WQS), EPA has identified several issues pertaining to the establishment of site specific numeric criteria on the basis of natural background conditions. EPA is issuing this policy to provide greater clarity and direction for States and Tribes who are considering establishing site specific criteria equal to natural background conditions, and for EPA Regional Offices reviewing State and Tribal water quality management programs.

Background

Site specific criteria are allowed by regulation and are subject to EPA review and approval. The Federal water quality standards regulation at 40 CFR 131.11(b)(1) requires States and authorized Tribes to adopt numeric water quality criteria that are based on section 304(a) criteria, section 304(a) criteria modified to reflect site-specific conditions, or other scientifically defensible methods. Under 40 CFR 131.5(a)(2), EPA reviews State WQS to determine whether a State has adopted criteria to protect the designated uses. Existing guidance and practice are that EPA will approve site specific criteria developed on the basis of sound scientific rationales.

Currently, EPA guidance has specified three procedures for States and Tribes to follow in deriving site specific criteria. These are the Recalculation Procedure, the Water-Effect Ratio Procedure and the Resident Species Procedure. These procedures can be found in the *Water Quality Standards Handbook* (EPA-823-B940005a, 1994). EPA also recognizes there may be naturally occurring concentrations of pollutants which may exceed the national criteria published under section 304(a) of the Clean Water Act.

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Policy

This policy applies only to site specific numeric aquatic life criteria based on natural background. States and Tribes may establish site specific numeric aquatic life water quality criteria by setting the criteria value equal to *natural* background. Natural background is defined as background concentration due *only* to non-anthropogenic sources, i.e., non-manmade sources. In setting criteria equal to natural background the State or Tribe should, at a minimum, include in their water quality standards:

(1) a definition of natural background consistent with the above;
(2) a provision that site specific criteria may be set equal to natural background;
(3) a procedure for determining natural background, or alternatively, a reference in their water quality standards to another document describing the binding procedure that will be used.

Discussion

A State or Tribal procedure for determining natural background will need to be specific enough to establish natural background concentration accurately and reproducibly. States and Tribes should also provide for public notice and comment on the definition, the provision, the procedure and the site specific numeric criteria derived from the procedure. The State or Tribe will need to document the resulting site specific numeric criteria in the State or Tribal water quality standards, including specifying the water body segment to which the site specific criteria apply. This can be accomplished through adopting the site specific criteria into the State or Tribal WQS, or, alternatively, by appending the site specific criteria to the WQS. In either case, the State or Tribe must comply with the public participation requirements of 40 CFR 131.20 and 40 CFR Part 25, and State and Tribal citizens should be able to readily determine the water quality criteria applicable to specific water bodies.

For aquatic life uses, where the natural background concentration for a specific parameter is documented, by definition that concentration is sufficient to support the level of aquatic life expected to occur naturally at the site absent any interference by humans. The State or Tribe should consider refining the designated use for the water body to more precisely define the existing aquatic life use.

This policy does not apply to human health uses. For human health uses, where the natural background concentration is documented, this new information should result in, at a minimum, a re-evaluation of the human health use designation. Where the new background information documents that the natural background concentration does not support a human health use previously believed attained, it may be prudent for the State or Tribe to change the human health use to one the natural background concentration will support (e.g., from drinking water supply to drinking water supply only after treatment).

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Conclusion

This policy explains and clarifies the use of natural background conditions in establishing site specific criteria for protection of aquatic life uses. In addition to the three procedures listed above for deriving site specific criteria as discussed above, States and Tribes can address natural background conditions through refining the designated use to more accurately reflect the aquatic community present within the stream segment. EPA recognizes that there are other options available to States/Tribes to account for other ambient conditions (e.g., concentrations due to non-natural, man-made conditions) which exceed the national criteria. One such option is for a State or Tribe to conduct a Use Attainability Analysis, consistent with the requirements of 40 CFR 131.10, and adopt a use which is less than the 101(a) goal uses of the Clean Water Act, e.g., less than "fishable/swimmable", or modify a 101(a) goal use such that less stringent criteria are required. In any case, the existing uses of the water body segment must be maintained and protected.

If you have any questions or concerns regarding this policy, please contact me or have your staff contact Elizabeth Southerland, Acting Director, Standards and Applied Science Division, at 202-260-3966.

cc: Lepow, OGC
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